

Agenda

Planning and Licensing Committee

Tuesday, 21 July 2015 at 7.00 pm Council Chamber - Town Hall

Membership (Quorum-4)

Cllrs McCheyne (Chair), Trump (Vice-Chair), Barrell, Carter, Cloke, Keeble, Morrissey, Mynott, Newberry, Reed, Tee and Wiles

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Head of Paid Service

Urgent Business

13.

Town Hall Brentwood, Essex 13.07.2015

Information for Members

Substitutes

The names of substitutes shall be announced at the start of the meeting by the Chair and the substitution shall cease at the end of the meeting.

Where substitution is permitted, substitutes for quasi judicial/regulatory committees must be drawn from Members who have received training in quasi-judicial/regulatory decision making. If a casual vacancy occurs on a quasi judicial/regulatory committee it will not be filled until the nominated member has been trained.

Rights to Attend and Speak

Any Members may attend any Committee to which these procedure rules apply.

A Member who is not a member of the Committee may speak at the meeting. The Member may speak at the Chair's discretion, it being the expectation that a Member will be allowed to speak on a ward matter.

Members requiring further information, or with specific questions, are asked to raise these with the appropriate officer at least two working days before the meeting.

Point of Order/ Personal explanation/ Point of Information

Point of Order

A member may raise a point of order at any time. The Chair will hear them immediately. A point of order may only relate to an alleged breach of these Procedure Rules or the law. The Member must indicate the rule or law and the way in which they consider it has been broken. The ruling of the Chair on the point of order will be final.

Personal Explanation

A member may make a personal explanation at any time. A personal explanation must relate to some material part of an earlier speech by the member which may appear to have been misunderstood in the present debate, or outside of the meeting. The ruling of the Chair on the admissibility of a personal explanation will be final.

Point of Information or clarification

A point of information or clarification must relate to the matter being debated. If a Member wishes to raise a point of information, he/she must first seek the permission of the Chair. The Member must specify the nature of the information he/she wishes to provide and its importance to the current debate, If the Chair gives his/her permission. Member will give the additional information succinctly. Points of Information or clarification should be used in exceptional circumstances and should not be used to interrupt other speakers or to make a further speech when he/she has already spoken during the debate. The ruling of the Chair on the admissibility of a point of information or clarification will be final.

Material for Planning Consideration

The following are among the most common issues which the Planning Committee can take into consideration in reaching a decision:-

- Planning policy such as adopted Brentwood Replacement Local Plan, Government guidance, case law, previous decisions of the Council;
- Design, appearance and layout;
- Impact on visual or residual amenity including potential loss of daylight or sunlight or overshadowing, loss of privacy, noise disturbance, smell or nuisance;
- Impact on trees, listed buildings or a conservation area;
- Highway safety and traffic;
- Health and safety;
- Crime and fear of crime;
- Economic impact job creation, employment market and prosperity.

The following are among the most common issues that are not relevant planning issues and the Planning Committee cannot take these issues into account in reaching a decision:-

- Land ownership issues including private property rights, boundary or access disputes;
- Effects on property values;
- · Restrictive covenants;
- Loss of a private view;
- Identity of the applicant, their personality or previous history, or a developer's motives
- Competition
- The possibility of a "better" site or "better" use
- Anything covered by other legislation.

Information for Members of the Public

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The use of flash photography or additional lighting may be allowed provided it has been discussed prior to the meeting and agreement reached to ensure that it will not disrupt proceedings.

The Chair of the meeting may terminate or suspend filming, photography, recording and use of social media if any of these activities, in their opinion, are disrupting proceedings at the meeting.

Private Session

Occasionally meetings will need to discuss some of its business in private. This can only happen on a limited range of issues, which are set by law. When a Committee does so, you will be asked to leave the meeting.

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Evacuate the building using the nearest available exit and congregate at the assembly point in the North Front Car Park.





Minutes

Planning and Licensing Committee Tuesday, 23rd June, 2015

Attendance

Cllr McCheyne (Chair)
Cllr Morrissey
Cllr Trump (Vice-Chair)
Cllr Mynott
Cllr Barrell
Cllr Newberry
Cllr Carter
Cllr Cloke
Cllr Cloke
Cllr Keeble
Cllr Wiles

Apologies

Substitute Present

Also Present

Cllr Mrs Cohen Cllr Hossack Cllr Mrs McKinlay Cllr Poppy

Cllr Ms Rowlands Cllr Ms Sanders

Cllr Foan West Horndon Parish Council

Officers Present

Gordon Glenday Head of Planning and Development
Claire Hayden Governance and Member Support Officer
Chris Potter Monitoring Office and Head of Support Services

Gary O'Shea Principle Licensing Officer

Sukhvinder Dhadwar Planning Officer

Charlotte White Senior Planning Officer

Caroline McCaffrey Development Management Team Leader

Paulette McAllister Design and Conservation Officer

Brendan Johnston Highways Representative

Jonathan Binks Planning Assistant
Kathryn Mathews Senior Planning Officer

David Carter Environmental Health Manager

46. Apologies for Absence

There were no apologies for absence were received.

47. Minutes of the previous meeting

The minutes of the Licensing Committee held on 13th January 2015 and the minutes of the Planning and Development Control Committee held on Tuesday 14th April 2015 were agreed and signed by the Chair as a correct record.

48. Establishment of Licensing Sub-Committee

Following the establishment of a single Planning and Licensing Committee by Annual Council on 20 May 2015, this report prudently highlights the two broad distinct functions which the Committee now exercises, namely as the local planning authority and as the licensing authority.

The former Licensing Committee for the better discharge of its Licensing Act 2003 functions and the Gambling Act 2005 functions operated through a subcommittee.

The report recommends that this newly established Committee continues this practice and uses it powers to establish a licensing sub-committee for this municipal year and forthcoming municipal years to undertake its licensing functions under the Licensing Act 2003 and the Gambling Act 2005.

A motion was MOVED by Cllr McCheyne and SECONDED by Cllr Trump to agree the recommendations set out in the report.

RESOLVED UNANIMOUSLY to:-

- 1. That one Licensing Sub-Committee be appointed under section 102(1)(c) of the Local Government Act 1972, be established under section 9(1) of the Licensing Act 2003 and under all other powers for this municipal year 2015/2016 and forthcoming municipal years, with the terms of reference as set out in the Council's Constitution, and be comprised of three councillors drawn solely from the permanent membership of the Committee.
- 2. That the Committee reviews its Licensing Sub-Committee arrangements each municipal year.

REASON FOR DECISION

The recommendation facilities the effective conduct of Council business and better focuses limited Council resources to undertake an increasingly complicated function.

49. Planning Application and Matters

The Chair reminded those present of the procedures to be followed in order to allow the public, etc to speak at the meeting, where requisite notice has been given.

Notwithstanding any comments made by the public, etc, Members were reminded that they had to base their decision on the material planning considerations appertaining to each application.

50. 10 CARPENTERS PATH HUTTON ESSEX CM13 1LJ

CHANGE OF USE FROM A RESIDENTIAL PROPERTY TO A RESIDENTIAL CHILDREN'S HOME (USE CLASS C2).

APPLICATION NO: 15/00125/FUL

Miss Bushby, was present and addressed the committee in objection to the application.

Mrs Brian from Carpenters Path Residents Association was present and addressed the committee in objection to the application.

Miss Kaleda, was present and addressed the committee in support of the application.

Mr Driscoll, the Agent was also present and addressed the committee in support of the application.

Ward Members raised concerns over the 209 letters of objections received against this application relating to problems with anti-social behaviour, the increase in the number of vehicles, and the impact on the vulnerable and elderly residents living within this area.

Cllr Carter expressed his concern on the previous Children's home within his ward and the issues relating to it.

A motion was MOVED by Cllr Trump and SECONDED by Cllr Barrell that the application be refused.

For: Clirs Barrell, Carter, Cloke, Keeble, McCheyne, Morrissey,

Mynott, Newberry, Reed, Tee, Trump and Wiles. (12)

Against: (0)

Abstain: (0)

RESOLVED UNANIMOUSLY that the planning permission is refused for the following reason.

R1 U09735

The proposed use will result in a significant increase in the levels of activity in and around the dwelling and create the likelihood of unneighbourly behaviour including comings and goings late into the evening. The use will therefore materially detract from the character of the area and the living conditions of neighbouring dwellings and as such is contrary to the requirements of chapter 7 and paragraph 69 of the NPPF and policy CP 1 sub criterion (ii) of the Brentwood Replacement Plan 2005.

(Cllr Morrissey declared a non pecuniary interest under the Councils Code of Conduct by vitue of her employed at a local Estate Agents)

51. 1 YORK CLOSE SHENFIELD ESSEX CM15 8JZ

VARIATION OF CONDITION 2 (HOURS OF OPERATION) OF PLANNING APPLICATION 10/00720/FUL (CHANGE OF USE FROM CLASS B2 (GENERAL INDUSTRIAL) TO SUI GENERIS (CAR VALETING) TO CHANGE HOURS OF OPERATION TO 08:00 - 18:00 MONDAY TO FRIDAY, 08:00 - 18:00 ON SATURDAYS AND 10:00 - 15:00 ON SUNDAYS.

APPLICATION NO: 15/00046/FUL

Mr Graham, was present and addressed the committee in objection to the application.

Mr Coote, from the York Close Residents Association was present and address the committee in objection to the application.

Mrs Dader, the Applicant, was also present and addressed the committee in support of the application.

The Officer informed the committee that an enforcement complaint had been received in relation to equipment being used outside the application site.

Ward Members raised concerns relating to the increasing noise generated by the pressure washing equipment at the site and the increased use of this machinery outside of site boundary and the amplified volume of traffic in the small residents cul-de-sac.

A motion was MOVED by Cllr Barrell and SECONDED by Cllr Wiles that the application be refused.

For: Clirs Barrell, Carter, Cloke, Keeble, McCheyne, Morrissey,

Mynott, Newberry, Reed, Tee, Trump and Wiles. (12)

Against: (0)

Abstain: (0)

RESOLVED UNANIMOUSLY that the planning permission is refused for the following reason.

That the adverse impacts of this demonstrably outweigh the benefits, due to the increasing noise and disturbance to the residents.

52. 6 OXFORD COURT WARLEY ESSEX CM14 5EU

TWO STOREY SIDE EXTENSION, SINGLE STOREY FRONT EXTENSION, SINGLE STOREY REAR EXTENSION LINKING WITH DETACHED OUTBUILDING TO INCLUDE ROOF LIGHTS.

APPLICATION NO: 15/00109/FUL

Miss Barg, was present and addressed the committee in objection to the application.

Miss Anderson, the Applicant's Representative, was also present and addressed the committee in support of the application.

Ward Members spoke in objection to the application expressing their concerns on the bulk and mass of the proposed extension. The overbearing feature for the residents of Willowdene Court.

A motion was MOVED by Cllr Tee and SECONDED by Cllr Cloke that the application be refused.

For: Clirs Barrell, Carter, Cloke, Keeble, McCheyne, Morrissey,

Mynott, Newberry, Reed, Tee, Trump and Wiles. (12)

Against: (0)

Abstain: (0)

RESOLVED UNANIMOUSLY that the planning permission is refused for the following reasons.

The proposed extension would be overbearing to residents in the neighbouring area by the scale, mass and bulk of the application.

53. LAND AT HAVERING GROVE FARM 552A RAYLEIGH ROAD HUTTON ESSEX CM13 1SG

INSTALLATION AND OPERATION OF A SOLAR FARM AND ASSOCIATED INFRASTRUCTURE, INCLUDING PV PANELS, MOUNTING FRAMES, INVERTER, TRANSFORMER, POLE MOUNTED CCTV CAMERAS, SUBSTATIONS, COMPOSTING TOILET AND FENCE.

APPLICATION NO: 15/00161/FUL

Members were advised that the Chair disclosed a personal interest and therefore step down from his role on this application. Cllr Trump became the chair for the duration of this item.

Cllr Trump requested nominations for a Vice Chair for this item only. A motion was MOVED by Cllr Reed and SECONDED by Cllr Wiles that Cllr Cloke be nominated as Vice Chair for this item only. A vote was taken on a show of hands and Cllr Cloke was appointed Vice Chair for the duration of this item.

Mrs McEwan, was present and addressed the committee in objection of the application.

Miss Laurenson, the agent, was also present and addressed the committee in support of the application.

Concerns were expressed by Ward Members and thanked the officers for a very detailed report.

Members recognised that the Borough needs to make contribution in the future towards renewable energy. Officers confirmed that this issue will be included in a report relating to the Local Development Plan to present at a later meeting of the Planning and Licensing Committee.

After a full debate, a motion was MOVED Cllr Cloke and SECONDED by Cllr Barrell that the application be refused.

For: Cllrs Barrell, Cloke, Keeble, Newberry, Reed, Trump and Wiles

(7)

Against: Cllrs Carter, Morrissey and Mynott (3)

Abstain: Cllr Tee (1)

RESOLVED that the planning permission is refused for the following reasons:

R1 U09973

The proposed solar farm constitutes inappropriate development within the Green Belt and would significantly and demonstrably decrease the openness of this part of the Green Belt and would conflict with the purposes of including land in the Green Belt contrary to Chapter 9 of the National Planning Policy Framework (NPPF) and Policies GB1 and GB2 of the Brentwood Replacement Local Plan 2005.

R2 U09974

It has not been demonstrated that any previously developed land is available for the development within the wider area; outside the Borough of Brentwood and beyond 10km from the application site and it has not been demonstrated that there is no suitable sites of a lower agricultural quality within the Borough of Brentwood, or the surrounding area that would be more suitable for a solar farm, contrary to the National Planning Policy Framework, particularly Paragraph 112, the Written Ministerial Statement of the 25th March 2015 and Policy IR3 of the Brentwood Replacement Local Plan 2005.

R3 U09976

The benefits of the proposal in terms of environmental and biodiversity benefits would not clearly outweigh the harm by reason of inappropriateness and the other harm identified, to constitute the very special circumstances required to justify this development, contrary to Chapter 9 of the National Planning Policy Framework (NPPF) and Policy GB1 of the Brentwood Replacement Local Plan 2005.

54. HONEYSUCKLE LODGE BLACKMORE ROAD KELVEDON HATCH ESSEX CM15 0BJ

SINGLE STOREY SIDE AND REAR EXTENSION AND CONSTRUCTION OF DETACHED OUTBUILDING (RETROSPECTIVE).

APPLICATION NO: 15/00354/FUL

This item has been deferred until the applicant and officers to enter into further dialogue to address concerns raised and a revised application for the garden building will be submitted at a later date.

55. 114 ORCHARD AVENUE BRENTWOOD ESSEX CM13 2DP

CHANGE OF USE FROM MOTOR SPARES SHOP (RETAIL) TO CAFE (FOOD OUTLET).

APPLICATION NO: 15/00145/FUL

Miss White, the applicant was present and addressed the committee is support of the application.

Ward Members spoke in support of the application and are aware of residents support also on this application.

A motion was MOVED by Cllr Morrissey and SECONDED by Cllr McCheyne to approve the application.

For: Clirs Barrell, Carter, Cloke, Keeble, McCheyne, Morrissey,

Mynott, Newberry, Reed, Tee, Trump and Wiles. (12)

Against: (0)

Abstain: (0)

RESOLVED UNANIMOUSLY that the planning permission is approved subject to the following conditions.

1 TIM01 Standard Time - Full

The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

2 U10085

The premises shall not be open for customers outside the following hours: 07:00-16:00 Mondays to Fridays, 08:00-14:00 Saturdays and Sundays, and shall not be open at any time on public holidays.

Reason: To safeguard the living conditions of nearby residents.

3 U10086

The extraction system proposed shall be installed and fully operational, prior to the commencement of the use hereby permitted.

Reason: In the interests of the amenity of the local residents.

4 U10087

No cooking/heating equipment shall be used on the premises other than a grill and hot plate griddle at any time.

Reason: To protect the amenities of the occupiers of local residents.

5 DRA01A Development in accordance with drawings The development hereby permitted shall not be carried out except in complete accordance with the approved drawing(s) listed above and specifications.

Reason: To ensure that the development is as permitted by the local planning authority and for the avoidance of doubt.

(Cllr Barrell declared a non pecuniary interest under the Councils Code of Conduct by vitue of knowing a local retailer in close proximity to the site.)

56. BRENTWOOD CARWASH CENTRE BRENTWOOD CENTRE DODDINGHURST ROAD PILGRIMS HATCH ESSEX CM15 9NN

RELOCATION OF AN EXISTING PORTAKABIN IN ASSOCIATION WITH THE USE OF PART OF THE SITE AS A HAND CARWASH FACILITY

APPLICATION NO: 15/00466/FUL

This item has been deferred until Officers have undertaken an assessment of the portacabin in the context of the wider green belt and also to review displacement of car parking spaces.

57. LAND FORMERLY KNOWN AS NV TOOLS ST JAMES ROAD BRENTWOOD ESSEX

REDEVELOPMENT FOR 45 FLATS, LANDSCAPED AMENITY DECK, AND ASSOCIATED CAR PARKING.

APPLICATION NO: 15/00142/FUL

Mrs Ngo, was present and addressed the committee in objection to the application.

Ms Dooley, the Agent was also present and addressed the committee in support of the application.

Ward Members spoke in objection to the application, expressing concerns that parking provision was too low and that the proposed development will increase problems with congestion, emergency vehicles access and the bulk and sizes of the structure.

Concerns from by Cllr Barrell were addressed on the proposed redevelopment of the public realm proposals around Brentwood Station Area.

After discussion a motion was MOVED by Cllr McCheyne and SECONDED by Cllr Trump to approve the application subject the conditions.

For: Cllrs Barrell, McCheyne, Reed, Trump and Wiles (5)

Against: Cllrs Carter, Keeble, Morrissey, Mynott, Newberry and Tee (6)

Abstain: Cllr Cloke (1)

The motion was LOST.

A motion was MOVED by Cllr Mynott and SECONDED by Cllr Carter that planning permission be refused.

For: Clirs Carter, Keeble, Morrissey, Mynott, Newberry and Tee (6)

Against: Cllrs Barrell, McCheyne, Reed, Trump and Wiles (5)

Abstain: Cllr Cloke (1)

The motion was CARRIED.

RESOLVED to refuse planning permission for the following reasons:

The excessive density in relation to policy H14. CP1 relating to the overshadowing of neighbours.

58. Urgent Business

There were no items of urgent business.

The meeting finished at 23:10

21 July 2015

Planning and Licensing Committee

Gambling Act 2005 – Review of Statement of Gambling Policy

Report of: Ashley Culverwell – Head of Borough Health Safety and Localism

Wards Affected: All

This report is: Public

1. Executive Summary

1.1 The Statement of Gambling Policy must be reviewed by January 2016. This report is to request that Members agree to an interim consultation on re-adopting the current policy as a temporary measure pending publication of significant new guidance from the Gambling Commission after which it is recommended that consultation takes place in respect of a fresh Statement of Gambling Policy.

2. Recommendation(s)

- 2.1 That a 12 week consultation on renewing the current Statement of Gambling Policy be agreed.
- 2.2 That, if no representations are duly received within the consultation deadline, the Statement of Gambling Policy be recommended for adoption by Ordinary Council effective from 31 January 2016 on the basis that a full review of the policy will follow once new guidance has been issued but if one or more representations are received and not withdrawn, the matter shall be reported back to a future meeting of this Committee for consideration of such representation(s).

3. Introduction and Background

- 3.1 Commercial Gambling in England, Wales and Scotland is regulated under provision of the Gambling Act 2005 (the Act).
- 3.2 Section 2 (1) of the Act empowers Brentwood Borough Council as the licensing authority for this Borough.
- 3.3 Under section 349 of the Act, the licensing authority are required to prepare and publish a statement of principles (Gambling Policy) that they

- propose to apply in exercising their functions. This must be published every three years.
- 3.4 The Statement of Gambling Policy sets out how the Council, in its role as Licensing Authority, will carry out its functions under the Act. It recognises the importance of responsible gambling within the entertainment industry whilst seeking to balance this with the key objectives of the Act. The objectives are;
 - Preventing gambling from being a source of crime and disorder, being associated with crime or disorder or being used to support crime;
 - Ensuring that gambling is conducted in a fair and open way; and
 - Protecting children and other vulnerable persons from being harmed or exploited by gambling

The policy should be reviewed from time to time and at least every three years.

- 3.4 Section 349 of the Gambling Act 2005 prescribes that:-
 - (1) A licensing authority shall before each successive period of three years
 - a) Prepare a statement of principles that they propose to apply in exercising their functions under this Act during that period; and
 - b) Publish the statement
 - (2) A licensing authority shall
 - a) Review their statement under this section from time to time;
 - b) If they think it necessary in light of the review, revise the statement; and
 - c) Publish any revision before giving it effect.
 - (3) In preparing a statement or revision under this section a licensing authority shall consult
 - a) either—
 - (i) in England and Wales, the chief officer of police for the authority's area; or
 - (ii) in Scotland, the chief constable of the police force maintained for the police area comprising that area
 - one or more persons who appear to the authority to represent the interests of persons carrying on gambling businesses in the authority's area, and
 - c) One or more persons who appear to the authority to represent the interests of persons who are likely to be affected by the exercise of the authority's functions under this Act.

3.5 The approval or adoption of the 'Licensing authority policy statement' under section 349 of the Gambling Act 2005 is by virtue of reg. 3 of the Local Authorities (Committee System) (England) Regulations 2012 SI 2012/1020 a function which can by law only be exercised by full Council.

4. Issues Options and Analysis of Options

- 4.1 The Council's gambling Policy must reflect both the guidance issued by the Gambling Commission and Government Codes of Practice. It essentially informs the process that the Council would normally follow in conducting its duties as licensing authority under the Act.
- 4.2 The Gambling Commission has recently commenced a consultation on their Guidance to Licensing Authorities (GLA) with significant changes being made. It is essential that any new or revised policy adopted by this authority should reflect this guidance and the new codes of practice that it is based on.
- 4.3 The Gambling Commission consultation is 12 weeks, ending on 22 June 2015. Following the consultation, responses will need to be collated and considered. It is anticipated therefore, that a full revised Gambling Commission policy will not be available until towards the end of this year.
- 4.4 In terms of the changes to Brentwood's gambling policy, this means that changes cannot be fully considered and incorporated in time for full 12 week consultation, consideration and adoption by 31 January.
- 4.5 There is not an option to leave the current policy in place without reconsulting and re-publishing, given the requirement to review every three years and the requirement to consult on each review.
- 4.6 The solution would be to undertake an interim consultation and to republish the current policy, but to fully review and fully consult (for a minimum of 12 weeks) on a new policy at the earliest opportunity following publication of the full revised GLA.
- 4.7 The alternative to the solution in Para. 4.6 would be to incorporate known changes to the policy; however, this will become obsolete prior to publication and therefore will need to be reviewed immediately.

5. Reason for Recommendations

5.1 The Council does not have the option of leaving the process entirely until publication of the revised GLA, as from 1 February 2015 any decision

- made relating to any aspect of the Gambling Act 2005 would be ultra vires given that the policy is a requirement of the Act.
- 5.2 The alternative solution at Para. 4.7 is not particularly viable as it involves a degree of speculation as to the content of the revised GLA and potentially involves undertaking a meaningless consultation given that certain aspect of the policy will change.
- 5.3 The solution in Para. 4.6 enables the Council to fulfil its obligation to republish the statement of policy within the legislative timeframe. This will enable lawful decision making with regard to the Council's functions under the Act, whilst ensuring that the policy is brought up to date at the earliest opportunity.
- 5.4 There are no concerns over the conduct of commercial gambling establishments within the Borough at this time, nor have there been any significant problems since implementation of the Act. The current policy has served the Borough well over the last three years and a continuation of that policy in the short term is not anticipated to raise any issues.

6. References to Corporate Plan

6.1 The proposals contained within this report link directly to the following priorities of the corporate plan:

A prosperous Borough – "Safeguarding public safety through a risk based regulation and licensing service."

Street Scene and Environment – "Develop effective partnership arrangements so all issues affecting neighbourhoods are delivered in a timely and efficient way"

Localism – Encourage local businesses to invest directly in Brentwood's communities"

7. Consultation

- 7.1 Consultation is required under provision of section 349 (3) of the Act as illustrated in paragraph 3.4 (above).
- 7.2 The full list of consultees relating to the requirements of section 349 of the Act is listed in annex A of the existing policy in appendix A of this report.
- 7.3 In addition, the consultation will be published on the Council website.

8. Implications

Financial Implications

Name & Title: Christopher Leslie, Finance Director
Tel & Email 01277 312513/ christopher.leslie@brentwood.gov.uk

8.1 The Council's reviewed and revised Gambling Policy must be agreed, published and in place by the 31January 2016. Failure to comply or meet with this deadline would mean that the Council could not lawfully accept or process Gambling Act 2005 applications after that date. This has the potential to have a significant negative impact on the Council being able to recover its reasonable costs in relation to operating its licensing service for this function.

Legal Implications – Monitoring Officer Comment

Name & Title: Christopher Potter, Monitoring Officer and Head of Support Services

Tel & Email: 01277 312860 / christopher.potter@brentwood.gov.uk

- 8.2 The Council is required to review its Statement of Gambling Policy every three years in accordance with Section 349 of the Gambling Act 2005 and to widely consult on that review with responsible authorities and other interested parties. Best practice is that consultations should run for a period of 12 weeks. However, the current policy having already been consulted upon may undergo a shorter consultation of 4 weeks in view of the fact that a more detailed consultation will follow once the content of the revised GLA has been updated. This would permit the Council to fulfill its statutory obligations under the Act.
- 8.3 The Council has to have its gambling Policy agreed, published and in place by the 31 January 2016. Failure to meet this deadline would mean that the Council would be acting ultra vires in respect of gambling applications submitted after that date.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

8.4 There are no significant implications arising from agreement to the recommendations of this report.

9. Appendices to this report

Appendix A - Current Gambling Policy Statement

Report Author Contact Details:

Gary O'Shea – Principal Licensing Officer 01277 312503 Name:

Name: Telephone:

Email: gary.oshea@brentwood.gov.uk



STATEMENT OF GAMBLING POLICY 2013 – 2016

FOREWORD

This is the third Statement of Licensing Policy produced by Brentwood Borough Council under the Gambling Act 2005 and it will be the basis for all gambling related licensing decisions taken by the Council as the Licensing Authority over the next three years commencing on 31 January 2013.

The new Act created a unified regulator for gambling in Great Britain called the Gambling Commission and also transferred all responsibilities for licensing gambling premises from the Licensing Justices to Licensing Authorities. These Authorities are responsible for issuing a number of different permits, as well as Temporary and Occasional Use Notices.

This Policy sets out how the Council, as the Licensing Authority, will seek to balance increased leisure opportunities with the protection that children, vulnerable people and communities need and expect.

The Council recognises how important this sector of the entertainment industry is within the Borough and well-run businesses will get the support of the Council. New gambling related developments that are well planned and can demonstrate initiatives that prevent gambling from being a source of crime and disorder, ensure that gambling is conducted in a fair and open way and protect people from being harmed or exploited by gambling are welcomed. However, the Council will not hesitate in dealing firmly where problems of gambling related crime and disorder exist.

This Policy will be kept under review and it will be amended when issues arise that make change necessary. The Council will seek through the licensing process and the decisions it takes, to make Brentwood a safe and welcoming place for both residents and visitors to enjoy.

BRENTWOOD BOROUGH COUNCIL GAMBLING LICENSING POLICY STATEMENT

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PART A

1.0 INTRODUCTION

- 1.1 This Statement of Licensing Policy sets out the principles that Brentwood Borough Council, as the Licensing Authority under the Gambling Act 2005 (referred to in this document as 'the Act'), proposes to apply in discharging its functions to license premises for gambling under the Act as well as:-
 - designating the body responsible for advising the Authority on the protection of children from harm:
 - determining whether or not a person is an "Interested Party";
 - exchanging information with the Gambling Commission and others; and
 - inspecting premises and instituting proceedings for offences under the Act.

2.0 THE LICENSING OBJECTIVES

- 2.1 In exercising most of its functions under the Act, Licensing Authorities must have regard to the Licensing Objectives as set out in Section 1 of the Act. The Licensing Objectives are:-
 - Preventing gambling from being a source of crime or disorder, being associated with crime or disorder or being used to support crime;
 - Ensuring that gambling is conducted in a fair and open way; and
 - Protecting children and other vulnerable persons from being harmed or exploited by gambling.

3.0 DESCRIPTION OF THE BOROUGH

- 3.1 Brentwood Borough Council is situated in the County of Essex, which comprises twelve Borough and Borough Councils and two Unitary Authorities. The council has a population of 71,500 (2007 estimate) and covers an area of 15,312 hectares. The main centres of population are in Brentwood, Hutton, Ingatestone and Shenfield.
- 3.2 There are few major concentrations of premises in the Borough providing facilities for betting and gambling. Those premises are mainly made up of pubs, clubs, betting shops and amusement arcades. There are also a number of registered society lotteries.
- 3.3 Because of the nature of the Borough, premises and events that will be licensed under the Act provide an essential contribution to the local economy of the Borough, through tourism, cultural development and regeneration.

4.0 RESPONSIBILITIES UNDER THE ACT

4.1 The Act has introduced a new licensing regime for commercial gambling, to be conducted by the Gambling Commission and by Licensing Authorities, depending on the matter to be licensed.

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- **4.2** The Act establishes the Borough Council as the Licensing Authority whose responsibilities must be discharged by the Licensing Committee created under Section 6 of the Licensing Act 2003. Brentwood Borough Council is the Licensing Authority for Brentwood.
- **4.3** The Gambling Commission is responsible for issuing Operating and Personal Licences to persons and organisations who:-
 - operate a casino;
 - provide facilities for playing bingo or for pool betting;
 - act as intermediaries for betting;
 - make gaming machines available for use in Adult Gaming Centres and Family Entertainment Centres:
 - manufacture, supply, install, adapt, maintain or repair gaming machines;
 - manufacture, supply, install or adapt gambling machine software; or
 - promote a lottery.
- 4.4 The Licensing Authority is responsible for licensing premises in which gambling takes place. All types of gambling are covered, other than spread betting and the National Lottery. It is also responsible for issuing permits for premises with gaming machines and for receiving notices from operators wishing to use unlicensed premises for gambling on a temporary basis. It is also responsible for the registration of certain types of exempt Small Society Lotteries.
- **4.5** The Licensing Authority cannot become involved in the moral issues of gambling and must aim to permit the use of premises for gambling in so far as they think it is:-
 - in accordance with any relevant codes of practice;
 - in accordance with any relevant Guidance issued by the Gambling Commission;
 - reasonably consistent with the Licensing Objectives, and
 - in accordance with the Licensing Authority's Statement of Licensing Policy.

Before the Licensing Authority can consider an application for a Premises Licence, an Operating and Personal Licence, or both, must have been obtained from the Gambling Commission.

5.0 STATEMENT OF LICENSING POLICY

- 5.1 The Licensing Authority is required by the Act to publish a Statement of Licensing Policy which contains the principles it proposes to apply when exercising its functions under the Act.
- 5.2 In this document this is referred to as 'the Policy'. This Policy must be reviewed and published every three years. The Policy must also be reviewed from 'time to time' and any proposed amendments and/or additions must be subject to fresh consultation. The 'new' Policy must then be published.
- **5.3** This Policy takes effect on 31 January 2013

6.0 CONSULTATION

- 6.1 In producing this Policy, the Licensing Authority consulted widely before finalising and publishing it. In addition to the statutory consultees (listed below), the Council chose to consult with additional local groups and individuals. A full list of all groups and persons consulted is provided at Annex 'A'. A list of these other groups and persons consulted can be made available by request to the Licensing Department, Brentwood Borough Council, Town Hall, Ingrave Road, Brentwood, Essex, CM15 8AY.
- 6.2 The Act requires that the following parties are consulted by the Licensing Authority:-
 - The Chief Officer of Police for the Authority's area;
 - One or more persons who appear to the Authority to represent the interests of persons carrying on gambling businesses in the Authority's area; and
 - One or more persons who appear to the Authority to represent the interests of persons who are likely to be affected by the exercise of the Authority's functions under the Act.
- **6.3** The other groups and people consulted were:-
 - Organisations, including faith groups and voluntary organisations working with people who are problem gamblers, medical practices or primary care trusts and the Citizens' Advice Bureau:
 - Other tiers of local government;
 - Businesses who are, or will be, holders of Premises Licences;
 - Responsible Authorities under the Act.
- 6.4 A twelve week period of consultation on proposed revisions to this policy took place between the 1 August 2012 and end on the 24 October 2012. A copy of the draft policy was available to view on the Council's web site and any comments or observations on it could be made in writing to the licensing team by e-mailing licensing@brentwood.gov.uk during the consultation period. The final draft of the policy was taken to the Licensing Committee of the 7 November 2012 for its consideration and recommendation to Ordinary Council on the 19 December 2012 that the policy is adopted by the Council

7.0 APPROVAL OF POLICY

- 7.1 The draft Policy was adopted by Ordinary Council on the 19 December 2012 after proper consultation and accordingly published on the Council's web site.
- 7.2 It should be noted that this Policy does not override the right of any person to make an application, to make representations about an application, or to apply for a review of a licence, as each case will be considered on its own merit and according to the requirements of the Act.

8.0 <u>DECLARATION</u>

- 8.1 In this Policy the Licensing Authority declares that it has had regard to the Licensing Objectives, formal Guidance issued to Licensing Authorities and any responses from those consulted during the consultation process.
- 8.2 The Council recognises its diverse responsibilities under equality legislation and will monitor the impact of these statutory duties through its various corporate schemes such as the Race Equality Scheme and the Disability Equality Scheme.
- **8.3** Appendices have been attached to this Statement providing further information and guidance that is intended only to assist readers and should not be interpreted as legal advice or as constituent of the Licensing Authority's policy. Readers are strongly advised to

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seek their own legal advice if they are unsure of the requirements of the Gambling Act 2005, or the guidance or regulations issued under the Act.

9.0 RESPONSIBLE AUTHORITIES

- **9.1** A full list of the Responsible Authorities designated under the Act and their contact details are given in Annex 'B'. It should be noted that under the Act, the Licensing Authority is designated as a Responsible Authority.
- **9.2** The Licensing Authority is required to designate, in writing, a body that is competent to advise it about the protection of children from harm. In making this designation the following principles have been applied:-
 - the competency of the body to advise the Licensing Authority;
 - the need for the body to be responsible for an area covering the whole of the Licensing Authority's area; and
 - the need for the body to be answerable to democratically elected persons rather than any particular interest group etc.
- **9.3** In accordance with the Gambling Commission's Guidance to Local Authorities, the Licensing Authority designates the Essex County Council Children's Safeguarding Service, for this purpose.

10.0 INTERESTED PARTIES

- **10.1** Interested Parties can make representations about licensing applications or apply for a review of an existing licence. An Interested Party is defined in the Act as follows:-
 - '... a person is an interested party in relation to a premises licence or in relation to an application for or in respect of a premises if, in the opinion of the Licensing Authority which issues the licence or to which the application is made, the person:
 - a) lives sufficiently close to the premises to be likely to be affected by the authorised activities.
 - b) has business interests that might be affected by the authorised activities,

or

- c) represents persons who satisfy paragraphs (a) or (b).'
- 10.2 Interested Parties can be persons who are democratically elected, such as Borough and Parish Councillors and MPs. No specific evidence of being asked to represent an interested person will be required as long as the Councillor/MP represents the Ward likely to be affected. Likewise, Town Councils likely to be affected will be considered to be Interested Parties.
- **10.3** Borough Councillors who are members of the Licensing Committee will not qualify to act in this way.
- **10.4** Other than persons mentioned in 10.2 and 10.3, the Licensing Authority will generally require some form of confirmation that a person is authorised to represent an interested party.
- 10.5 The Licensing Authority considers that the Trade Associations, Trade Unions and Residents' and Tenants' Associations qualify as "Interested Parties" where they can demonstrate that they represent persons in (a) or (b) above.

- 10.6 In determining if a person lives or has business interests sufficiently close to the premises that they are likely to be affected by the authorised activities, the Licensing Authority will consider the following factors:-
 - The size of the premises;
 - The nature of the premises;
 - The distance of the premises from the location of the person making the representation;
 - The potential impact of the premises (e.g. number of customers, routes likely to be taken by those visiting the establishment);
 - The circumstances of the complaint. This does not mean the personal characteristics of the complainant but the interest of the complainant, which may be relevant to the distance from the premises;
 - The catchment area of the premises (i.e. how far people travel to visit); and
 - Whether the person making the representation has business interests in that catchment area that might be affected.

11.0 EXCHANGE OF INFORMATION

- 11.1 In its exchange of information with parties listed in Schedule 6 of the Act, the Licensing Authority will have regard to:-
 - the provisions of the Act, which include the provision that the Data Protection Act 1998 will not be contravened:
 - the guidance issued by the Gambling Commission;
 - Data Protection Act 1998;
 - Human Rights Act 1998;
 - Freedom of Information Act 2000:
 - Environmental Information Regulations 2004;
 - the Common Law Duty of Confidence;
 - Electronic Communications Act 2000;
 - Computer Misuse Act 1990;
 - Criminal Procedure and Investigations Act 1996; and
 - Crime and Disorder Act 1998.
- **11.2** Exchanges of information will be conducted in a timely and accurate fashion and confirmed in writing in all cases to form an audit trail. An audit trail should include:-
 - Record of data disclosed:
 - Project chronology; and
 - Notes of meetings with other partners and recent correspondence including phone calls.

12.0 PUBLIC REGISTER

12.1 The Licensing Authority is required to keep a public register and share information in it with the Gambling Commission and others. Regulations will prescribe what information should be kept in the register. Copies of the register may be obtained on payment of a fee.

13.0 COMPLIANCE AND ENFORCEMENT

13.1 In exercising its functions with regard to the inspection of premises and to instituting criminal proceedings in respect of offences specified, the Licensing Authority will follow best practice as promulgated by the Better Regulation Executive and the Hampton McCrory reviews of regulatory inspections and enforcement and endeavour to be:-

- Proportionate Intervention will only be when necessary. Remedies should be appropriate to the risk posed and costs identified and minimised.
- Accountable The Authority must be able to justify decisions and be subject to public scrutiny.
- Consistent Rules and standards must be joined up and implemented fairly.
- Transparent Enforcement should be open and regulations kept simple and user friendly.
- Targeted Enforcement should be focused on the problems and minimise side effects.
- 13.2 The Licensing Authority will endeavour to avoid duplication with other regulatory regimes, so far as is possible, and adopt a risk based inspection programme.
- 13.3 The main enforcement and compliance role of the Licensing Authority in terms of the Act will be to ensure compliance with the Premises Licence and other permissions which it authorises. The Gambling Commission will be the enforcement body for Operating and Personal Licences. It is also worth noting that concerns about the manufacturer, supply or repair of gaming machines will not be dealt with by the Licensing Authority but will be notified to the Gambling Commission.
- 13.4 The Licensing Authority will keep itself informed of developments as regards the work of the Better Regulation Executive in its consideration of the regulatory functions of Local Authorities.
- 13.5 Bearing in mind the principle of transparency, the Licensing Authority's enforcement/compliance protocols, or written agreements, will be available on request. Details of the risk based approach to inspection will also be available upon request.

Details of this information will be available on the Council's website: www.brentwood.gov.uk

PART B PREMISES LICENCES

14.0 DELEGATION OF POWERS

14.1 The Licensing Authority has agreed a scheme of delegation for discharging its functions under the Act and this can be found in Annex 'E'.

15.0 GENERAL PRINCIPLES

- 15.1 Premises Licences will be subject to the permissions/restrictions set out in the Act as well as the specific mandatory and default conditions which will be detailed in regulations issued by the Secretary of State. Licensing Authorities are able to exclude default conditions and also attach others, where it is thought appropriate.
- **15.2** Licensing Authorities are required by the Act, in making decisions about Premises Licences, to permit the use of premises for gambling so far as it thinks fit:-
 - in accordance with any relevant codes of practice issued by the Gambling Commission;
 - in accordance with any relevant guidance issued by the Gambling Commission;
 - to be reasonably consistent with the Licensing Objectives; and
 - in accordance with the Authority's Policy.

15.3 Definition of Premises

Premises is defined in the Act as "any place". It is for the Licensing Authority to decide whether different parts of a building can be properly regarded as being separate premises although this will always be considered in the light of the guidance issued by the Gambling Commission. It will always be a question of fact in each circumstance. The Gambling Commission does not, however, consider that areas of a building that are artificially or temporarily separate can be properly regarded as different premises.

The Licensing Authority will pay particular attention to applications where access to the licensed premises is through other premises (which themselves may be licensed or unlicensed).

15.4 Demand

Demand is a commercial consideration and is not an issue for the Licensing Authority.

15.5 Location

Location will only be a material consideration in the context of the Licensing Objectives.

15.6 Duplication with other Regulatory Regimes

Duplication with other statutory/regulatory regimes will be avoided where possible. This Authority will not consider whether a licence application is likely to be awarded Planning Permission or Building Control consent.

15.7 Licensing Objectives

Premises Licences granted must be reasonably consistent with the Licensing Objectives. With regard to these Objectives, the following will be considered:-

Preventing gambling from being a source of crime or disorder, being associated with crime or disorder, or being used to support crime –

The Licensing Authority is aware that there is a distinction between disorder and nuisance and that the prevention of nuisance is not a Licensing Objective under the Act.

Whilst the Licensing Authority is aware that the Gambling Commission will be taking a leading role in preventing gambling from being a source of crime, it will pay attention to the proposed location of gambling premises in terms of this Licensing Objective.

Where an area has known high levels of organised crime, this Authority will consider carefully whether gambling premises are suitable to be located there and the need for conditions, such as the provision of Door Supervisors.

Ensuring that gambling is conducted in a fair and open way -

The Gambling Commission does not generally expect Licensing Authorities to be concerned with ensuring that gambling is conducted in a fair and open way. The Licensing Authority notes that in relation to the licensing of tracks, its role will be different from other premises in that track operators will not necessarily have an Operating Licence. In those circumstances, the Premises Licence may need to contain conditions to ensure that the environment in which betting takes place is suitable.

Protecting children and other vulnerable persons from being harmed or exploited by gambling –

In practice, the Objective of protecting children from being harmed or exploited by gambling often means preventing them from taking part in, or being in close proximity to, gambling.

There is no definition of the term 'vulnerable person' in the Act, but this could include people who are gambling beyond their means and people who may not be able to make informed or balanced decisions about gambling due to a mental impairment, alcohol or drugs.

15.8 Conditions

The Authority is aware that the mandatory and default conditions imposed by the Gambling Commission will normally be sufficient to regulate gambling premises. In exceptional cases where there are specific risks or problems associated with a particular locality, specific premises or class of premises the Authority may consider attaching individual conditions related to the Licensing Objectives.

Any conditions attached to Licences will be proportionate and will be:-

- relevant to the need to make the proposed premises suitable as a gambling facility;
- directly related to the premises and the type of licence applied for;
- fairly and reasonably related to the scale and type of premises; and
- reasonable in all other respects.

In addition, the Licensing Authority will examine how applicants propose to address the Licensing Objectives. In considering applications the Licensing Authority will particularly take into account the following, if deemed appropriate:-

- Proof of age schemes
- CCTV
- Door Supervisors
- Supervision of entrances/machine areas;
- Physical separation of areas;
- Location of entry;
- Notices and signage;
- Specific opening hours; and
- With particular regard to vulnerable persons, measures such as the use of self- barring schemes, provision of information, leaflets, helpline numbers for organisations such as GamCare.
- 15.9 Decisions upon individual conditions will be made on a case by case basis. Consideration will be given to using control measures, should there be a perceived need, such as the use of door supervisors, supervision of adult gaming machines, appropriate signage for adult only areas, etc. Applicants will also be expected to offer their own suggestions as to the way in which the Licensing Objectives can be effectively met.
- **15.10** It is noted that there are conditions which the Licensing Authority cannot attach to Premises Licences. These are:-
 - any conditions on the Premises Licence which make it impossible to comply with an Operating Licence condition;
 - conditions relating to gaming machine categories, numbers, or method of operation;
 - conditions which provide that membership of a club or body be required (the Act specifically removes the membership requirement for casino and bingo clubs and this provision prevents it being reinstated);
 - conditions in relation to stakes, fees, and the winning of prizes.

15.11 Door Supervisors

The Licensing Authority may consider whether there is a need for door supervisors in terms of the Licensing Objectives of protecting of children and vulnerable persons from being harmed or exploited by gambling and also in terms of preventing premises becoming a source of crime. As the Act has amended the Security Industry Act 2001, door supervisors at casinos or bingo premises need not be licensed by the Security Industry Authority.

15.12 Credit

Credit facilities are prohibited from being provided in casinos and bingo licensed premises. Cash machines (ATM's) may be installed in such premises but the Licensing Authority may apply conditions as to where they are sited.

15.13 Betting Machines [See Annex C for definition]

In relation to Casinos, Betting Premises and Tracks, the Licensing Authority can restrict the number of betting machines, their nature and the circumstances in which they are made available by attaching a licence condition to a Betting Premises Licence or to a Casino Premises Licence (*where betting is permitted in the Casino*).

- **15.14** When considering whether to impose a condition to restrict the number of betting machines in particular premises, the Licensing Authority, among other things, shall take into account:-
 - the size of the premises;
 - the number of counter positions available for person to person transactions; and
 - the ability of staff to monitor the use of the machines by children and young persons or by vulnerable persons.

15.15 In deciding whether to impose conditions to limit the number of betting machines, each application will be considered on its own merit and account will be taken of codes of practice or guidance issued under the Act.

16.0 PROVISIONAL STATEMENTS

16.1 It is noted that the guidance from the Gambling Commission states that 'It is a question of fact and degree whether the premises are finished to an extent that they can be considered for a Premises Licence rather than a Provisional Statement'. The Licensing Authority will consider such applications on this basis but will not take into account other permissions that may be required such as planning consent.

17.0 REPRESENTATIONS AND REVIEWS

- 17.1 Representations and Applications for a Review of a Premises Licence may be made by Responsible Authorities and Interested Parties.
- 17.2 The Licensing Authority can make a representation or apply for a review of the Premises Licence on the basis of any reason that it thinks is appropriate. For the purpose of exercising its discretion in these matters, the Authority has designated the Head of Environmental Health and Licensing as being the proper person to act on its behalf.
- 17.3 The Licensing Authority will decide if a representation or application for a review is to be carried out on the basis of whether or not the request is:
 - Frivolous or vexatious.
 - Based on grounds that will certainly not cause the Authority to wish to revoke/suspend a licence or remove, amend or attach conditions on the licence.
 - Substantially the same as previous representations or requests for a review.
 - In accordance with any relevant codes of practice issued by the Gambling Commission.
 - In accordance with any relevant guidance issued by the Gambling Commission.
 - Reasonably consistent with the Licensing Objectives.
- **17.4** There is no appeal against the Authority's determination of the relevance of an application for review.

18.0 ADULT GAMING CENTRES

- **18.1** An Adult Gaming Centre is defined in Annex 'C'. Entry to these premises is age restricted.
- **18.2** The Licensing Authority will take account of any conditions applied to an Operating Licence in respect of such premises.

19.0 (LICENSED) FAMILY ENTERTAINMENT CENTRES

- **19.1** A Licensed Family Entertainment Centre is defined in Annex 'C'. Entry to these premises is not generally age restricted although entry to certain areas may be restricted, dependent on the category of machines available for use.
- **19.2** The Licensing Authority will take account of any conditions applied to an Operating Licence in respect of such premises.

20.0 CASINOS

20.1 The Licensing Authority has adopted:

No decision made but each application be considered on its own merit.

In making this decision the Licensing Authority consulted widely on this specific issue.

20.2 Casinos and Competitive Bidding

The Licensing Authority is aware that where a Licensing Authority's area is enabled to grant a Premises Licence for a new style casino, there are likely to be a number of operators which will want to run a casino. In such situations the Council will run a competition in line with Regulations and Codes of Practice issued under the Act by the Secretary of State. It should be noted that at the time this Statement of Licensing Policy was adopted this area had not been so enabled.

20.3 Betting Machines

The Licensing Authority can restrict the number of betting machines, their nature and the circumstances in which they are made available by attaching a licence condition to a Betting Premises Licence or to a Casino Premises Licence (*where betting is permitted in the casino*). When considering whether to impose a condition to restrict the number of betting machines in particular premises, the Licensing Authority, amongst other things should take into account:-

- the size of the premises;
- the number of counter positions available for person to person transactions; and
- the ability of staff to monitor the use of the machines by children and young persons or by vulnerable persons.
- 20.4 In deciding whether to impose conditions to limit the number of betting machines, each application will be on its own merits and account will be taken of Codes of Practice or Guidance issued under the Act.

20.5 Credit

Credit facilities are prohibited in casinos; however, this does not prevent the installation of cash dispensers (ATMs) on the premises, although the Licensing Authority may attach conditions as to the siting of such machines.

21.0 BINGO PREMISES

- **21.1** A Bingo premises is defined in Annex 'C'. Entry to these premises is not generally age restricted although entry to certain areas may be restricted, dependent on the category of machines available for use.
- **21.2** The Licensing Authority will take account of any conditions applied to an Operating Licence in respect of such premises.

21.3 Credit

Credit facilities are prohibited in premises licensed for Bingo; however, this does not prevent the installation of cash dispensers (ATMs) on the premises, although the Licensing Authority may attach conditions as to the sitting of such machines.

22.0 BETTING PREMISES

- **22.1** Betting Premises are defined in Annex 'C'.
- **22.2** The Licensing Authority will take account of any conditions applied to an Operating Licence in respect of such premises.

23.0 TRACKS

23.1 A Track is defined in Annex 'C'. Entry to these premises is generally age restricted. On race days, specific areas within the Track may be age restricted dependent on the licensable activities taking place.

24.0 TRAVELLING FAIRS

24.1 The Licensing Authority will determine whether the statutory requirement that the facilities for gambling amount to no more than an ancillary amusement at a travelling fair is met, where Category D machines and/or equal chance prize gaming without a permit are to be made available for use. (See Annex 'H').

PART C PERMITS/TEMPORARY OR OCCASIONAL USE NOTICES/REGISTRATIONS

25.0 GENERAL

25.1 Forms and Method of Application and any additional information or documents required for permits covered by this section are shown in Appendix F.

26.0 UNLICENSED FAMILY ENTERTAINMENT CENTRE GAMING MACHINE PERMITS

26.1 Where a premises does not hold a Premises Licence but wishes to provide Gaming machines, it may apply to the Licensing Authority for a Permit. It should be noted that the applicant must show that the premises will be wholly or mainly used for making gaming machines available for use.

26.2 Statement of Licensing Principles

The Licensing Authority will expect the applicant to show that there are written policies and procedures in place to protect children from harm. Harm in this context is not limited to harm from gambling but includes wider child protection considerations. The suitability of such policies and procedures will be considered on their merits, however, they may include:-

- A basic Criminal Records Bureau or equivalent criminal record check for the applicant and the person having the day to day control of the premises.
- How the applicant proposes to ensure that children will be protected from harm whilst on the premises.
- Training covering how staff would deal with:
 - unsupervised, very young children being on the premises,
 - children causing perceived problems on/around the premises, and
 - suspected truant children

27.0 (ALCOHOL) LICENSED PREMISES GAMING MACHINE PERMITS

- **27.1** There is provision in the Act for premises licensed to sell alcohol for consumption on the premises to automatically have two gaming machines, of Categories C and/or D. The Premises Licence holder needs to notify the Licensing Authority at least two months prior to the date of expiry of the current permit.
- **27.2** Gaming machines can only be located on licensed premises that have a bar for serving customers.
- **27.3** Premises restricted to selling alcohol only with food, will not be able to apply for a Permit.
- 27.4 Where an application for more than two gaming machines is received, the Licensing Authority will specifically have regard to the need to protect children and vulnerable persons from harm or being exploited by gambling and will expect the applicant to satisfy the Authority that there will be sufficient measures to ensure that under 18 year olds do not have access to the adult only machines. Measures will cover such issues as:-
 - Adult machines being in sight of the bar;

- Adult machines being in sight of staff who will monitor that the machines are not being used by those under 18;
- · Appropriate notices and signage; and
- As regards the protection of vulnerable persons, the Licensing Authority will consider measures such as the use of self-barring schemes, provision of information, leaflets/help line numbers for organisations such as GamCare.

The Licensing Authority can decide to grant an application with a smaller number of machines and/or a different category of machines than that applied for but conditions other than these cannot be attached.

28.0 PRIZE GAMING PERMITS

28.1 Statement of Licensing Principles

The Licensing Authority will expect the applicant to show that there are written policies and procedures in place to protect children from harm. Harm in this context is not limited to harm from gambling but includes wider child protection considerations. The suitability of such policies and procedures will be considered on their merits, however, they may include:-

- A basic Criminal Records Bureau or equivalent criminal record check for the applicant and the person having the day to day control of the premises.
- How the applicant proposes to ensure that children will be protected from harm whilst on the premises.
- Training covering how staff would deal with:
 - unsupervised, very young children being on the premises,
 - □ children causing perceived problems on/around the premises, and
 - suspected truant children

In making its decision on an application for a Permit, the Licensing Authority does not need to have regard to the Licensing Objectives but must have regard to any Gambling Commission guidance.

29.0 CLUB GAMING AND CLUB MACHINE PERMITS

- 29.1 Members' Clubs and Miners' Welfare Institutes may apply for a Club Gaming Permit and/or a Club Gaming Machine Permit, but are restricted by category and number of machines and to equal chance gaming and games of chance.
- **29.2** A fast-track procedure is available for premises that hold a Club Premises Certificate under the Licensing Act 2003.

30.0 TEMPORARY USE NOTICES (TUN)

- **30.1** The persons designated to receive TUNs and to issue objections are specified in Annex 'D'.
- 30.2 A TUN may only be granted to a person or company holding an Operating Licence relevant to the temporary use of the premises. Regulations will be issued by the Secretary of State prescribing the activities to be covered. At present this covers equal chance betting only.
- **30.3** For the purposes of a TUN, a set of premises is the subject of a TUN if any part of the premises is the subject of the Notice. This prevents one large premises from having a TUN in effect for more than 21 days per year by giving a Notice in respect of different parts.
- 30.4 The definition of a "set of premises" will be a question of fact in the particular circumstances of each Notice that is given. In considering whether a place falls within the definition of "a

- set of premises", the Licensing Authority will consider, amongst other things, the ownership/occupation and control of the premises.
- 30.5 The Licensing Authority will object to Notices where it appears that their effect would be to permit regular gambling in a place that could be described as one set of premises.

31.0 OCCASIONAL USE NOTICES

- **31.1** Occasional Use Notices (OUN) apply only to Tracks, which are described as being premises on any part of which a race or other sporting events take place, or is intended to take place. Tracks need not be a permanent fixture.
- 31.2 OUN's are intended to permit licensed betting operators who have the appropriate permission of the Gambling Commission to use tracks for short periods for conducting betting. The OUN dispenses with the need for a Betting Premises Licence for the track.
- 31.3 The Licensing Authority has very little discretion as regards these Notices, aside from ensuring that a statutory limit of 8 days in a calendar year is not exceeded.
- **31.4** The Licensing Authority will, however, consider the definition of a track and whether the applicant is permitted to avail him/herself of the Notice.
- 31.5 The person designated to receive the OUN's and to assess the validity is the Head of Legal Services and Monitoring Officer. (A copy must be served on local Chief Officer of Police).

32.0 SMALL SOCIETY LOTTERIES

32.1 The definition of a Small Society Lottery is contained in Annex 'C' and these require registration with the Licensing Authority.

33.0 USEFUL CONTACTS

The Gambling Commission maintains a list of useful contacts on organisations involved in gambling and their contact details can be found on the Commission's website www.gamblingcommission.gov.uk Some of these organisations provide codes of practice on their particular interest area.

- Annex A LIST OF CONSULTEES
- Annex B RESPONSIBLE AUTHORITIES
- Annex C DEFINITIONS
- Annex D TEMPORARY USE NOTICES/HOW TO MAKE A REPRESENTATION
- Annex E TABLE OF DELEGATIONS OF LICENSING FUNCTIONS
- Annex F APPLICATION PROCESS
- Annex G FEES (April 2012)
- Annex H LACORS & GAMBLING COMMISSION CONCORDAT (March 2010)

ANNEX 'A'

LIST OF CONSULTEES

Essex Police

Essex Fire & Rescue Services

Gambling Commission

Brentwood Borough Council Planning Authority

Essex County Council Children's Safeguarding Service

HM Revenue & Customs

Brentwood Renaissance Group

Chamber of Commerce

Federation of Small Businesses

Current Brentwood Borough Council Licence and Permit Holders issued under the

Gambling Act 2005

Essex County Council Trading Standards

Members of Brentwood Borough Council

Parish Councils

Residents Associations (where known)

Residents (via Council website and media releases)

Local schools

Local faith organisations

Local doctors

South West Essex Primary Care Trust

Citizen's Advice Bureau

Crime & Disorder Reduction Partnership

GamCare

Responsibility in Gambling Trust

Gamblers Anonymous

Voluntary Sector (through the Council for Voluntary Services)

Rural Community Council of Essex

Licensing Solicitors and Licensing Agents

British Beer & Pub Association

British Institute of Innkeepers

Licensed Victuallers Association

Association of British Bookmakers

British Amusement Catering Trade Association (BACTA)

British Casino Association

Remote Gambling Association

Bingo Association

Casino Operators Association

Business in Sport & Leisure

Brentwood Youth Team

ANNEX 'B'

RESPONSIBLE AUTHORITIES

ORGANISATION	CONTACT AND ADDRESS	TELEPHONE AND E-MAIL
Licensing Authority	Brentwood Borough Council Town Hall Ingrave Road Brentwood Essex CM15 8AY	01277- 312523 licensing@brentwood.gov.uk
Essex Police	Essex Police Western Division Harlow Police Station The High Harlow Essex CM20 1HG	0300 333 4444 charlotte.gearing@essex.pnn.police.uk
Hogg Lane		01375 – 376628 tb.command@essex-fire.gov.uk
Essex County Council Children's Safeguarding Service	Head of Children's Safeguarding Service [Licensing Applications] Essex County Council DG06, D Block Schools Children's and Families Service PO Box 11 County Hall Chelmsford CM1 1LX	01245 492211 licenceapplications@essexcc.gov.uk
Trading Standards [Essex]	Information and Business Support Team Essex Trading Standards New Dukes Way Office 2 Beaufort Road Dukes Park Industrial Estate Chelmsford Essex CM2 6PS	01245 341800 TSInformationAndBusinessSupportTeam@essexcc.gov.uk

ORGANISATION	CONTACT AND ADDRESS	TELEPHONE
The Local Planning Authority	Brentwood Borough Council Town Hall Ingrave Road Brentwood Essex CM15 8AY	01277 – 312809 planning@brentwood.gov.uk
The Local Authority with functions related to prevention of risk of pollution of the environment. (Environmental Health)	Brentwood Borough Council Town Hall Ingrave Road Brentwood Essex CM15 8AY	01277 – 312809 hoehpps@brentwood.gov.uk
Gambling Commission	Gambling Commission Victoria Square House Victoria Square Birmingham B2 4BP	0121 230 6500 info@gamblingcommission.gov.uk
HM Revenue & Customs	The Proper Officer HM Revenue & Customs HMRC Banking St Mungo's Road Cumbernauld Glasgow G70 5WY	

ANNEX 'C'

DEFINITIONS

Adult Gaming Centre	Premises in respect of which an Adult Gaming Centre Premises Licence has effect.	
Authorised Local Authority Officer	A Licensing Authority Officer who is an authorised person a purpose relating to premises in that Authority's area.	
Betting Machines	A machine designed or adapted for use to bet on future real events [not a gaming machine].	
Bingo	A game of equal chance.	
Casino	An arrangement whereby people are given an opportunity to participate in one or more casino games.	
Casino Resolution	Resolution not to issue Casino Premises Licences.	
Child	Individual who is less than 16 years old.	
Club Gaming Machine Permit	Permit to enable the premises to provide gaming machines [3 machines of Categories B,C or D.	
Conditions	Conditions to be attached to licences by way of:-	
	 Automatic provision Regulations provided by Secretary of State Conditions provided by Gambling Commission Conditions provided by Licensing Authority 	
	Conditions may be general in nature [either attached to all licences or all licences of a particular nature] or may be specific to a particular licence.	
Default Conditions	Conditions that will apply unless the Licensing Authority decides to exclude them. This may apply to all Premises Licences, to a class of Premises Licence or Licences for specified circumstances.	
Delegated Powers	Decisions delegated either to a Licensing Committee, Sub-Committee or Licensing Officers.	
Disorder	No set interpretation. However, likely to be connected to the way gambling is being conducted. In the case of Gambling Premises' Licences, disorder is intended to mean activity that is more serious and disruptive than mere nuisance.	

	Τ ,			
Equal Chance Gaming	Games that do not involve playing or staking against a bank and where the chances are equally favourable to all participants.			
Exempt Lotteries	Lotteries specified in the Gambling Act as permitted to be run without a licence form the Gambling Commission. There are four types: Small Society Lottery [required to register with Licensing Authorities. Incidental Non Commercial Lotteries. Private Lotteries. Customer Lotteries.			
External Lottery Manager	An individual, firm or company appointed by the Small Lottery Society to manage a lottery on their behalf. They are consultants who generally take their fees from the expenses of the lottery.			
Gaming	Prize Gaming if the nature and size of the prize is not determined by the number of people playing or the amount paid for or raised by the gaming. The prizes will be determined by the operator before the play commences.			
Gaming Machine	Machine covering all types of gambling activity, including betting on virtual events.			
	<u>Categories</u>			
	Category Max. Stake Max. Prize A Unlimited Unlimited B1 £2 £4,000 B2 £100 £500 B3 £2 £500 B3A £1 £500 B4 £1 £250 C £1 £70 D 10p or 30p* £5 or £8* *when monetary prize only			
Guidance to Licensing Authorities Third Edition	Guidance issued by the Gambling Commission dated May 2009			
Human Rights Act 1998 Articles: 1,6,8 and 10	Article 1: Protocol 1 The right to peaceful enjoyment of possessions.			
	Article 6: The right to a fair hearing.			
	Article 8: The right of respect for private and family life.			
	Article 10: The right to freedom of expression.			

Incidental Non Commercial Lottery	A lottery promoted wholly for purposes other than private game, and which are incidental to non commercial events [commonly charity fundraising events, lottery held at a school fete or at a social event such as a dinner dance]	
Exchange of Information	Exchanging of information with other regulatory bodies under the Gambling Act.	
Interested Party	 A person who:- Lives sufficiently close to the premises to be likely affected by the authorised activities. Have business interests that might be affected by the authorised activities. Represents persons in either of the above groups. 	
Licensing Objectives	 Preventing gambling from being a source of crime or disorder, being associated with crime or disorder or being used to support crime. Ensuring that gambling is conducted in a fair and Open way. 	
	Protecting children and other vulnerable persons From being harmed or exploited by gambling.	
Lottery	An arrangement which satisfies the statutory description of either a simple lottery or a complex lottery in Section 14 of the Act.	
Lottery Tickets	 Tickets that must:- Identify the promoting society; State the price of the ticket, which must be the same for all tickets; State the name and address of the member of the Society who is designated as having responsibility for the Society for the promotion of the lottery or, if there is one, the External Lottery Manager, and State the date of the draw, or enable the date of the draw to be determined. 	
Members' Club	A club that must:- Have at least 25 members; Be established and conducted 'wholly or mainly' for purposes other than gaming; Be permanent in nature; Not be established to make commercial profit; Be controlled by its members equally.	
Occasional Use Notice	Betting may be permitted on a 'track' without the need for a full Premises Licence.	
Off Course Betting	Betting that takes place other than at a track, i.e. at a licensed betting shop.	

Off Course Betting - Tracks	Betting that takes place in self-contained betting premises with the track premises providing facilities for off course betting, i.e. on other events, not just those taking place on the track. Normally operates only on race days.
On Course Betting - Tracks	Betting that takes place on a track while races are taking place.
Operating Licence	Licence to permit individuals and companies to provide facilities for certain types of gambling. It may authorise remote or non remote gambling.
Permits	Authorisation to provide a gambling facility where the stakes and prizes are very low or gambling is not the main function of the premises.
Personal Licence	Formal authorisation to individuals who control facilities for gambling or are able to influence the outcome of gambling. Cannot be held by companies.
Pool Betting - Tracks	Betting offered at a horse racecourse by the Tote and at a dog track by the holder of the Premises Licence for the track.
Premises	Defined as 'any place'. It is for the Licensing Authority to decide whether different parts of a building can be properly regarded as being separate premises.
Premises Licence	Licence to authorise the provision of gaming facilities on casino premises, bingo premises, betting premises, including tracks, Adult Gaming Centres and Family Entertainment Centres.
Private Lotteries	There are three types of Private Lotteries:
	 Private Society Lotteries - tickets may only be sold to members of the Society or persons who are on the premises of the Society;
	□ Work Lotteries - the promoters and purchasers of tickets must all work on a single set of work premises;
	□ Residents' Lotteries - promoted by, and tickets may only be sold to, people who live at the same set of premises.
Prize Gaming	Where the nature and size of the price is not determined by the number of people playing or the amount paid for or raised by the gaming. The prizes will be determined by the operator before play commences.
Prize Gaming Permit	A permit to authorise the provision of facilities for gaming with prizes on specific premises.

Provisional Statement	Where an applicant can make an application to the Licensing Authority in respect of premises that he:-
	□ Expects to be constructed.
	□ Expects to be altered.
	□ Expects to acquire a right to occupy.
Relevant Representations	Representations that relate to the Gambling Licensing Objectives, or that raise issues under the Licensing Policy or the Gambling Commission's Guidance or Codes of Practice.
Responsible Authorities	Public Bodies that must be notified of all applications and who are entitled to make representations in relation to Premises Licences, as follows:-
	 The Licensing Authority in whose area the premises is partly or wholly situated The Gambling Commission The Chief Officer of Police
	□ Fire and Rescue Service □ The Planning Authority for the local authority area □ Environmental Health Service for the local authority area □ The Body competent to advise on the protection of children from harm
	 HM Revenue and Customs Authority in relation to vulnerable adults Vessels only - the Navigation Authority whose statutory functions are in relation to waters where the vessel is usually moored or berthed, i.e. the Environment Agency, British Waterways Board, the Maritime and Coastguard Agency
	Full details of Responsible Authorities for the Brentwood Borough are contained in Appendix 'B' to this Policy.
Small Society Lottery	A lottery promoted on behalf of a non commercial society, i.e. lotteries intended to raise funds for good causes.
Society	The society or any separate branch of such a society, on whose behalf a lottery is to be promoted.
Temporary Use Notice	To allow the use of premises for gambling where there is no Premises Licence but where a gambling operator wishes to use the premises temporarily for providing facilities for gambling.
Tote [or Totalisator]	Pool betting on tracks.
Track	Sites where races or other sporting events take place, e.g. horse racing, dog racing or any other premises on any part of which a race or other sporting event takes place or is intended to take place.

Travelling Fair	A fair that 'wholly or principally' provides amusements and must be on a site used for fairs for no more than 27 days per calendar year.
Vehicles	Defined trains, aircraft, sea planes and amphibious vehicles other than hovercraft. No form of commercial betting and gaming is permitted.
Vulnerable Persons	No set definition, but likely to mean group to include people who:- gamble more than they want to gamble beyond their means who may not be able to make informed or balanced decisions about gambling due to a mental impairment, alcohol or drugs
Young Person	An individual who is not a child but who is less than 18 years old.

ANNEX 'D'

TEMPORARY USE NOTICES

The organisations designated to receive TUNs and to issue objections are:-

- The Licensing Authority
- The Gambling Commission
- Essex Police
- HM Commission for Revenues and Customs
- If applicable, any other Licensing Authority in whose area the premises are situated (if the premises crosses the border between two Licensing Authority's areas).

ANNEX 'E'

TABLE OF DELEGATIONS OF LICENSING FUNCTIONS

MATTER TO BE DEALT WITH	FULL COUNCIL	SUB-COMMITTEE	OFFICERS	
Three year licensing policy	All cases			
Policy not to permit casinos	All cases			
Fee Setting - when appropriate	-	-	All cases	
Application for premises licences		Where representations have been received and not withdrawn	Where no representations received/ representations have been withdrawn	
Application for a variation to a licence		Where representations have been received and not withdrawn	Where no representations received/ representations have been withdrawn	
Application for a transfer of a licence		Where representations have been received from the Commission	Where no representations received from the Commission	
Application for a provisional statement		Where representations have been received and not withdrawn	Where no representations received/ representations have been withdrawn	
Review of a premises licence		All cases		
Application for club gaming /club machine permits		Where representations have been received and not withdrawn	Where no representations received/ representations have been withdrawn	
Cancellation of club gaming/ club machine permits		All cases		
Applications for other permits			All cases	
Cancellation of licensed premises gaming machine permits			All cases	
Consideration of temporary use notice			All cases	
Decision to give a counter notice to a temporary use notice		All cases		
Consideration of an Occasional Use Notice			All cases	

ANNEX 'F'

APPLICATION PROCESS

This guidance covers those aspects that are the responsibility of the Licensing Authority only; guidance on aspects dealt with by the Gambling Commission can be obtained via the following link: - www.gamblingcommission.gov.uk

PREMISES LICENCES

A Premises Licence is required for any premises where gambling activity is carried out of a type requiring Personal and Operators' Licences to have been issued by the Gambling Commission.

An application may only be made by persons having the right to occupy the premises and who have, or have applied for, an Operating Licence allowing the proposed activities to be carried out. The Premises Licence cannot be granted until the necessary Operator's Licence has been issued.

Premises Licences are issued by the Licensing Authority and are required for Casinos, Bingo premises, Betting premises (including tracks and premises used by betting intermediaries) Adult Gaming Centres and Family Entertainment Centres providing category C gaming machines.

A licence is restricted to one premises only. However one set of premises may have separate licences issued in respect of different parts of the building.

Licensing Authorities are obliged to grant an application for a Premises Licence, provided the application is made in accordance with the Act, the Gambling Commission's guidance and the Licensing Authority's Gambling Licensing Policy Statement. Licences will be subject to mandatory and default conditions applied by regulations issued under the Act.

Premises Licences are valid indefinitely from the date of grant unless previously surrendered, lapsed, renewed or cancelled. An annual charge is payable to the Licensing Authority.

BINGO, BETTING, ARCADES (Adult Gaming Centres & Licensed Family Entertainment Centres)

New Licences or Permissions

Applicants wishing to commence operating on or after 1 September 2007 may apply from 1 January 2007 to the Gambling Commission for an Operator's Licence and from 31 January 2007 to the Licensing Authority for a Premises Licence.

TRACKS

An Operator's Licence is not required from the Gambling Commission to operate a track but a Premises Licence from the Licensing Authority is required. A number of Premises Licences may be granted for one track, provided each is for a different part of the track.

Betting is usually divided into on-course, off-course and pool betting, the provision of which requires operators to hold either a general Betting Operator's Licence or a Pool Betting Operating Licence from the Commission.

Pool betting on tracks may only be offered by the Tote (in relation to horse tracks) and by the Premises licence holder (in relation to dog tracks). Pool betting may not be provided elsewhere.

Gaming machines, consisting of a maximum of 4 machines of categories B2 – D, may be operated at a track by the Premises licence holder provided they hold a Pool Betting Operator's Licence (for siting and other special considerations in respect of gaming machines at tracks, see 'the Gambling Commission's guidance' at www.gamblingcommission.gov.uk).

Betting machines may also be operated at tracks (see 'Betting machines').

The licensing process is the same as for other premises described above.

BETTING MACHINES

Betting machines are used for accepting bets on live events such as racing, in place of making bets at a counter, e.g. in a betting shop or on a track. These machines are not classed as gaming machines. The Licensing Authority may impose a limit on the number of betting machines that may be used in conjunction with a premise's licence.

GAMING MACHINE SUPPLY & REPAIR

These activities require Operators' Licences to be issued by the Gambling Commission. For advice on applying for licences from the Commission, see their website at www.gamblingcommission.gov.uk).

GAMING MACHINES IN LICENSED PREMISES

Premises Licences issued under the Gambling Act 2005 automatically authorise the provision of gaming machines, according to the type of premises and gambling activities permitted (but see also 'Tracks').

The Gambling Act 2005 introduces new classes of gaming machines, as shown in figure 1 below. The category and number of machines that may be operated under a Premises Licence are shown in figure 2 below.

Fig. 1

Category of machine	Maximum Stake £	Maximum Prize £
A	Unlimited	Unlimited
B1	2	4000
B2	100	500
B3	2	500
B3A	1	500
B4	1	250
С	1	70
D	10p or 30p when non- monetary prize	£5 cash or £8 non-monetary prize
D Non money prize (other than a crane machine)	30p	£8 (non -monetary prize)
D Non money prize (crane grab machine)	1	£50 (non-monetary prize)

Fig. 2

Machine category								
Premises Type	Α	B1	B2	B3	B4	B3A	•	D
Regional casino			A,B,C and D, except B3A. Maximum of 1250 or 25 x No of gaming tables, whichever is less. (Casino must have at least 40 gaming					
			table					ıg
						mission is as for la		
Large casino						num of 150 or 5 x N		
			whic	hever is le	ss. (Large ca	sino must have at I table)	east one gamin	ıg
Small casino			B, C	and D ex	cept B3A.Ma	ximum of 80 machi	nes or 2 x No of	f
(machine/ table			·			s, whichever is les		
ratio of 2-1 up to					0	•		
maximum)								
Pre-2005 Act			Maxi	mum of 20) machines ca	ategories B to D or	C or D machine	 3S
casinos (no			1114111			d (except B3A)		
machine/ table						(oop. 20)		
ratio)								
Betting premises				Maximi	ım of 4 mach	ines categories B2	to D not to inclu	ude
and tracks				IVIAAIIII	ani oi 4 maon	B3A	to D not to more	auc
occupied by Pool						אטם		
Betting								
Bingo Premises					Maximum	of 8 category B3 or	No limit o	<u> </u>
Dirigo Freiriises						nes or 20% of the	category C	
						nber of gaming	machines	
						whichever is the	macmines	3
						ater *		
Adult gaming						of 4 category B3 or	No limit o	n
centre						nes or 20% of the	category C	
Certife						nber of gaming	machines	
							macmines	3
			machines, whichever is the greater *					
Family					gre		No limit o	n
entertainment							category C c	
centre (with							machines	
premises licence)							macmines	,
Family							D	
Entertainment								
Centre gaming								
machine permit								
Club Gaming					B3A, B4,	C	3 total Cat E	33/
permit					and D		machines a	
permit					and D		lottery onl	
							machines wh	
							are only	
							permitted i	
							and miner	
								_
							welfare	
Club machine					B3A, B4,	С	institutes 3 total	-
permit					and D			
Licensed premises:					C and D		2 total	
automatic								
entitlement								
Licensed premises					C and D		Unlimited	t
gaming machine					_ = =======			
permit								

*Licensed AGC and bingo premises in existence before 13th July 2011 are entitled to make available four (AGCs) or eight (bingo) category B gaming machines, or 20% of the total number of gaming machines, whichever is greater. AGC and bingo premises licences granted on or after 13th July 2011 but before 1st April 2014 are entitled to a maximum of four or eight category B gaming machines or 20% of the total number of gaming machines, whichever is the greater; from 1st April 2014 these premises will be entitled to 20% of the total number of gaming machines only.

TEMPORARY USE NOTICES (TUN's)

A TUN may only be issued by a person or company holding an Operating Licence relevant to the proposed temporary use of the premises and may be issued in respect of a 'set of premises' for a maximum of 21 days in any 12 month period. (NB. A TUN may not be issued in respect of a vehicle).

A 'set of premises' is the subject of a TUN if any part of the premises is the subject of the notice. This prevents one large premises from having a TUN in effect for more than 21 days per year by giving a notice in respect to different parts.

In considering whether a place falls within the definition of 'a set of premises', the Licensing Authority will consider, amongst other things, the ownership/ occupation and control of the premises.

The Licensing Authority will generally aim to permit gambling activities under a TUN but will object to notices where it appears that their effect would be to permit regular gambling in a place that could be described as one set of premises.

Issue

Not less than 3 months and 1 day prior to the day on which the gambling event is to take place, a TUN must be given to: -

- the Licensing Authority
- the Chief Officer of Police
- HM Commissioners for Revenue and Customs and, if applicable,
- any other Licensing Authority in whose area the premises are situated
 The notice must include details of: -
- the date the notice is given
- the gambling activity to be carried on
- the premises where it will take place
- the dates and times it will take place
- any periods during the preceding 12 months that a TUN has had effect for the same premises, and
- any other information prescribed by Regulations

If there are no objections, the notice will be endorsed by the Licensing Authority and returned to the issuer for display upon the premises at the time the activity takes place.

Objections

Having regard to the Licensing Objectives, those Authorities upon whom the TUN is served may make objections to the gambling activity taking place within 14 days of the date of the notice. Objections must be made to the Licensing Authority and TUN issuer.

Modifications to the notice may be suggested by those objecting to it. If accepted by the issuer, a new notice must be issued. It should be noted that the 3 month, 1 day time limit and a new fee will not apply to the new notice, nor may the original objector[s] object to the new notice.

A Hearing must be held before the Premises/Personal Licences Sub-Committee to hear representations from all parties, unless agreement is reached that a Hearing is unnecessary [e.g. by modification of the notice] within 6 weeks of the date of the notice.

Following a Hearing the Licensing Authority must issue a counter notice setting out whether or not the TUN will have effect, any limitations to the activities permitted, the time period when activities may take place and any conditions that are imposed.

OCCASIONAL USE NOTICES (OUN'S)

Occasional Use Notices may only be issued in relation to tracks that are used on eight days or less in a calendar year.

A track can be any part of a premises on which a race or other sporting event takes place or is intended to take place. Tracks need not be a permanent fixture.

OUN's are intended to permit licensed betting operators who have the appropriate permission of the Gambling Commission to use tracks for short periods for conducting betting. An OUN dispenses with the need for a Betting Premises Licence for the track.

Issue

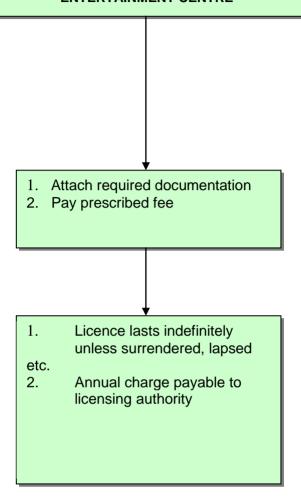
The notice may be issued by the person responsible for the administration of events on the track or the occupier of the track. The notice must be served on the Licensing Authority and a copy on the Chief Officer of Police.

Objections

Generally objections may not be made to the issue of an OUN, except the Licensing Authority must issue a counter notice where the effect of the OUN would result in betting facilities being made available for more than 8 days in a calendar year.

PREMISES LICENCES

PREMISES WHERE AN OPERATOR'S LICENCE HAS BEEN GRANTED TO OPERATE A CASINO, BINGO PREMISES, BETTING PREMISES, ADULT GAMING CENTRE OR LICENSED FAMILY ENTERTAINMENT CENTRE



GAMING PERMITS

Certain types of gambling are authorised by permits issued by the Licensing Authority. The permits generally authorise low stake gambling for small prizes by: -

- Gaming machines in alcohol-licensed premises, Members' Clubs, unlicensed Family Entertainment Centres (FEC's) and certain other premises, e.g. taxi offices (see 'Other premises' below)
- Equal chance gaming, games of chance and gaming machines in Members' Clubs, and
- Prize gaming, e.g. at Travelling Fairs.

GAMING MACHINES

The Gambling Act 2005 introduces new classes of gaming machines that may be operated under a permit, as shown in figure 3 below.

