Local Plan Committee Meeting

Grand Jury Room, Town Hall, High Street, Colchester, CO1 1PJ
Monday, 13 April 2015 at 18:00

The Local Plan Committee deals with the Council's responsibilities relating to the Local Plan

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COLCHESTER BOROUGH COUNCIL
Local Plan Committee
Monday, 13 April 2015 at 18:00

Member:

Councillor Bill Frame	Chairman
Councillor Martin Goss	Deputy Chairman
Councillor Lyn Barton	
Councillor Elizabeth Blundell	
Councillor Andrew Ellis	
Councillor John Jowers	
Councillor Kim Naish	
Councillor Gerard Oxford	

Substitutes:
All members of the Council who are not Cabinet members or members of this Panel.

AGENDA - Part A
(open to the public including the press)

Members of the public may wish to note that Agenda items 1 to 5 are normally brief.

1 **Welcome and Announcements**

a) The Chairman to welcome members of the public and Councillors and to remind all speakers of the requirement for microphones to be used at all times.

(b) At the Chairman's discretion, to announce information on:

- action in the event of an emergency;
- mobile phones switched to silent;
- the audio-recording of meetings;
- location of toilets;
- introduction of members of the meeting.

2 **Substitutions**

Members may arrange for a substitute councillor to attend a meeting on their behalf, subject to prior notice being given. The attendance of substitute councillors must be recorded.

3 **Urgent Items**

To announce any items not on the agenda which the Chairman has agreed to consider because they are urgent, to give reasons for the urgency and to indicate where in the order of business the item will be considered.

4 **Declarations of Interest**

The Chairman to invite Councillors to declare individually any interests they may have in the items on the agenda. Councillors should consult Meetings General Procedure Rule 7 for full guidance on the registration and declaration of interests. However Councillors may wish to note the following:-

- Where a Councillor has a disclosable pecuniary interest, other pecuniary interest or a non-pecuniary interest in any business of the authority and he/she is present at a meeting of the authority at which the business is considered, the Councillor must disclose to that meeting the existence and nature of that interest, whether or not such interest is registered on his/her register of Interests or if he/she has made a pending notification.

- If a Councillor has a disclosable pecuniary interest in a matter being considered at a meeting, he/she must not participate in any discussion or vote on the matter at the meeting. The Councillor must withdraw from the room where the meeting is being held unless he/she has received a dispensation from the Monitoring Officer.

- Where a Councillor has another pecuniary interest in a matter being considered at a meeting and where the interest is one which a member of the public with knowledge of the relevant facts would reasonably regard as so significant that it is likely to prejudice the Councillor's judgement of the public interest, the Councillor must disclose the existence and nature of the interest and withdraw from the room where the meeting is being held unless he/she has received a dispensation from the Monitoring Officer.

- Failure to comply with the arrangements regarding disclosable pecuniary interests without reasonable excuse is a criminal offence, with a penalty of up to £5,000 and disqualification from office for up to 5 years.

5 **Have Your Say!**

a) The Chairman to invite members of the public to indicate if they wish to speak or present a petition at this meeting – either on an item on the agenda or on a general matter not on this agenda. You should indicate your wish to speak at this point if your name has not been noted by Council staff.

(b) The Chairman to invite contributions from members of the public who wish to Have Your Say! on a general matter not on this agenda.

6a **Minutes of meeting on 16 December 2014** 7 - 16

To confirm as a correct record the minutes of the meeting held on 16 December 2014

6b **Minutes of meeting on 2 February 2015** 17 - 24

To confirm as a correct record the minutes of the meeting held on 2 February 2015.

7 **Dedham Vale and Stour Valley AONB Management Plan and Memorandum of Understanding** 25 - 86

See report by the Head of Commercial Services

8 **Adoption of Land affected by Contamination - Technical Guidance** 87 - 108

See report by the Head of Commercial Services

9 **Sustainable Drainage Systems Design Guidance** 109 - 202

See report by the Head of Commercial Services

10 **Colchester Local List 2015** 203 - 214

See report by the Head of Commercial Services

11 **Exclusion of the Public (not Scrutiny or Executive)**

In accordance with Section 100A(4) of the Local Government Act 1972 to exclude the public, including the press, from the meeting so that any items containing exempt information (for example confidential personal, financial or legal advice), in Part B of this agenda (printed on yellow paper) can be decided. (Exempt information is defined in Section 100I and Schedule 12A of the Local Government Act 1972).

Part B

(not open to the public including the press)

LOCAL PLAN COMMITTEE
16 DECEMBER 2014

Present:- Councillor Frame (Chairman)
Councillors Barton, Blundell, Goss, Jowers and G. Oxford.

Substitutes:-

Councillor Chapman for Councillor Ellis and Councillor Harris for Councillor Naish

22. Minutes

The minutes of the meeting held on 23 October 2014 were confirmed as a correct record.

23. Essex County Hospital Site Brief

The Committee considered a report by the Head of Commercial Services seeking the Committee's agreement to the Essex County Hospital Draft Development Brief as guidance to ensure that appropriate development of the historic hospital site was encouraged to help deliver its re-use within the Lexden Conservation Area.

Simon Cairns, Planning Project Manager, presented the report and explained that the views received from two local residents have been considered in the drafting of the brief, including:

- The retention and reuse of the listed buildings on site;
- The relationship with the surrounding area;
- A perceived shortfall of car parking in the vicinity;
- The creation of a walk-in medical facility or green space for public use;
- The retention/creation of adequate parking possibly in multi-storey format to serve the development and the neighbourhood;
- The laying out of the site as a series of public gardens.

The Essex County Hospital site would be vacated by the NHS throughout 2015. The site was located in a highly sustainable location within easy walking distance of the Town Centre in a location that was well served by bus services and on a key cycle route. The floor area of existing buildings on the site and potential areas for redevelopment presented a challenge to provide design solutions that complied with adopted policies concerning parking and amenity space. Given the highly accessible location, a relaxation of parking and amenity space policies was considered justified and it was recommended that local concerns regarding parking were addressed through off-site provision. The site was located within an area identified in the adopted local plan as being predominantly residential. Whilst mixed uses would be supported, it was acknowledged that a predominantly residential solution was likely to emerge and that this could be compatible with the character of the wider area.

The key considerations were achieving a scheme that would successfully reuse the

complex of listed buildings whilst delivering an appropriate level of new build to achieve a high quality environment. The National Planning Policy Framework provided support for the re-use of brown field sites and the conservation of heritage assets in a manner proportionate to their significance. The planned relocation of remaining services in 2015 would result in the creation of a potentially vulnerable vacant site which meant it was important that a solution was achieved that delivered the strategic aims and was attractive to potential developers.

The Development Brief included the following possible options:

- Option 1 Conversion of existing buildings to residential, complemented by new build apartments and a sheltered housing scheme to the rear;
- Option 2 A residential solution with a mix of housing types;
- Option 3 A mixed residential solution that satisfies adopted parking standards

A letter on behalf of Colchester Hospital University Foundation Trust had been circulated to Councillors prior to the meeting which stated that the Trust did not wish to offer detailed comments on the Development Brief at the current time other than to refer to their own work looking into the opportunities for the site which had indicated that the site had a higher potential capacity than that identified in the Brief.

Annesley Hardy addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). She referred to the vision and boldness captured in the development brief and she welcomed the use of the listed buildings and the green space provision on the site as anchors for the plan. The concerns expressed locally for a doctor's surgery and for sufficient car parking reflected the general problems of insufficient parking for residents. Mrs Hardy was of the view that the future development of the site needed to reflect reality and she felt Option 3, in particular, was not realistic. Crouch Street traders had been adversely affected by the removal of hospital services from the site and she felt this needed to be compensated in an alternative part of the town centre. She considered the over-riding need was to create an environment in which people wanted to live. She also questioned the design solution which included a three storey block on the basis that she did not consider this to be suitable for the site.

Ian Budge addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He explained that he live three doors from the Hospital site and, as such, had a strong personal interest in its future use. He referred to the recent meeting which had taken place with representatives from the Hospital Trust which had highlighted the difference in aspirations between the Trust, which needed to get as much from the site as possible, and local residents, who wanted the site utilised fairly. He was of the view that the residents wanted strong attention paid to traffic issues which required a lower density of development, in-keeping with existing buildings on the site. He also referred to the potential for damage to the fabric of the buildings once they were left vacant and sought assurances regarding comprehensive interim security measures.

Councillor Lissimore attended and, with the consent of the Chairman addressed the Committee. She referred to the need for security on a 24 hour basis to combat potential damage to the vacant site. She also questioned the health provision for Colchester and the surrounding area due to the relocation of services from the County Hospital site and the potential for lives to suffer as a result. She was of the view that the justification for the

relocation of services had not been clearly identified. She sought assurances that planning policy standards would not be relaxed in relation to the future development of the site. She favoured the option for residential development but considered this needed to be alongside adequate on-site car parking provision. She explained that the suggestion for potential parking arrangements at St Mary's car park was not a viable solution for people returning to their homes late at night and, as such, was of the view that the number of residential units needed to be limited by the number of on-site parking spaces achievable. The report acknowledged that Colchester was a town dominated by cars and she felt it was unrealistic to not provide adequate parking spaces. She referred to the future service provision at the Colchester General Hospital site and questioned whether the proposals were supported by the community. She was firmly of the view that it was not appropriate for the Hospital Trust to seek to maximise their financial gain from the site, especially given the existing opportunity to seek further justification for Hospital provision in the town as a whole.

Councillor Cope attended and, with the consent of the Chairman addressed the Committee. He welcomed the opportunity to discuss the future of the Essex County Hospital site and he considered the report to the Committee had been well prepared. He wished to speak to the Committee to represent concerns expressed by local residents who wished to maintain the character of the listed buildings on the site. The site was in a sustainable location, being close to the town centre and with important cycle links close by. However, there were concerns about the impact on traffic congestion in Lexden Road which was already significant on typical school days. Local residents considered that the proposals for parking spaces was not sufficient, bearing in mind existing parking difficulties in the roads leading from Lexden Road and there was also concern about the impact on parking facilities at the Colchester General Hospital site as a result of the relocation of services from the County Hospital site. He was of the view that the development of a hotel on the site would be welcome use of the existing building and was concerned at the pressure being exerted to utilise all available sites for residential development in order to meet the Council's projected target for housing development to meet the anticipated local need. If the site were to be used for residential purposes he considered that the design would need to be of very high quality and he suggested the possibility of conducting an architectural competition. He considered the Hospital was a landmark site, needing to be a beacon of quality looking into the future. There would need to be very robust traffic planning so that the impact on neighbouring residents was not adverse and the introduction of a competition to secure a high quality scheme may also lead to welcome rewards in terms of mitigation proposals.

In discussion members of the Committee raised the following issues:-

- The prominence of the listed and locally listed buildings within the development brief was welcomed;
- The likely negative impact on neighbouring residents if parking allocations were no greater than one per dwelling;
- The issues surrounding the relocation of services to the General Hospital site, particularly given known parking problems;
- Whether any possibility existed for the County Hospital site to be retained for health related service provision;
- The need for parking spaces to be allocated in accordance with the Council's parking standards and acknowledgement that residents would not choose to use parking facilities in St Mary's car park;

- The Garrison site was an example of a development which had successfully reduced the parking allocation to one and fewer spaces per dwelling where the units were situated close to the town centre;
- The Dutch Quarter was another example of a residential area with Conservation Area designation without any designated parking provision;
- The potential for a hotel development would need to be weighed against the current proposals for two/three hotel developments coming to fruition on East Hill;
- The problems associated with Option 3 in the development brief where compliance with parking standards would considerably limit the sympathetic redevelopment of the site and the ability to retain the character of the site and the buildings.

In response to the discussion, the Planning Project Manager explained:

- The Council's parking policy allowed for a relaxation of provision in highly sustainable, edge of town locations and this was likely to be adhered to by an Inspector at Appeal;
- An increased parking provision would mean that it would prove difficult to retain more of the existing buildings on the site and the redevelopment was likely to be challenging from a commercial perspective;
- The mixed use option within the design brief including B1 Commercial Use may be more appropriate if parking was considered to be a significant problem;
- The decision to relocate the services from the site to Colchester General Hospital was a matter for the Hospital Trust and had already been implemented;
- The suggestion for a design competition was one which was welcomed but it would not be possible to make such an element compulsory;
- Efforts had been made within the design brief options to retain many of the locally listed and listed buildings but any schemes submitted by developers may seek to reduce these elements;
- Any proposal for a hotel development would need to be considered in planning terms, on its merits, however, inevitably, such proposals tended to deliver more substantial buildings than residential proposals

RESOLVED that the draft development brief be approved for adoption as Council guidance.

24. Draft Local Plan // Issues and Options

Councillors Jowers (in respect of his membership of Essex County Council Cabinet with Strategic Plan responsibility) declared a non-pecuniary interest in this item pursuant to the provisions of Meetings General Procedure Rule 7(5).

The Committee considered a report by the Head of Commercial Services giving details of the Issues and Options Local Plan Paper together with the accompanying Sustainability Appraisal report which were due to be published for consultation for a six-week period from Friday 16 January to Friday 27 February.

Sarah Pullin, Planning Policy Officer, explained that in August the Local Plan Committee had authorised initial work on a new Local Plan for the Borough, and received an update on work carried out so far at its last meeting in October. The Council was now required to invite consultees to 'make representations to the local planning authority about what a local

plan…ought to contain', and to take account of views when developing its plan.

The consultation document provided background on the plan-making process and posed a series of questions on key issues and high level options for growth. The document outlined the factors determining the need to find new sites for future development and proposed potential broad options for locating this development as follows:

Option 1A

- A separate sustainable settlement to the west of Colchester town
- A separate sustainable settlement to the east of Colchester town
- Urban development on sites in and around the existing urban area
- Proportional expansion of the Rural District Centres - Wivenhoe, Tiptree and West Mersea

Option 1B

- A separate sustainable settlement to the west of Colchester town
- A separate sustainable settlement to the east of Colchester town
- Urban development on sites in and around the existing urban area
- Proportional expansion of the Rural District Centres - Wivenhoe, Tiptree and West Mersea
- A proportional element of rural growth across the Borough's villages

Option 2A

- A separate sustainable settlement to the west of Colchester town
- Urban development on sites in and around the existing urban area
- Proportional expansion of the Rural District Centres - Wivenhoe, Tiptree and West Mersea

Option 2B

- A separate sustainable settlement to the west of Colchester town
- Urban development on sites in and around the existing urban area
- Proportional expansion of the Rural District Centres - Wivenhoe, Tiptree and West Mersea
- A proportional element of rural growth across the Borough's villages

Option 3A

- A separate sustainable settlement to the east of Colchester town
- A significant urban extension to the north of Colchester town, crossing the A12
- Other urban development in and around the existing urban area
- Proportional expansion of Rural District Centres - Wivenhoe, Tiptree and West Mersea

Option 3B

- A separate sustainable settlement to the east of Colchester town
- A significant urban extension to the north of Colchester town, crossing the A12
- Other urban development in and around the existing urban area
- Proportional expansion of Rural District Centres - Wivenhoe, Tiptree and West Mersea
- A proportional element of rural growth across the Borough's villages.

Following this consultation, a detailed assessment of sites that would be included in the make-up of the growth options, including those submitted in the recent Call for Sites, would take place, the outcome of which would inform the production of the Preferred Options

Paper forming the next stage of the public consultation process. The Local Plan Committee would be invited to approve the Preferred Options Paper in advance of consultation. The process also included Sustainability Appraisal process to test the environmental, social and economic performance of the Plan options and this had been published from 1 July to 5 August 2014. The comments received were used to help finalise the Scoping Report which then formed the basis for an initial assessment of high level options which would be published alongside the Issues and Options Paper.

The Council was required to prepare a summary of the representations made followed by further consultation on a Preferred Options Paper. Following this, a draft plan would be published, prior to submission to the Secretary of State and adoption by the full Council.

Carlo Guglielmi, Cabinet member for Planning and Corporate Services at Tendring District Council addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He provided an update on the current situation regarding the Local Plan procedures at Tendring District Council explaining that a new timetable would be agreed and it was unlikely that the plan would be published before the Local Elections in May 2015. To this end the planning policy tem were currently undertaking more work. He referred to the requirements under the duty of co-operation and applauded the work that was taking place between the officer teams in Colchester and Tendring.

Peter Hill addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He considered that the proposed development to the north side of Wivenhoe needed to be regarded as a settlement in its own right and he suggested it could be referred to as Wivenhoe Heath. He referred to the existing traffic problems in the Wivenhoe area and asked that a traffic impact study be undertaken and was of the view that a countryside barrier should be created. He supported proposals for Salary Brook to be designated a Nature Reserve, given the existing band of trees along the A133 and the network of cycle ways. He advocated proportional growth and the need for infrastructure to be in place to support future development and for a housing needs assessment to be undertaken in Wivenhoe.

Peter Hewitt addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He considered that the Local Plan processes were being driven by housing growth and he asked when the ‘Call for Sites’ would be available for consideration. He also requested that the Colchester Green Links and Open Space Group be formally accepted as a stakeholder for Local Plan consultation purposes. The Group was seeking to support non car accessible movement and he considered it important that the aspirations of the Group were fully represented.

Ted Benton addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He appreciated that the Local Plan processes were in the early stages but he was of the view that the main driver was the demand for greater numbers of houses in the Borough. He explained that the Plans referred to a vision for Colchester but this needed to be explained more clearly in terms of what it would mean for people’s quality of life. He was seeking a physical framework which could be visualised. He considered that the green spaces in the Borough, which provided vital amenity for improved health prospects, needed to be preserved and even enhanced where possible. He considered that existing traffic problems were unsustainable and it was of vital importance to develop a network of non-vehicular links throughout the town which could be mapped to improve local

awareness.

Councillor Cook attended and, with the consent of the Chairman addressed the Committee. He explained that he had been working with Joe Turner who was developing a list of local community assets and had formed a body to protect Salary Brook. Proposals for the future of the Salary Brook area had already been presented to Tendring District Council for consideration and Mr Turner would be seeking the support of this Council by inviting this Committee to consider his proposals.

Joe Turner addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). He explained that the Colchester East Community Association's 'Save Salary Brook Valley' initiative had been formed to nominate the area bordered by the A133, Bromley Road and Salary Brook as an Asset of Community Value. The intention being for the area to be protected within Colchester Borough and Tendring District Council's Local Plans. The area had natural attributes with hillside views across the whole neighbourhood and supported the amenity of local residents and their quality of life. The vision was supported by Colchester, Tendring and British Telecom Ramblers Associations. He asked the Committee to support the designation of the area as a Country Park to prevent future development for building projects.

Councillor Smith attended and, with the consent of the Chairman addressed the Committee. He supported the views expressed by Peter Hills, Joe Turner and Councillor Cook in relation to the protection of a wildlife corridor in the area of Salary Brook. He was concerned that development had already taken place at the boundaries to the area and he considered the way to secure protection of the open space was for Colchester and Tendring to work together to protect the area's designation. He acknowledged the need for the Council to adopt a robust Local Plan which provided for the identification of areas for development and, in terms of the Options presented in the report, he considered Options 1 and 2 to have merit with Option 3 being of worthy of least support. He referred to the proportion of people who both lived and worked in Colchester having fallen to 65%. In terms of the Country Park proposals, he supported the creation of a cycle route to link the area to others which would give a practical alternative for transport.

In discussion members of the Committee raised the following issues:-

- The work of the officers in producing a well-researched document for consideration was welcomed;
- The importance of developing a Local Plan which is both realistic in terms of future growth yet sympathetic to the needs of communities and businesses;
- The use of drop-in opportunities, social media and the use of existing community groups, residents associations and neighbourhood groups for the consultation exercise was supported;
- In terms of the dualling of the A120, the need for the changes which would take place in local communities to be handled with sensitivity and for infrastructure proposals to be appropriately delivered;
- Colchester was bounded geographically by Ministry of Defence land, the Roman River Valley and the A12 and this boundary was considered worthy of protection such that future development beyond the route of the trunk road should be resisted;
- The need to comply with the duty of co-operation and as such to work jointly with Tendring and Braintree District Councils;

- The need for careful consideration to be given to preserving the character of the town of Wivenhoe;
- Acknowledgement that the small towns of West Mersea and Wivenhoe, as well as some of the villages, would need to accept a certain level of additional housing development in the future;
- The need for careful consideration to be given to the provision for Travellers within the County as a whole and the successful introduction of the Travelling Community at the site in Severalls Lane;
- The impact of growth on transport systems with the existing problems in the east of the town and the need to consider the development of the road networks to better accommodate the vehicle movements;
- Residents' concerns about the level of future house building and the need for infrastructure to be delivered at the right time and capacity;
- The necessary forward funding required to provide for the upgrading of routes like the A120 and the North Station area and the role of the Local Enterprise Partnership in identifying the schemes to which it would lend its' financial support;
- The reference in the report to 66% of people in the Borough owning their own homes and the problem associated with affordability, especially for younger people and in relation to housing in rural areas;
- The need for greater efforts to be made to communicate the issues about the Local Plan to the residents and the community groups;
- The importance of open spaces and green links for the benefit of residents but also for the diversity of flora and fauna.

In response to the discussion, the Planning Policy Officer confirmed that the proposals regarding the protection of Salary Brook were known.

Karen Syrett, Place Strategy Manager, also took the opportunity to explain that there were no targets in place for future housing development, rather there were indicative figures formulated on a number of pieces of evidence, such as the Strategic Housing Market Assessment, produced as part of the Local Plan processes. She went on to confirm that the 'Call for Sites' information would become available as part of the Issues and Options consultation and that it was important for as many groups as possible to get involved in this process. She explained that minor typographical and mapping errors would be corrected as they were identified. Work was continuing collaboratively with Tendring and Braintree District Councils as well as Haven Gateway LEP, who, in turn, were in consultation with the Department of Transport. Future plans for traveller provision would include discussion with the Manager at the Severalls Lane site, whilst the formulation of a vision for the development of the Borough was dependent to a large extent on the outcome of the forthcoming consultation exercise, rather than for the Council to be seen as dictating a view ahead of these outcomes.

RESOLVED that -

(i) The content of the Issues and Options Local Plan Paper, together with the accompanying Sustainability Appraisal report be approved for public consultation for a six-week period from Friday 16 January to Friday 27 February;

(ii) The Place Strategy Manager be given delegated authority to make minor revisions to

the document prior to publication.

25. Annual Monitoring Report

The Committee considered a report by the Head of Commercial Services inviting the members to approve the 2013-14 Annual Monitoring Report (AMR) for publication on the Council's website.