Fig. 3

Category of machine	Maximum Stake £	Maximum Prize £	
B3A	1	500	
B4	1	250	
С	£1	70	
D	10p or 30p when non- monetary prize	£5 cash or £8 non-monetary prize	
D (Money prize)	10p	5	
D Non money prize (other than a crane grab machine)	30p	8	
D Non money prize (crane grab machine)	1	50	
D combined money and Non money prize (other than a coin pusher or penny falls machine)	10p	£8 (of which no more than £5 may be a money prize)	
D combined money and non money prize (coin pusher or penny falls machine)	10p	£15 (of which no more than £8 may be a money prize)	

The category and number of machines that may be operated under a premise's licence are shown in Figure 2 above.

Fig. 4

		Machine category						
Premises Type	Α	B1	B2	B3	B3A	B4	С	D
Clubs or Miners' Welfare Institutes with permits				ВЗА		Maximum of 3 category B4 B3A to D machines		
Qualifying alcohol licensed premises upon notification							entitlem 2 catego	omatic ent of 1 or ory C or D chines
Qualifying alcohol licensed premises with gaming machine permit							Unlimited category C or D machines - number specified on permit	
Family Entertainment Centre (with permit)								Unlimited category D machines
Travelling Fair								Unlimited category D machines

ALCOHOL-LICENSED PREMISES

Certain types of gambling may take place on alcohol-licensed premises under the Licensing Act 2003 without any authorisation being required. Generally these consist of the playing of cribbage, dominoes and other games for low stakes.

Premises holding a Premises Licence may be authorised to operate machines of Class C or D provided the Premises Licence authorises the sale and supply of alcohol for consumption on the premises without it being a condition that the sale and supply of alcohol has to be accompanied by food.

The following paragraphs apply only to those premises.

Automatic Entitlement

The Gambling Act 2005 gives an automatic entitlement for the holder of a Premises Licence under the 2003 Act to provide up to two gaming machines on their premises.

An application for a permit is not required but Premises Licence holders must notify their Licensing Authority in writing of their intention to provide the machines and pay the prescribed fee.

The entitlement may be withdrawn if:-

- provision of the machines is not reasonably consistent with the pursuit of the Licensing Objectives
- gaming has taken place on the premises that has breached a condition of the Act, e.g. they do not comply with siting and operation requirements
- the premises are mainly used for gaming; or where an offence under the Gambling Act 2005 has been committed on the premises

The Licensing Authority may not exercise their powers to remove the entitlement without first giving the permit-holder the opportunity to make written or oral representations or both. A Hearing will be held before the Premises/Personal Licences Sub-Committee for this purpose, unless all parties agree that it is unnecessary.

New permits

Where the holder of a Premises Licence wishes to provide more than two gaming machines, an application for a permit must be made to the highest Authority with the prescribed fee. There is

no restriction on the number of machines that may be applied for and applications to vary the number of machines may be made at any time.

In determining an application for an increase in the number of machines, the Licensing Authority will consider: -

- the size of the premises
- the ability of staff to monitor the use of the machines by children and young persons or by vulnerable persons
- any documentary evidence [e.g. supporting statistical evidence providing details of usage, etc.]
- each application on its own merits
- the Codes of Practice or Guidance issued under the Gambling Act 2005

Where the Authority grants the application, a permit will be issued for the number of machines authorised, which will include the automatic entitlement of 2 machines.

Where the Authority intends to refuse an application, or grant it for a different number or category of machines to that requested, the applicant will be given the opportunity to make written or oral representations or both. A Hearing will be held before the Premises/Personal Licences Sub-Committee for this purpose, unless all parties agree that it is unnecessary

Where the Premises Licence is transferred, the gaming machine permit must also be transferred or it will lapse. In all other cases the permit will last indefinitely, unless surrendered or revoked.

Although the permit will not need to be renewed, an annual charge will have to be paid to the Licensing Authority.

MEMBERS' CLUBS

The Gambling Act 2005 permits a Members' Club holding a Club Premises Certificate issued under the Licensing Act 2003, or Miners' Welfare Institute, to hold a **Club Gaming Permit** allowing participation in equal chance gaming or playing games of chance (see Annex C for definitions of 'equal chance gaming' and 'games of chance'). In addition they may operate a maximum of 3 machines of Class B3A, B4, C or D.

The Act also permits a Members' Club holding a Club Premises Certificate or a Commercial Club holding a Premises Licence under the Licensing Act 2003 to operate a maximum of 3 machines of Class B3A, B4, C or D under a **Club Machine Permit**.

New Permits

Applications for a permit for premises already holding a Club Premises Certificate are subject to a 'fast track' procedure that prevents the making of objections, and restricts the ability of the Licensing Authority to refuse the application.

An application under this process may be refused if the club is established primarily for gaming (other than that permitted); if, in addition to the permitted gaming, facilities are provided for other gaming; or that a club machine permit issued to the applicant within the preceding 10 years has been cancelled.

An application and payment of the prescribed fee is required. A permit has effect for 10 years unless surrendered or revoked.

Applications for a permit for premises not holding a Club Premises Certificate e.g. a Commercial Members' Club with a Premises Licence, may be refused by the Licensing Authority on the grounds that:-

- the applicant does not fulfil the requirements for a Members' or Commercial Club
- the premises are used wholly or mainly by children and/or young persons; an offence under the Act or breach of a permit has been committed by the applicant while providing gaming facilities
- a permit held by the applicant has been cancelled in the previous 10 years
- an objection has been made by the Police or Gambling Commission

Permits may be varied at any time to meet changing circumstances, other than an increase above 3 to the number of machines. Licensing Authorities may only refuse a variation if, on consideration of the proposed variation as a new application, they would refuse a permit.

A permit will lapse if the holder no longer qualifies as a Members' Club or no longer qualifies under the 'fast track' system, or the permit is surrendered. A permit may be cancelled if the premises are used wholly or mainly by children and/or young persons or where an offence under the Act or breach of a permit condition has been committed by the applicant in the course of gaming activities.

Permits are valid for 10 years from the date of grant unless previously surrendered, lapsed, renewed or cancelled. An annual charge is payable to the Licensing Authority.

Transitional Arrangements

A registration that is in force on 1 September 2007 will continue to have effect until its natural expiry date. Upon expiry a club will be entitled to apply for <u>either</u> a Club Gaming Permit or Club Machine Permit irrespective of the type of registration previously held.

An application for a new Club Machine Permit must be made at least 2 months before the existing registration expires, together with the prescribed fee.

OTHER PREMISES

Premises such as taxi offices, take away restaurants, cafes etc are prohibited from obtaining a new gaming machine permit under the Gambling Act 2005 and will be unable to operate gaming machines of any kind.

UNLICENSED FAMILY ENTERTAINMENT CENTRES

The Licensing Authority may grant an application for a permit for category D gaming machines in an unlicensed Family Entertainment Centre (FEC) provided it is satisfied the premises will be used as an unlicensed FEC and that the Chief Officer of Police has been consulted. There are no limits to the number of machines that may be applied for in an unlicensed FEC.

The Authority will apply its Gambling Policy Licensing Statement in consideration of an application, e.g. requiring an applicant to demonstrate they have no relevant convictions, that they have a full understanding of the maximum stakes and prizes permissible and that staff have a similar understanding.

An application for a permit will have to be accompanied by plans of the premises and a current certificate issued by the Criminal Records Bureau or its equivalent in respect of the applicant, i.e. a certificate issued within the previous 28-day period. The requirement in respect of the CRB certificate will be satisfied, where the applicant is a person who is a sole proprietor of the premises, by submission of a certificate in respect of that person or, where an applicant is a company or partnership, by submission of a certificate in respect of the person normally having day-to-day control of the premises.

The Authority may refuse an application for renewal of a permit only on the grounds that an authorised Local Authority Officer has been refused access to the premises without reasonable excuse, or that renewal would not be reasonably consistent with the pursuit of the Licensing Objectives.

Where the Authority intends to refuse an application, the applicant will be given the opportunity to make written or oral representations or both. A Hearing will be held before the Premises/Personal Licences Sub-Committee for this purpose, unless all parties agree that it is unnecessary.

In determining an application, the Licensing Authority need not have regard to the Licensing Objectives but must have regard to any Gambling Commission guidance.

A permit will last for 10 years unless it ceases to have effect because it is surrendered, it lapses or it is renewed. There is no annual charge payable to the Licensing Authority.

Unlicensed FEC's may also offer equal chance gaming under the authority of their Gaming Machine Permit.

New permits

Applications for new permits may be made to the Licensing Authority.

PRIZE GAMING

Prize gaming may be carried on in premises under a permit issued by the Licensing Authority. A Prize Gaming Permit will <u>not</u> authorise the use of gaming machines.

The Authority may apply its Gambling Licensing Policy Statement in consideration of an application, e.g. requiring an applicant to demonstrate they have no relevant convictions, that they have a full understanding of the maximum stakes and prizes permissible and that staff have a similar understanding.

The Authority may refuse an application for renewal of a permit only on the grounds that an authorised Local Authority Officer has been refused access to the premises without reasonable excuse, or that renewal would not be reasonably consistent with the pursuit of the licensing objectives.

An application for a permit will have to be accompanied by plans of the premises and a current certificate issued by the Criminal Records Bureau or its equivalent in respect of the applicant, i.e. a certificate issued within the previous 28-day period. The requirement in respect of the CRB certificate will be satisfied, where the applicant is a person who is a sole proprietor of the premises, by submission of a certificate in respect of that person or, where an applicant is a company or partnership, by submission of a certificate in respect of the person normally having day-to-day control of the premises.

Where the Authority intends to refuse an application, the applicant must be given the opportunity to make written or oral representations or both. A Hearing will be held before the Premises/Personal Licences Sub-Committee for this purpose, unless all parties agree that it is unnecessary.

In determining an application, the Licensing Authority need not have regard to the Licensing Objectives but must have regard to any Gambling Commission guidance.

A prize gaming permit will last for 10 years unless it ceases to have effect or is renewed. There is no annual charge payable to the Licensing Authority.

New permits

Applications for new permits may be made to the Licensing Authority.

Prize gaming without a permit

Prize gaming without a Prize Gaming Permit may be carried on in any premises with a Premises Licence issued under the Gambling Act 2005, except that casinos may not offer prize bingo.

Unlicensed FEC's may also offer equal chance gaming only, under the authority of their gaming machine permit.

Travelling Fairs may also offer equal chance gaming only without a permit provided the facilities for gaming are ancillary amusements to the fair.

TRAVELLING FAIRS

Travelling Fairs do not require a permit to provide gaming machines but must comply with codes of practice on how they are operated.

Travelling fairs may provide an unlimited number of category D machines and prize gaming in the form of equal chance gaming provided that facilities for gambling amount to no more than ancillary amusement at the fair.

ALCOHOL LICENSED PREMISES

PREMISES WHERE THE LICENCE PERMITS THE SALE OF ALCOHOL FOR CONSUMPTION ON THE PREMISES AND THE SALE IS NOT CONDITIONAL UPON FOOD BEING SOLD MAY HAVE GAMING MACHINES OF CLASS C OR D

UP TO 2 MACHINES

- 1. Automatic entitlement to 2 machines
- 2. Notify Licensing Authority in writing of proposed intention to operate machines.
- 3. Pay prescribed fee

MORE THAN 2 MACHINES

- 1. Apply to Licensing Authority
- Attach statistical justification showing 'need'
- 3. Attach plan of premises showing location of machines
- 4. Pay prescribed fee
- Permit has effect from date of grant unless surrendered or cancelled
- 1. Annual charge to be paid to Licensing Authority
- 1. Licensing Authority can withdraw entitlement for 2 machines where their provision is not consistent with Licensing Objectives; gaming has taken place in breach of a condition; premises are used mainly for gaming; an offence under the Act has been committed.
- 2. Licensing Authority can cancel a permit where the premises are used wholly or mainly by children or young persons or an offence under the Act has been committed.

BUT

- 1. Permit holder must be given 21 days notice of the intention to withdraw or cancel
- 2. Hearing must be held if permit holder requests one
- 3. Withdrawal or cancellation has no effect until 21 days has elapsed from notice being served where no hearing is requested or 21 days following a hearing or appeal.

MEMBERS' CLUBS

MAXIMUM OF 3 CATEGORY B3A B4, C OR D MACHINES

Applications for new permits and renewals must be made to Licensing Authority

ATTACH TO APPLICATION

- Club Premises Certificate (for fast track applications)
- 2. Rules of club (if not CPC)
- Plan of premises showing location of machines
- 4. Prescribed fee
- Copy of application and accompanying documents to Police and Gambling Commission
- 2. Objections may be made (except to 'fast track' applications)
- 3. Permit lasts 10 years

Application for grant may be refused if: -

- 1. Applicant does not qualify as a Members' or Commercial Club or Miners' Welfare Institute.
- 2. The premises are used wholly or mainly by children or young persons.
- 3. An offence under the Act or a breach of a permit has been committed while providing gaming facilities.
- 4. A permit held by the applicant has been cancelled in previous 10 years.
- 5. An objection has been made by Police or Commission.

Application for renewal must be sent to Licensing Authority with fee between 3 and 6 weeks before permit expires and may only be refused on the same grounds as for original grant.

Duration of the permit will not be curtailed while a renewal application is pending or where an appeal against a refusal to renew is outstanding.

UNLICENSED FAMILY ENTERTAINMENT CENTRE

PERMIT MAY BE ISSUED FOR PREMISES WHOSE PRIMARY USE IS AS AN UNLICENSED FAMILY ENTERTAINMENT CENTRE TO HAVE AN UNLIMITED NUMBER OF GAMING MACHINES OF CLASS D

- Attach information required by Gambling Licensing Policy Statement
- 1. Attach plan of premises showing location of machines
- 2. Consult Chief of Police
- 3. Pay prescribed fee
- 4. Permit lasts for 10 years

Application for grant may be refused if the grant would not be reasonably consistent with the Licensing Objectives, e.g. convictions making the applicant unsuitable, the location and type of premises being unsuitable, issues concerning disorder.

Application for renewal must be sent to Licensing Authority with fee between 2 and 6 months before permit expires and may only be refused if an Authorised Officer has been refused access to the premises without reasonable excuse, or renewal would not be reasonably consistent with the licensing objectives. Duration of the permit will not be curtailed while a renewal application is pending or where an appeal against a refusal to renew is outstanding

Permits will lapse if: -

- 1. Licensing Authority notifies holder premises are no longer being used as an unlicensed FEC
- 2. Holder no longer occupies premises
- 3. Holder dies, becomes mentally incapacitated, bankrupt or, in case of a company, ceases to exist or goes into liquidation
- 4. Court orders holder to forfeit permit
- 5. Holder surrenders or fails to renew

PRIZE GAMING PERMIT

PRIZE GAMING PERMITS MAY ONLY BE ISSUED IN RESPECT OF PREMISES FOR WHICH THERE IS NO PREMISES LICENCE OR CLUB GAMING PERMIT ISSUED UNDER THE GAMING ACT 2005

- Attach information required by Gambling Licensing Policy Statement
- 2. Attach plans of premises
- 3. Pay prescribed fee
- 4. Permit lasts for 10 years

Application for grant may be refused if the grant would not be reasonably consistent with the Licensing Objectives, e.g. convictions making the applicant unsuitable, the location and type of premises being unsuitable, issues concerning disorder.

Application for renewal must be sent to Licensing Authority with fee between 2 and 6 months before permit expires and may only be refused if an Authorised Officer has been refused access to the premises without reasonable excuse, or renewal would not be reasonably consistent with the Licensing Objectives. Duration of the permit will not be curtailed while a renewal application is pending or where an appeal against a refusal to renew is outstanding.

Permits will lapse if: -

- 1. Holder no longer occupies premises
- 2. Holder dies, becomes mentally incapacitated, bankrupt or, in case of a company, ceases to exist or goes into liquidation
- 3. Court orders holder to forfeit permit
- 4. Holder surrenders or fails to renew

LOTTERIES

A lottery is unlawful unless it is run in accordance with an Operating Licence issued by the Gambling Commission, or it is exempt. This advice covers only those categories of lottery that are exempt. For more information on the licensing requirements for lotteries, see the Gambling Commission's website on www.gamblingcommission.gov.uk

The Gambling Act 2005 defines 4 categories of lottery that are exempt from needing an operating licence: -

- Incidental non-commercial lottery
- Private lottery
- Customer lottery
- Small society lottery

Only a small society lottery is required to be registered with the Licensing Authority.

Applications must be made by the promoting society to the Licensing Authority for the area in which the principal address of the society is located. The Licensing Authority must record details of the society in a register and notify the applicant and the Gambling Commission of the registration.

The Licensing Authority will require applicants to declare: -

- the purposes for which the society is established
- · that they represent a bona fide non-commercial society, and
- that they have no relevant convictions

The Licensing Authority may refuse an application if: -

- it considers the applicant is not a non-commercial society
- any person who will or may be connected with the promotion of the lottery has been convicted of a relevant offence, or
- information provided in or with an application is false or misleading

An application shall be refused if an Operating Licence held or applied for by the applicant has been revoked or refused in the previous 5 years.

The Licensing Authority may revoke a registration where it believes the grounds exist that would permit or require it to refuse an application for registration.

Where the Licensing Authority intends to refuse or revoke the registration application it will give the society: -

- details of the reasons,
- evidence upon which it reached the decision, and
- the opportunity to make written and/or oral representations.

NEW REGISTRATIONS

An application for registration with the prescribed fee must be made to the Licensing Authority under the Gambling Act 2005. The registration will be valid indefinitely with an annual fee being payable to the Licensing Authority.

Lottery Requirements

To ensure the main purposes of the lottery are met: -

- the society must apply a minimum of 20% of the proceeds of the lottery to the purposes of the society;
- no single prize may exceed £25000;
- rollovers may be permitted provided every lottery affected is also a small society lottery by the same society and the maximum single prize does not exceed £25000; and
- every ticket must cost the same and must be paid for before being entered into the draw.

Returns

No later than 3 months after making the draw (or in the case of a rollover, the last draw), a return must be sent to the Licensing Authority that: -

- has been signed by 2 members of the society over 18 years of age who are appointed for the purpose in writing by the society or its governing body, if it has one,
- is accompanied by a copy of each member's letter of appointment, and include the following details: -
- the dates when tickets were available for sale;
- the dates of any draw and value of prizes, including any rollover;
- the proceeds raised;
- the amounts deducted for prizes and expenses incurred in organising the lottery;
- the amount applied or to be applied to the purposes of the promoting society; and
- whether any expenses incurred in connection with the lottery were paid for other than from the proceeds of the lottery and, if so, the amount and the source(s) from which they were paid.

EXTERNAL LOTTERY MANAGERS

External Lottery Managers require Operators' Licences issued by the Gambling Commission. For more information, see the Gambling Commission's website on www.gamblingcommission.gov.uk

SMALL SOCIETY LOTTERIES

PROMOTED BY A NON-COMMERCIAL SOCIETY ESTABLISHED FOR CHARITABLE PURPOSES; FOR PURPOSE OF ENABLING PARTICIPATION IN OR OF SUPPORTING SPORT, ATHLETICS OR CULTURAL ACTIVITY; OR FOR OTHER NON -COMMERCIAL PURPOSES OTHER THAN PRIVATE GAIN

- 1. Attach information required: -
 - (a) Purpose for which society established
 - (b) Confirm bona fides of society as non-commercial
 - (c) Declare convictions, if any
- 1. Pay prescribed fee
- 2. Registration valid for life, annual fee payable to Licensing Authority

Lottery requirements: -

- 1. Society must apply minimum 20% of proceeds to purposes of society
- 2. No single prize to exceed £25000
- 3. Rollovers permitted provided all lotteries affected are small society lotteries & maximum single prize does not exceed £25000
- 4. Tickets must cost the same, be paid for before being entered in draw and include details of society, price, name and address of the person responsible for promotion of the lottery and date of draw

Returns, which must be made no later than 3 months after draw, must be signed by 2 members and include details of: -

- 5. Dates tickets were available for sale, dates of draw and value of prizes
- 6. Proceeds raised, amounts deducted for prizes, expenses incurred in organising lottery and where any were paid for other than from proceeds of lottery, the amount and source
- 7. Amount to be applied to purposes of the promoting society

Registration may be refused if: -

- 1. Society is not considered to be non-commercial
- 2. Any person connected with promotion of lottery has been convicted of relevant offence, or
- 3. Information provided in application is false/misleading

Registration must be refused if an operating licence held by or applied for by the applicant has been revoked or refused in the previous 5 years

Registration may be revoked where grounds exist for an application for registration to be refused.

BUT a registration will not be refused or revoked unless the society has been informed of the reasons and the evidence supporting them and been given the opportunity to make representations

ANNEX G

FEES (as at 1 April 2012, as agreed by Planning Development Control and Licensing Committee 11 January 2012)

		Revised Charge
Gan	nbling Act 2005	£
40.	Bingo Clubs	
	- New Application	2625.00
	- Annual Fee	750.00
	- Application to Vary	1312.50
	- Application to Transfer	900.00
	- Application for Re-instatement	900.00
	- Application for Provisional Statement	2625.00
	- Licence Application (provisional Statement holders)	900.00
41.	Betting Premises (excluding Tracks)	
	- New Application	2250.00
	- Annual Fee	450.00
	- Application to Vary	1125.00
	- Application to Transfer	900.00
	- Application for Re-instatement	900.00
	- Application for Provisional Statement	2250.00
	- Licence Application (provisional Statement holders)	900.00
42.	Tracks	
	- New Application	1875.00
	- Annual Fee	750.00
	- Application to Vary	937.50
	- Application to Transfer	712.50
	- Application for Re-instatement	712.50
	- Application for Provisional Statement	1875.00
	- Licence Application (provisional Statement holders)	712.50
43.	Family entertainment Centres	
	- New Application	1500.00
	- Annual Fee	562.50
	- Application to Vary	750.00
	- Application to Transfer	712.50
	- Application for Re-instatement	712.50
	- Application for Provisional Statement	1500.00
	- Licence Application (provisional Statement holders)	712.50
44.	Adult Gaming Centres	4500.00
	- New Application	1500.00
	- Annual Fee	750.00
	- Application to Vary	750.00
	- Application to Transfer	900.00
	- Application for Re-instatement	900.00
	- Application for Provisional Statement	1500.00
	- Licence Application (provisional Statement holders)	900.00
	VAT: All the above items are rated non-business.	
45.	Copy of Licence (all premises types)	15.00
46.	Notification of change (all premises types)	30.00

Non statutory fees are reviewed by the Licensing Authority on an annual basis in accordance with the Gambling (Premises Licence Fees) (England and Wales) Regulations 2007. Details of current fees can be obtained by contacting

The Licensing Team
Brentwood Borough Council
Town Hall
Ingrave Road
Brentwood
Essex CM15 8AY

Tel: 01277 - 312809 E-mail: licencing@brentwood.gov.uk

or alternatively by viewing the Council's Website: www.brentwood.gov.uk/licensing

Annex H

LACORS & GAMBLING COMMISSION CONCORDAT (March 2010)

Concordat

Gambling Act 2005 – Co-regulators Concordat between the Gambling Commission and Local Authorities Coordinators of Regulatory Services (LACoRS)

March 2010

1 Introduction

- **1.1** This Concordat is an agreement between the Gambling Commission (the Commission) and licensing authorities (LAs) in England and Wales, via Local Authorities Coordinators of Regulatory Services (LACORS). It is based on a set of principles which set out in general terms our shared understanding of how the Commission and LAs will carry out our respective duties under the Gambling Act 2005 (the Act).
- **1.2** The practical application of these principles is detailed in an accompanying set of protocols. The protocols reflect how the Commission and LAs will ensure compliance with the Act, the licensing objectives and the associated rules and regulations. The Concordat and protocols will, when need arises, be amended and new ones added to respond to changing circumstances. Such review will be a joint process between both parties.

2 Principles

- **2.1** The Commission and LAs act jointly as co-regulators of the gambling industry under the Act. We regulate most commercial, and some non-commercial, gambling in Great Britain.
- **2.2** Section 1 of the Act sets out three licensing objectives that underpin our respective work as regulators. These are:
 - preventing gambling from being a source of crime and disorder
 - ensuring that gambling is fair and open
 - protecting children and vulnerable people from being exploited or harmed by gambling.
- **2.3** The Commission must aim to permit gambling so far as it thinks it reasonably consistent with pursuit of the licensing objectives. The Act also requires the Commission to give advice to the Secretary of State about the incidence, manner, effects and regulation of gambling.
- **2.4** The Act requires the Commission to issue guidance from time to time on the manner in which licensing authorities are to exercise their functions under the Act and in particular, the principles that they should apply. LAs must have regard to such guidance, which will be reviewed and revised as required. The Commission will consult on any proposed changes and will aim to make the guidance easily understood and applied.

Co-regulators Concordat between the Gambling Commission and LACoRS - March 2010

- **2.5** LAs must aim to permit the use of premises for gambling, in so far as they think that this:
- accords with the licence conditions, codes of practice and guidance issued by the Commission
- is reasonably consistent with the licensing objectives; and
- is in accordance with the LAs' three-year licensing policy.
- **2.6** LAs and the Commission aim to ensure that the gambling industry is correctly licensed and well regulated and that it operates in a compliant manner. We recognise that co-regulation requires a shared understanding of the responsibilities of each party and the ability both at local and national levels to work effectively together and resolve problems in a consistent and timely manner.
- **2.7** We are aware that a minority of operators will be non-compliant or operate illegally. We will take the appropriate and proportionate regulatory and enforcement action in such circumstances. We will both uphold the Act and protect the compliant industry from the threats that such activity poses. Where there is evidence of systematic illegality, LAs and the Commission will work together, and with other agencies as appropriate, to identify offenders and to ensure that they face action as required.
- **2.8** We aim to achieve regulatory outcomes in a way that minimises burdens imposed on business. Key to this is that we are risk based and proportionate in our decision making and transparent and accountable for our actions. Both LACORS and the Commission recognise that, in keeping with the Hampton principles of better regulation, we must minimise the risk of duplication or over-regulation and make the most efficient use of our resources.
- **2.9** The Commission recognises that LAs will each have different priorities and that this will have a bearing on their approach to the licensing of premises and to compliance. It is a matter for the local democratic process to make such decisions and to reflect local concerns. The Commission and LAs both operate a risk based methodology. The Commission's resources are prioritised on risks that are identified which are high in impact and of regional or national significance. LAs are concerned with risks within their geographical boundaries and which would have a high impact at a local level.
- **2.10** We recognise that our understanding of the Act is continuing to evolve and that as new circumstances emerge, and as operators develop new products and new methods of making gambling available; this will continue to be the case. The Commission will endeavour to ensure that, when elaborations of its understanding of the Act are required, LACORS and LAs are engaged at the earliest opportunity.

March 2010

LACORS Gambling Commission

Local Government House Victoria Square House Smith Square Victoria Square London SW1P 3HZ Birmingham B2 4BP T: 020 7665 3888 T: 0121 230 6666 Email: Info@lacors.gov.uk www.gamblingcommission.gov.uk

Co-regulators Concordat between the Gambling Commission and LACoRS – March 2010



21 July 2015

Planning and Licensing Committee

Face to Face Direct Debit Charity Collectors

Report of: Ashley Culverwell – Head of Borough Health Safety and Localism

Wards Affected: All

This report is: Public

1. Executive Summary

1.1 This report is to seek Member approval for implementation of a new agreement between the Council and the Public Fundraisers Regulatory Association in respect of direct debit charity fundraising.

2. Recommendation(s)

- 2.1 That the Head of Health Safety and Localism be granted delegated authority to sign the agreement attached at Appendix A and that upon such signature the adoption of the agreement shall take immediate effect; and
- 2.2 That the Head of Health Safety and Localism be granted delegated authority to exclude the ability for direct debit collections to be undertaken on specific event days, with appropriate notice in accordance with paragraph 5.10 of this report.

3. Introduction and Background

- 3.1 Charitable Collections in streets and public places are governed under statute by the Police, Factories, etc (Miscellaneous Provisions) Act 1916 (the Act).
- 3.2 The Act permits the Council to make regulations with respect to 'the places where and the conditions under which persons may be permitted in any street or public place, to collect money or sell articles for the benefit of charitable purposes...'
- 3.3 Whilst direct debit collectors are fundraising, they are not collecting cash in the sense of an immediate donation. A direct debit that an individual signs up to can be cancelled by them at any time and amounts of

donation can vary. Therefore, the fundraiser has no way of knowing how much is collected at each collection. This means that this type of collecting activity is not within scope of the licensing requirements referred to at Paragraphs 3.1 and 3.2.

- 3.4 Whilst the majority of these types of fundraiser are responsible, there can be concerns raised from time to time over unregulated collections and practices. Therefore, bona fide collectors tend to belong to the Public Fundraisers Regulatory Association (PFRA) who set and agree standards on behalf of such collectors.
- In June 2008, the Council entered into an agreement with the PFRA which identifies certain conditions and requirements such as frequency, conduct and location of collections. However, no review of the agreement has taken place since implementation and the report to this Committee of 13 January 2015, therefore sought Member agreement to work with the PFRA to update and review the content.
- 3.6 A meeting with representatives of the PFRA took place in February and this has resulted in the draft agreement attached at Appendix A.

4. Issue, Options and Analysis of Options

- 4.1 It was reported to Members in January that given the time lapse since the agreement came into force it would appear sensible to undertake a review to ensure that it is both up to date and remains fit for purpose.
- 4.2 The review of the agreement was undertaken in full partnership with the PFRA and the draft agreement has met with their full approval.
- 4.3 There is likely to be little or no impact on the collection process although this review should be advantageous to both residents and visitors to the Borough as it better clarifies the parameters for these collections and ensures that only legitimate collections will take place.
- 4.4 Further, it may be considered that an effective and regularly updated agreement would benefit collectors and charities as the agreement promotes good practice, which in turn improves and enhances the reputation of the collectors and charities involved.

5. Reasons for Recommendation

5.1 The existing Member approved voluntary agreement follows a recognised legal framework, which is designed to safeguard the interests of the public, whilst protecting the interests of bona fide charity organisations. The review of this agreement ensures that it remains fit for purpose.

- 5.2 The agreement has been updated and modernised and now makes reference to new codes of practice and a rule book produced by the PFRA since the establishment of the original site agreement.
- 5.3 There were two distinct areas for street collections in Brentwood Town Centre highlighted in the original agreement, these being outside of Iceland and Superdrug respectively. However, since the establishment of the Market in the High Street, these areas can at times become pinch points and therefore one reason for a review of the agreement was to consider whether there is an appropriate alternative collection point(s).
- 5.4 Currently, collections are permitted Monday through to Saturday inclusive.
- 5.5 Subject to Member approval, the revised draft agreement extends the area within which collections may be made to any point along the High street on either side of the road between Saint Thomas Road and the Church ruins. Whilst this is an extension of the area it enables the collections to be wider spread with a maximum of two collectors on each side of the High Street and one floating supervisor. Additionally collections will only be permitted on two days per week and only between Monday and Thursday thus removing any conflict with the current Street Market operations.
- 5.6 The PFRA have stated that they do not wish to hold collections on Saturday and Sunday and believe that four available days per week is sufficient for their members needs. They therefore proposed the restriction to 4 days in order to avoid over kill and by way of compromise for a slightly extended collection area.
- 5.7 The main benefit of the revised agreement is that the PFRA become effectively partners in ensuring a safe and legitimately operated collection and through their rules, which are signed up to by all main charities, they will enforce the terms of the agreement giving penalty points in respect of breaches of these protocols.
- 5.8 The advantage of penalty points, which amount to 20, 50 or 100 at a time dependent on the level of breach of the rules, is that a fine is automatically imposed on any charity at a rate of £1 per point if and when they reach 1000 points.
- 5.9 Collectors that do not conform to the terms of the new agreement or that have not sought permission through the agreed process will be reported to the PFRA. Any person (s) that is not a member of the PFRA will be reported to the PFRA and investigated by the Council and the PFRA to ensure that they are bona fide collectors.
- 5.10 It is also worth noting that the new site agreement will provide flexibility to the Council to exclude specific event days such as lighting up Brentwood and similar events. In this regard there is a further recommendation that the Head of Borough Health, Safety and Localism be delegated the

authority to liaise with the PFRA and relevant charities and with appropriate notice, to exclude collections on such days as and when necessary to do so.

6. Consultation

- 6.1 The collection for charity by way of direct debit is permitted in law, therefore there is no specific consultation requirement.
- 6.2 Any complaints received in respect of any collection, would be assessed by officers and action taken as appropriate in each case.
- 6.3 The PFRA has been involved, with the full backing of their member charities throughout this review process.

7. References to Corporate Plan

7.1 The proposals contained within this report link directly to the following priorities of the corporate plan:

A prosperous Borough – "Safeguarding public safety through a risk based regulation and licensing service."

Street Scene and Environment – "Develop effective partnership arrangements so all issues affecting neighbourhoods are delivered in a timely and efficient way"

Localism – Encourage local businesses to invest directly in Brentwood's communities"

8. Implications

Financial Implications

Name & Title: Christopher Leslie, Finance Director

Tel & Email: 01277 312513/ christopher.leslie@brentwood.gov.uk

8.1 There are no direct financial implications arising from the recommendations

Legal Implications

Name & Title: Christopher Potter, Monitoring Officer and Head of Support

Services

Tel & Email: 01277 312860 /christopher.potter@brentwood.gov.uk

8.2 The purpose and spirit of this voluntary Site Management Agreement (SMA) is to facilitate responsible face-to-face fundraising in Brentwood town centre and provide balance between the duty of charities and not-for-profit organisations to fundraise and the rights of the public to go about

their business without the impression of undue inconvenience. Whilst there are no legal requirements in order to conduct a face to face street collection, this agreement clearly indicates a willingness and desire by the main charities through the PFRA, to operate legitimately and to self regulate.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

There are no significant implications arising from agreement to the recommendations of this report.

9. **Appendices to this report**

Appendix A – Draft Site Management Agreement

Report Author Contact Details:

Name: Gary O'Shea **Telephone:** 01277 312503 **E-mail:** gary.oshea@b

gary.oshea@brentwood.gov.uk













J2015

Site Management Agreement

Site Management Agreement

Between PFRA and Brentwood Borough Council

Prepared by: Stephen Service

Stakeholder & Outreach Manager

+44 (0)20 7401 8452 stephen@pfra.org.uk www.pfra.org.uk

Purpose

The purpose and spirit of this voluntary Site Management Agreement (SMA) is to facilitate responsible face-to-face fundraising in Brentwood town centre and provide balance between the duty of charities and not-for-profit organisations to fundraise and the rights of the public to go about their business without the impression of undue inconvenience. For the avoidance of doubt, this document does not constitute a legal contract.

Once this agreement is in place it should minimise the administration for the council, providing just one channel for information and support regarding face-to-face fundraisers, as nominated 'gatekeepers' only have to deal with one organisation, the PFRA, instead of dealing with each individual charity and fundraising organisation separately.

Statement of Conformity

All fundraisers will abide at all times by the relevant elements of the Institute of Fundraising's Code of Practice, and the PFRA's Rule Book, or face the appropriate penalties.

Access Details

1.1 Sites, team sizes, positioning, and frequency

Sites may be used as follows, as shown in the map at Appendix 1:

Brentwood Town Centre

High Street, between St Thomas Road and the ruins of Thomas 'a Becket Chapel.

Capacity: maximum of 4 fundraisers in total

Positioning: No more than 2 fundraisers on either side of the road. Fundraisers to be spread out along the length of the site

Frequency: 2 days a week, between Monday and Thursday.

Where fundraisers are found to be working outside of the agreed locations, they must comply with requests made by Local Authority Officials and reposition themselves correctly or as directed on-site.

Only one charity will be present on any one site on any one day.

Fundraising will only be permitted between the hours of 9am and 6pm, unless otherwise specified.

Any exclusion dates (e.g specific event days) are to be announced by the Council to the PFRA to be booked into the PFRA's diary management system, giving a minimum of 4 weeks' notice to the PFRA from date of diary delivery.

1.2 Other Conditions

Fundraisers should be positioned in such a way as to offer an adequate 'comfort zone' to those users of the public highway who do not wish to engage. In furtherance of this, it is desirable that a minimum footway channel of 1 metre be maintained between fundraisers and the kerb / shop frontage where it is reasonable to do so.

Fundraisers should maintain a reasonable distance (of approximately 3 metres) apart from one another and any other legitimate street activities (e.g. street traders, Big Issue sellers, buskers, newspaper stands, promotional activities and market researching).

Information Required

1.3 Nominated Gatekeeper

The nominated gatekeeper for Brentwood Borough Council is Keith Alexander and his contact details are keith.alexander@brentwood.gov.uk. In his absence all enquiries should be made to licensing@brentwood.gov.uk or 01277 312500.

1.4 Required Information

The PFRA will maintain and manage the diary schedule. Diary/Schedule information will include: contact details for the agency (if applicable); and charity being fundraised for.

Copies of the diary are to be made available to:

Brenda Hunt, Senior Administrator, Brentwood Borough Council

Brenda.hunt@brentwood.gov.uk

Gary O'Shea, Principal Licensing Officer, Brentwood Borough Council

Gary.oshea@brentwood.gov.uk

Keith Alexander, Licensing Officer, Brentwood Borough Council

Keith.alexander@brentwood.gov.uk

These contact details shall be updated as and when necessary.

1.5 Transition and continuity

Should the nominated gatekeeper move on or responsibilities otherwise change, the gatekeeper will inform his/her successor of the detail of this agreement, the relationship with the PFRA, arrangements for the regulation of face-to-face fundraising, and provide the PFRA with contact details for the successor.

Complaint Management

PFRA will respond to and seek to resolve all complaints received, and issue penalties according to its rules. The Council will provide real time notification of any complaints it wishes to be resolved immediately and provide sufficient detail for any retrospective complaints to be investigated. Where the collection agencies or the charities themselves receive complaints it is expected that they will provide information to the PFRA including information about the identity of any individual collector who is subject of a complaint and of the action taken (if any).

Members of the public are encouraged to direct any complaint about fundraising to the Fundraising Standards Board (FRSB).

Working Together

Brentwood Borough Council agrees to work with the PFRA to raise awareness regarding this site management scheme, including explaining what face-to-face fundraising is, the PFRA, the Code of Practice, and facts about Direct Debit.

The PFRA monitors member organisations, through a programme of random spotchecks, responding to complaints, and other mechanisms, to ensure fundraisers' adherence to the code of practice, PFRA Rules, and Site Management Agreements. The PFRA can give appropriate penalties or sanctions to those not abiding by the rules.

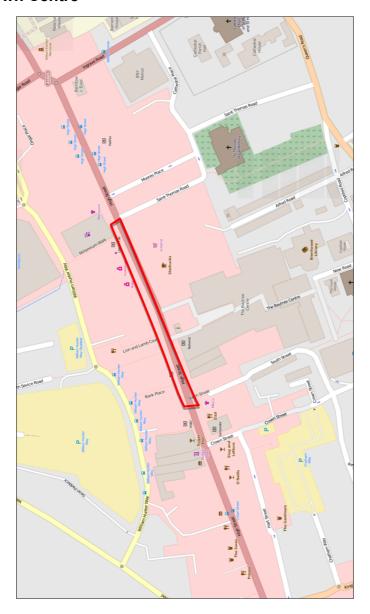
This SMA will be reviewed 6 months after it is signed, and then once every 12 months, if necessary, or earlier if there is just cause to do so. All amendments will be agreed in writing before becoming effective. Either party can withdraw from this agreement, giving 3 months' notice in writing.

Depending on when this agreement is signed, in relation to the PFRA's bidding/allocation cycle, there will be a lead-time of up to 8 weeks before the agreement can be fully implemented.

Signed For and On Behalf Of PFRA:		
	Peter Hills-Jones, PFRA Chief Executive	
Date:		
Signed For and On Behalf Of Brentwood Borough Council		
Print name:	Ashley Culverwell	
Job title:	Head of Borough Health, Safety and Localism	
Date:		

Plan showing the area(s) where fundraising is to be permitted in Brentwood Town Centre:

Brentwood Town Centre



Appendix 2 - Direct Debit Guarantee

Know your rights - The Direct Debit Guarantee

Direct Debit is one of the safest ways of making charitable donations. Organisations using the Direct Debit Scheme go through a careful vetting process before they're authorised, and are closely monitored by the banking industry. The efficiency and security of the Scheme is monitored and protected by your own bank or building society.

The Direct Debit Scheme applies to all Direct Debits. It protects you in the rare event that anything goes wrong.

The Direct Debit Guarantee

- The Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debits.
- If there are any changes to the amount, date or frequency of your Direct Debit the organisation will notify you (normally 10 working days) in advance of your account being debited or as otherwise agreed. If you request the organisation to collect a payment, confirmation of the amount and date will be given to you at the time of the request.
- If an error is made in the payment of your Direct Debit, by the organisation or your bank or building society, you are entitled to a full and immediate refund of the amount paid from your bank or building society.
 - o If you receive a refund you are not entitled to, you must pay it back when the organisation asks you to.
- You can cancel a Direct Debit at any time by simply contacting your bank or building society. Written confirmation may be required. Please also notify the organisation.

21 July 2015

Planning and Licensing Committee

Markets, Including Specialist and Christmas Markets

Report of: Ashley Culverwell – Head of Borough Health Safety and Localism

Wards Affected: All

This report is: Public

1. Executive Summary

- 1.1 This report is to update Members, following their resolution of 13 January 2015 to write to all Parish Councils, with a view to gauging interest in operating a Market in their respective parish areas.
- 2. Recommendation(s)
- 2.1 That the establishment of any new Markets or 'licence' or 'consent' streets in the Borough at this time be not further proceeded with.

3. Introduction and Background

- 3.1 Street trading (including markets and market stalls) is governed under provision of the Local Government (Miscellaneous Provisions) Act 1982 (the Act).
- 3.2 Section 2 (1) of the Act provides that a district council may by resolution designate any street in their district as either a prohibited street, a consent street or a licence street. Designation as either a licence or a consent street would be necessary in order to undertake any licensing of stalls or markets.
- 3.3 Where any street is owned by a relevant corporation and/or is maintained by the highways authority, their consent will be required prior to the passing of any resolution. It is also necessary prior to the passing of any resolution to notify the Chief Officer of Police and to advertise the intention in a local newspaper.

- 3.4 The high street in Brentwood was designated as a licence street in August 2011. Since that time it has operated a successful weekly market, which recently expanded from Saturday only trading to both Friday and Saturday.
- 3.5 The report to Licensing Committee of 13 January 2015 recognised that there are a number of parishes in outlying Towns and Villages within the borough, which following the success of the Brentwood High Street market and given the individual character of these areas, may wish to hold a regular or a series of 'one off' specialist markets.
- 3.6 Permission was sought from Licensing Committee on 13 January 2015 to write to all Parish Councils and Ward Councillors in order to gauge interest in pursuing the idea further with a view to undertaking a detailed exercise should there be any will in any parish to hold a market.
- 3.7 The idea was proposed at the parish council meeting held on 19 January 2015, with the letter being circulated on 10 February 2015. A deadline of 31 March was provided for receipt of initial expressions of interest.
- 3.8 No expressions of interest were received.

4. Issue, Options and Analysis of Options

- 4.1 There is a set legal process laid down in statute as highlighted in paragraphs 3.2 and 3.3 (above); however, the approach to parish councils as outlined in paragraph 3 was intended as a first step in gauging interest and in the event of any expressions of interest being lodged, to identify specific ideas for a market(s) as well as any areas that could potentially be affected.
- 4.2 It was clearly explained that any market that might eventually arise from the process would be totally under the ownership and/or control of the individual parish, the organisation for which, would remain their responsibility.
- 4.3 Notwithstanding the above, licensing processes would be undertaken by the licensing authority in the same manner as is currently conducted in respect of the Brentwood High street market.
- 4.4 The current street trading and market policy would be updated to include any additional areas or information as relevant having assessed any responses received relating to this proposal.

5. Reasons for Recommendation

- 5.1 The process for adopting additional licence or consent streets is a relatively lengthy process and as such it is only recommended should there be an operational requirement to establish such additional areas.
- 5.2 As no expressions of interest were received there is no recommendation to undergo a process of adopting any further areas for the purpose of street trading or to pursue the idea of additional markets any further at this time. However, the option for any parish council or ward councillor to approach the licensing team with a preliminary enquiry will remain open and any such approach may be reported back to licensing committee at that time.

6. Consultation

- 6.1 Full consultation would have taken place were expressions of interest received in relation to the designation of additional licence or consent streets as laid down in legislation.
- 6.2 With regard to the seeking of expressions of interest at this early stage, the consultation was by way of letter to the parish councils and ward councillors and by word of mouth at the parish council meeting held on 19 January 2015.

7. References to Corporate Plan

7.1 The proposals contained within this report link directly to the following priorities of the corporate plan:

A prosperous Borough – "Safeguarding public safety through a risk based regulation and licensing service."

Street Scene and Environment – "Develop effective partnership arrangements so all issues affecting neighbourhoods are delivered in a timely and efficient way"

Localism – Encourage local businesses to invest directly in Brentwood's communities"

8. Implications

Financial Implications

Name & Title: Christopher Leslie, Finance Director

Tel & Email: 01277 312513 / christopher.leslie@brentwood.gov.uk

8.1 None directly arising from this report.

Legal Implications

Name & Title: Christopher Potter, Monitoring Officer and Head of Support

Services

Tel & Email: 01277 312860 / christopher.potter@brentwood.gov.uk

8.2 There are no legal implications directly arsing from this report.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

- 8.3 There are no significant implications arising from agreement to the recommendations of this report.
- **9. Background Papers** (include their location and identify whether any are exempt or protected by copyright)
- 9.1 None
- 10. Appendices to this report

None

Report Author Contact Details:

Name: Gary O'Shea Telephone: 01277 312503

E-mail: gary.oshea@brentwood.gov.uk

SITE PLAN ATTACHED

06. 206 HATCH ROAD PILGRIMS HATCH ESSEX CM15 9QN

NEW CHALET DWELLING TO REAR OF 206 HATCH ROAD WITH ACCESS VIA ALDERTON CLOSE

APPLICATION NO: 15/00426/FUL

WARD Pilgrims Hatch 8/13 WEEK DATE 28.05.2015

PARISH POLICIES CP1 T2 H17
NPPF NPPG

CASE OFFICER Kathryn Mathews 01277 312616

Drawing no(s) 03; 05; 04; 01; 02;

relevant to this

decision:

This application was referred by Cllr Kendall from Weekly Report No 1692 for consideration by the Committee. The reason(s) are as follows:

I would like to refer a planning application at the rear of 206 Hatch Road to the Planning Committee for discussion and decision by members. My reasons for doing so are as follows:- - concerns regarding flooding - concerns regarding vehicle access - overbearing on the street scene

Update since publication of Weekly List 1692

Two further letters of objection have been received since the Weekly Report was published but no issues are raised which are not already covered in the Report.

1. Proposals

New chalet four bedroom dwelling to rear of 206 Hatch Road with access via Alderton Close: 6.7m x 11.9m and 7m in height, pitched roof with cat-slide dormers to front and rear (6.4m in width and a maximum of 2.2m in height).

Proposed detached garage: 6m x 6m and 5m in height, pitched roof, located in the south-western corner of the site.

The materials to be used to construct the external surfaces of the dwelling would consist of render for the walls and grey 'Eternit' slate for the roof with grey PV solar panels.

A total of four off-street parking spaces would be provided.

The application site measures approximately 48m in depth and a maximum of 18m in width.

The application is accompanied by a Design and Access Statement.

2. Policy Context

The National Planning Policy Framework (NPPF) came into effect on 27 March 2012 and is now a material consideration in planning decisions. The weight to be given to it will be a matter for the decision makers planning judgement in each particular case. This Framework replaces all the national planning guidance documents as stated in the NPPF, including Planning Policy Guidance Notes and Planning Policy Statements. Notwithstanding this, the NPPF granted a one year period of grace for existing adopted Local Plan policies which has now ended, but, the NPPF advises that following this 12 month period, due weight should be given to relevant policies in existing plans according to their degree of consistency with the Framework, (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given). The National Planning Practice Guidance (NPPG) is a material consideration in the determination of this application.

On 6th March 2014, the government published Planning Policy Guidance (NPPG) which, along with the NPPF, is a material consideration in the determination of planning applications. The NPPGs have been taken into account, where relevant, in the following assessment.

CP1 (General Development Criteria) Requires development to satisfy a range of criteria covering the following considerations: Character and appearance of the area; Residential amenities; Access; Highway safety; Environmental protection; and the Natural and Historic Environment.

H17 (Dormer Windows) requires dormer windows to be of a design and scale which is a subsidiary feature of the roof.

T2 (New Development and Highway Considerations) refers to the need for proposals not to have an unacceptable detrimental impact on the transport system.

3. Relevant History

: - None

4. Neighbour Responses

3 letters of notification were sent out and a site notice was displayed near to the site. 13 letters of objection have been received (two since the Weekly Report was published) raising the following concerns:-

- would exacerbate existing parking problems
- would be garden grabbing contrary to government advice
- would be squeezed into site surrounded by paved patio and shingle not in keeping with its immediate neighbours and gardens
- would have negative impact on plants, shrubs and trees, and wildlife
- would result in loss of at least one parking space and be across their driveway and restrict access to their garage
- would create safety concerns for children playing in front garden
- inadequate visibility from proposed access point.
- dangers, noise and disturbance during construction
- may increase local flooding problems
- design not of high quality and not in keeping with the rest of the Close
- would partly obscure view of countryside
- loss of privacy as a result of tree and shrub removal and first floor windows proposed
- would result in loss of sunlight to their rear garden and adversely affect their outlook
- do not feel that Lifetime Homes, design standards incorporated (Policy H16)
- design, in particular, the dormers fails to comply with planning policy
- access would be over land maintained by neighbouring residents for 37 years
- would be backland development
- would be disturbing potentially unstable land which could result in sink holes or subsidence.
- site within area of potential archaeological interest and so a ground survey should be carried-out
- concern regarding maintaining access of emergency vehicles
- would provide access for more development to rear of Hatch Road

5. Consultation Responses

Highway Authority:

From a highway and transportation perspective the impact of the proposal is acceptable to the Highway Authority; given the scale of the proposed development and the area to be available for parking within the site as shown on the 'Site Plan' provided, which complies with Brentwood Borough Council's adopted parking standards for the proposed dwelling, subject to the following conditions;

- 1. In view of the site constraints and the potential impact on neighbouring dwellings, no development shall take place, including any ground works or demolition, until a Construction Method Statement has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall provide for:
- i. the parking of vehicles of site operatives and visitors
- ii. loading and unloading of plant and materials
- iii. storage of plant and materials used in constructing the development
- iv. wheel and underbody washing facilities

Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety and Policy DM 1 of the Highway Authority's Development Management Policies February 2011.

- 2. No unbound material shall be used in the surface treatment of the vehicular access within 6 metres of the highway boundary. Reason: To avoid displacement of loose material onto the highway in the interests of highway safety in accordance with policy DM1 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 3. Prior to occupation of the proposed development, the Developer shall be responsible for the provision and implementation of a Residential Travel Information Pack for sustainable transport, approved by Essex County Council. Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport in accordance with policies DM9 and DM10 of the Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011. Informatives
- Arrangement shall be made for surface water drainage to be intercepted and disposed of separately so that it does not discharge from or onto the highway carriageway.
- -All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works.

The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org or by post to:SMO3 - Essex Highways, Childerditch Highways Depot, Hall Drive, Brentwood. CM13 3HD.

Environmental Health & Enforcement Manager:

No objections. We do not have any records of flooding problems in the area. There were some foul drainage issues in hatch Road but this has been referred to Anglian Water and were just blockages.

Arboriculturalist:

There are existing trees on site so a condition will be needed to require a BS:5837 survey to show how these trees will be protected during construction if they are to be retained.

ECC SUDS:

Thank you for consulting us the above application. This development is not considered major therefore we will not commenting on the surface water scheme at this site.

Environment Agency:

Our maps show the site may be susceptible to surface water flooding - this is outside our remit and I would advise you contact the Lead Local Flood Authority, Essex County Council, regarding flooding issues onsite. They can be contacted via suds@essex.gov.uk.

6. Summary of Issues

The application site is located at the end of a cul-de-sac (Alderton Close) which consists of a mixture of chalet-style detached bungalows, single storey bungalows, a two storey terrace and a garage block. The site is located in a residential area (the northern boundary of the application site abuts the Metropolitan Green Belt).

The main issues which require consideration as part of the determination of this application are the principle, the impact of the development on the character and appearance of the area, any impact on the amenity of the occupiers of neighbouring residential properties, highways/parking issues and the quality of life for the occupiers of the proposed and existing dwellings.

The site is located within an area allocated for residential purposes. The application site does form part of the rear garden of 206 Hatch Road and is, therefore, not classified as brownfield land. However, given the location of the site in a residential area with an existing vehicular access, it is considered that the principle of residential development is acceptable.

Given the location of the application site, it is considered that it is appropriate to only consider the impact of the proposed development on the character and appearance of Alderton Close. The proposed dwelling would be constructed at the end of Alderton Close and within a curtilage larger than the existing properties in the Close. The existing dwellings in the Close vary in design but those which would immediately neighbour the proposed dwelling, (9, 10 and 11) are chalet style bungalows with large flat roofed dormer windows to the front and rear roof slopes. The proposed dwelling would be of a comparable design but with cat-slide rather than flat roofed dormer windows, and of comparable height and footprint size. The proposed dwelling would be located at least 1m from the side boundaries of the site. Whilst the existing properties in the Close do not have detached garages, the proposed detached garage would be single storey in height and would not be in a visually prominent position. The proposed dormer windows would be out-of-scale with the roof within which they would be constructed, contrary to Policy H17, but, given that the neighbouring properties at 9, 10 and 11 Alderton Close have similarly scaled dormer windows and as the application site is not in a visually prominent location, it is considered that a refusal of planning permission on this basis could not be substantiated in this case. On the basis of the above, it is considered that the proposed development would not be out-of-keeping with the neighbouring development or be incongruous in the street scene, in compliance with the NPPF, NPPGs and Policy CP1 (criteria i and iii).

The proposed dwelling would be located adjacent to the blank side, garage wall of 11 Alderton Close and would only project around 1.5m beyond the rear and front elevations of this neighbouring property. The proposed dwelling would be located adjacent to part of the rear garden of 204 Hatch Road but would be located over 30m from the dwelling at 204 Hatch Road. The garage building would only be single storey in height and located at least 23m from the dwellings at 204 and 206 Hatch Road. Therefore, it is considered that any loss of outlook, loss of sunlight or loss of daylight to this neighbouring garden area would be minimal. In terms of overlooking. there would be no habitable room windows proposed on the side elevations of the dwelling proposed. The proposed first floor bedroom windows would be located 15m from the proposed rear garden boundary of 206 Hatch Road and at least 34m from the nearest rear facing windows (which are at ground floor level) of 204 and 206 Hatch Road. Any opportunities for overlooking of the rear garden area of 204 Hatch Road at a distance of less than 15m would be at an angle of more than 90 degrees. It is considered that, given these distances and relationships, the potential for material harm to be caused by reason of loss of privacy would be minimal and the proposed intervening detached garage would reduce this potential further. On this basis, it is considered that the proposed development would not cause material harm to the amenity of the occupiers of any neighbouring residential property by reason of loss of privacy, loss of outlook, loss of sunlight, loss of daylight and dominance, in compliance with the NPPF (paragraph 17) and Policy CP1 (criterion ii).

The proposal would require the removal of some existing shrubs, trees and hedging but, given their nature, extent, height and species, it is considered that their removal would not be materially harmful to the character or appearance of the area. It is also considered that, given the nature, extent, position and species of the trees to be retained, a BS:5837 survey, as recommended by the Arboriculturalist, is not necessary in this case and that the standard landscaping condition recommended below would be sufficient.

The proposed dwelling would be provided with more than two off street parking spaces which would comply with the adopted standards and the submitted drawings do not suggest that vehicular access to existing properties or the existing garages would be prevented as a result of the development proposed. The Highways Officer raises no objection to the proposal, subject to the imposition of conditions. On this basis, it is considered that the development would not cause harm to highway safety, in compliance with the NPPF, Policy CP1 (criteria iv and v) and Policy T2.

The existing and proposed dwellings would be provided with in excess of the recommended minimum of 100sq.m. private amenity space, and the new dwelling would be provided with adequate off-street parking. On this basis, it is considered that the quality of life for the occupiers of the existing and proposed dwellings would be satisfactory, in compliance with the NPPF (paragraph 17) and Policy CP1 (criterion ii).

In response to the concerns raised by local residents and Councillor Kendall (when referring the application for consideration by Planning Committee), most have been addressed above. In response to those matters which have not, the following comments are made:-

- there is no evidence that the application site is inhabited by protected species and any planning permission granted would not override the developer's duties under wildlife legislation in any event.
- any disturbance or inconvenience during construction would be temporary and could be minimised through the imposition of a condition requiring the submission of a construction method statement
- drainage and internal space standards would be a matter which would be dealt with through Building Regulations but details of surface water drainage could be required by condition to ensure that the development does not exacerbate existing surface water drainage issues
- loss of view is not a material planning consideration
- the application has been accompanied by a Certificate B as part of the site is not within the ownership of the applicant but any other land ownership issues or 'ransom strips' would be private matters which would need to be resolved privately between the relevant parties
- the Council's Building Control Officers have advised that they are not aware of any potentially unstable land which could result in sink holes or subsidence.

- Essex County Council Archaeology have advised that the area is of interest but that, given the position of the buildings proposed, investigations are not warranted in this case.

7. Recommendation

The Application be APPROVED subject to the following conditions:-

1 TIM01 Standard Time - Full

The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

2 U10214

A sample of the materials to be used to cover the roofs of the buildings hereby permitted shall be submitted to and approved in writing by the local planning authority prior to their use. Development shall be carried out in accordance with the approved details.

Reason: In order to safeguard the character and appearance of the area.

3 U10212

No development shall take place, including any ground works or demolition, until a Construction Method Statement has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall provide for:

- i. the parking of vehicles of site operatives and visitors
- ii. loading and unloading of plant and materials
- iii. storage of plant and materials used in constructing the development
- iv. wheel and underbody washing facilities

Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety. This issue is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably harmful to highway safety and the amenity of existing residents. In the absence of a condition requiring the approval of these matters before the commencement of the development it would have been necessary to refuse planning permission.

4 U10215

No unbound material shall be used in the surface treatment of the vehicular access within 6 metres of the highway boundary.

Reason: To avoid displacement of loose material onto the highway in the interests of highway safety.

5 U10216

Prior to occupation of the proposed development, the occupiers shall be provided a Residential Travel Information Pack for sustainable transport, in accord with details which shall have first been submitted to and approved in writing by the local planning authority.

Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport.

6 U10217

No development shall take place until a scheme of hard and soft landscaping has been submitted to and approved in writing by the local planning authority. The submitted scheme shall indicate the existing trees shrubs and hedgerows to be retained, the location, species and size of all new trees, shrubs and hedgerows to be planted or transplanted, those areas to be grassed and/or paved. The landscaping scheme shall include details of all surfacing materials and existing and proposed ground levels. The landscaping scheme shall be completed during the first planting season after the date on which any part of the development is commenced or in accordance with a programme to be agreed in writing by the local planning authority. Any newly planted tree, shrub or hedgerow or any existing tree, shrub or hedgerow to be retained, that dies, or is uprooted, severely damaged or seriously diseased, within five years of the completion of the development, shall be replaced within the next planting season with another of the same species and of a similar size, unless the local planning authority gives prior written consent to any variation.

Reason: In order to safeguard and enhance the character and appearance of the area. This issue is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably harmful to highway safety or the character and appearance of the area. In the absence of a condition requiring the approval of these matters before the commencement of the development it would have been necessary to refuse planning permission.

7 U10219

No development shall take place until details of surface water drainage for the development have been submitted to and approved in writing by the local planning authority. The development shall be completed in accordance with the approved details.

Reason: In order to ensure that satisfactory drainage is provided. This issue is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably increase flooding in the area. In the absence of a condition requiring the approval of these matters before the commencement of the development it would have been necessary to refuse planning permission.

8 DRA01A Development in accordance with drawings The development hereby permitted shall not be carried out except in complete accordance with the approved drawing(s) listed above and specifications.

Reason: To ensure that the development is as permitted by the local planning authority and for the avoidance of doubt.

Informative(s)

1 INF05

The following development plan policies contained in the Brentwood Replacement Local Plan 2005 are relevant to this decision: CP1, T2, H17 the National Planning Policy Framework 2012 and NPPG 2014.

2 INF04

The permitted development must be carried out in accordance with the approved drawings and specification. If you wish to amend your proposal you will need formal permission from the Council. The method of obtaining permission depends on the nature of the amendment and you are advised to refer to the Council's web site or take professional advice before making your application.

3 INF21

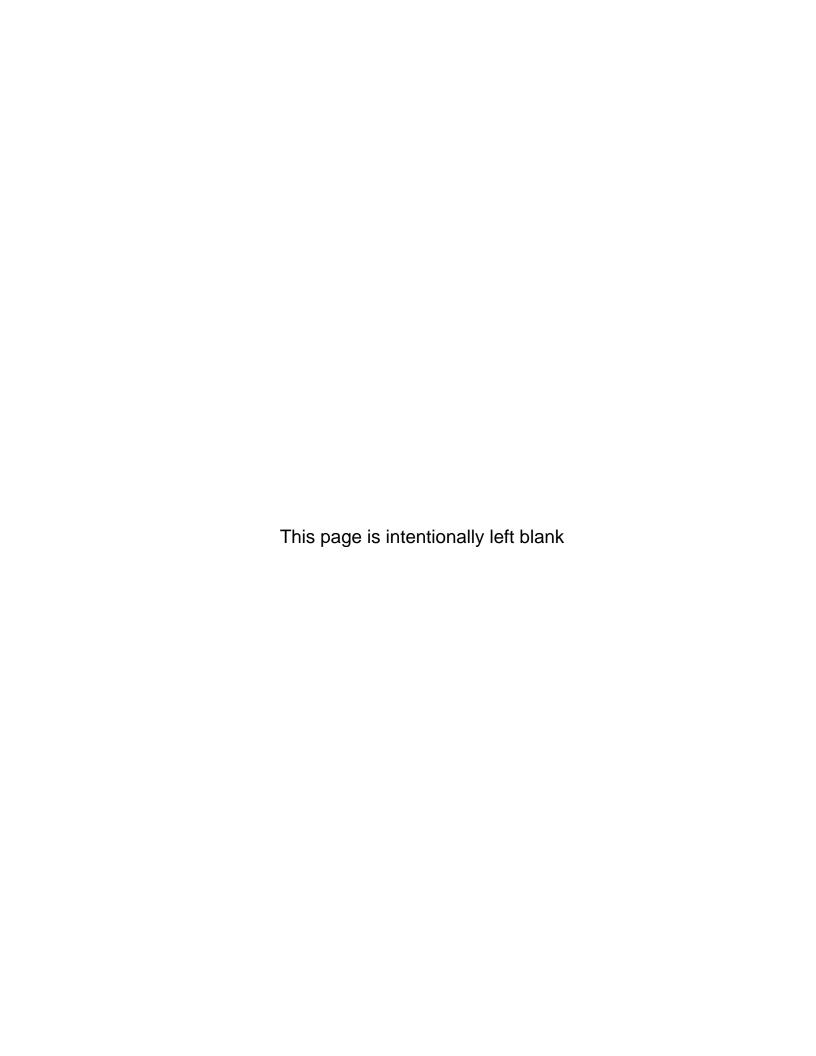
The Local Planning Authority has acted positively and proactively in determining this application by assessing the proposal against all material considerations, including planning policies and any representations that may have been received and subsequently determining to grant planning permission in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.

4 U02399

- Arrangement shall be made for surface water drainage to be intercepted and disposed of separately so that it does not discharge from or onto the highway carriageway.
- -All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works. The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org or by post to:SMO3 Essex Highways, Childerditch Highways Depot, Hall Drive, Brentwood. CM13 3HD.

BACKGROUND DOCUMENTS

DECIDED:





Title: 206 HATCH ROAD, PILGRIMS HATCH, CM15 9QN

15/00426/FUL

Page 105

Scale 1:1250 at A4

Date 21st July 2015

Brentwood Borough Council Town Hall, Ingrave Road Brentwood, CM15 8AY Tel: (01277) 312500



SITE PLAN ATTACHED

07. LAND AT THOBY PRIORY THOBY LANE ESSEX CM15 0TB

OUTLINE APPLICATION FOR THE DEMOLITION OF EXISTING STRUCTURES ON SITE AND THE DEVELOPMENT OF 87 RESIDENTIAL UNITS AND FORMATION OF ACCESS ROADS (APPEARANCE, LANDSCAPING, LAYOUT AND SCALE RESERVED MATTERS)

APPLICATION NO: 15/00527/OUT

WARD	Ingatestone, Fryerning &	8/13 WEEK	21.07.2015
WAND	Mountnessing	DATE	21.07.2015

GB1 GB2 CP1 T2 C5 C18 C16 NPPF

PARISH Mountnessing POLICIES NPPG CP2 CP3 CP4 C8 T1 C3

H6 H9 E1 T14 T15 IR3 PC1

PC4

CASE OFFICER Kathryn Mathews 01277 312616

Drawing no(s) relevant to this decision:

GEOTECH & ENV SITE INVESTIGATION; PLANNING STATEMENT; OUTLINE DRAINAGE STRATEGY; SATEMENT OF COMMUNITY INVOLVEMEN; GROUND INVESTIGATION REPORT; ARCHAEOLOGICAL DESK BASED ASSESS; P1105-16-00 P4; PP1105-17-00 P4; PP1105/19-00 P1; ARCHAEOLOGICAL EVALUATION; DESIGN & ACCESS STATEMENT; LANDSCAPE & VISUAL IMPACT ASSESS; ARBORICULTURALIST; ECOLOGICAL APPRAISAL; TRANSPORT ASSESSMENT; ECONOMIC VIABILITY ASSESSMENT; NOISE REPORT; NOISE REPORT ADDENDUM; 2591.10; 2591.14; 2591.15; 2591.07 A; 13935GI THOBY PRIORY; ESSEX AND

SUFFOLK WATER LETTER;

1. Proposals

Outline planning application for 87 residential units with all matters of detail reserved for future determination except for access to the site.

The existing dwellinghouse and associated land known as Thoby Priory is owned by a third party and does not form part of the current application.

Access to the site would from Thoby Lane utilising the existing access point and access way (around 400m in length) which would upgraded to include a 3m cycleway/footpath. This cycleway/footpath would continue along Thoby Lane linking the site with Mountnessing Village cutting across Coronation Playing Fields.

The application is accompanied by an indicative site layout which shows a mixture of lower and higher density areas with an open area around the Scheduled Ancient Monument (SAM) and footprint of the former Mansion House which are both at least partly located within the application site boundary. Two existing ponds are shown to be retained, one within an area of amenity land for ecological enhancement. The housing mix is suggested as 10no. two bedroom dwellings, 5no. two bedroom flats, 19no. three bedroom dwellings and 53no. 4+ bedroom dwellings in a mixture of detached, semi-detached and terraced dwellings. A landscape bund and acoustic fence is indicated along part of the western boundary of the site and a bund is shown along part of the eastern boundary of the site both in the vicinity of the neighbouring agricultural buildings (although this has since been amended - see below under 'Quality of Life for Future Occupiers'). The parking would be provided as a mixture of garage courts and on-plot parking/garaging. It is stated that the scheme will combine existing natural elements with additional features, including along the external boundaries of the site.

The application is accompanied by a number of supporting documents:-

- Planning Statement (see below)
- Design and Access Statement
- Highways and Transport Primary school in Mountnessing village 1.3km from site. Florist, hairdressers and butchers shop, and village hall in village. The nearest bus stop is on Roman Road 1km from the site. The accessway would be provided with traffic calming. Parking provision indicated would exceed minimum standards and would include provision for visitors to the SAM. Thoby Lane/site access junction and Thoby Lane/Roman Road junctions were capacity tested. The increase in traffic generated by the proposed residential use when compared with the existing use would have a minimal impact on the operation of local junctions the development would see a net increase of 34 and 10 two-way vehicle movements in each of the morning and evening peak hours, respectively this is not material.
- Archaeological Statement utilises a desk-top assessment compiled in 1999 and the results of 23 trenches which were excavated in the area in 2001 and 2002. Two

further trenches were dug in 2014. An area for preservation in-situ has been identified where no construction works affecting the buried remains will be permitted which will incorporate the SAM as well as the known extent of the Priory foundations and cemetery. However, the report concludes that medieval deposits can still be expected outside the suggested preservation in-situ area. The undesignated remains of the Mansion House and associated features are assessed as being of local to regional importance and do not require preservation in-situ. An area of the site has not been investigated but this area is not thought to contain any substantive remains associated with the Priory or post Medieval Mansion House. - Landscape and Visual impact Assessment - the site is within an area character type F - Wooded Farmland and Doddinghurst Wooded Farmland Character Area F8 in the Mid Essex Landscape Character Assessment 2006. The report concludes that the site has low/negligible landscape sensitivity to a change of the type proposed but is within a wider landscape which is of high/medium landscape sensitivity to change (recognised by its designation as a Special Landscape Area). The magnitude of the change on the site itself would be high but the significance of the effect would be moderate as the change would be beneficial. The magnitude of the change to the wider landscape setting would be negligible. However, it is recognised that the changes to the access lane/junction to the application site and the cycle/pedestrian links along Thoby Lane will involve a degree of change to the view but, in the context of the road corridor, will not appear out of character. - Tree Survey and Arboricultural Impact Assessment - 102 trees including trees in groups would be lost to facilitate the development - all but 7 of the trees are of poor or low quality and value. These 7 trees are classified as being B category (moderate value). A further 28 trees of poor quality would be removed to allow for landscape improvement works. The report concludes that, in visual terms, the impact of the

new trees.
- Ecological Assessment - 20 buildings present. Japanese knotweed present. The recommendations of the ecological report can be the subject of a planning condition. The Ecological Appraisal concludes that 'two buildings, the hedgerows, trees, woodland and ponds are considered to provide some ecological value and as such appropriate recommendations are set out ... along with safeguards for the protected species bats, Hedgehog, nesting birds and Great Crested Newt' which include the approval of an Ecological Enhancement and Management Plan prior to works commencing on site.

development from tree loss would be insignificant. An agreed arboricultural method statement would be required to ensure the retention of the remaining trees. Any tree loss will be more than mitigated for over a relatively short period with the planting of

- Ground Condition Survey - concludes that remediation could include the removal of affected soils and/or placement of clean cover systems or barriers to provide a break in pathway between source and receptor, within soft landscaped areas and garden areas. The most recent investigation was carried-out in November 2014 when two trenches were excavated in the vicinity of the former Mansion House. Further investigations will be required across the larger site area, which will consider in detail the geoenvironmental and geotechnical aspects of the scheme, and will include boreholes to 15m in depth.

- Statement of Community Engagement
- Economic Viability Appraisal Report (May 2015) concludes that the proposed scheme cannot afford to provide a contribution to affordable housing, in addition to the numerous abnormal costs associated with the complexity of the site.
- Letter from Essex and Suffolk Water advising that they cannot foresee any problems with supplying the development.
- Outline Drainage Strategy neither foul nor surface water drainage exist on site at present. The proposal would be to pump foul water to an existing manhole in Thoby Lane. Surface water would be attenuated to 'greenfield' run-off rates through a combination of below ground attenuation tanks (possibly 6 in total) supplemented by under paving storage.

The Planning Statement provides the following information:-

The existing use of the site is considered to be lawful having been the subject of a number of planning permissions most importantly for an engineering depot in 1965. The uses are uncontrolled by planning conditions.

The site does not serve any of the five purposes of the Green Belt (paragraph 80 of the NPPF).

The site area is 6.52 hectares (excluding the entrance roadway and ecological area - 4.65ha [this would equate to a density of around 19 dwellings per hectare]). The public open space proposed would equate to around 1ha. in total (15% of the site area) which would be managed through a management company.

The extent of built/storage footprint is 34,905sq.m. (approximately 75% of the site) - the proposed residential development (excluding gardens) would comprise 8,000sq.m. (18% of the site).

The existing buildings range up to 10m in height - the proposed housing would have a maximum of 9.5m in height.

It is estimated that the volume of development on site (including external storage) would be some 105,000cu.m - the hew housing development would be approximately 55,000cu.m.

In support of the application a number of matters are raised:-

- reduced impact on openness compared to the existing development
- the Council is unable to demonstrate a 5 year land supply for housing and so the Local Plan is not up-to-date
- the protection and restoration of a SAM currently on the 'At Risk' register (to be secured through a S106 Agreement) access by the public would be provided for the first time without the proposed development there is a risk that the remains will deteriorate to an irretrievable state of disrepair.

- removal of industrial uses which are capable of being intensified and decontamination of the site
- removal of industrial traffic from the highway network
- countryside footpath/cycle path link
- new wildlife habitats and ecological bio-diversity area
- use of a 'brownfield' site
- economic benefits: provision of employment during construction, support for local shops and services
- social benefits: supplying housing to meet present and future generations needs
- environmental role: protecting the natural environment and improving bio-diversity and help the move to low carbon emissions with a target delivery of Level 3 of Code for Sustainable Homes

The site has low ecological value and lies within Flood Zone 1 (an area of low flood probability).

The existing employment at the site is of low value, many of which will cease to operate following the winding up of their businesses. The applicant advises that the site provides employment for around 15 people.

The site is not considered appropriate for a 50% of small unit accommodation (Policy H6) - the 'scheme intends to deliver a family-orientated residential park with suitable amenity space'.

The applicant considers that the development complies with Local Plan Policies GB1, GB2, CP1, CP2, CP3, CP4, C5, C8, C18, H9, T1, T2, that policies H1, H2, H6 and H14 are out-of-date, and that the site has no agricultural land value (Policy IR3).

The draft head of terms for a Section 106 Agreement suggested by the applicant are as follows:-

- Affordable housing subject to viability analysis
- early years and childcare provision
- primary healthcare provisions within the area
- highway contributions /works
- provisions of open space and/or the provision of the necessary play equipment

2. Policy Context

The National Planning Policy Framework (NPPF) came into effect on 27 March 2012 and is now a material consideration in planning decisions. The weight to be given to it will be a matter for the decision makers planning judgement in each particular case. This Framework replaces all the national planning guidance documents as stated in the NPPF, including Planning Policy Guidance Notes and Planning Policy Statements. Notwithstanding this, the NPPF granted a one year period of grace for existing adopted Local Plan policies which has now ended, but, the NPPF advises that following this 12 month period, due weight should be given to relevant policies in existing plans according to their degree of consistency with the Framework, (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given). The National Planning Practice Guidance (NPPG) is a material consideration in the determination of this application.

On 6th March 2014, the government published Planning Policy Guidance (NPPG) which, along with the NPPF, is a material consideration in the determination of planning applications. The NPPG 'Design', 'Conserving and enhancing the historic environment', 'Noise' and 'Housing and economic land availability assessment' are of particular relevance to the current application. The NPPGs have been taken into account, where relevant, in the following assessment.

Relevant Local Plan Policies

GB1 - New Development

GB2 -Development Criteria

H6 - Small Unit Accommodation

H9 -Affordable Housing

CP1 -General Development Criteria

CP2 - New Development and Sustainable Transport Choices

CP3 - Transport Assessments

CP4 - The Provision of Infrastructure and Community Facilities

T1 - Travel Plans

T2 - New Development and Highway Considerations

T14 - Cycling

T15 - Pedestrian Facilities

LT4 -Provision of Open Space in New Development

PC1 - Land Contaminated by Hazardous Substances

PC4 - Noise

C3 - County Wildlife Sites, Local Nature Reserves and Other Habitats and Natural Features of Local Value

C5 -Retention and Provision of Landscaping and Natural Features in Development

C8 - Ancient Landscapes and Special Landscape Areas

C16 - Development within the Vicinity of a Listed Building

C18 - Ancient Monuments and Archaeological Sites

E1 - Areas Allocated for General Employment

IR3 - Protecting the Best and Most Versatile Agricultural Land

3. Relevant History

- 15/00543/EIASO: EIA Screening Opinion for 87 dwellings. -Not EIA Development
- 14/00755/EIASO: Screening opinion for 71 dwellings. -Is EIA Development
- 04/00013/S191: Certificate Of Lawfulness In Respect Of An Existing Use Of The Premises As A Haulage And Storage Yard -Application Permitted
- 03/00419/FUL: Access Road -Application Permitted
- 02/00023/FUL: Formation Of Access Roads And The Erection Of 44 Dwelling-Houses And Garages. -Application Refused
- 95/00319/FUL: Continued Use Of Building As Light Industrial Workshop without Complying With Condition 2 Imposed On Planning Approval Brw/13/94. -Application Permitted
- 89/00845/FUL: Retention Of Building And Use As Stores/Office/Workshop -Application Refused

4. Neighbour Responses

Three letters of representation have been received raising the following concerns:-

- would add a huge amount of traffic onto Thoby Lane the junction will be unable to cope with major increase in traffic which will have a knock-on effect for the junction with Roman Road
- smoothing out the bend in Thoby Lane will increase traffic speed and increase risk of accidents
- removal of several trees to widen the access is a disgrace they should be protected as site surrounded by Green Belt
- street lighting will turn Green Belt area into an estate
- will be severe pollution due to increase in cars, gas, electricity etc from the dwellings and residents
- e-mail provided on developer's literature incorrect and so has been unable to put their points forward
- would overlook and cause loss of privacy to Thoby Priory
- inadequate parking for visitors
- overbearing nature of proposal and layout and density of buildings not in keeping with Thoby Priory
- 130 trees would be removed there are covenants affecting the property to not remove or destroy trees around Thoby Priory can the developer confirm that mature trees will be planted
- loss of trees will result in significant loss of ecological habitat
- the development does not appear to respond to local character and history, and reflect the identity of the local surroundings and materials
- works to the Priory wall would need consent of the proprietor of Thoby Priory and proposed development encroaches on Thoby Priory rights including access, right of

light, and air, use of and access for soil and maintenance etc. thereof, and appropriate agreements have not been met

- no indication of the percentage of affordable housing or the requirement that the small housing quota will be met
- proximity between the access road and the SAM still needs to be addressed
- potential flood risk needs to be addressed

5. Consultation Responses

Anglian Water Services Ltd:

No response at the time of writing report.

NHS Property Services Ltd:

No response at the time of writing report.

Parish Council:

This response is being made by Mountnessing Parish Council in its capacity as statutory consultee. Its response to the proposed footway across the Coronation Playing Field is in a separate document dated 15th June 2015 (see below). It was agreed at a meeting of the Parish Council, held on the 8th June 2015, that the proposed development is desirable and that it should be approved. However the Parish does have serious generic concerns about the residential developments that are being proposed in the village, specifically:

- 1. The current infrastructure supports around 530 dwellings. This will increase by approximately a third if this and the Former Mountnessing Scrapyard development are approved by the Borough Council. In addition the proximity of the Trueloves development, although in Ingatestone, is likely to impact on infrastructure capacity in Mountnessing. It is also understood that other large developments are under consideration. The fundamental concern is that the current provision of water and sewerage resources, roads, schooling and medical facilities will become wholly inadequate.
- 2. Lack of affordable housing. The proposals for this development only include 17 (out of 87) two bedroom houses and such a modest number will not address the current situation where even small houses are unaffordable for many people especially the younger generation. In particular it is felt in Mountnessing that there is a serious shortage of affordable bungalows and there does not appear to be action planned to deal with the demands of an ever ageing population.

The Parish Council has already made its reservations regarding both infrastructure and affordable housing known in its response dated 17th December 2014 to the Local Plan Strategic Growth Consultation and would again urge Brentwood Borough Council to ensure that the emerging Local Development Plan addresses these fundamental concerns.