Chris Downes, Planning Policy Officer, together with Karen Syrett, Place Strategy Manager, attended to assist the Committee in its discussions. It was explained that the Annual Monitoring Report (AMR) provided key information to help establish what was happening now within the Borough, what may happen in the future and compare these trends against existing planning policies and targets in order to determine if any action needed to be taken. The format of the AMR was designed to clearly demonstrate how the Council was meeting targets and indicators arising from the adopted policies contained in its Local Plan and provide information that could be used in reviewing the plan. The AMR also had a wider role in helping the Council and its partners monitor the success of infrastructure delivery plans such as the Integrated County Strategy, and could also be used by other agencies wishing to amend their plans and actions. The AMR also included information on how the Council was working with partners to meet the duty to co-operate on cross-boundary strategic matters.

The AMR had been divided into a number of key themes and key findings related to:

- Planning applications
- Housing completions and delivery
- Affordable Housing
- Site designation
- Traveller accommodation
- Employment development
- Commercial activity
- Transportation
- Biodiversity
- Carbon emissions
- Special status sites

In discussion members of the Committee raised the following issues:-

- The fact that rural employment opportunities had increased whilst fewer new rural housing developments had taken place and this may create pressure on the Council to consider releasing more rural exceptions sites;
- Colchester was house building at a rate three or four times greater than other Local Authorities;
- Only 13% of Affordable Housing was being achieved

In response to the discussion, the Planning Policy Officer confirmed that the Government Exceptions scheme had been subject to changes and this may see more sites coming forward. He also acknowledged that circumstances had resulted in underperformance for some Local Authorities.

Karen Syrett, Place Strategy Manager, took the opportunity to add, in terms of house building rates here and elsewhere, that this Council's work on the Local Plan was providing certainty for developers. There was also a well-balanced housing market in Colchester such that local land values and building costs remained reasonable compared to other areas closer to London which, in turn, had an impact in relation to viability. She also responded to Colchester being a referred to as a 'growth town' and that this was a reflection of Haven Gateway and its status as a 'growth point' which was designated some years ago.

RESOLVED that the 2013-14 Annual Monitoring Report (AMR) be approved for adoption and publication on the Council's website.

Local Plan Committee

Monday, 02 February 2015

Attendees:	Councillor Elizabeth Blundell (Member), Councillor Andrew Ellis (Member), Councillor John Jowers (Member), Councillor Kim Naish (Group Spokesperson), Councillor Bill Frame (Chairman), Councillor Martin Goss (Deputy Chairman), Councillor Gerard Oxford (Member)
Substitutes:	Councillor Lesley Scott-Boutell (for Councillor Lyn Barton)

26 Have Your Say!

Annesley Hardy addressed the Committee pursuant to the provisions of Meetings General Procedure Rule 5(3). She referred to the Committee's recent adoption of a development plan for the Essex County Hospital site and explained that local residents had indicated their strong support for the retention of the site for a possible medical facility. The view had also been expressed in opposition to the introduction of additional housing due to the difficulties of providing sufficient parking facilities. She cited the example of the development at the former Cavalry Barracks where no parking provision had been made in respect of some units which had led to [parking in garden areas. She was concerned about the impact of parking generally in the neighbouring area, bearing in mind existing problems. She asked the Committee to reconsider the vision contained within the development brief, in the light of these representations.

Karen Syrett, Place Strategy Manager, confirmed that the development brief had been approved by the Committee at its last meeting and it was not considered necessary to amend this decision. She advised that the Planning Committee would be responsible for considering planning applications submitted in relation to the Essex County Hospital site and the contents of the development brief would be borne in mind at that time.

27 Tiptree Neighbourhood Plan Area

Councillor Jowers (in respect of his representation of the Division covering the Tiptree area on Essex County Council Cabinet) declared a non-pecuniary interest in this item pursuant to the provisions of Meetings General Procedure Rule 7(5).

The Committee considered a report by the Head of Commercial Services seeking the Committee's agreement to formally designate the Tiptree Neighbourhood Plan Area, as set out by Section 61G of Town and Country Planning Act (1990) (inserted by the Localism Act (2011)).

Sarah Pullin, Planning Project Officer, presented the report and explained that the purpose of neighbourhood planning was to give local communities a much greater influence over the development of their neighbourhoods and to increase engagement in the planning process. The Neighbourhood Plan Area had been published on the Colchester Borough Council's website, in accordance with Regulation 6 of the Neighbourhood Planning Regulations (2012) and included the application letter and a map of the proposed Neighbourhood Plan Area. The consultation ran for six weeks from 10 November to 22 December 2014. Nine representations were received within the consultation period none of which were objections. The application letter referred to the wards of Birch and Winstree being included in addition to Tiptree ward but confirmation had been received that the designated Neighbourhood Plan Area was intended to reflect the whole of the Tiptree Parish area alone.

Members of the Committee welcomed the positive work being undertaken by Tiptree Parish Council.

RESOLVED that the designation of the Tiptree Neighbourhood Plan Area be approved.

28 Employment Land Needs Assessment

Councillor Blundell (in respect of her membership of the Board of the University of Essex) declared a non-pecuniary interest in this item pursuant to the provisions of Meetings General Procedure Rule 7(5).

The Committee considered a report by the Head of Commercial Services giving details of the findings of the Employment Land Needs Assessment carried out on behalf of the Council by Nathaniel Lichfield and Partners (NLP).

Laura Chase, Planning Policy Manager, explained that the National Planning Policy Framework (NPPF) provided for Local Authorities to ensure that the Local Plan was based on 'adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area'. To help develop this understanding, the Council appointed NLP to carry out the work. The purpose of the Employment Land Needs Assessment was to provide part of the evidence base by providing an understanding of the current and potential requirements for employment land based on considering a range of scenarios for how the Colchester economy could change in the future.

The study involved three main stages, in line with Government guidance on methodology in Planning Practice Guidance and the report was structured as follows:

- Economic Context
- Overview of Employment Space
- Commercial Property Market Signals and Intelligence
- Review of Current Employment Sites Portfolio
- Future Requirements for B Class Employment Space

- Demand/Supply Balance
- Overall Conclusions and Policy Implications

The next stage in the process was the development of a portfolio of sites to be put forward through the site allocation element of the Local Plan. In addition to sites considered in the Assessment, the Council would also need to review any new sites submitted for employment land purposes through the ongoing Call for Sites process and the findings from the Assessment would also assist in the determination of applications for new commercial development.

In discussion members of the Committee raised the following issues:-

Economic Context

- Colchester, unlike most other Local Authorities, was illustrated as being a net exporter of labour. The Council should improve opportunities for inward development and to become more flexible in allocating employment areas where jobs needed to be located in infrastructure terms;
- The problems of traffic congestion in the town centre and the areas of Whitehall road and Barrack street and the impact this would be having on businesses in the area;
- Healthcare being the largest employing sector in the Borough and how much consultation had been undertaken with Colchester Hospital Trust, the known shortage of midwifery staff and the capacity for the General Hospital site to be expanded
- Whether Colchester had met its employment growth targets set out in the Local Development Framework;
- The low level of business start-ups and self-employment;
- Colchester's historical reputation for being very strong in terms of manufacturing industries and the importance for this sector of successfully retaining Flakt Woods in the Borough;
- Whether the conclusion that should be drawn from the report was that Colchester needed to improve its performance;
- The problems associated with the A120 and the A12 and the significant impact on the town of traffic incidents on these routes.

Overview of B use Employment Space

- The reasons why Stanway was not performing as well as North Colchester;
- The growing demand for central Colchester locations;
- Whether enough was being done to cater for the more highly skilled jobs.

Commercial Property Market Signals and Intelligence

- The need for flexibility in relation to the allocation of buildings for use as rural employment space;
- The relocation of businesses from the town centre to outlying areas and the consequent vacancies in the town centre;
- The current situation regarding opportunities for the location of John Lewis in

Colchester.

Review of Employment Sites Portfolio

- The University Research Park / Knowledge Gateway, the need to develop improved road links to the A12 and the requirement for residential development in order to forward fund infrastructure works;
- Stane Park and the huge costs associated with the upgrading of the road network and the need to consider the development of whole areas rather than sites on a piecemeal basis;
- The works necessary to improve traffic flow at Junction 26 of the A12 at Stanway, whether developments locally would be required to make contributions to this scheme or whether possibilities existed to forward fund the highway works prior to the developments being built;
- The positive contributions more recently received from Anglian Water in discussions regarding drainage issues;

Demand/Supply Balance

- The wide variation in need for employment space and potential surplus identified in the report which made it difficult to plan;
- Whether it was possible to utilise surplus space designated for employment for alternatives uses.

In response to the discussion, the Planning Policy Manager considered that the data in the report, when all was balanced out, was typical of the area as a whole but the close proximity to London also needed to be borne in mind and consequently jobs in Colchester were therefore considered to be of lower value. The changes in terms of work and life in Colchester were in relation to workers getting older, larger numbers working from home and working part time with consequent lower pay averages. She was aware of measures that the Council had adopted to assist businesses, such as support for the creative sector. She also confirmed the Annual Monitoring Report shows that, the employment targets set out in the Local development Framework were being met and that, whilst it was not entirely clear how healthcare would be delivered in the future, consultation had taken place with Colchester Hospital Trust and the channels of communication were open. The recent relocation of a television studio to a business retail unit at Peartree Road was evidence of the Council's successful approach to business opportunities and she also referred to a steady increase in the employment opportunities in rural areas.

Karen Syrett, Place Strategy Manager, explained that this report was just one piece of evidence that would be presented to the Committee in support of the Local Plan processes and that others would follow to future meetings. She took the opportunity to explain that at Tollgate Business Park in Stanway, there had been a change in activity in the last year such that 11 of the 12 units were now either occupied or had contracts in place. She commented on the need for landowners to be willing to consider employment related developments rather than residential ones, whilst in terms of rural employment

the Council's policy was a reasonable one which considered proposals on their merits. She confirmed that Colchester had not received any planning applications from the John Lewis Partnership. Developer contributions towards highway improvements would usually be sought as part of an application process but would be dependent on support for the scheme from the Highway Authority. In relation to Stanway and the A12 junction, she confirmed that a bid had been submitted to the Department for Communities and Local Government for support to understand the infrastructure and improvement works necessary, which was still awaiting consideration. In terms of alternative uses of surplus sites, she referred to a recent Appeal Decision where the Inspector had stated that the fact that where a site was not deemed suitable for employment use at one point in time did not mean that it would be justified for residential use.

RESOLVED that the findings of the Employment Land Needs Assessment be noted and the document be added to the Council's Local Plan evidence base.

29 Change to the Use of Planning Obligations

The Committee considered a report by the Head of Commercial Services giving details of the national changes to planning policy regarding the use of planning obligations on small sites and inviting the Committee to consider an interim policy position in advance of the local plan review.

Karen Syrett, Place Strategy Manager, attended to assist the Committee in its discussions. She explained that a written ministerial statement had recently been issued from Brandon Lewis on support for small-scale developers, custom and self-builders and she proposed an interim position for the Council in response.

In March 2014 the Government had consulted on measures intended to tackle the 'disproportionate burden of developer contributions on small-scale developers, custom and self-builders' which included introducing into a threshold beneath which affordable housing contributions should not be sought. The suggested threshold was for developments of ten units or less with rural exception sites being exempted. The consultation also asked if the threshold should be extended to include tariff style contributions which were an approach that this Council had used for a number of years in order to secure funding from new development towards Community Facilities and Open Space, Sport and Recreation. Over 300 responses had been submitted, including one from this Council, which objected to the proposals whilst developers, development representative bodies, and some members of the public generally supported the proposed changes.

The following changes had subsequently been made to national policy and to the Planning Practice Guidance (PPG):

- For sites of 10-units or less, and which have a maximum combined gross floor space of 1,000 square metres, affordable housing and tariff style contributions should not be sought.

- For Housing Act 1985 designated rural areas, including areas of outstanding natural beauty, authorities may implement a lower threshold of 5 units or less, beneath which affordable housing and tariff style contributions should not be sought and on developments of between six to ten units contributions should also be as a cash payment only and be commuted until after completion of units within the development.
- The changes will not apply to rural exception sites.

There was general consistency between the Council's Affordable Housing Policy and the new guidance but further clarity could be added to confirm the affordable housing policy would be applied to new development above 10 units and above 5 units in designated rural areas. It would, however, be inappropriate to seek tariff style contributions on sites of ten or fewer units as there is no evidence to support this approach and no distinction in the local policy. There was also inconsistency in two Supplementary Planning Documents relating to the provision of Community Facilities and Open Space, Sport and Recreation Facilities both of which incorporated an approach in which all new development that created new units of accommodation contributed towards the provision and maintenance of facilities. These documents would need to be revised to clarify that only those developments above the thresholds (5 and 10 units) would be expected to make a contribution towards community facilities and sport, recreation and open space.

The Place Strategy Manager proposed that the following interim resolution to clarify the Council's position in relation to planning obligations from small sites:

"<u>The Use of Planning Obligations on Small sites</u>

In November 2014 the Government published a ministerial statement and updated the Planning Policy Guidance (PPG) in respect of the use of planning obligations on small sites. In light of this updated guidance, the Council recognises that it needs to clarify its own policy and approach in relation to the use of planning obligations on small sites. In the intervening period, until the Local Plan is reviewed, the following statement sets out the Council's interim policy position in relation to the use of planning obligations on small sites, which should be read alongside the Council's adopted policies H4, SD2 and DP3, as well as the National Planning Policy Framework and Planning Policy Guidance.

Affordable Housing

The Council will seek to secure 20% of new dwellings to be provided as affordable housing, as follows:

- In Colchester Town, Myland, Stanway, Tiptree, Wivenhoe, West Mersea, West Bergholt and Marks Tey affordable housing will be sought on developments of more than 10 dwellings. (The affordable housing will normally be required on site)
- In the other villages, an affordable housing contribution will be sought on housing developments for more than 5 dwellings. Where a contribution is sought from a development of between 6 and 10 units it will be in the form of a cash payment which will be commuted until after completion of the units within the development.

Other Contributions

Standard charges will not be applied to developments of 10 units or less, and which have a maximum combined gross floorspace of no more than 1000sqm. Site specific contributions will still be sought where necessary to make the development acceptable but they must be directly related to the development and fairly and reasonably related in scale and kind to the development."

Members of the Committee were concerned at the potential implications of the new guidance in terms of loss of contributions, particularly in relation to smaller sites, just below the 10 unit threshold but welcomed the interim resolution set out in the report.

In response to the discussion, the Place Strategy Manager confirmed that the guidance was unlikely to impact on the allocation of open space but it may lead to restrictions in relation to maintenance and replacement of play equipment. In the longer term, it was anticipated that the Community Infrastructure Levy would be in place by the end of the year which would mean that all developments would be subject to assessment for contributions. In terms of contributions from smaller sites, she reiterated that planning case officers would continue to consider each application on its merits and ward councillors continued to have the opportunity to submit their views.

RESOLVED that the national changes to planning policy regarding the use of planning obligations on small sites be noted and the proposed interim policy position as set out in Paragraph 5 of the report by the Head of Commercial services be agreed for implementation with immediate effect in advance of the local plan review.

Local Plan Committee

Item 7

13 April 2015

Report of	**Head of Commercial Services**	**Author**	**Adam John ☎ 282472**
Title	**Dedham Vale AONB & Stour Valley Project Management Plan 2015-2020 and associated Memorandum of Understanding 20015/16 to 2018/19**		
Wards affected	**Dedham & Langham and Fordham & Stour**		

This report concerns a requirement to compile and agree a Management Plan for the Dedham Vale Area of Outstanding Natural Beauty (AONB) and to agree to the Memorandum of Understanding for the Dedham Vale AONB & Stour Valley Project.

1. Decision Required

1.1 That the Local Plan Committee notes its obligation under Section 89 of Part IV of the Countryside and Rights of Way (CRoW) Act 2000, approves the Dedham Vale AONB and Stour Valley Management Plan covering the period 2015 to 2020 and agrees to the Dedham Vale AONB & Stour Valley Project's Memorandum of Understanding for the period 2015/16 to 2018/19.

2. Reasons for Decision

2.1 This report brings to the Local Plan Committee's attention the Council's responsibility as required under the Countryside and Rights of Way Act (CRoW) 2000 to prepare, publish and regularly review a Management Plan for the Dedham Vale AONB. Thereby demonstrating they "have regard" to the purpose of conserving and enhancing the natural beauty of the AONB and have taken account of the AONB in their actions and decision making. It also draws the Committee's attention to the Council's requirement to agree to sign up to the Dedham Vale & Stour Valley Countryside Project's Memorandum of Understanding for the period 2015/16 to 2018/19, in order to remain an active partner of the Project. This revised Memorandum of Understanding forms part of a 3 year rolling programme of agreements and is set out as a legal agreement to simply and clearly identify the requirements of the parties who are responsible for producing the AONB Management Plan.

3. Alternative Options

3.1 Members may consider not agreeing to the Memorandum of Understanding, thereby forfeiting the Council's membership of the Project. However this option would have considerable financial implication to the Council, both when terminating our membership of the Project and when independently meeting our statutory obligations to independently produce a Management Plan for the AONB under the CRoW Act.

4. Supporting Information

4.1 The Dedham Vale AONB & Stour Valley Project was instigated following designation of the AONB by Central Government in 1970. Local Authorities, including Colchester Borough Council, set up the project in partnership with the then Countryside Commission to work with local bodies to address local concerns in order to help maintain the distinctive character and beauty of the area. A statutory duty exists for the council in the discharge of its planning functions to "have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty" (s.85(1) CROW Act 2000).

4.2 The project has been in operation since 1981 in the Dedham Vale, and was extended to include the entire area of the Stour Valley in 1992.

4.3 The Project area covers the Dedham Vale Area of Outstanding Natural Beauty, of 90 km², and includes the majority of the rest of the Stour Valley upstream of the AONB - giving a total project area of 300km². Under the requirements of the CRoW Act 2000, local authorities that are within the AONB, including Colchester Borough Council, have charged the Project's Joint Advisory Committee to produce a management strategy for the AONB. The resulting Dedham Vale (AONB) and Stour Valley Management Plan acts as a guiding framework for the partnership and stakeholders in maintaining the special qualities of the area, and its annual action plan sets targets for achievement.

5. Proposals

5.1 To agree to the revised Memorandum of Understanding, constituting an agreement between all 7 Local Authorities within the project area and The Department for Environment, Food and Rural Affairs to continue to participate in a partnership and to operate a countryside management project on its behalf, known as the Dedham Vale AONB and Stour Valley Project, for a period 20115/16 to 2018/19, in accordance with the terms and conditions upon which that agreement is based. The Memorandum of Understanding will be reviewed toward the end of this period and the partners will contribute to the costs incurred in managing the Project in the proportions outlined within the Agreement.

5.2 On behalf of its local authority partners the Dedham Vale AONB and Stour Valley Project's Joint Advisory Committee/Partnership have prepared a Management Plan to replace the current one; it will have a lifetime of five years from 2015 to 2020.

5.3 The prepared Management Plan builds upon the success of the previous plan and includes a delivery plan of co-ordinated activity to maintain and enhance the quality of the area. It sits within and seeks to fit into the Council's own framework of strategies and policies that impact on the AONB, being both informed by these and seeking to influence them.

5.4 Throughout the review of the Management Plan the representative Members and Landscape Planning Officer have been directly involved in its revision. Other relevant Officers within the Council have also been kept informed by the Landscape Planning Officer throughout the consultation period; however no adverse comments on the review have been reported.

6. Standard References

6.1 There are no particular references to the Strategic Plan; publicity or consultation considerations; community safety; health and safety or risk management implications to the Council.

7.0 Financial Implications

7.1 Under the existing Memorandum of Understanding, the Council makes an annual financial contribution to the Project and could be exposed to redundancy costs if the funding was withdrawn.

7. Equality, Diversity and Human Rights implications

7.1 An Equalities Impact Assessment (EIA) has been carried out for the Dedham Vale AONB in accordance with the Council's guidelines and no adverse effect concluded; a copy of the EIA has been uploaded onto the Council's website at http://www.colchester.gov.uk/article/12743/Commercial-Services.

Background Papers

1. The Management Plan Executive Summary and the Dedham Vale AONB and Stour Valley Management Plan, both @ http://www.dedhamvalestourvalley.org/about-us/the-aonb-management-plan/2015-2020-management-plan/

   Note: The style and layout of the final printed Management Plan document will echo the style of the consultation draft albeit in full colour this time, with high quality mapping and varied photography.

2. The Dedham Vale AONB and Stour Valley Project's revised Memorandum of Understanding 2015/16 to 2018/19 which accompany this report.

**Dedham Vale Area of Outstanding Natural Beauty (AONB)
and Stour Valley Management Plan 2015-2020**

Executive Summary

AONB and Stour Valley
The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area make up around 117 square miles of the Essex Suffolk border in the East of England. The AONB is part of a suite of nationally protected landscapes that include National Parks and Heritage Coasts. The Dedham Vale AONB is the fourth smallest AONB of the 38 AONBs in England and Wales. It was designated to ensure the special qualities of the area are conserved and enhanced for future generations. Much of the Eastern end of the AONB is associated with the celebrated landscape artist, John Constable, and many of the views he painted remain recognisable today. The wildlife and landscape views of the AONB and Stour Valley ensure that the area remains a nationally important asset.

The AONB and Stour Valley Management Plan
The Plan is drawn up by a partnership of organisations that have an interest in the area. These are drawn from the environmental; agricultural; business; community and local authorities. The Plan guides the work of these organisations and seeks to balance the need of the different sectors and ensuring that the AONB and Stour Valley remains an example of the finest landscape in the country. It is a statutory duty on local authorities with part of an AONB in their area to produce and review a management plan every five years.

The plan sets out a vision for the area and topic areas offering guidance on how the area should be managed.

A Vision for the Area
The Plan outlines a vision for the area as:

> *The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area is a distinctive landscape with agriculture at its core that retains its natural beauty and special qualities. It is an area where residents feel a strong sense belonging, visitors are welcomed to enjoy the area and the areas heritage is understood and appreciated by all.*

Management Plan Topics
The Plan has a series of strategic topics that outline the key issues and offer management objectives and policies to secure the vision for the area:

1. The Countryside
   The Plan seeks to conserve and enhance the AONB and Stour Valley by ensuring that land use decisions and development proposals reflect the special qualities of the area.

2. Residents and Villages

The Plan seeks to encourage residents to contribute to the high quality environment they live in through engagement in environmental projects and engaging in the planning system to ensure development is appropriate.

3. Enjoying the Area
   The Plan seeks to encourage visitors and residents to enjoy the landscapes, natural heritage and historic nature of the area without compromising its special qualities for future generations.

4. The River and Its Tributaries
   The Plan recognises that the Stour and its tributaries play an important part in the natural beauty of the area and in providing opportunities for quiet informal recreation. It also recognises the importance of flood defence.

5. Climate Change
   The Plan recognises a wide body of evidence suggesting changes to the global climate. The Plan seeks to highlight the potential impact of climate change on the area and how negative impacts can be reduced or mitigated against.

6. Working Together
   The Plan sets out how different organisations can work together to ensure the best for the AONB and Stour Valley. A Partnership made up of representatives of the environmental; agricultural; business; community and local authorities provides a forum for discussion on the best way to manage the area for the widest possible positive outcome.

An AONB and Stour Valley Partnership
It is an aspiration of the Partnership to work together to secure a high quality landscape in the Dedham Vale underpinned by sustainable economic growth.

The Partnership made up of 15 organisations and is the only body responsible for co-ordinating work to conserve and enhance the AONB and Stour Valley. The Partnership is co-ordinated by the AONB team, which is employed by Suffolk County Council and funded by the Department of Environment, Food and Rural Affairs (DEFRA) and Local Authorities. Much of the project work undertaken by the AONB team is funded by external grants, sponsorship and work in kind. The Partnership meets at least twice a year, to consider important issues related to the conservation and enhancement of natural beauty in the AONB and Stour Valley.

Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project Area Management Plan 2015-2020

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Executive Summary

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1 Forewords

1.1. Minister for Natural Environment and Science Ministerial, Lord de Mauley

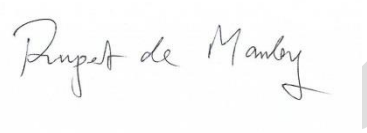
Areas of Outstanding Natural Beauty (AONBs) are some of our finest landscapes. They are cherished by residents and visitors alike and allow millions of people from all walks of life to understand and connect with nature.

I am pleased to see that this management plan demonstrates how AONB Partnerships can continue to protect these precious environments despite the significant challenges they face. With a changing climate, the increasing demands of a growing population and in difficult economic times, I believe AONBs represent just the sort of community driven, collaborative approach needed to ensure our natural environment is maintained for generations to come.

AONB Partnerships have been the architects of a landscape-scale approach to land management. This approach is a key feature of the Government's Natural Environment White Paper and emphasises the need to manage ecosystems in an integrated fashion, linking goals on wildlife, water, soil and landscape, and working at a scale that respects natural systems.

This management plan also makes the important connection between people and nature. I am pleased to hear that local communities have been central to the development of the plan, and will be at the heart of its delivery. From volunteers on nature conservation projects, to businesses working to promote sustainable tourism, it's great to hear of the enthusiasm and commitment of the local people who hold their AONBs so dear.

AONBs are, and will continue to be, landscapes of change. Management plans such as this are vital in ensuring these changes are for the better. I would like to thank all those who were involved in bringing this plan together and I wish you every success in bringing it to fruition.



1.2 Chairman of the Joint Advisory Committee and Partnership

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley is one of England's finest landscapes with its riverside meadows, picturesque villages and rolling farmland. It is further set apart from other landscapes by its associations with some of England's most notable artists, including John Constable , Thomas Gainsborough and Sir Alfred Munnings.

The Countryside and Rights of Way Act (2000) places a duty on Local Authorities to prepare and publish a five year Management Plan for AONBs, and this is our third edition since 2000. We are delighted to be able to include much of the delightful upper Stour Valley in this Plan, part of which we aspire to be designated as AONB.

For over 30 years the Dedham Vale AONB and Stour Valley Joint Advisory Committee and Partnership have worked to ensure that the special qualities and natural beauty of the area is conserved and enhanced for future generations. While this benefits those that live in the area it plays an increasingly important part in supporting local businesses that are encouraging visitors to enjoy the area as well as a driver in retaining and attracting the best staff with all it has to offer. Sometimes known as 'natural capital' the combination of landscape, history and wildlife is a big pull to those that want to enjoy the countryside.

Times move on and this Plan reflects the new priorities for conserving and enhancing the natural beauty of the area as well as being presented in a more simplified structure. We believe that the Local Authorities recognise the importance of the nationally designated area and all the benefits that can bring to business, wildlife and local communities. The AONB Partnership has developed over the last five years with new partners bringing a fresh focus to ensuring the area remains special.

It is not just the work of the AONB Joint Advisory Committee and Partnership to ensure the area remains important and retains its natural beauty, everyone has a role to play in ensuring that the area remains one of England's finest. We will continue to work with everyone to ensure all views are heard and that the best decisions are made for the AONB and Stour Valley.

Councillor Nigel Chapman, Chairman of the Joint Advisory Committee and
Robert Erith, TD DL Chairman of the Partnership

2. Introduction

2.1. Purpose of the Document

'I am convinced that the way to keep the Dedham Vale and Stour Valley an example the finest countryside in England is to work in Partnership with all the individuals and organisations that have an interest in the area. This plan will help us all working to the same objective, to keep the unspoilt rural character of the area that has evolved through generations of farmers working the land that is rich in wildlife, views and opportunities for to get out there and enjoy it.

We must all work together, under the umbrella of this plan, to ensure our children and our children's children can enjoy this very special place. A special place that will encourage people to come and enjoy the valley with us and help support our local economy.

Our natural environment is under threat and I am convinced the only way that we can protect this special area is to work together to a common aim and this plan sets out how we can deliver what we want for the Dedham Vale and Stour Valley'.

This Management Plan sets out the management objectives for the Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area. The management objectives are those agreed by the Local Authorities that have part of the AONB or Stour Valley Project area within their boundary and organisations represented on the Project's Partnership, see appendix 2 for details of governance structures.

Section 89 of the Countryside and Rights of Way Act (2000)[1] requires Local Authorities to formulate policy for the management of AONBs. This Management Plan formulates that policy. Section 85 of the Act places a duty on all relevant authorities to '*have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty*'.

This Management Plan is set in the context of national and local policy and strategy and supports those policies and strategies that seek to advance the purposes of the AONB designation, i.e. a primary purpose to conserve and enhance natural beauty and secondary purposes to meet the needs of recreation and safeguarding

[1] Countryside and Rights of Way Act (2000) at http://www.legislation.gov.uk/ukpga/2000/37/part/IV

agriculture, forestry, other rural industries and of the economic and social needs of local communities.[2]

2.2 Statement of Commitment

Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Partnership members endorse this plan by agreeing the following statement:

> *We endorse the Dedham Vale AONB and Stour Valley Management Plan 2015-20 and will use it as a guiding framework for maintaining and enhancing the special qualities of the AONB and Stour Valley. We will work in partnership with other organisations to deliver the vision for the area and maintain its natural beauty and special qualities.*
>
> *As required by Section 85 of the Countryside and Rights of Way Act 2000 this plan formulates policy for AONB local authorities relating to the management of the Dedham Vale AONB.*

2.3. What is an Area of Outstanding Natural Beauty?

An Area of Outstanding Natural Beauty (AONB) is an area of high scenic quality which has statutory protection in order to conserve and enhance the natural beauty of its landscape. In addition to high scenic quality AONBs often have strong associations with artists, heritage features or wildlife habitat. AONBs cover around 15% of the land area of England. There are currently 33 AONBs wholly in England with a further one spanning the English/Welsh border. Information on AONBs can be found on the National Association for AONBs website.[3]

2.4. The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project Area

The Dedham Vale Area of Outstanding Natural Beauty (AONB) is situated on the Essex/Suffolk border in the East of England. It was designated as an AONB in 1970. The AONB covers the lower reaches of the River Stour and is bounded to the East by the Cattawade Marshes where the river becomes tidal. The Western boundary runs between Bures and Wormingford. The Northern and Southern boundaries are situated a few kilometres either side of the river at times following the Rivers Box and Brett that are tributaries of the Stour. See map on page xxx. The Dedham Vale AONB is the fourth smallest AONB in England at 90 square kilometres (around 35 square miles). It is essentially a farmed landscape, with a population of around 10,000. The area is characterised by its picturesque villages, rolling farmland, rivers, meadows, ancient woodlands and a wide variety of local wildlife combine to create what many describe as the traditional English lowland landscape. The water meadows of the Dedham Vale AONB and the associations with artists, most notably John Constable RA, with many of the views he painted still recognisable today make this landscape some of England's most precious and vulnerable.

[2] Purposes of AONB designation at http://www.naturalengland.org.uk/ourwork/conservation/designations/aonb/
[3] National Association for AONBs website at http://www.landscapesforlife.org.uk/

A Landscape Character Assessment of the area recognises six distinct types of landscape: Valley Floor; Rolling Valley Farmlands; Rolling Estate Farmlands; Plateau Farmlands; Undulating Ancient Farmlands and Undulating Estate Farmlands, details of which can be seen on the Suffolk Landscape website, (the Essex side of the AONB is included in this mapping).[4]

An Historic Landscape Study of the AONB and Project area provides historic layer to the Landscape Character Assessment. This work was funded by the Heritage Lottery Fund as part of the Managing a Masterpiece Landscape Partnership Scheme (add footnote), and is also available to view on the Suffolk Landscape website.[5]

The Landscape of the area is described in Natural England's National Character Assessment 86, the summary of which states: '*It is an ancient landscape of wooded arable countryside with a distinct sense of enclosure. The overall character is of a gently undulating, chalky boulder clay plateau, the undulations being caused by the numerous small-scale river valleys that dissect the plateau. There is a complex network of old species-rich hedgerows, ancient woods and parklands, meadows with streams and rivers that flow eastwards. Traditional irregular field patterns are still discernable over much of the area, despite field enlargements in the second half of the 20th century. The widespread moderately fertile, chalky clay soils give the vegetation a more or less calcareous character. Gravel and sand deposits under the clay are important geological features, often exposed during mineral extraction, which contribute to our understanding of ice-age environmental change'.*[6]

The Stour Valley Project Area, upstream of the AONB, follows the River Stour that predominately forms the boundary between Essex and Suffolk. The Project Area is 302 square kilometres (around 181 square miles) running from the Western AONB boundary past Sudbury and Haverhill to near the Cambridgeshire border at Great Bradley. It extends three to four kilometres either side of the River Stour with extensions along the Bumpstead Brook, Belchamp Brook and River Glem. See map on page xxx.

The Project Area is predominately rural and often demonstrates medieval settlement patterns. In places the growth of villages and changes to agricultural practices have altered the landscape but not fundamentally changed it. Many of the villages retain their historic centres and have timber framed buildings, imposing churches and village greens. Historic hamlets and isolated farm buildings are scattered throughout the landscape.

The area has many woodlands situated within the tributary valleys but much of the valley floor is given over to arable crops with the notable exception of Sudbury Common Lands where large tracts of water meadows remain as an important feature of the landscape. Information on the Landscape Character and Historic Character can be seen at the same references as that for the AONB.

[4] Suffolk Landscape Character Assessment at http://www.suffolklandscape.org.uk/default.aspx
[5] Stour Valley Historic Landscape Study at http://www.suffolklandscape.org.uk/managing%20a%20masterpice.aspx
[6] National Character Area 86 South Suffolk and North Essex Clayland at http://publications.naturalengland.org.uk/publication/5095677797335040?category=587130

2.5. Natural Beauty/Special Qualities

The Natural Beauty and Special Qualities of the Dedham Vale Area of Outstanding Natural Beauty (AONB) are neatly summarised in the Countryside Commission's publication '*The Dedham Vale Landscape*'[7] This document comments that the AONB landscape is:

'…….important because of its unspoilt rural character. It has remained remarkably free from the intrusion of modern development……'

It goes on to comment:

'Rich agricultural landscapes and woods are complemented by the consistent use of local building materials and colours in the villages and isolated cottages.

The visual harmony gives the AONB its strong sense of unity, which is vital to its aesthetic appeal and sense of place. Within this overall character, the landscape is greatly enhanced by rich contrasts in scenery and characteristic details.'

The Landscape Character is assessed in the Historic Landscape Study[8] commissioned by the Heritage Lottery Funded Managing a Masterpiece Landscape Partnership Scheme.

The key Natural Beauty characteristics can be summarised as:

Landscape quality:

A distinctive valley floor, with the River Stour gently running through it, frequently flanked by water meadows with characteristic drainage ditches. The valley sides demonstrate a pattern of woodlands consistent with the local topography, soil type and agricultural viability. Fields on the valley sides tend to be small and irregular bounded by hedgerows that can be traced back over many generations. The mosaic of features combines to contribute towards important ecological networks.

The boundary features are in good condition, despite the ravages of elm disease in the 1970s and changes to farming practices although there has been much restoration in the last 30 years due to changes in attitudes and the implementation of agri-environment schemes.

[7] *The Dedham Vale Landscape: An Area of Outstanding Natural Beauty. Countryside Commission* CCP516 1997 ISBN 0 86170 475 4 Available from Natural England (hard copy only) at http://www.naturalengland.org.uk/ourwork/conservation/designations/aonb/dedhamvalemanagement.aspx

[8] Historic Landscape Study at http://www.suffolklandscape.org.uk/userfiles/pdfs/DV%20Hist%20landscape%20Study/Core_Document_MaM_LandscapeCharacterStudy.pdf

Landscape quality is enhanced by a sense of tranquillity experienced in the area. Some forms of development and recreational pursuits can lead to a loss of relative tranquillity which the Campaign to Protect Rural England[9] includes:

- Perceived links to nature
- Positive features in the landscape
- The importance of wildlife
- Peace, quiet and calm

The Campaign to Protect Rural England notes that factors included in the loss of tranquillity include:

- Disruptive behaviour of other people
- Noise, especially from cars
- Overt signs of human development
- Negative features in the landscape

The River Stour retains a natural appearance despite its previous function as a navigation and current role as a conduit for the water supply system. Some modification to land use has taken place on the banks in the form of willow plantations.

Scenic quality:

A distinctive sense of place is achieved due to the landform, woodland cover, land-use and settlement pattern. Villages play a key part in contributing to the scenic quality, being historic in nature with many timber framed building, and often dominated by churches situated in prominent locations. The sense of place is further enhanced by the areas close association England's finest landscape artist, John Constable RA.

As the area is sparsely populated the landscape suggests a timeless quality providing views, which are often surprisingly long from higher ground, without the clutter of present day infrastructure. This contributes to an intimate feel of the landscape and if further enhanced by an attractive pattern of arable, pasture and woodland.

The special qualities of the AONB can be summarised as:

- Iconic lowland river valley associated with the artist John Constable RA, the views he painted are still recognisable today
- Historic villages with timber framed housing and prominent churches
- Valley bottom grazing marshes with associated drainage ditches and wildlife
- Naturally functioning River Stour with associated tributaries, meres and historic river management features

[9] Campaign to Protect Rural England: Tranquil Places at: http://www.cpre.org.uk/resources/countryside/tranquil-places

- Semi natural ancient woodlands on valley sides with associated wildlife
- Traditional field boundaries intact and well managed
- Apparent and buried archaeology indicating millennia of human activity in the area
- A sense of relative tranquillity
- Surprisingly long distance views frohigher ground along the valley in an area associated with large skies

2.6. Responsibility for Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley

Natural England is responsible for designating land as an Area of Outstanding Natural Beauty (AONB), and any future boundary variations. Natural England is also responsible for offering advice to Government and others on how AONBs should be managed and protected.

In section 85 of the Countryside and Rights of Way Act (2000) 'all relevant authorities' have a responsibility to have due regard for the purposes of the AONB 'in exercising or performing any functions in relation to, or as to affect land in an AONB' A relevant authority is any Minister of the Crown, public body, statutory undertaker or person holding public office. A list of relevant authorities is given in section 4.2 appendix 3

The relevant Local Authorities with respect to the AONB has a duty to prepare and publish a Management Plan for the area and review it every five years. In the case of the Dedham Vale AONB the relevant Local Authorities are Babergh District Council; Colchester Borough Council; Essex County Council; Suffolk County Council and Tendring District Council.

Beyond the AONB boundary, Local Authorities took a decision to offer an 'AONB service' to the Stour Valley Project area. This decision brings two further Local Authorities, Braintree District Council and St Edmundsbury Borough Council into the Partnership and

To ensure the efficient and co-ordinated management of the AONB and Stour Valley Project area, a Joint Advisory Committee and Partnership were formed in 1993. The former deals in particular with the governance of the AONB team, a staff unit that acts as the operation arm of the Partnership, funded by Defra and Local Authorities. The Partnership itself is made up of organisations with particular interest in the AONB and Stour Valley and each member works to implement the Management Plan. Membership of the Joint Advisory Committee and Partnership is outlined in appendix 2

2.6.1 Determining planning applications in the Dedham Vale Area of Outstanding Natural Beauty

Unlike in National Parks, planning decisions relating to development applications in Areas of Outstanding Natural Beauty (AONBs) remain with the Local Planning Authorities. The National Planning Policy Framework highlights the importance of development plans in decision making and notes Local Planning Authorities should have specific policies relating to the conservation and enhancement of AONBs. Where development plans are absent, silent or relevant policies are out of date the National Planning Policy Framework notes that great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty[10].

2.7. Area Covered by the Plan

The designated Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area is shown in the map below. It is an aspiration of the AONB Partnership to extend the AONB into part of what is now the Stour Valley Project area.

The plan seeks to outline the management of both the designated AONB and the Stour Valley Project area.

MAP HERE

2.8. International, National and Local Context

Protected areas such as the Dedham Vale Area of Outstanding Natural Beauty (AONB) remain the fundamental concept of national and international conservation strategies supported by Governments. AONBs are recognised as Category V Protected Landscapes under the International Union for Conservation of Nature (ICUN) global framework[11].

The UK Government promotes the importance of the AONB designation through its own plans, strategy and policy such as its Landscape Position Statement[12] drawn up for Defra by Natural England and The National Planning Policy Framework[13].

The Rural Economy Growth Review[14] in 2011 and the Natural Environment White Paper[15] (2011) both recognise the role of protected landscapes in connecting people with nature and contributing to the social, economic and environmental wellbeing of the areas.

[10] See National Planning Policy Framework paragraphs 14 and 115 at https://www.gov.uk/government/publications/national-planning-policy-framework--2
[11] http://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_pacategories/gpap_category5/
[12] http://webarchive.nationalarchives.gov.uk/20101015025248/http://www.naturalengland.org.uk/Images/landscape-ps_tcm6-14812.pdf
[13] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[14] https://www.gov.uk/government/publications/rural-economy-growth-review
[15] https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature

AONBs make up around 15% of the land mass of England and work collaboratively through the National Association for AONBs[16] to further the socio-economic and environmental wellbeing of our finest landscapes.

Section 85 of the Countryside and Rights of Way Act (2000)[17] places a duty on all public bodies and statutory undertakers to 'have regard' to the purposes of conserving and enhancing natural beauty of AONBs.

At a local level, Local Planning Authorities, in addition to responsibilities outlined in the Countryside and Rights of Way Act (2000), have developed plans, policies and strategies to conserve and enhance the natural beauty and special qualities of the AONB.

Local Authorities have taken the decision to provide an AONB type service to the wider Stour Valley as defined by the Dedham Vale AONB and Stour Valley Project Area.

2.9. Statement of Significance

The Statement of Significance defines the natural beauty, character and special qualities of the Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area. It provides the criteria against which impacts on the nationally designated landscape can be judged.

The Dedham Vale AONB is a subtle lowland river valley with an assemblage of features associated with this landscape still in place and intact. These features include a gently winding river and tributaries; gentle valley sides with scattered woodlands; sunken rural lanes; picturesque villages with imposing churches and historic timber framed buildings; scattered farmsteads and agricultural buildings; small fields enclosed by ancient hedgerows; riverside grazing meadows with associated drainage ditches and visible and hidden archaeology providing evidence of human habitation over previous millennia.

The area remains an overwhelmingly agricultural landscape, free of incongruous development and large scale industrial developments. Despite some intrusions of human activity in the twentieth and twenty first centuries, the area retains a rural charm and tranquillity and is largely free of infrastructure associated with modern life.

The essential character of the Dedham Vale AONB was established in the middle of the previous millennium and has remained intact despite social, technological events. The fundamental beauty of the area and the scenes of a working landscape were captured by England's finest landscape artist, John Constable RA. The sites of those outdoor paintings are still recognisable in the heart of what is now the AONB.

The key components of the AONB are: PHOTOS of EACH COMPONENT

[16] http://www.landscapesforlife.org.uk/
[17] http://www.legislation.gov.uk/ukpga/2000/37/section/85

- A gentle and subtle lowland river valley with the River Stour gently meandering through it. The valley is cut down through boulder clays that overlay sands and gravels into clay deposits and Thanet and Reading beds. As the River Stour winds its way to the estuary the floodplain becomes dominated by grazing marshes that are made up of alluvium deposits and gravel terraces.
- The settlements of the area are largely historic and dominated by timber framed buildings around the village centres. Churches with impressive towers dominate the surrounding countryside. The rural character is further defined by scattered agricultural farmsteads and the visible and buried archaeology of the area.
- The routeways around the AONB broadly follow the valley contours as they characteristically wind their way around the landscape. Other routes link the flood plains to the higher land and are often steep, sunken and bounded by banks with ancient hedgerows and wildflower rich verges. The navigation on the River Stour provides an alternative way to explore the area beyond the footpaths and bridleways of the area.
- A pattern of semi natural ancient woodlands on the valley sides, often irregular in shape with natural springs and minor brooks. The woodlands create an impression of an intimate landscape.
- The patterns of fields are defined by ancient hedgerows and tree lines in much of the area although the grazing marshes associated with the valley floor are often subdivided by a series of drainage ditches and dykes.

The components of the Dedham Vale AONB combine to create important ecological networks and support a diverse range of wildlife particularly at the transition from one habitat type to another. The value of the landscape is widely appreciated by residents and those that come to the area, in particular its heritage; artistic connections; views and feeling of being in countryside uncluttered by modern infrastructure.

Much of the Stour Valley Project area shares similar characteristics to the Dedham Vale AONB, particularly the area to the west of the existing AONB.

The Stour Valley Project area is predominately rural with a medieval settlement pattern. The area has many of the characteristics associated with the AONB including the patterns of woodland on the valley sides, the River Stour running gently through it and a scattering of historic picturesque villages.

Woodlands are situated along on the tributary valleys and on the valley sides. Much of the valley floor has been given over to arable crops with the notable exception of the Sudbury Common Lands. Generally fields have been enlarged but some evidence of former boundaries can still be seen.

2.10. Vision Statement

It is the aim of this plan that by 2030:

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area is a distinctive landscape with agriculture at its core that retains its natural beauty and special qualities. It is an area where residents feel a strong sense belonging, visitors are welcomed to enjoy the area and the areas heritage is understood and appreciated by all.