Proposed footway through Coronation Playing Field, Roman Road, Mountnessing

This response is made by Mountnessing Parish Council in its capacity as landowner of the Coronation Playing Field. Even though the Parish Council has had serious reservations that a footway would have a detrimental impact on the rural aspect of Coronation Playing Field it is prepared to permit a footway to be constructed provided it is not more than 2 metres wide and is adopted by Essex County Council. The Parish Council is also of the view that the footway will have minimal use by pedestrians after dark as Thoby Priory is in excess of mile from Roman Road and for this reason would not be prepared to permit lighting to be installed along its length. Extensive discussions have taken place between the Parish Council and both the developer and the responsible Essex Highways officer and they are both aware of its views regarding the width of the path. The plans sent by the developer's transport consultant to the Parish Council on the 5th June showing the revised route of a 2 metre wide footway are acceptable. Mountnessing Parish Council is acutely conscious of its role as custodian of green spaces in the village for both present and future generations and trusts that Brentwood Borough Council and Essex County Council will appreciate its custodial responsibilities and accept its not unreasonable conditions. If this does not turn out to be possible the Parish Council accepts that alternative routes for the footway may have to be considered.

Open Space Strategy Coordinator:

I would suggest that due to the size of site and the number of dwellings we should be seeking an off site contribution of £150,000 which would cover the cost of a LEAP and a contribution towards a NEAP and LAP. I also note that under the local plan the site needs to ensure that 15% of the overall site is laid out to open space. Even if there is insufficient space for play area on site, considering the size of gardens and houses on the development and the access to rural open space around it that this may not be a necessity. If the Council will be expected to take this on board or if a management firm will be instructed. If it is to be the Council then I would need to calculate an additional contribution to cover this.

Environmental Health & Enforcement Manager:

This service has no objections but would recommend the following;

o Energy saving and renewable technologies should be considered for this development, such as solar panels, ground source heat pumps etc in the interests of carbon saving and energy efficiency.

o Due to ground contamination at this site, the following condition should be imposed;

CONTAMINATED LAND

1. Site Characterisation

No development shall take place until an assessment of the nature and extent of contamination has been submitted to and approved in writing by the Local Planning Authority. This assessment must be undertaken by a competent person, and shall

assess any contamination on the site, whether or not it originates on the site. Moreover, it must include:

- (i) a survey of the extent, scale and nature of contamination;
- (ii) an assessment of the potential risks to:
- o human health.
- o property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
- o adjoining land,
- o groundwaters and surface waters,
- o ecological systems,
- o archaeological sites and ancient monuments;

2. Submission of Remediation Scheme

No development shall take place until a detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment has been submitted to and approved in writing by the Local Planning Authority. The scheme must include all works to be undertaken, proposed remediation objectives and remediation criteria, an appraisal of remedial options, and proposal of the preferred option(s), and a timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

3. Implementation of Approved Remediation Scheme

The remediation scheme shall be implemented in accordance with the approved timetable of works. Within three months of the completion of measures identified in the approved remediation it must be submitted to the Local Planning Authority.

4. Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 14 days to the Local Planning Authority and once the Local Planning Authority has identified the part of the site affected by the unexpected contamination development must be halted on that part of the site.

An assessment must be undertaken in accordance with the requirements of condition 1, and where remediation is necessary a remediation scheme, together with a timetable for its implementation, must be submitted to and approved in writing by the Local Planning Authority in accordance with the requirements of condition 2.

The measures in the approved remediation scheme must then be implemented in accordance with the approved timetable. Following completion of measures identified in the approved remediation scheme a validation report must be submitted to and approved in writing by the Local Planning Authority in accordance with condition 3.

5. Long Term Monitoring and Maintenance

No development shall take place until a monitoring and maintenance scheme to include monitoring the long-term effectiveness of the proposed remediation over a period of an agreed amount of years, and the provision of reports on the same must both be submitted to and approved in writing by the Local Planning Authority.

Following completion of the measures identified in that scheme and when the remediation scheme is complete, reports that demonstrate the effectiveness of the monitoring and maintenance carried out must be submitted to the Local Planning Authority.

The proposed houses will be situated directly adjacent to crop drying barns where the occupiers will be exposed to 24hr noise from the commercial use of these barns. A scheme should be submitted with noise attenuation proposals to ensure noise and vibration levels do not adversely affect the occupiers and I would recommend that the following condition is attached;

Prior to the commencement of the works of the approved development, the applicant shall submit to and have approved in writing by the Local Planning Authority, an assessment from a competent person to demonstrate that the development has been constructed to provide sound attenuation against external noise taking into account the worst case scenario of noise produced by the crop drying barns and associated activities in accordance with BS8233:2014. The following levels shall be achieved: Maximum internal night noise (23:00-07:00) levels of 30dBLAeq,T for living rooms and bedrooms. For bedrooms at night individual noise events (measured with F time-weighting) shall not (normally) exceed 45dBLAmax. Acoustic windows and mechanical ventilation will need to be considered and I would strongly recommend that any acoustic ventilation installed as part of the noise protection scheme incorporates heat exchange mechanisms for reasons of energy efficiency.

Highway Authority:

The transport assessment and other accompanying information have been considered in detail. The residential proposal is not expected to generate volumes of traffic that would be unacceptable to the highway authority; 52 total trips are predicted for the morning peak hour and 56 trips in the evening peak. This compares with 18 trips in the morning peak hour and 46 in the evening peak generated by the current use. The county road network has sufficient capacity to accommodate the moderate increase in trip generation and the accident record locally indicates no significant concern in terms of highway safety. The application also includes proposals for a new footway/cycleway connection to the village of Mountnessing with its facilities and access to local public transport services. This is

an essential aspect of the application as it will provide a safe off-road access to the site, encourage residents of the proposed development to travel by sustainable modes of transport and offer an important recreational amenity.

From a highway and transportation perspective the impact of the proposal would therefore be acceptable to the Highway Authority subject to the following:

Prior to Commencement:

- 1. Prior to commencement a Construction Method Statement shall be submitted to, and approved in writing by, the local planning authority. The approved statement shall be adhered to throughout the construction period. The statement shall provide for:
- i. the parking of vehicles of site operatives and visitors
- ii. loading and unloading of plant and materials
- iii. storage of plant and materials used in constructing the development
- iv. wheel and underbody washing facilities

Reason: To ensure that on-street parking of these vehicles in the adjoining streets does not occur and to ensure that loose materials and spoil are not brought out onto the highway in the interests of highway safety and Policy DM 1 of the Highway Authority's Development

Management Policies February 2011.

Prior to First Occupation of the Development

- 2. The developer is to provide a 5.5 metre access road with traffic calming features including build outs as shown on drawing no.2591.07A. The carriageway is to have a minimum width of 3.7 metres at the build outs. Reason: In the interest of highway safety in accordance with policy DM1 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 3. The developer shall provide improvements to the site access road junction with Thoby Lane including minor widening of Thoby Lane on the inside of the bend as shown on drawing no. 2591.15. Reason: In the interest of highway safety in accordance with policy DM1 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 4. The developer shall construct the access to the site with a minimum clear to ground visibility of 2.4 metres x 160 metres in both directions along Thoby Lane, as measured from and along the nearside edge of the carriageway. The visibility splays shall be retained free of
- obstruction thereafter as shown on drawing no. 2591.07A. Reason: To provide adequate inter-visibility between vehicles using the road junction and those in the existing public highway in the interest of highway safety in accordance with policy DM1 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 5. The developer shall construct a 3 metre wide footway/cycle route along the main site access road from the proposed development continuing along Thoby Lane to Coronation Playing Fields as shown on drawing nos. 2591.10 and 2591.15.

Reason: To facilitate pedestrian and cycle movements between the site and the local area in the interest of highway safety and accessibility in accordance with Policies DM1 and DM9 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.

- 6. The developer shall construct a 2 metre wide hard surface footpath from Thoby Lane in the vicinity of the Pavilion through Coronation Playing Fields to Roman Road as shown on drawing nos. 2591.10 and 2591.14. Reason: To facilitate pedestrian movements between the site and the local area in the interest of highway safety and accessibility in accordance with Policies DM1 and DM9 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 7. The developer shall construct a cycle crossing point with associated dropped kerbs on Thoby Lane in the vicinity of the Pavilion to connect with the proposed 1.5 metre wide cycle link for northbound cyclists as shown on drawing no. 2591.10. Reason: To facilitate cycle movements between the site and the local area in the interest of highway safety and accessibility in accordance with Policies DM1 and DM9 of the

Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.

- 8. Car and cycle parking facilities for both the proposed residential development and visitors to the Thoby Priory ancient monument shall be provided according to Essex Planning Officers Association's Parking Standards document (September 2009). Reason: To ensure adequate space for car and cycle parking off the highway is provided in
- the interest of highway safety in accordance with Policy DM8 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 9. The developer shall provide the first occupier of each new dwelling with a Residential Travel Information Pack. The packs shall include information in support of sustainable transport. Details of the packs shall have been submitted to and approved in writing by the Local
- Planning Authority. Each pack shall include six one day travel vouchers for use with the relevant local transport operator. Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport in accordance with policies DM9 and DM10 of the Highway Authority's Development Management Policies, adopted as County Council Supplementary Guidance in February 2011

General

10. The carriageway of the proposed estate road shall be constructed up to and including at least road base level, prior to the commencement of the erection of any dwelling intended to take access from that road(s). The carriageways and footways shall be constructed up to and including base course surfacing. Until final surfacing is completed, the footway base course shall be provided in a manner to avoid any upstand to gullies, covers, kerbs or other such obstructions within or bordering the footway. The carriageways, footways and footpaths in front of each dwelling shall

be completed with final surfacing within twelve months (or three months in the case of a shared surface road or a mews) from the occupation of such dwelling. Reason: To ensure roads/footways are constructed to an appropriate standard in the interests of highway safety in accordance with Policy DM7 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.

- 11. The junction with the existing highway, inclusive of cleared land necessary to provide the visibility splays, shall be constructed up to and including at least road base level and be available for use prior to the commencement of any other development including the delivery
- of materials. Reason: To ensure that the junction is constructed to the appropriate standard in the interests of highway safety in accordance with Policy DM1 and Policy DM7 of the Development Management Policies as adopted as County Council Supplementary Guidance in February 2011.
- 12. There shall be no discharge of surface water onto the Highway. Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety to ensure accordance with policy DM1 of the Development Management Policies as adopted as County Council

Supplementary Guidance in February 2011.

Informative

All housing developments in Essex which would result in the creation of a new street (more than five dwelling units communally served by a single all-purpose access) will be subject to The Advance Payments Code, Highways Act, 1980. The Developer will be served with an appropriate Notice within 6 weeks of building regulations approval being granted and prior to the commencement of any development must provide guaranteed deposits which will ensure that the new street is constructed in accordance with acceptable specification sufficient to ensure future maintenance as a public highway.

No permanent part of a development shall overhang the highway.

Any tree planting proposed within the highway must be agreed with the Highway Authority. Trees must be sited clear of all underground services and visibility splays and must be sympathetic to the street lighting scheme. All proposed tree planting must be supported by a commuted sum to cover the cost of future maintenance, to be agreed with the Highway Authority.

All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works.

The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org or by post to:SMO3 - Essex Highways, Childerditch Highways Depot, Hall Drive, Brentwood. CM13 3HD.

Environment Agency:

We have received your consultation on the above planning application for Thoby Priory, which we have deemed to be low risk. The submitted information indicates that previous uses of the site may have had the potential to cause come contamination on the site. However, we consider that the water environment at this site is of low environmental sensitivity, therefore we will not be providing detailed site-specific advice or comments with regards to land contamination issues for this site. The developer should address risks to the water environment from contamination at the site, following the requirements of the NPPF and our Guiding Principles for Land Contamination.

County Archaeologist:

The Historic Environment Record shows that a Scheduled Monument, comprising the remains of Thoby Priory lies within the development area. The Scheduled Monument comprises a single surviving upstanding flint wall and a small area of land around it of the original medieval priory which extends over a much larger area beneath the ground. Following previous applications for residential development on this site and meetings with the present developer, archaeological work was carried out in the form of an updated archaeological desk based assessment followed by a trial trench evaluation. The latest trial trenching evaluation on the site was carried out in January 2015.

The archaeological evaluations have showed that extensive below-ground archaeological remains survive, beyond the designated Scheduled Monument area and the upstanding priory walls. This includes both remains of the Priory, the Priory cemetery and the later mansion. The known extent of the graveyard lies largely in the grounds of the house called Thoby Priory (at present excluded from this development proposal).

The proposed site layout submitted in the Design and Access statement with the planning application shows the area immediately surrounding the Scheduled Area and the former mansion being left as open space. This is a welcome addition to the plans and will improve the setting of the Scheduled Monument and allow management and protection of the below ground archaeology. However, it is likely that the below ground archaeology extends beyond this open area. The previous archaeological evaluations have been hampered and restricted by difficult ground conditions, temporary buildings and scrapped vehicles. Further archaeological trial trenching and excavation will be required at the site should the development receive permission.

In view of this, the following recommendations are made in line with the National Planning Policy Framework:

RECOMMENDATION: A Programme of Trial Trenching followed by Open Area Excavation

- 1. No development or preliminary groundworks can commence until a programme of archaeological trial trenching has been secured and undertaken in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority.
- 2. A mitigation strategy detailing the excavation/preservation strategy shall be submitted to the local planning authority following the completion of this work and prior submission of reserved matters.
- 3. No development or preliminary groundworks can commence on those areas containing archaeological deposits until the satisfactory completion of fieldwork, as detailed in the mitigation strategy, and which has been signed off by the local planning authority through its historic environment advisors.
- 4. The applicant will submit to the local planning authority a post-excavation assessment (to be submitted within six months of the completion of fieldwork, unless otherwise agreed in advance with the Planning Authority). This will result in the completion of post-excavation analysis, preparation of a full site archive and report ready for deposition at the local museum, and submission of a publication report.

English Heritage have attended meetings with the developer, but their continued involvement is essential and they must be consulted on this application as the site impacts directly a Scheduled Monument.

A professional team of archaeologists should undertake the archaeological work. The District Council should inform the applicant of the archaeological recommendation and its financial implications. An archaeological brief outlining the level of investigation will be issued from this office on request.

Natural England:

Natural England has no comments to make regarding this application.

Historic England:

Summary

This outline application is for the proposed development of 87 residential units, on land currently used for various commercial and industrial operations, centred on the site of Thoby Priory, a scheduled monument. Whilst the development would result in a radical change in setting from industrial—units to residential housing, rather than restore—its historic setting,—on balance Historic England considers that the benefits which would accrue to the improved conservation and enhancement of the designated asset,—would outweigh—any harm to the significance of the heritage asset, arising—from the proposals, and therefore meets the aims and aspirations of the NPPF as they relate to the historic environment.

Historic England Advice

The site includes the remains of Thoby Priory, a small Augustinian house founded A fragment (c. 15m) of the south wall belonging to the between 1141-51. presbytery of the priory church survives to a height of 4m. This, and a small area around it, is designated as a scheduled monument (LEN 1005560). Following the dissolution of the priory, its refectory was remodelled to form the core of a postdissolution mansion, which survived until its demolition in 1953. Two phases of archaeological evaluation, in connection with previous proposals for housing development, have shown that buried archaeological remains extend outside the area which is currently a designated heritage asset. The structural remains form the northern boundary between the residential property of Thoby Priory and the adjacent storage yard to the north. The wall is vulnerable to further loss of fabric and is ranked as being at high risk on the Historic England Heritage at Risk Register. The ownership of the scheduled monument is split between the yard/garden to Thoby Priory and car storage and breakers' yards to the north and west. Its current setting is harmful to its significance. There is no public access to the scheduled monument.

Historic England (as English Heritage) has previously supported proposals for residential development in this location, following archaeological evaluation both inside and outside the scheduled area in 2001-2 (BRW/23/2002). Given your council's refusal of the previous application on green belt grounds, it is important to determine whether the current developments surrounding Thoby Priory are lawful. If your council has now concluded that they are, the proposed development can viewed positively. Although the development would not result in the restoration of the historic agricultural setting for the priory remains, the creation of public open space on and around part of the scheduled monument, and the layout and visual character of the proposed development has the potential to increase the public amenity of the scheduled monument, and secure its conservation and interpretation, via the implementation of a Conservation Management Plan, secured by condition and the conclusion of a planning obligation via a S106 agreement.

The NPPF encourages local authorities to seek to conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations, to take account of the desirability of sustaining and enhancing the significance of heritage assets in determining applications, and to look for opportunities for new development within the setting of heritage assets to enhance or better reveal their significance (paras 131,137). Historic England considers that the proposals would meet the aims and objectives of the NPPF with regard to the historic environment.

Recommendation

Historic England considers that the proposed development would contribute towards sustaining, enhancing and better revealing the significance of the scheduled monument, in line with NPPF policies regarding the historic environment, subject to the conclusion of the S106 agreement to secure the conservation of the masonry remains and the attachment of planning conditions to cover appropriate archaeological recording and monitoring of the development.

It is not necessary to consult us again on this application. Please send us a copy of the decision notice in due course. This will help us to monitor actions related to changes to historic places.

Highways England:

No objection.

Essex & Suffolk Water:

No response at the time of writing report.

Historic Buildings And Conservation Officer:

No response at the time of writing report.

Arboriculturalist:

We have inspected the site on two occasions, the arboricultural information is extensive and should be conditioned to the outline permission. I am confident that there will be a need to revise and meet on site on consideration of the detailed landscape proposals.

Essex Wildlife Trust:

No response at the time of writing report.

Housing Services Manager:

No response at the time of writing report.

Schools, Children Families Directorate:

Thank you for sending me details of the above outline planning application for up to 87 dwellings.

According to our forecasts, there should be sufficient early years and childcare provision to meet the needs of the development.

It is anticipated that this proposed development would generate a requirement for 26.10 primary and 17.40 secondary school places.

This proposed development is located within the Brentwood primary group 2 (Ingatestone/ Mountnessing) forecast planning group. The forecast planning group has an overall capacity of 432 places, of which 15 places are in temporary accommodation. The Brentwood primary group 2 forecast planning group is forecast to have a deficit of 8 permanent places by the school year 2018-19. A contribution for additional primary school places will, therefore, be requested to contribute towards the replacement of temporary accommodation at Mountnessing Primary School.

This proposed development is located within the Brentwood secondary group 1 (Brentwood/ Shenfield) forecast planning group. The forecast planning group has an overall capacity of 6,844 places. The Brentwood secondary group 1 forecast planning group is forecast to have a surplus of 899 places by the school year 2018-19. No contribution for additional secondary school places will, therefore, be requested at this time.

In view of the above I request on behalf of Essex County Council that any permission for this development is granted subject to a section 106 agreement to mitigate its impact on education. The formula for calculating education contributions is outlined in our Developers' Guide to Infrastructure Contributions, 2010 Edition. Our standard s106 agreement clauses that give effect to this formula are stated in our Education Contribution Guidelines Supplement, published in July 2010. For information purposes only, should the final development result in the suggested net increase of 87 houses with two or more bedrooms, the primary school contribution sum would be £317,689. This amount would be index linked to April 2015 costs.

If your council were minded to turn down the application, I would be grateful if the lack of education provision in the area can be noted as an additional reason for refusal and that we are automatically consulted on any appeal or further application relating to the site.

ECC SUDS:

Thank you for the correspondence and revised Drainage calculations received from Mr Terry Smith on 27 May 2015 which provided clarity to our earlier reasons for a holding objection on the above outline planning application.

As the Lead Local Flood Authority (LLFA) this Council provides advice on SuDS schemes for major developments. We are statutory consultee on surface water from the 15th April.

In providing advice this Council looks to ensure sustainable drainage proposals comply with the required standards as set out in the following documents:

- Non-statutory technical standards for sustainable drainage systems
- Essex County Council's (ECC's) adopted Sustainable Drainage Systems Design Guide
- The CIRIA SuDS Manual (C697)
- BS8582 Code of practice for surface water management for development sites.

Lead Local Flood Authority position

Having reviewed the Outline Drainage Strategy and the revised storage calculations submitted on the 27th of May, that were submitted answering our earlier objection dated 14 May 2015, it is now considered that a surface water drainage scheme has been proposed which demonstrates that surface water management is achievable in principle, without causing flooding on site or elsewhere.

We now consider that outline planning permission could be granted to the proposed development if the following planning condition is included as set out below: Condition

No development approved by this planning permission shall take place until a surface water drainage scheme for the site, based on sustainable drainage principles and an assessment of the hydrological and hydrogeological context of the development has been submitted to and approved in writing by the local planning authority. The scheme shall subsequently be implemented in accordance with the approved details in the Outline Drainage Strategy referenced BR/02, March 2015, Clark Smith Partnership and the subsequent Revised Storage calculations (Ref BR/02, 27 May 2015). Reason: To prevent flooding on the proposed site and the local area by ensuring the satisfactory storage of/disposal of surface water in a range of rainfall events and ensure the system operates as designed for the lifetime of the development.

Any questions raised within this response should be directed to the applicant and the response should be provided to the LLFA for further consideration. If you are minded to approve the application contrary to this advice, we request that you contact us to allow further discussion and/or representations from us. PLEASE NOTE: Any drainage features proposed for adoption by Essex County Council should be consulted on with the relevant Highways Development Management Office.

Whilst we have no further specific comments to make at this stage, attached is a standing advice note explaining the implications of the Flood and Water Management Act (2010) which could be enclosed as an informative along with your response issued at this time.

Planning Policy

Brentwood Local Development Plan

Land at Thoby Priory, Thoby Lane has been included within the ongoing site assessment process to inform the Council's emerging Local Development Plan (LDP site reference 018). While the site assessment process is still being

undertaken, a view can be sought regarding the proposed spatial strategy so far, which considers transport corridors to be the most sustainable places to locate growth (e.g. A12 & London Liverpool Street railway corridor / A127 & London Fenchurch Street railway corridor).

Thoby Priory is divorced from its nearest urban area, Mountnessing village, and entirely with Green Belt. However, the issue of making the best use of previously developed land within Green Belt to meet local needs, and in line with the National Planning Policy Framework, will be a policy issue considered within the Local Development Plan.

Until the latest proposed draft policies are published for public consultation later this year no weight can be applied. When determining the planning application it will be necessary to consider the issue of making the best use of land in light of development needs and the lack of five year housing supply against Green Belt impact.

6. Summary of Issues

The application site is 'previously developed' land within the Metropolitan Green Belt. The site is also within a Special Landscape Area and accommodates part of a Scheduled Ancient Monument (an area approximately 25m x 12.5m) around the upstanding remains of the former Priory which are also Grade II listed and on the 'at risk' register. The Thoby Priory remains were Grade II listed in 1952. The site is also designated within an area of Grade II agricultural value. The site is included in the Council's Strategic Growth Options Consultation 2015.

Thoby Priory was founded between 1141 and 1151. The standing remains of the Priory date to the 14th and 15th centuries and consist of around 15m of the south wall of the presbytery and nave arch through to either a south transect or aisle and a west window, approximately 4m in height, now obscured by creepers and the nave arch has been partially bricked-up. The ownership of the SAM is shared with the neighbouring residential property (Thoby Priory). Extensive below-ground remains of the Priory church and monastic cemetery are also present. A mansion was constructed on part of the Priory site in the mid-16th century, which was pulled down in 1953.

The site accommodates a number of existing buildings being used for a range of industrial/commercial uses as well as a residential property. The external areas of the site are also used for various purposes including the storage of cars, car parts and lorry containers, with associated hardsurfacing. Reference is also made to a timber stockyard, 'chipping' operation and vehicle dismantling. Despite this, as a result of existing tree and vegetation around the boundaries of the site, the existing uses do not visually intrude into the surrounding countryside.

The site is located 0.8km to the north-west of the village of Mountnessing and around 480m from Thoby Lane.

The site is surrounded generally by arable farmland with some woodland. At the northern end of the site, close to the eastern and western boundaries, are two large agricultural buildings. The site is generally level in topography.

The planning history for the site includes the following in addition to that listed above:-

- CHR/225/65 use as an engineering depot approved 1965
- CHR/192/67 (APP/1989/A/27214) light industrial use over part of site 10 year temporary planning permission 1968
- T/APP/5211/C/79/4769-73/G4 enforcement notice quashed for continued use for storage and scaffolding and associated parts permitted 1981 (referred and issued 20 May 1983)
- BRW/375/93 (T/APP/C/H1515/641964) stationing of portakabin and containers allowed on appeal 23 April 1997

In addition, the 2000 Ground Investigation Report makes reference to the following:-

- use of the northernmost part of the site comprised an approximately triangular shaped area surrounded by bunding used for car spares supply industry with car storage 2-3 high, fuel storage tanks, portacabin and racking for parts storage (BAS Spares)
- scaffolding yard an L-shaped piece of land bordering the site of Thoby Priory understood to be the site of the former Manor House contained a portacabin, an iron clad Nissan hut and a timber shed, over much of the site there was scaffolding stored
- Mountnessing Auto Spares western area appeared to be in residential use and included a garage and car storage.
- Thoby Stud L shaped area in the south-western corner of the site two storey house, brick shed, barns to the north (brick and breeze block with corrugated sheeting), stable block to the east and barn to the south-east plant and other storage within buildings
- Douglas Mann Caravans and Graphicall Limited northern end of the western arm of the access road Graphicall Limited in the south western part of the area (portacabin, fuel tank). Douglas Mann Caravans area immediately to the north which formed an approximate L-shaped area around Graphicall Limited part of area used for car parking remainder used for caravan storage
- Ideal Motors and Compressor Refurbishment Businesses east central part in the north, row of breeze block and corrugated sheeting sheds disused but formerly used for motor salvage. To south of this area land used for vehicle dismantling for racing purposes offices in an old lorry refrigeration unit, fuel tank , building in south eastern corner, caravan. To south of this and immediately to the north east of the farm was an area used for the refurbishment of compressors (large workshop of steel and corrugated sheeting, portacabins to the north eastern and south eastern corners of this area, a warehouse in the south west as well as storage units

immediately to the north west and to the south of the workshop), considerable external storage

The main issues which require consideration as part of the determination of this application are the principle of the development (including loss of employment land and land classified as good quality agricultural land), the impact of the development on the openness of the Green Belt and the purposes of including the land within the Green Belt, the impact of the development on the character and appearance of the area (including the impact on existing trees), any adverse impact on the amenity of the occupiers of nearby properties as well as the quality of life for the occupiers of the proposed residences, highway safety issues, drainage, contamination, ecology and obligations. A further significant issue is the impact of the development on the SAM, archaeology and the listed building associated with the history of the site as a former Priory and Mansion House.

The Core Planning Principles which form part of the NPPF (paragraph 17) include a requirement to protect the Green Belts around our main urban areas and to recognise the intrinsic character and beauty of the countryside. In paragraph 55, the NPPF advises that local planning authorities should avoid new isolated homes in the countryside unless there are special circumstances.

Section 9 of the NPPF refers to 'Protecting Green Belt land' as part of which it is stated that the Government attaches great importance to Green Belts and that the aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are stated as being their openness and their permanence (paragraph 79). Paragraph 87 and 88 refers to the need for very special circumstances to exist before inappropriate development is approved. Green Belt serves five purposes: to check the unrestricted sprawl of large built-up areas; to prevent neighbouring towns merging into one another; to assist in safeguarding the countryside from encroachment; to preserve the setting and special character of historic towns; and to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

The Framework, in paragraph 14, states that the presumption in favour of sustainable development is a golden thread running through plan-making and decision-taking. It sets out the three dimensions of sustainable development and indicates that these give rise to the need for the planning system to perform a number of roles. It is inevitable that from time to time tensions will develop between the economic, social and environmental roles of planning and the Framework provides guidance on how these may be resolved.

Part 7 of the Framework concerns design and states that the Government attaches great importance to the design of the built environment. It goes on to indicate that good design is a key aspect of sustainable development, is indivisible from good planning and should contribute positively to making places better for people. The

use of the term 'built environment' indicates that good design extends beyond the design of buildings.

The NPPF encourages local authorities to seek to conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations, to take account of the desirability of sustaining and enhancing the significance of heritage assets in determining applications, and to look for opportunities for new development within the setting of heritage assets to enhance or better reveal their significance (paragraphs 131,137).

Principle

The NPPF does exclude the re-development of previously developed sites in the Green Belt from inappropriate development but only where the development would not have a greater impact on the openness of the Green Belt and the purpose of including land within it than the existing development (paragraph 89).

It is concluded below that the proposed development would not have a greater impact on the openness of the Green Belt and the purpose of including land within it than the existing development.

If the development was inappropriate development, there would need to be other matters which clearly outweighed the harm the development would cause by reason of inappropriateness and all other harm for there to be very special circumstances to justify planning permission being granted.

The application site is located in a relatively unsustainable location as the residents of the site would have little alternative in reality to using a private motor vehicle to gain access to most services and facilities such as secondary schools, employment, shops and medical services. However, the existing uses of the site generate a significant amount of traffic and measures would be in place to encourage the new residents to walk or cycle to Mountnessing village with the footpath/cycleway link proposed. There is also a primary school, some shops, a number of public houses and public open space in the village as well as bus services. The development is, therefore, not considered to be unacceptable in principle on the basis of unsustainability for this reason, in compliance with the NPPF (section 4) and Policies CP3 and T1.

The housing mix is proposed as 10no. two bedroom dwellings, 5no. two bedroom flats, 19no. three bedroom dwellings and 53no. 4+ bedroom dwellings in a mixture of detached, semi-detached and terraced dwellings which would not comply with Policy H6 (which relates to small unit accommodation) which requires that at least 50% of new housing is one or two bedroom properties to ensure that the development makes a satisfactory contribution towards the housing needs of the Borough. However, it is understood that the applicant is willing to negotiate the mix of dwellings to include a larger proportion of two bed properties and, in any event,

the application is in outline form and so the final mix of units would be subject to further consideration as part of future applications for approval of reserved matters of scale and layout.

Paragraphs 18 to 22 of the Framework consider the need to build a strong economy and indicate that planning should encourage sustainable growth with emphasis on the needs of business. Paragraph 22 indicates that where there is no reasonable prospect of a site being used for allocated employment, applications for alternative uses of land or buildings should be treated on their merits, having regard to market signals and the relative need for different land uses to support sustainable local communities. The application site is not an allocated site and the site is not considered suitable for general employment purposes given its rural location, substandard vehicular access, proximity to a residential property (Thoby Priory) and as the existing uses are harmful to the SAM and listed building, and their setting. In these circumstances and as the existing employment is small at around 15 employees, it is not recommended below that the application should be refused on the basis of the loss of employment land.

Whilst the site is included in a wider area classified as good quality agricultural land, the application site itself, as a result of the existing uses/development, does not fall within this category and so the development does not conflict with Policy IR3.

Green Belt Openness

There are a number of buildings within the application site and extensive areas of open storage. Furthermore, the current application is in outline form with all matters other than means of access to the site reserved for future determination and so the size, volumes and heights of the new dwellings have not been specified. However, the site has an extensive history of commercial uses and estimates have been provided by the applicant's agent, as follows:-

- the extent of built/storage footprint is 34,905sq.m. (approximately 75% of the site)
- the proposed residential development (excluding gardens) would comprise 8,000sq.m. (18% of the site).
- the existing buildings range up to 10m in height the proposed housing would have a maximum of 9.5m in height.
- it is estimated that the volume of development on site (including external storage) is some 105,000cu.m the hew housing development would be approximately 55,000cu.m. (although the proposed acoustic barriers/bunds along parts of the eastern and western boundaries of the site and the inevitable ancillary buildings/structures (fencing, domestic paraphernalia etc) would add to this volume).

This suggests that the proposal would result in an increase in the openness of the site compared to the buildings and open storage which exists and the reduction in the built/storage footprint would contribute positively towards one of the purposes of including the land within the Green Belt i.e. to assist in safeguarding the countryside from encroachment. On this basis, as stated above, it is considered that the

proposed development would not constitute inappropriate development in the Green Belt, in compliance with the NPPF (section 9), Policy GB1 and Policy GB2.

Character and Appearance

The twelve core planning principles set out in paragraph 17 of the Framework indicate, amongst other things, that planning should recognize the intrinsic character and beauty of the countryside.

The application is accompanied by a Landscape and Visual impact Assessment.

As a result of the nature and scale of the current use and development within the application site, the site currently detracts from the character and appearance of the rural area although the harm beyond the boundaries of the site is limited as a result of the extent of vegetation along the site's boundaries. The proposed development, when compared to that which exists, would improve the character and appearance of the area, especially on the basis that the re-developed site would be as well screened from the surrounding countryside. The highway improvement works required to the accessway and along Thoby Lane (in particular the construction of a footpath/cycleway link to the village) and the acoustic barrier which is likely to be required (see below) would detract from the rural character and appearance of the area. However, in the context of the development as a whole, it is considered that this harm would not be significant enough to justify planning permission being refused and is necessary to ensure a satisfactory quality of life for the occupiers of the proposed dwellings as well as highway safety and accessibility of the development.

Based on the advice of the Arboriculturalist, it is considered that the development would not have an adverse impact on any existing visually important trees on the site, in compliance with Policy C5.

The scale, layout, landscaping and external appearance of the proposed dwellings are a reserved matter and so would be the subject of future applications seeking approval of these reserved matters. However, it would be expected that the development would be of a particularly high quality of design and materials and landscaping, to reflect its sensitive location surrounding a SAM/listed building and its rural surroundings i.e. to protect the character and local distinctiveness of the location.

On this basis, it is considered that the development would not conflict with the Framework or Policy CP1 which seek to safeguard the character of the countryside, in compliance with the NPPF (section 7, NPPG and Policy CP1 (criteria i, iii and viii).

Archaeology

English Heritage and Essex County Council Archaeology have been consulted on the proposal and neither object to the principle of the development now that a 'nodig' area covering the area believed to contain the most significant archaeological remains has been identified and excluded from the residential area proposed. During demolition there is unlikely to be significant impact on the archaeology of the site as the archaeological remains are mainly below ground. During remediation, the extent of contamination is not known at this stage but the expectation is that the impact on the archaeology could be mitigated subject to appropriate, detailed proposals.

ECC Archaeology have advised that the Historic Environment Record shows that a Scheduled Monument, comprising the remains of Thoby Priory lies within the development area. The Scheduled Monument comprises a single surviving upstanding flint wall and a small area of land around it of the original medieval priory which extends over a much larger area beneath the ground. ECC advise that the archaeological evaluations have showed that extensive below-ground archaeological remains survive, beyond the designated Scheduled Monument area and the upstanding priory walls and that further archaeological trial trenching and excavation will be required at the site should the development receive permission. In view of this, it is recommended that a programme of trial trenching is carried-out followed by open area excavation.

Whilst the development would result in a radical change in setting from industrial units to residential housing, rather than restore its historic setting, on balance Historic England considers that the benefits which would accrue to the improved conservation and enhancement of the designated asset, would outweigh any harm to the significance of the heritage asset, arising from the proposals, and therefore meets the aims and aspirations of the NPPF as they relate to the historic environment. A 'no-dig' area has been identified which includes the Scheduled Ancient Monument, the remains of Priory and the later mansion. The Priory cemetery is excluded from the application site. On this basis, it is considered that the development is now unlikely to have a significant impact on the archaeological remains within the site and would not have a significant adverse affect on the setting of the Scheduled Ancient Monument.

In addition, Historic England has recommended that a Conservation Management Plan is secured by S106 Agreement.

On the basis of the above, it is considered that the development would not be contrary to the NPPF (section 12), the NPPG and Policies CP1 (criterion viii) and C18.

Setting of the Listed Building

The Grade II listed building (the upstanding remains of the Priory) are currently in a poor state of repair and the use of the area around the listed building for open storage seriously detracts from the listed building's setting. The proposed development would remove this open storage and provide an opportunity to repair and preserve the listed building for the long term, subject to further details being approved. On this basis, it is considered that the development would comply with the NPPF (section 12), the NPPG and Policies CP1 (criterion viii) and C16.

Neighbours' Amenity

It is considered that the indicative layout submitted demonstrates that the development could be designed in such a way so as not to cause harm to the amenity of the occupiers of any neighbouring residential property (Thoby Priory) by reason of dominance, loss of sunlight, loss of daylight, loss of outlook or loss of privacy, in compliance with the NPPF (paragraph 17) and Policy CP1 (criteria ii).

Quality of Life for Future Occupiers

It is considered that the indicative layout submitted with the application demonstrates that the development could be designed in such a way so as to provide an adequate quality of life for the new residents in terms of provision of private amenity space, outlook, off street parking provision and privacy, in compliance with the NPPF (paragraph 17) and the Policy CP1 (criterion ii).

However, there are two large agricultural buildings, the closest being around 50m from the eastern and western boundaries of the site with an unimplemented planning permission for a third (reference 12/01161/FUL) within the adjoining Woodlands Farm. These buildings are equipped with crop drying equipment which can be in operation 24 hours, 7 days a week during the drying season, the length of which depends on weather conditions. The acoustic reports submitted indicate that there would be a potential adverse impact on external garden areas of the closest plots during the day and a significant adverse impact during the night. However, the report concludes that this impact can be adequately mitigated through silencing at source (subject to the agreement of the adjacent land owner) or a combination of an acoustic fence along most of the western boundary of the site and part of the site's eastern boundary along with all properties being provided with double glazing and alternative ventilation to open windows. Based on the advice of the Environmental Health Officer, a condition would need to be imposed to ensure that adequate noise mitigation measures are incorporated into the detailed scheme, in compliance with the NPPF, NPPG and Policy PC4.

Contamination

The application has been accompanied by a number of documents which set out the results of investigations into the contamination of the site given its existing and previous uses for, for example, vehicle storage and breakers as well as the recent wood fire. Based on this information and the advice of the Environmental Health Officer, it is considered that the proposed development would not pose an unacceptable risk of pollution from contamination, subject to the imposition of conditions as recommended by the Environmental Health Officer. On this basis, the proposal complies with the NPPF (paragraph 121) and Policy PC1.

Highway Safety

The indicative layout submitted as part of the application demonstrates that each of the proposed dwellings would be provided with off-street parking (at least 2 spaces) which would comply with the adopted parking standards.

The Highways Officer recommends that planning permission is granted subject to conditions and the Highways Agency raises no objections to the proposal. It is anticipated that the proposed development would not cause harm to highway safety (subject to the imposition of appropriate conditions and a S106 Agreement to extend the footway/cycleway from the site along Thoby Lane to join the existing footway along Roman Road in the vicinity of the Village Hall), in compliance with the NPPF (section 4) and Policies T2 and CP1 (criteria iv and v). The conditions would need to include requirements for a Construction Method Statement, access road details, visibility splays and a Residential Travel Information Pack. Details of the provision of car and cycle parking would need to be submitted as part of an application seeking approval of reserved matters. Off-site works would be best secured through a Section 106 Agreement rather than conditions as recommended by the Highways Officer as third party land, as well as highway land, would be required.

Drainage/Flooding

The application has been assessed by Essex County Council as SUDS Authority for the area who is satisfied that any drainage issues could be satisfactorily addressed through the submission of further details at a later date. On this basis, it is considered that the development would not be unacceptable for drainage/flooding reasons provided that careful consideration of surface water management is given as part of the detailed scheme for the site. It is considered that this matter could be addressed through the imposition of a suitably worded condition attached to any planning permission granted to ensure that a satisfactory scheme for surface water drainage from the site is provided.

Ecology

The application is accompanied by an ecological report. The recommendations of the report can be the subject of a planning condition. The Ecological Appraisal concludes that 'two buildings, the hedgerows, trees, woodland and ponds provide some ecological value and as such appropriate recommendations are set out along with safeguards for the protected species bats, Hedgehog, nesting birds and Great Crested Newt'. On the basis of this report, it is considered that the ecological issues could be adequately addressed through the imposition of a condition requiring the approval of an Ecological Enhancement and Management Plan prior to works commencing on site, in compliance with the NPPF (section 11) and Policies CP1 (criterion viii) and C3.

Obligations

It is recommended that any planning permission granted is subject to all interested parties first entering into an Agreement pursuant to Section 106 of the Town and Country Planning Act 1990 to secure the following obligations:-

- off-site highway works as follows:-
- i. The developer shall construct a 3 metre wide footway/cycle route along the main site access road from the proposed development continuing along Thoby Lane to Coronation Playing Fields as shown on drawing nos. 2591.10 and 2591.15. to facilitate pedestrian and cycle movements between the site and the local area in the interest of highway safety and accessibility
- ii. The developer shall construct a 2 metre wide hard surface footpath from Thoby Lane in the vicinity of the Pavilion through Coronation Playing Fields to Roman Road as shown on drawing nos. 2591.10 and 2591.1 to facilitate pedestrian movements between the site and the local area in the interest of highway safety and accessibility
- iii. The developer shall construct a cycle crossing point with associated dropped kerbs on Thoby Lane in the vicinity of the Pavilion to connect with the proposed 1.5 metre wide cycle link for northbound cyclists as shown on drawing no. 2591.10 to facilitate cycle movements between the site and the local area in the interest of highway safety and accessibility
- affordable housing, subject to the outcome of the assessment of the Viability Assessment submitted
- a financial contribution of £317,689 towards the provision of primary school places
- a Conservation Management Plan for the Priory remains (which would also need to be subject to listed building and scheduled monument consents) including means of public access and interpretation
- provision and maintenance of public open space within the application site and financial contribution towards off-site provision/maintenance (at a level to be determined)

A financial contribution towards medical provision may also be required but a response from the NHS is awaited.

The applicant has confirmed that they would be willing to enter into a Section 106 Agreement to secure all of the above, in accord with the NPPF, NPPG and Policies CP4 and LT4.

To comply with Policy H9, it would be expected that 35% of the units proposed (i.e. at least 31) would be affordable units but no affordable housing is currently being offered. A Viability Report for the development has been submitted which concludes that the development cannot support any affordable housing on-site and that, in their view, there is a clear case for the scheme to be granted planning permission without any obligations in respect of affordable housing. The Viability Report is in the process of being independently assessed on the Council's behalf by Mass and Co. and their report is expected prior to the date of the Planning Committee. Members will be updated verbally at the Committee regarding the conclusions of the assessment. However, in the meantime, it is not currently recommended below that the application is refused due to a lack of affordable housing provision contrary to the NPPF, NPPG and Policies CP4 and H9.

Other Matters

As stated above, Officers are of the view that the development does not constitute inappropriate development.

The applicant has made reference to the following matters in support of their proposal which all weigh in favour of the proposal:

- The proposal would make a contribution towards meeting Borough's housing need
- The development would remove unsightly, derelict buildings that currently occupy the site
- The development would provide an opportunity to protect and restore the SAM and listed building and facilitate public access to this historic site

Other matters which weigh in favour of the proposal include the benefits of decontaminating the site, improving the amenity of the occupier of Thoby Priory, removing industrial traffic from the highway network, ecological improvements, economic benefits (employment during construction and support for local shops and services) and as the new dwellings would be constructed to Level 3 of the Code for Sustainable Homes (although there is currently no adopted Local Plan policy which would justify requiring the latter).

The concerns raised as part of the representations received have already been addressed above. Any civil matters would need to be resolved privately between the relevant parties. Most of the Parish Council's concerns have also been covered above. With respect to their concerns regarding the provision of water and sewerage resources, roads, schooling and medical facilities, a financial contribution towards primary schools would be secured through a S106 Agreement. The relevant consultees regarding the other matters have either raised no objections to the proposal or their comments are still awaited.

The application has been publicised as a departure from the adopted Local Plan. Therefore, to comply with the Town and Country Planning (Consultation) (England) Direction 2009, if the Council were minded to grant planning permission for the development proposed, the Secretary of State would first need to be consulted to provide him/her with an opportunity to consider whether or not the application should be determined by them.

7. Recommendation

The Application be APPROVED subject to the following conditions:-

1 U10511

Approval of the details of the scale, layout and appearance of the buildings and the landscaping of the site that are reserved for later approval (hereinafter called the reserved matters) shall be obtained in writing from the Local Planning Authority before the development is commenced and the development shall be carried out as approved.

Reason: To comply with Section 92 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

2 TIM03 Standard Time Outline - 3 years

Application for approval of the reserved matters shall be made to the Local Planning Authority before the expiration of three years from the date of this permission.

Reason: To comply with Section 92 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

3 TIM04 Standard Time Outline - Time Limit

The development hereby permitted shall be begun either before the expiration of three years from the date of this permission, or before the expiration of two years from date of approval of the last reserved matters to be approved.

Reason: To comply with Section 92 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

4 U10483

No application for approval of reserved matters shall be made without a surface water drainage scheme for the site, based on sustainable drainage principles and an assessment of the hydrological and hydrogeological context of the development. The approved scheme shall subsequently be implemented in accordance with the approved details including those in the Outline Drainage Strategy referenced BR/02, March 2015, Clark Smith Partnership and the subsequent Revised Storage calculations (Ref BR/02, 27 May 2015).

Reason: To prevent flooding on the proposed site and the local area by ensuring the satisfactory storage of/disposal of surface water in a range of rainfall events and to ensure the system operates as designed for the lifetime of the development.

5 U10480

i. No application for approval of reserved matters shall be made before a programme of archaeological trial trenching has been secured and undertaken in accordance with a written scheme of investigation which has been submitted by the applicant, and gained the prior approval of the local planning authority. ii. A mitigation strategy detailing the excavation/preservation strategy shall be submitted to the local planning authority following the completion of this work and no later than the submission of the application for approval of reserved matters. iii. No development or preliminary groundworks shall commence on those areas containing archaeological deposits until the satisfactory completion of fieldwork, as detailed in the mitigation strategy, and written confirmation of the satisfactory completion of fieldwork has been gained from the local planning authority. iv. The applicant shall submit to the local planning authority a post-excavation assessment (to be submitted within six months of the completion of fieldwork, unless otherwise agreed in advance in writing with the Planning Authority). This assessment shall include a complete post-excavation analysis, preparation of a full site archive and report ready for deposition at the local museum, and a publication report.

Reason: In order to ensure the satisfactory investigation and mitigation of the archaeology within the site.

6 U10481

CONTAMINATED LAND

A. Site Characterisation

No application for approval of reserved matters shall be made without an assessment of the nature and extent of contamination across the whole application site has been submitted to and approved in writing by the Local Planning Authority. This assessment must be undertaken by a competent person, and shall assess any contamination on the site, whether or not it originates on the site. Moreover, it must include:

- (i) a survey of the extent, scale and nature of contamination;
- (ii) an assessment of the potential risks to:
- o human health.
- o property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
- o adjoining land,
- o groundwaters and surface waters,
- o ecological systems,
- o archaeological sites and ancient monuments;

B. Submission of Remediation Scheme

No application for approval of reserved matters shall be made without a detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment. The scheme must include all works to be undertaken, proposed remediation objectives and remediation criteria, an appraisal of remedial options, and proposal of the preferred option(s), and a timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

C. Implementation of Approved Remediation Scheme

The remediation scheme shall be implemented in accordance with the approved timetable of works. Within three months of the completion of measures identified in the approved remediation scheme a validation report must be submitted to the Local Planning Authority.

D. Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 14 days to the Local Planning Authority and once the Local Planning Authority has identified the part of the site affected by the unexpected contamination development must be halted on that part of the site.

An assessment must be undertaken in accordance with the requirements of condition A, and where remediation is necessary a remediation scheme, together with a timetable for its implementation, must be submitted to and approved in writing by the Local Planning Authority in accordance with the requirements of condition B.

The measures in the approved remediation scheme must then be implemented in accordance with the approved timetable. Following completion of measures identified in the approved remediation scheme a validation report must be submitted to and approved in writing by the Local Planning Authority in accordance with condition C.

E. Long Term Monitoring and Maintenance

No development shall take place until a monitoring and maintenance scheme to include monitoring the long-term effectiveness of the proposed remediation over a period of an agreed amount of years, and the provision of reports on the same must both be submitted to and approved in writing by the Local Planning Authority.

Following completion of the measures identified in that scheme and when the remediation scheme is complete, reports that demonstrate the effectiveness of the monitoring and maintenance carried out must be submitted to the Local Planning Authority within 3 months of the completion of the measures identified.

Reason: To ensure that any contamination is remediated in the interests of the health of existing and future occupiers, ecology and the water environment.

7 U10484

No development shall take place until an Ecological Enhancement and Management Plan has been submitted to and approved in writing by the local planning authority. The development shall be completed in accordance with the approved Plan.

Reason: In order to ensure that the existing ecology of the site is protected and enhanced. This matter is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably harmful to local ecology. In the absence of a condition requiring approval of this matter before the commencement of the development it would have been necessary to refuse planning permission.

8 U10514

The site shall be cleared of all existing open storage, hard surfcaing, chattels, fencing and existing buildings. All materials arising shall be permanently removed from the site prior to the first occupation of any part of the development hereby permitted.

Reason - In the interests of maintaining the openness of the Green Belt, the character and appearance of the area and residential amenity.

9 U10521

No development shall take place, including any works of demolition, until a Construction Method Statement has been submitted to, and approved in writing by, the local planning authority. The approved Statement shall be adhered to throughout the construction period. The Statement shall provide for:

- i. the parking of vehicles of site operatives and visitors
- ii. loading and unloading of plant and materials
- iii. storage of plant and materials used in constructing the development
- iv. the erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate
- v. wheel washing facilities
- vi. measures to control the emission of dust and dirt during construction vii.a scheme for recycling/disposing of waste resulting from demolition and construction works

viii. hours of working and hours during which deliveries may be taken at the site

Reason: In the interests of highway safety, visual and neighbour amenity. This matter is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably harmful to residential amenity or highway safety. In the absence of a condition requiring approval of this matter before the commencement of the development it would have been necessary to refuse planning permission.

10 LAN01 Landscaping - outline

The scheme of hard and soft landscaping to be submitted pursuant to condition 1 above shall indicate the existing trees, shrubs and hedgerows to be retained, the location, species and size of all new trees, shrubs and hedgerows to be planted or transplanted, those areas to be grassed and/or paved. The landscaping scheme shall include details of all surfacing materials and existing and proposed ground levels. The landscaping scheme shall be completed during the first planting season after the date on which any part of the development is commenced or in accordance with a programme to be agreed in writing by the Local Planning Authority. Any newly planted tree shrub or hedgerow, or any existing tree, shrub or hedgerow to be retained, that dies, or is uprooted, severely damaged or seriously diseased, within five years of the completion of the development, shall be replaced within the next planting season with another of the same species and of a similar size, unless the local planning authority gives prior written consent to any variation.

Reason: In order to safeguard and enhance the character and appearance of the area.

11 U10510

No application for approval of reserved matters shall be made without an Arboricultural Survey and Method Statement Report. The development shall be completed in accordance with the approved Report.

Reason: In the interests of the character and appearance of the area.

12U10507

Prior to the first occupation of the development the developer shall:-

i. provide a 5.5m wide access road with traffic calming features including build outs as shown on drawing no.2591.07A. The carriageway is to have a minimum width of 3.7m at the build outs.

ii. provide improvements to the site access road junction with Thoby Lane including minor widening of Thoby Lane on the inside of the bend as shown on drawing no. 2591.15.

iii. construct the access to the site with a minimum clear to ground visibility of 2.4m x 160m in both directions along Thoby Lane, as measured from and along the nearside edge of the carriageway. The visibility splays shall be retained free of obstruction thereafter as shown on drawing no. 2591.07A.

iv. construct the carriageway and footways of the proposed estate road up to and including at least road base level, prior to the commencement of the erection of any dwelling intended to take access from that road(s). Until final surfacing is completed, the footway base course shall be provided in a manner to avoid any upstand to gullies, covers, kerbs or other such obstructions within or bordering the footway. The carriageways, footways and footpaths in front of each dwelling shall be completed with final surfacing within twelve months (or three months in the case of a shared surface road or a mews) from the occupation of such dwelling. v. construct the junction with the existing highway, inclusive of cleared land necessary to provide the visibility splays, up to and including at least road base level and be available for use prior to the commencement of any other development including the delivery of materials.

Reason: In the interests of highway safety by providing adequate inter-visibility between vehicles using the road junction and those in the existing public highway, ensuring that roads/footways are constructed to an appropriate standard and ensuring that the junction is constructed to the appropriate standard.

13U10517

There shall be no discharge of surface water onto the Highway.

Reason: To prevent hazards caused by water flowing onto the highway and to avoid the formation of ice on the highway in the interest of highway safety.

14 U10518

The developer shall provide the first occupier of each new dwelling with a Residential Travel Information Pack. The packs shall include information in support of sustainable transport. Details of the packs shall have been submitted to and gained the prior approval in writing by the Local

Planning Authority. Each pack shall include six one day travel vouchers for use with the relevant local transport operator.

Reason: In the interests of reducing the need to travel by car and promoting sustainable development and transport.

15U10519

Details of existing and proposed site levels and the finished floor levels of the proposed buildings shall be submitted to and approved in writing by the Local Planning Authority no later than the submission of any application for approval of reserved matters. Construction shall be in strict accordance with the approved details.

Reason: To safeguard the character and appearance of the area, the openness of the Green Belt and the living conditions of nearby residents.

16U10520

No application for approval of reserved matters shall be made without a detailed acoustic report on the existing noise climate at the development site with particular reference to noise from the adjoining agricultural plant and equipment. The report shall include a scheme of noise mitigation for the site and insulation measures for all residential accommodation. The noise insulation measures shall be designed to achieve noise insulation to the following standard:

Maximum internal night noise (23:00-07:00) levels of 30dBLAeq,T for living rooms and bedrooms, for bedrooms at night individual noise events (measured with F time-weighting) shall not (normally) exceed 45dBLAmax.

The noise assessment shall be carried out by a suitably qualified acoustic consultant/engineer and shall take into account the provisions of The National Planning Policy Framework, BS8233:2014. The approved scheme shall be implemented prior to the occupation of the site and be permanently maintained thereafter.

Reason: In order to ensure that an adequate quality of life is provided for the occupiers of the proposed dwellings and the use of the adjoining barns would be restricted.

17U10522

The development shall not be commenced until details of the treatment of all boundaries including drawings of any gates, fences, walls, bunds or other means of enclosure have been submitted to and approved in writing by the local planning authority. The approved boundary treatments shall be completed prior to the first occupation of the development and shall thereafter be permanently retained and maintained.

Reason: In the interests of safeguarding the character and appearance of the area and living conditions of future occupiers. This matter is fundamental to the development permitted and the application as submitted provides insufficient information to demonstrate that the proposal would not be unacceptably harmful to the character and appearance of the area, the openness of the Green Belt or the setting of the listed building and SAM. In the absence of a condition requiring approval of this matter before the commencement of the development it would have been necessary to refuse planning permission.

18 DRA01A Development in accordance with drawings
The development hereby permitted shall not be carried out except in complete accordance with the approved drawing(s) listed above and specifications.

Reason: To ensure that the development is as permitted by the local planning authority and for the avoidance of doubt.

Informative(s)

1 U02470

The following development plan policies contained in the Brentwood Replacement Local Plan 2005 are relevant to this decision: GB1 GB2 CP1 T2 C5 C18 C16 NPPF NPPG CP2 CP3 CP4 C8 T1 C3 H6 H9 E1 T14 T15 IR3 PC1 PC4; the National Planning Policy Framework 2012 and NPPG 2014.

2 INF04

The permitted development must be carried out in accordance with the approved drawings and specification. If you wish to amend your proposal you will need formal permission from the Council. The method of obtaining permission depends on the nature of the amendment and you are advised to refer to the Council's web site or take professional advice before making your application.

3 INF21

The Local Planning Authority has acted positively and proactively in determining this application by assessing the proposal against all material considerations, including planning policies and any representations that may have been received and subsequently determining to grant planning permission in accordance with the

presumption in favour of sustainable development, as set out within the National Planning Policy Framework.

4 U02466

- car and cycle parking facilities for both the proposed residential development and visitors to the Thoby Priory ancient monument will need to be provided according to Essex Planning Officers Association's Parking Standards document (September 2009) to ensure adequate space for car and cycle parking off the highway is provided in the interest of highway safety
- All housing developments in Essex which would result in the creation of a new street (more than five dwelling units communally served by a single all-purpose access) will be subject to The Advance Payments Code, Highways Act, 1980. The Developer will be served with an appropriate Notice within 6 weeks of building regulations approval being granted and prior to the commencement of any development must provide guaranteed deposits which will ensure that the new street is constructed in accordance with acceptable specification sufficient to ensure future maintenance as a public highway.
- No permanent part of a development shall overhang the highway.
- Any tree planting proposed within the highway must be agreed with the Highway Authority. Trees must be sited clear of all underground services and visibility splays and must be sympathetic to the street lighting scheme. All proposed tree planting must be supported by a commuted sum to cover the cost of future maintenance, to be agreed with the Highway Authority.
- All work within or affecting the highway is to be laid out and constructed by prior arrangement with, and to the requirements and satisfaction of, the Highway Authority, details to be agreed before the commencement of works. The applicants should be advised to contact the Development Management Team by email at development.management@essexhighways.org or by post to:SMO3 Essex Highways, Childerditch Highways Depot, Hall Drive, Brentwood. CM13 3HD.

5 U02468

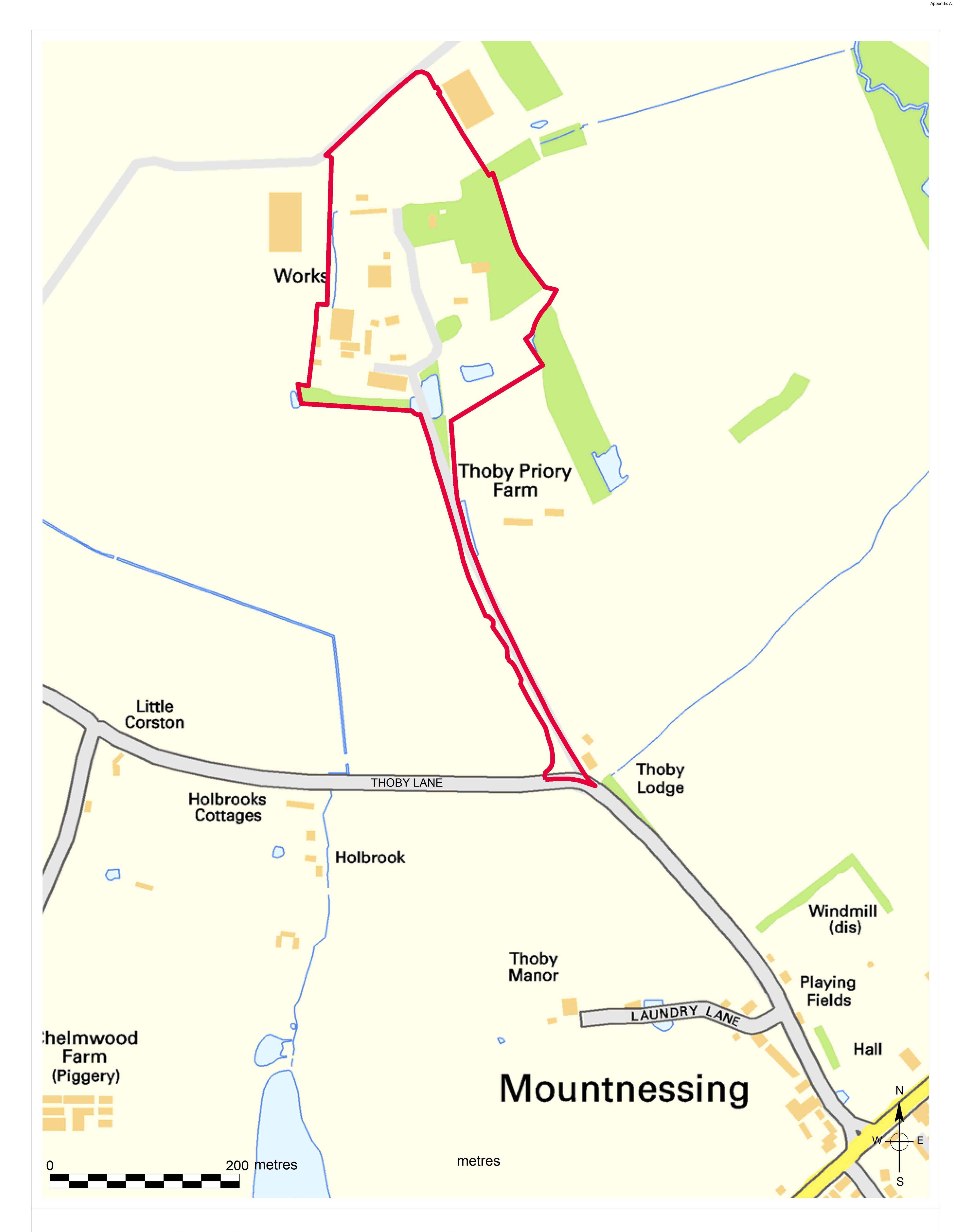
The applicant's attention is drawn to the implications of the Flood and Water Management Act 2010.

6 U02469

A professional team of archaeologists should undertake the archaeological work which will have financial implications. An archaeological brief outlining the level of investigation will be issued by Essex County Council Archaeology on request.

BACKGROUND DOCUMENTS

DECIDED:



Title: LAND AT THOBY PRIORY, THOBY LANE, CM15 0TB

15/00527/OUT

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Scale 1:5000 at A4

Date 21st July 2015

Brentwood Borough Council Town Hall, Ingrave Road Brentwood, CM15 8AY Tel: (01277) 312500



SITE PLAN ATTACHED

08. BRENTWOOD CARWASH CENTRE BRENTWOOD CENTRE DODDINGHURST ROAD PILGRIMS HATCH ESSEX CM15 9NN

RELOCATION OF AN EXISTING PORTAKABIN IN ASSOCIATION WITH THE USE OF PART OF THE SITE AS A HAND CARWASH FACILITY

APPLICATION NO: 15/00466/FUL

WARD Pilgrims Hatch 8/13 WEEK DATE 29.05.2015

CP1 T2 NPPF

PARISH POLICIES NPPG GB1 GB2

LT6

CASE OFFICER Kathryn Mathews 01277 312616

Drawing no(s) 8152 100; 8152 200; 8152 300;

relevant to this

decision:

1. Proposals

Relocation of an existing portakabin in association with the use of part of the site as a hand carwash facility.

The portakabin is currently located adjacent to the north-western elevation of the Brentwood Centre building and would be relocated adjacent to the existing carwash facility.

The portakabin would measure 2.7m x 7.3m and 2.4m in height and would be used by the operators of the car wash as a rest area/break room and for warmth during the cooler months of the year.

2. Policy Context

The National Planning Policy Framework (NPPF) came into effect on 27 March 2012 and is now a material consideration in planning decisions. The weight to be given to it will be a matter for the decision makers planning judgement in each particular case. This Framework replaces all the national planning guidance documents as stated in the NPPF, including Planning Policy Guidance Notes and Planning Policy Statements. Notwithstanding this, the NPPF granted a one year period of grace for existing adopted Local Plan policies which has now ended, but, the NPPF advises that following this 12 month period, due weight should be given to relevant policies in existing plans according to their degree of consistency with the Framework, (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given). The National Planning Practice Guidance (NPPG) is a material consideration in the determination of this application.

On 6th March 2014, the government published Planning Policy Guidance (NPPG) which, along with the NPPF, is a material consideration in the determination of planning applications. The NPPGs have been taken into account, where relevant, in the following assessment.

GB1 (New development) refers to the need for very special circumstances to justify proposals which are inappropriate in the Green Belt.

GB2 (Development Criteria) refers to the need to proposals not to harm the openness of the Green Belt or conflict with the purposes of including land in the Green Belt. The Policy also requires account to be taken to public rights of way, existing landscape features and the location of any building in respect of the surrounding landscape and adjoining buildings.

CP1 (General Development Criteria) Requires development to satisfy a range of criteria covering the following considerations: Character and appearance of the area; Residential amenities; Access; Highway safety; Environmental protection; and the Natural and Historic Environment.

T2 (New Development and Highway Considerations) refers to the need for proposals not to have an unacceptable detrimental impact on the transport system.

LT6 (The Brentwood Centre) sets out a number of criteria extensions to the Brentwood Centre would be expected to meet.

3. Relevant History

: - None

4. Neighbour Responses

A site notice was displayed at the entrance to the Brentwood Centre site. One representation has been received from the Ward Councillor, Councillor Vicky Davies raising concern that this reduces the capacity of the car park.

5. Consultation Responses

• Environmental Health & Enforcement Manager:

No comments to make.

Highway Authority:

From a highway and transportation perspective the Highway Authority has no comments to make on the proposal.

6. Summary of Issues

The application site form part of the car park associated with the Brentwood Centre. The portakabin would be located in part of the car park to the south-west of the existing building.

The main issues which require consideration as part of the determination of this application are the impact of the development on the Green Belt, the impact on the character and appearance of the area, any impact on the amenity of nearby residents and parking/highways.

The Brentwood Centre site is located within the Green Belt but, given the size, height and temporary nature of the portakabin, and as the proposal is for the relocation of an existing portakabin to be used as part of a car wash, ancillary to the Brentwood Centre use, the development would not materially reduce the openness of the Green Belt and not be contrary to the purposes of including the site within the Green Belt. On this basis, the development is not considered to be inappropriate development in the Green Belt and complies with the NPPF (section 9), Policy GB1 and Policy GB2.

The portakabin proposed would not make a positive contribution to the character and appearance of the Brentwood Centre site. However, the portakabin would only be 2.4m in height and the car park is well screened by existing boundary vegetation. In addition, the applicant's agent has advised that repair and refurbishment works will be undertaken to it, which will be likely to include an element of recladding, with similar materials to existing and could include repainting, if required. On this basis, it is considered that the development would not have an adverse impact on the character and appearance of the wider area, in compliance with the NPPF (section 7) and Policy CP1 (criteria i and iii). However, given the temporary nature of the accommodation proposed, it is recommended below that planning permission is only granted for a temporary period of 3 years.

The portakabin would not have an adverse impact on the occupiers of any local residents given the distance between the proposed portakabin and the nearest residential property (a minimum of 80m away), in compliance with the NPPF (paragraph 17) and Policy CP1 (criterion ii).

The existing car wash facility utilises a total of 12 parking spaces. The applicant's agent has advised that the portakabin would not take-up any further parking spaces and a parking space would be gained as the operator's van (currently used for workers and equipment) would be removed. On this basis, it is considered that the development would not have a material impact on the availability of parking within the grounds of the Brentwood Centre. The Highways Officer supports this view. On this basis, the proposal would not cause material harm to highway safety or the convenience of road users, in compliance with the NPPF (section 4), Policy CP1 (criteria iv and v) and Policy T2.

7. Recommendation

The Application be APPROVED subject to the following conditions:-

1 TIM07 Temporary permission - Use (Land)

The use hereby permitted shall be discontinued and the land restored to its former condition on or before 30 June 2018 in accordance with a scheme of work to be first agreed in writing with the local planning authority.

Reason: In the interest of amenity and to safeguard the character and appearance of the area.

2 U10211

The portakabin hereby approved shall only be used ancillary to the use of the Brentwood Leisure Centre and for no other purpose.

Reason: In order to protect the character and appearance of the area.

3 U10289

The portakabin shall not be placed on the site before improvements to its external appearance have been completed in accordance with details which shall have first been submitted to and approved in writing by the local planning authority.

Reason: In the interests of the character and appearance of the area.

4 DRA01A Development in accordance with drawings
The development hereby permitted shall not be carried out except in complete
accordance with the approved drawing(s) listed above and specifications.

Reason: To ensure that the development is as permitted by the local planning authority and for the avoidance of doubt.

Informative(s)

1 INF05

The following development plan policies contained in the Brentwood Replacement Local Plan 2005 are relevant to this decision: GB1, GB2, CP1, T2, LT6 the National Planning Policy Framework 2012 and NPPG 2014.

2 INF04

The permitted development must be carried out in accordance with the approved drawings and specification. If you wish to amend your proposal you will need formal permission from the Council. The method of obtaining permission depends on the nature of the amendment and you are advised to refer to the Council's web site or take professional advice before making your application.

3 INF21

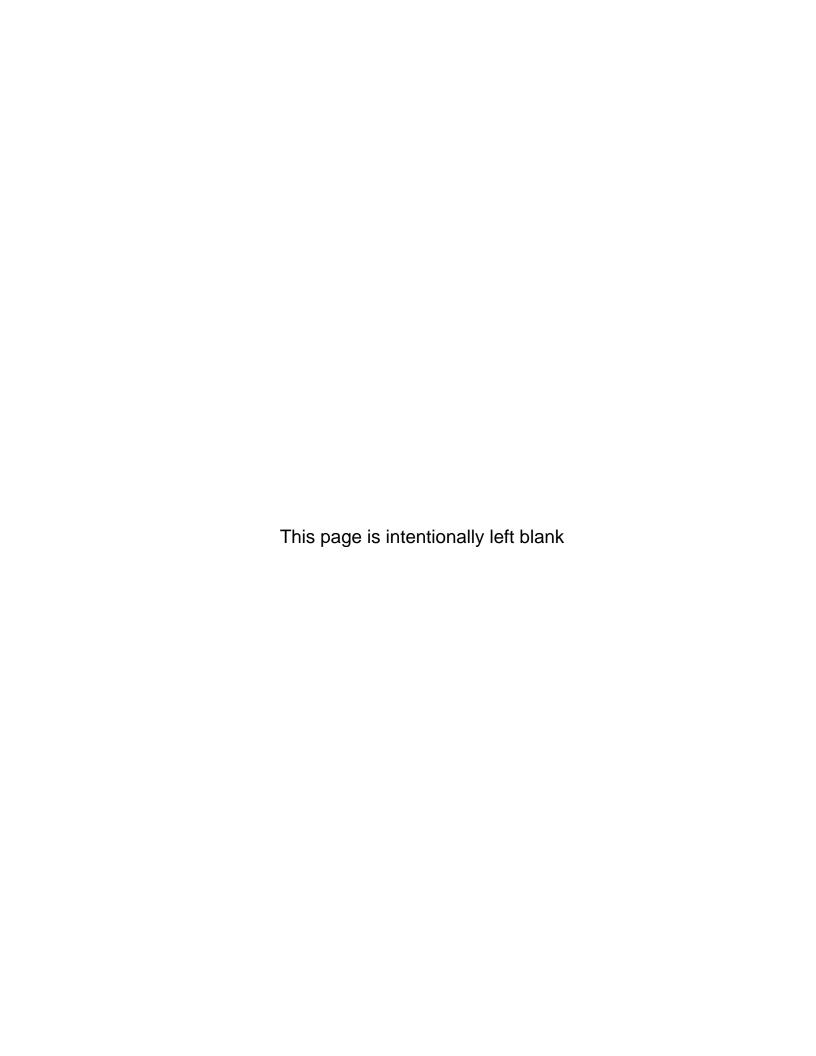
The Local Planning Authority has acted positively and proactively in determining this application by assessing the proposal against all material considerations, including planning policies and any representations that may have been received and subsequently determining to grant planning permission in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.

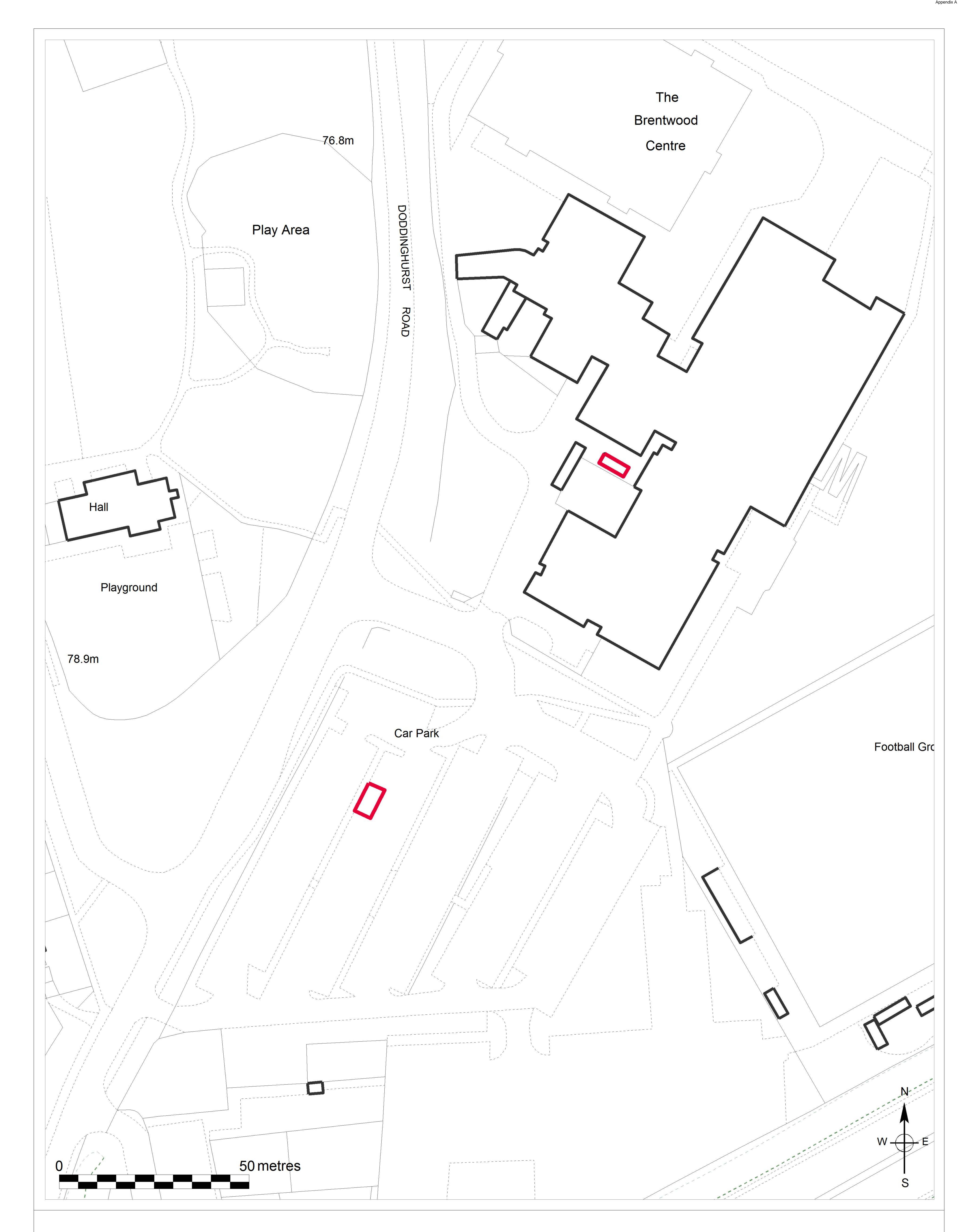
4 U02416

The applicant is advised that consent from the landowner (Brentwood Borough Council) would also be required for the proposed relocation of the portakabin.

BACKGROUND DOCUMENTS

DECIDED:





Title: BRENTWOOD CARWASH CENTRE, BRENTWOOD CENTRE, DODDINGHURST ROAD

15/00466/FUL

Page 155

Scale 1:1250 at A4

Date 21st July 2015

Brentwood Borough Council Town Hall, Ingrave Road Brentwood, CM15 8AY Tel: (01277) 312500



21 July 2015

Planning & Licensing Committee

Revised Local Development Scheme

Report of: Gordon Glenday, Head of Planning & Development

Wards Affected: All

This report is: Public

1. Executive Summary

- 1.1 The Planning and Compulsory Purchase Act 2004 requires local planning authorities to prepare and maintain a Local Development Scheme.
- 1.2 The Local Development Scheme sets out the documents which, when prepared, will comprise the Local Plan for the Borough. It provides timescales and key milestones, such as future public consultation dates.
- 1.3 The Local Development Scheme must be made available publically and kept up-to-date so that local communities and interested parties can keep track of progress. This latest development scheme updates information and timetables for preparation of planning policies in light of changes since the current development scheme was adopted in December 2012.

2. Recommendation

2.1 That the Draft Revised Local Development Scheme (July 2015) as set out at Appendix A be approved.

3. Introduction and Background

- 3.1 Section 15 of the Planning and Compulsory Purchase Act 2004 (as amended by the Localism Act 2011) requires local planning authorities to prepare and maintain a Local Development Scheme.
- 3.2 The Local Development Scheme sets out the documents which, when prepared, will comprise the Local Plan for the Borough. It sets out timescales and key milestones, such as future public consultation dates, for two key Council documents:

- Local Development Plan (LDP)
- Community Infrastructure Levy (CIL)
- 3.3 In order to facilitate preparation of these documents the Local Development Scheme sets out:
 - Current planning policies and documents that have been 'saved' pending adoption of the new Local Plan;
 - Details and timetables for relevant planning policy documents that the Council is preparing;
 - Key milestones as part of the process leading to the adoption of documents (where relevant);
 - Information on key supporting documents, such as the Authorities Monitoring Report and Statement of Community Involvement; and
 - Resources available and any constraints.
- 3.4 The Council's first Local Development Scheme was adopted in 2006 and has since been subject to reviews in 2007 and 2012. This would be the fourth review and reflects revisions to the Local Plan timetable in light of the abolition of the East of England Plan, additional work required after consultation on Preferred Options in 2013, and changing legislation.

4. Issue, Options and Analysis of Options

- 4.1 Prior to the Localism Act the Council was required to submit its Local Development Scheme to the Secretary of State for inspection. However, this is no longer a requirement and updated guidance has since been published as part of Planning Practice Guidance. Now local planning authorities must keep Local Development Schemes up-to-date and publish these on their website.
- 4.2 In light of changes in both the national and local planning context since the Council's current Local Development Scheme was adopted in 2012, it is necessary to update information and timetables within the document. In order to comply with Planning Practice Guidance a revised document has been prepared, as set out at Appendix A.
- 4.3 If agreed, the revised Local Development Scheme would be finalised and published on the Council's website in line with Planning Practice Guidance.

5. Reasons for Recommendation

- 5.1 The Council, as local planning authority for the Borough, is required to prepare and maintain a Local Development Scheme. This must be made available publically and kept up-to-date so that local communities and interested parties can keep track of progress.
- 5.2 The Council's current Local Development Scheme (adopted December 2012) is out of date and needs to be revised. The revised Local Development Scheme (July 2015) provides updated information and a new timetable for preparation of the Local Development Plan and Community Infrastructure Levy in light of changes since 2012 and expected future timeframes.

6. Consultation

6.1 The Local Development Scheme is not subject to public consultation. The documents that the development scheme provides a timetable for; the Local Development Plan and Community Infrastructure Levy, are subject to public consultation, as outlined in the revised timetables.

7. References to Corporate Plan

7.1 Ensuring a Local Development Plan is in place and infrastructure investment is provided are key priorities in the Council's Corporate Plan chapter "A Prosperous Borough".

8. Implications

Financial Implications

Name & Title: Chris Leslie, Finance Director

Tel & Email: 01277 312542 /christopher.leslie@brentwood.gov.uk

8.1 None directly arising from this report.

Legal Implications

Name & Title: Chris Potter, Monitoring Officer

Tel & Email: 01277 312860 /christopher.potter@brentwood.gov.uk

8.2 This is part of the process which will lead to full Council being requested to approve and adopt the new Local Development Plan. Regulation 3 of the Local Authorities (Committee System) (England) Regulations 2012/1020 requires the function of approval and adoption of development

plans under section 15 of the Planning and Compulsory Purchase Act 2004 to be exercised only by full Council.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

8.3 The timing of Local Development Plan preparation may have implications for Council assets being considered as options for potential redevelopment.

9. Background Papers

9.1 None

10. Appendices to this report

Appendix A - Draft Revised Local Development Scheme (July 2015)

Report Author Contact Details:

Name: Phil Drane, Planning Policy Team Leader

Telephone: 01277 312610

E-mail: phil.drane@brentwood.gov.uk



DRAFT REVISED LOCAL DEVELOPMENT SCHEME

Project plan for the preparation of Brentwood Borough Council's local planning policies



www.brentwood.gov.uk/localplan



Published July 2015
© Brentwood Borough Council
Planning Policy Team, Town Hall, Ingrave Road,
Brentwood, Essex CM15 8AY

www.brentwood.gov.uk

email: planning.policy@brentwood.gov.uk

telephone: 01277 312 500

Cover photo: The Square, Chatham Way, Brentwood

(April 2013)

Please contact us to obtain a copy of this information in an alternative format



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1 INTRODUCTION

Purpose

- 1.1 Section 15 of the Planning and Compulsory Purchase Act 2004 (as amended by the Localism Act 2011) requires local planning authorities to prepare and maintain a Local Development Scheme.
- 1.2 The Local Development Scheme sets out the documents which, when prepared, will comprise the Local Plan for the area. It provides timescales and key milestones, such as future public consultation dates.
- 1.3 The Local Development Scheme must be made available publically and kept up-to-date so that local communities and interested parties can keep track of progress.

Background

- 1.4 Brentwood Borough Council began the process of preparing a Local Development Plan, or new Local Plan, based on the Council's corporate vision in 2012. This plan-making process is currently ongoing. The Plan will set out polices, proposals and site allocations to guide future development in the Borough. It will enable the Council to manage growth sustainably and protect local character.
- 1.5 In order to facilitate this the Local Development Scheme sets out:
 - Current planning policies and documents that have been 'saved' pending adoption of the new Local Plan.
 - Details and timetables for relevant planning policy documents that the Council is preparing.

- Key milestones as part of the process leading to the adoption of documents (where relevant).
- Information on key supporting documents, such as the Authorities Monitoring Report and Statement of Community Involvement.
- Resources available and any constraints.
- 1.6 Prior to the Localism Act (2011) the Council was required to submit the Local Development Scheme to the Secretary of State for inspection. However, this is no longer a requirement. Now local planning authorities must keep Local Development Schemes up-to-date and publish these on their website.
- 1.7 The Council's first Local Development Scheme was adopted in 2006 and has since been subject to reviews in 2007 and 2012. This is the fourth review and reflects revisions to the Local Plan timetable in light of the abolition of the East of England Plan, additional work required after consultation on Preferred Options in 2013, and changing legislation.

Legislation, Policies and Guidance

1.8 The Planning and Compulsory
Purchase Act 2004 (as amended by the
Localism Act 2011) sets out the current
system of plan-making for local
planning authorities. The introductions
of the Localism Act, National Planning
Policy Framework and Planning
Practice Guidance, have signalled
changes to the planning system and
the way in which plans are prepared.
Key changes include:

- Neighbourhood Planning: The provisions of the Localism Act for neighbourhood planning came into force in April 2012 with subsequent amendments. They allow a community to prepare a plan for its neighbourhood, provided the plan is in general conformity with strategic elements of the development plan and national policy. The plan is subject to independent examination and a referendum.
- Duty to Cooperate with neighbouring authorities and other bodies; requiring local authorities to engage constructively, actively and on an ongoing basis in relation to the duty on strategic matters.
- Abolition of Regional Plans: The Localism Act 2011 contains provisions to abolish regional spatial strategies. The Government revoked the East of England Plan in 2013, and so this no longer forms part of the development plan.
- Single Local Plan document: As part of a move away from producing Local Development Frameworks (LDFs), which consisted of a collection of Development Plan Documents and Supplementary Planning Documents, the National Planning Policy Framework makes clear that the Government's preferred approach is for each local planning authority to prepare a single Local Plan for its area (or a joint document with neighbouring areas).

2 CURRENT DEVELOPMENT PLAN

- 2.1 Legislation states that planning applications must be determined in accordance with the development plan unless material considerations indicate otherwise.
- 2.2 The statutory development plan for Brentwood is currently comprised of saved policies from the Brentwood Replacement Local Plan (2005), relevant Essex County Council plans, and national policy and guidance.

Brentwood Replacement Local Plan

- 2.3 The Replacement Local Plan (adopted 25 August 2005) supersedes the first Adopted Brentwood Local Plan (adopted March 1995, with a First Alteration adopted in July 1997). This provides a comprehensive statement of land use policies and proposals for the Borough.
- 2.4 Under the Planning and Compulsory Purchase Act 2004, policies in the **Brentwood Adopted Replacement Local** Plan were automatically 'saved' until replaced by a new Local Plan for a period up to three years from adoption. To ensure there are no gaps in policy coverage prior to a new Local Plan being adopted, the Council applied to the Secretary of State to save all but 24 of the adopted Replacement Local Plan policies beyond the automatic three year period. It was deemed that these policies were either covered by other saved policies, repeated national policy, or no longer necessary due to changed circumstances. In addition the Secretary of State deleted four further policies. The full list of policies not saved beyond August 2008 can be viewed on the Council's website.
- 2.5 The Brentwood Replacement Local Plan 'Saved Policies' will continue to

form the development plan document for the Borough until the new Local Plan is adopted.

National Planning Policy Framework

- 2.6 Published in March 2012, this replaced Planning Policy Statements and Planning Policy Guidance. The framework sets out the Government's planning policies for England and how these are expected to be applied. It is a material consideration which must be taken into account in decisions on planning applications and in preparing new Local Plans. In addition, there are other national planning policies that should be taken into account.
- 2.7 Planning Practice Guidance provides revised and regularly updated online guidance. This sets out important information relating to the planning system linked with the National Planning Policy Framework.

County Context

- 2.8 Essex County Council has produced a number of publications, planning advice notes and Supplementary Planning Guidance documents. Key documents produced since 2005 include:
 - Essex Design Guide (2005)
 - Developer Contribution Guidelines (2005)
 - EPOA Parking Standards (2009)
 - Developers Guide to Infrastructure Contributions (2010)
 - Education Contributions Supplement (2010)
 - Development and Public Rights of Way (2010)

- Development Management Policies SPG (2011)
- Essex Local Transport Plan (2011)
- Street Materials Guide: Design and Good Practice (2012)
- Sustainable Drainage Systems
 Design and Adoption Guide (2012)
- Essex Minerals Local Plan (2014)
- 2.9 Essex County Council as Mineral and Waste Planning Authority are preparing their own documents to replace the existing Minerals and Waste Local Plans. The Minerals Plan was adopted in 2014 and the Waste Plan is currently being prepared. Until the new Waste Plan is adopted policies within the current Plan will continue to apply in Brentwood Borough.
- 2.10 As Highway and Transportation Authority, Essex Council produces a statutory Local Transport Plan.

Supplementary Planning Documents

2.11 Supplementary Planning Documents (SPDs) expand upon and provide more detailed advice or guidance on Local Plan policies. New or replacement supplementary planning documents should be prepared only where necessary and in line with paragraph 153 of the National Planning Policy Framework. Once adopted these form part of the development plan as nonstatutory documents, not subject to examination but informed by community and stakeholder involvement. Consultation should be undertaken in accordance with the Council's Statement of Community Involvement.

- 2.12 Brentwood Borough Council has adopted three supplementary planning documents:
 - Urban Place Supplement (2007)
 - Shopfront Guidance for Brentwood Town Centre (2010)
 - Vehicle parking Standards (2011)

3 FUTURE DEVELOPMENT PLAN

Local Development Plan

- 3.1 Over the next two years the Council will continue to prepare a new Local Plan for the Borough. In line with the National Planning Policy Framework, the Plan will bring together several policy facets into a single development plan document. Once adopted this will replace the saved policies in the current Brentwood Replacement Local Plan (2005) and become the development plan document for the Borough. The Plan will be subject to regular monitoring, update and review.
- 3.2 The Brentwood Local Plan will set out an overarching spatial strategy and vision for future growth within the Borough over the next 15-20 years, strategic development policies, development management policies, site specific land use allocations, and a policies map.
- 3.3 Any Neighbourhood Plans produced and adopted will also form part of Brentwood's development plan.
 Related documents that will supplement the Local Plan comprise:
 - Supplementary Planning Documents
 - Local Development Scheme
 - Statement of Community Involvement
 - Authorities Monitoring Report
 - Community Infrastructure Levy Charging Schedule (CIL)
- 3.4 In addition to the new Local Plan, the Council will also prepare and adopt a Community Infrastructure Levy (CIL) Charging Schedule and an Infrastructure Delivery Plan.

- 3.5 Figure 1 (page 7) sets out the planning context for documents that inform the Brentwood Local Development Plan. Figure 2 (page 8) shows the documents that will make up local planning policies. More detail about specific policy documents being prepared is set out in **Appendix 1**.
- 3.6 A timetable containing the key milestones in the preparation of each document is given in **Appendix 2**.

Neighbourhood Plans

- 3.7 The Localism Act (2011) enables local communities to produce Neighbourhood Development Plans. As a community-based document, neighbourhood plans can be initiated through Parish Councils or neighbourhood forums. The Council has a statutory role to provide advice and support to communities producing a plan. After passing an independent examination and a local referendum. neighbourhood plans will ultimately be adopted by the Council as part of the borough's development plan. As neighbourhood plans are not produced by the Council, there preparation is not included within the Local Development Scheme timetable.
- 3.8 Brentwood Borough Council was awarded frontrunner status with Doddinghurst Parish Council by the Department for Communities and Local Government in response to the neighbourhood planning vanguard scheme in 2011. Following an application by the Parish Council, Brentwood Borough Council approved Doddinghurst parish as a neighbourhood plan area in December 2012.

3.9 West Horndon Parish Council submitted an application requesting that the parish be considered as a neighbourhood plan area, which was approved in November 2014.

Evidence Base

- 3.10 As part of preparing the Local Plan a range of background work needs to be undertaken. This work will be published as the evidence base to inform planning policies, both current and future.
- 3.11 Studies completed since adoption of the existing Replacement Local Plan (2005) are available to view on the Council's website.
- 3.12 The Council is currently in the process of preparing an Infrastructure Delivery Plan. This will form an essential part of the evidence base, sitting alongside the Local Plan and Community Infrastructure Levy. It will cover the Local Plan period, although its content will be monitored and periodically reviewed.
- 3.13 The need for further studies or revisions to existing studies will be kept under review as work on the Local Plan progresses.

Resources and the Duty to Cooperate

3.14 The Borough does not exist in isolation from our neighbours. The Brentwood Local Plan will need to take account of broader issues and opportunities affecting neighbouring areas and the wider region, considering and addressing strategic cross-boundary issues. The Council will continue to work with neighbouring authorities, Essex County Council, and other

- relevant bodies, to co-ordinate joint working arrangements.
- 3.15 The Localism Act contains provisions for the duty to cooperate in relation to sustainable development. In dealing with strategic cross-boundary matters the Council must engage constructively, actively and on an ongoing basis with other local planning authorities and prescribed bodies.
- 3.16 The main responsibility for delivery of the Local Plan and related documents will be undertaken by the Planning Policy Team in addition to contributions from other departments within the Council. Additionally, the team continues to work closely with stakeholders and other partners.

Monitoring and Review

- 3.17 The Council will undertake regular monitoring of policies and proposals as and when data becomes available.

 Among other things, the Council's Authorities Monitoring Report will assess:
 - Whether Local Plan polices and targets have been met or progress is being made towards meeting them.
 - What impact policies are having on national, and local needs and targets.
 - Whether any policies in the Local Plan need to be replaced if they are not working as intended or not achieving sustainable development objectives. If policies need changing or replacing, suggested actions to achieve this will be identified.



- 3.18 Local planning authorities are no longer required to report on the progress of the Local Development Scheme in a monitoring report or submit the development scheme to the Secretary of State. Flexibility is given on how best to present this information to the public.
- 3.19 Regular review will be made of the Authorities Monitoring Report and Local Development Scheme, and these will be published on the Council's website to ensure that local communities and interested parties can keep track of progress.
- 3.20 In addition, the Council will regularly review its Statement of Community Involvement to ensure that we engage local communities and other interested parties on preparation of the Local Plan

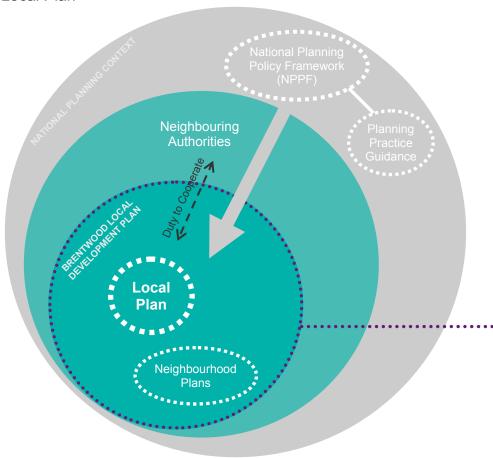


Figure 1: Planning Context

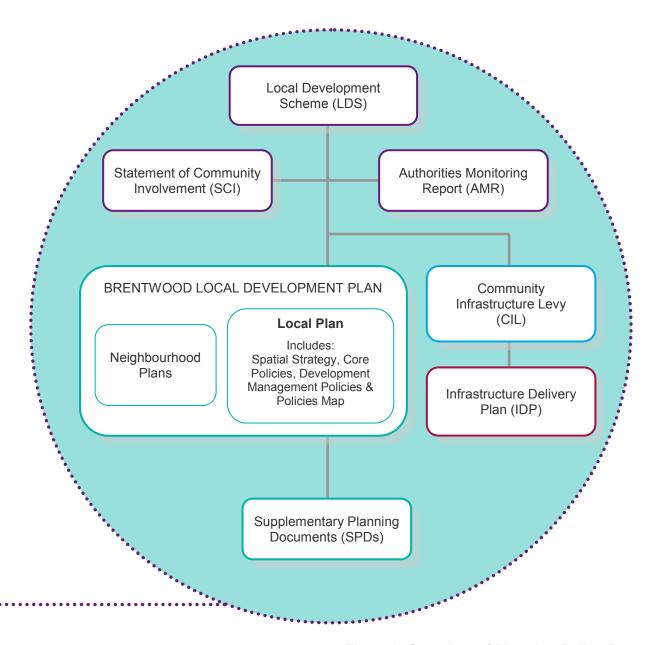


Figure 2: Overview of Planning Policy Documents

4 SUSTAINABILITY APPRAISAL & HABITATS REGULATION ASSESSMENT

- 4.1 In accordance with national legislation and advice, the Council is required to assess and appraise its development plan documents to comply with Strategic Environmental Assessment / Sustainability Appraisal (SEA/SA) requirements. This incorporates requirements under the Planning and Compulsory Purchase Act (2004) and European Directive 2001/42/EC on Strategic Environmental Assessments¹.
- 4.2 The key difference between the two processes is that Strategic Environmental Assessment focuses on environmental effects only, whereas Sustainability Appraisal gives equal consideration to economic and social effects in addition to environmental. Sustainability Appraisals assist in the consideration of options and decisions for Local Plan policies and proposals. It is an iterative tool that highlights any significant environmental, social or economic effects. It then assesses these against a number of sustainability objectives in order to identify impacts and potential ways they can be addressed.
- 4.3 The Council will also undertake
 Habitats Regulation Assessments
 (HRA) where required by the
 Conservation of Habitats and Species
 Regulations 2010. The purpose is to
 assess possible effects of proposed
 land use plans on nature and
 biodiversity objectives. For example, if
 a policy or proposal is likely to have a
 detrimental impact on any Natura 2000
 site or other nature conservation site of
 European importance for habitats and
 species.

¹ The key UK requirements for the sustainability appraisal of development plan documents are set out in guidance 'Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (2005)'

5 RISK ASSESSMENT

5.1 In preparing the Local Development Scheme, an assessment has been carried out of the factors that could affect the ability of the Council to deliver the Local Plan and related documents in accordance with the work programme. Actions to manage these risks have been identified creating two separate options for delivery as set out in Table 1 and Table 2.

Table 1: Risk Assessment One

RISK IDENTIFIED	LIKELIHOOD IMPACT	RESPONSIBILITY			
Programme slippage	Moderate High Regular reviews of staffing needs and workload; Use of temporary staff if heavy workload identified.	Head of Planning & Development / Planning Policy Team Leader			
Staff resources	Moderate High On-going training and development to improve expertise and encourage staff retention; Loss of staff will be countered by recruiting permanent and where necessary temporary staff.	Head of Planning & Development / Planning Policy Team Leader			
Insufficient expertise and additional unforeseen evidence base requirements	unforeseen Use of specialist consultants to cover				
Financial resources	Low High Annual budget review to identify budget needs; Reserve of a contingency amount to fund additional financial needs.	Head of Planning & Development / Planning Policy Team Leader			

Continued over page...

RISK IDENTIFIED	LIKELIHOOD IMPACT	RESPONSIBILITY			
Consultation fatigue (community being consulted too often over a wide range of issues)	Moderate High Minimise by re-arranging a corporate coordinated programme and possibly integrating individual engagement activities with other agencies	Planning Policy Team Leader			
Lack of capacity of statutory agencies to respond	Low High Decisions taken nationally to change the resources of statutory agencies, and their capacity to manage local plan consultations and other work, may cause delays to the programme; The Local Development Scheme provides forward notice of the Council's local plan programme. Maintain contact with key agencies to minimise prospect of slippage.	Planning Policy Team Leader			
Planning Inspectorate ability to resource examinations	Low High Early and on-going dialogue with the Planning Inspectorate	Planning Policy Team Leader			
Intervention by Secretary of State or successful legal challenge	Low Moderate Collaboration with the Planning Inspectorate at all milestone stages to ensure that the LDP fulfils all legal requirements and is found to be sound; Support programme undertaken with the Planning Advisory Service to ensure soundness.	Head of Planning & Development / Planning Policy Team Leader			
Revisions to national planning policy guidance and procedures	Low Moderate Monitoring of national planning policy revisions	Planning Policy Team Leader			

Table 2: Risk Assessment Two

RISK IDENTIFIED	LIKELIHOOD IMPACT	RESPONSIBILITY		
National Planning Policy Framework – key policy areas	High Undertake scoping of the current development plan; undertake scoping of the emerging plan;	Head of Planning & Development		
Lack of consensus to endorse the Plan – or conflict over making difficult choices (Green Belt, Gypsy & Travellers, Affordable Housing)	High Early briefing and involvement of Members at key stages; Fortnightly meetings with Lead Member, briefing Front Bench chairs group and Corporate Leadership Board.	Head of Planning & Development / Local Development Plan Member Working Group Chair / Corporate Leadership Board		
Diversion of the team and corporate resources to other corporate projects. e.g. neighbourhood planning	Moderate Identification as a corporate project, corporate reporting at Members Training; maintain high profile; Overall workload management; Managing expectations.	Head of Planning & Development		
Additional requirements placed on authority by Government. Emerging case aw. Low Moderate Watching brief, keeping up to date on emerging matters; Essex Planning Officers Association (EPOA).		Head of Planning & Development		
Inadequate financial resources to procure support/ projects	Low Budget and project management. Early warning to Corporate Leadership Board and Front Bench chairs group.	Head of Planning & Development / Local Development Plan Member Working Group Chair / Corporate Leadership Board		

APPENDIX 1: DOCUMENT PROFILES

Local Development Plan (LDP)					
Role and Content	Strategy for the future growth within the Borough over the next 15 years, setting out the spatial vision, strategic planning policies, development management policies, policies map and site specific land use allocations				
Geographical Coverage	Brentwood Borough				
Status	Development Plan Document				
Chain of Conformity	 National Planning Policy Framework Essex Minerals and Waste Development Framework Brentwood Borough Council Corporate Plan 				
Replaces	'Saved Policies' in the current Replacement Local Plan (2005)				
Team to lead production	Planning Policy Team, Brentwood Borough Council				
Anticipated resources	 Local Development Plan Member Working Group Other Council Officers Cooperation with neighbouring local planning authorities Use of technology and web-based communication to assist with consultation; and Where necessary use of consultancy support to develop, review and update the evidence base 				

LDP	
Timetable	
Pre-production and Document Preparation Issues and Options Completed	Published November 2009
Preparation of Document Completed	April 2013
Preferred Options Consultation Completed	July – October 2013
Analysis of Representations and Review of Strategic Issues Completed	November 2013 – May 2014
Strategic Growth Options Consultation Completed	January – February 2015
Consider representations	February – August 2015
Draft Plan Consultation	Q3 2015
Consider Representations	Q1 – Q2 2016
Publication of Document	Q2 2016
Pre-submission Consultation	Q3 2016
Submission to Secretary of State	Q4 2016
Independent Examination	Q4 2016 – Q1 2017
Receive and publish Inspectors recommendations	Q2 2017
Adopt the plan	Q2 2017
Post Production	
Monitoring and Review mechanisms	Authorities Monitoring Report

Q1 = April, May, June Q2 = July, August, September Q3 = October, November, December Q4 = January, February, March

Community Infrastructure Levy (CIL)						
Role and Content	The document will set out the charges to be levied on new development in Brentwood					
Geographical Coverage	Brentwood Borough					
Status	Charging Schedule					
Chain of Conformity	 National Planning Policy Framework Essex Minerals and Waste Development Framework Brentwood Borough Council Corporate Plan 					
Replaces	Will largely replace the current system of section 106 'planning obligations'					
Team to lead production	Nationwide CIL Services have been appointed to prepare CIL on behalf of Brentwood Borough Council					
Anticipated resources	 The Planning Policy Team of Brentwood Borough Council Cooperation with neighbouring local planning authorities in relation to cross boundary infrastructure provision; and Cooperation with Essex County Council as education and highway authority 					

CIL	
Timetable	
Evidence gathering, including preparation of an Infrastructure Delivery Plan Completed	April – December 2013
Prepare Preliminary Draft Charging Schedule Completed	January - March 2014
Consultation on Preliminary Draft Charging Schedule	Q1 2016
Consideration & Review	Q1 – Q2 2016
Publish draft schedule and consultation	Q2 2016
Submit for examination	Q3 2016
Examination	Q4 2016 – Q1 2017
Publication of Examiner's recommendations	Q2 2017
Modify and Adopt Charging Schedule	Q2 2017
Post Production	
Monitoring and Review mechanisms	Authorities Monitoring Report

Q1 = April, May, June Q2 = July, August, September Q3 = October, November, December Q4 = January, February, March

APPENDIX 2: TIMETABLE

Q1 = April, May, June

Q2 = July, August, September

Q3 = October, November, December

Q4 = January, February, March

	2015				20	16		2017				
	Q1 Q2 Q3 Q4			Q1 Q2 Q3 Q4			Q1 Q2 Q3 Q4			04		
	G(I	Q/Z	QU	Q-T	G(I	Q/Z	QU	G(T	G(I	U(Z	QU	QT
Local Plan												
Growth Options consultation (Reg 18)												
Consider representations												
Prepare Draft Plan												
Draft Plan consultation (Reg 18)												
Consider representations												
Prepare pre-submission plan												
Pre-submission consultation (Reg 19)												
Consider representations (Reg 20)												
Submission to Secretary of State (Reg 22)												
Independent examination (Reg 24)												
Inspector's recomendation (Reg 25)												
Adopt Plan (Reg 26)												
Adopt Policies Map												
Community Infrastructure Levy												
Gather evidence & prepare report												
Preliminary draft charging schedule consultation												
Consider representations												
Prepare Draft Version												
Publish draft charging schedule & consult (Reg 16)												
Consider representations (Reg 17)												
Submission to Secretary of State (Reg 19)												
Independent examination												
Adopt CIL												

APPENDIX 3: GLOSSARY

Adopted: Final agreed version of a document or strategy accepted through a formal resolution.

Authorities Monitoring Report (AMR):
Document produced each year recording and presenting progress on all elements of the local development framework where measurement is required.

Local Planning Authority: Local authority or council empowered by law to exercise statutory town planning functions for a particular area.

Community Infrastructure Levy and Charging Schedule (CIL): A statutory charge which allows local planning authorities to require financial contributions from development to help fund infrastructure in the area. Contributions can be used to support development by funding infrastructure that the local community need. The Charging Schedule sets out the rate of the levy.

Core policies: Broad policies in place to deliver the long-term spatial vision and objectives of the Local Plan.

Department for Communities and Local Government (DCLG): UK Government department with responsibilities for local government and planning, among other things.

Development Plan: The adopted Local Plan, Supplementary Planning Documents, and neighbourhood plans, as defined in section 38 of the Planning and Compulsory Purchase Act 2004.

Development Plan Document (DPD): Spatial planning documents subject to independent examination, forming the development plan of an area.

Development Management policies: A suite of criteria-based policies required to ensure that development meets the spatial vision objectives set out in the Local Plan. These can be included within the Local Plan or may form a standalone document.

Duty to Cooperate: The legal duty on local planning authorities, county councils and public bodies to engage constructively, actively and on an ongoing basis to maximise the effectiveness of Local Plan preparation. This is not a duty to agree, but every effort should be made to secure cooperation on strategic cross boundary matters before a Local Plan is submitted.

East of England Plan, Regional Spatial Strategy (RSS): Provided the regional planning framework for the East of England. Local planning authorities were required to ensure Local Plans were in conformity with the regional plan, such as housing and job targets to be delivered over a plan period. The plan was prepared by the regional planning body in the form of the Regional Assembly. Following the Localism Act 2011, the regional assembly was dissolved and the East of England Plan was revoked on 3 January 2013. Local planning authorities are now required to assess their individual housing and job needs in their local area.

Habitat Regulations Assessment (HRA):

An assessment required as a result of the European Union's Habitat Regulations, of the impact which any development may have on any designated Natura 2000 site (Special Area of Conservation (SAC) or Special Protection Area (SPA)).

Inspector's report: Document produced by an independent inspector from the Planning Inspectorate. It assesses the soundness and robustness of Development Plan Documents and Community Infrastructure Levy. Local Development Document: Include Development Plan Documents (which form part of the statutory development plan) and Supplementary Planning Documents (which do not form part of the statutory development plan). These collectively deliver the spatial planning strategy for the local planning authority's area.

Local Development Scheme (LDS): Sets out the documents that will comprise the Local Plan for an area with timescales and key milestones.

Local Plan: The plan for future development of the local area, drawn up by the local planning authority in consultation with the community.

Localism Act 2011: Is an Act of Parliament that changed the powers of local government in England. The aim of the act is to facilitate the devolution of decision-making powers from central government control to individuals and communities.

Material Consideration: A factor to be taken into account when making a planning decision.

Monitoring and Review: Regular measurement of progress towards targets, aims and objectives. It also involves scrutiny, evaluation and, where necessary, changes in policies, plans and strategies.

National Planning Policy Framework (NPPF): Sets out the Government's planning policies for England and how these are expected to be applied. It must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration in planning decisions.

Neighbourhood Plan: A plan prepared by a Parish Council or Neighbourhood Forum for a particular neighbourhood area (made under the Planning and Compulsory Purchase Act 2004).

Options Consultation: A stage in the production of a Local Development Document which seeks to actively involve statutory authorities and the public in determining a range of options for future planning policy and development.

Planning Inspectorate: Deal with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England and Wales. This is an executive agency, sponsored by the Department for Communities and Local Government.

Planning Policy Team: The service within Brentwood Borough Council responsible for producing the Local Plan and other planning policies for Brentwood Borough.

Planning Practice Guidance: Online guidance that sits alongside and supports the NPPF. The guidance provides a more detailed and practical interpretation of the overarching policies in the NPPF, such as how to carry out housing needs assessments and what policies in development plans should and should not do. It is not a static guidance as it is continuously reviewed and updated by Government.

Policies Map: Illustrates Local Plan policies on a map of the local area.

Section 106 Obligations: Requirements of developers as part of planning permissions. These are agreed in the planning application process, to provide contributions (usually financial) to develop facilities / amenities for the local community (e.g. education, open space).

Site allocations: Designation of land in a Local Plan for a particular land use (e.g. Housing).

Spatial strategy: Provides the context for managing change and shaping how an area develops in future. The strategy sets out the level and location of development, highlights key areas of change and provides the basis for delivering strategic objectives, planning policies and land allocations.

Statement of Community Involvement (SCI): Explains how the Council will engage local communities and other interested parties in producing the Local Plan and determining planning applications.

Strategic Environmental Assessment (SEA): An environmental assessment which complies with the EU Directive 2001/42/EC. The environmental assessment involves the preparation of an environmental report, the carrying out of consultations, the taking into account of these in decision making, the provision of information when the plan or programme is adopted and showing that the results of the environmental assessment have been taken into account.

Supplementary Planning Document (SPD): Provide additional supporting information to the Local Plan. They do not form part of the development plan and are not subject to independent examination but they will be treated as a material consideration when determining planning applications.

Sustainability Appraisal (SA): An appraisal of the economic, environmental, and social effects of the Local Plan (and some supporting documents) from the outset of the preparation process to allow decisions to be made that accord with sustainable development.

BRENTWOOD LOCAL PLAN



Find out more about the Local Plan at www.brentwood.gov.uk/localplan



To receive regular updates please send your email address to planning.policy@brentwood.gov.uk



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www.brentwood.gov.uk



BrentwoodCouncil



@Brentwood_BC

www.brentwood.gov.uk email: planning.policy@brentwood.gov.uk

telephone: 01277 312 500

Published July 2015 by **Brentwood Borough Council**Planning Policy Team, Town Hall, Ingrave Road, Brentwood, Essex CM15 8AY

Please contact us to obtain a copy of this information in an alternative format

21 July 2015

Planning and Licensing Committee

Response to the Essex County Council and Southend-on-Sea Borough Council Replacement Waste Local Plan – Revised Preferred Approach June 2015 consultation

Report of: Gordon Glenday – Head of Planning & Development

Wards Affected: All

This report is: Public

1. Executive Summary

- 1.1 The Essex and Southend Replacement Waste Local Plan Revised Preferred Approach is out for public consultation from 18 June to 30 July 2015. The document sets out the preferred approach on a strategy for waste development up until 2032. It proposes to safeguard existing waste capacity, allocate sites suitable for waste facilities and a range of policies to manage waste development.
- 1.2 A number of 'Strategic Sites' have been identified to meet the waste capacity needs of Essex and Southend. None have been identified in Brentwood Borough. The consultation document identifies two 'Areas of Search' and three 'Safeguarded Sites' within Brentwood Borough.
- 1.3 Each of these sites has also been proposed for development in the emerging Brentwood Local Development Plan. It is not considered that identification of these sites as Areas of Search and Safeguarded Sites would cause conflict with the development plan, subject to further discussion with Essex County Council regarding appropriate land uses.

2. Recommendation

- 2.1 That the response to the Essex and Southend Replacement Waste Local Plan Revised Preferred Approach June 2015 consultation as set out in Appendix A of this report be approved
- 2.2 That the response as set out in Appendix A be agreed and recommended for endorsement by the Environment & Housing Management Committee at its next meeting on 9 September 2015.

3. Introduction and Background

- 3.1 Essex County Council and Southend-on-Sea Borough Council are jointly preparing a Waste Local Plan. Once adopted the Plan will supersede the existing Essex and Southend Waste Local Plan 2001.
- 3.2 The Replacement Waste Local Plan will set a strategy for waste development up until 2032. Once adopted, the Plan will safeguard existing waste capacity, allocate sites considered suitable for waste facilities, and includes a range of land use-specific and generic policies to manage future waste development. This will form the Waste Plan for Essex and Southend, including Brentwood Borough.
- 3.3 A Preferred Approach was previously published in 2011 but since that time significant changes have occurred resulting in the need for a Revised Preferred Approach. These changes include national policy and legislation, updated local evidence and plan preparation procedural requirements.
- 3.4 A six week public consultation on the Revised Preferred Approach is taking place from 18 June to 30 July 2015.

4. Issue, Options and Analysis of Options

- 4.1 The main aim of the Replacement Waste Local Plan is to continue to support better and more sustainable ways of dealing with waste to further reduce the dependence on landfill. This will be achieved by aiming for net self-sufficiency for all waste streams (where practicable), supporting the provisions of the waste hierarchy and managing a reducing proportion of waste arising from London.
- 4.2 A number of new facilities are needed to enable a more sustainable approach to waste management across the plan period to 2032. This includes provision for additional capacity for biological treatment, inert waste recycling, inert landfill and stable non-reactive hazardous waste disposal.
- 4.3 The preferred approach is to meet the identified waste management capacity requirements by allocating strategic sites. To provide additional flexibility and to cater for possible non-strategic waste requirements (arising locally), the preferred approach is to allocate areas of search. Finally, to guide proposals for waste development on unallocated sites, a range of locational criteria have been included.

- 4.4 An 'Area of Search' encompasses an area within which a suitable waste management facility could be delivered, as opposed to a direct site allocation that represents the exact outline of where a facility is considered to be suitable. The process of identifying Areas of Search has been focused on employment land within industrial estates across the Plan area.
- 4.5 The intention is for these areas of search to act as a guide for waste operators seeking to develop a site within the Plan area, should waste development on the proposed site allocations not come forward.

 Applications made within these Areas of Search will still require a full planning application which would need to contain precise details of the proposals.
- 4.6 There have been no strategic sites identified within Brentwood Borough but there have been two areas of search identified. These comprise Childerditch Industrial Estate and the industrial estates in West Horndon.
- 4.7 The Areas of Search Assessment identified that having regard to environmental, social and planning criteria, 34 existing employment land areas across the plan area could be suitable for the future development of waste management facilities. Areas were assessed for their suitability under two measures. These included providing sufficient unconstrained land greater than 100m from sensitive receptors (suitable for enclosed facilities) and greater than 250m from sensitive receptors (suitable for enclosed, enclosed thermal or open air facilities).
- 4.8 The Areas of Search Assessment concluded that Childerditch Industrial Estate is suitable for enclosed waste management facilities but not enclosed thermal or open air waste management facilities. For the West Horndon Industrial Estates the Station Road side of the site could accommodate a wider range of waste management facilities where residential properties are not within 250m. The Childerditch Lane side of the site could be suitable for enclosed waste management facilities.
- 4.9 There has also been three existing aggregate recycling facilities within the Borough identified for safeguarding which includes CLC Construction, Childerditch Industrial Estate; Unit A, Codham Hall Farm; and Unit 9, Hallsford Bridge Industrial Estate.
- 4.10 Safeguarding will require Brentwood Borough Council to consult Essex County Council as Waste Planning Authority on any applications for development within 250m of the safeguarded site. The application will

- need to demonstrate that the proposal would not prevent or unreasonably restrict the use of the safeguarded site for waste management purposes
- 4.11 The Brentwood Borough Local Plan Strategic Growth Options
 Consultation January 2015 set out the key planning issues for the
 Borough over the next 15 years. It also included details of all the
 proposed development sites within the Borough. No decisions will be
 made on proposed development sites until publication of the Draft Local
 Plan later this year.
- 4.12 Childerditch Industrial Estate (LDP Ref: 112A, B, C & D), West Horndon Industrial Estates (LDP Ref: 020 & 021), Land at Codham Hall (LDP Ref 101 A & B) and Hallsford Bridge Industrial Estate (LDP Ref: 113 A & B) were suggested sites in the Brentwood Strategic Growth Options consultation (2015). Childerditch Industrial Estate is proposed to be retained as an employment site with the option of a small extension to the north west. West Horndon Industrial Estate sites were proposed in the Brentwood Local Plan Preferred Options (2013) as housing-led mixed use development, and Land at Codham Hall proposed as a new employment site in the form of an Enterprise Park. Hallsford Bridge Industrial Estate is proposed to retain its existing employment use, as allocated in the Councils current Local Plan.
- 4.13 It is not considered that the identification of the Areas of Search at Childerditch Industrial Estate and the Safeguarded sites at Industrial Estates in Childerditch and Hallsford Bridge would cause conflict with the emerging Brentwood Local Plan, subject to further discussion with Essex County Council regarding appropriate land uses.
- 4.14 If the West Horndon Industrial Estates are identified within the Brentwood Draft Local Plan for redevelopment as housing led mixed use this would mean that their purpose as Areas of Search in the RWLP would no longer be suitable. In relation to Codham Hall Farm there is a possibility that the current aggregate recycling operation would not be appropriate in the context of an Enterprise Park.
- 4.15 The Brentwood Borough Local Plan will need to identify sufficient additional employment land for the plan period. If any of the current employment sites are allocated for alternative use there will need to be additional employment land identified in the Borough to meet future needs which could potentially be appropriate as alternative locations for future waste facilities. These sites, subject to appropriate assessment, may be suitable as alternative locations for future waste facilities.

- 4.16 The preferred approach of the Replacement Waste Local Plan is to meet the identified waste management capacity requirements by allocating strategic sites, none of which are in the Brentwood Borough.
- 4.17 The Areas of Search are intended to act as a guide for waste operators seeking to develop a site within the Plan area, should waste development on the strategic site allocations not be deemed suitable and for non-strategic sites. Safeguarded sites are identified to protect existing waste facilities from incompatible development taking place nearby which could prevent their effective operations.
- 4.18 Brentwood Borough Council will continue to engage with Essex County Council as Waste Planning Authority as each respective Local Plan develops to ensure the development aspirations of each can be met.

5. Reasons for Recommendation

- 5.1 It is not considered necessary to object to the Essex and Southend Replacement Waste Local Plan Revised Preferred Approach consultation on the basis of identifying two Areas of Search and safeguarding three existing aggregate recycling facilities within the Borough.
- 5.2 Principally the preferred approach of the emerging Replacement Waste Local Plan is to meet the waste capacity requirements through strategic allocations (none of which are identified in the Brentwood Borough). The Areas of Search would be an option for waste development should none of the strategic allocations be deemed suitable and for non-strategic sites. Any applications would still be subject to assessment against the appropriate policies of the Waste Local Plan and Brentwood Local Plan.
- 5.3 The Brentwood Borough Local Plan will need to identify sufficient additional employment land for the plan period. If the sites at West Horndon and Codham Hall Farm are allocated there will still need to be additional employment land identified in the Borough to meet future needs which may be suitable as alternative locations for future waste facilities.
- 5.4 The Council supports the main aim of the RWLP to continue to support better and more sustainable ways of dealing with waste, further reduce dependence on landfill and achieve net self-sufficiency for all waste streams.
- 5.5 Once adopted the RWLP will provide a wide ranging strategy with significance across Council services. Feedback has been sought from the Street Scene & Environment Department. It is also recommended that

the Council's response to the RWLP be endorsed by the Environment & Housing Management Committee at its next meeting on 9 September 2015.

6. Consultation

6.1 Essex County Council is currently undertaking a six week public consultation on the Revised Preferred Approach from 18 June to 30 July 2015.

7. References to Corporate Plan

7.1 The Essex and Southend Replacement Waste Local Plan once adopted will set a waste strategy, policies and allocated sites for the whole of Essex and Southend. This Plan will have a close relationship with the emerging Brentwood Local Development Plan, the production of which is a key priority in the Council's Corporate Plan as part of 'A Prosperous Borough'.

8. Implications

Financial Implications
Chris Leslie, Finance Director
Tel/Email: 01277 312542 / christopher.leslie@brentwood.gov.uk

8.1 None directly arising from this report.

Legal Implications
Chris Potter, Monitoring Officer
Tel/Email: 01277 312860 / christopher.potter@brentwood.gov.uk

8.2 None directly arising from this report.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

- 8.3 The overall strategy for waste management in Essex may have implications for the Council's Street Scene & Environment Department in terms of refuse and recycling collection services.
- 8.4 In light of this potential impact across Council services it is recommended that the Council's response to Essex County Council be endorsed by the Environment & Housing Management Committee at its next meeting on 9 September 2015.

9 Background Papers

- 9.3 Essex and Southend-on-Sea Replacement Waste Local Plan Revised Preferred Approach, June 2015.
- 9.4 Replacement Waste Local Plan Revised Preferred Approach Areas of Search Assessment and Methodology, June 2015.
- 9.5 Both of the above documents and further information can be viewed online at www.essex.gov.uk/wlp

10 Appendices to this report

Appendix A - Brentwood Borough Council letter in response to the

Essex County Council and Southend-on-Sea Borough Council Replacement Waste Local Plan Revised Preferred Approach June 2015 consultation.

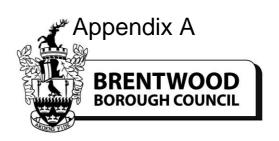
Report Author Contact Details:

Name: Jonathan Quilter, Senior Policy Planner

Telephone: 01277 312735

E-mail: jonathan.quilter@brentwood.gov.uk





Date: 7 July 2015

Minerals and Waste Planning (RWLP)
Planning and Environment
Essex County Council
Freepost CL3636
E3 County Hall
Chelmsford CM1 1XZ

Dear Sir/Madam

RE: Replacement Waste Local Plan (RWLP) Revised Preferred Approach consultation

Thank you for your email dated 18 June 2015 concerning the above consultation. The response of Brentwood Borough Council is set out below.

Question 5: Safeguarding & Waste Consultation Zones – Do you agree with Preferred Approach 2 'Safeguarding & Waste Consultation Zones'?

Yes – Following a review of Table 3 (Proposed Strategic Waste Facilities) and Appendix G (Existing Waste Management Sites) it is understood that there are three existing aggregate recycling facilities proposed to be safeguarded within the Brentwood Borough. These comprise CLC Construction - Childerditch Industrial Estate, Codham Hall Farm - Great Warley and Hallsford Bridge – Stondon Massey.

It should be noted that each of these sites have been suggested for potential development as set out within the recent Brentwood Local Plan – Strategic Growth Options consultation January 2015. No decisions have yet been made on where development will be taking place within the Borough. The Draft Local Plan which is due to be published for consultation later this year will be the next stage at which future development sites are shown as being preferred (previous Preferred Options consultation in 2013 proposed certain sites). The details of the sites are set out below:

Childerditch Industrial Estate (Brentwood Site Refs: 112 A, B, C & D) – Sites 112 A, B & C comprise the existing industrial estate and involves proposals to retain the existing employment use of the site. The existing aggregate recycling facility operated by CLC Construction is contained within site 112A. Site 112D is a suggested 2.34ha extension to the industrial estate for new employment use.

Land at Codham Hall (including M25 works site at A127/M25 junction 29) (Site Refs: 101 A & B) – Site 101B comprises existing unallocated employment uses in agricultural buildings

which provides the opportunity to regularise uses by allocating as a new employment site. Site 101A comprises the former M25 works site and includes the aggregate recycling operation set out within the RWLP. This area is being proposed as a new employment site of up to 23.41ha in size comprising an Enterprise Park.

Hallsford Bridge Industrial Estate (Site Refs: 113 A & B) – This site comprises an existing employment site and it is being proposed to retain this use.

It is not considered that the identification of the sites at Childerditch and Hallsford Bridge Industrial Estates within the RWLP as safeguarded aggregate recycling facilities would conflict with the aspirations being proposed for each of these sites in the emerging Brentwood Local Plan. In relation to Codham Hall Farm there is a possibility that the current aggregate recycling operation would not be appropriate in the context of an Enterprise Park.

The Brentwood Draft Local Plan will be required to identify new employment land to accommodate future growth and any lost through proposed redevelopment. These sites, subject to appropriate assessment, may be suitable as alternative locations for future waste facilities.

As the Brentwood Local Plan develops we will work closely with Essex County Council as Waste Planning Authority to ensure that the needs and aspirations of both Plans are met.

The Brentwood Local Plan Strategic Growth Options consultation document and a map showing all of the proposed development sites can be viewed on our website: www.brentwood.gov.uk/localplan.

A minor point to raise in relation to the information contained within Appendix G is that the use of the term 'Non-Strategic Aggregate Recycling Site' under specific facility type creates confusion with the definition of 'Strategic Sites' given to all Waste Recycling/Aggregate Recycling Facilities in Table 3 of the RWLP. This should be corrected/clarified to avoid future issues as to which sites are defined as Strategic and therefore Safeguarded.

RWLP Areas of Search Assessment and Methodology

Childerditch Industrial Estate, Brentwood - Do you support the identification of this site as an Area of Search?

Yes – It should be noted that this site has been suggested for potential development as set out within the recent Brentwood Local Plan – Strategic Growth Options consultation January 2015.

Childerditch Industrial Estate (Brentwood Site Refs: 112 A, B, C & D) – Sites 112 A, B & C comprise the existing industrial estate and involves proposals to retain the existing employment use of the site. The existing aggregate recycling facility operated by CLC Construction is contained within site 112A. Site 112D is a suggested 2.34ha extension to the industrial estate for new employment use.

It is not considered that the identification of this site within the RWLP as an Area of Search would conflict with the aspirations being proposed for this site. An existing aggregate recycling operation is on the site and it is being proposed for retaining the existing employment use of the whole site which a waste use could be located within.

Please note that no decisions have yet been made on where development will be taking place within the Borough. The Draft Local Plan which is due to be published for consultation later this year will be the next stage at which future development sites are shown as being preferred.

The Brentwood Local Plan Strategic Growth Options consultation document and a map showing all of the proposed development sites can be viewed on our website: www.brentwood.gov.uk/localplan.

West Horndon, Brentwood - Do you support the identification of this site as an Area of Search?

Yes – It should be noted that this site has been suggested for potential development as set out within the recent Brentwood Local Plan – Strategic Growth Options consultation January 2015.

West Horndon Industrial Estate, Childerditch Lane and Horndon Industrial Estate, Station Road (Site Refs: 020 & 021) – These are both existing industrial estates comprising employment sites. The proposals involve redeveloping the sites for housing led mixed use.

Please note that no decisions have yet been made on where development will be taking place within the Borough. The Draft Local Plan which is due to be published for consultation later this year will be the next stage at which future development sites are shown as being preferred.

If the West Horndon Industrial Estates are identified within the Brentwood Draft Local Plan for redevelopment as housing led mixed use this would mean that their purpose as Areas of Search in the RWLP would no longer be suitable. However, the Brentwood Draft Local Plan will be required to identify new employment land to accommodate future growth and any lost through proposed redevelopment. These sites, subject to appropriate assessment, may be suitable for the locations of future waste facilities.

As the Brentwood Local Plan develops we will work closely with Essex County Council as Waste Planning Authority to ensure that the needs and aspirations of both Plans are met.

The Brentwood Local Plan Strategic Growth Options consultation document and a map showing all of the proposed development sites can be viewed on our website: www.brentwood.gov.uk/localplan.

I trust that the response is of assistance but should you have any queries please contact the Planning Policy Team using the details below.

Yours sincerely

Gordon Glenday
Head of Planning

Head of Planning and Development

Enquiries to:

Jonathan Quilter - Senior Policy Planner

Telephone: 01277 312735

Email: jonathan.quilter@brentwood.gov.uk



21 July 2015

Planning and Licensing Committee

Sustainable Drainage System Design Guide

Report of: Gordon Glenday, Head of Planning

Wards Affected: All Wards

This report is: Public

1. Executive Summary

- 1.1 The Government adopted a new approach to implementing Sustainable Drainage Systems (SuDS) on 6 April 2015. These changes to the SuDS regime impact upon how flood risk and surface water run-off is managed.
- 1.2 This report outlines these changes to the planning system and asks
 Members to acknowledge the Sustainable Drainage System Design Guide
 (2014) produced by Essex County Council, as a material consideration.

2. Recommendation

2.1 That the Sustainable Drainage System Design Guide, as attached at Appendix A, be acknowledged as a material consideration for the purposes of determining planning applications where relevant to the particular application.

3. Introduction and Background

- 3.1 The Secretary of State for Communities and Local Government laid a Written Ministerial Statement in the House of Commons on 18 December 2014 requiring all new major developments to include provision for sustainable drainage systems as a mechanism for managing surface water flooding. This change came into effective on 6 April 2015.
- 3.2 Under this new approach Essex County Council in their role as Lead Local Flood Authority is now the statutory consultee for sustainable drainage. The Environment Agency is no longer the statutory consultee for surface water management issues, but they retain their strategic

- overview role for all flood (main rivers and sea) and coastal erosion management issues.
- 3.3 In preparation for the changes to delivering Sustainable Drainage Systems (SuDS) through the planning system, Essex County Council as the statutory consultee for SuDS schemes on major applications of 10 or more dwellings, have produced a validation checklist and a SuDS design guide.
- 3.4 The aim of delivering SuDS is to reduce flood risk for communities by slowing the rate of surface water run-off and increasing infiltration, particularly at times of heavy rainfall.
- 3.5 The SuDS Design Guide is divided into 8 sections, each of which is summarised below:
 - Section 1- Includes background information about the shift towards the increased use of sustainable drainage to manage surface water including the multiple benefits that they can deliver as part of sustainable development.
 - Section 2 Provides an overview of the design considerations specific to Essex that need to be considered when sustainable drainage systems are being designed such as topography, geology, soils and hydrology.
 - Section 3 Explains the twelve principles and two local standards for water quantity and quality that should be followed when planning and designing SuDS, not just in terms of flood prevention but also in terms of amenity, ecology and water management. The principles cover issues such as managing rainfall at the surface and at source, mimicking natural drainage, designing SuDS that are maintainable, and enhancing biodiversity. The local principles and standards are intended to supplement national standards when sustainable drainage systems are being designed.
 - Section 4 Provides an introduction to the main types of sustainable drainage systems that can be built and the circumstances where they are most appropriate. Sustainable drainage systems are varied and can include green roofs, swales, ponds, pervious paving, rainwater gardens or even large wetlands.

- Sections 5 to 8 Include appendices, a glossary of terms, references and a figures table respectively.
- 3.6 Brentwood Borough Council already promotes the use of sustainable drainage in new developments through the Brentwood Replacement Local Plan policy IR5 (Energy and Water Conservation in New Development). However, there is a need to further consider SuDS within the emerging Local Development Plan.

4. Issue, Options and Analysis of Options

- 4.1 The SuDS Design Guide was formally adopted by Essex County Council on 31 March 2015. The document forms the local standards for Essex and, together with the National Standards, strongly promotes the use of SuDS.
- 4.2 The guide is primarily intended for use by developers, designers and consultants who are seeking guidance on the County Council's requirements for the design of sustainable surface water drainage in Essex. It provides information on the planning, design and delivery of attractive and high quality SuDS schemes which should offer multiple benefits to the environment and community.
- 4.3 Essex County Council's Flood Team will use the guide in their new role to assess planning applications requiring sustainable drainage schemes. The guide provides a steer as to what is expected and should complement national requirements whilst prioritising local needs.

5. Reasons for Recommendation

- 5.1 Formal acknowledging the SuDS Design Guide as a material consideration when determining planning applications will help the Borough meet its Local Plan policy objectives and assist the Council in negotiating good quality sustainable drainage schemes as part of new major developments.
- 5.2 Acknowledgement of the guide will help ensure that sustainable drainage schemes coming forward in the Borough are fit for purpose in terms of helping reduce and manage the risk of surface water flooding as well as delivering wider amenity, ecological and landscape benefits.

6. Consultation

6.1 The SuDS Design Guide was produced by Essex County Council's Flood Management Team in conjunction with a range of stakeholders. The Guide was completed in 2014 and has been subject to consultation with the public and key stakeholders on two separate six week periods. The first consultation was held between December 2011 and January 2012 and this was followed by another round of consultation between August and September 2012. The Guide was formally adopted by Essex County Council on 31 March 2015.

7. References to Corporate Plan

7.1 The SuDS Design Guide maximises opportunities to mitigate flood risk in order to enhance and protect the Borough's environment while supporting the Brentwood Local Development Plan. The Local Development Plan is a key priority in the Council's Corporate Plan as part of 'A Prosperous Borough'.

8. Implications

Financial Implications
Chris Leslie, Finance Director
Tel & Email: 01277 312542 / christopher.leslie@brentwood.gov.uk

8.1 None directly arising from this report.

Legal Implications
Chris Potter, Monitoring Officer
Tel & Email: 01277 312860 / christopher.potter@brentwood.gov.uk

8.2 None directly arising from this report.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

8.3 None.

9. Background Papers

9.1 None.

10. Appendices to this report

Appendix A - 'Sustainable Drainage Systems Design Guide' (Essex

County Council), December 2014 -

http://www.essex.gov.uk/Environment%20Planning/Envir

onmental-Issues/local-

environment/flooding/Documents/suds design guide.pdf.

pdf

Report Author Contact Details:

Name: Camilla James, Senior Policy Planner

Telephone: 01277 312528

E-mail: camilla.james@brentwood.gov.uk





Terms of Reference and Composition of SuDS Guide Working Group and Steering Group

The Working Group, formed to look at producing a SuDS Design and Adoption Guide, consisted of representatives from various departments within Essex County Council (ECC), who reflect a range of related disciplines. The Steering Group consisted of representatives from Essex County Council as well as external organisations. The objective of the Groups was to:

"Develop a Design Guide demonstrating how new developments can accommodate SuDS, the standards expected of any new SuDS scheme to be suitable for approval and adoption, provide an overview of the geology and biodiversity of the county and advice on how SuDS will be maintained and how they should be ensured to be maintainable."

This has been achieved by:

- Reviewing background information and current advice
- Collecting suitable case studies within Essex
- Considering updates from Defra and the National Standards Consultation
- Taking on board comments from restricted and public consultations.

The Working Group comprises ECC Officers:

Planning & Environment

Keith Lawson Phil Callow Lucy Shepherd Kathryn Goodyear Tim Simpson

Development Management, Essex Highways

Vicky Presland Peter Wright Peter Morris Philip Hughes

Place Services

Crispin Downs Peter Dawson The Steering Group comprises those above plus additional members representing:

Essex Highways: David Ardley

Environment Agency: Graham Robertson

Mersea Homes: Brad Davies

Bellway Homes: Clive Bell/Ben Ambrose

Barratt Homes: Rodney Osborne
Persimmon Homes: Terry Brunning
Countryside Properties: Andrew Fisher
Essex Legal Services: Alan Timms
Tendring District Council: John Russel
Basildon District Council: Matthew Winslow
Epping Forest District Council: Ouasim Durrani

SuDS Design Guide (ii)

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1.0 INTRODUCTION

1.1 Surface water and urbanisation

Sustainable Drainage Systems (SuDS) are nothing new. They have been nature's way of dealing with rainfall, since time began. At its simplest, rain falling on the land may evaporate or be absorbed into the soil, nourishing our natural habitat, or else flows overland into ponds, ditches, watercourses and rivers, helping to sustain life by replenishing our precious water resource.

It is only recently that the balance of this natural water cycle has been disrupted. Modern urban development with its houses, roads and other impermeable surfaces has increasingly altered the way that rainwater finds its way into our soils, rivers and streams. Surface water has for many years been allowed to be collected and piped directly into our ditches and rivers. Conveying water away as quickly as possible from a development may adequately protect the immediate development from flooding but increases the risk of flooding occurring downstream. This unsustainable approach to surface water drainage, together with the potential effects of a changing climate, has contributed to some very serious consequences on life, property and the environment as evidenced by the disastrous

flooding experienced throughout the UK during the summer of 2007.

1.2 The situation

As the Lead Local Flood Authority (LLFA) Essex County Council is responsible for overseeing flood risk from surface water, groundwater and ordinary watercourses. The LLFA is therefore expected to provide support to Local Planning Authorities and the development industry on sustainable drainage proposals.

This document forms the local standards for Essex and, together with the National Standards, strongly promotes the use of SuDS which help to reduce surface water runoff and mitigate flood risk.

A return to more natural, sustainable methods of dealing with surface water from development will also have additional benefits for:

- Water quality SuDS can help prevent and treat pollution in surface water runoff, protecting and enhancing the environment and contributing towards Water Framework Directive objectives.
- Amenity SuDS can have visual and community benefits for the community



Bio-retention planters, Portland, Oregon, USA



SuDS wetlands, Wellesley College, USA

 Ecology – SuDS can provide the opportunity to create and improve habitats for wildlife, enhancing biodiversity



Figure 1.2.1 SuDS objectives (CIRIA, 2007)

See also:

Water Framework Directive on the Environment Agency's website: http://www.wfduk.org/

1.3 Sustainable development

Essex County Council is committed to making our county a place which provides the best possible quality of life for all who live and work here. Making it more sustainable is an important part of supporting this vision and it is therefore implicit that new development should incorporate sustainability measures that help achieve this goal.

Appropriately designed, constructed and maintained SuDS support the ideal of sustainable development. SuDS are more sustainable than conventional surface water drainage methods as they can mitigate many of the adverse effects that stormwater run-off has on the environment. This can be achieved by:

- Reducing run-off rates, thereby lessening the risk of flooding downstream
- Minimising additional run-off emanating from urban development, which could exacerbate the risk of flooding and impair water quality
- Encouraging natural groundwater recharge (as appropriate) and so reduce the impact on aquifers and rivers
- Reducing pollution risks associated with development
- Contributing to and enhancing the amenity and landscape of an area and so promoting community involvement and enjoyment
- Providing habitats for wildlife and opportunities for biodiversity enrichment.

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1.4 The purpose of this guide

This guide is primarily intended for use by developers, designers and consultants who are seeking guidance on the County Council's requirements for the design of sustainable surface water drainage in Essex. It provides information on the planning, design and delivery of attractive and high quality SuDS schemes which should offer multiple benefits to the environment and community alike. It should also show that meeting these requirements need not be an onerous task and can help add to development.

The County Council, as LLFA, will refer to this Guide when it is consulted on planning applications relating to sustainable drainage. Pre-application advice may be sought from the County Council as early on in the process as possible. This guide provides a steer as to what is expected and should complement national requirements whilst prioritising local needs.

SuDS philosophy and concepts are based upon and derived from The SuDS Manual (CIRIA 2007). It is not the intention that this guide reproduces or replaces The SuDS Manual; moreover it should be seen as complementing the source document and so users of this guide should familiarise themselves with 'The SuDS Manual' and incorporate advice from both

documents into their SuDS proposals.

1.5 The structure of this guide

This guide aims to bring to life the expectations that Essex County Council has from SuDS through case studies and worked examples. Chapter 2 provides an overview of the design considerations specific to the county such as topography. Chapter 3 provides a quick overview of the standards that are expected

not just in terms of flood prevention but also amenity, ecology and water quality. It also provides an introduction to the main forms of SuDS features and when they are most suitable. Chapter 4 illustrates this information with a series of worked examples of major types of development. These show how SuDS could be fitted into real life situations. There are also case studies, showing how it has been achieved before.



Multi-functional open space, Rieselfeld, Freiburg, Germany

1.6 The SuDS management train

Sustainable drainage systems are now the preferred method for managing surface water run-off from a development area. In order to imitate the natural drainage of a site a series of drainage techniques (the "management train") should be employed to reduce flow rates and volumes, minimise pollution and so reduce the impact of the quantity and quality of water emanating from a development. These techniques need to be applied progressively from prevention, source control, site control through to regional control.

See also:

More information on the elements of the SuDS management train: Section 1.3 of The SuDS Manual (CIRIA 2007).

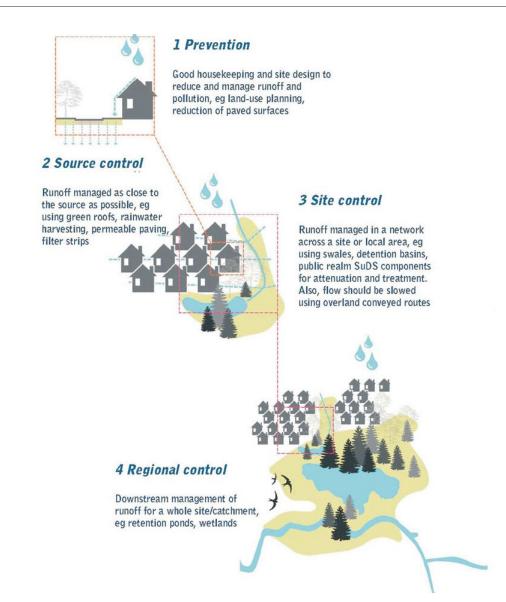


Figure 1.6.1 The SuDS management train (CIRIA, 2010)



2.0 SUDS AND THE ESSEX ENVIRONMENT

This section provides an overview of design considerations specific to the county including topography, drainage patterns, rainfall, geology and soils, landscape and townscape character and nature conservation.

2.1 Topography

Essex is a county of low hills and undulating valleys, with extensive areas of low flat land near to the coast. The altitude rises very gently from the coast towards the north-west. reaching about 30m around Chelmsford and just over 130m to the west of Saffron Walden, as can be seen in Figure 2.3.2. This gentle rise is interrupted by a series of low hills and ridges, the highest of which is Danbury Hill at 116m. The county has a large number of small rivers, largely as a consequence of the proportion of clay soils. These rivers are an important component of the county's topography, character and identity. The river corridors are frequently of value for landscape, nature conservation and heritage, as well as providing public access opportunities and the focus for recreation.

The low infiltration rate of many of Essex's soils lead historically to water features in the landscape — many ponds, open ditches, small

streams, wetland and marsh. Many of these have been drained or piped over the last few centuries, with few of these features surviving as part of a managed drainage system.

2.2 Rainfall

Across most of East Anglia there are, on average, about 30 rain days (rainfall greater than 1 mm) in winter (December to February) and less than 25 days in summer (June to August).

Climate changes already seen in the UK are consistent with the UKCPo2 scenarios. These suggested that winters would become wetter over the whole of the UK, by as much as 20% by the 2050's. A shift in the seasonal pattern of rainfall is also expected, with summers and autumns becoming much drier than at present, but the number of rain days and the average intensity of rainfall are overall expected to increase. The latest UK Climate Projections (UKCPo9) show that in the south east of England there is a 90% chance that winter mean precipitation will increase by 55%, and summer mean precipitation will increase by 7%, by the 2080's.

See also:

More on climate change projections: www.ukclimateprojections.defra.gov.uk



Coastal marshes, Colne Estuary, Essex

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2.3 Geology

The bedrock of Essex (see figure 2.3.1) forms part of the eastern sector of the London Basin chalk syncline which outcrops in the north west, near Saffron Walden. London Clay is the thickest Tertiary deposit with an extensive outcrop across the centre of the county running from east to west which is capped locally by loamy Claygate and sandy Bagshot Beds.

The bedrock geology of Essex is covered by a veneer of superficial or 'drift' deposits, (see figure 2.3.3) such as sand and gravel, that were laid down during the Ice Age. Succeeding deposits have overlaid the sands and gravels but exposures are common on the valley sides and on the Tendring plateau. Soil forming processes in a succeeding interglacial left the

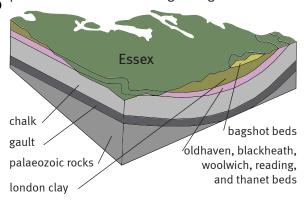


Figure 2.3.1: Simplified bedrock section



Exposed glacial gravels, East Mersea, Essex

upper part of the sands and gravels reddened and clay enriched.

A vast sheet of Boulder Clay, which contains clay, flints and chalk, was deposited over central and northern Essex in a successive glacial period. The ground has been disturbed by solifluction and windblown silts accumulated to form brickearths and loam deposits. Continuous periods of sea level rise brought extensive deposits of sand and gravel

which have formed eight terraces known as the Kesgrave Formations and further variations in sea level formed the East Essex Gravels on the Dengie peninsula, Rochford and Shoeburyness.

Over half of the agricultural land in Essex is of 'best and most versatile' quality (Grade 1, 2 or 3a), however on the coastal marshes much of the land has been reclaimed and the soils are heavy gleys that undergo periodic waterlogging from fluctuations in the ground

2.o SuDS and the Essex Environment Essex County Council

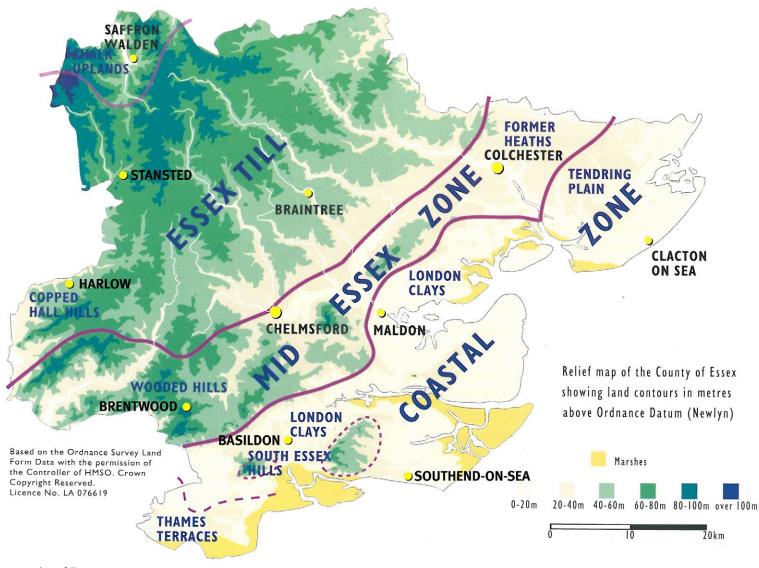


Figure 2.3.2 Topography of Essex

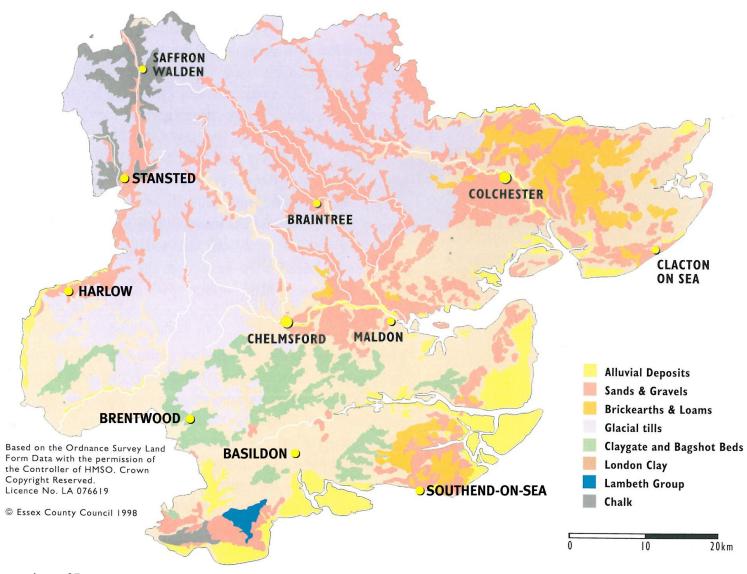


Figure 2.3.3 Surface geology of Essex

water table. Inland soils are often naturally free draining brown soils, especially where brickearth is present. Soils on the London Clay are seasonally waterlogged slowly permeable heavy clay soils. On the hills that rise above the London Clay the fine sands of the Bagshot Beds are capped by the pebbly clay drifts. The soils on the boulder clay plateau to the north range from wet acidic clay soils to dry neutral/alkaline soils which require under-draining for farming. The valley soils are complex but tend to be better drained and the soils that form in the north west of the county are free draining.

2.4 Historic Environment

Essex has a rich and varied historic environment that encompasses the physical legacy of thousands of years of human activity in the form of historic buildings and structures, archaeological sites and monuments, and historic landscapes. The historic environment makes a particular contribution to the character and value of the county's landscapes and provides a wide range of benefits, including contributing to local distinctiveness, and people's sense of place and community. Essex County Council maintains the most complete record of the county's historic environment, comprised of around 38,000 known heritage assets, including 838 Scheduled Monuments, to help ensure that decisions which affect the

historic environment are made from a sound knowledge base.

The impact of new developments, including SuDS, on heritage assets which are not subject to a statutory designation are considered and mitigated through the planning process. In this context, information and advice on the historic environment significance of areas affected by new SuDS, and of the mitigation that may be needed to reduce their impacts on the

historic environment should be sought from the historic environment specialists in Essex County Council's Place Services team, and where relevant, English Heritage.

See also:

Essex County Council's Historic Environmental Record: www.essex.gov. uk/activities/heritage Information and advice from English Heritage:

www.english-heritage.org.uk



Argricultural land, Little Waltham, Essex

2.0 SuDS and the Essex Environment Essex County Council

2.5 Landscape and Townscape Character

Planning policy requires developers to consider context carefully and to use documents for characterisation to inform their proposed layouts and detail design. A more detailed assessment of any proposed development site is required to assess areas for conservation or protection and habitats which could be objectives for the development.

Essex broadly comprises seven landscape character types. These are Chalk Upland, Glacial Till Plateau, River Valley, Wooded Hill and Ridge, London Clay, Coastal and Urban. There is a further subdivision into 35 'character areas' with definition of what is distinctive about each.

Most of the Districts have their own landscape character assessments and with areas further defined and looked at in even greater detail. There are also a number of townscape assessments which describe and analyse the pattern and history of development, and the style and quality of buildings.

All these documents are valuable in understanding how to create a landscape with its proposed SuDS for a development so it fits into the landscape and townscape of the area.



River Chelmer, Chelmer Conservation Area, Essex

2.6 Nature Conservation

Although largely arable in character, Essex still supports a considerable variety of seminatural habitats many of which of are scarce or threatened nationally.

The Essex coast and its estuaries are recognised as one of the most important areas for wildlife in the UK, with a significant proportion protected by national and international designation primarily due to the large numbers of wildfowl

and wading birds that visit the mudflats, saltmarshes and grazing marshes in winter.

Away from the coast, the most significant internationally and nationally important habitats are the wood-pastures of west Essex such as Epping Forest, Hatfield and Thorndon; and the wetlands of Abberton Reservoir, the Lee Valley and Hanningfield Reservoir.

Other valuable and characteristic Essex habitats include the oxlip woodlands on the

2.0 SuDS and the Essex Environment **Essex County Council**



Ramsey Creek, Tendring, Essex

chalky-boulder clays of the northwest, the ancient hornbeam and bluebell woodlands of the southern ridge-lines, and the unique invertebrate assemblages of the proto-Thames/Medway terrace gravels and sands.

See also:

More information about statutory designated international and national areas:

www.natureonthemap.naturalengland.org.uk

Details about the location and character of Local Wildlife Sites:

www.localwildlifesites.org.uk



3.0 DESIGN CRITERIA

Design criteria provide a framework for designing a system to effectively drain the area to protect public health and safety and the environment, creating natural habitat where possible.

The National Standards for SuDS design set out the required design principles and standards, but also provide for Local Standards to be set to ensure SuDS design responds to local conditions and priorities. This guidance builds on the National Standards, by outlining local expectations within Essex. Local Planning Authorities may make reference to the local standards as the requirements for SuDS design within their Local Plans. This provides a consistent approach to dealing with surface water drainage across the County.

In the case of site redevelopments some of the design criteria may not be appropriate and should be discussed at the pre-application stage.

See also:

The National Standards and accompanying guidance, available from the Defra website: www.defra.gov.uk
SuDS retrofitting is described in more detail in: Retrofitting to manage surface water (C₇₁₃) (CIRIA, 2012)
Further objectives and principles set out in:

The SuDS Manual (CIRIA, 2007)



Wetlands store/treat run off at residential development, EOS Bostadsrättsförening, Sweden

In those areas were a Surface Water Management Plan is in place, drainage designs should also take into account any recommendations made in that Plan

This section sets out our Local Principles (Section 3.1) and Local Standards (Section 3.2) expected in Essex:

Local Principles:

- Plan for SuDS 1.
- Integrate with public spaces 2.
- Manage rainfall at the source 3.
- Manage rainfall at the surface 4.
- Mimic natural drainage 5.
- Page 6. Design for water scarcity
 - 7. Enhance biodiversity
 - 8. Link to wider landscape
 - Design to be maintainable 9.
 - Use a precautionary approach 10.
 - Have regard to the historic 11. environment
 - Show attention to detail 12.

Local Standards:

- **Hydraulics** 1.
- Water quality 2.
- Green roof design 3.
- Soakaway design 4.
- Filter strip design 5.
- Filter trenches and drain design 6.
- Swale design 7.

- Bioretention design 8.
- Pervious pavement design 9.
- Geocellular structures design 10.
- Infiltration basin design 11.
- Detention basin design 12.
- Pond design 13.
- Wetland design 14.
- Rainwater harvesting design 15.
- Greywater recycling design 16.

3.1 Local Principles

Our Local Principles are intended to supplement the National Standards and aid in the evaluation of SuDS proposals.

LOCAL PRINCIPLE 1: **PLAN FOR SUDS**

SuDS should be considered as early in the planning process as is feasible.

As SuDS can impact far more visibly and dramatically on a development than conventional drainage, an integrated and multi-disciplinary approach to site planning and design is the key to a successful SuDS system.

Investing in good design and identifying the requirements, issues and opportunities for SuDS at the early stages of a project is



SuDS infiltration basins have been integrated with highways at Ravenswood in Ipswich. The scheme is estimated to have saved over £600.000 in the long term (Ipswich Borough Council, 2011)

very likely to be repaid in the long-term. The advantages include:

- Early consultation with risk management authorities can prove extremely useful and save wasted time later on
- SuDS requirements will inform the layout of buildings, roads and open spaces, which can reduce land-take and minimise potential conflicts later on
- Where soils vary across the site, SuDS features can be located on permeable soils to reduce the amount of storage required
- Existing landscape features can be integrated in designs to reduce costs
- Water features can be designed and located to enhance the desirability of a scheme.

3.0 Design Criteria

The opportunity for regional control may be identified if there are existing features on or nearby to the development site that could provide downstream management of runoff for numerous sites or a whole catchment, or if an area has been identified for flood storage in an Action Plan as part of a Surface Water Management Plan.

See also:
More detail in:
Section 4.1 of this Guide
Planning for SuDS (CIRIA, 2010)
Progress on Surface Water Management
Plans can be seen at: www.essex.gov.uk/
flooding

LOCAL PRINCIPLE 2: INTEGRATE WITH PUBLIC SPACES

SuDS should be combined with public space to create multi-functional use areas and provide amenity.

Visual Impact and Amenity Benefit

SuDS have the potential to be integrated into public open spaces which can be both attractive to potential house buyers through the provision of areas for example for dog-walking and provide vital surface water drainage. SuDS that



Basins and swales carved from the slopes at Manor Park in Sheffield store and treat run-off from residential areas (above) and are used for events space when dry (below) (Sheffield City Council, 2011)



are designed with aesthetics in mind will ensure public acceptability and can be beneficial to the public realm. Key considerations to provide amenity benefit are the use of vegetation and landscaping techniques, linking open water areas to recreation sites, setting an appropriate maintenance programme to ensure areas are visually attractive throughout the year and informing and educating the public of the role of SuDS.



Shallow slopes, low water depth and stable edges minimise the need for fences and illustrate a designled approach to health and safety

The use of smaller areas of POS can also significantly contribute to the overall capacity of the site if designed correctly. Features such as extended curbs can combine traffic calming with the opportunity to introduce bio-retention

areas. An overall site design that focuses on multiple smaller features rather one or two features at the end of a system can provide increased source control, greater resilience if a single feature becomes blocked and better use of space on site that have a limited capacity for above ground SuDS.

The Life Project (BACA Architects & BRE, 2009) found that sustainable drainage could be integrated with open space provision and used for recreation. In fact, when other demands on the available land are taken into account, it becomes essential to consider SuDS as part of a broader green infrastructure rather than stand-alone features.

'age



Moving surface water, lush vegetation and undulating landforms can enrich open spaces

SuDS should be one piece of a larger working landscape which acts as an amenity space, stores and treats run off, alleviates flooding, enhances biodiversity and provides renewable energy sources.

Features such as ponds, detention basins and swales bring moving water, undulating landforms and nature to people's doorsteps. SuDS can be designed to accommodate large volumes of water during heavier events but remain dry the rest of the time to allow for recreation and events. Boardwalks, stepping stones and bridges can be provided to allow access across wetter areas. Shallow slopes, low water depths, strategically placed vegetation and stable ground around water margins help to create a safe environment for site users. Treatment and monitoring of pollutants upstream of accessible SuDS features must be carefully designed.

The aim should be to create networks of high quality open space which adapt for attenuation of surface water, sports and play and enhancement of biodiversity (BRE, 2010).

Health and Safety

The main risks associated with SuDS are:

- Drowning
- Slips, trips and falls
- Waterborne disease
- Wildfowl strikes near airports.

In the majority of situations these potential risks are removed though good site design and layout. The risk of drowning and falls can be managed by installing gentle slopes, shallow ponds, safety benches and access points. However, there may be exceptions where it is appropriate to install avoidance measures, minimal fencing to protect small children for example.

The use of SuDS in School environments requires particular consideration with regard



This raingarden controls surface water at source and provides habitat for wildlife.

to health and safety. We will engage with Schools at an early stage to determine what is considered acceptable.

Systems should also avoid small stagnant pools which could lead to waterborne disease.

Ensuring that SuDS remain safe and accessible for the life-time of the developments they serve is principal to their design. Along with other aspects, health and safety must first be considered at the pre-application stage. We will only approve and adopt SuDS where the risks have been formally assessed taking into account future amenity and maintenance requirements.

The Construction, Design and Management Regulations (CDM) (HSE, 2007) must be applied to the planning, design and construction, and long-term maintenance of SuDS. CDM regulations will apply to the majority of SuDS projects. The regulations ensure all foreseeable risks are assessed. Any unacceptable risk should then be removed through design as a preference, before avoidance and mitigation measures need to be considered. A Health and Safety file must be produced and passed over to the SuDS Team on completion of the adoption process.

Community Engagement

We encourage developers to produce a communications plan raising public awareness. This should address concerns around health and safety and encourage a sensible and responsible approach to living with SuDS.

Danger signs should not be necessary; however information boards which provide details of the type of SuDS features on site can be installed. This will further promote an understanding of how the system functions and the benefits of SuDS.

SuDS that are well designed in line with The SuDS Manual (CIRIA, 2007) should not pose a significant health and safety risk. We will therefore expect SuDS features to be compliant with the design specifications in the SuDS Manual.

Early discussion with the SuDS Team should be undertaken if proposals cannot meet with these standards, and evidence as to why this is the case should be provided.

See also:

More information on the LifE Project: www.lifeproject.info More information on community engagement: Chapter 24 of the SuDS Manual (CIRIA, 2007)

LOCAL PRINCIPLE 3: MANAGE RAINFALL AT THE SOURCE

Management and conveyance of surface runoff should be kept on the surface as far as possible.

There are several distinct advantages in using SuDS, which manage water at the surface in the landscape:

- SuDS maintenance can be incorporated as part a typical landscape maintenance specification
- A range of habitats can be created
- Obstructions and blockages are more easily detected
- Creates visually complex and ever-changing landscape
- Potential to reduce construction costs
- Makes the water cycle visible and provides opportunities for contact with nature and

education

- Can be designed as attractive features to enhance urban design
- Water levels can be more easily monitored

Management of surface water on the surface should include the provision and allowance for infiltration. As detailed below, careful risk assessment and a design-led approach to health and safety concerns is often an effective alternative to fencing around open water.



Sutcliffe Park, London: A common sense approach to health and safety near water (lan Yarham 2010)

LOCAL PRINCIPLE 4:
MANAGE RAINFALL AT THE SURFACE

Surface runoff should be captured as close to where it falls as possible.

It is worth emphasising that SuDS planning and design should seek to control surface water as close to the source as possible. Features such as green roofs, rain gardens, soakaways and permeable paving treat and store water where it falls. They reduce the storage volumes, flow rates and treatment stages of features further down the management train.

As well as considering health and safety and flooding issues, designers should bear in mind how vegetated SuDS features in close proximity to development will be perceived. In order to slow and treat run off effectively, the traditional neatly manicured landscape may need to give way to a more informal aesthetic. Colours, materials, height of vegetation and edges are some of the elements which can be manipulated to give the impression that a feature is intended and cared for.

Although it cannot (at present) be included in storage calculations, the role of mature leafy trees (albeit seasonally in deciduous species) in intercepting rainwater before it hits the ground should not be underestimated.

See also:

Details on how to approach health and safety around water: Local Principle 2 of this guide

LOCAL PRINCIPLE 5: MIMIC NATURAL DRAINAGE

SuDS networks will be designed to match natural drainage routes, infiltration rates and discharges as far as possible.

Designs should work with natural gradients so as to avoid the use of energy consuming water pumps wherever possible, minimise use of man-made materials giving a softer and more natural feel to features and promote infiltration.

One of the main underlying principles of SuDS is that they should mimic natural processes and we would therefore favour systems that avoided the use of pipes or storage tanks. Vegetated SuDS should usually be given priority over pure engineering solutions as their operation is easier to observe and maintain. Below-ground features are not sustainable in the long term as they are not easily maintainable and have a limited life in comparison to grassed and more natural systems. We would discourage SuDS systems which were reliant on electricity or any kind of pumped system which require specialised maintenance.

LOCAL PRINCIPLE 6: DESIGN FOR WATER SCARCITY

New development should employ rainwater/ greywater re-use in areas of water scarcity.

Designers and planners should obtain from the local water supply company information about the degree of water scarcity (including climate change implications for water resource security and likely increases in demand) in the area of the development. Where there is pressure on water resources, rainwater harvesting systems should form part of the surface water management strategy for the site. Further information on rainwater harvesting and greywater recycling is provided in Appendix 1.