2.11. Review of 2010-2015 plan

The last Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area Management Plan was adopted by the Partnership in 2010. Regular monitoring was undertaken and progress against the action plan was reported to the Dedham Vale AONB and Stour Valley Partnership. An evaluation of the previous plan has drawn the following conclusions:

- The AONB vision, statement of significance and management objectives are largely valid but need minor modifications to reflect contemporary thinking and the priorities of the Partnership
- The AONB Partnership has been broadened to reflect the increasing importance of working together to secure positive outcomes for the area's landscape and wildlife
- 86% of the actions from the last plan had been at least partially completed. 74% of actions have been totally completed.
- Reductions in funding to the AONB team, resulting in a staff reduction within the core staff team, have been offset by securing externally funded project activity, sponsorship of individual projects and increasing use of volunteers.

Notable successes during the plan period 2010-2015 include:

- Improved information for visitors and residents
- Securing externally funded project activity, notably Managing a Masterpiece[18] Heritage Lottery Funded Landscape Partnership Scheme and the River Stour Project funded by the Environment Agency.
- Landscape enhancements in the form of undergrounding low voltage overhead power cables via Ofgem allowance
- Development of the Stour Valley Environment Fund, administered by the Essex Community Foundation
- Supporting sustainable transport initiatives, notably support for the Dedham Vale Hopper Bus
- Sponsorship of individual projects from local and regional businesses such as downloadable circular walk guides; Stour Valley Path guide and AONB visitor guide
- Increasing volunteer activity in both numbers and breadth of activity

[18] http://www.managingamasterpiece.org/

- c£250,000 distributed to local community groups, businesses and individuals for Sustainable Development Projects
  PHOTOS OF ABOVE

3. Context and Issues

3.1. The Countryside

'The tranquil landscape of the River Stour valley, the setting for many of the paintings of the renowned artist John Constable is in many ways the quintessential lowland river valley of England. The great landscape artist is quoted when writing about the Dedham Vale:

'But the sound of water, escaping from mill dams, & willows, old rotten planks, slimy posts, and brickwork, I love such things'

The evocative quote will strike a chord with many of us that love the Dedham Vale and Stour Valley, and we will all have our favourite aspects of the area. Whatever our favourite element we should not forget that it is shaped by those that work. The hedgerows, the trees and woodland or the wildlife it supports are all there because people care with a passion about their local area.

Modern life presents many pressures to one of the smallest AONBs in England and we must be vigilant to keep the countryside of the Dedham Vale and Stour Valley a cherished place to live'.

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley Project area is a place that provokes strong feelings of loyalty, pride and passion. This sense of place and belonging was in part the driving force for the 1960s campaign to recognise the special landscape of the Dedham Vale through AONB designation.

The nationally applied AONB designation ensures that the area receives special protection to conserve and enhance its natural beauty. This special consideration was reaffirmed in the National Planning Policy Framework published in 2012[19]. The definition of natural beauty encompasses the area's scenic quality but also includes the conservation of its flora, fauna, geological and physiographical features.[20]

[19] National Planning Policy Framework at https://www.gov.uk/government/publications/national-planning-policy-framework--2

[20] Section 92(2) of the Countryside and Rights Of Way Act (2000) at http://www.legislation.gov.uk/ukpga/2000/37/contents

Agriculture is the primary driver for landscape management in the area, and many of the key landscape features such as hedgerows, grasslands and woodlands are dependent on farming practices. Agriculture is supported to conserve and enhance these features by a series of agri-environment schemes, sponsored by Defra through European Union programmes.

The value of the countryside in the Dedham Vale AONB and Stour Valley is recognised by many organisations that seek to conserve and enhance its natural beauty. The European Landscape Convention[21] seeks to integrate policy to protect all landscapes. Local Planning Authorities seek to protect these special landscapes through their policy and local plans in their Local Plans.

Natural England has produced guidance for the management of this special landscape through a series of National Character Areas (NCA). NCA 86[22] covers much of the AONB and Stour Valley and provides a broad range of information that can be used by individuals and communities to help achieve greater enhancement of the distinctive features of the landscape. The profiles include a description of how the natural environment can contribute to the welfare of people and protect resources provided in each character area and how these benefit people, wildlife and the economy. They identify opportunities for positive environmental change and provide the best available information and evidence as a context for local decision making and action.

The Dedham Vale AONB and Stour Valley Partnership, see appendix 2, resolved in 2009 that their long term ambition is for a review of the boundary of the AONB with a desire to see the current boundary extended westwards towards Sudbury. In 2014 the Partnership submitted additional information to Natural England, the body with the power to designate AONBs, to demonstrate how the proposed area satisfies the statutory designation criteria as set out in Natural England's Designation Strategy[23]. In addition to the Partnership's long term ambition, the Local Authorities with parts of the area involved, Essex and Suffolk Counties and Braintree and Babergh District Districts have written letters of support for the proposal to extend the current AONB boundary. A boundary extension would see a further area of the Stour Valley protected and the area benefit from additional resources to conserve and enhance its natural beauty.

The AONB and Stour Valley countryside is subject to many pressures, some which are described below:

3.1.1 Landscape

[21] European Landscape Convention at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/236096/8413.pdf
[22] National Character Area 86, South Suffolk and North Essex Clayland at http://www.naturalengland.org.uk/publications/nca/south_suffolk_and_north_essex_clayland.aspx
[23] Natural England's designation strategy at http://www.naturalengland.org.uk/ourwork/conservation/designations/designationsstrategy.aspx

There have been many landscape gains over the past thirty years alongside an increased awareness of the special qualities of the landscape and its natural and built heritage. There have been numerous projects to enhance the features that make the area so important; from hedgerow schemes and woodland management to the reversion of arable land to grassland. The significance of the villages to the character of the area has been increasingly recognised and local development plans have reinforced the need for high quality development to contribute to that character.

There are still many challenges to retaining the landscape character of the area, such as incremental development, leading to suburbanisation of the countryside. The demand for infrastructure to support modern living continues and can pose a risk to landscape quality. Where the proposals are for relatively small scale infrastructure development, careful design and siting can mitigate these impacts satisfactorily. The threat of major infrastructure projects and development continues, and there is a high potential for such developments to have a negative impact on the natural beauty of the area. The Partnership continues to engage in debates around the merits or otherwise of such proposals and is actively involved in consultation opportunities relating to major infrastructure development.

Renewable energy proposals, be they wind, solar, hydro, biofuel etc. can have a significant impact upon the landscape quality of the area. The Partnership has developed a position statement[24] on renewable energy and seek to support such development where it does not have a significantly adverse impact upon the natural beauty of the area.

The countryside of the Dedham Vale AONB and Stour Valley is subject to what many see as overwhelming evidence of climate change. Any significant change in the climate will present challenges to the area including an increase in flooding events; and impacts on farming; wildlife; transport systems and tourist businesses. There still needs to be an increased understanding of the potential impacts of climate change and the need to adapt conservation, farming, transport and tourism sectors will need to be addressed. The management objectives contained within this plan seek to support adaptation measures to offset the impacts of climate change.

3.1.2 Wildlife

The habitats and the transition between habitats provide some excellent conditions for wildlife in the Dedham Vale AONB and Stour Valley countryside. The area has seven Sites of Special Scientific Interest (the nation's best wildlife and or geological sites)[25]. Around 2% of the land area of the AONB is designated as a Site of Special Scientific Interest. These sites are particularly vulnerable to changing management, the potential impacts of climate change and fragmentation of habitat, loss of

[24] Renewable Energy in the Dedham Vale Area of Outstanding Natural Beauty at http://www.dedhamvalestourvalley.org/planning-and-projects/planning-and-development/
[25] Sites of Special Scientific Interest (SSSIs). Explanation at http://www.naturalengland.org.uk/ourwork/conservation/designations/sssi/

connectivity. In addition to the Sites of Special Scientific Interest there are 94 Local or County Wildlife Sites[26] which are selected by Local Authorities and support a wide range of wildlife.

Countryside Stewardship is an agri environment scheme designed to help landowners and land managers make environmental improvements including those that support wildlife to their land[27]. It is supported by the Common Agricultural Policy.

3.1.3 Current Pressures

Current pressures on the countryside in the Dedham Vale AONB and Stour Valley include:
• Incremental changes in land use such as farmland being converted to horse paddocks or large gardens • Industrial scale renewable energy projects such as solar farms • Loss of wildlife habitat and species • Loss of relative tranquillity due to changes in recreational pursuits and commercial and recreational overflying • Urbanisation of the area through insensitive infrastructure developments such as transport, communication and utilities structures

[26] Local Wildlife Sites. Explanation at http://www.naturalengland.org.uk/ourwork/conservation/designations/localsites/default.aspx
[27] Information on Countryside Stewardship at https://www.gov.uk/government/publications/cap-reform-introducing-countryside-stewardship

3.1.4 The Countryside: Management Objectives

- Land use management decisions demonstrate consideration to the natural beauty and special qualities of the AONB and Stour Valley.
- The landscape features of the AONB and Stour Valley are conserved and enhanced.
- The AONB and Stour Valley's heritage, landscape and wildlife are widely acknowledged and understood.

3.1.5 Management Plan Policies:

- Lobby for national and local planning policies to reflect the significance of the natural beauty and special qualities of the AONB and Stour Valley.
- Support development that contributes to the economic development and contributes to the conservation and enhancement of the AONB and Stour Valley.
- Protect the area, including its setting, from developments that detract from its natural beauty and special qualities, including its relative tranquillity.
- Resist fragmentation of farmland and wildlife habitats and encourage landscape scale co-ordination of initiatives to conserve and enhance the natural beauty and special qualities of the AONB and Stour Valley.
- Improve understanding of the AONB and Stour Valley in particular its natural beauty and special qualities.

3.2. Villages and Residents

'The Stour Valley is famed for its picturesque villages. Indeed many new visitors to the area are bowled over by not just the examples of historic buildings in our villages but the sheer number of them too. That is before you start exploring some of the fine churches that often date back many hundreds of years and built to exacting standards with flint knapped walls.

Many of those residents contribute to the Stour Valley. Whether they work in the land based industries or participating in some other way through looking after bits of their local environment or contributing to projects that support their local community'.

Jeremy Cohen, Former chairman of the Dedham Vale Society and current Partnership member

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley is a relatively sparsely populated area with most people living in village settlements that can trace their history back to the Saxon period and are listed in the Domesday Book of 1086.

The majority of the settlements have a distinctive settlement pattern with dwellings clustered around small angular greens or tyes. Medieval churches have often been built in prominent positions and knapped in flint reflecting the areas prosperity and the importance of religion during the time of construction.

Villages show a rich heritage of building styles, reflecting changing building techniques, fashions and relative wealth over the centuries of development but many retain a core of medieval timber framed buildings. Beyond the villages there is a series of isolated farmsteads and manorial halls (often moated) reflected the areas agricultural heritage and accumulated wealth.

According to a survey by Lloyds Bank[28] the price of homes in the Dedham Vale AONB continue to be above the national average and increasing at a faster rate than those in surrounding areas.

The population profile of the East of England, that includes the AONB and Stour Valley, shows that the population has a slightly older demographic and a higher growth rate than the national average.[29]

[28] Survey results at: http://www.lloydsbankinggroup.com/globalassets/documents/media/press-releases/lloyds-bank/2012/1106_aonb.pdf

3.2.1 Current Trends

Data provided by Defra's rural statistics unit in 2012[30] shows the following information about the AONB:

- There are 385 businesses operating in the area (19% Professional, scientific and technical services; 12% in agriculture, forestry and fishing; 7% in information and communication and 4% in accommodation and food services).
- 2,455 people are employed in the area including 295 in agriculture, forestry and fishing.
- There are 35 tourism related businesses supporting 445 jobs.
- The average gross annual income for those living in the area is £38,480 above the East of England (rural) region average of £35,650.

The data reflects a perception of the AONB and Stour Valley area as a relatively wealthy area with important economic activity in the agriculture, information and communications technology and tourism sectors.

The premium on house prices in the area reflects the position that the area is seen as a desirable place to live, given its natural beauty and accessibility to London.

3.2.2 Development and Infrastructure

For the area to thrive the AONB and Stour Valley must accommodate development and infrastructure that does not detract from its natural beauty and special qualities. Development needs to be designed to enhance the areas natural beauty and be of a scale that is does not have a negative impact upon the areas special qualities. The recognition of the areas qualities is best addressed when Local Planning Authorities engage with local communities and representative organisations to ensure all issues are considered when planning new development and infrastructure proposals.

3.2.3 Infrastructure

Local infrastructure for residents and visitors that can impact upon the purposes of the AONB designation and the beauty of the Stour Valley includes the road network, local energy distribution networks and communications infrastructure.

The local road network often reflects historical transport routes and form part of the special qualities of the area in the form of sunken lanes which are often designated as protected lanes[31] in district and borough council local plans. These are at risk from use over capacity from commuter 'rat runs' and oversized vehicles relying on inappropriate satellite navigation system routes.

[29] Office of National Statistics at: http://ons.gov.uk/ons/taxonomy/index.html?nscl=Population#tab-data-tables
[30] Defra Rural Statistics at: https://www.gov.uk/government/statistics
[31] Essex protected Lanes at http://www.placeservices.co.uk/projects/protected-lanes/

Local electricity distribution networks can have a detrimental impact on the natural beauty of the area and new connections should consider the potential impact on the AONB and Stour Valley landscape. An Ofgem scheme[32] to underground low voltage overhead power cables in designated protected landscapes, such as AONB, should be used where possible to offset the negative impacts of this type of infrastructure.

Communications infrastructure including masts to host mobile technology, communication 'boxes' and cables hosting telephone and internet connections have the potential to conflict with the primary purposes of the AONB and the natural beauty of the Stour Valley. It is widely recognised that this form of technology is vital to residents everyday lives, including the operation of local businesses, and as such careful consideration should be given to the positioning of this type of infrastructure.

National infrastructure in the AONB and Stour Valley such as trunk roads; national rail routes; national grid energy transmission equipment and water transfer structures can negatively impact upon the purposes of the AONB and the natural beauty of the Stour Valley. It is recognised that national infrastructure is vital to the country's population well being and there are benefits to local residents but the importance of the national designation of AONB in the Dedham Vale means that decisions relating to national infrastructure projects need to take into account the primary purposes of the designated landscape[33].

Infrastructure relating to the transfer of water along the River Stour is discussed in sections 3.4 and 3.4.1.

3.2.4 Historic and new settlements

The AONB and Stour Valley has a wide range of previously occupied sites, such as Clare Camp; Court Knoll; Mount Bures and Wormingford Lodge. These sites are often Scheduled Monuments[34] and are important to help the understanding and provide an opportunity to explore the areas past and its inhabitants for by professionals and local residents.

New housing and business development is welcomed where it sits well with the patterns of historic villages and where it contributes to the natural beauty and special qualities of the AONB and Stour Valley. Developments that promote a sense of place and contribute to the architectural patterns of the area and seek to meet the needs of the community in terms of affordable housing. Development should be directed away from areas at risk to flooding.

[32] Details of operation of Ofgem allowance in Dedham Vale AONB at http://www.dedhamvalestourvalley.org/planning-and-projects/undergrounding-projects-2/
[33] See section 85 of Countryside and Rights of Way Act 2000 http://www.legislation.gov.uk/ukpga/2000/37/section/85
[34] See definition of Scheduled Monuments at http://www.english-heritage.org.uk/caring/listing/scheduled-monuments/

New development should reflect the purposes of the AONB designation and the natural beauty of the Stour Valley and be of an appropriate scale, conserve historic features and reflect the local character.

3.2.5 Current Pressures

Current pressures on the Residents and Villages in the Dedham Vale AONB and Stour Valley include:
• Affordability of housing • Viability of local businesses • Visitor pressure during peak periods at visitor hot spots • Access to services • Issues relating to an aging population

3.2.6 Residents and Villages: Management Objectives

- Residents live in and contribute to a high quality environment.
- Development recognises the natural beauty of the area and contributes to the areas natural capital.
- Infrastructure is fit for purpose and does not detract from the qualities of the area including its relative tranquillity.

3.2.7 Management Plan Policies

- Ensure Local Plans reflect the need to conserve and enhance the AONB and Stour Valley
- Support development that contributes to the conservation and enhancement of local character
- Encourage communities to increase their understanding of the area and become involved in environmental projects to conserve and enhance the area
- Promote the appeal and distinctiveness of villages to help develop the visitor attractiveness
- Promote the role of villages as centres of rural economy
- Lobby for Local Enterprise Partnerships to support activity that recognises the economic benefits of the area's natural capital
- Support the provision of high quality infrastructure where it does not detract from the area's special qualities

3.3. Enjoying the Area

'Characterised by open spaces and ever changing big skies the Dedham Vale and Stour Valley countryside is perfect for a stroll, ride or a leisurely picnic or a place to treat yourself to a fine meal.

Contained within the one of England's most cherished landscapes are picturesque villages, rolling farmland, rivers, meadows and ancient woodlands are opportunities to walk and ride or you can take to the water by canoe or let a near silent electric boat take you on a watery adventure.

For those whose aspirations go beyond the physical there is the chance to explore picturesque villages and impressive churches. If the mood takes you, you can walk in the footsteps of John Constable and see the views he painted nearly 200 years ago, which are still recognisable today. Otherwise you may wish to discover more about some of England's other fine artists at museums dedicated to Gainsborough and Munnings.

With a wealth of historical sites, including castles, archaeological sites and ancient buildings the area has much to offer. After a hard time exploring there are plenty of places to enjoy a meal or rest throughout the area'.

Elli Constantatou, Tourism Marketing & PR Manager, Visit Essex

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley is a place to enjoy. The area offers a wide variety of opportunities for walking; riding; boating; formalised sport; discovering history and heritage; wildlife watching; fine or rustic dining; environmental education; countryside sports; geocaching; environmental volunteering and visiting historical sites and buildings.

The tourism industry and charities rely on the many opportunities for enjoying the area and it is vital to the local economy of North Essex and South Suffolk. The industry is reliant on the natural beauty and special qualities of the area to attract people to them. It is a primary long term interest for this sector of the economy that the AONB and Stour Valley retains and enhances its landscape quality.

An introduction to visiting the area is available from the Dedham Vale AONB and Stour Valley Project's website[35] and from a downloadable guide of the AONB[36].

Many people enjoy the area through the Public Rights of Way network, either using published guides for circular routes or the long distant paths such as the Stour Valley Path for walks or rides that include both bridleways and unclassified roads. There is a wide range of organisations that run guided events.

Local businesses offer the opportunity for superb dining in a wide variety of establishments from fine dining to traditional foods, often wish associated accommodation.

There are opportunities to enjoy the area by volunteering to help the areas wildlife and undertake landscape improvements. Groups from the Dedham Vale AONB and Stour Valley Project; the National Trust; RSPB; Sudbury Common Lands Charity; Wildlife Trusts; Parish Councils and Community groups offer regular opportunities.

3.3.1 Appeal of the Area

Much of the attraction to residents and visitors alike is the relative tranquillity and unspoilt nature of the AONB and Stour Valley. Although visitors are always encouraged and welcome to enjoy the AONB and Stour Valley there has been a recognition that developing the shoulder season for visits is important for individual businesses viability and protecting the experience of visiting the AONB and Stour Valley.

In addition to its natural beauty the area is known for its association with artists such as Constable, Gainsborough and Munnings. There is also a wealth of historical features that draw visitors including the Stour navigation, wealth of archaeology and historic and picturesque villages.

Likewise visitors are encouraged to visit in a sustainable way, perhaps by coming by train or using more sustainable transport methods once they have arrived in the area.

The growth in the popularity of cycling; canoeing; walking and running due to the desire for improving health and the positive experiences gained naturally fit with the aims of the AONB and Stour Valley.

Activities such as golf, country sports and learning about rural crafts are well catered for in the area and can fit well with the purposes of the AONB and contribute to the wellbeing of the Stour Valley.

3.3.2 Co-ordination of Developing the Area for Tourism

[35] Dedham Vale AONB and Stour Valley Project website at http://www.dedhamvalestourvalley.org/enjoying-the-area/
[36] AONB guide at http://www.dedhamvalestourvalley.org/publications/guide-to-the-aonb/

The AONB and Stour Valley runs across many administrative boundaries but there has never been one organisation directly co-ordinating either tourism activity or promotion across the whole area. Specific parts of the AONB and Stour Valley and tourism sectors have been promoted and marketed by individual businesses and different organisations.

A Visitor Management Group, operating in the Flatford area, has for many years bought representatives of the different interests in together to influence behaviour of visitors once they have arrived in the area but promotion of the area is largely down to individual organisations choices.

The development of a group to promote the area and communicate what the AONB and Stour Valley has to offer while encouraging appropriate behaviour from those that do come to enjoy the natural beauty and special qualities of the area is likely to be welcome by those in the private, public and third sectors.

3.3.3 A Fragile Environment

Those that come to the area enjoy the relative tranquillity and unspoilt nature of the area. Large scale recreational facilities and noisy or intrusive pastimes are likely to have a negative impact on the special qualities of the area and its relative tranquillity.

The intimate nature of the AONB and Stour Valley can require careful consideration of visitor facilities and infrastructure, in respect of signs and car parking. Any development should consider the primary purpose of the AONB, to conserve and enhance the natural beauty of the area.

3.3.4 Information

Information provided for visitors is key to increasing visitor numbers; enjoyment; understanding and encouraging appropriate behaviour. Information is currently available from a wide range of sources and in different formats.

Information should reflect the different interests in the area and it is appropriate that information is available in a wide variety of formats including: books and pamphlets; leaflets; web based; via social media; static displays; staff and press articles.

It is appropriate that information is disseminated in a variety of methods providing it is fit for purpose and meets the needs of visitors. There is some benefit in having some cross promotion between organisations and sectors and shared messages relating to the area's natural beauty would contribute to the primary purposes of the AONB and supporting the conservation of the Stour Valley.

3.3.5 Current Pressures

Current pressures on Enjoying the Area in the Dedham Vale AONB and Stour Valley include:
• Lack of co-ordinating body to market the area and co-ordinate the visitor offer

- Lack of facilities to make a sustainable visit eg cycle hire, dedicated cycle routes, public transport
- Concentration of visitor activity at certain times of the year and to certain destinations

3.3.6 Enjoying the Area: Management Objectives:

- Promote enjoyment of the AONB and Stour Valley.
- Promote visitor activity that does not detract from the areas natural beauty and special qualities including its relative tranquillity.
- Improve understanding of the AONB and the features that contribute to its natural beauty and special qualities.

3.3.7 Management Plan Policies

- Support new visitor facilities that reflect the scale and qualities of the AONB and Stour Valley.
- Support activity that encourages residents to use the countryside on their doorstep.
- Support activity to encourage visits that do not adversely impact the area's natural beauty.
- Support initiatives to encourage sustainable transport to and from the area and for travel within the area.
- Make improvements to the Rights of Way network and develop new access opportunities.
- Support co-ordination of the visitor product including provision of information.
- Raise awareness of the importance of the AONB designation to visitor service providers and visitors.
- Promote behaviours to those enjoying the area do not adversely impact the special qualities of the AONB and Stour Valley.