See also:

Further advice on landscaping and health and safety near airports is provided in Chapter 20 of the SuDS Manual (CIRIA, 2007)

Full details of the CDM requirements and an example of a site-specific risk assessment in: Section 2.5.10 and Section 3.4.2 of The SuDS Manual (CIRIA, 2007)

LOCAL PRINCIPLE 7: ENHANCE BIODIVERSITY

SuDS should be designed to improve biodiversity whenever possible.

Maximising the ecological value of SuDS is consistent with national and local policies which aim to conserve and enhance biodiversity. This is underpinned by a variety of legislation including a biodiversity 'duty' for public bodies which is enshrined in the Natural Environment and Rural Communities (NERC) Act 2006.



SuDS at Wellesley College are connected to wetlands outsite the site boundary to create valuable green corridors for wildlife.

This guidance strongly encourages developers to integrate biodiversity within SuDS and explore innovative ways to create new habitats where appropriate.

See also:

Further ecological principles that should be followed: Section 3.5 of The SuDS Manual (CIRIA, 2007)

SuDS provide opportunities to create a variety of important habitats for wildlife due to the need to alter landform, provide open water and create associated terrestrial vegetation. All of these can provide new nesting and foraging or feeding opportunities for birds, amphibians, reptiles, mammals and invertebrates.

Furthermore, these features will often provide increased opportunities for people to experience wildlife in close proximity of their homes. For example, the pleasure in watching and listening to song birds is a very rich experience for residents in built-up areas adding quality to people's lives, and there is an increasing body of evidence which demonstrates the socio-economic value of wildlife collectively referred to as 'ecosystem services'.

There are a number of simple principles to consider during the development and the implementation of SuDS to ensure existing

wildlife is protected, and that biodiversity is integrated effectively in to the scheme design.

The wildlife value of existing wetland habitats and surrounding terrestrial areas should be surveyed by a suitably qualified/ experienced ecologist during the early planning stages:

- Particular attention should be given to protected species and sites; and 'habitats and species of principal importance'
- Appropriate information is likely to have been generated as part of any associated planning application/permission
- Hydrological surveys of the area should be undertaken to ensure natural waterflow, above and below the ground, will not be affected either by changes in water quantity or quality.

Where appropriate, the design should:

- Ensure adequate protection for existing aquatic habitats from flooding events
- Locate SuDS features close to, but not directly connected to, existing wetland areas, so plants and animals can naturally colonise the new SuDS ponds
- Create well vegetated shallow bays and establish areas of marsh

- Avoid smoothly finished surfaces; although they give the impression of tidiness, they provide less physical habitat diversity for plants and animals
- If planting is essential ensure only native plants of local origin are used.

To assist ECC and other partners with the delivery of its NERC Act duty, the Essex Biodiversity Project publishes an Essex Biodiversity Action Plan (EBAP) which sets-out those habitats considered a priority for nature conservation action. Developers are encouraged to reflect these priorities in the design of their SuDS, thereby maximising the contribution they can make to halting the loss of biodiversity in Essex.

The Essex Biodiversity Project can provide advice and information on BAP habitats, and further information can be found on their website.

Further detailed advice about integrating biodiversity in to SuDS can also be obtained from suitably qualified/experienced consultant ecologists.

There is a considerable volume of published information and guidance available to developers in relation to biodiversity and SuDS, this guide does not propose to replicate all of

this information and we have signposted the reader to appropriate references throughout the document.

See also:

Further information on ecosystem services: www.ecosystemservices.org.uk Further information on the Essex Biodiversity Project: www. essexbiodiversity.org.uk The following local projects for more general guidance: Water for Wildlife Project: www.essexwt.org.uk/protecting_wildlife/water_for_wildlife Essex Wildlife Sites Project: www.localwildlifesites.org.uk

Genera

- Ensure strong connections for wildlife between SuDS features themselves and existing habitat
- Low productivity soils will encourage more diverse vegetation and nutrient rich topsoil should be avoided where possible
- Aim for a succession of flowering and fruiting periods throughout the year and across the site



Outside the site

Larger SuDS features downstream of the site can be designed to include locally and nationally important habitat types such as fens, wet woodlands and reedbeds. Design considerations include:

- Scope for deeper water, ialsnds and mud for wildfowl and wading birds
- Design and zone to include areas for recreation and areas which are disturbance free for wildlife
- Avoid planting and allow to colonise naturally
- Native plants sourced from local seed sources

At the source

Green and brown roofs can be designed to create disturbance free habitat for invertebrates and birds. Design considerations include:

- Design substrate and planting to increase diversity
- Brown roofs in South Essex could support ground-nesting birds such as the Black Redstart
- Sedum roofs have biodiversity benefits
- Where they hold water from March-May, rain gardens are excellent habitat for frogs, toads and newts and should feature a shallow profile and connections to other nearby habitat

Figure 3.1.1: Opportunities for enhancing SuDS features for wildlife (Cambourne, Cambridgeshire)

Within the site

Swales, infiltration and detention basins can provide excellent habitat for invertebrates and birds. Key design considerations include:

- Can be sown with species rich grassland and wildflower mixes and cut for hay
- Combined with foraging and feeding opportunities, microtopography can be manipulated to create areas where wildlife can bask, dig holes, nest and shield themselves from winds
- South facing slopes and friable soils make excellent habitat and should be maximised
- Wooded areas and pockets of scrub can be included in the design of larger infiltration basins

Ponds can provide habitat for a vast array of life including amphibians and birds. Design considerations include:

- Complex, shallow, vegetated edges with large drawdown zones make the best habitat
- Amphibians require landscape features nearby which can be used for foraging and cover e.g hedges, rough grass, rocks
- Avoid planting and allow features to colonize naturally where this is acceptable to site users
- If planting is necessary, a list of suitable species for the area can be provided

LOCAL PRINCIPLE 8: LINK TO WIDER LANDSCAPE

Page

Opportunities to link SuDS to existing or potential future blue and green infrastructure should be explored.

The selection of SuDS types and the creation of the SuDS network should both respond to and inform the surrounding Essex landscape character areas. A landscape-led approach uses SuDS as a mechanism to create strong green and blue infrastructure networks and is important to increase connectivity to the wider ecosystem.

The linear nature of many SuDS can help create green corridors through developments, which is important for wildlife and ensures the associated development is connected with its surrounding environment.

Effective integration will also require carefully researched and selected plants, which work to improve the local green infrastructure.

LOCAL PRINCIPLE 9: DESIGN TO BE MAINTAINABLE

Consideration should be given to ease of access and waste generation when designing SuDS.

It is extremely important to bear maintenance requirements for SuDS in mind from the outset. Throughout the process, it should be considered how features can be accessed, who will be responsible for maintaining them and how much it is likely to cost. Good management and design go together.

SuDS must be designed to provide sufficient access for maintenance. In some instances, this will mean careful consideration to the extent of fencing, provision for gates, the location of drop kerbs to provide access for maintenance vehicles and the extent of which permanently wet features may limit crossing. A minimum easement of 3 metres both sides of SuDS features should also be accounted for to allow maintenance vehicles to access SuDS in areas of private land.

When undertaking the maintenance of SuDS, waste will be generated. This will be predominantly grass and other vegetation, and may be managed on site in wildlife piles. There is still a requirement to comply with all

relevant waste management legislation. This is even more pertinent when waste is disposed off site.

SuDS on industrial sites will need to dispose of hazardous waste separately. It is also important to comply with the duty of care requirements of the waste management legislation. This means that silt should only be removed from site by authorised carriers and should be taken to authorised disposal locations.

See also:

Information relating to waste management licences: www.environment-agency.gov.uk

LOCAL PRINCIPLE 10: USE A PRECAUTIONARY APPROACH

Precautions should be taken in SuDS design to ensure their efficient functioning at all times.

The Environment Agency promotes SuDS but the natural floodplain must be protected and considered in design. Where SuDS are proposed in a fluvial floodplain the SuDS feature may fill up with river flood water when the area floods and will not have capacity to hold the rainfall runoff from the site as originally intended. Some areas of Essex, where land is low lying,

are in the flood plain, and a pragmatic approach to SuDS design needs to be taken where flood risk is carefully considered but the presence of a floodplain should not explicitly exclude the integration of SuDS features for day-to-day water management. SuDS should not be included in areas where water regularly flows or is stored. The following points should be considered:

- The consequences of failure or a blockage within the system must be considered before adoption
- Once overland exceedance flow routes are identified, buildings should be positioned away or protected from potential flow paths
- SuDS should be designed so that they can continue to operate during periods of high groundwater levels
- Generally it is also considered that temporary storage provided by SuDS should empty from full within 24 to 48 hours, allowing for subsequent rainfall events
- When considering the outfall from a site, if discharging into a watercourse, it should be designed to ensure that site runoff will not be influenced by high water levels
- SuDS should be carefully designed where the presence of contaminated soils or contaminated aquifers has been identified

- in order to ensure contaminants are not mobilised
- It is important that the relationship with the coast and any possibility of "tide locking" (where fluvial flows can be held back from discharging into the coast and therefore result in inland flooding) are taken into account with the design and siting of any particular SuDS
- Consideration should be given to the presence of existing sources of water to the site such as natural springs or groundwater fed ponds and how water from these sources will be managed and whether they will impact on the SuDS system
- System components should be designed to maximise their adaptive capacity
- An appropriate factor of safety should be applied to the observed infiltration rate to allow for a reduction in effectiveness of infiltration over time
- Details of any temporary measures to protect against flooding and pollution during construction should be provided

See also:

Further principles of good drainage practice: Section 3.2, of The SuDS Manual (CIRIA, 2007)More general guidance can be found in: Designing for exceedence in urban drainage- good practice (CIRIA, 2006)

LOCAL PRINCIPLE 11: HAVE REGARD TO THE HISTORIC ENVIRONMENT

SuDS design and construction should be sensitive and complementary to Essex's heritage.

A number of principles can be followed when designing SuDS in order to avoid negative impacts on the historic environment and, where possible, to enhance the contribution that SuDS make to the historic character of urban areas.

When creating new SuDS features, it is beneficial to design and place them with regard to both known and potential unrecorded archaeological remains. Provision may need to be made for archaeological desk based assessment and/or appropriate field investigations, the results of which can be used to assist in the design process, and to support the submission of any planning application. Consideration may also need to be given to the wider historic landscape character of the area.

When incorporating historic water bodies into a new SuDS care needs to be taken to reduce and mitigate any negative impacts and provision may also need to be made for appropriate assessments and specialist advice.

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Artificial water bodies such as moats and ponds are important features in the historic landscape of the county and may seem an attractive subject for restoration and ecological enhancement as part of a SuDS e.g. through the removal of vegetation and sediment to reveal open water. However, many of these water bodies possess deposits of important historical, archaeological and palaeoecological value and it is important to assess this potential prior to commencing any restoration works that may destroy these remains. If archaeologically significant deposits are present, then appropriate mitigation measures may need to be carried out.

Within designed landscapes, such as historic parks and open spaces, water can be a fundamental element, forming ornamental water features, ponds, rivers, streams, canals and ditches linked to the wider landscape. Such systems may have been in existence for centuries and be of considerable historic and ecological significance. Existing water bodies need to be conserved and repaired and where possible modifications (e.g. to original shape, form and profile) should be avoided that affect their historic character and ecological interest. When new SuDS features are introduced – for instance ponds, swales and infiltration basins - their positioning, scale and design, including any

associated planting, should aim to be in keeping with the historic character of the designed landscape. Consideration needs to be given to the appearance of detention basins and infiltration basins when they are empty as well as full, and they should be positioned and detailed appropriately. Care needs be taken to ensure that the maintenance of new SuDS features conserves the character of the historic designed landscape (e.g. regular cutting of bankside vegetation to avoid scrub growth).

LOCAL PRINCIPLE 12: SHOW ATTENTION TO DETAIL

SuDS must be carefully designed using attention to detail to ensure they function as intended.

SuDS should be designed to take account of current and possible future need for utilities. Underground ducting is a useful way of protecting SuDS features from potential future disruption and is particularly useful where non-standard materials are used, such as permeable pavements.

Utilities should be located either under shared service strips or the footway but never in the carriageway. Service or inspection points for utilities should be designed to be respective of SuDS features. In the example given in Chapter

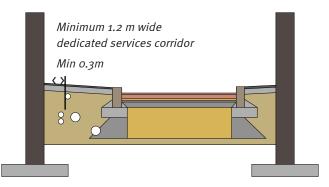


Figure 3.1.2 Services Corridor

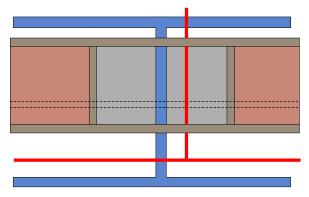
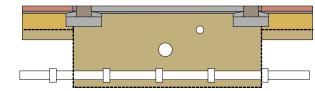


Figure 3.1.3 Delineated Utility Road Crossing (plan)

Figure 3.1.4 (below) Delineated Utility Road Crossing (section)





SuDS service crossing



SuDS Highway detail, Ashford, Kent

4 for the Mews Courtyard, we have given an example of allowance for utilities by providing a 2m band of normal construction paving surrounding permeable paving to provide a conduit for services.

The careful design and construction of levels, selection of materials and design of inlets/ outlets is paramount to ensuring the SuDS function as intended. Investing in good design will also ensure that SuDS come together as a whole to deliver all of the desired objectives. If detail cannot be provided upfront it will be a condition of any SuDS permission. Careful consideration to the placing of utilities around SuDS must also be considered to minimise potential disruption through any future upgrading of services. Attention to the detail of SuDS features can also contribute to a development's sense of place. Figures 3.1.2 and 3.1.3 show how the adoption of permeable paving can be integrated with utilities and conventional foul drainage to serve a development.

Utilities within footways in dense urban settings allow the provision of SuDS within the road structure, as shown in Figure 3.1.2.

Where services crossings are required, particularly in shared surfaces, these may be provided and bounded using flush kerbs and, for example changing the pattern adopted in the block paving or colour of the surfacing to define the extent of the service crossing for future maintenance access, as shown in Figures 3.1.3 and 3.1.4.



Detention basin at 'Lamb Drove', Cambourne

3.2 Local Standards

Our Local Standards are also intended to supplement the National Standards through more aspirational criteria relating to Hydrology and Water Quality (Local Standard 1 & Local Standard 2). We have also set out some Local Standards relating to the design of individual SuDS features.

See also:

The SuDS Manual (CIRIA, 2007)

LOCAL STANDARD 1: DESIGN FOR WATER QUANTITY

SuDS must be designed to ensure that development and occupants are protected from flooding, and that off-site flood risk is not increased. Where possible SuDS should aim to reduce the overall risk of flooding off-site and drain via infiltration as a preference in accordance with the drainage hierarchy contained in Approved Document H of the Building Regulations.

Runoff Rate

U

Unlike developed areas, greenfield sites generally produce no measurable runoff during small rainfall events (up to 5mm). Receiving streams and rivers are likely to be under greater stress during summer months, with lower available dilution levels reducing their capacity to accommodate polluted inflow. In order to mitigate against this, SuDS should be designed so that runoff does not occur for the first 5mm of any rainfall event for 80% of summer events and 50% of winter events

In all cases, including on brownfield sites, runoff should where possible be restricted to the greenfield 1 in 1 year runoff rate during all events up to and including the 1 in 100 year rainfall event with climate change. If it is

deemed that this is not achievable, evidence must be provided and developers should still seek to achieve no increase in runoff from greenfield sites and a 50% betterment of existing run off rates on brownfield sites (provided this does not result in a runoff rate less than greenfield). If a Surface Water Management Plan has been produced for the area, it may set out further advice on allowable runoff rates.

Storage Volume

When planning the layout of SuDS, sites should take into account topography and make best use of low points for storage.

For rainfall events with a return-period up to and including the 1 in 100 year rainfall event with an allowance for climate change SuDS should be sized to contain all surface water volumes. Applications should demonstrate how this will be achieved, unless otherwise planned and approved by the LLFA SuDs Team. However, if this is not possible, drainage designers must demonstrate how additional flows will be managed.

Unless sufficient pre-treatment has been provided, certain SuDS features may require the incorporation of a sediment forebay to capture sediment to ensure the feature doesn't

silt up and that maintenance activities for sediment removal can be more easily undertaken. Sediment forebays should provide an additional 10% attenuation volume to allow for a level of silting up to ensure this doesn't result in a reduction to the available storage volume.

Safe conveyance routes and overflow flood storage areas must be established and agreed with the SuDs Team for the 1 in 100 year rainfall event with 30% allowance for climate change before adoption.

If runoff cannot be restricted to the greenfield 1 in 1 year event for all events we would expect Long Term Storage to be provided to achieve the same result. The runoff volume should be calculated from all areas of the site, including those remaining permeable, as they will be subject to climate change which may result in measurable runoff. The aim of long term storage is to ensure that any volumes leaving the site above the greenfield runoff volume discharge at 2l/s/ha.

LOCAL STANDARD 2: DESIGN FOR WATER QUALITY

The level of pollution found within surface water runoff will depend on the nature of the development from which it arises, the time

since the last rainfall event and the duration and intensity of rainfall.

An appropriate 'train' of SuDS components must be installed to reduce the risk of pollutants entering watercourses via runoff from developed sites. Following the SuDS Management Train hierarchy a series of drainage techniques should be designed into the development layout. The design should achieve a system where pollution is incrementally reduced at each stage.

Treatment options to address pollution issues include:

- Infiltration
- Filtration
- Detention basins/ponds
- Permanent ponds.

These options reduce pollution by either filtering out pollutants or reducing flow rates to encourage deposition of any contaminants. Polluted surface water runoff should not run directly into permanent ponds in order to protect biodiversity and amenity, and to prevent maintenance problems caused by heavy silts and oil.

The number of treatment stages required within the SuDS train will depend on the nature of the site.

Source of Runoff	Treatment Stages*
Roofs, playing fields	1
Residential roads, park- ing areas, commercial zones	2
Waste and industrial sites, loadings bays and HGV parks	3 or more

^{*}May need to be increased if discharging to sensitive groundwater/watercourse

Before adopting SuDS it must be demonstrated that the proposed scheme has followed the SuDS Management Train hierarchy and includes the appropriate number of treatment stages.

See also:

Detailed guidance on the SuDS management train: Section 1.3.2 and 3.3 of The SuDS Manual (CIRIA, 2007)

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Local Standards (cont.)

SuDS Technique

Description and Key Design Points

Green roofs



A multi-layered system that covers the roof of a building with vegetation/landscaping/permeable car parking, over a drainage layer. These features will not be considered for adoption by the SuDS Team.

Local Standard 3: Design of green roofs

- Designed for interception storage
- Minimum roof pitch of 1 in 80, maximum 1 in 3
- Multiple outlets to reduce risk from blockages
- Lightweight soil and appropriate vegetation.

Soakaways



Square or circular excavations, filled with aggregate or lined with brickwork, or pre-cast storage structures surrounded by granular backfill.

Local Standard 4: Design of soakaways

- Should be designed for the 1 in 100 year rainfall event as a minimum
- Infiltration testing carried out in accordance with BRE Digest 365
- Fill material should provide >30% void space
- Base of soakaway at least 1m from groundwater level
- Minimum of 5m away from foundations.

Filter strip



Vegetated strips of land designed to accept overland sheet flow

Local Standard 5: Design of filter strips

- Recommended minimum width of 6m
- Runoff must be evenly distributed across the filter strip
- Slopes not exceeding 1 in 20, minimum of 1 in 50.

Description and Key Design Points

Filter trenches and drains



Shallow excavations filled with stone to create temporary surface water attenuation.

Local Standard 6: Design of filter trenches and drains

- Excavated trench 1-2m depth filled with stone aggregate
- Effective upstream pre-treatment to remove sediment and fine silts
- Infiltration should not be used where groundwater is vulnerable or to drain pollution hotspots
- Observation wells and/or access points for maintenance of perforated pipe components.

Swale



Linear vegetated features in which surface water can be stored or conveyed. Can be designed to allow infiltration where appropriate.

Local Standard 7: Design of swales

- Limit velocities during extreme events to 1-2 m/s
- Maximum side slopes of 1 in 3, where soil conditions allow
- Minimum base width of o.5m.

Bioretention



Shallow landscaped depressions or pre-cast units which rely on engineered soil and vegetation to remove pollution and reduce runoff.

Local Standard 8: Design of bioretention

- Sufficient area to temporarily store the water quality treatment volume
- The water quality treatment event should half drain within 24 hrs to provide adequate capacity for multi-event scenarios
- Minimum depth to groundwater of 1m, if unlined
- Overflow/bypass facilities for extreme events.

Description and Key Design Points

Pervious pavement



Permeable surface allowing rainwater to infiltrate through into underlying layer where it is temporarily stored.

Local Standard 9: Design of pervious paving

- Pervious sub-base to be structurally designed for site purpose
- Temporary sub-surface storage must provide infiltration and/or controlled discharge
- Geotextile may be specified to provide filtration treatment
- Surface infilteration rate should be an order of magnitude greater than the design rainfall intensity.

Geocellular structures



Modular geocellular systems with a high void ratio that can be used to create below ground infiltration (soakaway) or storage device.

Local Standard 10: Design of geocellular structures

- Standard storage design using limiting discharges to determine storage volume
- Structural design should be to relevent standards for appropriate surface loadings
- Use appropriate geotextile (for infiltration) or geomembrane (for storage).

Infiltration basins



Vegetated depressions designed to store runoff and allow infiltration gradually into the ground.

Local Standard 11: Design of infiltration basins

- Pre-treatment is required to remove sediments and fine silts
- Infiltration should not be used where groundwater is vulnerable or to drain pollution hotspots.

Description and Key Design Points

Detention basins



Surface storage basins that provide attenuation of stormwater runoff and facilitate settling of particulate pollutants. They are normally dry and may also function as a recreational facility.

Local Standard 12: Design of detention basins

- Maximum side slopes of 1:4
- Bioretention and/or wetland/micropools at outlets for enhanced pollution control.

Ponds



Provide stormwater attenuation and treatment. Permanent pools to support aquatic vegetation and retention time promotes sediment removal.

Local Standard 13: Design of ponds

- Permanent pool for water quality treatment and temporary storage volume for flow attenuation
- Minimum depth for open water areas of 1.2m
- Maximum side slopes of 1:3.

Wetlands



Shallow ponds and marshy areas for attenuation and water treatment. Aquatic vegetation and extended detention allow sediments to settle.

Local Standard 11: Design of wetlands

- Shallow, temporary storage for attenuation
- Sediment forebay or equivalent upstream pre-treatment
- Combination of deep and shallow areas (maximum depth <2m)
- Length:width ratio of greater than 3:1, shallow side slopes.

Description and Key Design Points

Rainwater harvesting



Rainwater harvesting is the process of collecting and using rainwater. If designed appropriately the systems can be used to reduce the rates and volumes of runoff (for more information see Appendix 1).

Local Standard 12: Design of rainwater harvesting

- Can range from complex district-wide systems to simple household systems linked to a water butt
- Most simple rainwater harvesting systems are relatively easy to manage
- Rainwater harvesting systems can be combined with grey water recycling systems to form an integrated process.



Greywater recycling is the re-use of waste water collected from showers, baths, washbasins, washing machines and kitchen sinks (for more information see Appendix 1).

Local Standard13: Design of greywater recycling

- Common features include a tank if storing water, a pump, a distribution system and, where it is needed, some sort of treatment
- Greywater stored for any length of time has to be treated as otherwise it deteriorates rapidly.



4.0 DESIGNING SUDS

The purpose of this section is to focus upon the principles and processes of designing SuDS. Ideas, issues and opportunities are illustrated through a series of case studies and design examples.

Introduction

The SuDS ponds and wetlands at Augustenborg in Malmo have not only been designed to store and treat run-off but also to enhance the landscape setting of people's homes and provide habitat for wildlife. At Ravenswood in Ipswich, the native vegetation and undulating topography of infiltration basins creates an No exciting and dynamic network of open spaces for residents. The green roof at Sharrow School in Sheffield attenuates run off, provides an educational resource and was recently designated a Local Nature Reserve. These and an ever-growing number of other schemes demonstrate the multiple benefits a more sustainable approach to drainage can bring.

Unlike conventional piped drainage, SuDS store and treat large volumes of water within the site boundary and at the surface. As described above, this can enrich a development and reinforce the landscape character of the wider area as well as providing an effective and sustainable drainage mechanism. However, keeping water at the surface can potentially bring the drainage system into conflict with other requirements and site users.



The SuDS ponds at Augustenborg in Malmo are integral features of the courtyards

SuDS features must be integrated with roads, parking areas, buildings, open spaces, urban design guidance and requirements for health and safety and utilities. The perceptions of site users should not be underestimated. SuDS make natural processes visible and, if not carefully designed, they can appear messy, uncared for and unsafe.

The characteristics of a site and nature of the

development must also be carefully assessed and will affect the complexity of designing a SuDS system. A low density residential scheme on a gently sloping greenfield site with sandy soils will pose less physical constraints to a SuDS scheme than a high density scheme on steep brownfield land with clay soils.



Sheffield's latest Local Nature Reserve (Sheffield City Council, 2010)

In practice, reconciling these multiple considerations can be very challenging but the range of SuDS techniques (see section 3.0) is vast and solutions can be found. Permeable paving is traffickable and can be designed to manage run off from large areas. Rain gardens and ponds can be integrated and linked together to create a valuable series of open spaces. Larger wetland areas can be integrated within designated public open space.

The following sections explore the issues and opportunities for SuDS in Essex and how SuDS can be integrated with other requirements in practice.

4.1 The Planning and Design Process

A sustainable drainage solution must be tailored to the unique characteristics of the site, design criteria and the nature of the development. Topography, soil types, existing features and the specific requirements of the development are just some of the factors that will shape the final design.

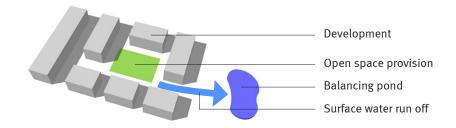


Figure 4.1.1 Large stand-alone balancing ponds are not the only solution

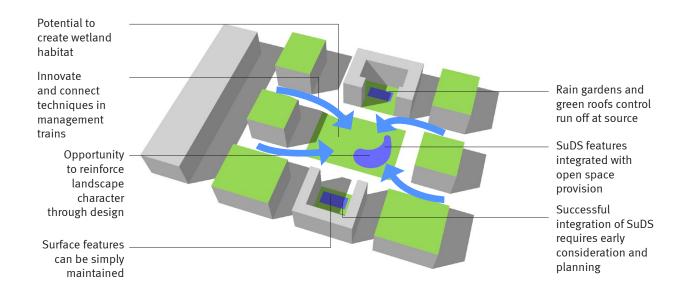


Figure 4.1.2: An integrated approach to surface water management

The following series of diagrams have been adapted from section 4.0 of Planning for SuDS (CIRIA, 2010). They illustrate how SuDS design can be integrated within the planning process and influence the layout of developments.

Key to figures:



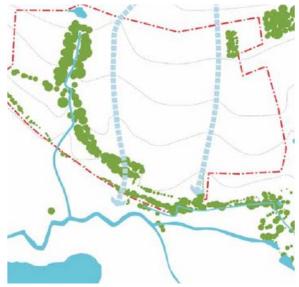


Figure 4.1.3 SuDS Planning Process (CIRIA, 2010)

1: Examine site topography and geology

- Aim to mimic the natural drainage systems and processes as far as possible
- Identify key natural flow paths and potential infiltration areas to understand opportunties and constraints.



Figure 4.1.4 SuDS Planning Process (CIRIA, 2010)

2: Create a spatial framework for SuDS

- Minimise run-off by rationalising large paved areas and maximising permeable surfaces
- Consider likely space needs for site control SuDS based on character of the development and the proposed degree of source control
- Use flow paths and possible infiltration or storage areas to inform development layout.



Figure 4.1.5 SuDS Planning Process (CIRIA, 2010)

3: Look for multi-functional spaces

- Consider how SuDS features could be colocated with open space and public realm areas to create multi-functional spaces
- SuDS can be designed to be valuable amenity and ecological features.



Figure 4.1.6 SuDS Planning Process (CIRIA, 2010)

4: Integrate with the street network with SuDS

- Structure the street network to complement and manage flow pathways
- Integrate SuDS features into street crosssections, ensuring street widths are adequate
- SuDS should be used to improve the streetscape providing amenity and multifunctionality by integrating with other street features including tree planting, traffic calming, parking bays, verges and central reservations.



Figure 4.1.7 SuDS Planning Process (CIRIA, 2010)

5: Cluster land uses to manage pollution

- The number, size and type of SuDS will be affected by land uses and the corresponding pollution risk
- Potential polluters, e.g industrial developments, should have their own isolated SuDS network
- Integrate a series of SuDS features that will provide water treatment throughout the networks responding to the level of pollution risk
- Clustering should be considered alongside other mixed use ambitions.

4.2 Design Examples

The following examples of possible SuDS schemes relate to actual places (many of which are in Essex) and their design has therefore been influenced by local constraints and opportunities, which developers are likely to encounter. They are intended to illustrate some of the provisions of this guidance and demonstrate as many issues as possible.

Of course, each plan depicts just one possible solution for an individual site. There is no one size fits all with SuDS and the purpose of this section is to encourage an innovative and integrated approach to sustainable drainage, which is informed by site characteristics and development proposals. Rather than repeat existing guidance, the text includes references and electronic links for key sources of further details and information.

Conceptual design proposals for each scheme were developed by a multi-disciplinary team. The design process was adapted from The SuDS Manual (CIRIA, 2007) and is illustrated by the adjacent flowchart.

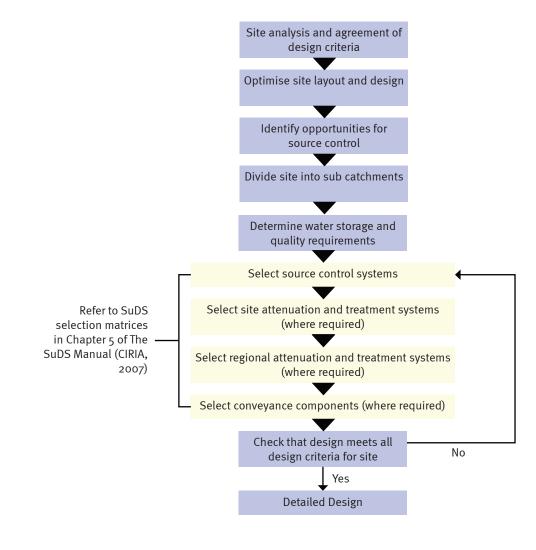


Figure 4.2.1 SuDS Selection Flowchart (adapted from CIRIA, 2007)

4.2.1 Mews Courtyard

Site Area: 0.2 Ha

Net Density: 30+ dwellings per hectare

This example looks at how SuDS can be integrated within a mews courtyard. This type of development is typically a mix of two and three storey houses with private gardens, which face onto a central parking court.

The site slopes gently from the north east to the south west and overlays soils of very low permeability. The drainage system for the mews courtyard will need to manage run off from the following areas:

- Roofs
- Parking courts
- Access road
- Driveways.

The opportunities and constraints for SuDS are detailed in the figure opposite. There is space for SuDS features to be incorporated within the design of the courtyard and parking areas as well as scope for green roofs on outbuildings.

Site Characteristics:

Factor	Opportunity/Constraint
Use	Residential - low pollution risk
Soils	Low permeability in this location - no infiltration possible. No contamination
Topography	Gently sloping terrain to south west
Groundwater	Depth less than 1.om - not suitable for infiltration
Space	Limited space within parking courts due to vehicle movements and parking requirements
Catchment	Receiving watercourse is within a public open space
Maintenance	To be agreed with SuDS Team, water company and Highways
Safety	Eliminate and mitigate residual risk of SuDS features to the health and safety of residents
Ecology	Limited scope for SuDS techniques which create opportunities for wildlife



Mews Development, Black Notley, Essex

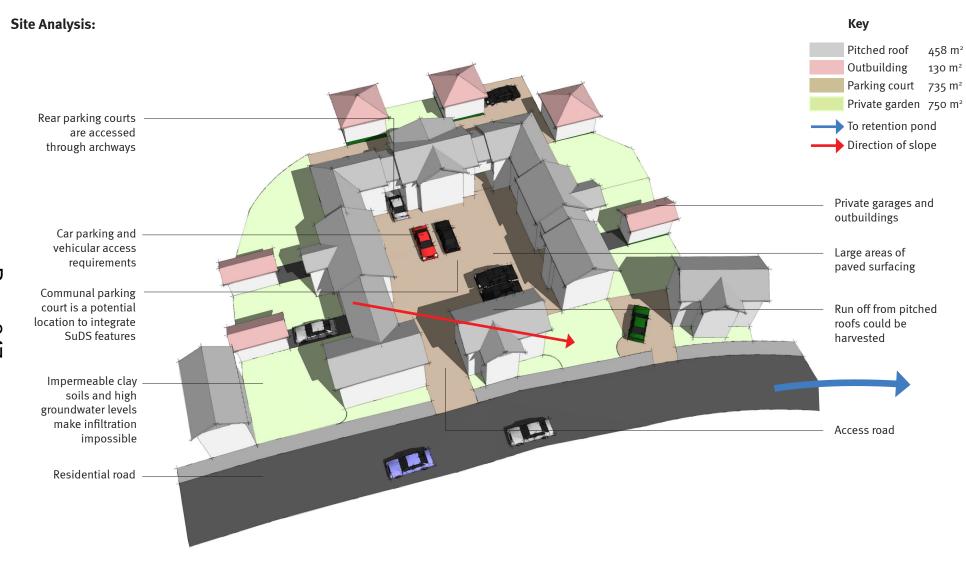


Figure 4.2.1.1: Analysis of proposed development

Key

Setting the design criteria:

Storage

- Provide sufficient storage to cope with the 1 in 30 year rainfall event (Storage for the 1 in 100 year event plus 30% for climate change is provided downstream)
- Discharges from the site are to be limited to greenfield flow rates
- The storage volume required for the 1 in 30 year event is in the region of 25m³.

Quality

 The system must provide one level of treatment for roofs and two levels of treatment for the parking courts.

Amenity

• SuDS features must be integrated with the functional requirements of the courtyard and enhance its appearance.

Biodiversity

• SuDS features should be designed to maximise their value to wildlife.

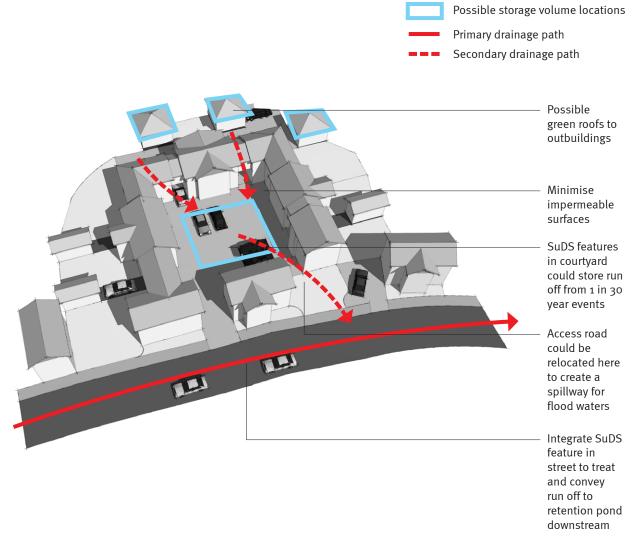


Figure 4.2.1.2: Initial assessment of flow routes and potential storage volumes

Case Study:

Scheme: Augustenborg Courtyards

Location: Malmo, Sweden

Techniques: Ponds, channels and rills

Ekostaden Augustenborg is the collective name for a program to make Augustenborg into a more socially, economically and environmentallysustainableneighbourhood. The storm water system has gone through a major change. Green roofs and open storm water channels leading into ponds have stopped the flooding in the area and have created a beautiful environment and a richer biodiversity.

There are a total of 6 km of canals and water channels in Augustenborg. 90% of the storm water from roofs and hard surfaces is led into the open storm-water system in the housing area. The aim of the project was that 70% of all storm water should be taken care of for the whole of Augustenborg.



Ponds, channels and rills at Augustenborg, Malmo

- 1. Channel with notch for water to spill out into pond
- 2. No kerb to allow run off from adjacent paved surface to flow into channel
- 3. Permanent water body and storage volume
- 4. Play area forms part of integrated amenity space, in which the SuDS pond is a key feature
- 5. Outflow with flow control to larger SuDS features downstream
- 6. Overlooked space using natural surveillance as opposed to fencing off the site

Concept Plan:

outbuildings treat and attenuate run off Permeable paving not included here as it would be difficult to maintain due to the arches

Extensive green roofs on

Downpipes connected to permeable paving sub base in courtyard

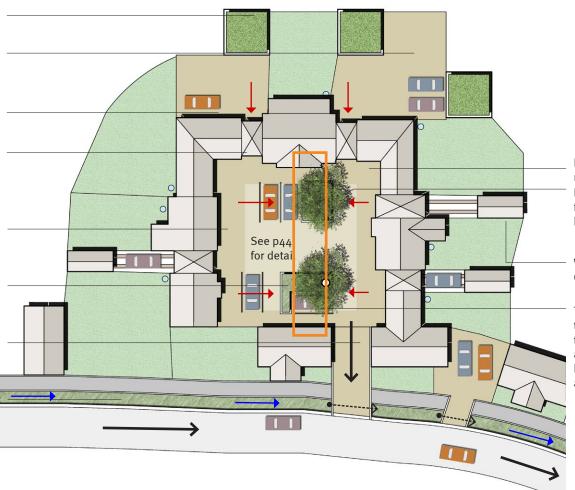
Archways to rear parking courts

2.om* band of normal construction paving provides conduit for services

Bioretention planters treat and attenuate run off up to the 1 in 30 year event

Development reconfigured to allow for exceedance and flood route

Swale conveys stormwater from development plots and highway to retention pond in open space



Key

Flow in SuDS
Surface flow

Flow in pipe

O Outflow pipe to swale

Permeable paving
Impermeable paving

Impermeable surface of driveway minimised

Permeable paving design to treat the first flush volume before discharging to bioretention planters

Water butts connected to downpipe.

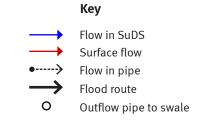
Overflow is piped downstream

Trees intercept rainwater and contribute to the amenity and biodiversity of the site. Potential of falling leaves to affect performance of paving should be assessed and species selected accordingly

Figure 4.2.1.3: Conceptual Drainage Solution

^{*} if infiltration proposed beneath permeable paving a 5m band should be provided in accordance with Building Regulations

Illustrative detail:



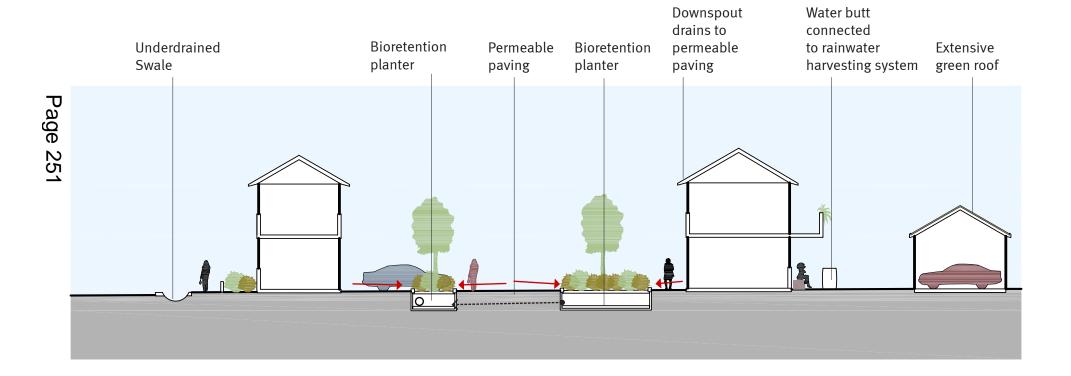


Figure 4.2.1.4: Typical section through mews courtyard

4.2.2 Informal Street

Site Area: 1.25 Ha

Net Density: 20+ dwellings per hectare

An informal street is proposed as part of a larger residential development on a greenfield site, which will drain to an integrated SuDS system. The drainage system for the site will need to manage run off from the following areas:

- Pitched roofs
- Parking courts
- Footpaths and driveways
- Highway.

The soils on site are impermeable clays and there is a gentle slope from west to east. A large public open space lies to the east of the development.

The continuous frontage and dimensions of the street create a strong sense of enclosure. This is a defining principle of the Essex Design Guide. The drainage system should be carefully designed to ensure that SuDS techniques proposed are compatible with this approach.

See also:

Development principles in the Essex Design Guide: www.the-edi.co.uk/ essexdesignguide2005.php

Site characteristics:

Factor	Constraint/Opportunity
Use	Residential - low pollution risk
Soils	Mixed - infiltration possible in certain areas
Topography	Gently sloping terrain
Groundwater	Depth less than 2.0m
Space	Less public space than the mews courtyard. It will be necessary to consider how SuDS can be designed into the street
Catchment	Receiving watercourse is vulnerable to pollution
Maintenance	To be agreed with SuDS Team, water company and Highways
Safety	Health and safety of features in the street must be considered
Ecology	Think about SuDS techniques which create opportunities for flora and fauna



Informal street, Great Notley, Essex

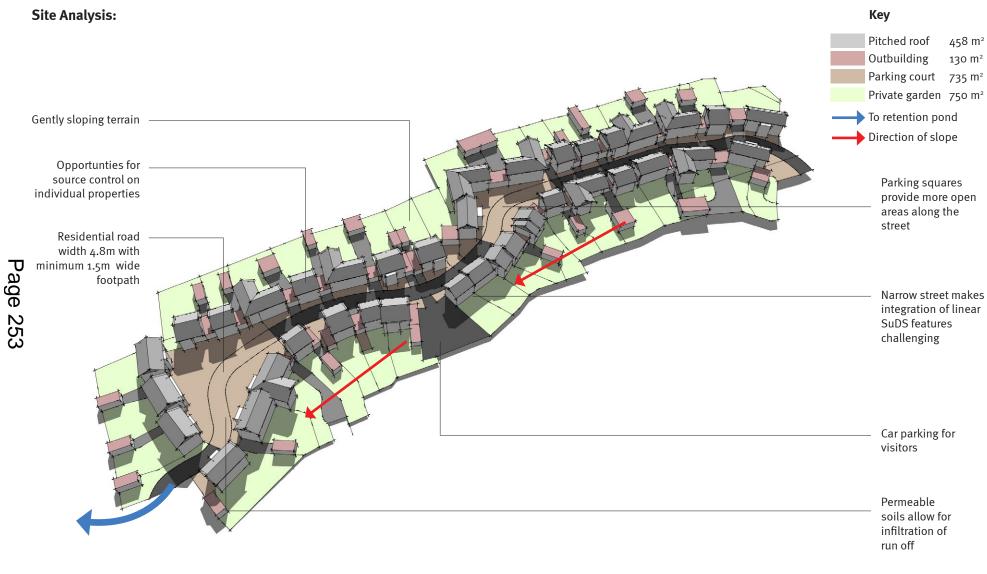


Figure 4.2.2.1: Analysis of proposed development

Setting the design criteria:

Storage

- The design standard for the informal street is to provide sufficient storage to cope with the 1 in 30 year rainfall event
- Discharges from the site are to be limited to greenfield flow rates
- The storage volume required to provide sufficient attenuation of the 1 in 30 year event is in the region of 120m³.

Quality

 The system must provide one level of treatment for roofs and two levels of treatment for the parking courts.

Amenity

 There is an opportunity to create attractive pocket park areas through creative design of SuDS features.

Biodiversity

 Best practice ecological design of SuDS features to maximise biodiversity.

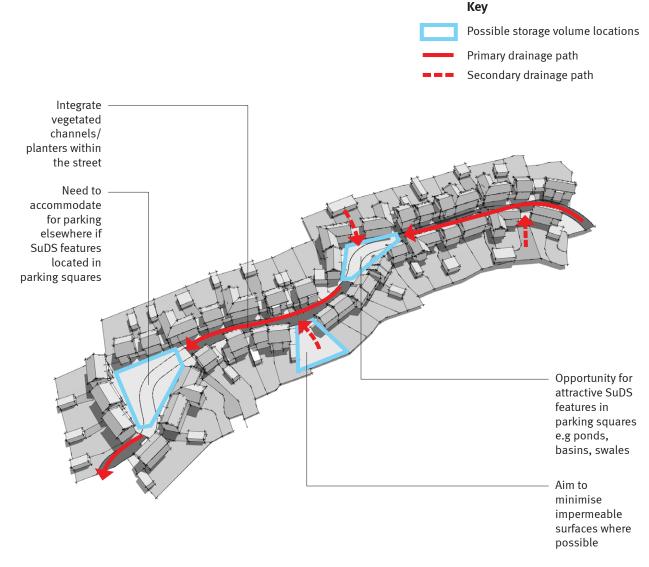


Figure 4.2.2.2: Initial assessment of flow routes and potential storage volumes

Case Study:

Scheme: Ravenswood **Location:** Ipswich, Suffolk **Techniques:** Infiltration basin

The developers of this housing scheme designed the site so that all surface water run off is drained through a combination of soakaways and infiltration basins. Using SuDS, there is no discharge from the site up to the 1 in 100 year storm - the equivalent of 6600m³ storage.

The SuDS are managed by Ipswich Borough Council using commuted sums as public open space. Over its lifetime, the scheme has the potential to save £600,000 in construction compared to a traditional piped drainage system. Individual homeowners are also eligible for refunds of their sewerage charge.

Houses and driveways are connected to individual soakaways and roads are drained by a piped system that discharges to infiltration basins runing along the main boulevards.



Infiltration basin at Ravenswood

- Grassed base of infiltration basin
- 2. Vegetated bank, opportunities for play whilst feature is dry
- 3. Native vegetation and naturalistic aesthetic creates exciting and dynamic landscape feature
- 4. Natural surveillance of amenity space as opposed to fencing off the facility

Concept Plan: Key Flow in SuDS Surface flow Infiltration basins Flow in pipe Infiltration Additional parking integrated within small pocket parks. Designed basins provide provided to Flood route to cope with up to 1 in 30 opportunities for compensate for loss Outflow pipe to swale year events informal play of spaces in street Vegetated channels Green roofs to Downpipes to garden side Permeable collect run off from paved paving to parking outbuildings connected to water butts surfaces and convey to courts infiltration basins Figure 4.2.2.3: Conceptual Drainage Solution

Illustrative detail: Key Flow in SuDS Surface flow Infiltration Flow in pipe basin (CIRIA, Flood route 2007 Chapter Outflow pipe to swale 0 12) treats and Run off from temporarily road drains Gaps in kerb stores run off to channels, allow run off up to the 1 in which flow into to flow into Threshold 30 year event infiltration basins channels (Depth 1.om) rain gardens Page 257

Figure 4.2.2.4: Typical section through street

4.2.3 Mixed Use Street

Density: 75+ dwellings per hectare

This example explores how sustainable drainage techniques can be accommodated within the streets of high density mixed use developments.

The drainage system will need to manage run off from the following areas:

- Roofs
- Road
- Parking bays
- Pavement.

The site is gently sloping. Although it is challenging to integrate SuDS within this type of development, there are a number of SuDS techniques, which can be combined and designed to provide an effective drainage solution as well as enhancing the amenity of the street. Relevant schemes and techinques are highlighted throughout.

Site characteristics:

Factor	Constraint/Opportunity
Use	Mixed - risk will vary according to land use
Soils	Low permeability - no infiltra- tion possible
Topography	Gently sloping valley
Groundwater	Depth greater than 4.0m
Space	Land values are at a premium and pavements and roads
Catchment	A linear public open space is proposed to run through the centre of the development
Maintenance	To be agreed with SuDS Team, water company and Highways
Safety	Eliminate and mitigate residual risk of SuDS features to the health and safety of the public
Ecology	Limited scope for SuDS techniques which create opportunities for wildlife



Mixed Use Street, Brentwood, Essex

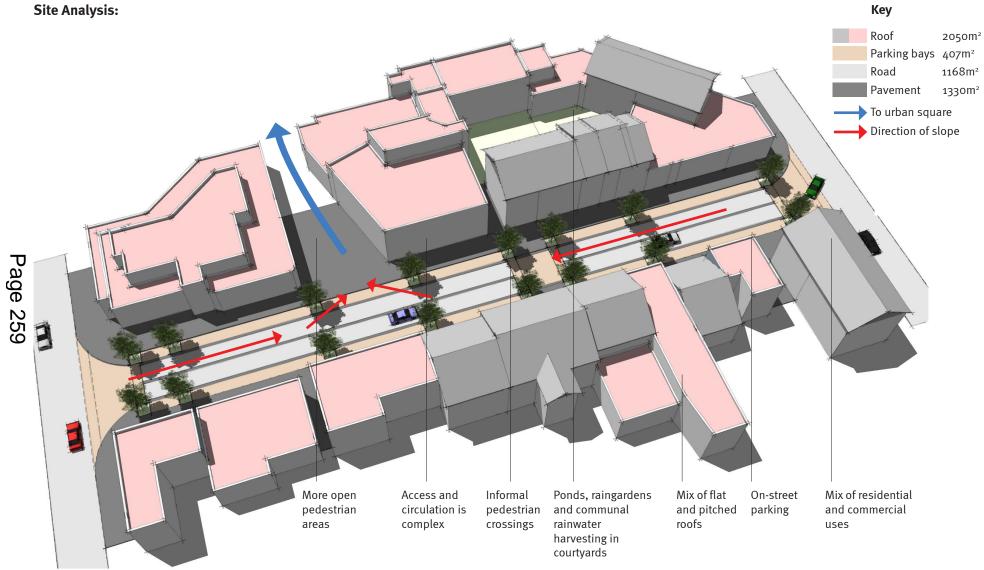


Figure 4.2.3.1: Analysis of proposed development

Setting the design criteria:

Storage

- The design standard for the mixed use street is to provide sufficient storage to cope with frequent rainfall events
- Discharges from the site are to be limited to greenfield flow rates
- The storage volume required to provide sufficient attenuation of the 1 in 30 year event is in the region of 165m³. This increases to 320m³ for the 1 in 100 year event plus 30% for climate change.

Quality

 One level of treatment is required for run off from roofs. Two levels of treatment are required for run off from the road and parking bays.

Amenity

• There is an opportunity to enhance the pedestrian environment through planting.

Biodiversity

Limited scope for biodiversity.

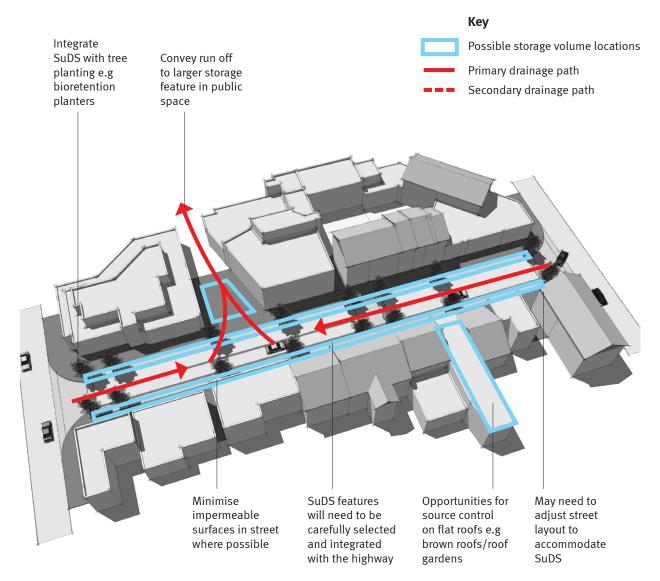


Figure 4.2.3.2: Initial assessment of flow routes and potential storage volumes

Case Study:

Scheme: Portland Green Streets **Location:** Portland, Oregon, USA **Techniques:** Bioretention planters

Bioretention planters are shallow landscaped depressions, which are typically underdrained and rely on engineered soils and enhanced vegetation and filteration to remove pollution and reduce run off downstream. They are aimed at managing and treating run off from frequent events.

The planters are very flexible and can be adapted to fit into the layout of most types of scheme. They are therefore ideal for the constraints posed by parking and access requirements of residential schemes.



Bioretention planter in Portland

- 1. Slot in kerb allows run off from adjacent paved surface
- 2. Inlet from road into forebay
- 3. Run-off is retained in the planter to a maximum depth of 15cm
- 4. Outlet to street
- 5. Footpath allows space for people to safely park and get out of their cars
- 6. Tree planting contributes to the amenity of the street

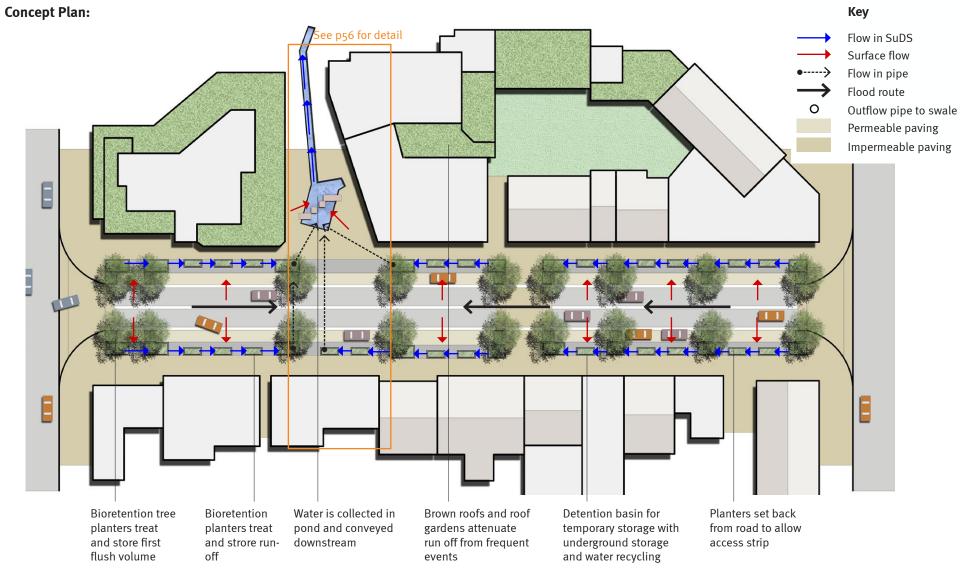
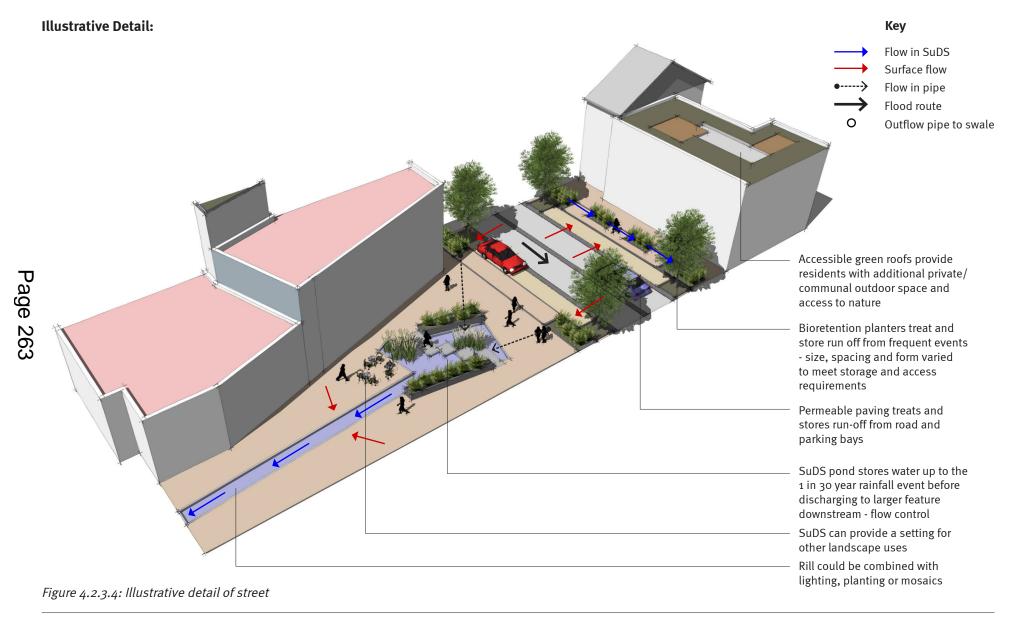


Figure 4.2.3.3: Conceptual Drainage Solution



4.2.4 High Density Neighbourhood

Site Area: 1.5ha

Net Density: 75+ dwellings per hectare

The development proposals include a variety of houses, apartments, business units and shops.

A small urban park is proposed at the centre of the development where children can play unsupervised. The drainage system will need to manage run off from the following areas:

- Pitched roofs
- Parking courts
- Footpaths
- Roads and shared space.

The site lies at the centre of an established neighbourhood in Essex on a busy street corner.

Although the road to the west slopes quite steeply to the north, the site itself has been artificially terraced and slopes gently down towards the River Colne in the east. The soils are thought to be low permeability.

Site characteristics:

Factor	Constraint/Opportunity		
Use	Residential - low pollution risk		
Soils	Low permeability london clay - no infiltration possible		
Topography	Gently sloping terrain		
Groundwater	Depth greater than 4.0m		
Space	Drainage opportunities in courtyards and public open space		
Catchment	River Colne lies to the east		
Maintenance	To be agreed with SuDS Team, water company and Highways		
Safety	Health and safety of features in the street must be considered		
Ecology	Think about SuDS techniques which create opportunities for flora and fauna		



High density development, Chelmsford, Essex



Setting the design criteria:

Storage

- The design standard for the neighbourhood is to provide sufficient storage to cope with the 1 in 100 year rainfall event plus 30% for climate change
- Discharges from the site are to be limited to greenfield flow rates of 5l/s/h
- The storage volume required to provide sufficient attenuation of the 1 in 100 year event plus 30% is in the region of 470m³.

Quality

 One level of treatment is required for run off from roofs. Two levels of treatment are required for run off from the parking courts and road.

Amenity

Opportunity to enhance development.

Biodiversity

 There is significant scope to create SuDS features within provide habitat for a range of BAP species within the public open space and courtyards.



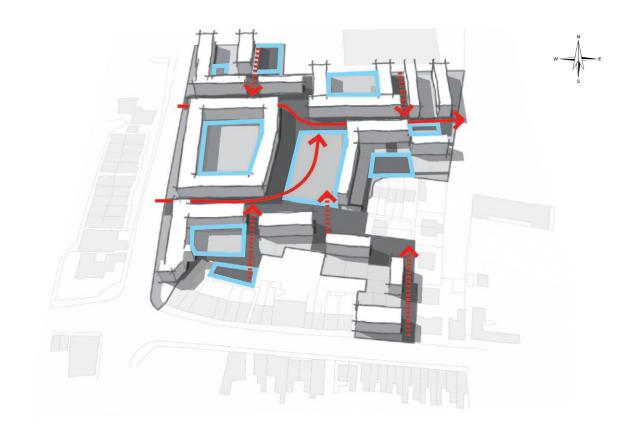


Figure 4.2.4.2: Initial assessment of flow routes and potential storage volumes

Case Study:

Scheme: Upton

Location: Northampton, Northamptonshire

Techniques: Swales

A SuDS system is integrated within this major urban extension of 1382 homes. Dealing effectively with water was a key priority following the 1998 floods and SuDS provide the major structuring element.

Source control measures restrict discharge into the surface water drainage system. The pipe and swale system in the streets stores and conveys water downstream to larger retention ponds in the playing fields.

The 1 in 30 gradient presented a challenge in terms of creating and utilising storage volumes. Where possible, swales were arranged parallel to contour lines to maximise storage and potential for infiltration.

As none of the stakeholders would agree to adopt the surface water components, Upton Management Company, which has the backing of English Partnerships and Northampton Borough Council, undertakes necessary maintenance.



Site layout and design at Upton

- 1. Formal water feature near the school also provides storage volume in the event of intense rainfall events
- 2. Weirs at intervals in the swales increase the storage volume of the swales and mitigate for the effect of the gradient on site. Swales and ponds provide green fingers extending from the country park into the public realm, enhancing amenity and biodiveristy
- 3. Swale passes through and is integrated with amenity space adding visual and recreational interest
- 4. Storage swales and ponds at the end of the system allow for water to be treated, reatained and discharged to the drainage system in a controlled fashion



4.3 Schools

The following pages illustrate a number of case studies of SuDS, which have been designed into school grounds.

Case Study:

Scheme: Sidwell Friends Middle School

Location: Washington DC, USA **Techniques:** Rain gardens

The masterplan and site design at Sidwell Friends School includes a central courtyard with a constructed wetland designed to utilize storm and wastewater for both ecological and educational purposes.

The plan integrated water management solutions into the landscape, inextricably linking the building to its site. The wetland becomes a "working landscape"; using biological processes to clean water while providing students with a vivid example of how such systems work in nature (Andropogon Associates, 2011).



Sidwell Friends Middle School (Andropogon Associates, 2011)

- 1. Surface water run off passes through a series of terraced rain gardens
- 2. Access and seating provided within the SuDS feature
- 3. A variety of vegetation types are planted within the terraced areas
- 4. Clean, treated water flows to a pond at the end of the system

Case Study:

Scheme: Sharrow School

Location: Sheffield, South Yorkshire

Techniques: Green Roof

Sheffield's newest Local Nature Reserve is the first in the country to be located on top of a building. It has been designated due to its ecological importance and value to the local community.

The 2000 square metre roof was designed to represent the variety of habitats found in Sheffield – Peak District limestone grassland, wildflower meadows, urban brownfield and a wetland area with a small pond. Bird tables and insect feeders attract wildlife and a weather station and webcam have been installed to provide research opportunties.

The substrate consists of over 200 tonnes of crushed brick, organic greenwaste and limestone. Some areas were planted with shrubs and flowers while other areas were left to see what grew naturally.

Green roofs are a useful technique for providing above ground attenuation in the flood plain.



Green roof at Sharrow School

- 1. Access to the roof provided by designated and protected walkway
- 2. A range of habitats have been created by varying the type and depth of substrate across the roof
- 3. Habitats created include limestone grassland, urban brownfield and a small wetland area
- 4. Anchorage points at edge to allow safe maintenance

Case Study:

Scheme: Mt Tabor School

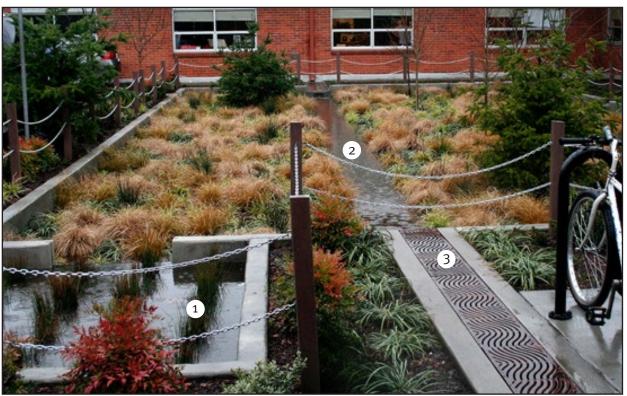
Location: Portland, Oregon, USA

Techniques: Raingarden

In 2007, the Portland Bureau of Environmental Services implemented a stormwater retrofit at this middle school. It transformed an asphalt parking area into a rain garden, installed a vegetated swale within the main car park and planters along the building. A curb extension planter was also built out next to the school entrance along the streets.

The rain garden collects, stores and treats run off from the school roof and playgrounds. Water from the roof is conveyed directly to the rain garden through concrete guttering and water from the playground enters through a large trench drain.

The system is designed to have a ponding depth of 15-20cm with an infiltration rate of 4-6cm per hour, depending on the size of the rainfall event. Overflow is directed to the combined system.



Rain garden inundated during heavy downpour

- 1. Forebay treats run off from the playground before it drains into the rain garden
- 2. Gravel filter drain
- 3. Concrete rill conveys water from the roof

4.4 Roads

Case Study:

Scheme: Oxfordshire County Council **Location:** Oxfordshire (Various)

Techniques: Swales, detention basins,

peremable paving, soakaways

Oxfordshire County Council have been pioneering the design and adoption of SuDS in highways. SuDS is now an integral part of the planning process.

Developments in Oxfordshire have featured a range of alternatives to conventional drainage including swales, wetlands and balancing ponds.

In smaller developments, Oxfordshire County Council are insisting that all roads are built using porous surfacing, which they say is still performing well after ten years.





Permeable paving



Detention basin



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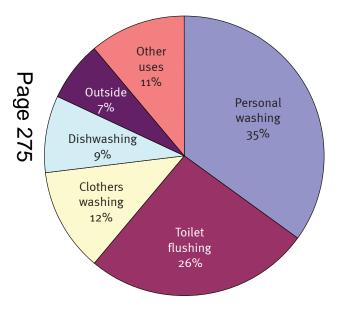
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Appendix 1: Rainwater Harvesting and Greywater Recycling

5.1 Introduction

On average, every person in England and Wales uses around 150 litres* of mains water per day (l/p/day), though there is potential for this to be reduced through water reuse systems.



*Measured total England and Wales microcomponent use 2009-10 (%) (Source: based on Ofwat data)

The most common systems used in the UK are rainwater harvesting and greywater recycling. The main reasons for installing water reuse systems are potential environmental benefits, possible financial savings and to meet regulations and standards. This section explains what the different systems are, and highlights issues and opportunities.

5.2 Rainwater Harvesting

Rainwater harvesting is the process of collecting and using rainwater that would otherwise have gone into the drainage system or been lost through evaporation. Once collected and stored it can be used for non-potable purposes, including toilet flushing, garden watering and, for higher quality harvested water, clothes washing using a washing machine.

Rainwater harvesting should be seen as both stand alone and an integral part of a wider strategy that includes SuDS, flood alleviation and water conservation, in response to changing climate and increased usage.

Possible benefits of rainwater harvesting

- It is estimated that domestic systems could reduce the mains water consumption by up to 50% rising to more than 80% in commercial applications. (UKRHA figures).
- Rainwater is a free resource that is naturally

recycled through the water cycle.

- Part of a wider sustainable approach to the management of water in the environment.
- Reduced utility bills and the reduction of running costs.
- Achievement of sustainability standards and help in achieving planning permission.
- Storing of source water for alternative use or as part of a SuDS system.

Evolving issues relating to rainwater recycling:

- Systems can be expensive to buy, though payback periods are improving as the market matures and water utility prices increase.
- Increasing water metering in 2011 only 37 per cent of homes were metered.
- Regulations and standards are emerging to reassure consumers.
- Population growth and lifestyle changes mean water supply is struggling to keep up with demand.
- Annual rainfall predicted to fall in the Eastern regions.

System Types and Design Considerations

To be economic and practical, the system design should consider roof area, roof connections, water demand, storage size required, location of facilities including whether storage will be above or below ground, potential pretreatment, design of collecting surfaces,

appearance of facilities and any potential for combining facilities. Different rainwater harvesting measures should be considered according to the nature of the development and site. For example, it will nearly always be more economical to install harvesting below ground on new development whereas it will be more cost effective to install features above ground in existing development.

Rainwater harvesting is traditionally collected from roofs but can also be collected from ground surfaces. Rainwater from roofs does not require treatment if it is used for non-potable purposes, such as watering a garden, but pumping might be required if it is collected at a level below its intended end use. Rainwater collected from ground surfaces may be more polluted and require treatment before reuse, especially if it is stored in an above ground basin. Effective rainwater treatment should consider the materials coming into contact with the runoff, for example checking for chemicals and other pollutants.

Rainwater storage should be sized considering rainfall patterns and expected water demands using the BS 8515:2009 "intermediate approach". Optimising storage size for demand requirements can reduce land take needs. It is also important to take advantage of economies of scale. If underground storage

can be used, land take can be reduced. Above-ground storage is preferable where geological conditions consist of shallow rock or a high water table. For communal rainwater harvesting, storage could take the form of either an above ground or below ground communal tank, or an above ground basin. With regard to design and layout, above ground water storage should consider visual impact and storage facilities must be accessible for easy maintenance.

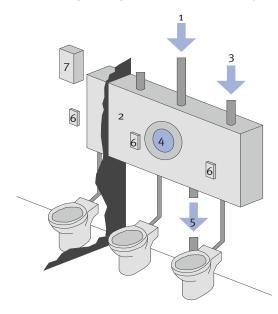
Types of rainwater harvesting systems range in terms of complexity and size ranging from complex district-wide systems to simple household systems linked to a water butt. However, most share the same principles.

Once collected in storage tanks and treated the harvested water can reused using three types of distribution system:

- Pumped directly to points of use
- Fed by gravity to points of use
- Pumped to an elevated cistern and fed by gravity to the points of interest

Rainwater harvesting systems can be combined with grey water recycling systems to form an integrated process. However, given the issues and costs of mixing water, these should only generally be considered when either source would not provide sufficient water on its own.

Rainwater harvesting systems are relatively easy to manage. For water collected from roofs, there will be a need to clean gutters. Each stage of treatment will require maintenance — pretreatment system performance, water quality



in storage, and disinfection (second stage of treatment if required) infrastructure.

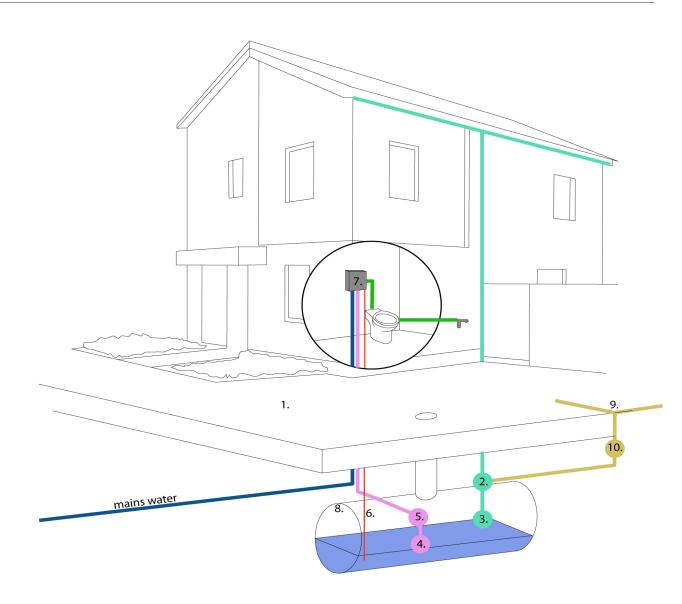
A typical passive rainwater collection system directly conveys rainwater into flushing tanks. (Pipex Flowstow system)

- 1-Rainwater outlet with filter, 2-Flushing tank
- 3-Mains water inlet, 4-Inspection cover
- 5-Overflow, 6-Full and half flush button,
- 7-Control system

Appropriate maintenance access will need to be considered at all treatment stages. Metering and monitoring will also be required for communal systems.

A typical collection, treatment and storage system is shown and described as follows:

- **1.** Rainwater is collected from the roof area or hard standing,
- **2.** Filter system prevents solids from entering the holding tank,
- 3. Water enters tank through smoothing inlet which stops settled sediment from being disturbed,
 - **4.** A suction filter prevents the uptake of floating matter when water is drawn up,
 - 5. A pump pressurises the water,
 - **6.** A control unit monitors water levels if these drop too low mains water will top the system up,
 - **7.** An air gap installed in order to prevent back flow of rainwater into the mains,
 - **8.** An overflow trap allows floating material to be skimmed off into the storm drain,
 - **9.** Rainwater soaking through a permeable pavement can also be collected,
 - **10.** Oil trap fitted to prevent contamination entering the system from ground surfaces, though additional filtration and disinfectant might also be needed.



5.3 Greywater Recycling

Introduction

Greywater is wastewater which can be collected from showers, baths, washbasins, washing machines and kitchen sinks, though this guidance focuses on the first three less contaminated sources. It gets its name from its cloudy appearance and from its status as being between fresh, potable water (known as "white water") and sewage water ("black water"). After treatment greywater can be recycled for use around the home for purposes which do not require drinking water quality.

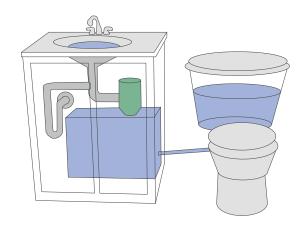
Domestic systems, which this guidance focuses on, typically collect and store greywater before reusing it to flush the toilet. More advanced systems treat greywater to a standard that can be used in washing machines for example. The most basic systems simply divert cooled and untreated bath water to irrigate the garden. Greywater recycling can be installed in new or existing dwellings.

Possible benefits of greywater recycling:

- Reduced mains water usage, e.g. greywater toilet flushing should reduce home usage by over a quarter.
- Sourcing reliability compared to rainwater

harvesting.

- Reduced demand for water helps protect wetland habitats.
- Reduced water discharge into the sewerage system.
- Compliance with regulations and standards relating to water consumption.



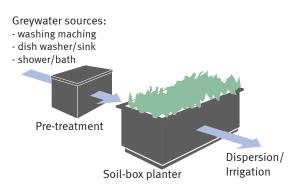
A typical short retention bathroom grey water recycling system for toilet flushing

Evolving issues relating to greywater recycling:

- Systems can be expensive to buy, maintain and run, though payback periods are improving as the market matures and water utility prices increase.
- Reliability has significantly improved with

the advancement of technologies.

- Increasing water metering in 2011 only 37 per cent of homes were metered.
- Increased embodied and operational energy use compared to mains water.
- Mixed public perceptions influenced by management systems, contamination levels, usage, potential contact and marketing.
- Regulations and standards are emerging to reassure consumers.



A typical biological soil box filter system

System Types and Design Considerations

There are various greywater systems which might be considered, varying significantly in complexity and size. However, most have in common features such as a tank if storing

water, a pump, a distribution system and, where it is needed, some sort of treatment.

Greywater stored for any length of time has to be treated as otherwise it deteriorates rapidly. This is because it is often warm and rich in organic matter, providing an ideal breeding ground for bacteria. A key consideration when choosing a greywater recycling system type should be the predicted water demand and supply for the user group over time.

The main types of greywater recycling systems are discussed as follows according to the type of treatment used:

Direct Reuse Systems (no treatment) - There is potential to very cheaply reuse untreated greywater if the water is not stored for long. Most commonly this involves less contaminated water simply being redirected for use in the garden, for example using a pump and hose for cooled bath or shower water.

Short Retention Systems – These take greywater from the bath or shower and apply a very basic treatment such as skimming debris off the surface and allowing particles to settle to the bottom of the tank. Potential reuse includes for toilet flushing. Unused water can be released after a certain time and the system

is topped up with mains water. These systems are relatively cheap to buy and run, and can be located in the same room as the source of greywater.

Basic Physical and Chemical Systems – A number of systems filter to remove debris from greywater and use chemical disinfectants to prevent bacterial growth in storage. Water saving benefits should be considered against the environmental impact of disinfectants, maintenance requirements and possible odour issues.

Biological Systems – These vary in complexity, with systems available for groups of dwellings as well as individual homes. Active bacteria are used to remove organic material from wastewater using air-induced filtration and digestion principles. Biological systems generally use reed beds, with UV filters to kill remaining bacteria. Biological systems normally require a relatively large outside area, such as a roof or garden.

Bio-mechanical - The most advanced domestic systems combine biological and physical treatment to produce the highest quality water, but use significant amounts of energy and are more expensive to buy and install.

Integrated Greywater Recycling / Rainwater Harvesting Systems - Given the issues and

costs of mixing water, these should only generally be considered when either source would not provide sufficient water on its own.

Regulations and Standards

- BS 8525-2:2011 Greywater Systems. Domestic Greywater Treatment Equipment. Requirements and Test Methods embeds water quality parameters relating to greywater reuse applications.
- The Building Regulations (Part G) requires the potential wholesome water consumption of new dwellings to not exceed 125 l/p/day.
- Code for Sustainable Homes requires reduced mains water consumption, down to less than 80 l/p/day to meet the highest levels.
- The Water Supply (Water Fittings) Regulations 1999 — covers back flow prevention to avoid cross-contamination of mains water.
- Guidance on Marking and Identification of Pipe work for Reclaimed (Greywater) Systems (WRAS, 1999).

Further Guidance and References

- Environment Agency (2011) Greywater for Domestic Users: An informative guide
- PUSH (2009) Draft PUSH Sustainable Development SPD Resource Document
- Anglian Water & CIPHE, Water Reuse Systems
- CIRIA (2001) Rainwater and Greywater Reuse in Buildings
- BSI (2010) BS 8525-1:2010 Greywater Systems. Code of practice
- Environment Agency, Conserving Water in Buildings
- WRAS (1999) Reclaimed Water Systems
- CIRIA (2010) Guidance on Water Cycle Management for New Developments (C690)
- UK Rainwater Harvesting Association at http://www.ukrha.org/
- Pipework for Reclaimed (Greywater) Systems (WRAS, 1999).

5.4.1 Rainwater Harvesting case study

Development: Green Space project **Type:** Rainwater Recycling (residential) Location: Mendip Place, Chelmsford **Techniques:** Rainwater Harvesting

In 2010 Chelmer Housing Partnership completed 10 eco-houses on a former garage site in Chelmsford. A key objective of the scheme was to achieve Code for Sustainable Homes Level Six using innovative technologies.

Rain rainwater harvesting reduces water consumption, using relatively simple and inexpensive systems which utilises rainwater from roofs, redirecting it to individual water butts located in gardens. The primary purposes are to reduce water usage in the garden and costs in use. This forms part of a wider water management strategy for the scheme including reduced flow taps/ showers in each property.

The scheme includes a range of other sustainability features, such as electricity generating PV panels, a bio-mass heating and hot water system, high levels of thermal insulation and composting areas. Energy and water use are being monitored with results informing the association's long term development strategy.





Chelmer Housing Partnership

5.4.2 Rainwater Harvesting case study

Development: Columbus School and College, Essex Building Schools for the Future

Type: Rainwater Recycling (school)

Location: Chelmsford

Techniques: Rainwater Harvesting

Rainwater is harvested from the school and college to form a combined system with central storage and treatment. The water is then distributed for reuse in toilets.

Rainwater harvesting forms part of a wider water management strategy which includes water efficient fittings and fixtures, and a leak detection system. Drought resistant planting is also being used for landscaping to minimise the need for watering. The scheme also incorporates SuDS to attenuate water run off and mitigating against the risk of localised flooding.

The scheme forms part of a wider strategy by Essex County Council to improve sustainability standards and reduce costs. Other schools featuring rainwater harvesting include Hutton Willowbrook Primary School in Brentwood and Epping Primary School. Monitoring of different systems is helping inform future schemes.



5.4.3 Greywater Recycling case study

Scheme: Affordable housing (Moat)

Location: Heybridge, Essex

Techniques: Greywater recycling (Basic

physical and chemical system)

In 1997 when the technology was in its infancy, a housing association, in partnership with Essex and Suffolk Water and the BRE developed three homes in Heybridge incorporating individual greywater systems. The Water Dynamics Well Butt System takes water from the bath and hand basin, and filters and disinfects it before the water is reused to flush toilets.

Related findings:

- Unexpected failure of the system components reduced the water saved
- Lifestyle patterns significantly influenced water savings
- Testing of the greywater raised no health concerns, though water turbidity increased over time without regular upkeep.



Monitoring of the system produced varying results:

Household Consumption:

Property	Occupancy	Time system worked	Potable water saved
3 bed house	3	63%	53%
3 bed house	3	83%	65%
4 bed house	7	39%	24%

5.4.4 Greywater Recycling case study

Scheme: Premier Inn hotels **Location:** Doncaster and others **Techniques:** Greywater recycling

In 2008 Premier Inn had an Aquacontrol greywater recycling system installed in their Doncaster Hotel. This was integral to owners Whitbread's ongoing strategy to tackle water consumption issues working closely with Waterscan their water management partners. The hotel is currently recycling 2,800 litres of water per day with a reduction in mains water consumption of 19%. In 2008 a combined rainwater and greywater recycling unit was also installed in Premier Inn's new green flagship Tamworth Hotel, with greywater recycling providing 100% of the hotel's toilet water use.