3.4. The River and its Tributaries

'The River Stour is a remarkable feature. Once it was a vitally important trade link boosting commerce between London and the near continent to the Stour Valley and Sudbury. Goods such as bricks and wool travelling downstream and 'night soil' (fertiliser in the form of droppings of horses drawing carriages in London) coming upstream.

The river has always been an important wildlife corridor and a place for people to enjoy getting out on and near the water. The river and its tributaries are home to species such as otter, water vole, kingfisher and a diverse range of fish and the quiet or lucky visitor will sometimes be fortunate to catch a glimpse of these charismatic river residents.

The river is navigable by unpowered craft such as canoes and kayaks from Brundon Mill to Cattawade and the River Stour Trust runs electrically powered passenger boat trips from Sudbury and from Flatford and Dedham in the summer months. Many people enjoy getting out on the water and this is a wonderful way of taking in the landscapes of the Stour valley that so inspired artists such as John Constable, John Nash and Thomas Gainsborough.

The river plays a vital role in the Ely Ouse to Essex Transfer Scheme (EOETS) transporting water from Denver in Norfolk to Abberton and Hanningfield reservoirs to provide public water supply in EssexThe river is important to many aspects of our lives and this management plan will help all those with an interest in the river, it's tributaries and the Stour valley to get the best outcome for all.

We will continue to work closely with the Dedham Vale AONB and Stour Valley Project and partner organisations, landowners and local communities to further enhance river habitats and continue to improve water quality in the Stour and its tributaries'.

Will Akast, Catchment Delivery Manager, Environment Agency

The River Stour forms the spine of the Stour Valley and contributes to the landscape character of the area. The river and its tributaries are an important habitat for wildlife with transitional areas between the river and land, and those areas that are 'wet' of particular importance to wildlife.

The river plays an important part in people's enjoyment of the area, from angling and wildlife watching as well as providing a backdrop for walks and riding. In addition the main river has had a right of navigation since 1705, although more recently restrictions have been placed on the use of the navigation. Currently unpowered craft are permitted to travel between Sudbury to Cattawade, but there are restrictions on powered craft. A guide to the navigation is available on the government website.[37]

The river is an important conduit for the transfer of water and as a source of irrigation for agriculture. The transfer of drinking water from Norfolk to Essex and London is known as the Ely Ouse to Essex Water Transfer Scheme. Information on the scheme is available on Essex and Suffolk Water's website.[38] The scheme transfers water from Denver in Norfolk to the Abberton and Hanningfield reservoirs using water that would otherwise flow into the Wash. Developments during the last plan period have seen an increase in the capacity of Abberton reservoir and ability to transfer water to it from the River Stour.

The combined effects of abstractions and supplies from Essex & Suffolk Water for agricultural use may result in prolonged periods when very little water flows into the estuary, particularly when large volumes are being abstracted to refill Abberton Reservoir. During periods of very low flow the water company is required to operate their intakes to ensure that water flowing into the reach downstream of Stratford St Mary is allowed to continue downstream and discharge to the estuary.

Much of the river is defined in the landscape by plantations of cricket bat willows along the banks of the main river. These willows grow to maturity in around 20 years and can provide an important source of income to riparian landowners. The trees can offer some benefit in cooling river waters in the summer months and benefit the areas wildlife. However, they are not as effective at shading or providing wildlife habitat as native trees that would historically be found along the Stour Valley such as alder and black poplar.

The green grey colouring of the leaves, uniform spacing and age of the trees can detract from the landscape character of the AONB and Stour Valley as well as limiting space for native characteristic trees. Once the cricket bat willows reach maturity and are harvested local residents and visitors can become concerned about the loss of trees although harvesting usually accompanied by replanting.

3.4.1 Demand for Water

[37] Guide to Stour Navigation at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289831/gean0911budo-e-e.pdf

[38] Information on Ely Ouse to Essex Water Transfer Scheme at https://www.eswater.co.uk/your-home/your-services/denver-licence-variation.aspx

The UK Groundwater Forum estimates that there has been a 70% increase in demand for water in 30 years.[39] The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley area is one of the driest in England with around 110 days where rain is recorded and an annual rainfall measurement of 568mm compared a national average of 133 days and 855mm.[40] This increasing demand in a dry area of the country means greater pressure on the water supply network including the river Stour that forms part of this network.

An abstraction licensing strategy produced by the Environment Agency. This licensing strategy sets out how water resources are managed in the Essex Catchment Abstraction Management Strategy (CAMS) area. It provides information about where water is available for further abstraction and an indication of how reliable a new abstraction licence may be[41].

3.4.2 Water Quality

Water quality in the river Stour and its tributaries is subject to national and European legislation including the Water Framework Directive.[42] The directive seeks to improve the ecological and chemical status of the surface water in terms of its:

- Biological quality (fish, benthic invertebrates, aquatic flora).
- Hydro morphological quality such as river bank structure, river continuity or substrate of the river bed.
- Physical-chemical quality such as temperature, oxygenation and nutrient conditions.
- Chemical quality that refers to environmental quality standards for river basin specific pollutants.

There are a variety of initiatives to improve water quality aimed at improving the ecological state of the river including River Basin Management Plans, Catchment Sensitive Farming, Nitrate Vulnerable Zones and Catchment Abstraction Management Strategy.

‘Water quality can be adversely impacted by invasive plant species . For instance the exposed bare river banks under species such as Himalayan Balsam over winter are at greater risk of erosion increasing the sediment load of the river. Other problems associated with non-native species are de-oxygenation and the shading of native in channel submerged macrophytes.

3.4.3 Recreational Use

[39] UK Groundwater Forum report at http://www.groundwateruk.org/sustainable_groundwater_management.aspx
[40] Weather data from Met office at http://www.metoffice.gov.uk/
[41] Abstraction Licensing Strategy at https://www.gov.uk/government/publications/cams-essex-abstraction-licensing-strategy
[42] Water Framework Directive information at http://ec.europa.eu/environment/water/water-framework/index_en.html

The river has a strong coarse fishing interest and fishing remains the highest participation sport in England. The river provides many opportunities for fishing with many of the fishing rights owned by clubs such as the London Anglers Club and Colchester Angling Preservation Society.

In addition to some minority sports such as wild swimming, including the municipal swimming facility on the Stour at Sudbury, many people enjoy spending time next to the river. Access is limited to where public rights of way run adjacent to the river or public open spaces such as the Sudbury Common Lands and some land owned by businesses that use the attraction of the river to attract custom, such as the Henny Swan public house and Milsom's Hotel and Restaurant.

The river is enjoyed by many using boats. There are boats to hire at Dedham and Flatford, river trips on electric craft from Sudbury and Dedham and guided canoe trips along the length of the navigation. The River Stour Trust is a registered charity dedicated to the conservation and restoration of the Stour Navigation. The Environment Agency is the navigation authority and as such manages the navigation that is limited to self-propelled vessels for the length of the Navigation, Sudbury to Cattawade and specific rights for certain powered crafts along specific stretches.

3.4.4 Flooding

Many people believe the climate to be changing and the UK as a whole is experiencing wetter summers and more extreme weather events. These factors can increase the risk of flooding to homes and property in the AONB and Stour Valley. The stewardship of the countryside has done and will continue to reduce this flood risk with increasing land in permanent pasture and agricultural practices to reduce the speed of run off from farmed land.

The operation of the sluice gates associated with the many mills plays a part in managing water levels on the river as can soft engineering projects that direct excessive flows away from sensitive areas.

Routine maintenance of the river and of river control structures, ensuring development takes into account flood risk areas and use of the Environment Agency's flood alert systems can help in reducing the risk of floods and the impacts of any floods that might happen on people and property.

3.4.5 River Morphology

The River Stour has been subject to many alterations by humans over many centuries. Evidence of these alterations can be seen throughout the AONB and Stour Valley including its most iconic scene at Flatford, the site of Constable's Haywain, where the river has been diverted to provide the water for the local Mill.

These uses of the river have resulted in water being encouraged to flow quickly away resulting in riparian areas being drier than in the past and a consequent

reduction in their value to wildlife. To counteract this there have been many schemes to improve the wildlife and landscape function of the river.

For instance under the Water Framework Directive mitigation measures need to be put in place for water bodies with a modified function (such as flood defence and navigation) in order for them to achieve good ecological potential. These include increasing in channel morphological diversity, retaining marginal aquatic and riparian habitats and improving floodplain connectivity.

Examples of the kind of projects that we need to see throughout the Stour catchment are the recent river habitat enhancement projects undertaken on the Stour, Brett and Belchamp Brook in 2014 by the Dedham Vale AONB and Stour Valley Project and Environment Agency working with willing landowners.

The improvements to the navigation have included new cuts, most noticeably at Wormingford, where a new channel was cut and a flood relief channel at Nayland. Navigation improvements have included dredging of the channel to ensure that there is sufficient water depth for the Stour lighters.

The river's course has also been manipulated many times by the needs of agriculture. Even more noticeable is the protection of agricultural land by the creation of river banks, or levees, to protect agricultural land from flooding.

The cumulative impact of the changes in the rivers morphology for the purposes of industrial navigation and flood defence have had a negative impact on the ability of the river to act as a wildlife habitat. Water is encouraged to flow quickly away and down the river and areas that were once wetter than they are today have all contributed to the decreases in the value of the land to wildlife. To counter act this there have been many schemes to improve the wildlife, and landscape, function of the river. Public authorities and private landowners have seen the benefits and opportunities to improve the river for the purposes of landscape and wildlife and in many cases undertaken successful projects.

3.4.6 Current pressures

Current pressures on Rivers and Tributaries in the Dedham Vale AONB and Stour Valley include:
• Demand for agricultural water supplies • Loss of wildlife associated with riparian habitats • Loss of native trees associated with the riverside • Demand for potable water • Loss of natural processes operating in river system • Requirement to improve ecological condition of catchment through the Water Framework Directive • Demand for recreational use of the river • Expansion of scope for non native wildlife species

3.4.7 The River and its Tributaries: Management Objectives

- The river and its tributaries contributes to the landscape quality of the area
- Wetland habitats provide an important wildlife habitat
- Flood defence schemes protect people and property and contribute to the areas natural beauty and wildlife habitat
- The river provides opportunities for quiet informal recreation

3.4.8 Management Plan Policies

- Develop opportunities for landscape and wildlife enhancements to the river environment.
- Support projects to implement the Water Framework Directive by making improvements to the ecological status of the water bodies in addition to schemes at a catchment scale within the AONB and Stour Valley Project area.
- Active navigation features are maintained to a high standard and pay regard to the AONB and Stour Valley qualities.
- Promote the need for flood control and water transfer schemes to be well co-ordinated and enhance the areas landscape and wildlife habitats.
- Support recreational activity that does not detract from the special qualities of the AONB and Stour Valley.
- Promote sustainable irrigation schemes for local farms.
- Conserve and enhance historic environment of the river including previously used navigation structures and riparian habitats.
- Support projects that implement the Water Framework Directive and those that have environmental benefit at a catchment level.

3.5. Climate Change

'The problems associated with Climate Change will have a significant impact upon the Dedham Vale and Stour Valley. More extreme weather events, milder winters and wetter summers are all predicted to happen.

This will change the nature of the Dedham Vale and Stour Valley. Farmers will review what crops and livestock it is commercially advantageous to grow, wildlife in our countryside will change and there is the potential for increased pests and diseases thriving in changing conditions.

The behaviour of people is also likely to change. Different behaviours will influence many aspects of our lives in the Dedham Vale and Stour Valley'

There is a wide body of evidence suggesting of global climate change. The Intergovernmental Panel on Climate Change reports in 2014 that:

'In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate'[43]

Any significant change to the climate is likely to present challenges to the Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley. In the short to medium term this is likely to include impacts on the issues described below.

3.5.1 Surface Flooding

Increase in the likelihood of flooding due to changes in rainfall patterns leading to potential for damage to property and infrastructure and disruption to economic activity.

3.5.2 Agriculture

Agriculture is highly dependent on specific climate conditions. Given the interdependence of many factors impacted by climate change it is difficult to predict what the overall impact of climate change on agriculture will be but given there will be increased temperatures and a wetter climate changes in the severity of droughts and floods could pose significant challenges. It could become more difficult to grow

[43] Intergovernmental Panel on Climate Change Synthesis Report 2014 at http://www.ipcc.ch/news_and_events/docs/ar5/ar5_syr_headlines_en.pdf

crops and raise animals that have traditionally been associated with the AONB and Stour Valley.

3.5.3 Wildlife

Many wildlife species are dependent upon specific environmental conditions and changes to climate will have an impact upon wildlife habitats. Changes to the climate are likely to lead to wildlife adapting and moving both within the AONB and Stour Valley but also in and out of the area.

3.5.4 Tourism

Changes to climate and associated weather in the AONB and Stour Valley will impact upon the desirability of outdoor recreation and the landscapes and wildlife that visitors come to enjoy.

3.5.5 Infrastructure

The predicted more extreme weather associated with climate change has the potential to have adverse impacts on infrastructure associated with transport, communications and utilities. This can impact on services provided through this infrastructure. In addition to this impact providing infrastructure that can cope with more extreme weather events may have a more significant adverse landscape impact.

3.5.6 Adaptation

In the AONB and Stour Valley there is a growing acknowledgement of climate change and the need for adaptation. Government; Local Authorities; publically funded organisations; the charity sector; communities and the private sector are all undertaking adaptation projects to offset the impacts of climate change.

There remains a need to increase the understanding of potential changes to the climate and the need to develop long term strategies to adapt to the issues that will arise. It would appear that for many of the challenges to be faced a landscape scale approach ie coordinated activity across areas such as the AONB and Stour Valley can contribute to the efforts to mitigate negative impacts.

As the potential for climate change has become more readily accepted there is a growing understanding that there is a need to reduce our ‘carbon footprint’. Positive action to mitigate problems associated with the use of carbon related fossil fuels and environmental concerns are associated with many projects associated with the AONB and Stour Valley. These include projects promoting more sustainable transport, encouraging leisure activity closer to home and promoting local produce.

3.5.7 Current pressures

Current pressures on Climate Change issues in the Dedham Vale AONB and Stour

Valley include:
• Lack of alternative to private motor car transport • Increasing vulnerability to extreme weather events • Changing conditions for wildlife

3.5.8 Climate Change: Management Objectives

- Promote projects that seek to reduce or mitigate factors contributing towards climate change
- Raise awareness of the potential of climate change to impact upon the AONB and Stour Valley environment

3.5.9 Climate Change: Management Plan Policy

As climate change cuts across so many issues there will be no specific management plan policies listed. Instead, management plan policy relating to climate change is included in the management plan policy of the other themes contained within this plan.

3.6. Working Together

'Much of my life has been spent working in Partnerships. They have been made up of people with different skills and objectives who work together for the common good. This is true for the Dedham Vale and Stour Valley. With so many activities and ambitions in the area a strong management plan, that binds these interests together and sets out a shared vision of what we can achieve, is not just desirable but essential for us all.

There are many competing interests in the Dedham Vale and Stour Valley but also many common goals, not least the desire by all to ensure that the area retains its gentle beauty for future generations to enjoy.

Discussion at the Partnership and formulation of a five year management plan allows every point of view to be heard. Ways forward can then be found that will satisfy all who wish to see the Stour, from its source down through Gainsborough and Constable Country, remain one of the most beautiful and treasured river valleys in England'.

Robert Erith TD DL, Chairman of the Dedham Vale AONB and Stour Valley Partnership

3.6.1 Working across the area

The Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley is a high quality landscape and a benefit to all those that live, visit or work in the area. The AONB designation comes from central government and recognises the importance of the area to the nation, through recognition in both national and local policy and funding for an AONB team.

To safeguard the natural beauty of the area, with all the associated benefits to people, wildlife and business, is beyond what a small AONB team can deliver. It is vital, and a necessity that organisations work in partnership to maintain the special qualities of the area.

The AONB team is well placed to drive forward projects to conserve and enhance the areas natural beauty, but it is at a partnership level that real benefits can be accrued. This plan sets out the AONB and Stour Valley Partnership's objectives to ensure that the area retains its special qualities but it is individual partner actions, often working in conjunction with one another, which will see the most benefit.

There are of course conflicting aims and objectives between partners all partners are working to support the delivery of the primary aim of the AONB designation. Where conflicting views are apparent the AONB team is well placed to act as an honest broker to support partners to deliver projects that meet the aspiration of this plan and its vision.

It is an aspiration of the Partnership to work together to secure a high quality landscape in the Dedham Vale underpinned by sustainable economic growth. A vibrant visitor business sector relies on the special landscape of the area, often referred to as an area's natural capital. The AONB designation can conserve and enhance the landscape which local businesses can use to drive visitor business to them but also help them to retrain and recruit the best possible staff.

In addition to a wide range of organisations seeking to ensure the AONB and Stour Valley remains a special place the communities remain at the heart of area. There are many strong communities throughout the AONB and Stour Valley that are delivering projects that benefit the wildlife; landscape; understanding; built environment; social cohesion and recreation opportunities of the area. The AONB team and its partners will continue to support these communities where it can through practical support, advice and information.

The AONB team administers two small grant schemes[44] that seek to improve the environmental, social and economic wellbeing of the area. These funds are open to communities, individuals, charities and businesses. These funds contribute to developing projects that support the management of the AONB and Stour Valley and gain the maximum benefit for the area.

The AONB team is the only organisation that specifically works across a range of disciplines to champion the area. The work of the AONB team includes project delivery and raising awareness of AONB and Stour Valley issues. However, it is the strength of the Partnership and its constituent organisations that can work together to deliver the work required to ensure the AONB remains a high quality landscape.

3.6.2 Funding and operation of staff team

The staff team that seeks to co-ordinate activity in the Dedham Vale Area of Outstanding Natural Beauty (AONB) and Stour Valley area is publically funded for its core activity. Defra provide up to 75% of core funds for work within the AONB with the remainder coming from local authorities. In the Stour Valley area local authorities provide all the funds for the core costs.

As pressure has increased on the public purse and both Defra and local authorities have reduced their grants the staff team, guided by the Joint Advisory Committee has sought to reduce costs and diversify its income.

[44] Information on AONB and Stour Valley grant schemes at http://www.dedhamvalestourvalley.org/grants-and-funding/

The AONB team has reduced costs by restructuring in 2010 and again in 2014. The 2014 restructure involved bring two AONB teams together to reduce duplication of effort. In addition the new joint team is located in one office further reducing overheads.

The AONB team has successfully diversified its income for expenditure on project work that delivers the vision of the AONB management plan. This has included significant grant awards from organisations such as the Heritage Lottery Fund and the European Union and sponsorship of individual projects such as the publication of guides.

It is expected that public funding for the core team will continue to be under pressure for the lifetime of this management plan and the need to work in partnership and secure external funds for project work will be vital if the vision contained in this management plan is to be delivered.

3.6.3 Current Pressures

Current pressures on Working Together in the Dedham Vale AONB and Stour Valley include:
• Partner resources required to implement plan policies • Multiple pressures on special qualities of the area

3.6.4 Working Together: Management Objectives

- The Partnership will co-ordinate activity to conserve and enhance the special qualities of the AONB and Stour Valley
- The Partnership will seek to reach decisions on the basis of discussion and consensus.

3.6.5 Working Together: Management Plan Policy

- This Management Plan will be the basis of partnership member policy of the management of the AONB and Stour Valley
- Partners will work to ensure the special qualities of the AONB and Stour Valley are conserved and maintained.

4. Appendices

4.1 Appendix 1: Glossary

AONB: Area of Outstanding Natural Beauty. An area of land designated by government for the purposes of conservation and in recognition of their landscape quality.

AONB staff team: The staff unit employed to undertake the statutory requirements of AONB authorities' responsibilities and to co-ordinate activity to deliver work to deliver the management plan vision.

Dedham Vale AONB: One of 46 Areas of Outstanding Natural Beauty in England, Wales and northern Ireland on the Essex Suffolk Border running from Cattawade to East of Bures.

DEFRA: The Department of Environment, Food and Rural Affairs. A government department that provides up to 75% of core funding to AONB team and is responsible for policy and regulation on the natural environment.

Infrastructure: Physical structures that enable society to operate eg roads; railways; phone masts and electricity transmission networks.

Joint Advisory Committee: A grouping of funding partners providing strategic guidance and scrutiny for the AONB team.

Natural Beauty: A term not defined in legislation but widely accepted to meaning scenic beauty underpinned by a coherent landform, geology, plants and animals and environmental and cultural heritage.

Navigation (River Stour): A 1705 Act of parliament outlining the rules relating to the use of craft on the river.

Partnership: When written with an upper case P it relates to an alliance of statutory agencies, local authorities, charitable organisations, voluntary organisations and membership organisations that have a particular interest in the AONB and Stour Valley

Special Qualities: Those aspects of the AONB and Stour Valley that contribute to its natural beauty. This may include landform; geology; wildlife; heritage features; cultural associations; sense of place and scenic quality.

Stour Valley: An area of land on the Essex Suffolk border running from Cattawade to Great Bradley near the Cambridgeshire border

Stour Valley Project area: That part of the Stour Valley that is not designated as

AONB

4.2 Appendix 2: Governance Structures

The AONB team will work to an annual business plan which will require approval from the main funding partner, DEFRA, and the Joint Advisory Committee.

The AONB staff team are employed by a 'host' local authority, currently Suffolk County Council. Suffolk County Council provides management support to the lead AONB Officer. Other members of the AONB team are managed by the AONB team.

The AONB team reports to a Joint Advisory Committee made up of representatives of the Local Authority funding partners. The Joint Advisory Committee provides strategic guidance to the AONB staff team and responsibility to set, monitor and scrutinise the AONB budget.

The AONB and Stour Valley Partnership develops the AONB management plan and champions the AONB and Stour Valley. Individual Partnership members deliver projects to implement the management plan and secure the delivery of the plan's vision.

The Forum is an opportunity for the AONB and Stour Valley community and professional interests to hear presentations on areas of interest to the area and engage in discussion around the presentations.

The AONB and Stour Valley Partnership may for Topic Working Groups. These groups act independently of the Partnership but may report to Partnership meetings.

The lead AONB officer may be supported by officers from the local authority funding partners in a group known as the Officer Steering Group.

4.2.1 Appendix 3: List of Public Bodies with Duty of Regard to the Dedham Vale AONB under Section 85 of CROW Act 2000

The term, 'public bodies' includes all arms of both central and local government:

Environment Agency (EA);
Department for Environment, Food and Rural Affairs (Defra);
National England (NE);
Forestry Commission (FC);
Natural England (NE);
Parish councils and joint committees of local authorities; and
Regulatory bodies of statutory undertakers such as
Oftel (Office of Telecommunications),
Ofwat (Office of Water Services),
Ofgem (Office of the Gas and Electricity Markets), etc.

4.3 Appendix 4: AONB and Stour Valley Facts

4.3.1 Agricultural Survey of Dedham Vale AONB 2007

Farm Type	**Number**
Cereals	20
General Cropping	21
Horticulture	10
Specialist Pig	0
Specialist Poultry	6
Dairy	0
Grazing Livestock (lowland)	27
Mixed	6
Other	110
Total	**200**

Farm Size (ha)	**Number**
<5	99
5-<20	43
20-<50	27
50-<100	11
>100	25
Total	**205**

Land use		
Type	Holdings	Area (ha)
Farmed Area	171	9,185
Rented	39	2,427
Owned land	173	6,854
Crops and Bare Fallow	63	4,670
Temporary Grass	25	394
Permanent Grass	129	2,365
Rough Grazing	10	113
Woodland	61	959
Set Aside	42	426
All Other	47	259

Crops		
Type	**Holdings**	**Area**
Wheat	32	1,701
Winter Barley	17	547
Spring Barley	23	558
Potatoes	10	354
Sugar Beat	19	569
Horticulture	17	395
Field Beans	5	50
Oilseed Rape	9	234
Maize	7	37
Other Arable Crops	6	44
Bare Fallow	17	149
All Veg and Salad	9	381
Veg (Open)	10	384
Total Fruit	11	10

Livestock		
Type	**Holdings**	**Number**
Cattle	27	1,981
Pigs	21	1,353
Sheep	33	5,074
Goats	5	23

Labour		
Type	**Holdings**	**Number**
Farmers (Full time)	37	50
Farmers (Part time)	88	139
Managers (Full time)	9	12
Managers (Part time)	9	7
Workers (Full time)	15	31
Workers (Part time)	13	38
Casual	17	36
Total	**113**	**349**

4.3.2 Built Conservation Areas (Dedham Vale AONB only)

Area	Number	Size (sq km)
Suffolk (all Babergh)	7	3.70
Essex (all Colchester)	5	0.69
Total	**12**	**4.39 or 4.9% of AONB**

4.3.3 Economic Profile (Dedham Vale AONB only): Information from Defra Rural Statistics Unit.

Industry type	Number
Agricuture, forestry and fishing	45
Mining and quarrying	0
Manufacturing	20
Construction	56
Wholesale and retail trade	40
Transport and storage	5
Accommodation and food service	15
Information and communication	30
Financial and insurance services	15
Real estate	15
Professional. Scientific and technical	75
Administration and support services	20
Public administration and defence	0
Education	10
Human health and social work	15
Arts, entertainment and recreation	10
Other service activities	15
Total	**385**

Micro Businesses	
Number of Micro Businesses	275
Percentage of businesses that are micro	71
Total employment in micro businesses	725
Percentage of employment in micro	30%

Tourism Business	
Type	**Number**
Accommodation for visitors	15
Culture, Sport and Recreation	5
Food and beverage serving	10
Passenger transport and travel	0
Total	**35**

Economic Activity	
Total working age population	3,200
Claimant count (Q2 2012)	1.6%

Household Income (2010/11)	**Dedham Vale**	**East of England (rural)**
Average (mean) gross household income	38,480	35,650

Source: CACI Paycheck data 2010/11

House Prices-Average (£)		
House type	**Dedham Vale AONB**	**East of England (Rural)**
Overall	395,400	255,000
Detached	580,400	331,400
Semi-detached	277,200	204,600
Terraced	241,800	180,000

Source: Land Registry sales data 2011

Average House Price/Average Household Income Ratio	
Area	**Ratio**
Dedham Vale AONB	10.3:1
East of England (All)	6.6:1
East of England (Rural)	7.2:1

Source: Land Registry sales data 2011/ CACI Paycheck data 2010/11

4.3.4 Dedham Vale AONB data

Area of AONB	9,007 Hectares
Area of ancient woodland	133.7 Hectares
Area of Site of Special Scientific Interest	c180 Hectares
Forestry Commission holdings	0 Hectares
Designation Order	Confirmed 20 May 1970
Designation order for extension (Polstead, Sulleys Hill, Raydon)	Confirmed 21 August 1978
Designation Order for extension (Nayland with Wissington)	Confirmed 19 September 1991
Stour river length: Nayland Weir-Langham Weir	6km
Stour river length: Langham Weir-Brett	1.5km
Stour river length: Brett-Black Brook	5km
Stour river length: Black Brook-Flatford Mill	3km
Stour river length: Flatford Mill-Cattawade	3.5km
Box river length: Polstead-Stour	7km
Brett river length: Shelley-Stour	4km

4.3.5 Visitor figures data (Dedham Vale AONB)

Location	Year	Vehicles	People*
Dedham Car Park	2013	62,149	142,955
Flatford Car Park	2013	91,914	212,117

*Visitor numbers are obtained by applying a multiplier to vehicle figures

4.4 Appendix 5: Summary of Management Plan Policies

Topic	Policy	Lead Partner
The Countryside	• Lobby for national and local planning policies to reflect the significance of the natural beauty and special qualities of the AONB and Stour Valley. • Support development that contributes to the economic development and contributes to the conservation and enhancement of the AONB and Stour Valley. • Protect the area, including its setting, from developments that detract from its natural beauty and special qualities, including its relative tranquillity. • Resist fragmentation of farmland and wildlife habitats and encourage landscape scale co-ordination of initiatives to conserve and enhance the natural beauty and special qualities of the AONB and Stour Valley. • Improve understanding of the AONB and Stour Valley in particular its natural beauty and special qualities.	AONB team Partnership Local Planning Authorities Local Planning Authorities AONB team
Residents and Villages	• Ensure Local Plans reflect the need to conserve and enhance the AONB and Stour Valley • Support development that contributes to the conservation and enhancement of local character • Encourage communities to increase their understanding of the area and become involved in environmental projects to conserve and enhance the area • Promote the appeal and distinctiveness of villages to help develop the visitor attractiveness • Promote the role of villages as centres of rural economy • Lobby for Local Enterprise Partnerships to support activity that recognises the economic benefits of the area's natural capital • Support the provision of high quality infrastructure where it does not detract from the area's special qualities	AONB team Local Planning Authorities AONB team Visit Essex/Visit Suffolk Parish Councils AONB team Partnership
Enjoying the Area	• Support new visitor facilities that reflect the scale and qualities of the AONB and Stour Valley. • Support activity that encourages residents to use the countryside on their doorstep. • Support activity to encourage visits that do not adversely impact the area's natural beauty. • Support initiatives to encourage sustainable transport to and from the area and for travel within the area. • Make improvements to the Rights of Way network and develop new access opportunities. • Support co-ordination of the visitor product including provision of information. • Raise awareness of the importance of the AONB designation to visitor service providers and visitors. • Promote behaviours to those enjoying the area do	Partnership AONB team Partnership AONB team Highways Authorities AONB team AONB team AONB team

	not adversely impact the special qualities of the AONB and Stour Valley.	
The River and its Tributaries	• Develop opportunities for landscape and wildlife enhancements to the river environment. • Support projects to implement the Water Framework Directive by making improvements to the ecological status of the water bodies in addition to schemes at a catchment scale within the AONB and Stour Valley Project areaActive navigation features are maintained to a high standard and pay regard to the AONB and Stour Valley qualities. • Promote the need for flood control and water transfer schemes to be well co-ordinated and enhance the areas landscape and wildlife habitats. • Support recreational activity that does not detract from the special qualities of the AONB and Stour Valley. • Promote sustainable irrigation schemes for local farms. • Conserve and enhance historic environment of the river including previously used navigation structures and riparian habitats. • Support projects that implement the Water Framework Directive and those that have environmental benefit at a catchment level.	River Stour Project AONB team Environment Agency Environment Agency Partnership Partnership Local Planning Authorities AONB team
Working Together	• This Management Plan will be the basis of partnership member policy of the management of the AONB and Stour Valley • Partners will work to ensure the special qualities of the AONB and Stour Valley are conserved and maintained.	Partnership Partnership

Local Plan Committee

Item **8**

April 2015

Report of	**Head of Commercial Services**	**Author**	**Chris Downes 01206 282476**
Title	**Adoption of Land Affected by Contamination: Technical Guidance for Applicants and Developers**		
Wards affected	**All**		

The Local Plan Committee is asked to adopt formally *Land Affected by Contamination: Technical Guidance for Applicants and Developers*.

1. Decision(s) Required

1.1 To adopt formally technical planning guidance governing land contamination in the form of *Land Affected by Contamination: Technical Guidance for Applicants and Developers* (3rd Edition, 2014), produced by the Essex Contaminated Land Consortium.

2. Reasons for Decision

2.1 The adoption of this Technical Guidance will ensure that the Council meets its statutory obligations under the Environmental Protection Act 1990 and informs planning applicants and developers of these requirements.

2.2 The appropriate assessment of the risks caused by potentially contaminated land and the remediation and verification is a key part of the planning process and this guidance will ensure that applicants and developers have access to a clear and informative source of guidance.

2.3 The Technical Guidance has been produced by the Essex Contaminated Land Consortium, a collaboration of all Essex local authorities, therefore in adopting this guidance the Council will be adopting an approach consistent with the rest of the county.

3. Alternative Options

3.1 The Committee could decide not to adopt the Technical Guidance. Such a decision would result in applicants and developers not having clear guidance as to what the Council requires in the assessment, remediation and verification of contaminated land. This may have the effect of causing delays and inefficiency in the planning process.

4. Supporting Information

4.1 Contaminated land in the UK has largely arisen as a result of historic industrial activities and past waste disposal practices. Unfortunately in the past, legal controls and standards within industry were not as high as they are today. In a lot of cases, this has resulted in the ground being polluted by the wastes and materials from the industrial activity. There are some pollutants which are naturally occurring and these may also need to be considered. Section 57 of the Environment Act 1995 inserted Part 2A of the

Environmental Protection Act 1990, which establishes a legal framework for dealing with contaminated land in England. This regime is applicable to the current use of land. It only applies to land which meets the legal definition and which cannot be dealt with by other means, including under the planning process. The way that Colchester Borough Council deals with land under Part 2A is set out in our Contaminated Land Strategy (currently under review).

4.2 Under the framework detailed above, Colchester Borough Council (as an enforcing authority) has certain obligations. These are to:

- Inspect the borough and identify any contaminated land;
- Establish responsibility for the remediation of contaminated land;
- Ensure any necessary remediation takes place, either by agreement or enforcement action; and
- Determine liability for the cost of any remediation.

4.3 Contaminating substances may include:

- Metals/metallic compounds, e.g. cadmium, arsenic, lead, nickel;
- Organic compounds, e.g. oils, petrol, solvents, fats; and
- Gases, e.g. methane, carbon dioxide, hydrogen sulphide.

4.4 A fundamental part of planning is bringing derelict land back into use and controlling risks for future uses of land. However some land, particularly land previously used for industrial processes, may be affected by contamination. This contamination may include soils contaminated by chemicals; radioactive contamination; migration of contaminants to ground and surface waters; and the production of hazardous gases.

4.5 The National Planning Policy Framework (NPPF) came into effect on 27th March 2012 and is a material consideration in planning decisions. In terms of contaminated land the Framework replaced *Planning Policy Statement 23: Planning and Pollution Control* (3rd November 2004) and the *Letter to Chief Planning Officers: Model Planning Conditions for Development on Land Affected by Contamination* (30th May 2008).

4.6 There are 12 core planning principles in the NPPF, including encouraging the re-use of existing resources, conversion of existing buildings and re-using land that has been previously developed ('brownfield' land). The NPPF states (at paras. 120 and 121) that:

- Where a site is affected by contamination, responsibility for securing a safe development rests with the developer and/or landowner.
- After remediation, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990.
- Adequate site investigation information, prepared by a competent person, is presented.

The thread running throughout the NPPF is that there should be presumption in favour of sustainable development, which is both viable and deliverable. Obligations and policy burdens should not threaten viability of development.

4.7 It is the applicant's responsibility to ensure that the development will be sustainable and that the site can be made suitable for use: it is the Council's responsibility to ensure that this is achieved. The Council's planning application form requires applicants to state if the land is known to be contaminated in whole or part and whether the proposed use would be especially vulnerable to any contamination (certain uses require mandatory assessment such as dwellings, schools, nurseries, hospitals, parks, gardens and allotments). If the answer to any of these questions is 'yes' then an appropriate contamination assessment is required to be submitted in support of the application.

4.8 The nature of an appropriate assessment will be site-specific and dependent on identified risks, but is likely to require the minimum of a 'Phase 1' desktop study, site walkover and initial assessment of potential risks. Additional information may be required, either before or after determination of the planning application. The applicant will need to provide enough information to show that any risks are sufficiently understood and can be managed, both economically and technically. Once sufficient information has been provided by the applicant to show this, the Council can ensure that any additional actions are dealt with by way of condition(s).

4.9 These conditions may include a requirement for a 'Phase 2' intrusive investigation: physical inspection and testing of samples on the site to determine whether there is an unacceptable risk of harm to health, the environment and/or property. If the outcome of this investigation and risk assessment is that there is an unacceptable risk of harm, then site remediation is required.

4.10 An appropriate 'Remediation Scheme' will be agreed, in consultation with the Council, before any clean-up works start. Once the remediation is finished, and before the first use of the site, the applicant will need to show the Council that the remediation measures have been successful ('Verification' or 'Validation').

4.11 Once the council is satisfied that the developer has shown that there are no unacceptable risks remaining, a Validation Certificate is completed by the applicant and developer and submitted to the Council. The site is then considered suitable for use.

5. Proposals

5.1 The Technical Guidance will guide applicants and developers through the planning process to ensure that they meet the requirements of the Council in the assessment, remediation and verification of contaminated land sites in a manner which is both compliant with environmental protection law and national planning policy. It will also ensure consistency with the approach of other Essex Councils. It is therefore proposed that the document is adopted as a material planning consideration.

6. Strategic Plan References

6.1 The Strategic Plan Action Plan includes a commitment to make Colchester a vibrant, prosperous, thriving and welcoming place.

6.2 The adoption of this Technical Guidance will help the Council achieve these objectives through promoting the efficient use of land in the Borough.

7. Consultation

7.1 There is no requirement to consult on the adoption of this Technical Guidance.

8.0 Publicity Considerations

8.1 It is considered unlikely that the adoption of the Technical Guidance will attract publicity.

9. Financial Implications

9.1 There are no identified financial implications to the Council in adopting this Technical Guidance.

10. Equality, Diversity and Human Rights implications

10.1 An Equality Impact Assessment has been prepared for the Local Plan and is available to view on the Colchester Borough Council website by following this pathway from the homepage: Council and Democracy > Policies, Strategies and Performance > Diversity and Equality > Equality Impact Assessments > Commercial Services > Local Development Framework.

10.2 There are no identified Human Rights implications.

11. Community Safety Implications

11.1 None.

12. Health and Safety Implications

12.1 None

13. Risk Management Implications

13.1 The adoption of the *Land Affected by Contamination: Technical Guidance for Applicants and Developer*s (3rd Edition, 2014) will ensure that risks from contaminated land are identified at an early stage and where possible effectively mitigated.

Appendices

Appendix A – *Land Affected by Contamination: Technical Guidance for Applicants and Developers* (3rd Edition, Essex Contaminated Land Consortium, 2014).

LAND AFFECTED BY CONTAMINATION

Technical Guidance for Applicants & Developers

Third Edition

Essex Contaminated Land Consortium

30th September 2014

Contents

Cover photograph: Cyanide containing gas works waste 'Blue Billy' being removed from a domestic garden.

1. Introduction

1.1 Our past industrial history has left some areas of land with an inheritance of contamination, with much of it being caused by polluting processes dating from the 19th and 20th centuries. This can include contamination of soils by chemicals or other hazardous substances, migration of contaminants to groundwater and surface waters and the production of hazardous gases from decomposing organic material in landfills etc. A legacy of contamination can also be left by processes that are carried out on sites that are not normally considered as 'industrial' (e.g. farms, stables & kennels etc.).

1.2 In order to deal with this legacy of historical contamination, Part 2A of the Environmental Protection Act 1990 imposes certain obligations. These are to ensure that following development, the final condition of the land will prevent it being designated as contaminated at some future point.

1.3 This guidance has been produced via collaborative working between all Essex Local Authorities as part of the Essex Contaminated Land Consortium. It aims to offer consistent and informative assistance to developers, consultants and landowners who intend to redevelop land or bring derelict land back into use under the Development Control process.

Following this guidance will also allow the Council to discharge its statutory Planning and Building Regulations responsibilities.

Please note that this guidance should be read in conjunction with DEFRA & the Environment Agency's Model Procedures for the Management of Land Contamination (CLR11), the National Planning Policy Framework (NPPF, 2012) and any other such statutory guidance that may be published from time to time.

1.4 The presence of contamination does not necessarily present an unacceptable risk. Risk exists when a source (a contaminant) and a vulnerable receptor (e.g. people, controlled waters or the wider environment) both exist at a site with a pathway linking the two. To that end, when dealing with a proposed development, the Council in whose area it is located will take into account comments made by other statutory bodies, such as the Environment Agency in relation to the protection of groundwater and surface waters. Other agencies may also need to be consulted.

1.5 In the interests of efficiency, the Council will provide as much information as possible about dealing with contamination during an application process. However, as the matter of contaminated land can be complex and varied, each site will have to be considered on its own merits. Sometimes, this may require that extra and individual conditions be applied.

1.6 It is important to note that all reports must address all the relevant issues referred to in this technical guidance in order to avoid rejection.

Early consultation and submission of all environmental reports is recommended but please note that environmental data reports *without* any interpretation (i.e. produced for property/land purchase purposes) which are submitted in isolation, **will not** be sufficient to provide all of the information required by the Local Authority. However, it is acceptable for such a report to be included as part of a more detailed submission.

2. Site Characterisation & Risk Assessment

2.1 Although contamination is widespread, it may not always be present in a form that would pose an unacceptable risk to human health, controlled waters, property, ecological systems or the environment. Therefore, it would be unreasonable to require every application to be supported by an intrusive investigation.

2.2 Site characterisation consists generally of Phase 1 and 2 investigations. The objective of these is to establish a risk assessment to enable the applicant and the regulators to clearly define the risk of harm to existing and proposed end users and other environmental receptors from contamination.

2.3 The Council's requirement to characterise the site for contamination will be proportionate to the risk of harm perceived in the light of information available. Therefore, for all proposed residential developments, a minimum of a Phase 1 desk study report **must** be submitted in support of the planning application.

For all sites where contamination is known or there is a reasonable suspicion of contamination, because of the lands previous use, or where there are indications of contamination (either on site or sufficiently close to be potentially affected), then a Phase 2 (intrusive investigation) report and remediation statement may also be required. This is based on the staged or tiered approach set out in CLR11.

2.4 Competent and experienced persons must carry out all elements of the site characterisation. Usually this would mean commissioning consultants or specialists. These persons must be familiar with all elements of modern risk assessment and site investigation techniques. They should also be familiar with current UK policy and the legislative framework surrounding land affected by contamination. See Section 6.

2.5 All risks identified must be evaluated fully to ensure that justifiable conclusions about the nature and level of risk have been drawn. This will include use of any non UK standards and adjustments made to those models. Any recommendations made as a result of the assessments must therefore be defensible. The risk evaluation will also contain any uncertainties surrounding the assessment.

Phase 1 – Desktop Study, Site Walkover and Preliminary Risk Assessment

2.6 Applicants should familiarise themselves with the site (& surrounding areas), its former use and its potential to cause contamination. Failure to demonstrate this may result in the Planning Authority refusing an application as important information could be missed.

2.7 The object of the study is to formulate a Conceptual Model and Preliminary Risk Assessment (Tier 1). The study must contain all relevant information, including:

- A plan of the proposed site layout;
- Site reconnaissance or walkover;
- A physical site description including geology, hydrogeology, etc;

- The condition of soil and vegetation, and any evidence of fly-tipped or similar material;
- The condition of structures on site, including any potential for the presence of asbestos, fuel storage (including heating oil);
- Review of current and historical maps;
- Previous, present and proposed uses of the site and direct vicinity;
- Previous and current industrial processes carried out on site;
- Details of any waste disposal practices;
- Details of spillage or pollution incidents;
- Any excavation and infilling activities (including current or historic landfill within 250m);
- A review of any previous investigations;
- Initial sampling of soils, water and gas where deemed appropriate; and
- An appreciation of all potential receptors on and outside of the site.

2.8 During the desktop study it will be expected that initial contact is made with the Local Authority.

2.9 From the findings of this study an initial Conceptual Model will be produced. This is usually in the form of a diagram or table that illustrates any potentially significant **sources** of contamination; **pathways** through which contaminants can travel; and **receptors** that ultimately can be affected.

2.10 The risk assessment derived from the Conceptual Model will indicate whether it is necessary for it to be followed up by a further "Intrusive or Phase 2 Investigation and Risk Assessment (Tier 2)."

2.11 The Desktop Study should be submitted to the Council as a written report **prior** to the commencement of a Phase 2 investigation. At this stage the Council or Environment Agency may request further information or clarification of points.

Early submission of the Desktop Study is therefore recommended to ensure that all of the information has been provided to the Council's satisfaction and to prevent costly delays

Phase 2: Intrusive Site Investigation

2.12 If the Phase 1 study indicates that there is a potential risk of harm from contamination an investigation shall be undertaken to look at the elements of the Conceptual Model. Therefore, the Phase 2 Investigation should seek to clarify the findings of the Phase 1 Investigation.

2.13 This is the opportunity for further consultation with the Environment Agency on matters relating to groundwater and surface waters.

2.14 There may also be the need to monitor off-site to assess impacts of migrating contaminants.

2.15 Where the potential for migration of ground gases has previously been identified, further investigations will be required. These investigations will need to be carried out in accordance with suitable risk assessment methods and sufficient time must be allowed to complete them (see section 8). Where the Conceptual Model indicates hydrocarbon vapour risks, these must also be evaluated (see *CIRIA 2012*).

2.16 It is strongly recommended that further contact with the Local Authority is made prior to undertaking any gas migration investigations.

2.17 The intrusive investigation must be carried out by suitably competent and experienced consultants or specialists. This will include access to specialist contractors and engineers.

2.18 The investigation including sampling techniques should be carried out in accordance with *BS10175:2011 Investigation of potentially contaminated sites – code of practice (or any revisions)* & CLR 11.