The Premier Inn greywater system collects greywater from baths and showers. In the collection tank aeration encourages natural biological cleansing of bio-degradable particles, before further filtration removes remaining particles. Filtered water then enters a clear water tank before being pumped to a water management system which supplies green water for flushing toilets, laundry, cleaning and irrigation. A Waterscan greywater system now goes into all new build Premier Inn's as standard with an option for a combined system incorporating rainwater harvesting. Waterscan also maintain the systems.



	TERMS AND ACRONYMS	Conventional drainage	The traditional method of drainage surface water using subsurface pipes and storage tanks.
Amenity	The quality of being pleasant or attractive; agreeableness.	Conveyance	Movement or water from one location to another.
Attenuation	Reduction of peak flow and increased duration of a	Defra	Department for Environment, Food and Rural Affairs.
	flow event.	Design criteria	A set of standards agreed by the developer,
BAP	Biodiversity Action Plan		planners, and regulators that the proposed system should satisfy.
Basin	A ground depression acting as a flow control or water treatment structure that is normally dry and has a proper outfall, but is designed to detain stormwater temporarily.	Detention basin	A vegetated depression that is normally dry except following storm events. Constructed to store water temporarily to attenuate flows. May allow infiltration of water to the ground.
Biodegradation	Decomposition of organic matter by micro- organisms and other living things.	ECC	Essex County Council.
Biodiversity	The diversity of plant and animal life in a particular habitat.	Exceedance flow route	Design and consideration of above-ground areas that act as pathways permitting water to run safely over land to minimise the adverse effect of flooding.
Bioretention area	A depressed landscaping area that is allowed to collect runoff so it percolates through the soil below		This is required when the design capacity of the drainage system has been exceeded.
	the area into an underdrain, thereby promoting pollutant removal.	Filter drain	A linear drain consisting of a trench filled with a permeable material, often with a perforated pipe in
BRE	Building Research Establishment.		the base of the trench to assist drainage.
Catchment	The area contributing surface water flow to a point on a drainage or river system. Can be divided into sub-catchments.	Filter strip	A vegetated area of gently sloping ground designed to drain water evenly off impermeable areas and to filter out silt and other particulates.
CDM	Construction Design and Management Regulations 2007.	Filtration	The act of removing sediment or other particles from a fluid by passing it through a filter.
CIRIA	Construction Industry Research and Information Association.	Flow control device	A device used for the control of surface water from an attenuation facility, e.g. a weir.

	Geocellular structure	A plastic box structure used in the ground, often to attenuate runoff.	Interception storage	The capture and infiltration of small rainfall events up to about 5mm.	
	Geotextile	A plastic fabric that is permeable.	Long term storage	The volume required to be stored in addition to the attenuation storage volume to reduce the rate of discharge of flows above the greenfield runoff volume.	
	Green roof	A roof with plants growing on its surface, which contributes to local biodiversity. The vegetated surface provides a degree of retention, attenuation and treatment of rainwater, and promotes evapotranspiration.			
			Management train	The management of runoff in stages as it drains from a site.	
	Greenfield runoff	The surface water runoff regime from a site before development.	Non-perform- ance bond	A written financial guarantee (usually a bank or insurance company) given by a developer	
	Groundwater	Water that is below the surface of ground in the saturation zone.		underwriting their agreement to construct the works to an agreed standard.	
ַ ו	Habitat	The area or environment where an organism or ecological community normally lives or occurs.	Pavement	Technical name for the road or car park surface and underlying structure. N.B. the path next to the road for pedestrians is properly termed the footway.	
001	Highway Author- ity	A local authority with responsibility for the maintenance and drainage of highways maintainable at public expense e.g. Essex County Council.	Permeability	A measure of the ease with which a fluid can flow through a porous medium. It depends on the physical properties of the medium, for example grain size, porosity and pore shape.	
	Impermeable	Will not allow water to pass through it.	Permeable pave-		
	Impermeable surface	An artificial non-porous surface that generates surface water runoff after rainfall.	ment	through voids between solid parts of the pavement.	
	Infiltration	The passage of surface water into the ground.	Piped system	Conduits generally located below ground to conduct water to a suitable location for treatment and/or	
	Infiltration basin	A dry basin designed to promote infiltration of surface water into the ground.		disposal.	
	Infiltration trench	A trench, usually filled with stone, designed to promote infiltration of surface water to the ground.			

Pollution	A change in the physical, chemical, radiological or biological quality of a resource (air, water or land) caused by man or man's activities that is injurious to existing, intended or potential uses of the resource.	Rill	An open surface water channel with hard edges, used to collect and convey runoff. They can be planted to provide a cleaning function.
		Risk risk man- agement author-	As defined in the Flood and Water Management Act are the Environment Agency, a lead local flood authority, a district council for an area for which there is no unitary authority, an internal drainage board, a water company and a highway authority
Pond	Permanently wet basin designed to retain stormwater and permit settlement of suspended solids and biological removal of pollutants.	ity	
Prevention	Site design and management to stop or reduce the occurrence of pollution and to reduce the volume of runoff.	Runoff	Water flow over the ground surface to the drainage system. This occurs if the ground is impermeable, saturated or rainfall is particularly intense.
POS	Public Open Space.	Sediments	Sediments are the layers of particles that cover the bottom of waterbodies such as lakes, ponds, rivers and reservoirs.
Rain Garden	Garden A planted basin designed to collect and clean runoff.		
Rainfall event	A single occurrence of rainfall before and after which there is a dry period sufficient to allow its effect on the drainage system to be defined.	Sewer	A pipe or channel taking domestic foul and/or surface water from buildings and associated paths and hard-standings from two or more cartilages and having a proper outfall.
Recharge	The addition of water to the groundwater system by natural or artificial processes.	em by Sewerage under- taker	Collective term relating to the statutory undertaking of water companies that are responsible for sewerage and sewage disposal including surface water from roofs and gardens of premises.
Retention pond	A pond where runoff is detained for a sufficient time to allow settlement and biological treatment of some pollutants.	tarei	
Return period	Refers to how often an event occurs. A 100-year storm refers to the storm that occurs on average once every hundred years. In other words, its annual probability of exceedance is 1% (1/100).	Silt	The generic term for waterborne particles with a grain size of 4-63mm, ie. between clay and sand.
·		Site/regional control	Manage runoff drained from a sub-catchment or several sub-catchments. The controls deal with runoff at a catchment scale rather than at source.

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	Soakaway	A sub-surface structure into which surface water is conveyed, designed to promote infiltration.	Wetland	Flooded area in which the water is shallow enough to enable the growth of bottom-rooted plants.
	Source control	The control of runoff at or near its source.	1 in X year event	This is the recurrence interval and is based on the
	Sub-base	A layer of material on the sub-grade that provides a foundation for a pavement surface.		probability that a given event will recur e.g. a '1 in 100 year event' would be expected to occur once every 100 years and has a 1% chance of occurring in
	SuDS	Sustainable Drainage Systems. A sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques.		a given year.
	SuDS Team (ECC)	The SuDS Team sits within the Flood & Water Management Team at Essex County Council		
age 289	Surface water	Water that appears on the land surface ie. lakes, rivers, streams, standing water, and ponds.		
	Swale	A shallow vegetated channel designed to conduct and retain water, but may also permit infiltration. The vegetation filters particulate matter.		
	Treatment	Improving the quality of water by physical, chemical or biological means.		
	Watercourse	A term including all rivers, streams, ditches, drains, cuts, culverts, dykes, sluices, and passages through which water flows.		
	Water butt	Small scale garden water storage device which collects rainwater from the roof via the drainpipe.		
	Water quality treatment volume	The proportion of total runoff from impermeable areas that is captured and treated to remove pollutants.		

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Essex County Council Environment, Sustainability & Highways

You can contact us in the following ways:

By email:

suds@essex.gov.uk

Visit our website:

www.essex.gov.uk/flooding

By telephone:

01245 437062/437138

By post:

Essex County Council, Environment, Sustainability & Highways, E3 County Hall, Market Road, Chelmsford, Essex CM1 1QH

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21 July 2015

Planning and Licensing Committee

Surface Water Management Plan for Brentwood Borough

Report of: Gordon Glenday, Head of Planning

Wards Affected: All Wards

This report is: Public

1. Executive Summary

1.1 Essex County Council, in its role as Lead Flood Risk Authority, has produced a Surface Water Management Plan (SWMP) for Brentwood Borough. The plan has been undertaken in consultation with stakeholders, including Brentwood Borough Council.

The SWMP is an intermediate assessment to inform spatial and emergency planning along with determining possible areas that may benefit from flood mitigation measures. It will also determine if/where detailed assessments should be undertaken and enable warning and informing initiatives.

2. Recommendation

2.1 That the Surface Water Management Plan for Brentwood Borough, as attached at Appendix A, be acknowledged as a material consideration for the purposes of determining planning applications where relevant to a particular application.

3. Introduction and Background

- 3.1 The SWMP enables local communities and organisations to gain a better understanding of flood risk and outlines the preferred surface water management strategy in specified locations. In this context surface water flooding describes flooding from sewers, drains, groundwater, run-off from land, small water courses and ditches that occur as a result of heavy rain.
- 3.2 The SWMP enhances the existing evidence base contained in the Council's Level 1 Strategic Flood Risk Assessment (2011), providing a more detailed assessment of the risk from surface water flooding.

4. Issue, Options and Analysis of Options

- 4.1 In accordance with guidance produced by the Department for Environment, Food and Rural Affairs' (DEFRA) (2010), Brentwood Borough has been prioritised as an area considered to be at significant risk of surface water flooding and an area where partnership working is considered essential to both understand and address surface water flooding concerns.
- 4.2 Following guidance from DEFRA, the SWMP was conducted as a four stage process:
 - Phase 1 Preparation
 - Phase 2 Risk Assessment
 - Phase 3 Options
 - Phase 4 Implementation

Phase 1- Preparation

- 4.3 Phase 1 work involved the collection and review of surface water information from key stakeholders responsible for flood risk management.
- 4.4 The key partners within the SWMP were:
 - Essex County Council;
 - Brentwood Borough Council;
 - Essex Highways;
 - Anglian Water; and
 - The Environment Agency

Phase 2 – Risk Assessment

- 4.5 As part of the risk assessment, direct rainfall modelling has been undertaken across the whole of Brentwood Borough to determine the overall flood risk and to identify flooding hotspots which may require further analysis. Where surface water flooding hotspots were identified, further modelling has been carried out to understand the flooding mechanisms and risks in more detail.
- 4.6 Using this information and other sources of flood data, such as historic records from the Environment Agency and Anglian Water, a number of flooding hotspots have been determined. These hotspots were based around three main areas; West Horndon, Ingatestone and Brentwood Town Centre.

4.7 Following identification of flooding hotspots, detailed models were created. The models were run with 30, 100 and 200-year rainfall events of various rainfall durations. In addition, the effects of climate change were investigated using the 100-year event. A number of key areas have been defined which are highlighted as having significant flood risk and which might benefit from mitigation options.

Phase 3 – Options

- 4.8 Based on the key flooding areas a number options / measures have been identified which could be implemented to reduce flood risk. Some of these options / measures were specific to a site, such as improving capacity of problem culverts, with some to be considered on a Borough-scale, for example Sustainable Drainage Systems (SuDS), focusing on both new developments and retrofitting SuDS into existing areas where appropriate.
- 4.9 For each of the key flooding areas identified within the study possible mitigation measures have been detailed together with indicative costing.

Phase 4 – Implementation

- 4.10 The document establishes a long term action plan to manage surface water and will influence future capital investment, maintenance, land-use planning, emergency planning and future developments.
- 4.11 The purpose of the action plan is to:
 - Outline the actions required to implement the preferred options / measures identified in Phase 3;
 - Identify the partners or stakeholders responsible for implementing the action;
 - Provide an indication of the priority of the actions and a timescale for delivery; and
 - Outline actions required to meet the requirements of Essex County Council and other Risk Management Authorities, as delegated by the County Council under the Flood and Water Management Act 2010.
- 4.12 The SWMP is an evolving document and as such will need to be reviewed regularly, particularly following the occurrence of a surface water flooding event. A number of recommendations have been highlighted that include refining the modelling approach with the inclusion of more data or where data is currently missing. In particular some areas in the vicinity of watercourses have been highlighted as warranting further hydraulic

modelling. This would help to further refine the recommended mitigations measures for an area.

5. Reasons for Recommendation

- 5.1 Reducing flood risk requires a pro-active stance on planning policy across the Borough. The formal acknowledgement of the SWMP for Brentwood Borough as a material consideration for the purposes of determining planning applications will give the plan greater weight in the planning process.
- 5.2 Acknowledgement of the SWMP will help to ensure the Borough meets its Local Plan policy objectives and assist development management in negotiating good quality sustainable drainage schemes as part of new major developments.

6. Consultation

- 6.1 This SWMP study has been undertaken in consultation with key local partners who are responsible for and involved with surface water management and drainage in the Brentwood Borough. This included Brentwood Borough Council, Essex County Council, Essex Highways, the Environment Agency and Anglian Water. The Partners have worked together to understand the causes and effects of surface water flooding and identify the most cost effective way of managing surface water flood risk for the long term.
- 6.2 A briefing session was held with Brentwood Borough Council Members on the 2 April 2015.

7. References to Corporate Plan

7.1 The SWMP will support corporate objectives by providing technical evidence which is essential in maximising opportunities to mitigate flood risk, enhancing and protecting our environment, whilst informing the Brentwood Local Development Plan. The Local Development Plan is a key priority in the Council's Corporate Plan as part of 'A Prosperous Borough'.

8. Implications

Financial Implications
Chris Leslie, Finance Director

Tel/Email: 01277 312 542 / christopher.leslie@brentwood.gov.uk

8.1 None directly arsing from this report.

Legal Implications
Chris Potter, Monitoring Officer

Tel/Email: 01277 312 860 christopher.potter@brentwood.gov.uk

8.2 None directly arising from this report.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

8.3 Information contained within the SWMP and future mitigation of flood risk as a result of recommendations may have implications for Emergency Planning in the Borough. The Planning Policy Team will work with the Environmental Health Department with regard to these potential implications.

9. Background Papers

- 9.1 Brentwood Borough Council Local Plan 2015-2030: Preferred Options, July 2013 http://www.brentwood.gov.uk/pdf/24072013090145u.pdf
- 9.2 Brentwood Strategic Flood Risk Assessment (SFRA) (Entec), January 2011 http://www.brentwood.gov.uk/pdf/21032011162645u.pdf

10. Appendices to this report

Appendix A: Surface Water Management Plan for Brentwood (JBA)

Consulting), January 2015 -

http://www.brentwood.gov.uk/pdf/29052015103139u.pdf

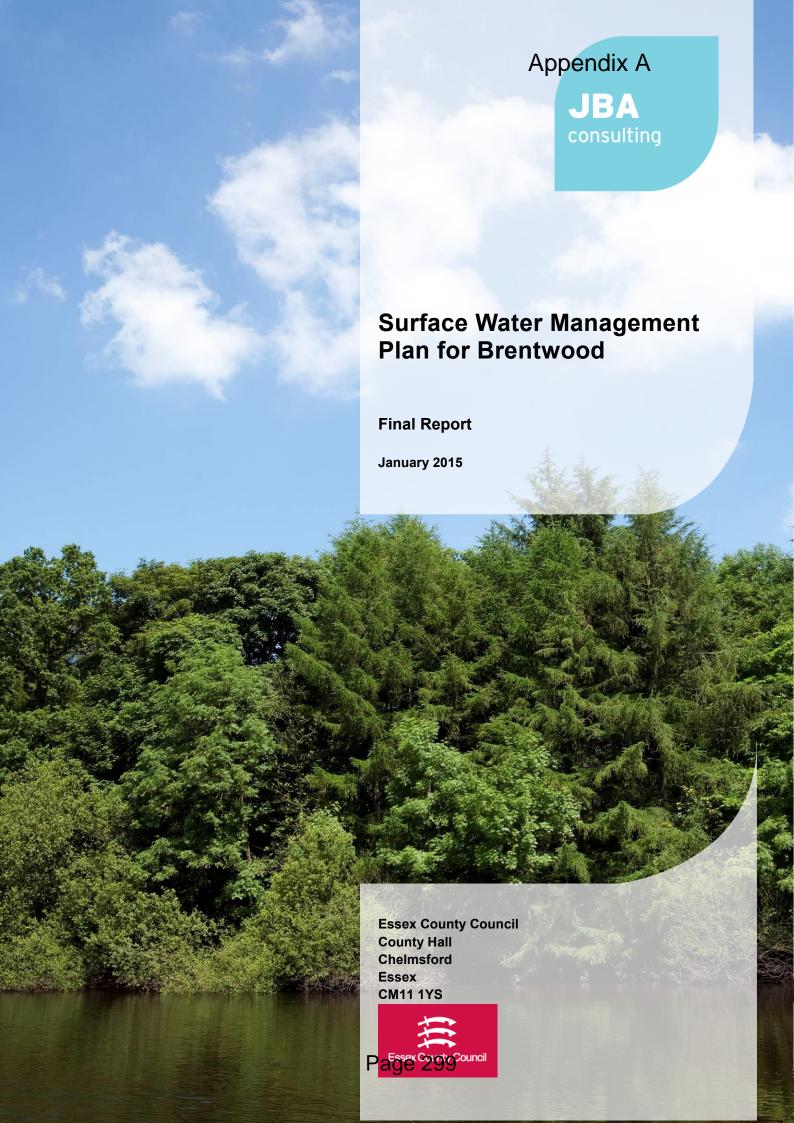
Report Author Contact Details:

Name: Camilla James, Senior Policy Planner

Telephone: 01277 312528

E-mail: camilla.james@brentwood.gov.uk







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JBA Project Manager

David Kearney BSc MSc MCIWEM C.WEM The Library St Philips Courtyard Church Hill Coleshill Birmingham B46 3AD

Revision History

Revision Ref / Date Issued	Amendments	Issued to
Draft V1.0 (July 2013)		Jo Carrington (Essex County Council)
Draft V1.1 (October 2013)	Amendments made based on comments from Jo Carrington (Essex County Council)	Jo Carrington (Essex County Council)
Final v2.0	Amendments made based on comments from SWMP Stakeholders	Jo Carrington (Essex County Council)
Final v 3.0	Amendments made based on comments from SWMP Stakeholders	Jo Carrington (Essex County Council)
Final v 4.0	Inclusion of partner organisations (Appendix M)	Nicola China (Essex County Council)

Contract

This report describes work commissioned by Essex County Council. Essex County Council's representative for the contract was Jo Carrington. Daryl Taylor and Andrew Waite of JBA Consulting carried out this work.

Prepared by	.Daryl Taylor BEng MSc
	Engineer
	Andrew Waite BSc MRes
	Assistant Analyst
Reviewed by	.David Kearney BSc MSc MCIWEM C.WEM
	Principal Analyst

Purpose

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JBA Consulting has no liability regarding the use of this report Essex County Council.



Acknowledgements

We would like to acknowledge the assistance of Jo Carrington of Essex County Council for her assistance in carrying out this study. We would also like to thank Anglian Water and the Environment Agency for allowing their data to be used.

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Executive Summary

Introduction

A Surface Water Management Plan (SWMP) is a plan that enables local communities and different organisations to gain a better understanding of flood risk and outlines the preferred surface water management strategy at a given location. Following guidance from Defra, the SWMP was conducted as a four stage process:

Preparation > Risk Assessment > Options > Implementation

The Level 1 Strategic Flood Risk Assessment (SFRA) for Brentwood Borough Council (2011) summarised that settlements such as Brentwood and Ingatestone may contain areas which are potentially vulnerable to surface water flooding. This SFRA mapped areas where surface water was a historical issue. The purpose of a SWMP is to provide a more detailed assessment of the risk from surface water flooding.

Preparation

In accordance with Defra guidance (2010), the Brentwood Borough has been prioritised as an area considered to be at significant risk of surface water flooding and an area where partnership working is considered essential to both understand and address surface water flooding concerns. The preparation stage consists of identifying key partners within the study area as well as providing an overview of flood history.

The key partners within the SWMP were:

- Essex County Council;
- Essex Highways
- Brentwood Borough Council;
- Anglian Water; and
- The Environment Agency.

Data provided by Essex County Council has been used with historical flood data from the SFRA to determine the historical flood events that have been recorded within the Borough.

Risk Assessment

The risk assessment has been broken into two parts. The first was an intermediate assessment across the whole of Brentwood Borough to determine the overall flood risk and to identify flooding hotspots which may require further analysis. When surface water flooding hotspots were identified, further modelling was carried out to understand the flooding mechanisms and risks in more detail.

The intermediate risk assessment was based around assessing the number of people and properties at risk using JBA Consulting's Flood Risk Metrics tool (Frism). Using this information and other sources of flood data, such as historic records from the Environment Agency and Anglian Water, a number of flooding hotspots were determined. These hotspots were based around three main areas; West Horndon, Ingatestone and Brentwood Town Centre.

Following identification of flooding hotspots, detailed models were created using InfoWorks ICM. The models were run with 30, 100 and 200-year rainfall events of various rainfall durations. In addition, the effects of climate change were investigated using the 100-year event. Outputs showing maximum flood depth and hazard have been produced as well as further analysis using Frism. A number of key areas were defined which were highlighted as having significant flood risk which might benefit from mitigation options.

Options

Based on the key areas a number options / measures were determined which could be implemented to reduce flood risk. Some of these options / measures were specific to a site, with some to be considered on a Borough-scale. Unfortunately it has not been possible for recommended options to be modelled. The lack of sufficient quality data and discrepancies in the data meant that it would not be possible to a garage model the impact of proposed options.



However, for each highlighted area an indication of possible mitigation measures have been detailed with an indicative costing. This should be refined based on improvements to the model as well more detailed site specific modelling.

Implementation & Review

The document establishes a long term action plan to manage surface water and will influence future capital investment, maintenance, land-use planning, emergency planning and future developments. A number of recommendations have been highlighted that include refining the modelling approach with the inclusion of more data or where data is currently missing. In particular some areas in the vicinity of watercourses have been highlighted as warranting further hydraulic modelling. This would help to further refine the recommended mitigations measures for an area. Currently indicative costs for measures have been provided where possible to assist in prioritisation of concept solutions but it is recommended that the proposed mitigation measures are pursued with a full outline and detailed design process. This should include a cost benefit assessment and use of threshold surveys for determining avoided damages.



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Abbreviations

1D 1 dimensional2D 2-dimensional

AMP Asset Management Plan

ASTSWF Areas Susceptible to Surface Water Flooding

CFMP Catchment Flood Management Plan

EA Environment Agency

FEH Flood Estimation Handbook

Frism JBA's Flood Risk Metrics Software

FWMA The Flood and Water Management Act 2010

LLFA Local Flood Risk Management

LFRMS Local Flood Risk Management Strategy

m AOD Metre Above Ordnance Datum

NPPF National Planning Policy Framework

NRD National Receptor Database

OS Ordnance Survey

PFRA Preliminary Flood Risk Assessment

PLP Property Level Protection

SAB SUDS Approval Body

SFRA Strategic Flood Risk Assessment
SUDS Sustainable Drainage Systems
SWMP Surface Water Management Plan



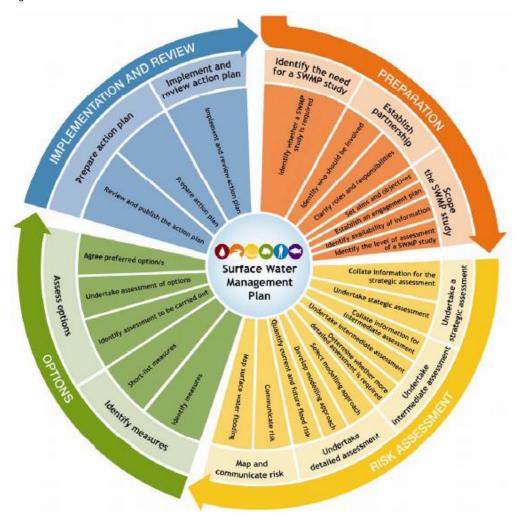
1 Introduction

1.1 What is a Surface Water Management Plan?

A Surface Water Management Plan (SWMP) is a plan that enables local communities and different organisations to gain a better understanding of flood risk and outlines the preferred surface water management strategy at a given location. In the context of the Flood and Water Management Act (HMSO, 2010) local flooding is defined as "flood risk from surface runoff, groundwater, and ordinary watercourses.

Defra (2010) has produced guidance for those undertaking Surface Water Management Plans in England. The SWMP follows a four stage process, illustrated in the guidance by the SWMP "wheel", shown in Figure 1-1 below:

Figure 1-1: The SWMP "wheel"



The preparation stage identifies the requirements for a SWMP, establishes the partnership of organisations required to co-operate, and defines the scope and level of detail required. The risk assessment stage gathers available information and may undertake further analysis in order to assess the risk at a level of detail appropriate to the scale of the study. The Options stage considers the range of flood risk management measures available, how these could be brought together as feasible options, possibly including an assessment of cost-benefit. The Action Plan sets out the responsibilities and timescales for implementation, and how these will be supported and monitored by the partnership.



1.2 What is meant by Surface Water Flooding

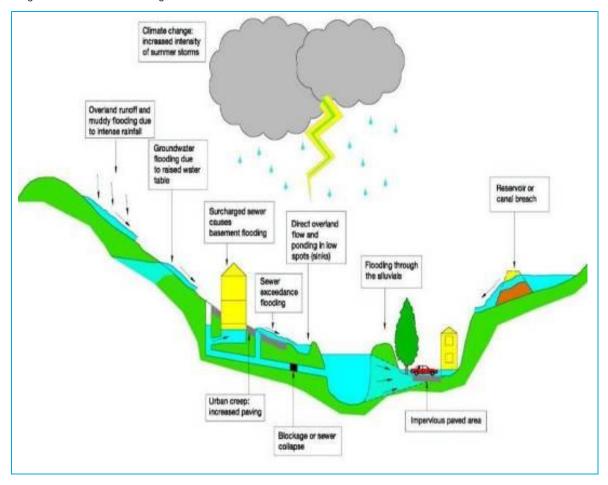
In the context of this SWMP, the definition of surface water flooding as set out in the Defra SWMP Guidance has been followed:

Surface water flooding describes flooding from sewers, drains, small water courses and ditches that occurs during heavy rainfall in urban areas. It includes:

- Pluvial flooding; flooding as a result of high intensity rainfall when water is ponding or flowing over the ground surface (surface runoff) before it enters the underground drainage network or watercourse, or cannot enter it because the network is full to capacity.
- Sewer flooding; flooding which occurs when the capacity of underground systems is exceeded, resulting in flooding inside and outside of buildings. Normal discharge of sewers and drains through outfalls may be impeded by high water levels in receiving waters.
- Flooding from small open-channel and culverted urban watercourses which receive most
 of their flow from inside the urban area
- Overland flows from the urban/rural fringe entering the built-up area, including overland flows from groundwater springs.

Flow interactions between surface water and larger main rivers and tidal waters can be important mechanisms that significantly influence the extent and frequency of surface water flooding. In the Brentwood Borough there are no tidal watercourses, therefore tidal interaction is not examined.

Figure 1-2: Sources of flooding





1.3 Background to the Brentwood SWMP

JBA Consulting was commissioned by Essex County Council to complete a SWMP. The preparation of a SWMP for Brentwood is driven in response to the following primary considerations:

- The need to manage local flood risk as a consequence of assessments performed under the Flood Risk Regulations, 2009 and the Flood and Water Management Act 2010
- The need to inform spatial planning and development control, develop a strategy for flood risk management, and provide evidence that future new development can be implemented and local flood risk safely managed

The Level 1 Strategic Flood Risk Assessment (SFRA) for Brentwood Borough Council (2011) states that settlements such as Brentwood and Ingatestone may all contain areas which are potentially vulnerable to surface water flooding. The SFRA mapped areas where surface water was a historical issue. The purpose of this SWMP is to provide a more detailed assessment of the risk from surface water flooding.

This SWMP study has been undertaken in consultation with key local partners who are responsible for and involved with surface water management and drainage in the Brentwood Borough. This included Brentwood Borough Council, Essex County Council, Essex Highways, the Environment Agency and Anglian Water. The Partners have worked together to understand the causes and effects of surface water flooding and identify the most cost effective way of managing surface water flood risk for the long term.

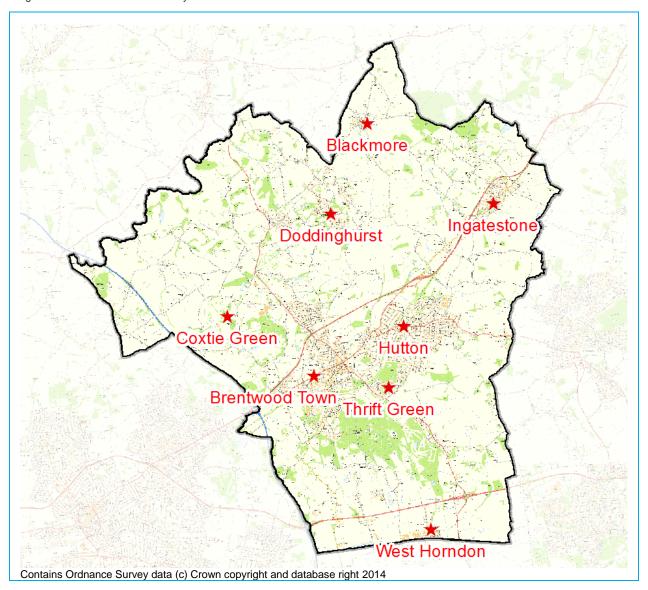
This document also establishes a long-term action plan to manage surface water and will influence future capital investment, maintenance, public engagement and understanding, land-use planning, emergency planning and future developments.



1.4 Study Area

Figure 1-3 shows Brentwood Borough Council's boundary, which makes up the study area for the Brentwood SWMP.

Figure 1-3: Brentwood SWMP Study Area



The topography of the area ranges from approximately 100mAOD in the north and central regions to approximately 10mAOD in the south of the Borough. The Borough forms the headwaters of four key watercourses which drain the area: the River Wid, the River Ingrebounre, the River Roding and the River Mardyke.

The River Wid is the main catchment in the Borough and is located on the eastern boundary of the Borough. It flows in a north to south direction, north of Hutton. The river eventually joins the River Can in Chelmsford. The River Ingrebourne drains the south western part of the Borough and is located west of Brentwood. The river flows south joining the River Thames at Rainham. The River Roding is located on the north-western boundary of the Borough and flows in a south-westerly direction joining the River Thames via Barking Creek. Finally the River Mardyke drains the south of the Borough via numerous small tributaries.

Other watercourses of interest include the Ingatestone Hall Brook in the north-east, the Stondon Hall Brook in the north-west and the Ingrebourne Brook in the west. In the course of developing the SWMP it is anticipated that the assessment will focus on those locations with known flood problems and areas identified for future development, namely:

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- Ingatestone
- the A12 north of Brentwood
- Central Brentwood area

The sewer network in this area is owned and maintained by Anglian Water. Through Brentwood the network consists of a separate foul and storm (surface water) system.

The land use within the Borough is predominantly Greenfield and farmland with the main urban expanses of Brentwood and Hutton being located in the centre of the Borough. Other notable towns include Ingatestone, Doddinghurst and Blackmore. These urban areas include both commercial and residential properties. Other than properties a number of other significant structures exist within the Brentwood Borough including:

- The M25 located approximately 1km to the west of Brentwood
- The A12 which crosses the Borough in a south-west to north-east direction, north of Brentwood
- A railway line that runs through the Borough in a south-west to north-east direction through Brentwood, Hatton and to the east of Ingatestone.

1.5 Policy Context and Links with Other Plans

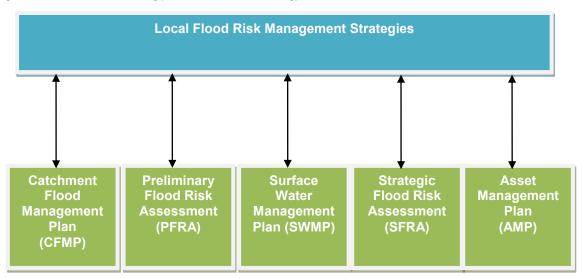
The Brentwood SWMP will link to and inform the existing network of plans and policy. The policies and strategies specific to Essex and Brentwood are summarised in the following paragraphs:

1.5.1 Local Flood Risk Management Strategies

The Flood and Water Management Act 2010 (FWMA) requires each Lead Local Flood Authority (LLFA) to produce a Local Flood Risk Management Strategy (LFRMS) although it is understood that there is no strict deadline for this to be issued. The SWMPs, PFRAs and their associated risk maps will provide the necessary evidence base to support the development of LFRMS.

The schematic diagram below illustrates how the Catchment Flood Management Plan (CFMP), Preliminary Flood Risk Assessment (PFRA), SWMP, SFRA and Asset Management Plan (AMP) link to and underpin the development of a Local Flood Risk Management Strategy.

Figure 1-4: Links between existing plans and the LFRM Strategy



Although Essex County Council have already completed the Local Flood Risk Strategy the findings of this study may feedback into this document to inform any future updates.



1.5.2 Brentwood Strategic Flood Risk Assessment (SFRA)

Each local planning authority is required to produce a SFRA under the National Planning Policy Framework (NPPF). This provides an important tool to guide planning policies and land use decisions. The current SFRA for Brentwood Borough Council was completed in 2011 by Entec. It highlighted that surface water flooding is likely to be the most significant cause of flooding within the Brentwood Borough with previous records of flooding from December 2009, February 2010 and March 2010 near Ingatestone.

The some of the main recommendations from the SFRA relevant to this study are shown below:

- Aim to reserve land in Flood Zone 1 for essential infrastructure and where possible highly vulnerable / more vulnerable land uses
- Manage flood risk through avoidance of risk where possible
- Ensure all developments should attempt to reduce surface runoff by sustainably managing runoff on site and not increasing flood risk elsewhere.

Due to the localised nature of urban development's it is recommended that a surface water management plan is used to assess the risk of surface water flooding in the area as well as identifying potential solutions. This would inform the SFRA level 2 which would relate to the development site allocation.

1.5.3 Brentwood Local Development Plan

Brentwood Borough Council is currently preparing a new Local Plan for the borough which, once adopted, will supersede saved policies in the current Replacement Local Plan (2005).

The new Local Plane will cover a 15-year period between 2015 and 2030. The Plan sets out polices, proposals and site allocations to guide future development in the Borough. It will enable the Council to manage growth while protecting key areas. Among other things, the Plan will include policies to deliver climate change mitigation, adoption, protection and enhancement of the natural environment.

The Local Plan Preferred Options consultation document was published in July 2013, and identified strategic growth locations within the Borough. Further consultation on the Local Plan is proposed during 2014 to further consider key policies and options for the distribution of growth across the borough. The SWMP will form part of the evidence base for the Local Plan, to inform and guide production of the Plan.

1.5.4 River Thames Catchment Flood Management Plan

CFMPs have been developed by the Environment Agency for 77 catchments in England and Wales. They set out the Environment Agency's flood risk management policies for inland waters. They address current and future risk (due to climate change) and seek to direct investment where risk is greatest.

The Brentwood Borough is covered by sub-area 9 of the River Thames CFMP conducted by the Environment Agency in 2009. The policy for this area is policy option 4 which states that there are "areas of low, moderate or high flood risk where we are already managing the flood risk effectively but where we may need to take further actions to keep pace with climate change". The CFMP sets out the following actions to implement the preferred approach:

- Continue to make sure the recommendations in SFRA and Local Development Framework policies create potential to reduce flood risk through regeneration.
- Adopt a strategic approach to planning so that the wider community objectives as well as flood risk objectives can be met.
- Continue to develop emergency response planning to deal with extreme floods.
- Continue to maintain existing flood defences and when redevelopment takes place, replace and improve them so they are more effective against the image of climate change. There will be focus on removing structures such as culverts that cause significant conveyance problems.
- Explore the opportunities to reduce 3000 lisk by recreating river corridors in urban areas.



1.5.5 Essex County Council Preliminary Flood Risk Assessment (PFRA)

The PFRA is required as part of the Flood Risk Regulations which implement the requirements of the European Floods Directive. Essex County Council, as the LLFA prepared a PFRA that gives an overview of all the local sources of flooding in the County. The PFRA is a county-scale assessment and the flood risk identified by this study in Brentwood is not of a scale which could lead to the area being identified as an indicative Flood Risk Area.

The PFRA highlighted that there is a lack of local data available on surface water flood risk within Essex. As part of the PFRA process settlements have been ranked using DEFRAs National Rank Order of Settlements Susceptible to Surface Water Flooding document. Essex is shown to be highly susceptible to surface water flood risk with nearly all of the settlements assessed being ranked in the top 1000 including Brentwood and Ingatestone. SWMPs such as this study aim to fill in the void in information and inform a second cycle of the PFRA process and assist in the production of flood hazard / flood risk maps for this area.

1.5.6 Brentwood Scoping and Outline Water Cycle Study (2011)

The Brentwood Water Cycle Study assesses the capacities of water bodies and water related infrastructure to accommodate future development and growth in Brentwood Borough intended to form part of the evidence base for the local development plan. The study covers the Brentwood Borough and comprised a steering group formed from key partners in the areas.

In regards to surface water flood risk as part of the Water Cycle Study examines flood risk and sustainable drainage highlighting that the greatest flood risk potentially risks from surface water flooding in urban areas. The SWMP can further inform the locations at risk from surface water flooding within borough highlighting any relating issues.

1.5.7 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was introduced by the Department for Communities and Local Government in March 2012 and supersedes the Planning Policy Statements. Similar to PPS25 (Development and Flood Risk) the NPPF considers flood risk to developments using a sequential characterisation of risk, based on planning zones and the Environment Agency Flood Map. Using classifications for flood zones and a vulnerability classification of different types of properties considerations can be made to apply a sequential test and if necessary the exception test. Sequential tests are used to steer new developments area from areas of highest flood risk. The SFRA gives the basis for applying a sequential test. The SWMP can give further input into the areas at risk from surface water flooding and therefore how any development is steered in regards to NPPF away from flood risk.



1.6 Summary of Aims and Objectives

The objectives of the study as defined in the project brief are set out below in Table 1-1:

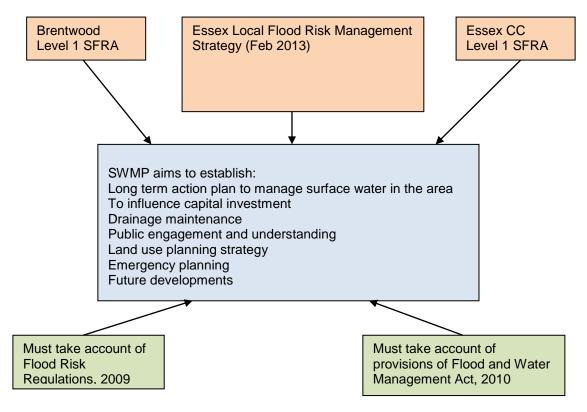
Table 1-1: Study objectives

Task	Approach
To determine the extent and direction of flow of floodwater in Brentwood arising from the problem points identified in the Tier 1 areas as described in the Essex Flood Risk Management Strategy.	An InfoWorks 2D model was prepared for the study area represented on Figure A1 of the Brentwood Level 1 SFRA where LIDAR data is available. This model was extended to include locations where surface runoff from rural areas contributes to existing and proposed development areas. Brentwood has a predominantly separate public sewerage system; The model included the surface water sewer network for the specific areas where new development is proposed and allow for the discharge from sewers at other locations. Volumes and flows were derived using JFlush, a tool combining several hydrological techniques aiming to estimate design flood hydrographs where there is a significant crossboundary transfer of water via the sewer systems.
 To identify the impacts of flooding on the areas highlighted in the Essex Flood Risk Management Strategy. 	A detailed InfoWorks model was prepared to replicate the interaction between surface and sewer flows for the specific allocations.
Identify what range of mitigation measures could be incorporated into new and existing developments. Also make positive recommendations for approach to flood risk at windfall sites.	Results from modelling have been used to understand influential flood mechanisms and thus the scope of measures that could be used to mitigate potential adverse effects and to reduce existing flood risk. We have also prepared assessment of wider flooding mechanisms
Identify feasible options for mitigation, based on indicative cost and timescales.	We have prepared a selection process for options and identify preferred options. We have also prepared budget costings for preferred options.
5. Engage with Brentwood Borough Council, The Environment Agency, Essex County Council and Anglian Water.	We will attend engagement and consultation events to keep parties informed and where necessary provide input to decision making process.



The aims and influences on the SWMP are summarised in Figure 1-5:

Figure 1-5: Brentwood Wood SWMP aims and influences



1.7 Using this report

Having set the scene in this chapter, **Chapter 2** discusses the preparation stage of the SWMP. **Chapter 3** then assesses the risk of surface water flooding to the Brentwood Borough, and **Chapter 4** provides a detailed assessment of risk of surface water flooding to key areas. **Chapter 5** considers options to manage this risk and finally **Chapter 6** outlines the study recommendations brought together as an Action Plan.



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2 Preparation

2.1 Identify Need for SWMP

In accordance with the Defra (2010) guidance, the Brentwood Borough has been prioritised as an area considered to be at significant risk of surface water flooding and an area where partnership working is considered essential to both understand and address surface water flooding concerns.

Surface water flooding can cause damage to properties and disrupt road, rail and pedestrian movements in affected areas. In addition, the sudden onset of surface water flooding can create road safety hazards and risk to pedestrians. Consequently it is an issue that must be understood and addressed within all future development plans.

Brentwood Borough Council (2011) undertook a Level 1 SFRA which provided an outline understanding of flood risk and where it is located. The SFRA recommended that surface water flooding is likely to be the most significant cause of flooding and therefore would benefit from a SWMP to assess the risk and identify potential solutions.

This Surface Water Management Plan for the Brentwood Borough adds greater detail to the assessment of flood risk than previously available in the SFRA, and explores initial approaches to tackling this flood risk, with an emphasis on sustainability, cost effectiveness and viability.

2.2 Establish Partnership

Surface water cannot be managed by a single authority, organisation or partner; all the key organisations and decision-makers must work together to plan and act to manage surface water within Brentwood Borough, as many organisations have rights and responsibilities for management of surface water. Although Essex County Council has commissioned this project, the key partners have been consulted throughout the SWMP process. Working in partnership encourages co-operation between different agencies and enables all parties to make informed decisions and agree the most cost effective way of managing surface water flood risk in Brentwood Borough for the long term. The partnership process is also designed to encourage the development of innovative solutions and practices; and improve public engagement and understanding of surface water flooding.

2.2.1 Who is involved

Partners are defined as organisations with responsibility for the decision or actions that need to be taken to manage surface water flooding. The key partners involved in this project are:

- Environment Agency
- Essex County Council
- Essex Highways
- Brentwood Borough Council
- Anglian Water

2.2.2 Roles & Responsibilities

Partnership roles and responsibilities were discussed throughout the development of this SWMP. Table 2-1 highlights the roles and responsibilities of key partners. Other groups also have notable roles and responsibilities in the Brentwood Borough:

- Riparian Owners/Large landowners have a responsibility for channel maintenance along their reaches.
- Public have responsibilities with respect to drainage of their properties, and, since 2008, to adhere to legislation with regards to permeable paving of driveways.



Table 2-1 Formal Roles, Duties and Powers

Organisation	Role	Duties and Powers
Brentwood Borough Council	Local Planning Authority Riparian Owner	Input to National and Local Statutory Strategies. Ordinary watercourse management. Any other responsibilities delegated from LLFA.
Environment Agency	National supervisory role for flood risk management.	Management of main rivers, sea, and reservoirs. National Statutory Strategy Reporting and general supervision. Permissive powers
Essex County Council	Lead Local Flood Authority	Management of surface water, groundwater and other sources of flooding. Input to national strategy. Formulate and implement local flood risk management strategy Monitor flooding within their area and investigate the causes and map the hazard associated with the source of flooding. Under the FWMA, LLFAs are the designated SUDS Approval Body (SAB) for any new drainage system, and therefore must approve, adopt and maintain any new sustainable drainage systems (SUDS) within their area. This aspect of the FWMA is yet to be formally enacted.
Anglian Water	Sewerage Undertaker	Operational and regulatory powers along sewer network. Co-operate with LLFA with regards to surface water.

2.3 Available Information

The following is a summary of the information available for this study:

- OS MasterMap topographic mapping was used in the modelling process to distinguish between land uses across the Borough. It was also used to better define the model grid so key flow paths around buildings, along roads and water course are appropriately represented.
- LIDAR data in the form of 0.5m, 1m and 2m resolution. This was obtained from the Environment Agency via Essex County Council. The LIDAR covered key areas of the Brentwood Borough. LIDAR data was used to model the terrain.
- Post code location polygons which were used for mapping purposes.
- The Flood Estimation Handbook (FEH) CD-ROM was used to obtain the rainfall parameters needed to define the hydrological inputs into the InfoWorks ICM model.
- · Records of historic flooding.
- Flood Risk Registers from Anglian Water to derive flooding hot spots and verify results.
- Asset information provided from a variety of sources, were used to define pipes structures with the InfoWorks ICM model. They provide details of pipe/culvert dimensions which enable 1D elements to be modelled with greater accuracy. These were provided by Anglian Water. Thames Water had no relevant data in areas of interest.
- Watercourse walkover reports from the Environment Agency to allow greater accuracy in modelling and determining flood risk.
- Detailed Asset data and gully information which is provided by various partners to assist in the modelling process.
- Various local plan mapping layers such as watercourse chemical / biological data reports. This will be used for the option appraisal section of the SWMP.

A full listing of all data supplied by each of the partner organisations is provided in Appendix A.



2.4 Overview of Flood History

Previous studies of the Brentwood Borough highlight the limited amount of data available outlining historical flood events. The Brentwood Level 1 SFRA (2011) states that previous flooding is largely a result of rapid surface runoff, where water ponds in low lying areas. There is a note of instances where cars have been trapped due to floodwater in areas such as Ingatestone and on the A12, north of Brentwood.

The SFRA shows mapping that highlights the locations of some historic events. They show that Ingatestone has cases of flooding caused by land drainage issues as well as one instance where flooding was caused by a sewer system. Elsewhere Blackmore is shown to have instances where flooding is caused by land drainage issues. There are few other instances recorded in the Borough.

As part of the available data numerous records of flooding were provided by Essex County Council and Brentwood Borough Council. These records were often sporadic with the cause of the flooding not always being clear. Appendix B shows the location of the historical flood records. Table 2-2 shows a list of the more detailed historic flood records that were compiled. These records have been compiled where there have been more than one incident on the same day, therefore giving more certainty that the records were related to natural causes. Where possible the cause has been attributed to the event. However, some of the events have been defined as "natural" where they appear to be from natural causes but there is not enough evidence to make an accurate assumption.

Table 2-2: Historic Flood Events

Source of Flooding	Location / Consequence	Year	Data Source
Surface Water	There have been causes of flooding in properties and on roads within Hutton.	2000	Essex Fire & Rescue
Fluvial	Flooding in multiple locations in Ingatestone.	2001	Essex Fire & Rescue
Surface Water	Several properties have been flooded on the High Street, Brentwood. Water is described as flooding into shops and therefore is likely to be attributed to surface water.	2004	Essex Fire & Rescue
Natural	Several cases were reported in the Brentwood Borough of flooding within residential gardens which affected properties.	2007	Essex Fire & Rescue
Natural	There were reports in Doddinghurst, Hutton and Thrift Green of flooding caused by natural causes. Based on the information it is unknown whether this was caused by surface water or fluvial interaction.	2010	Essex Fire & Rescue
Surface Water	There is a report of at least one vehicle being stuck in approximately 2ft of water at Stock Lane in Ingatestone. Also there was a similar instance at Hay Green Lane in Blackmore.	2010	Essex Fire & Rescue
Surface Water	North areas of the Borough and one instance in Coxtie Green experienced flooding of properties.	2011	Essex Fire & Rescue

2.5 Conclusions

The outputs of the preparation stage included a SWMP partnership being formed, data being shared under a protocol agreed by all partners, and a better overview of historic flooding from all sources across the Brentwood Borough. The need for and scope of the SWMP were confirmed, enabling the project to move on to the risk assessment stage. At this stage the initial areas which appear to be at risk from surface water flooding are Brentwood, Hutton and Ingatestone.



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3 Intermediate Assessment

3.1 Definition of Flood Risk

The Brentwood Level 1 SFRA highlighted the Brentwood Borough as an area prone to surface water flooding. DEFRA Guidance (2010) defines the potential levels of assessment within an SWMP.

Table 3-1 shows the various levels of an assessment for a SWMP. This SWMP has been prepared at the 'Borough' scale to provide an initial assessment of flood risk. This intermediate assessment is applicable across a large town, city or Borough. This will allow for flooding hotspots to be informed for more detailed assessment.

Table 3-1: SWMP Study Levels of Assessment (DEFRA 2010)

Level of Assessment	Appropriate Scale	Outputs
Strategic Assessment	County wide	Broad understanding of locations that are more vulnerable to surface water flooding. Prioritised list for further assessment. Outline maps to inform spatial and emergency planning.
Intermediate Assessment	Borough wide	Identify flood hotspots which might require further analysis through detailed assessment Identify immediate mitigation measures which can be implemented. Inform spatial and emergency planning.
Detailed Assessment	Known flooding hotspots	Detailed assessment of cause and consequences of flooding. Use to understand the mechanisms and test mitigation measures, through modelling of surface and sub surface drainage systems.

3.2 Intermediate Assessment

The intermediate assessment was focussed on collation of data and information on flooding into a format that would allow criteria for further analysis to be generated. This section outlines the steps taken to inform the flooding hotspots which would be mapped in more detail.

3.2.1 Location of Historical Events

The intermediate assessment firstly incorporates historical records of flooding provided by Essex County Council and other SWMP partners. These were geo-referenced to give an indication of any areas of the Brentwood Borough which regularly suffer from flooding and categorised based on the possible source of the flood event. The events were broken into the following categories:

- Domestic
- Fluvial
- Groundwater
- Sewer
- Surface Water
- Natural
- Unknown

The category "natural" was based on events where evidence or the events location determined it be caused naturally but there was not enough information to determine its true source. The category "unknown" refer to events where no or insufficient information was provided and therefore the event could not be categorised accurately. The locations of the historical events can be found in Appendix B.



3.2.2 Flood Risk Metrics

Frism is a JBA Consulting tool which has been developed to rapidly assess the impacts of flooding at any scale. These can range from national-scale studies down to detailed SWMPs such as the Brentwood SWMP. The software allows the user to assess the economic, social and environmental impacts using flood risk metrics considers the impact on all forms of receptors (e.g. households, businesses, infrastructure etc). The software can be used to summarise key statistics such as the number of properties flooded, and if detailed information is available a detailed assessment can indicate the likely financial cost of flooding.

The following data sets were used within Frism to estimate the number of properties affected by surface water flooding across the Borough.

- National Receptor Database (NRD)
- Mastermap Data
- Flood outlines (ASTSWF Areas Susceptible to Surface Water Flooding)

The NRD and Mastermap data were used to represent the location and footprint of buildings. The NRD was split into two separate formats, one containing the residential data and one containing non-residential data. A number of records were removed based on the operational guidance given by the Environment Agency for using NRD data for property counts. Mastermap data was used to represent the footprint of structures in the NRD data, to allow the detailed count method to be implemented. The Environment Agency's Areas Susceptible to Surface Water Flooding (ASTSWF) maps for Brentwood Borough were used to identify properties at risk of flooding. These are broken into three classifications with maximum indicative depths for each threshold. These categories are the following:

Less: 0.1-0.3m

Intermediate: 0.3-1.0m

More: >1.0m

Analysis was only conducted on the "Less" and "More" categories for the Brentwood Borough in order to give an indication of where flooding hotspots were likely to be located.

Frism produces summary statistics and highlights the number of properties flooded within regular 250m grid cells, easily highlighting locations at risk of flooding across the Borough. In addition, statistics were also compiled for Brentwood Borough as a whole.

3.2.3 Frism for Brentwood

Table 3-2 shows the number of properties shown to be at flood risk based on the ASTSWF maps for whole of Brentwood Borough.

Table 3-2: Frism Outputs for Brentwood Borough

			Number of Pro	perties Flooded
Outline	Total Area (m²)	Flooded Area (m²)	NRD Residential	NRD-Non- Residential
ASTSWF Less (0.1-0.3m)	153124061	17672474	3731	1012
ASTSWF More (>1.0m)	153124061	3285387	384	94

The Mastermap data suggests that there are 99,232 buildings within the Brentwood Borough with only a small proportion of residential and non-residential properties flooding as a result of surface water. To refine this further the Brentwood Borough was broken into 250m grid cells. This allowed for the number of flooded residential and non-residential properties to be counted for each cell. This was again run using the ASTSWF "Less" and "More" categories. Figure 3-1 shows an example of the outputs for the residential modelling run using the ASTSWF "Less" outlines. Appendix C shows the results for all scenarios.



Figure 3-1: ASTSWF Less Frism Grid Output - Residential Properties

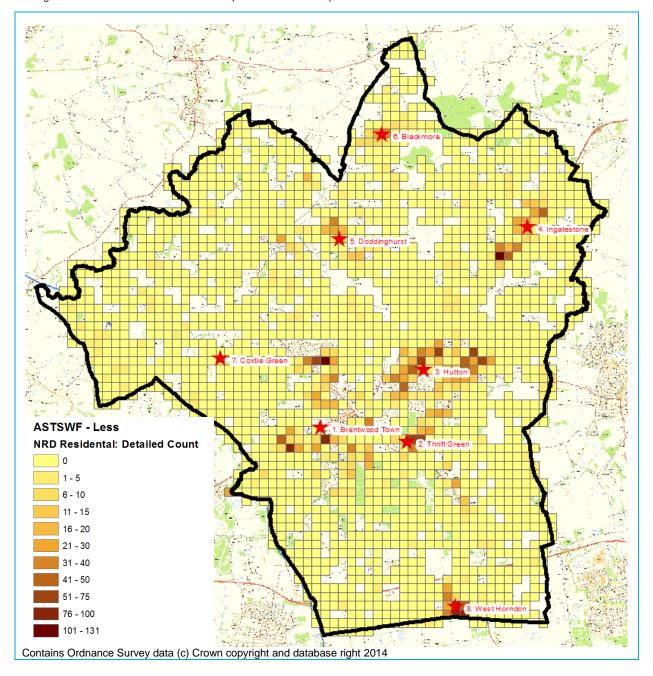


Figure 3-1 shows that in the case of residential properties the most affected areas appear to be Brentwood Town, Hutton, Thrift Green, Ingatestone and West Horndon. Doddinghurst and Blackmore also show some pockets of residential flood although this is less pronounced due to the size of the settlement. This compares well with the historic flood records particularly in Brentwood, Hutton and Ingatestone. There are few records for Blackmore, Coxtie Green and Doddinghurst in the historic records.

3.2.4 Surface Water Flooding Hotspot

Based on the historic flooding events supplied by Essex County Council and the intermediate analysis conducted using Frism, a number of flooding hotspots have been identified. Table 3-3 shows the hotspots and discusses the merits of further assessment.



Table 3-3: Brentwood Hotspots

Hotspot	Number of Historic Events	Include for Detailed Assessment?	Comments
Brentwood Town	22	Yes	The eastern portion of Brentwood is subject to urban surface water flooding where as the western portion is dominated by fluvial flooding. It is proposed to model in greater detail the eastern portion with western portion being coarsely modelled but requiring additional study outside of the SWMP.
Thrift Green	9	Yes	The urban nature of the study area could make it susceptible to sewer flooding. This area is proposed to be modelled in greater detail.
Hutton	9	Yes	The historic records for this area correlate well with ASTSWF. The urban nature of the study area could make is susceptible to sewer flooding. This area is proposed to be modelled in greater detail.
Ingatestone	8 (+3 vehicular flood incidents)	Yes	The historic records for this area correlate well with ASTSWF. The eastern portion of the area is urban and therefore susceptible to urban surface water flooding. The western portion of the area is more susceptible to fluvial flooding. This area is proposed to be modelled in greater detail.
Doddinghurst	1	No	Only one historic event was found in the vicinity of Doddinghurst. The intermediate analysis using Frism shows that few properties are within ASTSWF outlines. Furthermore no LIDAR is available for this area therefore it will not be further assessed in this study.
Blackmore	1	No	Only one historic event was found in the vicinity of Blackmore which fell outside the ASTSWF outlines. Flood risk for Blackmore generally originates from the watercourses within the village. It is proposed that an additional study is needed outside of the SWMP to construct a fluvial hydraulic model to map flood risk.
Coxtie Green	4	No	There are four historic events in the area however; these do not correlate well with the ASTSWF outlines. The driver of flooding appears to be small private ponds in the area. Further modelling is unlikely to offer more insight than ASTSWF and therefore was not further assessed. It is proposed a flood study of historic event may prove more relevant and provide an understanding of flood sources.
West Horndon	0	Yes	No historic events were recorded in this area however; Frism calculations indicated a high number of properties within ASTSWF outlines. It is proposed that this area be modelled in further detail.

The location of the proposed flooding hotspots is shown in Appendix D.

As a further part of the intermediate assessment an overview of other sources of flood risk has been complied. This follows in the next section.

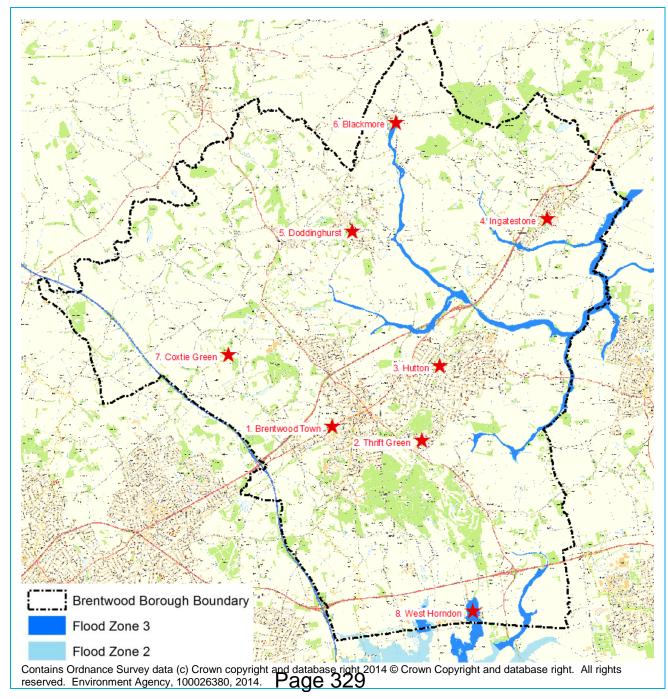


3.3 Other Sources of Flood Risk

3.3.1 Fluvial

Watercourses are designated either main river or ordinary watercourses. Ordinary watercourses include small open channel and culverted watercourses. These watercourses should be maintained by the riparian owner (i.e. those who own property either side of the bank). Main rivers are larger watercourses which the Environment Agency has permissive powers to maintain. Fluvial flood risk has been considered as river levels can influence surface water flood risk. This is relevant as there are a number of watercourses which run through population centres such as Ingatestone and Brentwood. Figure 3-2 shows the Environment Agency flood maps for the Brentwood Borough. This map is a combination of detailed modelled outlines and JFlow 2D modelling for some of the ordinary watercourses. The Flood Zones are determined without consideration to the presence of flood defences, although there are no formal defences maintained by the Environment Agency in Brentwood.

Figure 3-2: Environment Agency Flood Maps





Unfortunately the outlines only exist for the River Wid and a number of its tributaries. The watercourse flows down the eastern boundary of the Borough and extends into Ingatestone as well as up towards Blackmore, north of Hutton. The other available outlines are found in the southern region of the Borough surrounding West Horndon. This area is surrounded by numerous drains one of which flows directly through West Horndon.

Other areas of Brentwood Borough have also been examined to determine the fluvial risk to population centres.

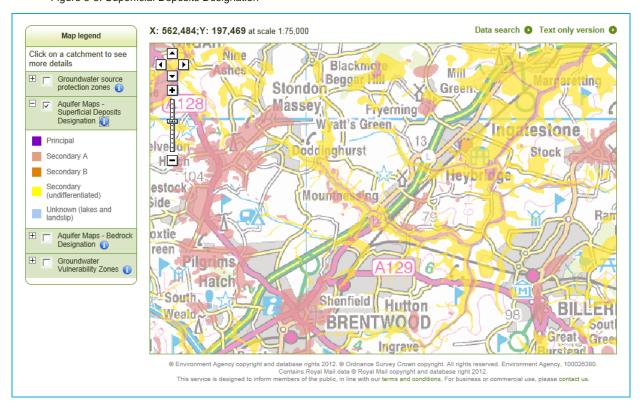
3.3.2 Groundwater

Under some circumstances groundwater levels can rise and cause flooding problems in subsurface structures or at the ground surface. There are no reported incidents of groundwater flooding in the area.

The British Geological Society's Soil Map of England and Wales (1975) shows that soils within the Brentwood Borough are predominantly slowly permeable clayey soils with areas of impeded drainage.

Basic information regarding the local hydrogeology has been obtained from the Environment Agency website. Brentwood Borough does not have any groundwater protection zones within its boundaries. The superficial deposits are designated as a combination of Secondary (undifferentiated) in the vicinity of Ingatestone and Secondary A in central Brentwood. A Secondary A classification states that the deposits are permeable layers capable of supporting water supplies at a local rather than regional scale and can form important sources of base flows to local watercourse. This is shown in Figure 3-3.

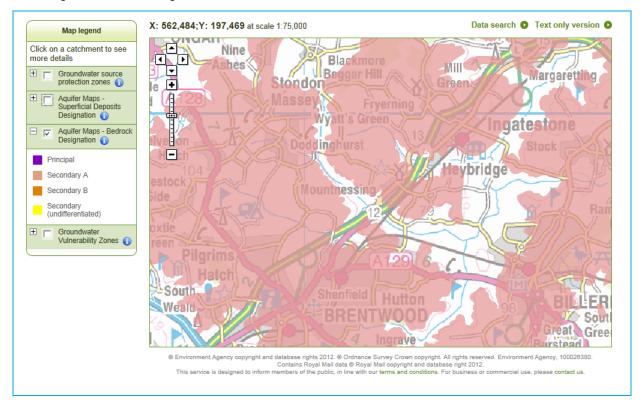
Figure 3-3: Superficial Deposits Designation



The underlying bedrock designation is Secondary A. Secondary A is defined on the Environment Agency website as permeable layers capable of supporting water supplies at a local rather than strategic scale, in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers. This is shown in Figure 3-4.



Figure 3-4: Bedrock Designation



3.3.3 Sewer Flooding

Sewer flooding can occur from several mechanisms, summarised below:

1. Rainfall events exceeding the capacity of the sewer / drainage system.

Sewer systems have been typically designed and constructed to accommodate a rainfall event with a 1 in 30-year probability of occurrence in any given year (33%) or less. Therefore rainfall events exceeding this will be expected to result in surcharging of the sewer system.

2. Drainage systems become blocked by debris or sediment.

Over time sewer systems can become blocked from fallen leaves and build up with sediment and debris. This will decrease the efficiency of the drainage systems and in severe rainfall events completely block system, resulting in surcharging. Only regular maintenance can minimise the impact of blockage.

3. Drainage systems surcharging due to high water levels in receiving watercourses.

Where sewers discharge through outfalls to rivers, high water levels can stop water discharging into the river and cause flows to back up along the sewer. Once the storage capacity within the sewer itself is exceeded, the water will overflow into streets through manholes.

Responsible Organisations

In order to identify problems and solutions it must first be outlined which organisations are responsible for maintenance of drainage infrastructure. In Brentwood the primary parties responsible for the drainage infrastructure are Essex Highways and the water utility company (Anglian Water).

Essex Highways is responsible for maintaining an effective highway drainage system including the road gullies and pipes which connect the gullies to the trunk sewers and soakaways. The utility companies, in this case Anglian Water are responsible for maintaining the trunk sewers. It is their responsibility under the Water Industry Act 1991 to provide, maintain and operate systems of public sewers and works for the purpose of effective drainage of the area.

Riparian owners are responsible for private drainage networks where they are small open channels and culverted urban watercourses Page 331



Available Data

Anglian Water have provided details of their infrastructure such as sewers and outfalls. This information has been used within the further modelling stage to provide an accurate representation of how the local sewer networks deals with surface water and areas where it may be causing surface water flooding. This information will allow flood risk issues to be analysed and mitigated where possible.

3.4 Conclusion

The intermediate assessment has provided an overview of flood risk from a variety of sources across the Brentwood Borough. Analysis of the ASTSWF maps using Frism highlighted eight flooding hotspots of which a five will be put forward for more detailed modelling. The aim of the detailed assessment would be to understand the cause and consequences of flooding as well as explore the mechanisms that lead to flooding. The detailed assessment is conducted in the next chapter.



4 Detailed Assessment

4.1 Assessment Approach

The intermediate assessment was used to identify areas where the flood risk is considered to be most severe. These areas are known as surface water flooding hotspots. These areas have been identified as areas which would benefit from an integrated modelling approach. As detailed in Table 3-1 the next stage is to use modelling to understand the mechanisms and test mitigation measures.

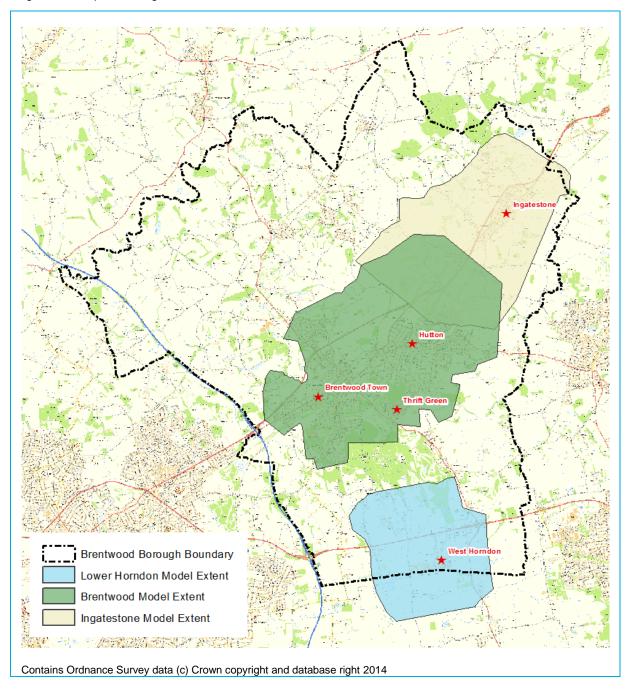
To perform the modelling, InfoWorks ICM was chosen as the modelling platform. This package allowed the modelling of surface water and the sewer networks. The 1D sewer networks can be informed by Anglian Water network data, linked to a 2D model domain based on LIDAR data. The following points briefly describe the modelling:

- InfoWorks ICM was selected principally for its ability to model sewer networks and surface water flow routes in one software package.
- Sewer networks are included in this model using data provided by Anglian Water.
 Surface water flow routes are represented using LIDAR data and mapping data to define a 2D model.
- The model of the catchment surface includes representation of features which play an important role in directing, diverting and storing surface water including buildings, roads, railway embankments and small ditches.
- The inputs to the model are rainfall events appropriate for Brentwood Borough that were generated using FEH catchment descriptors to derive the 30-year, 100-year, 100-year plus climate change and 200-year events for storms of 1 hour, 3 hours and 6 hour durations.
- Outputs of depth, velocity and hazard were produced by combining the results of all the
 durations for each return period and displaying the maximum values. For depth results,
 flooding less than 0.025m has been removed as this was not deemed to present a flood
 risk. Hazard and velocity results were only displayed for areas where the depth of
 surface water was greater than 0.025m.
- JBA Frism tool was used to further analysis in further detail based on model outputs to increase understanding of flood risk and prioritise areas for schemes.
- Flooding from the sewer system, caused by a blockage in a sewer or urban drainage system was not modelled in detail.
- Fluvial networks entering the modelling domains had inflows generated from FEH
 catchment descriptors. This was a generalised approach designed to allow the
 interaction between watercourses and sewer outfalls as well as areas where culverts
 have insufficient capacity and generate surface water flooding.

In total three InfoWorks ICM models have been developed that covered Ingatestone, West Horndon and a centralised model which included Brentwood Town, Hutton and Thrift Green. The extents of the InfoWorks ICM models are shown in Figure 4-1.



Figure 4-1: Hotspot Modelling Extents



4.1.1 Calculation of Damages using Frism

As stated in the previous section, Frism was used to further analyse the flood risk based on the model results. The Frism calculations were run on all return periods (30, 100, 100 plus climate change and 200 year) using depth grids of flooding greater than 0.025m.

Each flooded property point is attributed minimum, maximum and mean damage values corresponding to the damage value for the within the property footprint (taken from OS Mastermap data). For the purposes of this study the mean damage values were used.

The damage value is presented in pounds and is estimated by obtaining a unit damage value (£/m2) using the depth-damage curves from the Multi Coloured Manual (Flood Hazards Research Centre 2010). The unit damage value depends on the flood depth at the property and the property type. This damage value is then multiplied by the value in the floor area field of the NRD to obtain an absolute damage value.

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To display the damage costs the results with the sum of the mean damages to both residential and non-residential properties within each 100m grid cell was displayed as a thematic map.

The following definitions are useful to understand the results of the risk assessments.

- Damages: The value of negative social, economic and environmental impacts caused by flooding or erosion.
- Annualised Average Damages (AAD): average damage in pounds (£) per year that
 would occur in a designated area from flooding over a very long period of time. In many
 years there may be no flood damage, in some years there will be minor damage and, in
 a few years, there will be major flood damage

4.1.2 Hazard to People Rating

The flood hazard to people rating gives a visual indication of the areas where there is greater hazard posed to people from flooding. Flood hazard is a function of the flood depth, flow velocity and a debris factor (determined by the flood depth). The following equation (Defra/Environment Agency FD2320/TR1 report, 2005) is used to calculate the hazard to people:

Hazard Rating =
$$(D * (v+0.5) + DF)$$

Where

D = depth of flood water (m)

V = velocity of flood water (m/s)

DF = Debris Factor (either 0, 0.5 or 1 depending on the probability that debris will lead to a hazard)

Guidance within the FD2320 report recommends the use of a Debris Factor (DF) to account for the presence of debris during a flood event in the urban environment. The Debris Factor is dependent on the depth of flooding; for depths less than 0.25m a Debris Factor of 0.5 was used and for depths greater than 0.25m a Debris Factor of 1.0 was used.

The result of the hazard rating equation related to the hazard to people classification below in Table 4-1.

Degree of Flood Hazard	Hazard Rating		Description		
	<0.75	Caution	Flood zone with shallow flowing water or deep standing water.		
	0.75 – 1.25	Dangerous for some (i.e. children)	Danger: Flood zone with deep or fast flowing water.		
	125 – 2.5	Dangerous for most people	Danger: Flood zone with deep fast flowing water.		
	>2.5	Dangerous for all	Extreme danger: Flood Zone with deep fast flowing water.		

Table 4-1: Hazard to People Classification

For the overview of flood risk within the hotspots Hazard to People has only been discussed where there is a significant risk to populated area.

4.2 Overview of Flood Risk within Hotspots

This section discusses the hotspot modelling results and analysis. The section has been broken in to sub-catchments defined by the three modelling domains. For each sub-catchment the modelling results will be discussed and ana pape 355 the receptors at risk from flooding in



different return periods. This involved both a simple count of properties, but also assessment of the damage costs, based on the Multi-Coloured Manual (2010) methodology.

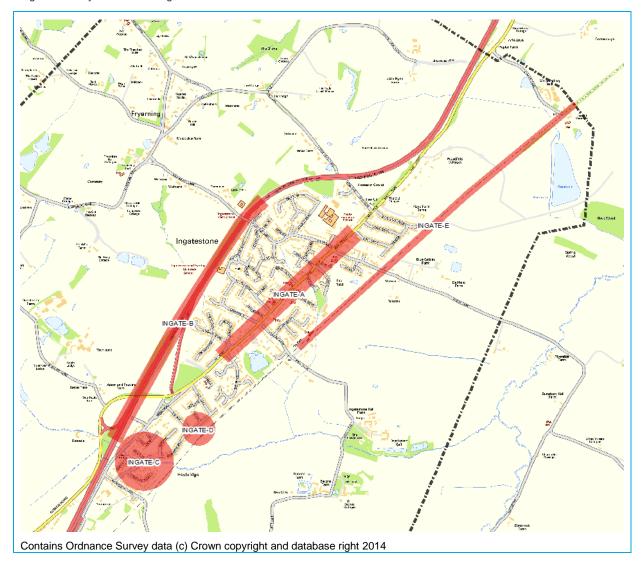
4.2.1 Ingatestone

Overview of Flood Risk

The modelling results for Ingatestone showing flood depths and hazard to people are shown in Appendix E.

To give an overview of flood risk in Ingatestone a number of areas were identified. These are shown in Figure 4-2.

Figure 4-2: Key Areas within Ingatestone



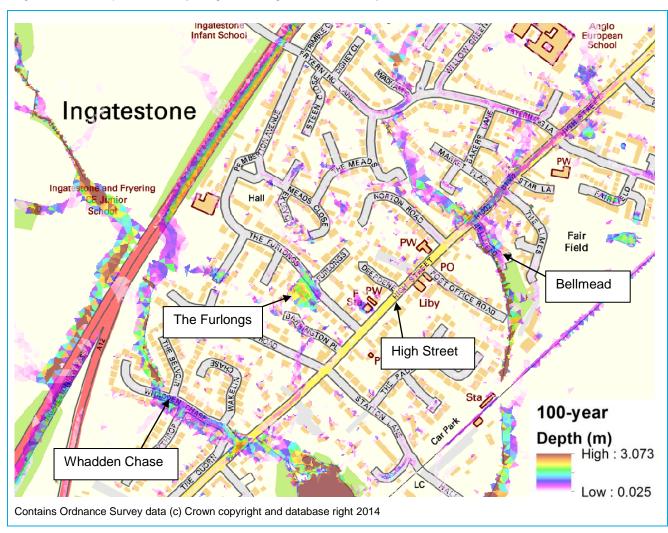
A summary of flood risk in these locations within Ingatestone is presented overleaf:



Area INGATE-A: Ingatestone High Street

Figure 4-3 shows the flood depths for the 100-year return period in the vicinity of the High Street.

Figure 4-3: Flood Depth in the vicinity of Ingatestone High Street for the 100-year Return Period



Ingatestone High Street floods at three main locations, Whadden Chases, Bellmead and The Furlongs. At Whadden Chase and Bellmead unnamed watercourses pass underneath the High Street. In the case of Whadden Chase water backs up within the sewer network both upstream and downstream, surcharging and flooding a low spot on the High Street. Maximum flood depths for all return periods are between 0.4 and 0.5m. Other surface water pathways contribute to this area of flooding from the A12 and from The Furlongs, located to the north east of Whadden Chase. With regards to flood hazard, Whadden Chase is classed as having a mixture of areas that are "Danger for Some" and "Danger for Most". The low spot where surface water ponds at the junction, is shown to be an area classed as "Danger for Most".

In regards to the flooding shown at Bellmead junction, a similar interaction between the watercourse and the sewer network takes place, with the surcharging sewer network generating surface water flow down the High Street. Maximum flood depths along this section of the High Street are between 0.10 and 0.15m for the 100-year return period. With regards to flood hazard, Bellmead and the surrounding area are mainly classed as "Very low hazard". Small areas of the High Street are classed as "Danger for Some" with areas of "Danger for Most" upstream of the road culvert.

Flooding along The Furlongs relates to a mixture of undersized sewer pipes and lack of sewer network data in the area. The lack of capacity and in some places outfalls represented unrealistically by the provided sewer data causes flooding to poor in area of low ground. Further survey could be used to improve the sewer pata in this area which may result in a reduced flood extent.

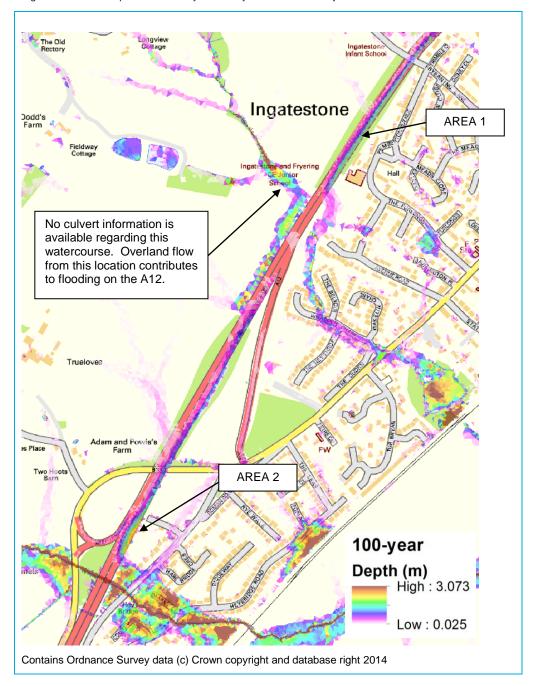


Results along the High Street appear to correlate with historic flood records (shown in Appendix B) which show a number of historic flood events relating to sewer and fluvial flooding.

Area INGATE-B: A12 Ingatestone By-Pass

Figure 4-4 shows the flood depths for the 100-year return period in the vicinity of the A12 By-Pass

Figure 4-4: Flood Depth in the vicinity of A12 By-Pass for the 100-year Return Period



The A12 is shown to flood in all modelled returns periods. Flooding along the by-pass is most significant in Area 1 and 2 as shown on Figure 4-4. Flooding in Area 1 has depths of approximately 0.25-0.4m for all return periods. Maximum flood depths in Area 2 are approximately 0.50-0.70m for all return periods. The southern carriageway is the primary route of flow with the northern carriageway only becoming shallowly submerged in higher return period events. In regards to hazard, the majority of southern carriageway is classed "Danger for Most" with the shallow flooded areas classed as "Very low hazard".

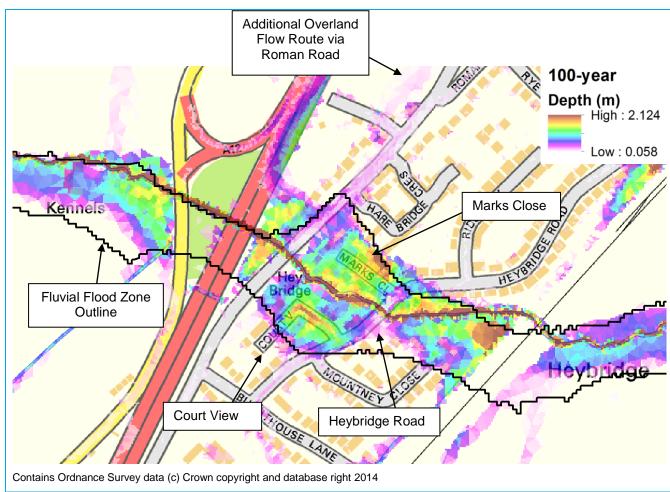


Although the modelling results have shown the highway to flood and be a surface water pathway it is important to note that no detailed information was available regarding the highway drainage of the by-pass. To improve the accuracy of the modelling in future, detailed drainage information could be added to better represent the flooding likely to be experienced on the by-pass. Also no culvert data was provided regarding the unnamed watercourse located adjacent to the Ingatestone Junior School (See Figure 4-4). Overland flow generated from this channel significantly contributes to flooding on the A12. Further survey would be required to determine the location of the culvert and its dimensions.

Area INGATE-C: Area surrounding Heybridge

Figure 4-5 shows the flood depths for the 100-year return period in the vicinity of the Heybridge.

Figure 4-5: Flood Depth in the Vicinity of Heybridge for the 100-year Return Period



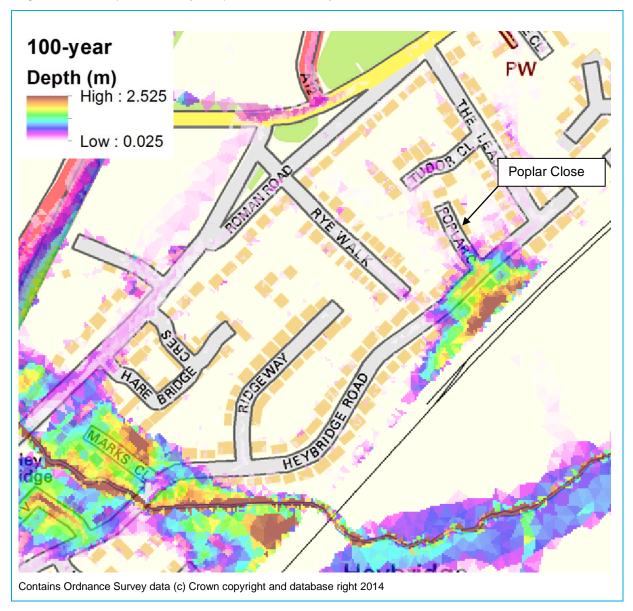
Flooding in this area is shown to be mainly fluvial in nature with current flood zones covering the most affected roads (notably Marks Closes, Court View and Heybridge Road). This correlates with historic flood records shown in Appendix B. Flooding in this area relates to the sewer network which discharges at various locations along the watercourse, backing up due to high water levels at the outfalls. There are also a number of surface water pathways which originate from the A12 by-pass and along Roman Road which contribute surface water to the area. Flood hazard in the area is generally classed as "Danger for Most" with areas close to the watercourse classed as "Danger for All".



Area INGATE-D: Poplar Close

Figure 4-6 shows the flood depths for the 100-year return period in the vicinity of Poplar Close.

Figure 4-6: Flood Depth in the vicinity of Poplar Close for the 100-year Return Period

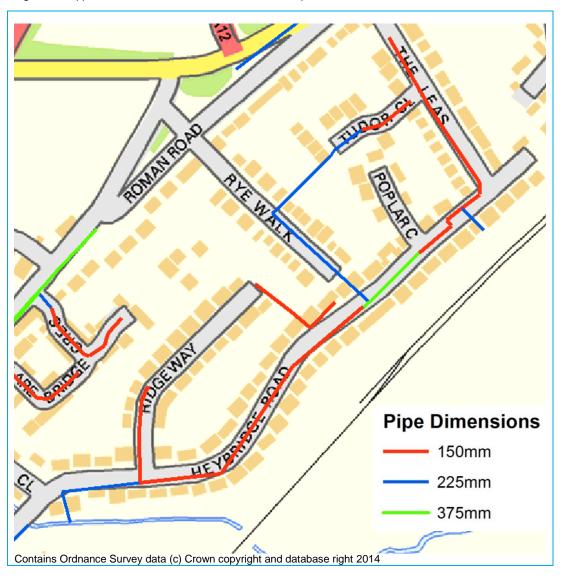


Flooding in this location relates to surcharging of the sewer network. This is caused by high water levels at the outfall of the sewer backing up into the system. The pipe diameter at this location is 150mm with a small section of piping having a diameter of 375mm (see Figure 4-7). With a number of sewers being linked to the sewer network surrounding Poplar Close the current pipe network is too small to support the volumes required. Surcharging water spills and fills low spots against the railway embankment that prevents flow from moving away from the area. As there are uncertainties in the sewer network it is recommended that further investigations are conducted in this area.

In regards to hazard, the areas of deeper flood water which cover a number of residential properties is classed as "Danger for Most".



Figure 4-7: Approximate Location of Surface Water Sewer Pipe Dimensions



Area INGATE-E: Railway Line

The north-east section of railway line is shown to flood for all return periods. Flooding extends from the railway station, (in vicinity of Halls Lane) in a north-easterly direction, reaching the edge of the model domain. Maximum flood depths are between 0.35m and 0.65m for all return periods. Flooding around the railway station itself is shallow being approximately 0.10-0.15m in depth for all return periods. Unfortunately no drainage network information is available in the vicinity of the railway; if in future more information becomes available the modelling should be revisited to reassess flood risk.

With regards to flood hazard, the railway is shown to be classed as "Danger for Most" or "Danger for Some" for all but the 200-year return period. The 200-year return period shows some areas classed as "Danger for All" which relate to areas where flood water is significantly deep.

Overview of Existing Properties

To represent the number of properties flooded in each return period Frism was run using 100m grid cells. Appendix H displays the number of properties flooded for each given return period as well as a graphical representation of the mean sum of damage within each flooded 100m grid cell for each return period. Table 4-2 shows a summary of the number of properties that are at risk across the sub-catchment for the modelled return periods. Table 4-3 shows the annualised average damages within the Ingatestone model extent.



Table 4-2: Number of properties at risk of surface water flooding in Ingatestone

Return Period	Total number of Properties	Residential Properties at Risk	Non- Residential Properties at Risk	Number of People at Risk		Total Damage £M (Non Residential)
30-year	4,504 (3,283 Residential & 1,221 Non Residential)	2,162	768	5,081	£18.09M	£4.48M
100-year	4,504 (3,283 Residential & 1,221 Non Residential)	2,426	867	5,701	£25.74M	£5.32M
100-year (plus Climate Change)	4,504 (3,283 Residential & 1,221 Non Residential)	2,466	879	5,795	£26.52M	£5.52M
200-year	4,504 (3,283 Residential & 1,221 Non Residential)	2,578	912	6,058	£28.28	£5.90M

NOTE:the number of people at risk was based on he asusmption that the average number of people per residential property is 2.35.

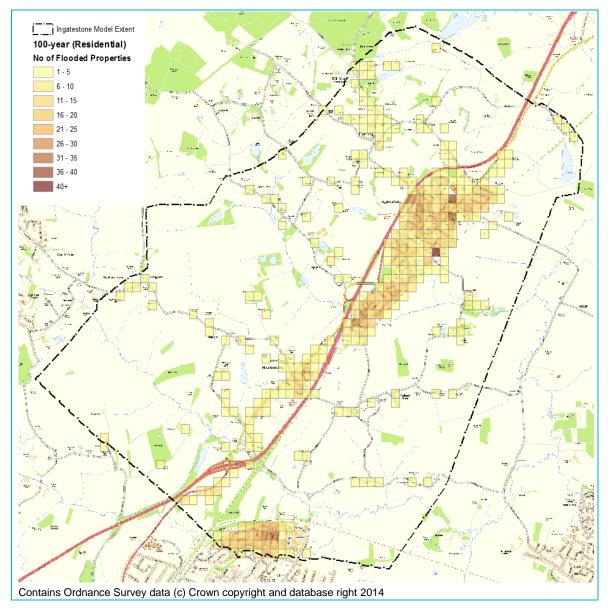
Table 4-3: Annualised Average Damage for Ingatestone

Annualised Average Damage (£)				
Residential	Non- Residential			
£5,849,232	£1,217,331			



Number of Flooded Residential/Non-Residential Properties

Figure 4-8: Number of Flooded Residential Properties for the 100-year Return Period





Number of Flooded Residential/Non-Residential Properties

Figure 4-8 shows that the number of flooded residential properties is centralised around Ingatestone, which is the location of the majority of the residential properties within the modelling extent. There are numerous isolated cells that show a small number of properties in the surrounding Greenfield land. The residential areas surrounding watercourses running through Ingatestone (at Heybridge and in the vicinity of Fryerning Lane) record the highest number of flooded properties per 100m grid cell. In these locations numerous cells having more than 20 flooded properties. Two cells in North-East Ingatestone are shown to have more than 40 flooded properties however, this relates to indivudial blocks of flats becoming flooded rather than 40 separate dwellings.

Figure 4-9: Number of Flooded Non-Residential Properties for the 100-year Return Period

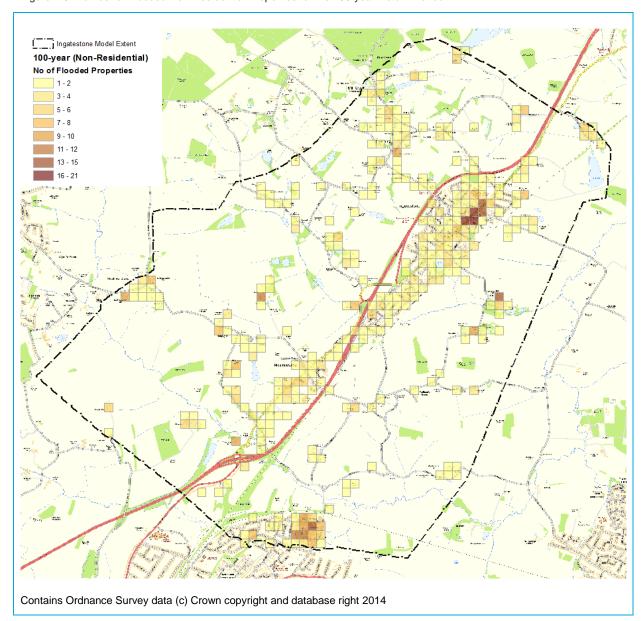


Figure 4-9 shows the number of flooded non-residential properties within Ingatestone. The majority of grid cells which show non-residential flooding within Ingatestone have less than 5 flooded properties. Although these areas are mainly residential in nature they do contain non-residential infrastructure such as schools and community halls. The largest area of non-residential flooding is found in North-East Ingatestone along the High Street. At this location there are a number of cells which record 13-21 flooded non-residential properties. This correlates with a high density of commercial properties along the High Street.



Mean Flood Damage for Residential/Non-Residential Properties

Figure 4-10 and Figure 4-11 show the distribution of flood damage costs within the Ingatestone model extent for the 100-year event. Appendix H contains all mapping illustrating the distribution of mean damage costs for the other return periods in the Ingatestone model extent for all return periods.

Figure 4-10: Mean Aggregated Flood Damage (£K) for Residential Properties in the 100-year Return Period

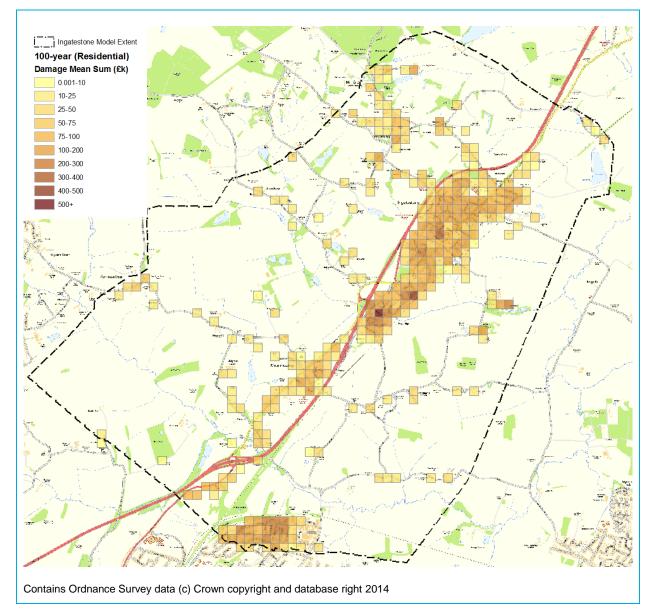


Figure 4-10 shows the mean aggregated flood damage (£K) for residential properties for the 100-year return period. The highest recorded cost is found in the vicinity of Heybridge having mean damages of £677,000. This area has been shown to experience widespread flooding from both the local watercourse running through the area and surface water. Other areas that experience high flood damage values are areas surrounding the watercourse running through northern Ingatestone and at Poplar Close. Both these areas have been highlighted in the overview of flood risk. Overall the mean flood damages per 100m cell is £66,000 - £83,000 for all return periods



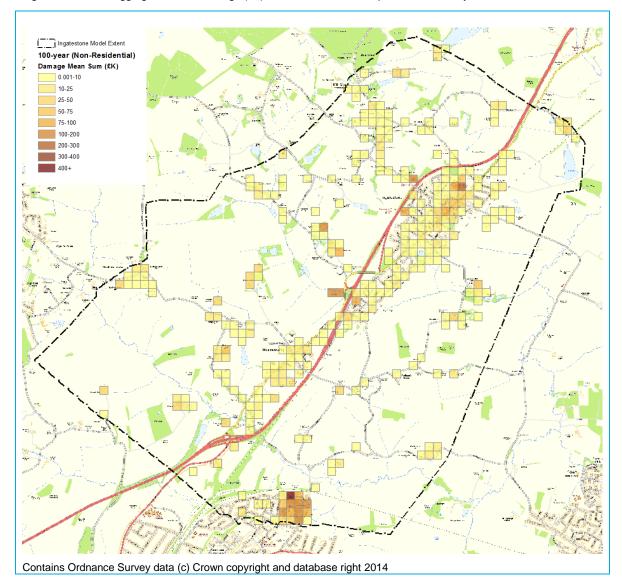


Figure 4-11: Mean Aggregated Flood Damage (£K) for Non-Residential Properties in the 100-year Return Period

Figure 4-11 shows the mean aggregated flood damage (£K) for residential properties in the 100-year return period. The highest recorded costs for all return periods are found in North-East Ingatestone along the High Street. Cells in this location show an aggregated mean flood damage of £50,000 - £100,000. This appears consistent with the high concentration of commercial properties in the area. Overall the mean aggregated flood damage per cell is £16,000-£18,400 for all return periods.

Recommendations for Ingatestone

The results of the detailed modelling show a number of areas to flood to a significant level in all modelled return periods. These are shown in Figure 4-2 are discussed below.

Area INGATE-A includes the High Street which shows flooding in three main locations; Whadden Chase, Bellmead and The Furlongs. The representation of the watercourse at Whadden Chase and Bellmead may be improved with additional survey of the watercourse and this may refine the flood outline in this area. Flooding is shown to originate from an incomplete sewer dataset, this causes water to back up through the sewer system, the flood extent could also be improved in this area if improved sewer data were available from new survey.

Area INGATE-B represents the A12 where there was no data on the road drainage system of the by-pass. Also a watercourse near Ingatestone Primary School has estimated culvert geometry as survey information was not available. Both of these factors may contribute to an over estimation of flood risk in this location. It is recommended that details of the road drainage are Page 346



collected as well as the culvert linked to the unnamed watercourse to allow the flood extents to be refined.

Area INGATE-C shows significant flooding originating from both fluvial and surface water sources. It is proposed that investigations should be conducted in to whether the land in and around the A12 could be used to locate Sustainable Drainage Systems (SUDS). SUDS could reduce the flow of water within the watercourse during flood events and reduce flood damage in the area. Implementation of SUDS could be explored to the North of this area with the aim of intercepting surface water flows that contribute to flooding.

Flooding at Poplar Close (Area INGATE-D) relates to a lack of capacity in the sewer network to deal with surface water. The sewer pipes downstream of Poplar Close are shown to have a diameter of 150mm with surrounding Poplar Close having a mixture of diameters ranging from 150 - 375mm. It is possible that due to the mixture of pipe diameters that the sewer data supplied is not representative of the true conditions. It is therefore recommended that further investigations are conducted to verify the pipe dimensions around this site. This information will allow flood risk to be assessed more accurately. If the dimensions do prove to be correct then it is recommended that the sewer network in this area is upsized to provide sufficient capacity.

The railway line (Area INGATE-E) is another area that is shown to flood and would therefore affect the transport infrastructure through Ingatestone. The current model results give an indication of the likely flooding if the current drainage system servicing the railway were to become blocked. It is recommended that until detailed information regarding the drainage of the railway can be provided the best course of action would be ensure the current drainage system remains effective with a program of regular maintenance and cleaning.



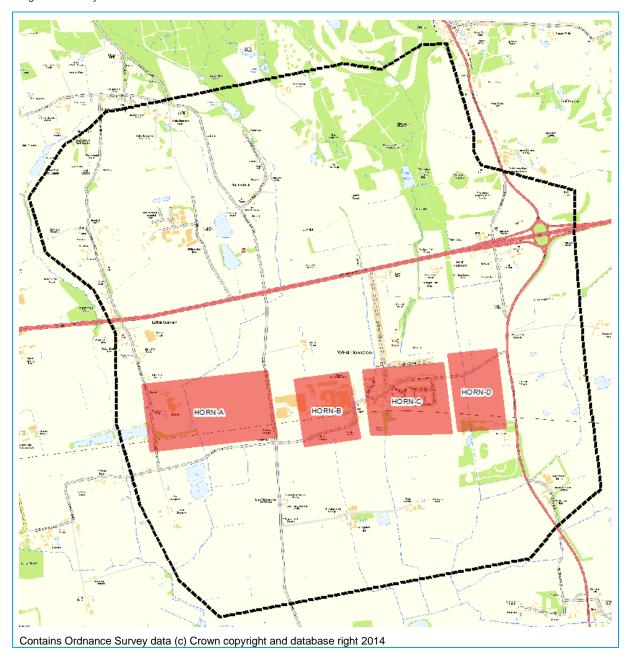
4.2.2 West Horndon

Overview of Flood Risk

The modelling results for West Horndon showing the predicted flood depths and hazard to people can be found in Appendix F.

To give an overview of flood risk a number of key flooding areas were identified. These are shown in Figure 4-12.

Figure 4-12: Key Areas within West Horndon

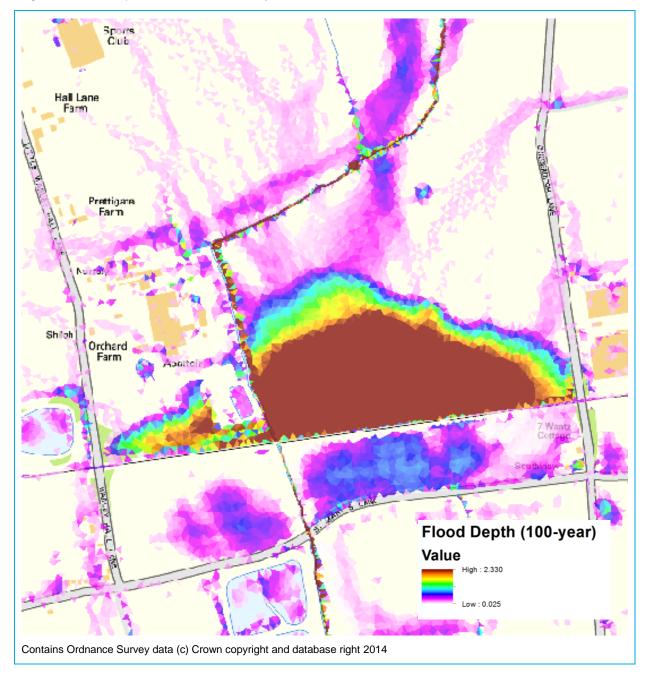




Area HORN-A

Figure 4-13 shows the flood depths for the 100-year return period in the vicinity of the HORN-A.

Figure 4-13: Flood Depth with HORN-A for the 100-year Return Period



Flooding at this location originates from surface water pooling in an area of lower topography, with the railway embankment restricting flow. Flood depths at this location can be greater than 1m for all return periods where the water is ponding against the railway embankment. The culvert running through the railway embankment has significant capacity and does not surcharge. The cause of flooding relates to the broad scale nature in which the watercourses are represented within the model. Surface water originates from the unnamed watercourse to the north.

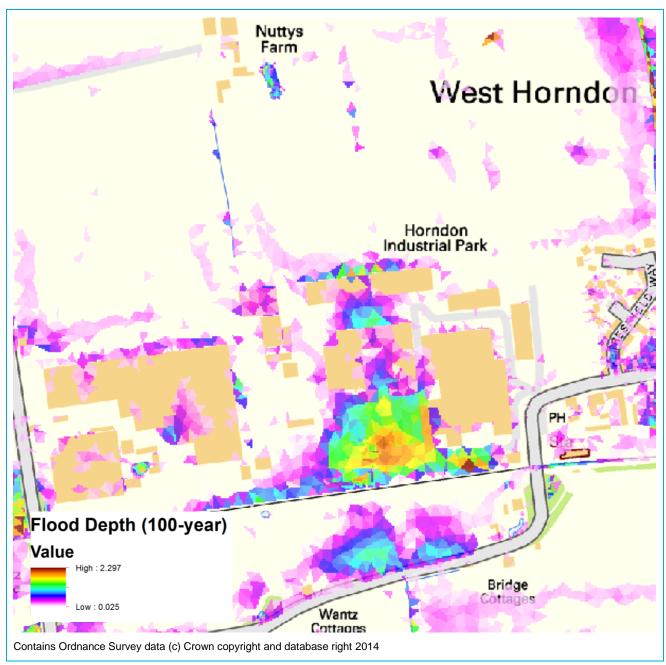
With regards to flood hazard to people, the areas of deep water are classed as "Danger for Most / Some" with the majority of contributing flow routes classed as "very low hazard".



Area HORN-B

Figure 4-14 shows the flood depths for the 100-year return period in the vicinity of the HORN-B.

Figure 4-14: Flood Depth within HORN-B for the 100-year Return Period



HORN-B consists mainly of industrial properties which form the Horndon Industrial Park. Maximum flood depths at this location are approximately 0.6m for all return periods and are found as water ponds against the railway embankment along the south of the industrial park. Flooding of this location is caused by surface water flows generated on farmland to the north following the natural topography.

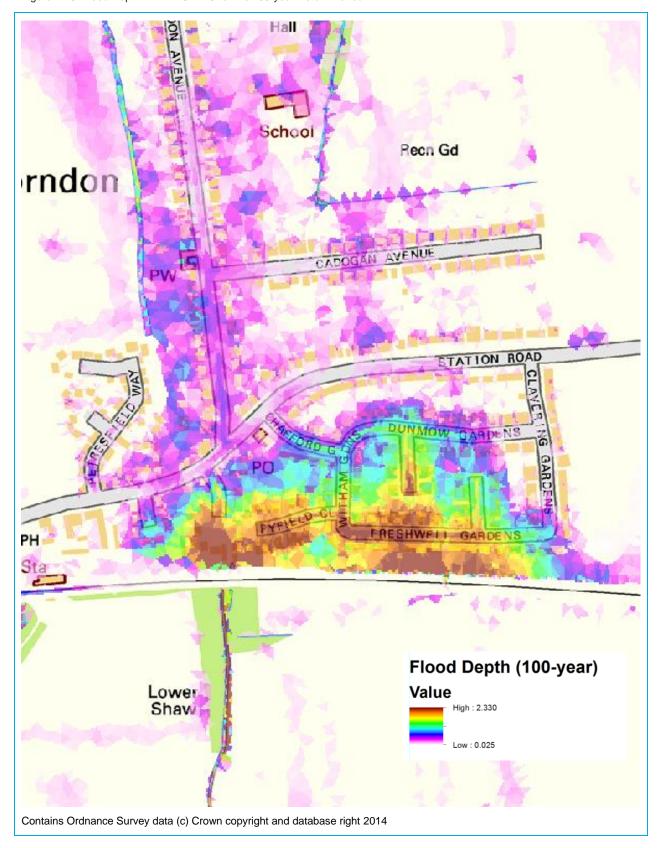
In regards to hazard to people, the areas of deep water are classed as "Danger for Most / Some" with the majority of contributing flow routes classed as "very low hazard".



Area HORN-C

Figure 4-15 shows the flood depths for the 100-year return period in the vicinity of the HORN-C.

Figure 4-15: Flood Depth within HORN-C for the 100-year Return Period



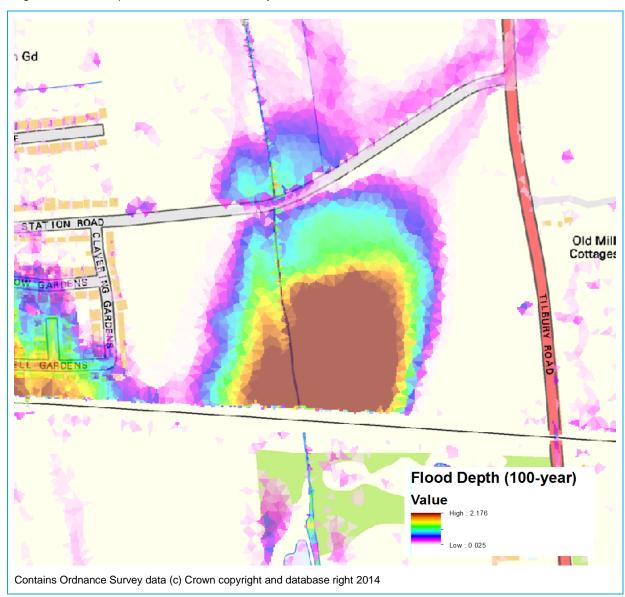


Flooding within West Horndon represents the main flood hotspot in the modelling extent due to the concentration of residential housing. Closer inspection of the model results show that within West Horndon the sewer network, which outfalls into an unnamed watercourse on the southern side of the railway embankment is surcharging. The outfall is an 825mm pipe however, the water within it is backing up and surcharging upstream with the sewer network. This is caused by the raised water level at the outfall which does not allow the water within the sewer to drain. Flooding is also contributed to by a watercourse that runs adjacent to Thorndon Avenue which overtops as it becomes culverted and generates surface flows towards West Horndon. The deepest flooding is located in the vicinity of Freshwell Gardens where water ponds against the railway embankment. At this location, flood depths range from 0.75 - 1.0m for all return periods. In regards to hazard to people, the areas of deep water in the vicinity of Freshwell Gardens are classed as "Danger for Most / Some" with the majority of contributing flow routes classed as "very low hazard".

Area HORN-D

Figure 4-16 shows the flood depths for the 100-year return period in the vicinity of the HORN-D.







Deep flooding located within HORN-D is not related to either the culvert running through the railway embankment or under Station Road. Both culverts are sufficiently large to allow flow through them and do not reach capacity for any of the return periods. The flooding is caused by surface water generated north of Station Road, overtopping the road and flowing south. The board scale nature of the modelling in this case means that with additional survey data the watercourse could be represented more accurately, which will improve confidence in the flood outlines. Runoff follows the local topography falling towards the railway bank and ponding against it.

In regards to hazard to people, the areas of deep water are classed as "Danger for Most / Some" with the surrounding areas classed as "very low hazard".

Validation of Results

To validate the flood results comparisons have been made with the historic flood records (shown in Appendix B). In West Horndon there have been 5 historic flood events recorded; 3 relating to domestically caused incidents and 2 surface water related. The surface water related events were located in the vicinity of the A127 and A128 junction. These areas have experienced surface water flooding within the model. Validation of the modelling records is difficult based on the lack of accurate information and complicated interactions between surface water, the sewer network and local watercourses.

Overview of Existing Properties

To represent the number of properties flooded with each modelled return period Frism was run using 100m grid cells. Appendix I shows the number of properties flooded for each given return period. Appendix I also contains a graphical representation of the mean aggregated flood damages within each flooded 100m grid cell for each return period. Table 4-4 shows a summary of the number of properties that are at risk across the area for the modelled return periods. Table 4-5 shows the annualised average damages within the West Horndon model extent.

Table 4-4: Number of properties at risk of surface water flooding in West Horndon

Return Period	Total number of Properties	Residential Properties at Risk	Non- Residential Properties at Risk	Number People Risk	of at	Total Damage £M (Residential)	Total Damage £M (Non Residential)
30-year	1,416 (792 Residential & 624 Non Residential)	650	408	1,528		£11.78M	£6.84M
100-year	1,416 (792 Residential & 624 Non Residential)	721	448	1,694		£13.68M	£7.70M
100-year (plus Climate Change)	1,416 (792 Residential & 624 Non Residential)	723	450	1,699		£13.97M	£7.93M
200-year	1,416 (792 Residential & 624 Non Residential)	733	463	1,723	·	£14.62M	£8.53M

NOTE: the number of people at risk was based on the asusmption that the average number of people per residential property is 2.35.

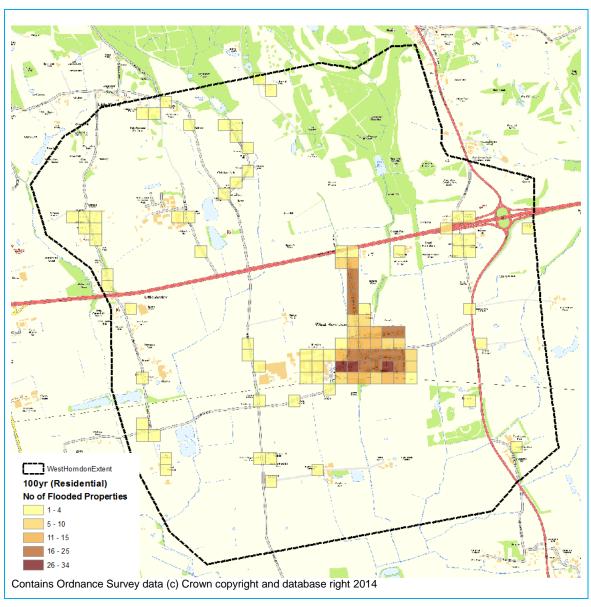
Table 4-5: Annualised Average Damage for West Horndon

Annualised Average Damage (£)			
Residential	Non- Residential		
£3,190,061	£1,849,498		



Number of Flooded Residential/Non-Residential Properties

Figure 4-17: Number of Flooded Residential Properties for the 100-year Event



Number of Flooded Residential/Non-Residential Properties

Figure 4-17 shows the number of flooded residential properties for the 100-year event. The largest concentration of flooded properties is centralised around West Horndon, in particular along the railway embankment which is where surface water appears to pond. The cells with the highest number of flooded properties coincide with the areas of deepest flood water (See Appendix F).



WestHorndonExtent 100yr (Non-Residential) No of Flooded Properties Contains Ordnance Survey data (c) Crown copyright and database right 2014

Figure 4-18: Number of Flooded Non-Residential Properties for the 100-year Event

Figure 4-18 shows the number of flooded non residential properties for the 100-year event. The largest concentration of properties appears to be located at West Horndon (in particular the Horndon Industrial Park) and Childerditch Industrial Park (located in the north-west of the model extent). Other areas of flooded non-residential properties coincide mainly with the location of farms and other agricultural buildings.

Mean Flood Damage for Residential/Non-Residential Properties

With regards to the cost of flood damage Figure 4-19 and Figure 4-20 show the distribution of flooding damage costs within the West Horndon model for the 100-year event. Appendix I contains all mapping illustrating the distribution of mean flood damages for other modelled return periods in the West Horndon area.



Figure 4-19 shows the majority of the flood damage for residential properties which occurred in the 100-year event are centralised around West Horndon. The worst affected areas in West Horndon are in the vicinity of Freshwell Gardens where a residential development coincides with the deeper flood waters. The mean aggregated flood damages at this location are approximately £500,000 - £1,000,000. One 100m cell situated over Freshwell Gardens shows mean flood damages of approximately £1,300,000. For residential properties elsewhere mean flood costs are low (generally below £50,000 per 100m grid cell) due to the shallow nature of flooding and less densely packed settlements.

Figure 4-19: Mean Aggregated Flood Damage (£K) for Residential Properties with the 100-year Event

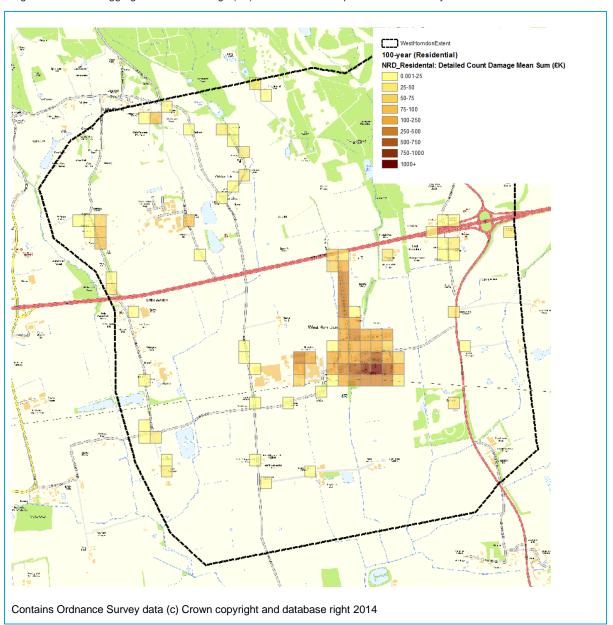
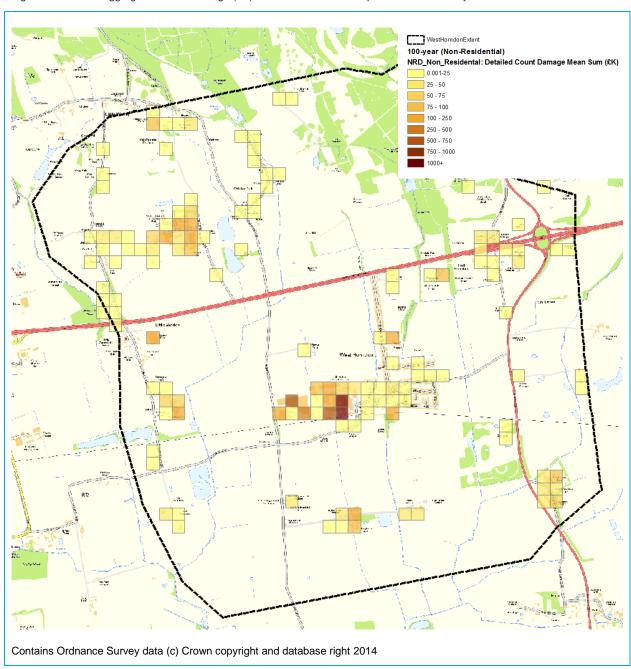




Figure 4-20 shows that the majority of the flood damages for non-residential properties which occur in the 100-year event are centralised around West Horndon. The highest mean damage costs are found in the vicinity of Horndon Industrial Park and Childerditch Industrial Park. These are the only two major concentrations of industrial buildings within the model area with other non-residential properties consisting of small concentrations of agricultural or leisure facilities. The highest average flood damages are located at Horndon Industrial Park with two cells having mean damage costs greater than £1,000,000 for the 100-year event. This coincides with high flood depths relating to surface water ponding against the railway embankment. Mean damage costs at Childerditch Industrial Park are significantly lower (approximately £140,000 per cell) due to the shallower flood depths.

Figure 4-20: Mean Aggregated Flood Damage (£K) for Non-Residential Properties with the 100-year Event





Recommendations for West Horndon

Based on the results of the modelling four areas are shown to flood to a significant depth in all return periods. These areas are highlighted in Figure 4-12. HORN-A represents an area that is mainly Greenfield; flooding may be exacerbated in this area as the watercourses are coarsely modelled using 2D techniques. It is not proposed to provide optioneering for this location, rather it is recommended that survey of the watercourse is commissioned and included in the existing model to improve understanding of flood risk in this area.

HORN-B represents an area which, similar to HORN A, suffers from a lack of detailed survey data, in this case no data was available for the sewer network at the industrial estate, allowing water to build up in this area. However, there are a number of possible optioneering options available including the creation of a channel to intercept surface water from fields to the north and improving conveyance by creating a culvert through the railway embankment discharging to a local watercourse as a means of removing water from the area.

HORN-C represents where flooding has the largest impact on residential properties. Analysis of model results showed that the sewer network was surcharging due to water backing up within the system caused by water levels in the watercourse to which the sewer discharges. Watercourses have been modelled using 2D modelling techniques within the InfoWorks model and therefore do not provide a detailed representation of channel capacity. It is recommended that following this study more detailed modelling is undertaken to assess the interactions with the watercourse and sewer network before recommending suitable mitigation options. Possible optioneering could involve improving conveyance by the upsizing of the sewer network and providing better interaction between outfalls and the receiving watercourses.

HORN-D represents an area that is predominantly rural. Site visits have shown that the culvert at Station Road can become significantly blocked meaning that despite there being no survey data for the watercourse the modelled results are likely to show realistic flow paths. Proposed optioneering could consider improving the conveyance of flow through the culvert at Station Road, with water allowed to pond in the fields to the south. This would aim to reduce flooding across the road allowing access to West Horndon.



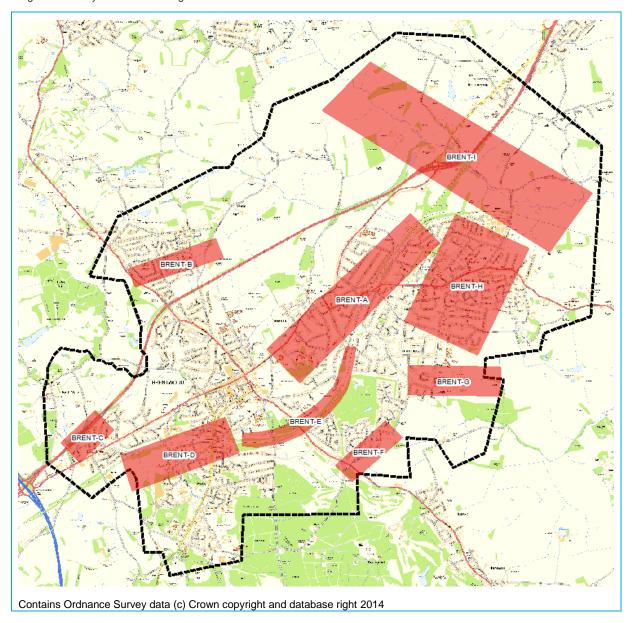
4.2.3 Brentwood Town, Hutton & Thrift Green

Overview of Flood Risk

The modelling results for Brentwood Town, Hutton and Thrift Green showing the predicted flood depths and hazard to people can be found in Appendix G.

To provide an overview flood risk, a number of key flooding areas were identified. These are shown in Figure 4-21.

Figure 4-21: Key Areas of Flooding in Brentwood

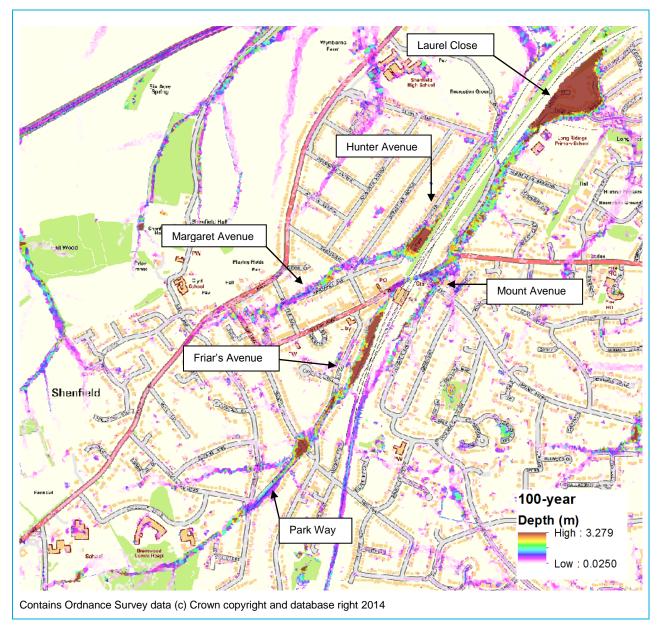




Area BRENT-A

Figure 4-22 shows the 100-year flood depths in the vicinity of BRENT-A as shown by Figure 4-21.

Figure 4-22: 100-year Flood Depth in the Vicinity of Area A



The largest and deepest flood extent is located adjacent to Laurel Close. Surface water at this location ponds in a depression in the topography and against the railway embankment. The origins of the surface water flow can be traced approximately 2.2km south west to a watercourse flowing in a north east direction towards Park Way. At this location the watercourse overtops the culvert entrance linking it to the sewer system and proceeds to flow along Park Way. At the end of Park Way the water surcharges the sewer network with water pooling at the junction with Priest Lane. At this location the maximum flood depth is approximately 0.7-1.0m for all return periods. Water continues to surcharge the sewer network, following the topography until it rejoins the open channel watercourse opposite of Friar's Avenue. At the end of Friars Avenue water fills the culvert that flows under the railway to capacity generating further overland flow towards Mount Avenue. Further surface water is generated by inflows to sewers surcharging. The surface water follows the topography and short existing watercourses along the eastern side of the railway embankment towards Laurel Close.

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The hazard for people rating for Laurel Close is mainly "Danger for Most" although return periods greater than 30-year show areas classed as "Danger for All" against the embankment. Other areas of flooding show mainly "Danger for Some/Most" although the 200-year event has areas of "Danger for All" along Park Way and Friar's Avenue.

On the western side of the railway embankment the most notable area of flooding is at Hunter Avenue, with maximum flood depths of approximately 1.0 – 1.3m for all return periods. The flooding originates from the west, along Margaret Avenue, with rainfall falling and following an overland flow route before pooling in a low spot on Hunter Avenue. Again the railway embankment prevents the water from escaping. The hazard to people rating for all return periods at this location is classed as "Danger for Most"

The key drivers of flooding in this area are culverts being overtopped by increased flow in the channels, causing the sewer network to surcharge in certain locations. In some locations such as the culvert upstream of Park Way the dimensions of culverts were uncertain and would benefit from further investigation. However, the modelling does give an insight into possible overland flow routes if the culverts were to become partially blocked. Surface water flow is dictated by the topography with the railway embankment providing areas in which surface water can become trapped and pool.

There are limited historic flood events to validate these results against however; there are records of fluvial, surface water and unknown flooding in the vicinity of Park Way and Friar's Avenue, which give confidence in the model results.



Area BRENT-B

Figure 4-23 shows the 100-year flood depths in the vicinity of BRENT-B as shown by Figure 4-21.

Figure 4-23: 100-year Flood Depth in the Vicinity of Area B

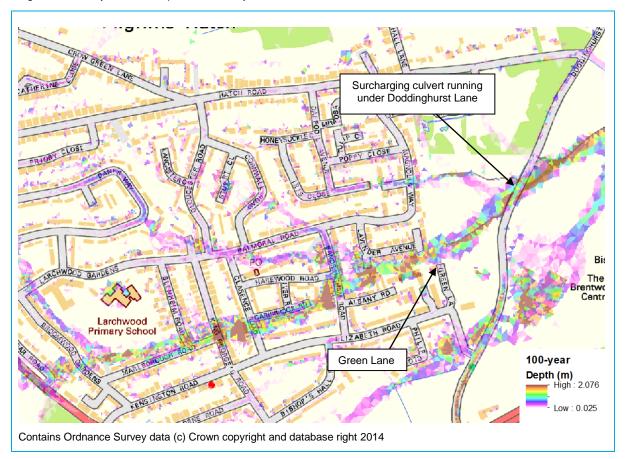


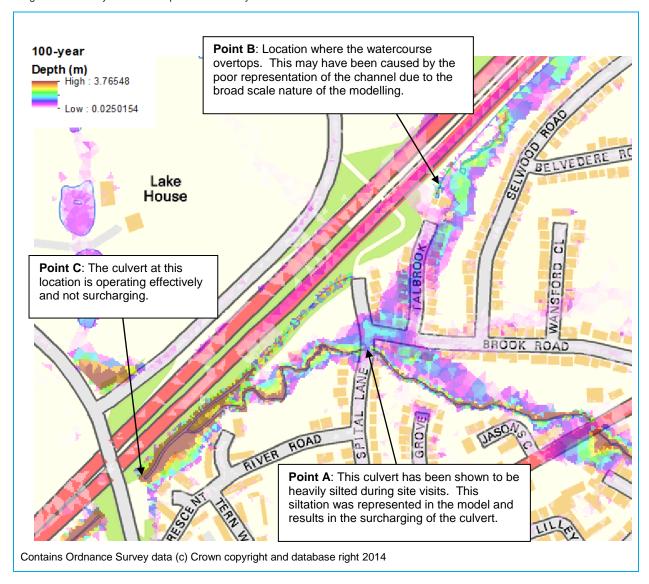
Figure 4-23 shows the flooding of the residential area south of Pilgrims Hatch, north of the A12. Maximum flood depths are approximately 0.7-1.0m for all return periods. Throughout this area the majority of the sewer network is shown not to surcharge with the likely cause of flooding being surface water following the natural topography and not entering the sewer network. This flooding may be a conservative estimate of flood risk, with the interaction between housing and the sewer network not effectively represented due to the broad scale nature of the modelling approach. This is consistent with the historic records which show only one reported flood record for this area which is of unknown cause. There are only two locations in the area where sewers surcharge. The first is on Green Lane where a number of 450mm pipes join the main 600mm sewer leading to a lack of capacity. The second location is at the culvert under Doddinghurst Lane. Both these culverts are potential candidates for upsizing. The modelling does show possible flow routes through the area which could be at risk from surface water flooding.



Area BRENT-C

Figure 4-24 shows the 100-year flood depths in the vicinity of BRENT-C as shown by Figure 4-21

Figure 4-24: 100-year Flood Depth in the Vicinity of Area C



Flood water originates from two points with the BRENT-C. The first point (Point A) is from the overtopping of the Spital Lane culvert. This culvert during site visits was flagged as suffering from excessive siltation and was therefore modelled with an allowance for this. The reduction in capacity caused by siltation causes water to back up upstream of the culvert as well as overtopping of Spital Lane. The second point is located north of Talbrook (Point B) where an unnamed watercourse is poorly represented due to a lack of survey data for the watercourse. Water flows out of the channel and down Talbrook, joining the other flow route at Spital Lane. Further downstream (Point C), the Wigley Bush Avenue culvert appears to be functioning effectively and does not surcharge.

In regards to hazard to people, the overland flow routes are classed as "Danger for Most/Some" in all return periods with the watercourses been shown as areas that are classed as "Danger for All".



Area BRENT-D

Figure 4-25 shows the 100-year flood depths in the vicinity of BRENT-D as shown by Figure 4-21.

Figure 4-25: 100-year Flood Depth in the Vicinity of Area D

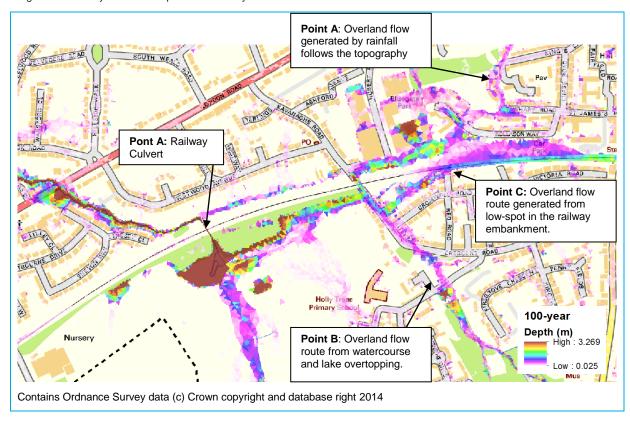


Figure 4-25 highlights a build up of water behind the railway embankment (Point A). Maximum flood depths are more than 1m for all return periods. Although the culvert through the embankment was represented, no surveyed dimensions were provided. The modelling provides the best representation based on the limited data. It is likely that the culvert allows significantly more flow through the railway embankment. However, the modelling does highlight potential areas that could be affected if the culvert is blocked. It also highlights overland flow routes that contribute to this area. The first is from the overtopping of a watercourse/lake located in Warley, south east of the railway culvert (Point B). Surface water flows down Crescent Road before being diverted by the railway embankment and heading towards the railway culvert. The second overland flow route originates from the railway where a low spot in the embankment allows water to flow from the railway in a westerly direction (Point C). The third flow route is in the vicinity of Downsland Drive with water flowing south, joining the flows from the railway (Point D). This flow is related to the incomplete / poor representation of sewer data in the area which is not collecting surface water in the sewer network.

In regards to hazard to people, area of deep water south of the railway culvert and east along the embankment is classed "Danger for Most" with "Danger for All" at areas of deeper water for all return periods. Flow routes from the railway embankment and Crescent Road are mainly classed as "Very low hazard" with areas of "Danger for Some/Most".

Area BRENT-E

The railway line is shown to flood for all return periods. Flooding extends from Shenfield Station to Brentwood Station. Between these locations maximum flood depths are between approximately 0.1-0.2m for all return periods. Isolated areas of higher depths being found at locations were roads cross the railway causing constrictions. Surface water spills from the railway at two locations along the line, within the car parks of both stations. The surface water at both locations follows the topography joining with other surface water flows. Unfortunately no drainage network information was supposed to the control of the modelled flooding may



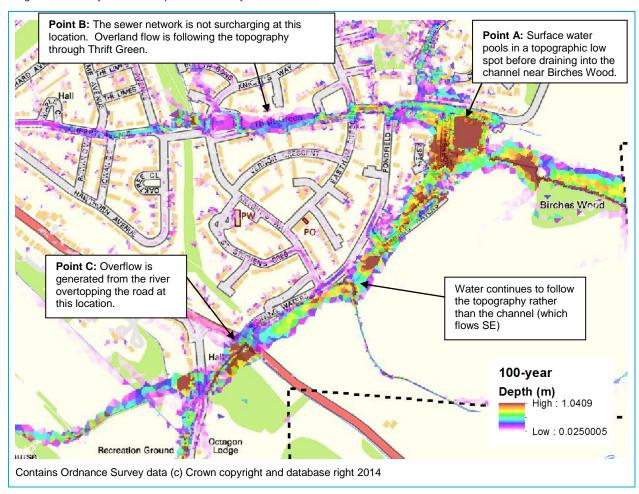
be a conservative estimate of current flood risk. If more information becomes available in the future the modelling should be revisited to improve understanding of flood risk in the area. The modelling does however show the possible flood routes and areas at risk if the railway drainage were to become blocked.

With regards to hazard to people, the majority of the flooded railway shows the classification of "Danger for Some/Most" for all return periods. For the 100-year plus climate change and 200-year scenarios Brentwood Stations shows areas of "Danger for All" that relate to deep areas of surface water.

Area BRENT-F

Figure 4-26 shows the 100-year flood depths in the vicinity of BRENT-F as shown by Figure 4-21

Figure 4-26: 100-year Flood Depth in the Vicinity of Area F



Flood water at this location pools in a low spot adjacent to Hornbeam Close (Point A). Maximum flood depths at this location are approximately 0.7-1.0m for all return periods. Surface water contributes to this area from the west along Thrift Green and south-west along Running Waters (Point B). Sewers in this location are shown not to be surcharging even though there is surface water flooding. Similarly to BRENT-B surface water is shown to follow existing topography. The flows along Running Waters originate from the high water levels in the adjacent watercourses and overtopping of the culvert under Ingrave Road (Point C). Although this shows flooding this is likely to be a conservative estimate of current flood risk due to uncertainties in data sets and model representation in this area. There are few historic flood records available for this area. If improved survey data for the sewers and watercourses becomes available the models could be re-run and understanding of flood risk in the area could be improved, however, the current modelling does show possible flow routes and areas which could be at risk from surface water flooding.

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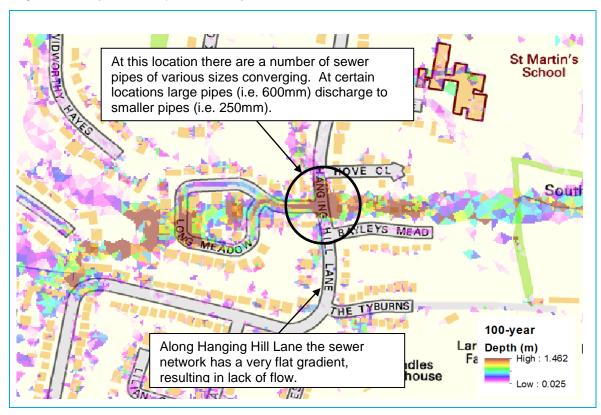


In regards to hazard to people, the discussed flow routes show the classification of "Danger for Some" with "Danger for Most" at areas of deeper water for all return periods. The area of pooling on Hornbeam Close is classed as "Danger for Most" for all return periods.

Area BRENT-G

Figure 4-27 shows the 100-year flood depths in the vicinity of BRENT-G as shown by Figure 4-21.

Figure 4-27: 100-year Flood Depth in the Vicinity of Area G



Flooding at this location originates from the lack of capacity and gradient within the sewer network. Along Hanging Hill Lane, the sewer is shown to have a very flat gradient, encouraging water to pond within the sewage network, surcharging onto Hanging Hill Lane. Also at this location there is a number of sewer pipes that appear to be undersized compared to the pipes up and downstream. This lack of capacity within the sewer causes the water to back up within the network surcharging at various points. The majority of the flooding in the area is shallow with the deepest patch being located at the junction of Long Meadow and Hanging Hill Lane. Surface water appears to follow the natural topography from this location towards the unnamed watercourse to the east.

In regards to hazard to people, the majority of the area is classed as "very low hazard" with only areas of deeper flooding (i.e. Hanging Hill Lane) being classed as "Danger for Most" for all return periods."



Area BRENT-H

Figure 4-28 shows the 100-year flood depths in the vicinity of BRENT-H as shown by Figure 4-21

Figure 4-28:'100-year Flood Depth in the Vicinity of Area H

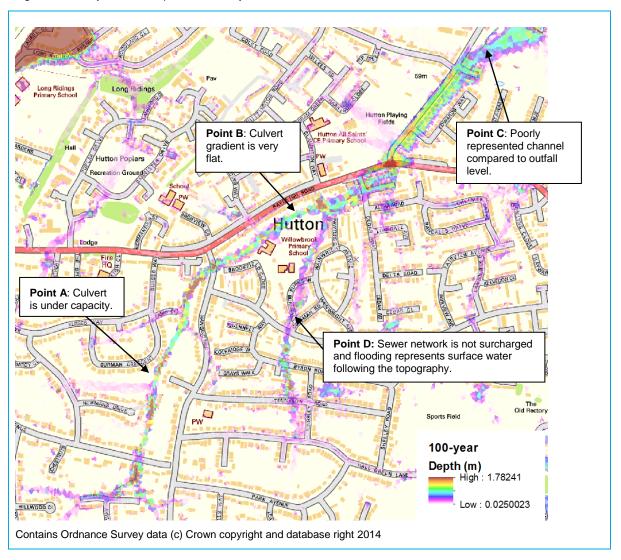


Figure 4-28 highlights four areas of flooding within the Hutton district. Point A is the location of a section of the sewer network (adjacent to Surman Crescent) which is under capacity and cannot convey a sufficient volume of surface water. A number of other sewer networks from the surrounding area feed into to the undersized pipe at this location, causing water to surcharge. The resulting surface water then flows north, following the natural topography. This would be a suitable location to consider upsizing the sewer network to handle larger volumes.

Point B is the location of a section of pipe which has a very shallow gradient. The lack of gradient allows water to build up and surcharge at this point. Surface water then flows northeast along Wash Road/Edwards Way. There is potential to re-grade the sewer network to provide more of a slope, promoting increased flow. Point C represents the location where the sewer network interacts with the local watercourse. Due to poor LIDAR representation the stream levels are uncertain, compromising the interaction between the sewer outfall and the receiving watercourse. This causes water to back up and surcharge in the cul-de-sac at the end of Edwards Way. Point D represents a surface water flow route starting at Kingsley Road and meeting the flow routes discussed in Points A and B to the north east of Willowbrook Primary School. The sewer network is not surcharging along the length of the flooded area and it therefore represents where rainfall is following the natural topography.



Historic flood records would normally be used to confirm the likelihood of flooding. Unfortunately there are few records available with only one record of surface water flooding along Hanging Hill, adjacent to one of the modelled flow routes was available. There is also a fluvial flood record at Wash Road/Edwards Way which ties in the flood results.

In regards to hazard to people, the discussed flow routes show the classification of "Danger for Some" with "Danger for Most" at areas of deeper water for all return periods.

Area BRENT-I

BRENT I consists of the River Wid and the A12 junction located north east of Brentwood. This area is shown to flood significantly during all return periods. The results from the modelling relate well to the Environment Agency's Flood Zone outlines with similar extents being shown from the new modelling. Although the area has few properties, the A12 is a key road link between Brentwood and Ingatestone and is shown to flood for all return periods. The likely cause of flooding is insufficient capacity within culverts passing underneath the A12. This area would be a primary candidate for optioneering to reduce flooding.

Risk to Existing Properties

To represent the number of properties flooded with each modelled return period Frism was run using 100m grid cells. Appendix J displays the number of properties flooded for each given return period as well as a graphical representation of the mean sum of damage within each flooded 100m grid cell for each return period. Table 4-6 shows a summary of the number of properties that are at risk across the sub-catchment for the modelled return periods. Table 4-7 shows the annualised average damage within the Ingatestone model extent

Table 4-6: Number of properties at risk of surface water flooding in Brentwood Town, Hutton and Thrift Green

Return Period	Total number of Properties	Residential Properties at Risk	Non- Residential Properties at Risk		of at	Total Damage £M (Residential)	Total Damage £M (Non Residential)
30-year	27,039 (23,373 Residential & 3,666 Non Residential)	16,584	2,311	38,972		£142.68M	£21.39M
100-year	27,039 (23,373 Residential & 3,666 Non Residential)	18,564	2,650	43,625		£170.23M	£23.68M
100-year (plus Climate Change)	27,039 (23,373 Residential & 3,666 Non Residential)	18,883	2,697	44,375		£175.41M	£24.60M
200-year	27,039 (23,373 Residential & 3,666 Non Residential)	19,737	2,847	46,382		£188.75M	£26.30M

NOTE:the number of people at risk was based on he assimption that the average number of people per residential property is 2.35

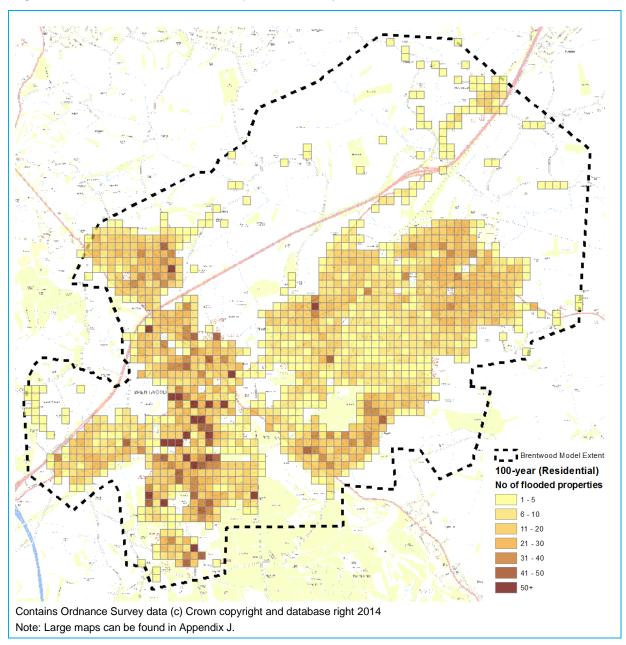
Table 4-7: Annualised Average Damage for Brentwood Town, Hutton and Thrift Green

Annualised Average Damage (£)				
Residential	Non- Residential			
£38,784,876	£5,773,720			



Number of Flooded Residential/Non-Residential Properties

Figure 4-29: Number of Flooded Residential Properties for the 100-year Event in Brentwood



Number of Flooded Residential/Non-Residential Properties

Figure 4-29 shows the number of flooded residential properties for the 100-year event. The largest concentration of flood properties appears in the west, south-west area of Brentwood. This area of Brentwood has a high density of housing, as would be expected around a town centre. The majority of the buildings are comprised of either flats or terrace housing. As you move north east from Brentwood Town the number of flooded properties decreases mainly due to the decreasing housing density. In these suburbs the typical housing type is detached or semi-detached.



Figure 4-30: Number of Flooded Non-Residential Properties for the 100-year Event in Brentwood

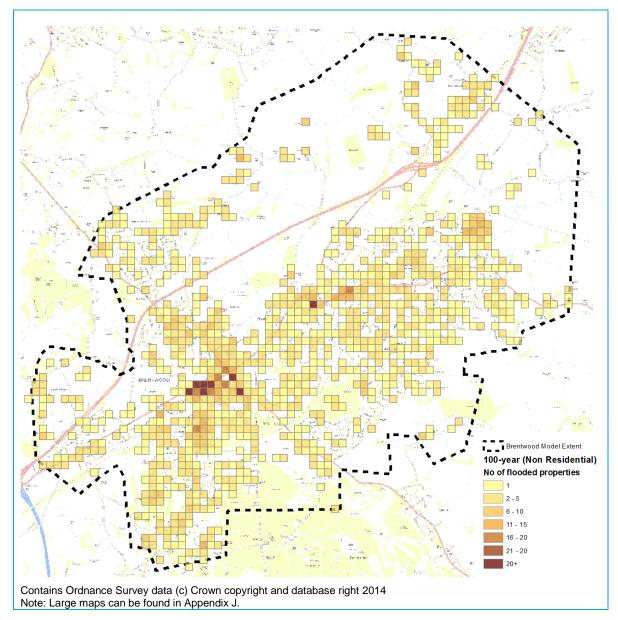


Figure 4-30 shows the number of flooded non residential properties for the 100-year event. The largest concentration of flooded properties is located in the vicinity of the High Street and Hart Street. At this location there are a number of 100m grid cells which have between 21-26 flooded properties. This number is understandably high with a large number of shops and other commercial buildings located in and around the High Street. Other groups of cells with more than 5 properties flooded are located around key infrastructure such as the Shenfield and Brentwood train stations. The majority of the cells that experienced flooding in Brentwood show less than 5 non-residential properties flooding.



Mean Flood Damage for Residential/Non-Residential Properties

In regards to the cost of flooding damage Figure 4-31 and Figure 4-32 show the distribution of flooding damage costs within Brentwood for the 100-year event. Appendix J contains all mapping illustrating the distribution of mean flood damage costs for all modelled return periods in the Brentwood model for all return periods.

Figure 4-31: Mean Aggregated Flood Damage (£K) for Residential Properties with the 100-year Event for Brentwood

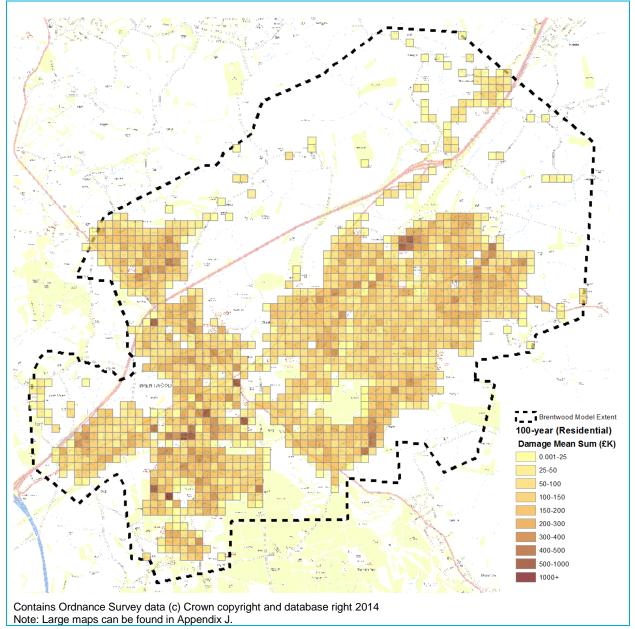
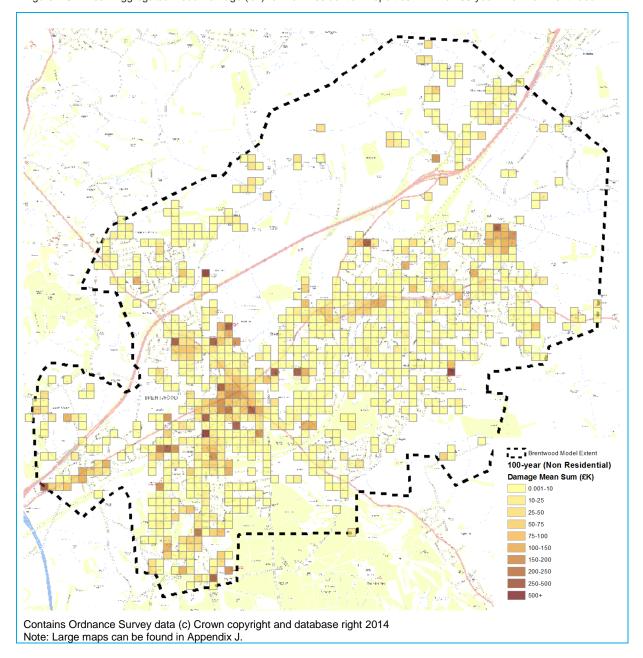


Figure 4-31 shows that the largest mean damage costs for residential properties in the 100-year event is centralised around the High Street, Laurel Close with isolated cells of high mean damage costs located where deep flooding coincides with high property density. The high cost experienced in the areas surrounding the High Street relates to high housing densities of the towns terrace housing. The high cost of Laurel Close relates to the deep flood water that pools at this location. The mean damage cost per cell for Brentwood is £127,000.



Figure 4-32 shows that the majority of the mean damage costs for non residential properties which occurred with the 100-year event are centralised around the High Street where there is a high concentration of shops and commercial properties. Also in the area are a number of schools and council office which are affected by flooding. Other areas of high damage costs relate to isolated schools and public infrastructure such as hospitals.

Figure 4-32: Mean Aggregated Flood Damage (£K) for Non-Residential Properties with the 100-year Event for Brentwood



Recommendations for Brentwood

Based on the results of the detailed modelling, a number of areas are shown to flood significantly with all return periods. These areas are shown in Figure 4-21.

BRENT-A which consists of mainly of residential areas is affected by surface water flooding originating from a number of watercourses which flow adjacent to the railway embankment. Overtopping of culverts causes overland flow and in some areas causes surcharging of the sewer network. Due to the coarse representation of the watercourses in this model it is recommended that additional surveys are commissioned and the model updated to improve the understanding of flood risk in the area. There are a number of areas where the sewer network could be improved to enhance the conveyance of flood water, particularly along Hunter Avenue



and Margaret Avenue. It is recommended that this area be put forward for optioneering due to the possible benefit to residential and commercial properties.

BRENT-B highlights surface water following the local topography. There is only one historic record in this area which would suggest that there is not a significant risk of surface water flooding. The conservative flood extent may relate to the broad scale nature of modelling, however, there are a number of locations where the sewer network or culverts appear to have insufficient capacity. It is recommended that the conveyance of the flood water could be improved by up sizing pipes along Green Lane and Doddinghurst Road.

BRENT-C was the location of residential flooding in the vicinity of Spital Lane. Although one of the main causes of surface water flow would be the coarse representation of the local watercourse it has been highlighted that the Spital Lane culvert becomes heavily silted and would benefit from optioneering to improve the conveyance with the aim to stopping surcharging of the culvert.

Flooding of BRENT- D was caused by a combination of flow routes converging on a railway culvert. A number of assumptions have been made regarding the dimensions of the constricting railway culvert. Further survey of the culvert should be conducted to determine its capacity. Modelling could be re-run with this more accurate information to develop a better understanding of flood risk in the area. Additional flow routes from the railway could also be overestimated due to no drainage data supplied regarding the railway. Surface water from the watercourse/lake in Warley is also coarsely represented with it recommended that more detailed modelling be conducted to determine the flood risk. Although further data is needed to represent some features more accurately there is potential for opportunities to reduce flood risk in the areas by the railway culvert. Flood storage could be incorporated to reduce flood risk further downstream where there is a higher concentration of residential properties.

BRENT-E covers the railway flooding between Shenfield and Brentwood station. Unfortunately no drainage data was supplied for the railway and therefore this could be added at a later date to better represent flood risk. However, the current model results do give an indication of the likely flooding if the current drainage system servicing the railway were to become blocked. It is recommended that until detailed information regarding the drainage of the railway can be provided the best course of action would be ensure the current drainage system remains effective with a program of regular maintenance and cleaning.

BRENT-F represents an area where surface water is generated from overtopping of a culvert on Ingrave Road. It is recommended that further investigation of the watercourse is conducted to determine flood risk.

BRENT-G represents an area where surface water flooding appears to originate from both under sized pipes and pipes with flat gradient which do not allow sufficient flow. This is particularly apparent along Hanging Hill Lane. It is recommended that this area is a candidate for optioneering to improve the conveyance of the sewer network.

BRENT-H represents an area that suffers from sewer network related issues. At one location (adjacent to Surman Crescent) the sewer is under capacity and would benefit from up-sizing. At another location (north east of Willowbrook Primary School) the sewer network is relatively flat, hindering flow. It is proposed that this area could be re-graded to provide more flow within the sewer, preventing water from backing up.

BRENT-I represents an area where the flooding impacts upon the A12. Although this has been coarsely represented it is apparent the culverts under the by-pass have insufficient capacity to convey floodwater. Possible optioneering for this area could include improving conveyance or the creation of flood storage areas to reduce flood risk further downstream.

4.3 Localised Mechanism of Flooding

The overland flow routes associated with surface water flooding across Brentwood Borough generally follow naturally occurring drainage pathways. Some of these pathways include watercourses, some follow the historic valleys of watercourses that have been culverted or diverted. Ponding associated with these generally occurs at the low spots, or where they come up against a man made obstruction to flow, such as the railway embankment.

Culverts are pipes or other man-made channels in which a watercourse is made to flow underground. They range in length from a figure 3 (763) example under a minor road crossing)



to many kilometres. Culverts can create many new problems, including the risk of flooding due to blocking or their capacity being exceeded, impacts on water quality and therefore biodiversity (especially in long culverts), and difficult and expensive maintenance. Within Brentwood Borough there are a number of areas where culverts are under capacity or do not have a sufficient gradient to prevent flow from pooling within the system. Unfortunately due to the restrictions and limitations on available data for this study, several culverts have been modelled as a best representation of the structure, without detailed survey. Also there were a number of discrepancies with the sewer network data regarding pipe dimensions. Without detailed and upto-date information the modelling results represent a strategic overview of flood risk within the Borough.



5 Options

5.1 Objectives

The purpose of the Options phase of the SWMP is to identify a range of structural and nonstructural measures for alleviating the surface water flood risk in the identified flooding hotspots. Once a range of measures has been determined they can be assessed to eliminate those that are not feasible or cost beneficial. The remaining options are then developed and tested against their relative effectiveness, benefit and cost.

5.2 Methodology

Options identification and assessment has been undertaken in four stages as summarised below:

- Identify Potential Measures: This includes structural and non-structural measures identified for all surface water flooding hotspots irrespective of the costs or benefits.
- Short List Potential Measures: Based on the potential measures available, a shortlist is
 determined of the measures which will reduce flood risk to existing settlements as well
 as reduce future flood risk. Consideration was also made to the practicality of
 implementing the measures.
- Potential Options: This stage involved incorporating the short listed potential measures into a range of options which could be tested based on a range of social, environmental, technical and economic criteria.
- Determine Costs and Benefits: This stage involves determining the costs and benefits of the preferred option.

5.2.1 Potential Measures

Potential measures consist of both structural and non-structural measures which have the potential to alleviate surface water flooding in Brentwood Borough. At this stage the identification of measures pays no attention to cost or suitability to ensure that a robust assessment of the available measures can be conducted. The aim is to identify the measures available and the role they could provide in alleviating surface water flood risk.

The DEFRA SWMP Technical Guidance (2010) outlines a number of structural and non-structural measures following a source-pathway-receptor model shown in Table 5-1. Sources refer to sources of flooding which for Brentwood Borough would be pluvial, sewer and water courses. Pathways are defined as how flood water gets from a source to a receptor. This would be either overland pathways or via the sewer systems. Receptors refer to anything which can be impacted by flooding. This would include people, households, community facilities, infrastructure and land. The source-pathway-receptor model is illustrated in Figure 5-1.

Table 5-1: Structural and Non-Structural Measures for Consideration

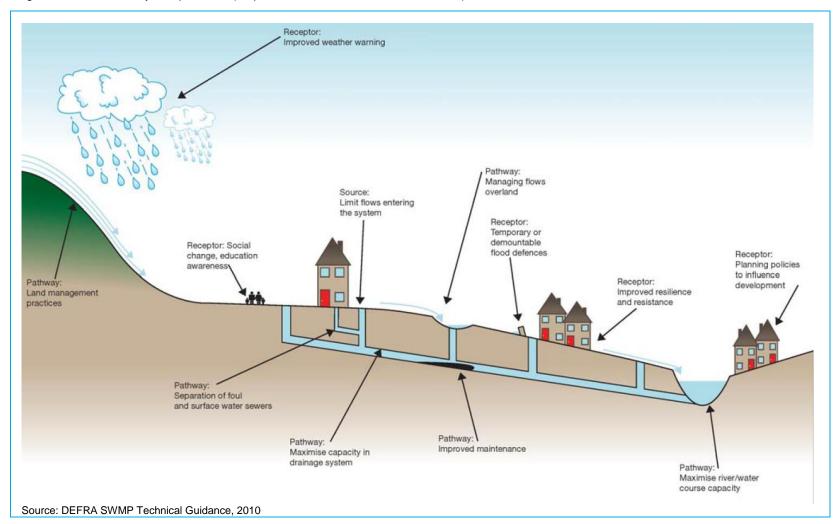
Source	Pathway	Receptor				
Sustainable Urban Drainage Systems (SUDS)	Increase capacity of drainage systems i.e. flood storage or conveyance	Improved weather warning				
Land management practices	Separation of foul and surface water sewers	Planning policies to influence development				
Strategic storage	Improve maintenance regimes	Temporary or demountable flood defences				
	Managing overland flows / diverting flow	Social change, education and awareness				
		Improved resilience and resistance measures				
Source: DEFRA SWMP Technical Guidance, 2010						



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Figure 5-1: Source-Pathway-Receptor Model (adapted from SWMP Technical Guidance, 2010)





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In addition to the identification of measures, the first stage of options assessment also identified a number of potential actions (known as 'Quick Wins') which can be conducted at a Borough wide scale. These Quick Wins can be undertaken quickly and with low capital cost to immediately reduce the risk of surface water flooding in any given area: Examples of Quick Wins include:

- Removal of a blockage currently preventing full conveyance through a culvert or ordinary watercourse.
- Removal of debris from drains and gulley pots which can cause restriction of flow rates and causing of surface water ponding.
- Improving conveyance in watercourse by removal of excessive weed growth.
- Council wide communication of strategies designed to raise awareness of surface water flooding.

These Quick Wins have been identified based on site visits across the site area, which has identified issues.

5.3 Short-Listed Measures

Following the consideration of the long-list of measures in regards to the flooding issues within the Brentwood Borough the following shortlisted measures have been chosen to be explored in further detail.

- Sustainable Drainage Systems (SUDS) Focus on both new developments and retrofitting SUDS into existing areas where appropriate.
- · Land management to reduce run off
- Strategic storage of water outside of urban areas
- Improved maintenance regimes.
- Improving capacity of problem culverts
- Public awareness and education aimed at making the public aware what they can do to help themselves and the profound effects of individual actions on surface water flooding
- Improvements in planning policy to reduce flood risk from future developments
- Property level resilience measures
- Policy against culverting (piping) watercourses in new developments except where short culverts are required over access roads.
- Strengthening and informing planning policy and guidelines to include individual homes and driveways plus larger scale developments.

The Short-List Measures were then developed into a series of options which could be applied on a Borough scale or at key flooding hotspots. A number of the options will be more applicable on a Borough-wide scale due to the lack of detailed site specific data available. A number of options can be applied to the flooding hotspots identified in section 4.2. For these areas the options will be tested for relative effectiveness, benefits and costs.

5.4 Potential Options

Based on the short listed measures, a number of options have been proposed which were tested for their relative effectiveness, benefits and costs. Table 5-2 shows the categorised options, with each option being considered for each of the flooding hotspots.



Table 5-2: Potential Options and Measures

Options	Measures			
Minimal measures	Do nothing			
	Do minimum (continue maintenance at existing level)			
Source control measures	Retro-fit SUDS at property level (green roofs, water butts etc)			
	Retro-fit SUDS at street/area level (swales, rain gardens etc)			
	SUDS on new developments at property level			
	SUDS on new developments at development level			
	Remove surface water misconnections from foul sewers			
Strategic measures	Deculverting / daylighting stream (with additional storage capacity)			
	Increased conveyance - gravity			
	Increased conveyance - pumped			
	Strategic storage outside urban area			
	Improved maintenance regimes			
	Land management to reduce runoff Raised defences			
	Temporary defences (community scale)			
Resistance and resilience	Managing overland flows (roads as rivers etc)land flows (roads as rivers etc)			
	Property-level resilience - temporary (e.g. Demountable door guards)			
	Property-level resilience - permanent (e.g. Raised thresholds)			
Non-structural measures	Flow / level monitoring for enhanced response			
	Restrict expansion			
	Public awareness and education (permeable drives, fly tipping, flood preparation)			

5.5 Borough Wide Options

As part of identifying short-listed options a number of options are not applicable to individual areas but should be applied on a Borough-wide scale. The inclusion of these options highlights that even if an area does not flood within a flooding hotspot it does not mean that surface water discharge from these areas are not a concern and does not need to be managed or mitigated. It simply means that the consideration of more direct options for that area is not so critical.

Borough wide options include the following:

- Retrofit of SUDS
- On-going maintenance of drainage network.
- Improving resilience to flooding (Property Level Protection).
- Public awareness education
- Planning and Development control policies

These are discussed in the following section.

5.6 Options Assessment – Borough Wide Options

5.6.1 SUDS / SUDS Retrofit

Sustainable Drainage Techniques (SUDS) aim to mimic natural drainage processes so that new developments do not increase surface water runoff and impact water quality (which is a general consequence of conventional draina



available, many of which are applicable in different situations. SUDS are one element of the concept of Green Infrastructure, an approach which analyses and values the services provided by green spaces, in particular within urban areas. The CIRIA SUDS manual (CIRIA, 2007) and Essex County Council guidance provides a comprehensive overview of the techniques. Examples of those thought to be applicable in the Brentwood Borough are list below:

- Green roofs can vary in type from Roof Gardens, Roof Terraces, Green Roofs and Green Walls. This SUDS technique utilises plants and their substrate to provide temporary storage of rainfall and minimise runoff from roof areas. They can also offer additional biodiversity benefit.
- Rainwater harvesting techniques, such as the installation of water butts, can aid in increasing the attenuation of rainfall and contribute to the on-site recycling of water.
- Infiltration devices drain water directly into the ground. They may be used at source or
 the runoff can be conveyed in a pipe or swale to the infiltration area. They include
 soakaways, infiltration trenches and infiltration basins as well as swales, filter drains and
 ponds. Infiltration devices can be integrated into and form part of the landscaped areas.
- Filter strips are vegetated areas that function by slowing runoff velocities and filtering
 out sediment and other pollutants, and providing some infiltration into underlying soils.
 This approach to SUDS also provides scope for the creation of wildlife habitats and
 biodiversity gain.
- Permeable pavements such as permeable concrete blocks, crushed stone and asphalt will allow water to infiltrate directly into the subsoil before soaking into the ground.
- Basins and ponds and rainwater gardens enhance flood storage capacity by providing temporary storage for storm water through the creation of landscape features within a site (which can often provide opportunities for the creation of wildlife habitats). Basins, ponds and wetlands can be fed by swales, filter drains or piped systems. In some instances, storm water runoff from a development can feed a pond which overflows into a vegetated wetland area to act as a natural soakaway. Rainwater gardens are depressions into which surface water is channelled, planted with water-loving species. They can be used in private gardens as well as on roadside verges

Although new developments can easily be designed with SUDS in mind retrofitting SUDS into currently occupied areas can help to solve some of the flooding and quality issues face in urban areas today. Such measures provide a joined up approach to managing surface water across wider areas, making urban areas more "green". Retrofitting SUDS can be cheaper than traditional solutions and nearly always provide more additional benefits such as reducing the portable water use, reducing flood risk, improving water quality and improving biodiversity.

Key to implementing SUDS retrofit is identifying opportunities. The first opportunity relates to urban regeneration or site reconstruction. In these areas drainage improvements may not be the primary aim but retrofitting SUDS can enhance the urban areas and provide small local improvements, due to the often small scale nature of the developments. These opportunities to retrofit are not necessarily driven by surface water flood risk but to modify the drainage system to deal with water better. The second opportunity will be driven by the need the control flooding or pollution. These opportunities are often over a larger area and therefore represent a more strategic approach to retrofitting SUDS.