2.19 Analysis of all samples shall take place at MCERTS & UKAS accredited laboratories.

2.20 When completed, the results of the investigation should be compared against relevant, authoritative and up-to-date criteria. In the first instance, these should be the Environment Agency SGVs, or other values derived in accordance with the Contaminated Land Exposure Assessment (CLEA) methodology, in accordance with the "acceptable risk" approach, such as the *CIEH/LQM 2009 Generic Assessment Criteria (GAC) for Human Health Risk Assessment.*

Category 4 Screening Levels (C4SLs) (*SP1010, DEFRA, 2014*) have been produced as levels where there is no 'Significant Possibility of Significant Harm' *under the Pt2A regime.* Whilst the Department for Communities and Local Government (DCLG) Planning Practice Guidance has made reference to these, the CIEH position is that they are not precautionary enough when considering redevelopment of contaminated sites *under the planning regime (CIEH Position Statement, July 2014)*. In the absence of definitive guidance on the use of C4SLs in the planning process, Essex Local Authorities will expect developers/owners to demonstrate that land is safe for its permitted use, and multiple lines of evidence may be required to support any values relied upon.

2.21 Where a substance is not covered by the above, other Risk Assessment tools will be considered. However their relevance must be fully justified, conforming to current UK Policy. Please note that models are also specific to certain land uses and receptors.

2.22 Risks to controlled waters should be assessed in line with Environment Agency's publication Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination, in accordance with CLR11 and EA's requirements. Please contact the EA for further information.

2.23 Underground structures such as foundations, fuel tanks, pipe work and archaeological sites need to be identified. Archaeological sites are treated as contamination receptors and advice from local and national agencies such as English Heritage may be required.

2.24 After the completion of the investigation works, a report detailing the methodologies used in the investigation, results, conclusions and recommendations must be submitted to the Local Authority. The report must also include:-

- A rationale for sampling locations;
- Rationale for range of contaminants analysed;
- Use of statistical analysis where relevant (data is appropriate, sufficient and representative (unbiased) – see CIEH 2008);
- Field sampling techniques utilised;
- Scaled sampling plans;
- Borehole logs and soil profile;
- Plan showing location of significant contamination;
- Any uncertainties relating to the conclusions; and
- Recommendations.

2.25 After the Phase 2 investigation has been completed, the preliminary conceptual model and risk assessment must be reviewed to see if the potential risks to human health, controlled waters and the environment have been realised, to the satisfaction of the Local Authority and the Environment Agency.

3. Remediation Scheme

3.1 Where unacceptable risks to human health, property or the environment have been identified during Phases 1 and 2, a report detailing suitable remediation scheme(s) must be produced, in order to manage these risks for the proposed use of the land. This report should include information on how the works will be verified, to ensure that the remediation objectives have been met. This report must be submitted to, and agreed by, the Local Authority, before any work commences.

3.2 Where remediation of groundwater or surface water is required, or existing land contamination may present a risk to such, work will also need to be agreed by the Environment Agency. Details of the proposed work must be submitted in writing to the Council and the Environment Agency for written approval.

3.3 If any ground works are required to be undertaken prior to the commencement of the remediation scheme, they must be approved by the Local Planning Authority.

3.4 Where remediation includes importation of soils onto the site, either for gardens or soft landscaping purposes, then these must be suitable for use. The Local Authority will require you to undertake certain measures in order to be able to demonstrate this. These requirements are set out in Appendix 1.

Site derived soils must similarly be shown to be suitable for use.

Please note that the BRE 2004 cover system approach is considered by the ECLC to be a discussion document **only**: it would generally be expected that residential garden areas will include a minimum cover of 600mm (i.e. two spade depths) of verified "clean" soils but some sites or contaminants may require a greater depth of cover.

3.5 Suitably trained and competent persons must be appointed to oversee the remediation works. They must also be responsible for the safety of site workers and the public. These procedures must be in place before the work commences.

3.6 Contaminated soil that must be disposed of is waste. The appointed person will be responsible for the documented identification, handling, storage and fate of contaminated waste. There may also be a requirement to apply for an environmental permit or register an exemption. Please contact the Environment Agency for advice.

3.7 Any unexpected contamination or pathways that become evident during the development of the site must be reported to the local planning authority immediately. The risk assessment must then be reviewed and revised as necessary.

3.8 The Council will also have preference to the use of alternative, more sustainable remediation techniques as opposed to the "dig-and-dump" method. Off-site disposal of grossly contaminated soils and waters may still be necessary. However, current technology often allows soils and waters contaminated to certain levels to be treated for reuse.

3.9 The Environment Agency should be consulted where such techniques are proposed, as certain remedial activities may require a mobile plant permit or a site-based permit and treatment studies to show that the method is effective. Please refer to Environment Agency's Remediation Position Statements document for further information.

Please note that, where *ex-situ* remediation techniques are employed, the reuse of treated soils may require an environmental permit or may require the developer to register an exemption (unless an existing exemption applies). Alternatively, the developer may be able to register under the 'CL:AIRE Definition of Waste: Development Industry Code of Practice.' We recommend the Environment Agency be consulted at an early stage in order to avoid delays.

3.10 Although these methods may take more time, there is often a cost benefit associated with them e.g. reduced waste disposal and transportation costs and less landfill tax. They will also avoid pollution caused by excessive vehicle movements and the need for landfill.

4. Verification

4.1 After completion of the remediation works, a verification report must be submitted to the Council for approval before construction begins (unless the remediation forms part of the construction). This will usually be a single document that demonstrates that **all** of the previously agreed remediation objectives have been met (where partial verification is proposed, this must be agreed by the Council in writing). It should include:

- A summary of the risks that have been managed;
- Verification sampling of any imported topsoil and certification of the source of the material (including sufficient appropriate analysis);

- Verification of depths of “clean” soils where plants and vegetables could be grown (private gardens) and in soft landscaped areas, together with evidence of the placement of any break layers;
- Photographs;
- Site plans;
- Appropriate inspection and certification of any gas protection measures installed in individual plots (relative to the level of protection required);
- “Duty of Care” waste disposal documentation; and
- Any other relevant information required by the Council or the Environment Agency

4.2 There may be a requirement for future monitoring of the site to verify whether the remediation has been successful, particularly where on-site treatment processes have been used.

4.3 Subject to the findings of the verification report, the Council may require further works, including sampling and remediation to be undertaken.

4. 4 When the Council is satisfied that the site has been remediated to an acceptable standard and is suitable for use the applicant and the developer will be expected to sign a Certificate to confirm that the site has been remediated in accordance with the scheme previously agreed between themselves and the Council (Appendix 3).

5. Local Authority Considerations

We will consider the following:

5.1 Site Characterisation & Risk Assessment (“Phase 1” and “Phase 2” reporting)

- Has the site been determined as contaminated land under Part 2A of the Environmental Protection Act 1990?
- Is the site known or suspected to be contaminated, or would the proposed use be vulnerable to any contamination?
- Is there any land in the vicinity of the site known, suspected or with the potential to be contaminated and which may have an effect on the development (including filled land within 250m)?
- Does the Council possess any information about the site?
- Are the previous uses likely to have left the site in a contaminated state? See the DoE Industrial Profiles for examples (DoE 1994-2007).
- Does the site require investigation prior to the application being determined?
- Have competent persons carried out the investigation (see section 6)?

- Has the applicant gathered sufficient information?
- Has sufficient sampling been undertaken?
- What levels of confidence and uncertainty are included with the results?
- Has an appropriate laboratory been used to carry out the analyses?
- Has the Environment Agency been consulted regarding (the risk of) groundwater & surface water contamination?
- Have suitable threshold criteria been used, and have any derived criteria been justified?
- Does the condition of the site pose an acceptable risk?
- Does the site require remediation for its proposed use?

5.2 Remediation

A Remediation Method Statement (RMS) can only be submitted for approval once it has been agreed that the site has been sufficiently characterised and all potential pollutant linkages identified. Whilst it is acceptable for outline proposed remedial measures to be included in the risk assessment, a separate, stand-alone, detailed RMS will be required to be submitted for approval, before remedial works commence.

- Can the design of a remediation scheme be conditioned or is it required before the permission is determined?
- Will the scheme render the site suitable for its end use?
- Has the Environment Agency been consulted regarding waste management practices?
- Does the site require post-development monitoring?
- Has a monitoring scheme been agreed with the Local Authority and/or the Environment Agency?

5.3 Validation/ Verification

- Has all of the verification of remediation information been supplied in a single document?
- Has the developer complied with the previously agreed remediation scheme?
- Will there still be liabilities relating to Part 2A of the Environmental Protection Act 1990?
- Has the post remediation sampling and analysis been carried out sufficiently for verification?
- Are there any uncertainties remaining?

- Is all the necessary documentary evidence attached to the verification report?
- Has the applicant met the objectives agreed by the Council?

5.4 Certificate

Once the agreed remediation scheme has been implemented, a verification report must be submitted and the applicant should sign and submit a certificate confirming this. A copy of the required format can be found at Appendix 3.

6. General Requirements

There are some matters that an applicant has to consider for all parts of the investigation, remediation and verification.

6.1 Competency

6.1.1 Care must be taken to ensure that additional pollutant linkages are not created during any works carried out at the site. This could result in the site being determined as contaminated under Part 2A of the Environmental Protection Act 1990.
Particular care must be taken when any piling is necessary as piling can create direct pathways between the contamination and the groundwater. Piling may also allow the migration of ground gases or expose site workers to the risk from contaminated waste materials. A Foundation Works Risk Assessment should be undertaken for developments involving piling on sites potentially affected by contamination to underpin the choice of founding technique and any mitigation measures required.

This highlights the need for specialist advice for all parts of the investigation.

6.1.2 Many organisations feel able to complete part of the assessment (usually the desktop study). The Council will have regard both to the content of reports and to professional experience, affiliation and demonstrable expertise. A failure to demonstrate this could lead to the report being rejected.

6.1.3 The NPPF requires site investigation information to be prepared by a “competent person”, defined as “a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation”.

6.1.4 In all cases, all reports should be rational, ordered and in sufficient detail to demonstrate a logical progression of the assessment procedure. The reports should be clear and avoid excessive use of scientific terminology. They should also include a summary written in non-technical language.

NOTE: We are not able to recommend consultants. You will need to look in directories (such as Yellow Pages, ENDS, Spill on Line (accredited oil spill contractors) etc.) and satisfy yourself that they are sufficiently experienced to be able to deal with all matters relevant to your particular site e.g. experience in ground gas/ground water monitoring, asbestos surveying/disposal, hydrocarbon contamination etc.

6.2 Health and Safety

6.2.1 The developer is responsible for ensuring that site workers and members of the public are

protected from the potential effects of contamination during the entire process. Enforcement for health and safety matters on construction sites is the responsibility of the Health and Safety Executive (HSE).

7. And finally …

7.1 The applicant is responsible for providing sufficient and accurate information to ascertain whether a site was contaminated and that it has been remediated, commensurate with its intended final use. Many of the decisions made by the Council will be on the basis of the information that has been provided to it. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner (NPPF, March 2012)

7.2 Part 2A of the Environmental Protection Act 1990:

7.2.1 Local authorities are obliged to identify and have land remediated where contamination is causing unacceptable risks to human health and the wider environment, assessed in the context of its current land use and circumstances of the land.

7.2.2 Such land is determined "contaminated land" which is defined under Section 78A(2) of the Act as:

"land which appears to the Local Authority… to be in such a condition, by reason of substances in, on, or under the land that – (a) significant harm is being caused or there is a significant possibility of such harm being caused; or (b) significant pollution of controlled waters is being, or there is a significant possibility of such pollution being caused."

7.2.3 "Harm" is subsequently defined as:

"harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property."

7.2.4 Therefore, should there be any failure to remediate land to a state that removes these risks which should have been identified in any investigation, remediation may be enforced post development at the expense of those persons deemed "appropriate" at the time as defined by the Act.

7.2.5 Section 78F(2) of the Environmental Protection Act 1990 defines "appropriate persons" as those who have caused or knowingly permitted a pollutant to be in, or under the land. As such they may be liable for the remediation of the site if it is subsequently determined as contaminated land by the local authority.

8. References and Useful Sources of Information

(Please note that this is not an exhaustive list and always refer to the most recent guidance)

BRE *Cover systems for land regeneration - thickness of cover systems for contaminated land,* BRE 2004, P Tedd, P Witherington, D Earle, S Hollingsworth, B Furlong, L Bradley, H Mallett, D Laidler

British Standards Institution, *BS10175:2011 + A1: 2013 Investigation of potentially contaminated sites – code of practice,* 2013

British Standards Institution, *BS8576:2013 "Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds (VOCs),* 2013

CIEH, *Guidance on Comparing Soil Contamination Data with a Critical Concentration, CIEH/ CL:AIRE 2008*

CIEH/LQM, *Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition,* Nathanail et al, Land Quality Press, 2009

CIRIA, *665 - Assessing Risks Posed by Hazardous Ground Gases to Buildings,* Wilson et al, 2007

CIRIA, *C716, Remediating and mitigating risks from volatile organic compound (VOC) vapours from land affected by contamination,* Welburn, P, Baker, K, Borthwick, K, MacLeod, C, 2012

DEFRA & Environment Agency, *Contaminants in Soil: Collation of Toxicological Data and Intake Values for Humans*, Environment Agency, 2002

Environment Agency, *Using Soil Guideline Values*, Environment Agency Science Programme publication, 2009

DEFRA & Environment Agency, *Model Procedures for the Management of Land contamination. Contaminated Land Report 11 (CLR11),* DEFRA, 2004

DEFRA, *Environmental Protection Act 1990:Part 2A Contaminated Land Statutory Guidance.* April 2012

DCLG, *National Planning Policy Framework (NPPF),* DCLG, 2012

DoE, DEFRA, Environment Agency et al, *Contaminated Land Report (CLR) Series, DoE*, DEFRA, EA et al, 1994-2007

Environment Agency, *Cost Benefit Analysis in the Remediation of Contaminated Land, Environment Agency Technical Record No.P316*, Environment Agency, 1999

Environment Agency, 2006. *Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination*

Environment Agency, *Guidance on the Application of Waste Management Licensing to Remediation (version 2.0)*, January 2001

NHBC & Environment Agency, *Guidance for the Safe Development of Housing on Land Affected by Contamination*, Environment Agency R&D Publication (66), 2008

HM Government, *Approved Document "C" – Site Preparation and Resistance to Contaminants and Moisture,* 2004 edition

Department for Communities and Local Government, *National Planning Policy Framework*, March 2012

Scotland & Northern Ireland Forum For Environmental Research (SNIFFER) *Framework for Deriving Site-Specific Human Health Assessment Criteria for use in the Assessment and Management of Contaminants in Soil* (SNIFFER project ref. LQ01), April 2003

Appendix 1. Guidance on the importation of soils

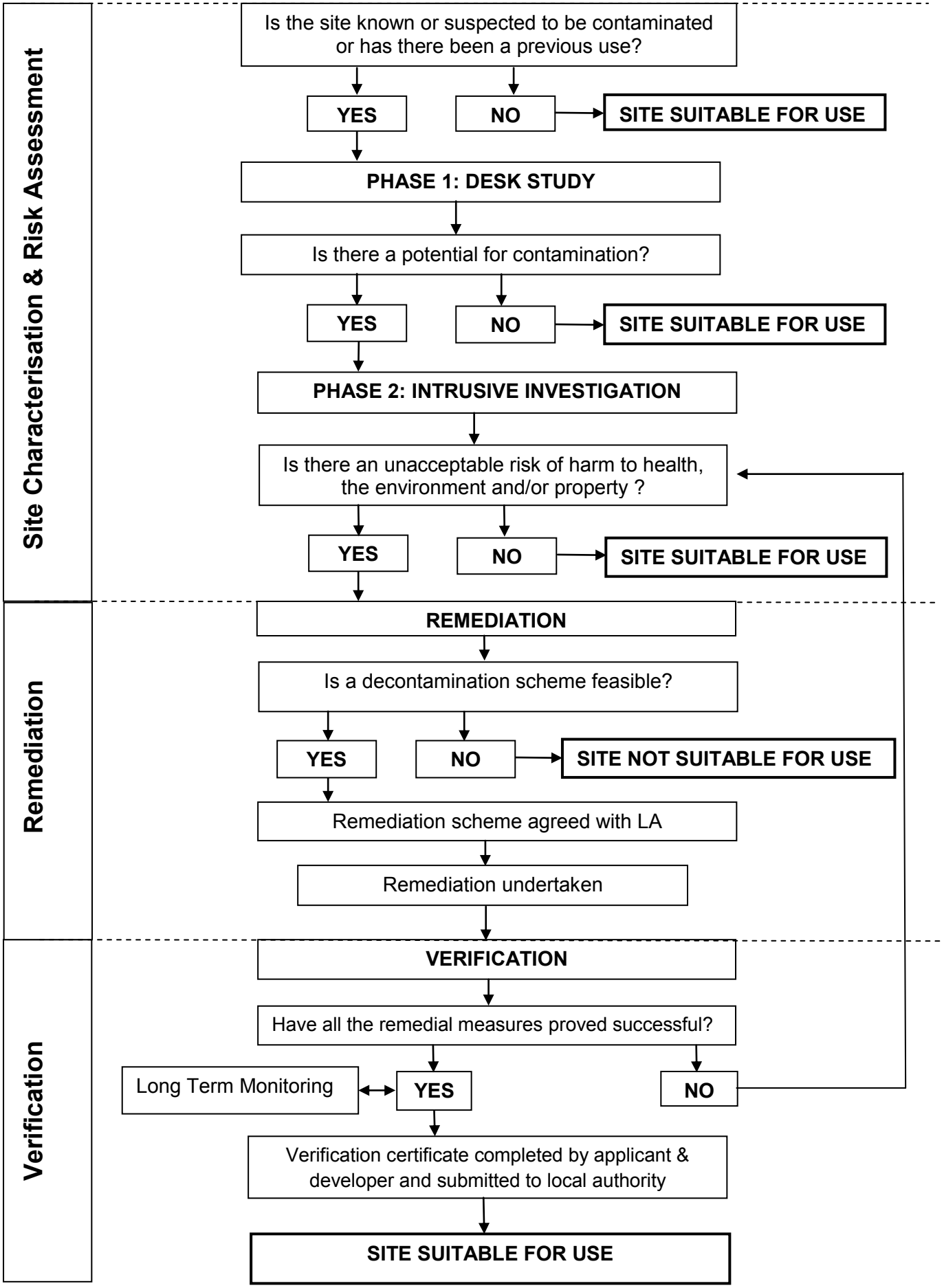
The following requirements will need to be met, in order to show that any soils brought on to the site are suitable for use and will not cause harm to human health, property, the environment or controlled waters:

- Details of the source and supplier of the soil(s) must be supplied to the Local authority;
- Soils must not be contaminated with materials such as plastics, metals, asbestos, glass, tarmac etc.;
- For soil from a single source, it will be necessary to take a minimum of two random samples for every 15m^3. For small quantities of soils, a minimum of three samples will be required in total. Where large quantities of soil from a single source are involved, it may be possible to reduce the frequency of sampling - however, this must have been previously agreed with the Local Authority;
- Analysis of these soil samples must take place in independent UKAS(1) or MCERTS(2) accredited laboratories. The Local Authority will not accept sampling or analysis certificates which have been submitted by the supplier of the soils;
- The analytical suite must include a minimum of metals, speciated PAH, total TPH and pH. Analysis of additional substances may be required by the Local Authority depending on source: e.g. a pesticide suite for soils from agricultural sources. Analysis must be recent and clearly relate to the actual soils to be imported – a clear chain of custody is required;
- The results of the analysis must be compared with approved current guideline values. i.e. CLEA Soil Guideline Values, GACs, C4SL's or other values that may have been previously agreed with the Local Authority;
- The Local Authority must approve results of the analysis before the soils are placed on the site;
- If not for immediate use, "clean" soils must be segregated.
- Further representative sampling may be required following placement.

(1) The United Kingdom Accreditation Service

(2) Environment Agency Monitoring Certification Scheme

Appendix 2. Site Assessment Procedure Flow Chart



Appendix 3. Verification Certificate

To be completed by the applicant and developer
(a separate certificate to be completed by each relevant party)

To …….....(Council address)

This is to Certify that the scheme of remediation*, decontamination and reclamation at the site known as: ……....

…….....……

(in relation to planning application reference: ..…….....)

was carried out between the dates of: ……..…….....and.……..……..…....

and was completed in accordance with best practice and in accordance with the Council's document *Land Affected by Contamination: Technical Guidance for Applicants and Developers*, and to the agreed remediation scheme, detailed in the document:

…….....……

…….....……

Document Reference:……...

Dated: ……..…….....……..

[**Together with the following amendments that have been submitted to and agreed in writing with the local planning authority:

…….....…….

…….....……..

Document Reference: ….…….

Date: ….....……..….]

which were designed to afford protection from contamination* on the site to all known receptors*.

Signed: …….....…… Dated: ……..……

Name: …..…….....……

Position: ……..…….....……

Company Name and Address: …….....……...

…….....……

* The words "contamination", "remediation" and "receptors" are as defined by Part 2A of the Environmental Protection Act 1990.

** Complete/delete as applicable.

Appendix 4. Local Authority Contact Information

Basildon Borough Council

Customer Services: 01268 533333
Email: customerservices@basildon.gov.uk

Braintree District Council

Phone: 01376 552525
Email: csc@braintree.gov.uk

Brentwood Borough Council

Phone: 01277 312500
Environmental Health – 01277 312504
Fax: 01277 312744
Email: enquiries@brentwood.gov.uk

Castle Point Borough Council

Phone: 01268 882200
Fax: 01268 882327
Email: environmentalhealth@castlepoint.gov.uk

Chelmsford City Council

Phone: 01245 606606
Fax: 01245 606415
Email: scientific.team@chelmsford.gov.uk

Colchester Borough Council

Phone: 01206 282592
Email: Environmental.ProtectionTeam@colchester.gov.uk.

Epping Forest District Council

Telephone: 01992 564608
Email: publichealth@eppingforestdc.gov.uk

Harlow District Council

Phone: 01279 446111
Fax: 01279 446639
Email: env.health@harlow.gov.uk

Maldon District Council

Phone: 01621 854477
Fax: 01621 852575
Email: contact@maldon.gov.uk

Rochford District Council

Phone: 01702 318111
Email: online form from website

Southend-On-Sea Borough Council

Phone: 01702 215005
Email: council@southend.gov.uk

Tendring District Council

Phone: 01255 686767
Email: environmental.services@tendringdc.gov.uk

Thurrock Council

Phone: 01375 652955
Email: environmental.health@thurrock.gov.uk

Uttlesford District Council

Phone: 01799 510510
Fax: 01799 510550
Email: environmentalhealth@uttlesford.gov.uk

Environment Agency
(National Customer Contact Centre)

Phone: 03708 506 506
Email: enquiries@environment-agency.gov.uk

Local Plan Committee

Item **9**

13 April 2015

Report of	**Head of Commercial Services**	**Author**	**Beverley McClean 01206 282480**
Title	**Sustainable Drainage Systems Design Guide**		
Wards affected	**All wards**		

The Local Plan Committee is asked to agree the adoption of the Sustainable Drainage Systems Design Guide as a Supplementary Planning Document

1. Decision(s) Required

1.1 The Committee is asked to agree to adopt the Sustainable Drainage Systems Design Guide (SDSDG) as a Supplementary Planning Document (SPD).