Feasibility in Brentwood Borough

The suitability of areas for different types of SUDS techniques is often determined by localised soil types. An initial assessment was conducted using the British Geological Society's Infiltration Maps. These outline the constraints in a geological format based on ground conditions. Appendix K shows the feasibility of infiltration SUDS with the Brentwood Borough. These maps show that there are a significant amount of areas, particularly within Brentwood itself where infiltration based SUDS would be suitable. Implementation of retrofitted SUDS in Brentwood would allow the interception of surface water and reduce the volume which travels to constricting points such as culverts. This would be particularly useful in reducing surface water flood risk in the vicinity of Brentwood Station and areas to the west (See Areas C and D of Figure 4-21).



The application of features such as green roofs, swales and filter strips should be installed where possible review on a case by case basis. Features such as rainfall harvesting techniques and water butts can easily be installed on properties reducing the local demands on water resources.

Table 5-3 shows a number of locations where SUDS could be included to attenuate water, reducing flood risk elsewhere as informed by the modelling exercise. This is by no means an extensive list but designed to give an example of where possible opportunities can be developed. Further opportunities should be investigated throughout the Brentwood Borough in response to flood risk issues.

Table 5-3: Possible Locations of Attenuation Features

Location	Proposed Measure
Heybridge, Ingatestone	It is proposed that currently unoccupied land to the west of the A12 and within the A12 junction itself could be used as additional floodplain storage for the watercourse running through Heybridge. During extreme rainfall events additional floodplain storage would allow water to be attenuated and released at a slower rate to reducing further flooding downstream (in the vicinity of Marks Close).
Area West of Crescent Road, Brentwood	This area represents a region where water is found to back up behind a culvert passing under the railway embankment. As the surrounding area is predominately Greenfield this could be used for additional floodplain storage with features such as swales conveying surface water into a large pond. From the pond, water can be slowly released back into the watercourse.
A12, North-east of Brentwood.	This area is the location of an A12 junction which has the River Wid running underneath it. Although flooding is mainly fluvial in this location there are large areas of Greenfield land which could be utilised for additional storage. This could reduce flood depths in the area and reduce the flooding of roads in the vicinity.

With regards to new developments, it is considered that these would predominately be Greenfield developments and therefore require the use SUDS to ensure that their runoff does not exceed existing Greenfield rates. In redevelopment of existing areas within urban areas it is recommended that a reduction of at least 20% is achieved using SUDS where possible. This would help to mitigate the impact of climate change on flood risk. However, this may not always be possible and must be judged on a case by case basis.

It is important to note that the implementation of SUDS would require a concerted campaign over a number of years, involving, to greater or lesser degrees all of the project partners, along with local residents, businesses and organisations. Other opportunities will arise as a result of renovations, redevelopments, road re-surfacing, traffic calming, improvements to public open spaces etc. Taking these opportunities forward will require considerable co-operation both between and within partner organisations.

If this option were to be progressed, it is recommended that it is accompanied by an active programme of community engagement, to allow input to the design and maintenance of the retro-fit SUDS, and to use installations on public land to demonstrate SUDS in action and inspire householders and businesses to take steps to better manage their own surface water. This might involve some signage and other information to explain the purpose of the SUDS features.

Costing for SUDS

An approximate costing for SUDS within the three major urban areas of Brentwood, Hutton and Ingatestone has been provided. This was based on a number of assumptions such as:

- 70% level of impermeability per hectare to represent the existing developments
- An infiltration factor of 0.01m/hr was applied to represent the infiltration loss.



Table 5-4 shows approximate volume of attenuation required per hectare to reduce existing runoff by 25%, 50% and to Greenfield rates (approx. 75% of existing)

Table 5-4: Approximate Required Attenuation Volumes (m³ per ha)

Area Level of Reduction		Approx. Attenuation Volume Required (m³ per ha)
	25% of Existing	18-23
Brentwood	50% of Existing	37-57
Dientwood	To Greenfield (approx 75% of Existing)	65-114
	25%	21-22
Hutton	50%	48-55
	Greenfield (approx 75%)	84-119
	25%	21
Ingatestone	50%	47-56
	Greenfield (approx 75%)	81-116

Based on these estimates of required storage volume an approximate costing for a range of SUDS systems was devised for each area. Costs of systems were sourced from the CIRIA SUDS Manual and Stovin & Swan (2007)¹and updated to take into account of inflation. The costs provided are indicative and do not provide a precise figure for implementing SUDS into an area. The costs do not take into account costs of pipe connections, acquisition of land or consultation fees. A more detailed assessment would be needed on a site by site basis in order to implement SUDS.

Table 5-5 shows the approximate costs for implementing a range of SUDS into Brentwood, Hutton and Ingatestone

¹ Stovin & Swan (2007) Retrofit SuDS – cost estimate and decision sport tools. *Proceedings of the Institution of Civil Engineers*. Water Management 160 (WM4)



Table 5-5: Approximate Costs for Implementing SUDS (£ per Ha)

	Approx. Cost (£ per ha)					
BRENTWOOD 25% re		duction	50% Re	duction	Reduction to Greenfield (approx. 75%)	
Feature	Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost
Filter Drains	2,340	4,186	4,810	10,374	8,450	20,748
Infiltration Trenches	1,755	3,010	3,608	7,460	6,338	14,922
Soakaway	1,815	2,820	3,730	6,989	6,553	13,979
Permeable Pavement ¹	9,028	11,536	18,558	28,590	32,602	57,179
Infiltration Basin	756	1,518	1,554	3,762	2,730	7,524
Detention Basin	756	1,518	1,554	3,762	2,730	7,524
Wetland	585	897	1,203	2,223	2,112	4,446
Retention Pond	756	1,518	1,554	3,762	2,730	7,524
Swale	1,368	2,001	2,812	4,959	4,940	9,918
Filter Strip	47	120	96	296	169	593

	Approx. Cost (£ per ha)					
HUTTON	25% re	duction	50% Re	Reduction to Greenfield (
Feature	Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost
Filter Drains	2,730	4,004	6,240	10,010	10,920	21,658
Infiltration Trenches	2,048	2,880	46,817	7,199	8,192	15,576
Soakaway	2,117	2,698	4,839	6,744	8,469	14,592
Permeable Pavement ¹	10,533	11,035	24,076	27,586	42,132	59,687
Infiltration Basin	882	1,452	2,016	3,630	3,528	7,854
Detention Basin	882	1,452	2,016	3,630	3,528	7,854
Wetland	683	858	1,560	2,145	2,730	4,641
Retention Pond	882	1,452	2,016	3,630	3,528	7,854
Swale	1,596	1,914	3,648	4,785	6,384	10,353
Filter Strip	55	114	125	286	218	619

	Approx. Cost (£ per ha)					
INGATESTONE	25% reduction		50% Re	50% Reduction		to Greenfield (approx. 75%)
Feature	Low Cost	High Cost	Low Cost	High Cost	Low Cost	High Cost
Filter Drains	2,730	3,822	6,110	10,192	10,530	21,112
Infiltration Trenches	2,048	2,749	4,584	7,330	7,899	15,183
Soakaway	2,117	2,575	4,738	6,867	8,166	14,224
Permeable Pavement ¹	10,533	10,533	23,574	28,088	40,627	58,183
Infiltration Basin	882	1,386	1,974	3,696	3,402	7,656
Detention Basin	882	1,386	1,974	3,696	3,402	7,656
Wetland	683	819	1,528	2,184	2,633	4,524
Retention Pond	882	1,386	1,974	3,696	3,402	7,656
Swale	1,596	1,827	3,572	4,872	6,156	10,092
Filter Strip	55	109	123	291	211	603

^{1:} Please note that although permeable paving has been included it is not a system that is suitable for large amount of storage. Permeable paving is a source control technique which should be used with a combination of other SUDS.



Maintenance

Sustainable drainage schemes require ongoing maintenance into order to optimise performance and minimise the risks to long term performance. Operation and maintenance activities can be classed as the following:

- · Inspections and monitoring
- Regular Maintenance (e.g. clearing inlets/outlets, grass cutting etc)
- Irregular Maintenance (e.g. responding to problems such as blockages)
- Remedial maintenance (e.g. replacement of geo-textiles, replanting of grass etc)

The operation and maintenance costs will comprise of the following:

- Labour and equipment costs
- Material costs
- Replacement or planting costs
- Disposal costs

Table 5-6 shows the approximate costs of operating and maintaining various SUDS systems as detailed by CIRIA SUDS Manual

Table 5-6: SUDS approximate Operation and Maintenance Costs (CIRIA 2007)

Feature	Annual Cost (for regular maintenance only)	Unit			
Filter drain / infiltration trench	£0.26-£1.30	/m ² of filter surface area			
Swale	£0.13	/m ² of swale surface area			
Filter Strip	£0.13	/m ² of filter surface area			
Soakaway	£0.13	/m ² of treated area			
Permeable Paving	£0.65-£1.30	/m ³ of storage volume			
Detention / Infiltration basin	£0.13-£0.39	/m ² of detention basin area			
Wetland	£0.13	/m ² of wetland surface area			
Retention Pond	£0.65-£1.96	/m ² of retention pond surface area			
Note: Costs have been scaled up based on inflation.					

Unfortunately the whole life costs of SUDS are difficult to qualify. However, the Flood and Water Management Act 2010 did determine that SUDS schemes were only slightly more expensive per property than traditional piped systems. For that extra investment SUDS offer a wider range of benefits than piped systems such as increased amenity value, increasing ecological value, reducing pollutants and reducing surface water volumes.

Unfortunately due to the number of uncertainties and the large scale of the Brentwood Borough it is not possible to model the implementation of SUDS on a wide scale. However in Section 5.7 areas where SUDS may be applicable have been identified.

5.6.2 Borough Wide Option – Property Level Resilience Measures

The Government's *Making Space for Water* strategy, and Sir Michael Pitt's review following on from the flooding of June and July 2007, have both recognised the need to use a portfolio of measures to manage flood risk and the necessity to include in this portfolio the use of property-level protection (PLP) measures. In 2008 Defra announced a £5 million Property-level Flood Protection Grant Scheme as part of the Government's response to the Pitt Review. Grants could be applied for by local authorities and a total of 3 such schemes were completed during this 2 2012s6570 Brentwood SWMP Final Report (v4.0 January 2015).doc



year pilot. PLP is seen as cost-effective way to provide flood mitigation to communities which are unlikely to qualify for traditional community flood defence schemes on cost-benefit criteria.

Property-level protection is the name given to a package of measures aimed at reducing the likelihood of flood water entering a property (termed resistance) and minimising the impact if it does enter (resilience). Resistance measures can include (but is not limited to) door and window barriers, automatic air brick and vent covers, non-return valves for foul sewer chambers and waste pipes, toilet bungs, and ensuring all external walls are waterproof (and watertight) and appropriately sealed. Door and window barriers provide a relatively low-cost and simple to use means to help prevent the direct entry of flood water into a property. Effectiveness depends on the seal around the individual door or window, and onto the surrounding wall. Research carried out for Communities and Local Government (DCLG) and the Environment Agency, has recommended that the use of resistance measures (barriers for doors) should be limited at depths up to 0.6m. This is because the structural integrity of the building may be compromised above this level, including the increased risk of cracks and leaks. In recent years a number of KiteMarked uPVC flood doors have also entered the market; particularly beneficial in rapid response catchments (or where the risk is from surface water) with limited or no flood warning service giving residents time to respond. Any PLP scheme should commence with a detailed property level flood risk survey. These seek to identify the levels and sources of flood risk at the property, establish the local flood warning arrangements, identify potential routes of ingress at the property, and to define a suite of suitable recommendations for types of product (based on risk, the nature of the property, the ability of the homeowner to deploy them, and homeowner choice). PLP schemes should also be considered in the local community Emergency Flood Plan.

The installation of such measures will not always guarantee that the property will be watertight. Reasons for this include that there may be hidden water ingress routes, or that the standard provided by the mitigation measures may be exceeded. Therefore the following is a list of (resilience) options that can help reduce the damage once flood waters enter a property:

- 1. ensuring all electrical sockets on the ground floor are situated above the maximum expected height of flooding
- 2. ensure all ground floors are of concrete having a suitable damp proof membrane connected to the external walls
- 3. ensuring all external walls are waterproof; this may be achieved through application of waterproof render
- 4. waterproof internal walls and skirting
- 5. raised kitchen units and appliances
- 6. waterproof floor coverings

It is always very important that residents prepare individual flood plans. This includes simple practices like checking the pointing of a build to having a supply of sandbags read in case of flooding. Further details can be found on the Environment Agency website².

5.6.3 Maintenance of Drainage Network

The management and maintenance of the drainage network in the Brentwood Borough is the responsibility of a number of organisations:

- Anglian Water responsible for the main and lateral sewer networks.
- Environment Agency responsible for the flood risk management assets on main rivers.
- Essex Highways responsible for highway drainage, including surface water runoff from the Highway
- Network Rail responsible for railway drainage
- Riparian land owners responsible for the maintenance of ordinary watercourses through their land. This is enforced and overseen by the Lead Local Flood Authority.



As most of the rivers within the Brentwood Borough are ordinary watercourses the emphasis is on the riparian land owners to maintain the watercourses running through their land. Under the FWMA 2010 EA, LLFAs, district councils and the EA have legal powers to "designate" structures and features that affect flood or coastal erosion risk (whether or not it was originally intended to do so) and are not directly maintained by these organisations.

A designation is a legally binding notice served by the designating authority on the owner of the feature and will automatically apply to anyone dealing with the land and to successive owners or occupiers of a particular property of parcel of land.

Four conditions must be satisfied to enable a structure or feature to be designated. These are outlined in Table 5-7. If any of the four conditions cannot be met than designation is not possible.

Table 5-7: Designation conditions

	Conditions
1	The designating authority thinks the existence of the structure or feature affects a flood or coastal erosion (or both) risk.
2	The designating authority has flood or coastal erosion risk management functions in respect of the risk being affected.
3	The structure or feature is not already designated by another designating authority.
4	The owner of the structure or feature is not a designated authority.

Should a feature/structure be designated the owner should be able to continue to use the structure/feature. They may also alter, remove or replace the structure of feature providing they have the prior consent of the designating authority. However, by designating the structure it is highlighted as an area that contributes to flooding if not properly maintained.

In regards to the Anglian Water assets any improvements to the sewer network that are recommended need to be thoroughly assessed. Anglian Water takes a risk based approach to sewer improvements assessing the viability and cost benefit of any works. This approach is taken across the whole operational service area rather than solely in the Brentwood Borough. Therefore improvement works may be considered low risk in regards to improvements across Anglian Waters operational service area.

There are a number of locations within Brentwood where either siltation or collection of debris can severally constrict the flow through culvert, increasing flood risk to the surrounding area. A number of areas were highlighted in the site visits that offered examples of where maintenance would be beneficial and result in a reduction of flood risk. Photos of these areas can be seen in Figure 5-2.

It is suggested that a review be conducted of culverts around the Brentwood Borough, particularly within the Brentwood area to identify any areas that might be prone to blockage and arrange suitable maintenance regimes such as weed clearance or removal of rubbish.

Also effective cleansing of gully pots and other associated highway drainage features is fundamental to the effective operation of drainage infrastructure across the Borough. Essex Highways operates a regular maintenance regime for gully cleansing. Gully pots are fundamental to integrated urban drainage in that during intense precipitation events, surface water runoff is routed off roadways and other hard-standing and into gully pots and then into the public sewer system or watercourse. In essence, highway drainage features are a critical link in the performance of the overall drainage network. Although some of the highway drainage networks (such as the A12 By-Pass) were not represented the modelling showed what might happen if the drainage network were to become blocked, identifying surface water flow routes.



Figure 5-2: Examples of Maintenance Issues



Photo 1: Spital Lane, Brook Street
The culvert shows excessive signs of siltation which significantly reduces the capacity. This was noted and included in the model, resulting in overtopping of the culvert with water flowing over Spital Lane.



Photo 3: St Anne Road, Brentwood
This culvert running under St Anne Road
north of Brentwood is located in a
predominantly rural area and is prone to
collection of leaf litter and vegetation. In this
case the culvert is almost completely
blocked and therefore in a severe rainfall
event would be highly likely to flood.



Photo 3: Cadogan Avenue, West Horndon
The culvert and trash screen are located
north of Cadogan Avenue, West Horndon.
The photo shows that the trash screen is
approximately 50% blocked with vegetation.
At this location the spacing of the trash
screen bars is too narrow aiding in the
collection of finer material such as leaves.



Photo 4: Petresfield Way, West Horndon
The culvert is nearly 100% blocked with
debris and trash. Also there is minimal
clearance above the trash screen between
culvert soffit and culvert crest..



5.6.4 Public Awareness Education

A programme of education and awareness-raising on local flood risk issues is required to enable effective management of surface water flooding. Not all surface water risk can be mitigated by physical measures. Essex County Council has a primary role in empowering communities to adapt to the impact of future flood risk by helping them to become more resistant and resilient to the consequences of flooding. A programme of education and awareness-raising could be developed to enable social change. Priority issues in the Brentwood Borough include:

- Riparian responsibilities
- Householder responsibilities in particular paving of driveways
- Assistance with techniques for retro-fit of SUDS to homes and other buildings.
- Development of household and community flood plans.
- Tackling nuisance issues such as fly-tipping, which can exacerbate flooding.

The costs associated with this could not be calculated nor could the benefits. It would be recommended that any awareness and education programme be logged and reaction recorded to try and determine how well it would be working.

5.6.5 Strengthening and informing planning policy

Brentwood Borough Council as the local planning authority have overall responsibility for determining that new development takes place in the most appropriate location. Essex County Council and the Environment Agency have an input into Local Plans and Local Development Framework in respect of flood risk management of the development as their position as consultants on planning application.

Currently the Local Plan 2015-2030 for Brentwood sets out the long term vision of how Brentwood will develop and the Council's strategy and polices for achieving that vision. The plan outlines land allocations for development and details the planning policy that guided these decisions. Currently the Local Plan is in a period of consultation.

Within the Local Plan the main two policies which are of interest to the SWMP are policy DM35: Flood Risk and Policy DM36 Sustainable Drainage. Below is an overview of each policy.

Policy DM35: Flood Risk

- All developments in areas of flood risk need to submit a Flood Risk Assessment (FRA) to recognise all the likely sources of flooding.
- Proposals should be located in the lowest appropriate flood risk zone as part of the sequential test set in the Brentwood SFRA.
- The development is constructed so as to remain operational even at times of flood through resistant and resilient design.
- Contact should be made with the sewerage provider to assess the capacity of the receiving foul sewer network and contribute to any additional off site connections for the development.
- Developments is allowed within flood risk areas if it can be demonstrated that it will reduce fluvial and surface flood risk and manage residual risks through appropriate flood mitigation methods.

Policy DM36: Sustainable Drainage

- Brownfield sites need to achieve a reduction in existing runoff rates or at least no additional increase.
- Sites in Flood Zone 1 larger than 0.25ha need to have a drainage impact assessment.
- Design must maximise source control, providing the relevant number of treatment stages and dealing with 'first flush' with appropriate attenuation measures.
- Promote improvements in biodiversity and amenity.
- On brownfield sites disconnecting surface water drainage from the foul network.
- Promoting the preferred drainage hierarchy of managing surface water runoff.



The above two policy's reinforce NPPF guidance which seeks to safeguard new developments and reduce the causes and impacts of flooding. As well as this it aims to enhance and protect the natural environment from new developments. As a means of further strengthening this it is recommended that the following policies are implemented within the Borough to reduce flood risk

Policy 1: All development within the borough which increases the impermeable area to include at least one SUDS feature to minimise the peak runoff from the site. This SUDS feature could be a feature such as water butt, rainwater harvesting tank or bioretention planter.

Policy 2: All proposed brownfield sites which are more than one property should aim to reduce post development runoff rates for events up to 100-year plus climate change return period to Greenfield or if possible a betterment to the Greenfield runoff rate. This is particularly important in the areas that have been identified as a flooding hotspot in this SWMP.

Further to this it is recommended that a consideration is made for the creation of a Supplementary Planning Document (SPD) for flood risk and development that would complement the Essex SUDS Design and Adoption Guide. The SPD is a document what would also complements the Brentwood Local Plan and aims to assist developers on submitting appropriate flood risk and flood risk management information. It outlines what is required from a developer in regards to flood risk to a site and information more specific to the Brentwood area and can therefore include recommendations from this SWMP. The Essex SUDS Design and Adoption Guide currently gives an overview of guidance for the whole Essex County. It has also been highlighted by the Brentwood Water Cycle Study (2011) that the Brentwood Borough Council may also wish to consider producing a SUDS and Green Infrastructure SPD to provide SUDS guidance on the delivery of SUDS on strategic sites.

Reducing flood risk requires a pro-active stance on planning and building regulations policy across the Borough. Planning policy and guidelines should be strengthened to include individual homes and driveways as well as larger scale developments.

Policies on the application of:

- presumption against culverting,
- management of urban creep and paving of front-gardens,
- management of runoff from developments on brownfield sites,
- SUDS, and
- raising doorway/access thresholds,

should be linked to Planning and Building Regulations such that these measures are applied proactively to new build and retro fitted to established property where the opportunity is available.

The FMWA 2010 requires all development to consider sustainable drainage in its design. Currently Essex County Council has guidance on the adoption of SUDS, providing information on planning, design and delivery of SUDS schemes. It is recommended that a policy on SUDS and existing policies of local flood risk are reviewed in light of the findings of this SWMP. The policy should:

- Ensure that SUDS are employed for the drainage of highways, to a standard allowing them to be adopted by ECC (under current highways powers).
- Ensure that SUDS are considered for the drainage of other areas, and as far as possible
 are designed to be compliant with the SUDS manual and the emerging National
 Standards, and that options for their long-term maintenance under the current legislation
 are explored. Essex County Council already have SUDS adoption procedures in place
 which enable them to adopt SUDS ahead of the expected enactment of the relevant
 section of the FWMA.

5.7 Options Assessment – Area Specific Options

The option assessments for specific areas are based on the keys areas of flooding highlighted in section 4.2. For each area a number of measures were assessed for suitability with additional comments regarding the cost and placement of options in the area. It has not been possible for the recommended options to be modelled. The reason for this is that the data provided for use in the study was not of sufficient quality to allow the options to be modelled accurately, particularly in the vicinity of watercourses were assessed for suitability with additional comments regarding the cost and placement of options in the area. It has not been possible for the recommended options to be modelled accurately, particularly in the vicinity of watercourses.



difficult to model accurately the impact of particular options. Also many discrepancies have been noted with the sewer network data which make it difficult to recommend options where there are uncertainties in the base data.

Where possible recommendations have been made of possible mitigation options however, these should be investigated in more detail if further information becomes available. The suitability of each mitigation option for the specific areas has been displayed using a traffic light colour system in the summary tables.

Suitability	Description
	There are no opportunities for the mitigation option at this location.
	There are opportunities for the mitigation option at the location but is likely either require further modelling to determine exactly locations or that other options are initially explored that would provide greater benefits.
	The mitigation option would be recommended for the location and would reduce flood risk. Further study will be required to determine the scale and scope at which the option can be implemented.

Costing Options

Costing of measures was undertaken using a variety of sources summarised below:

- Spons (2013) Civil Engineering and Highway Works Price Book
- The Environment Agency Flood Risk Management Estimate Guide (2007)
- Stovin & Swan (2007) SUDS Retrofit
- Advice from JBA engineers

Costing of measures is highly indicative and is designed to give an estimate of what such a measure would approximately cost. The cost estimates do not take into account additional costs such as that of land purchase, professional fees, statutory fees, VAT, site supervision and compensation costs. An optimism bias of 60% has been added to the cost of measures derived from the Spons Price Book (2013) and Stovin and Swan (2007) to account for unforeseen complexities in project costs and duration. Costs from the Environment Agency Flood Risk Management Estimate Guide (2007) and Stovin & Swan (2007) were increased to take into account inflation since they were devised.

It is recommended that the costs of the recommended measures are revised and refined based on more detailed site specific assessments.

The following tables provide area specific options for the key areas indentified in section 4.2.



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5.7.1 West Horndon

Table 5-8: Area HORN-A - Area West of West Horndon

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Comments

This area is predominantly Greenfield in nature. Flooding originates from surface water flow following the topography and pooling against the railway embankment. The culvert under the railway at this location is shown in the modelling not to be surcharge and to perform to a satisfactory level. There are few properties located in this area affected by flooding.

Model Suitability / Improvements

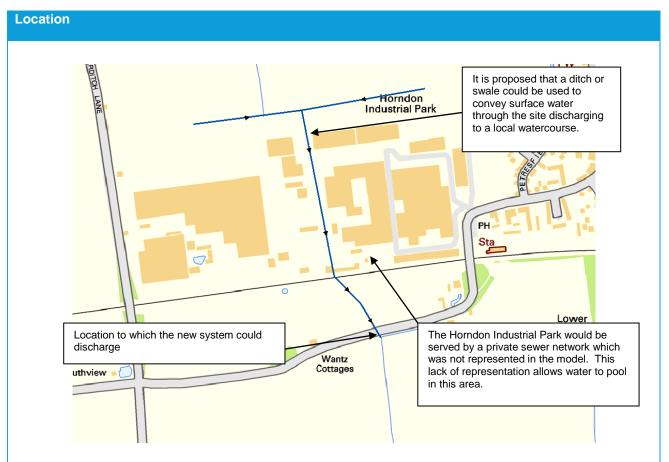
• The model could benefit from improved representation of the watercourses in the area in the future.



Options		Approximate Cost
SUDS / Retrofit SUDS	With few residential properties in the vicinity of the flooding there are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection (PLP)	With few residential properties in the vicinity of the flooding there are no feasible opportunities for PLP at this location.	N/A
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	It is recommended that this land is allowed to flood	A costing of this measure has not been conducted.
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	No maintenance issues were highlighted in this area during site visits. It is recommended that maintenance regimes continue to ensure there is no increase in flooding.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-9: Area HORN-B - Horndon Industrial Park



Comments

The modelling shows surface water pooling against the railway embankment. The surface water originates from farmland located to the north of the industrial site.

Model Suitability / Improvements

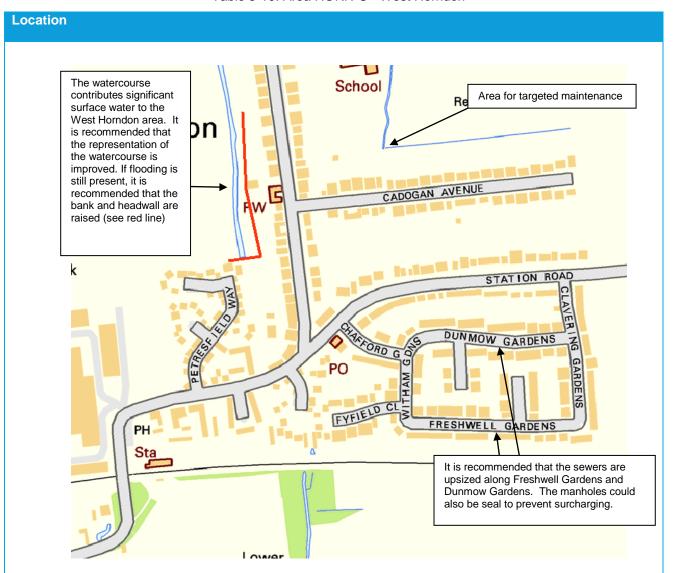
- The model lacks data on the private sewer network that serves the Horndon Industrial Park. It is
 recommended that data of this network be collected and used to update the model before further
 options are explored. The inclusion of sewer network may reduce the water levels currently found
 within the industrial park.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		Approximate Cost	
SUDS / Retrofit SUDS		It is recommended opportunities to retrofit SUDS into the industrial park are explored. Industrial parks tend to have car parking suitable for permeable paving and less restricted land available for structures such as swales.	See Section 4.6.1 for estimated costs of implementing SUDS.
Property Level Protection (PLP)		PLP could be explored in this area to prevent against surface flows from the north.	A costing of this measure has not been conducted.
Increase Conveyance		There are opportunities for increasing conveyance of surface water through this area. This idea is explored further in the Flow Diversion section below.	See Flow Diversion below.
Land Management		Land management could be considered to the north in order to reduce the amount of surface water flow travelling towards the railway embankment.	A costing of this measure has not been conducted.
Strategic Storage		There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion		It is recommended that a ditch could be constructed to the north of the industrial park to intercept surface water flows. This could be conveyed to a watercourse located to the south of the industrial park.	Embankment to north of the industrial estate (approx. length $440m$) = £133,047 Channel behind embankment (approx. Length $450m$) = £14,983 New culvert linking channel to the unnamed watercourse to the south of the industrial estate. (approx. length $450m$ x450mm) = £174,347 Total cost = £322,377
Maintenance		There are no known maintenance issues in this area.	N/A
Flood Defences		There are no feasible opportunities for flood defences at this location.	N/A



Table 5-10: Area HORN-C - West Horndon



The modelling of this area shows flooding to originate from the unnamed watercourse running adjacent to Thorndon Avenue. Surface water also originates from the sewer network surcharging along Freshwell Gardens and Dunmow Gardens. This is caused by the coarsely represented interaction between the sewer outfall and the watercourse. The deepest flooding in this location was located between Freshwell Gardens and the rail embankment. Due to the residential nature of the area there are many mitigation options that could be examined to reduce surface water flood risk.

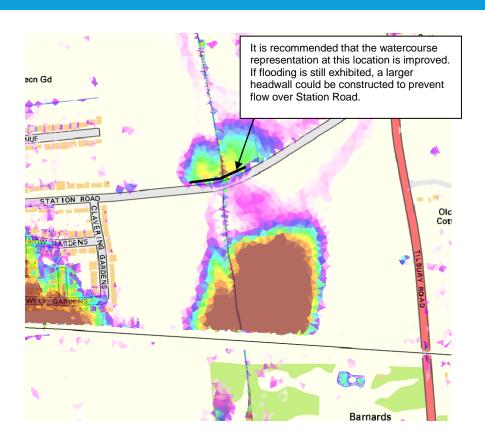
- The model in this location was shown to not represent the watercourse along Thorndon Avenue and
 to the south of West Horndon particularly well. It is recommended that before optioneering measures
 are suggested that this aspect of the model is updated and improved. With a large proportion of the
 surface water flooding originating from these watercourses improved representation could less the
 severity of flooding.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		Approximate Cost
SUDS / Retrofit SUDS	There are opportunities for SUDS retrofit in this area. SUDS could have a positive effect on the amount of surface water that is conveyed into the sewe network.	e estimated costs of implementing SUDS.
Property Level Protection (PLP)	It is recommended that this area would be suitable for PLP schemes to preven or limit the amount of damage caused by surface water flooding particularly in the vicinity of Fyfield Close and Freshwell Gardens.	t Properties) = £720,000 Wider West Horndon Area (100 properties) = £003,500
Increase Conveyance	It is proposed the sewer network in Freshwell Gardens and Dunmow Gardens could be upsized to improve conveyance. The culvert running underneath the railway embankmen could also be upsized to allow increased flow.	Freshwell Gardens to 450mm (approx. length 250m) = £103,536
Land Management	There are no feasible opportunities fo land management at this location.	r N/A
Strategic Storage	There are no feasible opportunities fo strategic flood storage at this location.	r N/A
Flow Diversion	There are no feasible opportunities fo flow diversions at this location.	r N/A
Maintenance	The culvert north of Cadogan Avenue was identified during site visits blockage by debris. It is recommended that there is increased maintenance at this location.	has not been conducted.
Flood Defences	Currently surface water originates from the watercourse running along Thorndon Avenue. If this is still the case following improvements to the representation of the channel it is recommended that the headwall and left bank are raised to prevent surface water flowing into West Horndon.	Thorndon Avenue (250m long x 1.2m high) = £118,045



Table 5-11: Area HORN-D - East of West Horndon



Comments

The majority of flooding in this area is generated from the watercourse. This is coarsely represented and therefore can allow water to spill out of the channel at certain locations. As the area is predominately Greenfield there are few risks to people or property.

- The representation of watercourse at this location could be improved in future. However, no properties are flooded within this area
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.

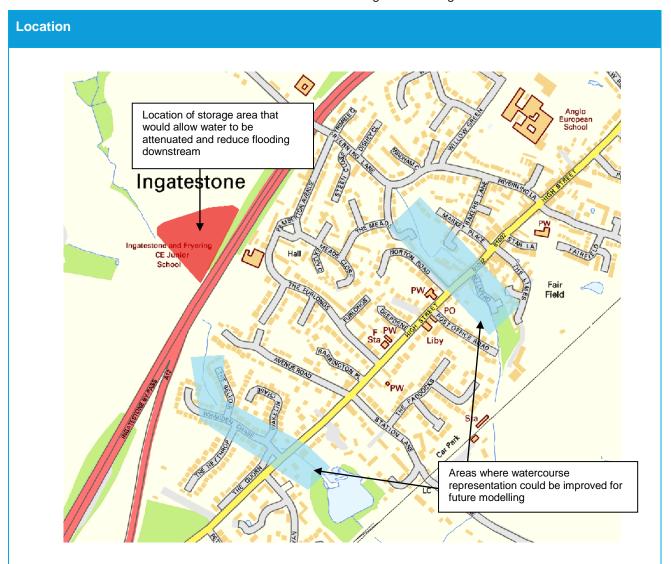


Options		Approximate Cost
SUDS / Retrofit SUDS	With few residential properties in the vicinity of the flooding there are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection (PLP)	With few residential properties in the vicinity of the flooding there are no feasible opportunities for PLP at this location.	N/A
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	It is recommended that this land is allowed to flood	A costing of this measure has not been conducted.
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance issues were highlighted in this area during site visits. It is recommended that maintenance regimes ensure there is no increase in flooding caused by blockages at Station Road.	A costing of this measure has not been conducted.
Flood Defences	It is recommended that the headwall be increased in height to prevent flooding over Station Road.	Flood Wall on north face of Station Road (120m long x 1.2m high) = £56,661



5.7.2 Ingatestone

Table 5-12: Area INGATE-A - Ingatestone High Street



Comments

This area is shown to mainly flood around the two watercourses running through Ingatestone. Water from these locations then follows surface water routes particularly down the High Street. There are some areas that flood due to incapacity in the sewer network such as at The Furlongs however; this is caused by discrepancies in the sewer data that could be improved at a later data.

- The model is shown in this location to be poor represent the watercourses. It is suggested that due to amount of flooding originating from the two watercourses in Ingatestone that detailed survey is conducted and the model improved before any mitigation measures can be accurately measured.
- Although the mitigation measures cannot be modelled at this time a number of recommendations
 have been provided of what would be suitable at this location which could be investigated further.



Options		Approximate Cost
SUDS / Retrofit SUDS	There are opportunities for retrofit SUDS into Ingatestone to reduce the amount of surface water that is transferred to the sewer network or local watercourses.	See Section 4.6.1 for estimated costs of implementing SUDS.
Property Level Protection (PLP)	It is recommended that PLP schemes are explored particularly in the areas adjacent to the two watercourses travelling through Ingatestone.	PLP Schemes in the vicinity of the two watercourse (approx. 44 properties) = £209,000
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	An area to the north west of Ingatestone has been identified as a location of strategic flood storage. At this location water could be attenuated and reduce the flood extent further downstream.	A costing of this measure has not been conducted.
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance regimes should be targeting culverts within Ingatestone to prevent flooding relating to blockage.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-13: Area INGATE-B - A12 Ingatestone By-Pass

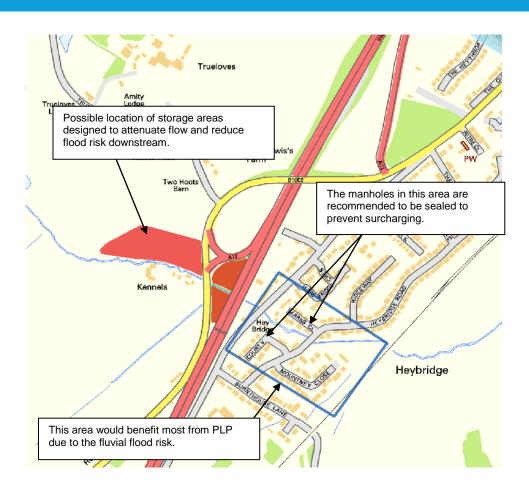
The model shows the southern carriageway is the primary route for surface water flow. However flooding at this location is likely to be over exaggerated due to the lack of highway drainage data. It does give an indication of possible flow routes if the highway drainage network were to become blocked.

- Improved representation of the highway drainage by inclusion of highway drainage data.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.

Options		Approximate Cost
SUDS / Retrofit SUDS	There are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection (PLP)	There are no feasible opportunities for PLP at this location.	N/A
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	An area to the north west of Ingatestone (identified in Area A) has been identified as a location of strategic flood storage. At this location water could be attenuated and reduce the flood extent further downstream	A costing of this measure has not been conducted.
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance should ensure that the highway drainage is working effectively and clear from blockage. Modelling highlights that the A12 could become a surface water flow route worsening flooding elsewhere.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-14: Area INGATE-C - Heybridge, Ingatestone



Comments

Flooding in this area is shown to be mainly fluvial in nature with current flood zones covering the most affected roads (notably Marks Closes, Court View and Heybridge Road). Flooding in this area relates to the sewer network which discharges at various locations in the watercourse, backing up due to high water levels at the outfalls. There are also a number of surface water pathways which originate from the A12 bypass and along Roman Road which contribute surface water to the area.

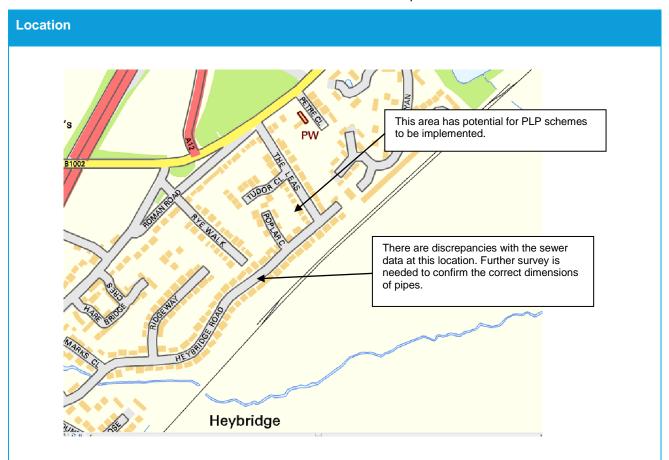
- Improve the representation of highway drainage which contributes surface water to the area.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		Approximate Cost
SUDS / Retrofit SUDS	Opportunities to retrofit SUDS in the are should be explored in order to reduce the amount of water entering the sewer networ and local watercourse.	ne estimated costs of
Property Level Protection (PLP)	An area in the vicinity of the watercours (Marks Close, Court View and Heybridg Road) would be suitable for PLP. The would be beneficial particular because the area being located in Flood Zone 2.	the watercourse in Heybridge is (approx. 57 properties) =
Increase Conveyance	There are no feasible opportunities fincreasing conveyance at this location location location increasing conveyance in this location would increase in flood risk further downstream.	n. on
Land Management	It is recommended that areas upstream Heybridge on the left bank and in unuse areas of the A12 junction be considered be storage areas. Attenuation of water these locations would aim to reduce floorisk further downstream.	not been conducted. to at
Strategic Storage	It is recommended that areas upstream Heybridge on the left bank and in unuse areas of the A12 junction be considered be storage areas. Attenuation of water these locations would aim to reduce floorisk further downstream.	ed not been conducted. to at
Flow Diversion	There are no feasible opportunities for flo diversions at this location.	w N/A
Maintenance	Maintenance should ensure that the highway drainage is working effectively are clear from blockage. Modelling highligh that the A12 is a surface water flow route the area. Maintenance should also targe culverts within the residential area prevent blockage.	ts to et
Flood Defences	Opportunities could be investigated if fluvi flooding continues to be a problem in the area. To confirm this, a more detailed study would be required outside of the scope of this study.	is not been conducted.



Table 5-15: Area INGATE-D - Poplar Close



Flooding in this area relates to the surcharging of the sewer network. This surcharging is caused from surface water flowing into the sewer network and the increase in water levels in the watercourse causing water to back up within the sewer network. It was noted at this location a number of discrepancies with sewer data which should be investigated further.

Model Suitability / Improvements

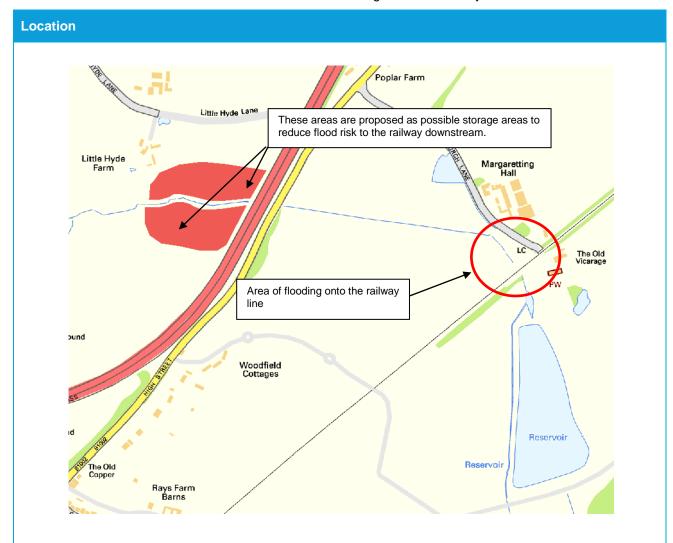
Further investigation of the sewer network in the vicinity of Heybridge Road. There are a number of
different pipe sizes at this location which constrict flow. Survey should confirm the dimensions of
the pipes and if incorrect allow the model to be updated.



Options		Approximate Cost
SUDS / Retrofit SUDS	Opportunities to retrofit SUDS in the area should be explored in order to reduce the amount of water entering the sewer network and local watercourse.	See Section 4.6.1 for estimated costs of implementing SUDS
Property Level Protection (PLP)	The area surround Poplar Close could be investigated for suitable of PLP schemes. However, other measures may reduce flooding in this area reducing the need for PLP. Properties on Heybridge Road would also benefit from PLP due to their proximity to the watercourse.	PLP in the vicinity of Poplar Close (approx. 65 properties) = £308,750
Increase Conveyance	At this location a number of small pipes are shown to be have insufficient capacity. If further survey confirms these are the correct dimensions then these pipes along Heybridge Road / Poplar Close should be up-sized.	Increasing the sewer capacity to 450mm along Heybridge Road (approx. Length 350m) = £144,917
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	There are no maintenance issues at this location.	N/A
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-16: Area INGATE-E - Ingatestone Railway Line



The north-east section of railway line is shown to flood for all return periods. Flooding extends from the railway station, (in vicinity of Halls Lane) in a north-easterly direction, reaching the edge of the model domain. Unfortunately no drainage network information was supplied for the railway; therefore if future more information becomes available the modelling should be rerun to reassess the flood risk. The current modelling results however give an indication of what might happen if the railway drainage network were to become compromised.

- Railway drainage networks data was not available and therefore could improve the model accurate if added at a later date.
- The watercourse is coarsely represented and would require more accurate modelling to justify detailed mitigation measures.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.

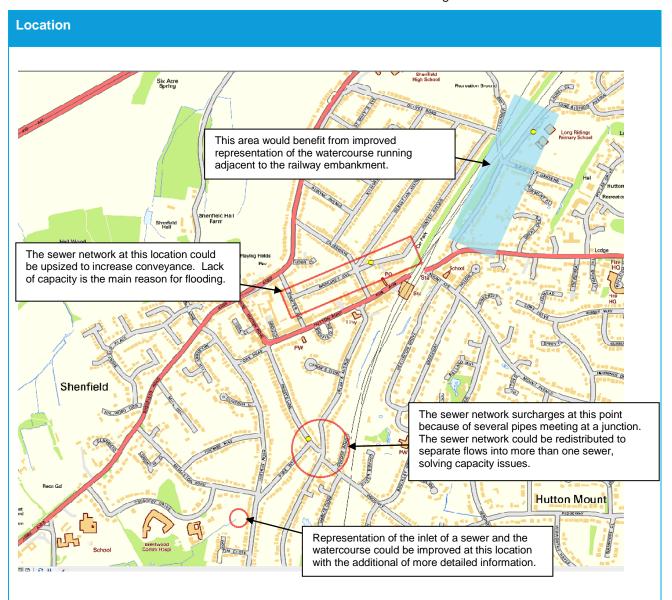


Options		Approximate Cost
SUDS / Retrofit SUDS	There are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection	There are no feasible opportunities for PLP at this location.	N/A
(PLP)		
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location. Increasing conveyance at either the culvert under the A12 or under the rail embankment as it would increase flood risk downstream.	N/A
Land Management	It is recommended that the opportunity to create flood storage on the western side of the A12 is explored to reduce flood risk downstream.	A costing of this measure has not been conducted.
Strategic Storage	It is recommended that the opportunity to create flood storage on the western side of the A12 is explored to reduce flood risk downstream.	A costing of this measure has not been conducted.
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance should ensure that the railway drainage network is working effectively and is clear of blockages.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



5.7.3 Brentwood

Table 5-17: Area BRENT-A - Brentwood High Street



Comments

Flooding in this location relates to both the sewer network surcharge due to incapacity and flooding from local watercourses. Initially flooding originates from a watercourse overtops the inlet to the sewer system and proceeds to flow along Park Way. At the end of Park Way the water surcharges the sewer network with water pooling at the junction with Priest Lane. The flooding then follows the local watercourse, filling sewers to capacity at several locations. There are also conveyance issues on Margaret Avenue where the sewer surcharges and flooding collects in a depression on Hunter's Avenue.

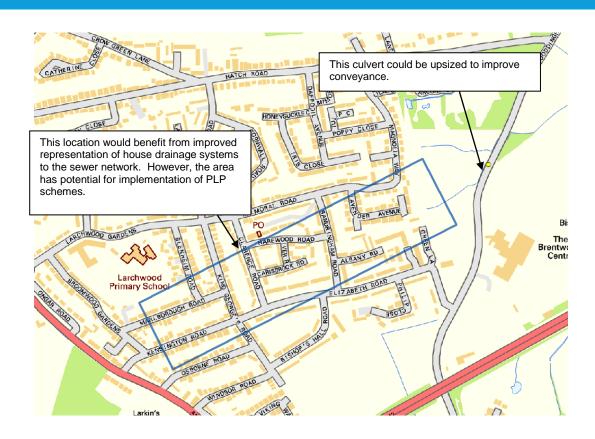
- Railway drainage networks data was not available and therefore could improve the model accurate if added at a later date.
- The watercourse is coarsely represented and would require more accurate modelling to justify detailed mitigation measures. Improvements could be made to the interaction between the sewer network and the watercourses if more detailed data was available, possibly reducing flooding.
- Mitigation measures have been suggested based on current modelling results but should be revised
 Page 410



if further information becomes available.			
Options			Approximate Cost
SUDS / Retrofit SUDS		There are opportunities for retrofitting SUDS to reduce the volume of surface water that is conveyed by the sewer network.	See Section 4.6.1 for estimated costs of implementing SUDS.
Property Level Protection (PLP)		There are opportunities for PLP for properties in close proximity to the watercourse. However, before this is recommended more detailed or improved representation of the watercourses would be needed.	A costing of this measure has not been conducted.
Increase Conveyance		There are a number of locations where conveyance could be increased. The first is Margaret Avenue where the sewer is shown to surcharge and therefore would benefit from upsizing of the pipe network. Another location is at the junction of Park Way and Priest Lane where several culverts join into a singular pipe. At this location it is recommended that the culverts a split up and diverted so that fewer culverts join at the same location, reducing the chance of surcharging.	Upsizing the sewer at Margaret Avenue to 450mm piping (approx. Length 450) = £186,365 Redirecting sewer piping at the junction of Park Way and Priest Lane by installing a new 450mm pipe to convey some flow to Hunter Avenue by an alternative route (approx. Length 50m) = £20,702
Land Management		There are no feasible opportunities for land management at this location.	N/A
Strategic Storage		There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion		There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance		Maintenance should be conducted to ensure that the drainage systems are function effectively.	A costing of this measure has not been conducted.
Flood Defences		A flood wall could be constructed at the inlet of the sewer network (at the west end of Park Way) to prevent overtopping from the watercourse.	Flood wall at the inlet of the sewer network, west of Park Way (approx. 1.20m high and 30m in length) = £14,165



Table 5-18: Area BRENT-B - Pilgrims Hatch



Comments

Throughout this area the majority of the sewer network is shown not to surcharge with the likely course of flooding being that surface water is following the natural topography. This flooding is likely to be more extreme than in reality with the interaction between the housing and the sewer network not effectively represented due to the broad scale nature of the modelling approach. Being a residential area there are numerous opportunities for retrofitting SUDS and possible PLP schemes.

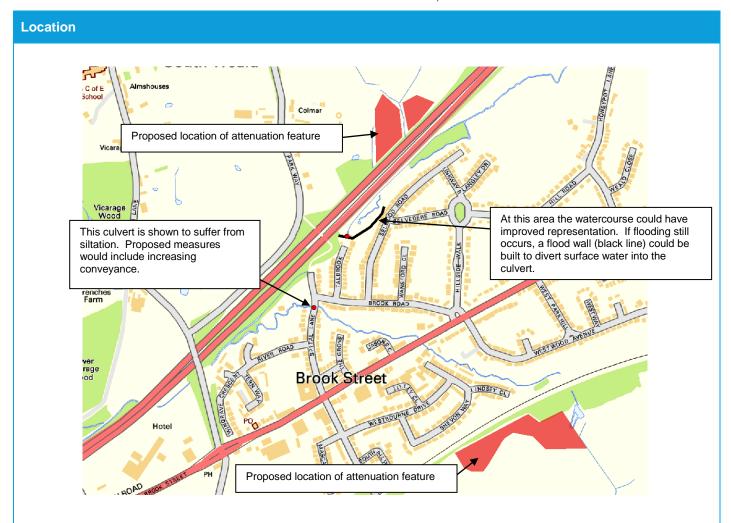
- Improve the representation of housing drainage network and the sewer network.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		Approximate Cost
SUDS / Retrofit SUDS	Opportunities to retrofit SUDS in the area should be explored in order to reduce the amount of water entering the sewer network and local watercourse.	See Section 4.6.1 for estimated costs of implementing SUDS.
Property Level Protection (PLP)	There are opportunities for PLP in the area highlighted above. However, improved representation of the housing drainage network to the sewer by dramatic reduce the level of flooding and the need for PLP.	A costing of this measure has not been conducted.
Increase Conveyance	Increased conveyance is recommended at the Doddinghurst Road culvert in order to prevent water backing up behind the structure.	Upsizing the culvert under Doddinghurst Road using a pre-cast concrete culvert (10m in length and 1.2m wide) = £108,000
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance should be conducted to ensure that the drainage systems are functioning effectively.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-19: Area BRENT-C - Brook Street, Brentwood



Flooding at this location is originates from fluvial sources. The first is from the watercourse north of Talbrook. This relates to the coarse representation of the watercourse within the model. The second is at Spital Lane where siltation (represented within the model) causes water to overtop the culvert and flow over the road. Further downstream the culvert under Wigley Bush Lane appears to be operating normally. There are numerous opportunities for mitigation options such as SUDS, PLP and improving conveyance. In the wider area there are also opportunities to offer additional flood storage in an attempt to decrease flood risk downstream.

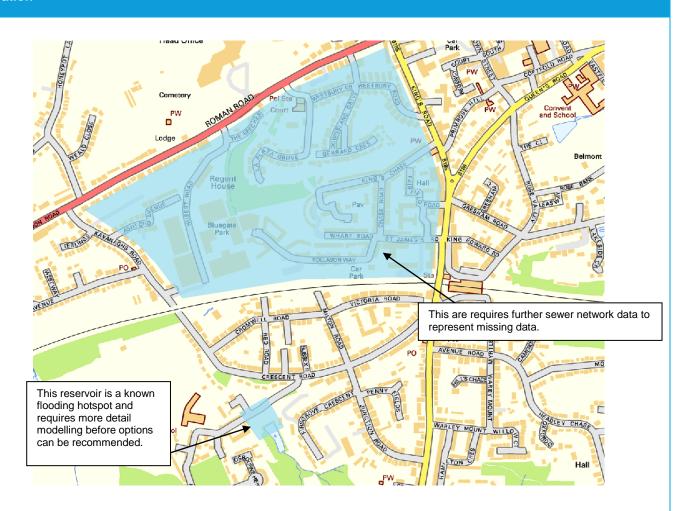
- Improve the representation of the watercourses, particular the one adjacent to Selwood Road.
- Limited data of the sewer network was supplied for Brook Street. This would likely intercept a number of surface water flow routes and limited the number flooded properties in the area. This makes it difficult to model mitigation options in this area.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		Approximate Cost
SUDS / Retrofit SUDS	The residential nature of the development makes this an area that would be suitable for SUDS retrofit.	
Property Level Protection (PLP)	Due to the proximity of residential properties to the floodplain PLP would be an option to explore at this location. In particular Brook Road, Spital Lane and Talbrook could benefit from PLP.	
Increase Conveyance	The culvert at Spital Lane was shown during the site visits to be heavily silted. This location would benefit from behind upsized to provide extra capacity.	Upsizing the culvert under Spital Lane using a pre-cast concrete culvert (10m in length and 1.2m wide) = £126,000
Land Management	It is proposed that to reduce the amount of flooding in Brook Street that a number of storage areas are created. The first is north of Brook Street on the western side of A12. This would reduce the flow downstream and reduce flood risk. The second area is on the east side of the railway embankment, south-east of Brook Street. This area is already shown to flood and therefore would be a good candidate for sacrificed for attention storage.	
Strategic Storage	Two storage areas are proposed. The first is north of Brook Street on the western side of A12. The second area is on the east side of the railway embankment, south-east of Brook Street. This would both aim to reduce the flow into Brook Street and reduce flood risk.	
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	The culvert at Spital Lane was shown during the site visits to be heavily silted. This was represented in the model and resulted in flows over Spital Lane. It is recommended that this area is consistently targeted for maintenance to prevent blockage or reducing in culvert capacity	not been conducted.
Flood Defences	The model should initially be re-run with improved representation of the watercourse adjacent to Selwood Road. If flooding still originates from this location a flood wall could be constructed (See above image) to divert flow back into the culvert, protecting Selwood Road and Talbrook.	sewer network, adjacent to Selwood Road (approx. 1.20m high and 150m in length) =



Table 5-20: Area BRENT-D - Area surrounding Brentwood Station



Comments

Flooding in this area originates from two main locations. The first is from a reservoir in Warley which is shown to overtop and flood Crescent Road. The second point is from the north of the railway line where there is little to no sewer network representation due to incomplete datasets. The railway line also does not have drainage systems represented. It therefore makes determining if flooding in this area is realistic and therefore it is not appropriate to use in assessing mitigation options

- Improve the representation of the reservoir in Warley.
- Limited data of the sewer network was supplied large sections of this area. This would likely intercept a number of surface water flow routes and limited the number flooded properties in the area. This makes it difficult to model mitigation options in this area.
- Railway drainage networks data was not available and therefore could improve the model accurate if added at a later date.
- Mitigation measures have been suggested based on current modelling results but should be accompanied by a detailed assessment if they are too considered for specific areas.



Options		Approximate Cost
SUDS / Retrofit SUDS	There are opportunities in this area to retrofit SUDS into the residential area to further reduce the amount of surface water entering the sewer network. Unfortunately due to the lack of sewer data it is impossible to target troublesome areas	See Section 4.6.1 for estimated costs of implementing SUDS.
Property Level Protection (PLP)	PLP are unlikely to be applicable in this area. It is also difficult to recommend a location where they would be applicable due to the lack of sewer data.	A costing of this measure has not been conducted.
Increase Conveyance	Without accurate data on where large sections of the sewer network are located no increases in conveyance can be recommended.	A costing of this measure has not been conducted.
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	It is recommended that the highway drainage network is regularly inspected to ensure it is working effectively. The railway has been shown to be the source of a surface flow route.	A costing of this measure has not been conducted.
Flood Defences	Following further survey of the lake in Warley flood defences could be created to prevent water spilling out of the lake. This is a known flooding hotspot.	A costing of this measure has not been conducted.



Table 5-21: Area BRENT-E - Brentwood Railway Line

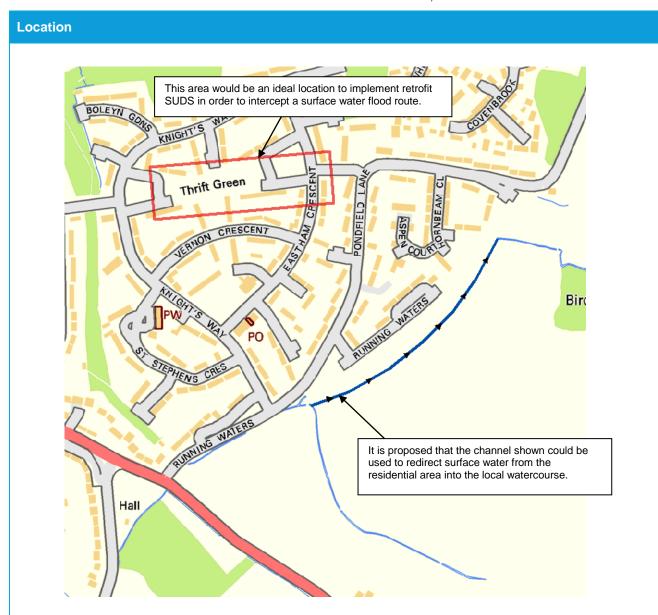
The railway line is shown to flood between Shenfield Station and Brentwood Station. Flooding is shown to spill out of the railway line at low points located in both stations car parks. Unfortunately the railway drainage network was not represented and therefore these flows may be large than they would be in reality. It is recommended that improves are made to the model, including the missing data to determine a realistic picture of surface water flow paths.

- Railway drainage networks data was not available and therefore could improve the model accurate
 if added at a later date.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.

Options		Approximate Cost
SUDS / Retrofit SUDS	There are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection (PLP)	There are no feasible opportunities for PLP at this location.	N/A
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	N/A
Maintenance	Maintenance should ensure that the railway drainage network is working effectively and is clear of blockages.	A costing of this measure has not been conducted.
Flood Defences	There are no feasible opportunities for flood defences at this location.	N/A



Table 5-22: Area BRENT-F - Thrift Green, Brentwood



Surface water contributes to this area from the west along Thrift Green and south-west along Running Waters. Sewers in this location are shown not to be surcharging even though there is surface water flooding.

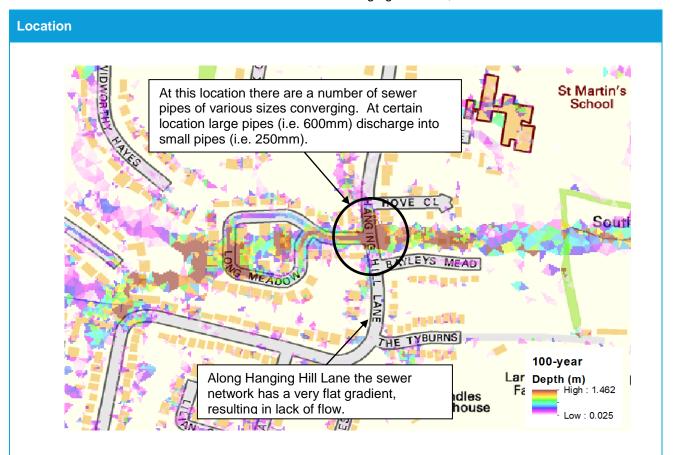
- Improve the representation of the watercourses.
- Improve the representation of housing drainage network and the sewer network.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options Approximate Cost					
SUDS / Retrofit SUDS		It is recommended that SUDS are used in the open areas around Thrift Green (as highlighted above) to intercept surface water flows. Retrofit SUDS would also reduce the amount of surface water that would be entering the existing sewer network.	See Section 4.6.1 for estimated costs of implementing SUDS.		
Property Level Protection (PLP)		It is suggested that PLP could be investigated on Running Water. However, this is not the preferred option. The preferred option is the diversion of the channel around Running Waters.	A costing of this measure has not been conducted.		
Increase Conveyance		It is recommended that conveyance is increased within the watercourse to allow water leave the area more efficiently.	See Flow Diversion below.		
Land Management		There are no feasible opportunities for land management at this location.	N/A		
Strategic Storage		There are no feasible opportunities for strategic flood storage at this location.	N/A		
Flow Diversion		The prefer option at this location would be to construct a channel to divert water around Running Waters and into a watercourse located at Birches Wood. This would remove a surface water pathway through a residential area.	New diversion channel (approx. Length 380m) = £91,200		
Maintenance		Maintenance should be considered along the watercourses in the area to ensure they have maximised conveyance. They may include removing debris and cleaning vegetation.	A costing of this measure has not been conducted.		
Flood Defences		There could be scope for flood defences such as flood walls to prevent water coming out of bank. These should only be investigated when the watercourse representation is improved in the model.	A costing of this measure has not been conducted.		



Table 5-23: Area BRENT-G - Hanging Hill Lane, Brentwood



Flooding in this area relates to areas of flat or shallow gradient piping as well as undersized pipes at the junction of Hanging Hill Lane and Long Meadow. Surface water appears to follow the topography before rejoining with a local watercourse, east of the residential development. The primary mitigation measure is recommended to be increasing conveyance in the sewer network.

Model Suitability / Improvements

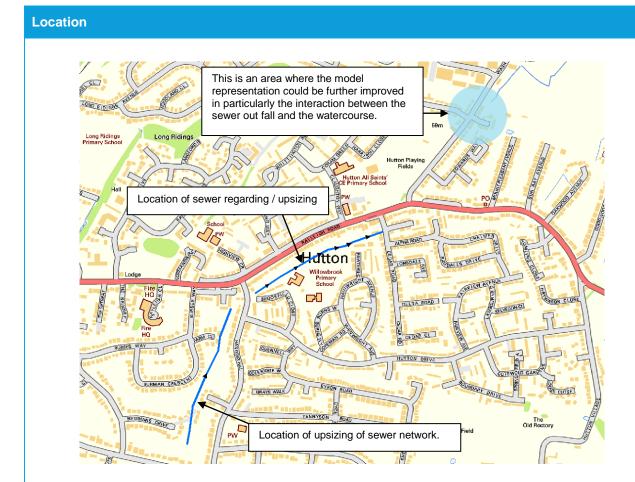
• The model is deemed to be suitable for this location. Additional checks could be conducted at this location to confirm the sizes of pipes before mitigation measures are recommended.



Options	Options Approximate Cost				
SUDS / Retrofit SUDS		Source control retrofit SUDS could be used at this location to reduce the amount of surface water that is generated.	See Section 4.6.1 for estimated costs of implementing SUDS.		
Property Level Protection (PLP)		PLP measures should only be considered if other measures are not suitable.	A costing of this measure has not been conducted.		
Increase Conveyance		It is recommended that there is up-sizing of the pipe network at Long Meadow and re-grading of the flatter piping on Hanging Hill Lane.	Upsizing the sewer at Long Meadow to 450mm piping (approx. Length 200m) = £82,810 Installing new 450mm sewer piping at Hanging Hill Lane (approx. Length 150m) = £62,107		
Land Management		There are no feasible opportunities for land management at this location.	N/A		
Strategic Storage		There are no feasible opportunities for strategic flood storage at this location.	N/A		
Flow Diversion		There are no feasible opportunities for flow diversions at this location.	N/A		
Maintenance		There are no maintenance issues at this location. However, regular maintenance should be conducted to ensure the sewer network is functioning correctly.	A costing of this measure has not been conducted.		
Flood Defences		There are no feasible opportunities for flood defences at this location.	N/A		



Table 5-24: Area BRENT-H - Hutton



At this location the main cause of flooding is the sewer network with pipes either having too flat a gradient or being an insufficient size. There are also issues where the sewer network discharges into a local watercourse in the vicinity of Edwards Way. There are opportunities for improving conveyance as well retrofitting SUDS into the residential areas in order to reduce the volume of runoff generated.

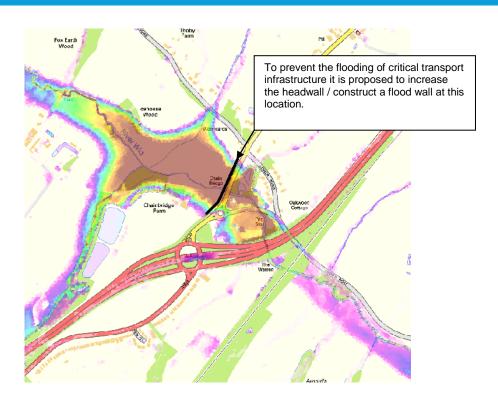
- Improve the representation of the watercourses, particular in the vicinity of Edwards Way where the sewer network outfalls into a watercourse.
- Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options Approximate Cost					
SUDS / Retrofit SUDS		There are opportunities to retrofit SUDS into the residential developments. This would aim to reduce the volume of surface water produced and reduce the volume that was connected to the sewer network in the area.	See Section 4.6.1 for estimated costs of implementing SUDS.		
Property Level Protection (PLP)		Opportunities for PLP could be explored especially in the vicinity of Edwards Way	PLP in the vicinity of Edwards Way (approx. 37 properties) = £175,750		
Increase Conveyance		Conveyance can be increased in a number of locations. The sewer could be up-sized in the vicinity of Surman Way. At this location the sewer pipes are shown to surcharge. And cause overland flows. Another location would be north of Willowbrook Primary School. At this location the sewer has a very flat gradient which would benefit from regarding to encourage more flow and less pooling within the pipe network.	Upsizing the sewer adjacent to Hanging Hill to 450mm piping (approx. Length 450m) = £186,322 Installing new 750mm sewer piping adjacent to Rayleigh Road (approx. Length 150m) = £134,720		
Land Management		There are no feasible opportunities for land management at this location.	N/A		
Strategic Storage		There are no feasible opportunities for strategic flood storage at this location.	N/A		
Flow Diversion		There are no feasible opportunities for flow diversions at this location.	N/A		
Maintenance		There are no maintenance issues at this location. However, regular maintenance should be conducted to ensure the sewer network is functioning correctly.	A costing of this measure has not been conducted.		
Flood Defences		There are no feasible opportunities for flood defences at this location.	N/A		



Table 5-25: Area BRENT-I - A12 & River Wid



Comments

Flooding at this location is dominated by fluvial flooding from the River Wid. The majority of the flooding is in Greenfield land which has no properties. The only key infrastructure is the A12 which is a critical transport link for the region. The most important mitigate options at this location will relate to ensure that the A12 does not flood and is safe to travel on in times of flooding.

Model Suitability / Improvements

• Mitigation measures have been suggested based on current modelling results but should be revised if further information becomes available.



Options		
SUDS / Retrofit SUDS	There are no feasible opportunities for SUDS retrofit at this location.	N/A
Property Level Protection	There are no feasible opportunities for PLP at this location.	N/A
(PLP)		
Increase Conveyance	There are no feasible opportunities for increasing conveyance at this location.	N/A
Land Management	There are no feasible opportunities for land management at this location.	N/A
Strategic Storage	There are no feasible opportunities for strategic flood storage at this location.	N/A
Flow Diversion	There are no feasible opportunities for flow diversions at this location.	
Maintenance	There are no known maintenance issues at this location.	
Flood Defences	It is recommended that a flood wall is built or the height increased to prevent flood from the River Wid overtopping and flooding the road infrastructure linking to the A12.	Flood wall at the A12 to protect from high levels in the River Wid (approx. 1.20m high and 200m in length) = £94,400



6 Implementation & Review

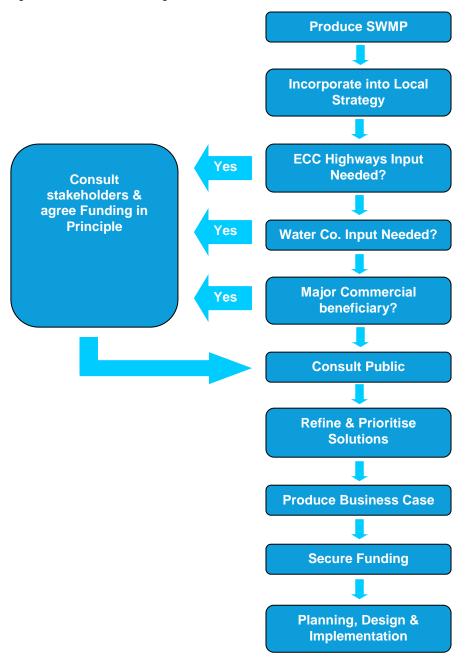
6.1 Approach

The action plan for this SWMP has been developed by using the outputs from the detailed assessment to define a way forward for managing surface water for the key areas considered. It is acknowledged that the action plan developed is subject to change as and when stakeholders meet to discuss the outputs of this project and its fit with the Local Flood Risk Management Strategy (LFRMS).

6.2 Action Plan

A broad process to take forward this SWMP and the options prepared is outlined in Figure 6-1, with more detailed objectives, advice, follow up actions, and how/when this SWMP should be reviewed and updated provided in the recommendations below.

Figure 6-1: Surface Water Management Plan Action Plan





6.2.1 Recommendations

The project has the following recommendations

Brentwood

- Refine and improve data at certain locations. There are currently areas which lack sewer network data which would improve the accuracy of modelling results. In particular there is currently no represent of railway or highway drainage systems. Data for these areas is being collated through the asset register survey and can be incorporated into the models at a later date.
- Further fluvial modelling on watercourses in Brook Street and Thrift Green should be used to provide further details on flood risk. This would allow recommended options in these areas to be further assess, refine and prioritised.

Ingatestone

- Further fluvial modelling of the two watercourses running under the High Street and at Heybridge should be used to provide further details on fluvial flood risk to the surrounding area. This would help in refining the available measures which can be implemented.
- Investigation of the sewer network data in areas such as Poplar Close. Currently there
 are discrepancies which if addressed would improve the accuracy of the model.

West Horndon

- Refining and improve data at certain locations. Currently areas of private drainage are not included such as Horndon Industrial Park. Inclusion of such data would improve the accuracy of modelling results and allow mitigation measures to be modelled.
- Further fluvial modelling of the watercourse running through West Horndon. This would allow greater accuracy in measuring flood risk to the area.

Other Areas

- Surface water flood risk for Doddinghurst was not assessed due to lack of LIDAR data for the area. If further data should become available the modelling should be refined to include this area.
- Flood risk in Blackmore was shown to mainly originate from watercourses running through the village. Additional more specific hydraulic modelling is recommended to understand flood risk in this area.
- Flood risk in Coxtie Green was shown to be driven by several private ponds. It is recommended that a study of historic events is conducted to further understand the drivers of flooding for the area.

General Recommendation

- It is recommended that information from asset register surveys is used to refine the model. The modelling should also be refined if further public and private sewer network data should become available.
- The indicative costs of measures in Chapter 4 should be used for assisting in the prioritisation of concept solutions with further refinement based on improvements in data and model representation.
- If options are pursued it is recommended that a full outline and detailed design process be undertaken. This should include a detailed cost-benefit assessment and use of threshold surveys for determining avoided damages.

From the recommendations above an Action Plan has been produced. The Action Plan can be found in Appendix L.

6.3 Review Timeframe and Responsibilities

Proposed actions have been classified into the following categories:

- Short term: Actions to be undertaken within the next one to three years;
- Medium term: Actions to be undertaken within the next one to five years; and
- Long term: Actions to be under and they 420 we years.



The Action Plan identifies the relevant partnerships that should be consulted and asked to participate when addressing an action. To allow for easier separation of the individual actions a colour coded system has been utilised to highlight what the action relates too e.g. maintenance, general flood risk management etc. After an action has been addressed, it is recommended that the department responsible for completing the action should review the Action Plan and update it to reflect any issues (communication or stakeholder participation) which arose during the completion of an action and whether or not additional actions are required.

It is recommended that the Action Plan is regularly reviewed and updated to reflect any necessary amendments. In order to capture the works undertaken by the ECC and other stakeholders, it is recommended that the Action Plan review should be on a not greater than annual basis.

For clarity, it is noted that the FWMA 2010 places immediate or in some cases imminent new responsibilities on LLFAs. The main actions required are summarised below:

- Develop, maintain, apply and monitor a Strategy for local flood risk management of the area.
- Duty to maintain a local flood risk asset register.
- Investigate flood incidents and record in a consistent manner.
- Establish a SUDS Approval Body (SAB).
- Contribute towards achievement of sustainable development.
- On-going responsibility to co-operate with other authorities through sharing of data and expertise.
- Preparation of Local Flood Risk Management Strategies

6.4 On-Going Monitoring

It is intended that the partnership arrangements established as part of the SWMP process, will continue beyond the completion of the SWMP in order to discuss the implementation of the proposed actions, review opportunities for operational efficiency and to review any legislative changes.

The SWMP Action Plan should be reviewed and updated annually as a minimum, but there may be circumstances which might trigger a review and/or an update of the Action Plan in the interim. In fact, Action Plan updates may be as frequent as every few months. Examples of something which would be likely to trigger an Action Plan review include:

- Occurrence of a surface water flood event:
- Additional data or modelling becoming available, which may alter the understanding of risk within the study area;
- Outcome of investment decisions by partners is different to the preferred option, which may require a revision to the action plan, and;
- Additional (major) development or other changes in the catchment which may affect the surface water flood risk.

It is in the interest of District and the residents of the catchment, that the SWMP Action Plan remains current and up-to-date. To help facilitate this, ECC will liaise with other flood risk management authorities and monitor progress.



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Appendices

A Product Data Register

Data Type	Source	Format	Quality	Uncertainties	Post-Processing
OS Mastermap	Essex County Council	MapInfo .TAB files	Complete coverage of the study area.	Low uncertainty. The Mastermap is a snap shot of land-use at one point in time.	Mastermap data was used within the InfoWorks ICM model and within Frism to determine building footprint locations.
LIDAR	Environment Agency (Geomatics Group)	GIS - ASCII	0.5m, 1m and 2m resolution	LIDAR Ground levels using filtered data usually have an uncertainty of ±150mm depending on the land use	Filtered LIDAR used. GIS data checked by JBA staff.
Nat ion al Receptor Dataset	Environment Agency	MapInfo .TAB File	QA checked by JBA Staff.	Low uncertainty. The NRD data is a snap shot of land-use at one point in time.	NRD data was used in Frism to identify building types and to determine the cost of flood damage.
Flo o Zone Maps	Environment Agency	MapInfo .TAB Files	-	Low uncertainty.	N/A
Sewar Asset Information	Anglian Water	MapInfo .TAB file	Inconsistencies and missing data were noted throughout the data set.	Inconsistencies were noted in the data where manhole data was missing. This information was inferred from other datasets.	The files were imported into InfoWorks ICM and had a number of levels inferred based on ground levels and pipe dimensions.
Records of Historic Flooding	Essex County Council, Brentwood District Council, Fire and Rescue Service	Excel worksheets	A number of the records were vague or did not have additional comments that allowed determination of the cause of flooding.	A number of the records were rather vague on the cause of the flooding. Often judgements on the cause of flooding were based on geographical location and proximity to more detailed records of similar date.	The records were geo-referenced into ArcGIS to allow a visual representation of the flood records.
Gully Asset Information	Essex County Council	MapInfo .TAB & Microsoft Excel	QA Checked by JBA Staff.	The gully information is a snap shot of a moment of time and is the most up to date version available.	The information was reviewed for use within the model.
Various Local Plan Mapping Layers	Essex County Council	MapInfo.TAB File	QA Checked by JBA Staff.	Low uncertainty	Datasets used as part of the other appraisal section of the SWMP.

Infiltration Maps	British Geological Survey	ArcGIS .shp	QA Checked by JBA Staff.	Low uncertainty	Datasets used as part of the other appraisal section of the SWMP
Area Susceptible to Surface Water Flooding Maps (ASTSWF)	Essex County Council	ArcGIS .shp	QA Checked by JBA Staff.	The surface water flooding maps are based on broad mapping and therefore have a degree of uncertainty.	N/A

3 Brentwoo	d Historic F	Flood Records
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C Intermediate Assessment – Number of Flooded Properties based on Frism Analysis

D Surface	Water	Flooding	Hotspots
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E Ingatestone [Depth &	Hazard	Maps
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F West F	Horndon	Depth 8	& Hazard	Maps
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G Brentwood Depth & Hazard Maps

H Ir	ngatestone	Detailed	Frism	Outputs
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West Horndon Detailed	Frism	Outputs
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J	Brentwood	Detailed	Frism	Outputs
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K Infiltration SUDS Feasibility Map

L SWMP Action Plan

M Partner Organisations

M.1 Project Partners

This SWMP study has been undertaken in consultation with key local partners who are responsible for and involved with surface water management and drainage in the Brentwood Borough. This included Brentwood Borough Council, Essex County Council, Essex Highways, the Environment Agency and Anglian Water. The Partners have worked together to understand the causes and effects of surface water flooding and identify the most cost effective way of managing surface water flood risk for the long term. The key contacts from each partner organisation are shown below.

Organisation	Project Lead
Essex County Council	Jo Carrington
Brentwood Borough Council	Camilla James
Anglian Water	Jonathan Glerum
Environment Agency	Phillip Spearman
JBA Consulting	David Kearney



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t:+44(0)1756 799919 e:info@jbaconsulting.com

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Non –pecuniary interests are set out in the Council's Code of Conduct and apply to you as a Member and also to relevant persons where the decision might reasonably be regarded as affecting their wellbeing.

A 'relevant person' is your spouse or civil partner, or a person you are living with as a spouse or civil partner

If you have a non-pecuniary interest in any business of the Authority and you are present at a meeting of the Authority at which the business is considered, you must disclose to that meeting the existence and nature of that interest whether or not such interest is registered on your Register of Interests or for which you have made a pending notification.

Planning and Licensing Committee

Planning

- (a) Town and Country Planning Act 1990 and any related legislation including:-
- (i) determination of planning applications;
- (ii) enforcement of planning control;
- (iii) waste land notices, purchase notices, etc.
- (b) Listed Buildings and Conservation Areas Act 1990
- (i) determination of applications for Listed Buildings and Conservation Area consent;
- (ii) enforcement of Listed Building and Conservation Area legislation.
- (c) To consider and determine the Council's comments where appropriate on major development outside the Borough when consulted by other Local Planning Authorities.
- (a) To guide the Council in setting its policy objectives and priorities.
- (b) To carry out the duties and powers of the Council under current legislation;
- (c) To develop, implement and monitor the relevant strategies and polices relating to the Terms of Reference of the committee.
- (d) To secure satisfactory standards of service provision and improvement, including monitoring of contracts, Service Level Agreements and partnership arrangements;
- (e) To consider and approve relevant service plans;
- (f) To comply with the standing orders and financial regulations of the Council;
- (g) To operate within the budget allocated to the committee by the Council.
- (h) To determine fees and charges relevant to the committee;

To review and monitor the operational impact of policies and to recommend proposals for new initiatives and policy developments including new legislation or central government guidance

(d) Powers and duties of the local planning authority in relation to the planning of sustainable development; local development schemes; local development plan and monitoring reports and neighbourhood planning.

Licensing

- (a) Except in relation to the statement of Licensing Policy, to discharge all functions conferred upon the council as licensing authority under the Licensing Act 2003.
- (b) Except in relation to the statement of Licensing Policy, to discharge all functions conferred upon the council as licensing authority under the Gambling Act 2005.
- (c) To determine all fees and charges relevant to matters disposed by the Planning and Licensing Committee.
- (d) To exercise all other functions relating to licensing and registration including i. Trading Requirements.
- ii. All functions relating to hackney carriage drivers and vehicles and private hire drivers vehicles and operators.

- iii. Animal Welfare and Security.
- iv. Skin Piercing, Acupuncture, Electrolysis and Tattooing.
- v. Sex establishments (including Sex Entertainment Venues (SEV)).
- vi. Pavement Permits.
- vii. Charitable Collections.
- viii. Camping, Caravan Sites and Mobile Homes.
- ix. Scrap Metal.
- x. Game Dealers.
- (e) Any other matters relating to licensing as may be referred to the committee for consideration.
- (f) To hear and determine licensing applications and appeals where objections and /or representations have been received in relation to any of the above functions.
- (g) To manage and monitor the budgets in respect of licensing and vehicle licensing.