2. Reasons for Decision

2.1 The committee is being asked to agree to adopt the Design Guide to ensure that developers have access to consistent advice about the design and delivery of sustainable drainage schemes which will soon have to be constructed as part of new major developments. Adoption of the guide will also help ensure that sustainable drainage schemes coming forward in the Borough are fit for purpose in terms of helping reduce and manage the risk from surface water flooding as well as delivering wider amenity, ecological and landscape benefits.

3. Alternative Options

3.1 The alternative option is to not adopt the Sustainable Drainage Systems Design Guide and rely on national DEFRA standards, the National Planning Policy Framework and the online Planning Practice Guidance. These documents provide much more general information than the Sustainable Drainage Design Systems Design Guide and an over reliance on these could result in the implementation of sub-standard sustainable drainage schemes that are not fit for purpose and which fail to manage surface water flooding properly in the Borough.

4. Supporting Information

4.1 Following extensive summer flooding across parts of England in 2007, the need to improve governance arrangements and flood risk management systems became an important priority for national goverenment. Following the flooding, the need to review and overhaul flood risk management, particularly for surface water flooding was identified. Following a review, changes to be implemented were published in the Pitt Review in 2008. The Pitt Review proposed a total of 92 recommendations. The Flood and Water Management Act, which was enacted in 2010, emerged from this process and under this Act, Essex County Council became the Lead Local Flood Authority, with new

responsibilities for overseeing flood risk from surface water, groundwater and ordinary water courses.

4.2 In relation to managing surface water flooding there has been a shift away from hard engineering solutions towards the use of more natural sustainable drainage solutions. As part of their new responsibilities, Essex County Council's Flood team has prepared a number of flood risk management documents to help reduce and manage flood risk across Essex. One of these documents is the Sustainable Drainage Systems Design Guide which was completed in December 2014. Paragraph 103 of the National Planning Policy Framework, the supporting Technical Guidance on Flood Risk in the NPPF and the online Planning Practice Guidance already promote the use of sustainable drainage. Paragraph 103 however is to be changed imminently to require all new major developments to include provision for sustainable drainage systems as a mechanism for managing surface water flooding. This change is due to become effective on 6 April 2015. The Planning Practice Guidance has also recently been amended to reflect that Essex County Council in their role as Lead Local Flood Authority will become a statutory consultee for sustainable drainage from 16 April 2015. As of this date, the Environment Agency will no longer be the statutory consultee for surface water management issues, but they will retain their strategic overview role for all flood (main rivers and sea) and coastal erosion management issues.

4.3 Colchester Borough Council already promotes the use of sustainable drainage in new developments through Core Strategy policy ENV1 (Environment) and Development Policy DP20 (Flood Risk and Management of Surface Water). The adoption of the Sustainable Drainage Systems Design Guide will help CBC meet its Local Plan policy objectives and assist development management negotiate good quality sustainable drainage schemes as part of new major developments.

5. Proposals

5.1 The Sustainable Drainage Systems Design Guide was completed by Essex County Council's Flood Management Team in 2014. The document has been subject to public consultation and will be adopted by Essex County Council's Cabinet as SPD before the policy and changes to consultee roles become effective in April 2015.

5.2 The Sustainable Drainage Systems 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. In addition to surface water management, well designed sustainable drainage can deliver useful landscape, ecological and amenity benefits.
- 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.
- Chapter 3 explains the 12 principles and 2 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.

- Chapter 4 also 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. Section 4 illustrates this through a series of worked examples of major types of development to show how sustainable drainage schemes can potentially be fitted into real life situations. It also includes case studies, showing how sustainable drainage systems have been successfully used.
- Sections 5 – 8 include appendices, a glossary of terms, references and a figures table respectively.

5.3 Essex County Council's Flood Team will use the guide in their new role to assess planning applications requiring sustainable drainage schemes. The committee is therefore being asked to approve the adoption of the guide as a Supplementary Planning Document to ensure that developers receive consistent advice about the provision of sustainable drainage systems as part of new major development schemes.

6. Strategic Plan References

6.1 The Sustainable Drainage Systems Design Guide provides evidence to help the Council deliver its strategic priorities to generate opportunities for growth and supporting infrastructure, improve sustainability, cleanliness and health of the place by supporting events that promote fun and wellbeing, make Colchester confident about its own abilities, to compete with the best of the towns in the region to generate a sense of pride.

7. Consultation

7.1 The Sustainable Drainage Systems Design Guide was produced by Essex County Council's Flood Management Team in conjunction with a range of stakeholders. The document was completed in 2014 and has been subject to 2 x 6 week periods of public consultation. 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 document will be adopted by Essex County Council's Cabinet as Supplementary Planning Document before the policy and statutory consultee role becomes effective in April 2015 as highlighted in paragraph 4.2. No further consultation is considered necessary.

8.0 Publicity Considerations

8.1 None

9. Financial Implications

9.1 None

10. Equality, Diversity and Human Rights implications

10.1 An Equality Impact Assessment has been prepared by Essex County Council - SUDS Guide - ECC EQIA.doc. An Equality Impact Assessment has also been prepared for the Local Development Framework and is available to view by clicking on this link:- http://www.colchester.gov.uk/article/4962/Strategic-Policy-and-Regeneration
Or go to the Colchester Borough Council website www.colchester.gov.uk and follow the pathway from the homepage: Council and Democracy > Policies, Strategies and Performance > Equality and Diversity > Equality Impact Assessments > Strategic Policy

and Regeneration and select Local Development Framework from the Strategic Planning and Research section.

10.2 There are no particular Human Rights implications.

11. Community Safety Implications

11.1 None.

12. Health and Safety Implications

12.1 None

13. Risk Management Implications

13.1 Adopting the Sustainable Drainage Systems Design Guide will ensure that the Local Plan policy objectives to prevent and manage flooding will be met. It will also ensure that developers receive consistent advice about the provision of sustainable drainage schemes when planning applications are being planned and negotiated. Overall this will ensure that flood risk particularly from surface water flooding is properly considered as part of the planning decision making process which ultimately will reduce the risk from flooding arising from new development across the Borough.

Sustainable Drainage Systems

Design Guide

Essex County Council December 2014

Essex County Council

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: Quasim Durrani

CONTENTS

››Rieselfeld, Freiburg, Germany

1.0 INTRODUCTION

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.

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).

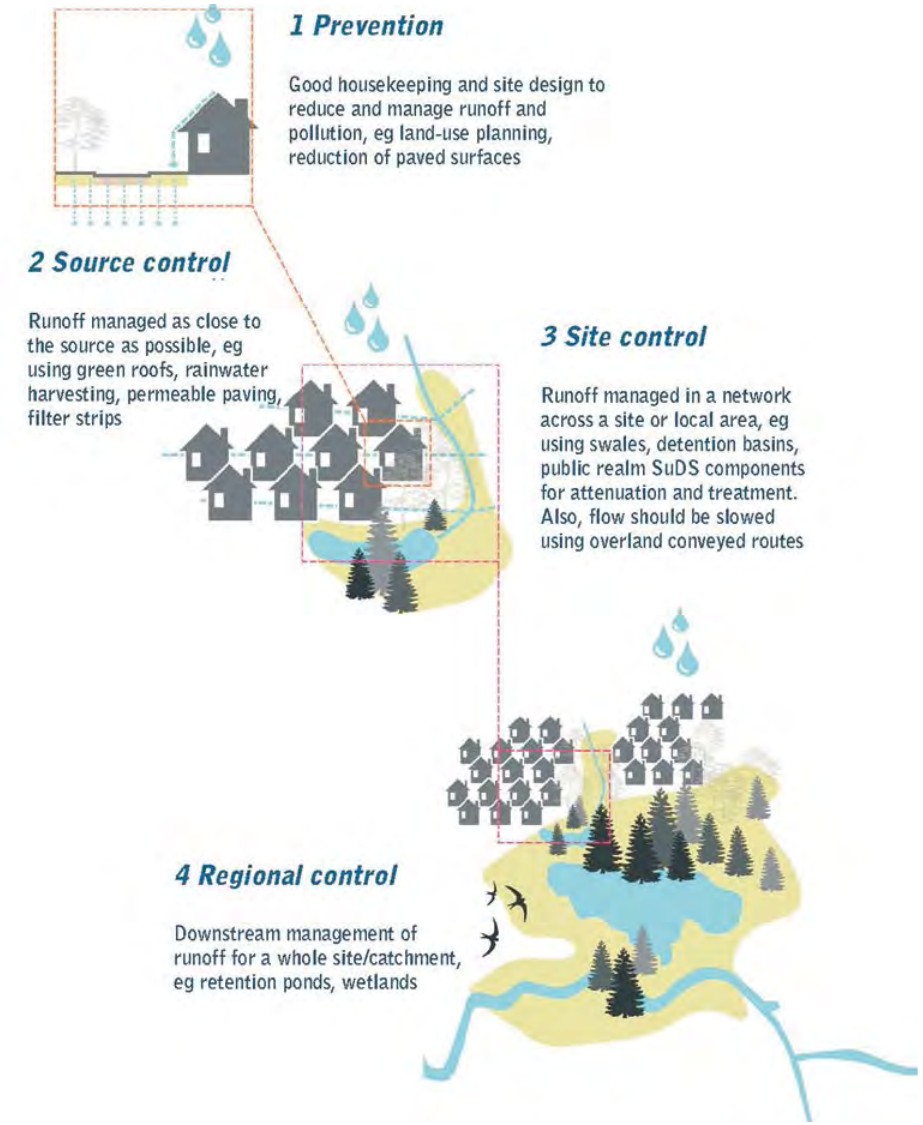


Figure 1.6.1 The SuDS management train (CIRIA, 2010)

›› 18th-19th century duck decoy pond, Old Hall Marshes, Maldon, Essex

2.0 SuDS AND THE ESSEX ENVIRONMENT

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 UKCP02 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 (UKCP09) 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

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 upper part of the sands and gravels reddened and clay enriched.

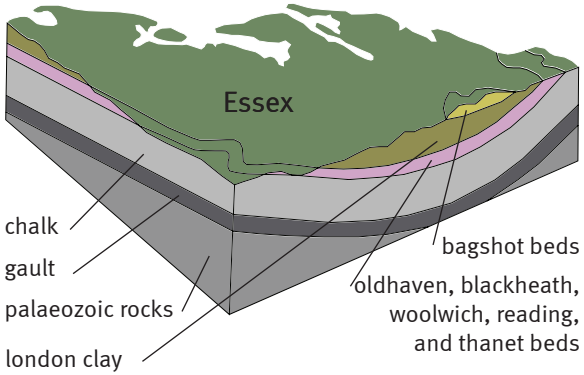


Figure2.3.1: Simplified bedrock section

Exposed glacial gravels, East Mersea, Essex

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

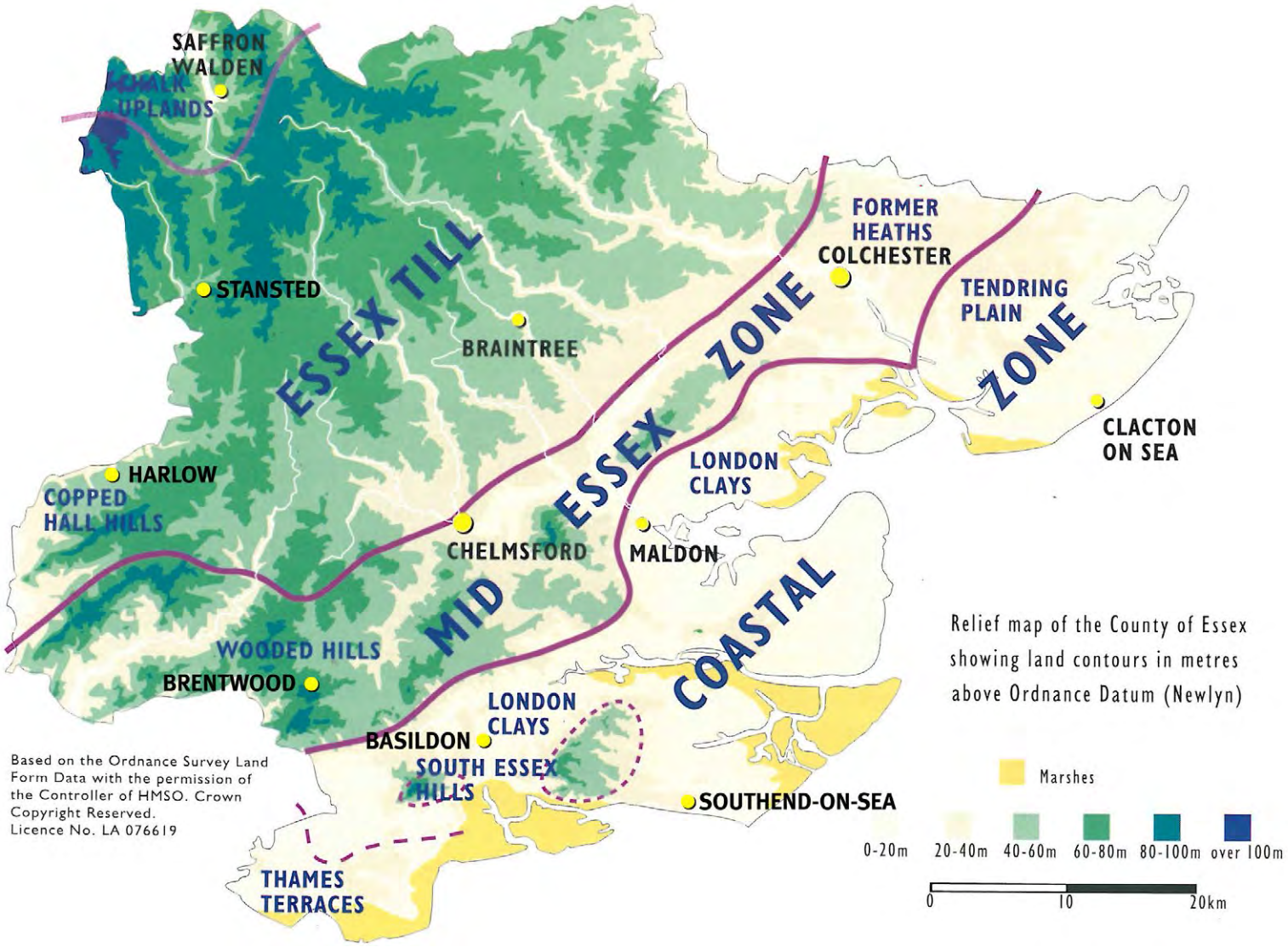


Figure 2.3.2 Topography of Essex

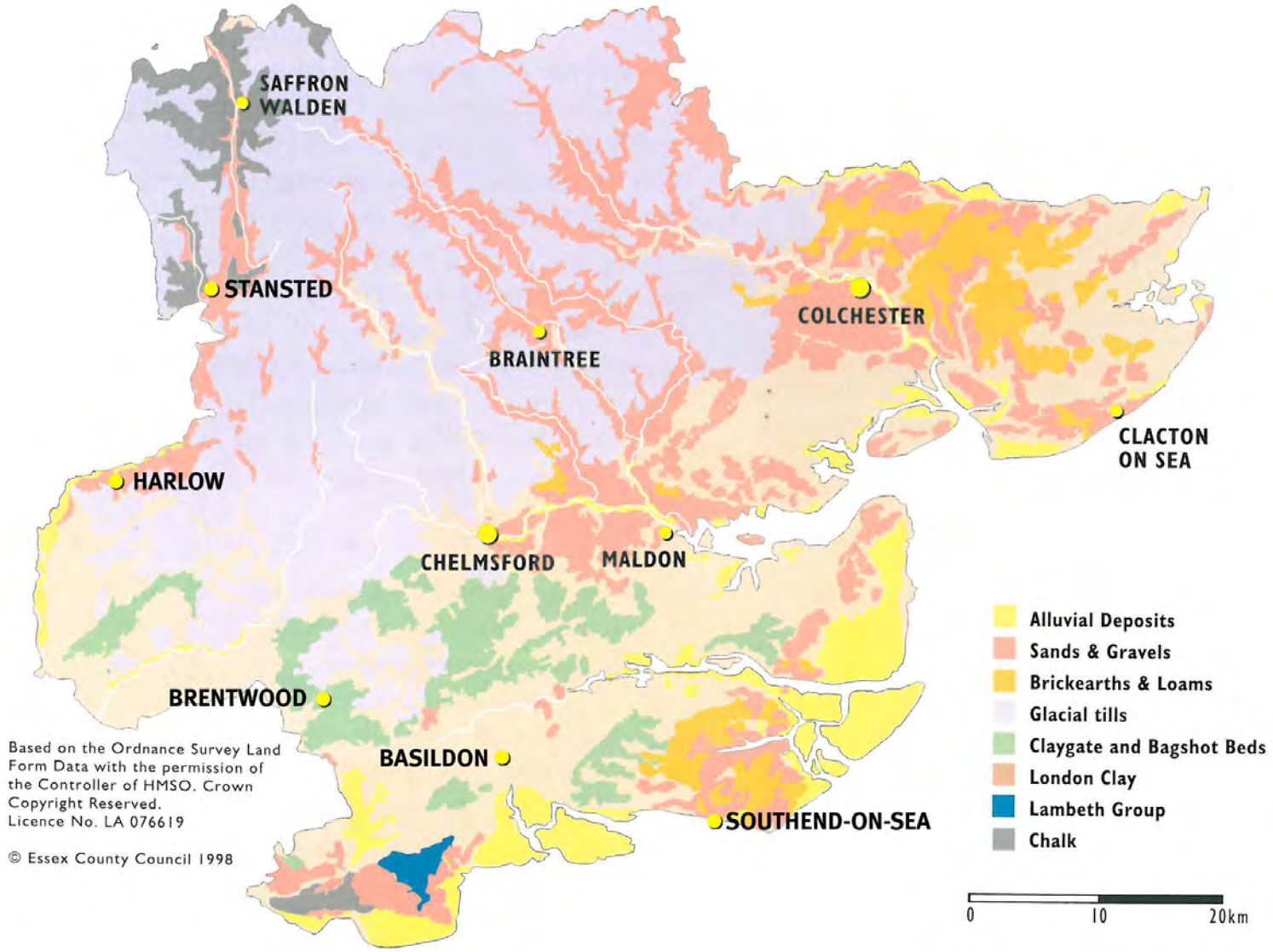


Figure 2.3.3 Surface geology of Essex

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

2.5 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 semi-natural 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

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

››SuDS Pond, Western Harbour, Malmo, Sweden

3.0 DESIGN CRITERIA

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:
1. Plan for SuDS
2. Integrate with public spaces
3. Manage rainfall at the source
4. Manage rainfall at the surface
5. Mimic natural drainage
6. Design for water scarcity
7. Enhance biodiversity
8. Link to wider landscape
9. Design to be maintainable
10. Use a precautionary approach
11. Have regard to the historic environment
12. Show attention to detail

Local Standards:
1. Hydraulics
2. Water quality
3. Green roof design
4. Soakaway design
5. Filter strip design
6. Filter trenches and drain design
7. Swale design
8. Bioretention design
9. Pervious pavement design
10. Geocellular structures design
11. Infiltration basin design
12. Detention basin design
13. Pond design
14. Wetland design
15. Rainwater harvesting design
16. Greywater recycling design

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 very likely to be repaid in the long-term. The advantages include:

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)

- 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.

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 design-led 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.

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 (Ian 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

General

- 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

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

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)

LOCAL PRINCIPLE 8: LINK TO WIDER LANDSCAPE

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.

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 lakes, 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

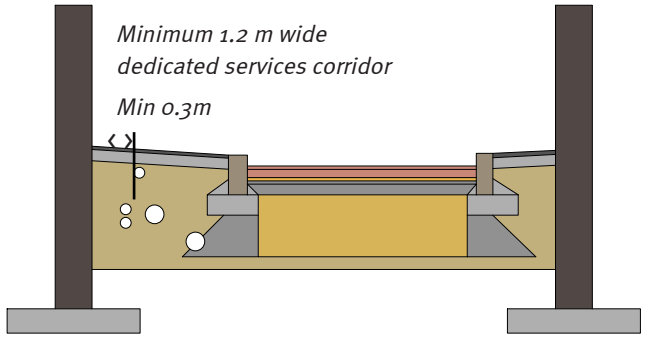


Figure 3.1.2 Services Corridor

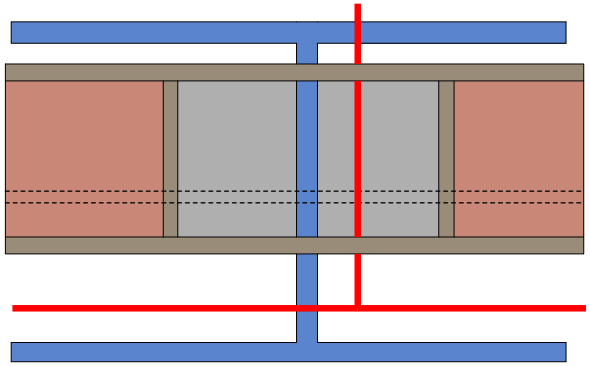
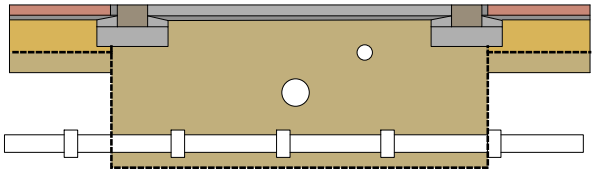


Figure 3.1.3 Delineated Utility Road Crossing (plan)

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

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, parking 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)

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.

SuDS Technique	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 0.5m.
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.

SuDS Technique	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.

SuDS Technique	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.

SuDS Technique	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 	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.

››Beaulieu Park, Chelmsford, Essex

4.0 DESIGNING SUDS

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 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.

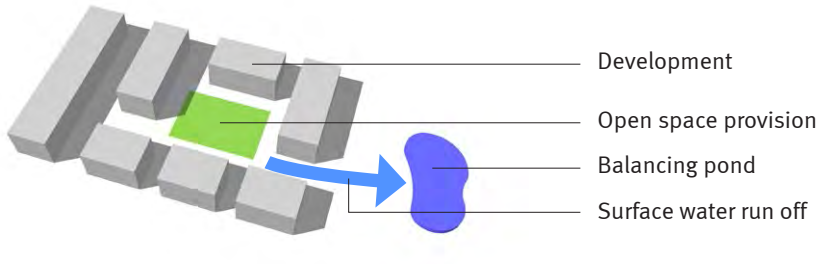


Figure 4.1.1 Large stand-alone balancing ponds are not the only solution

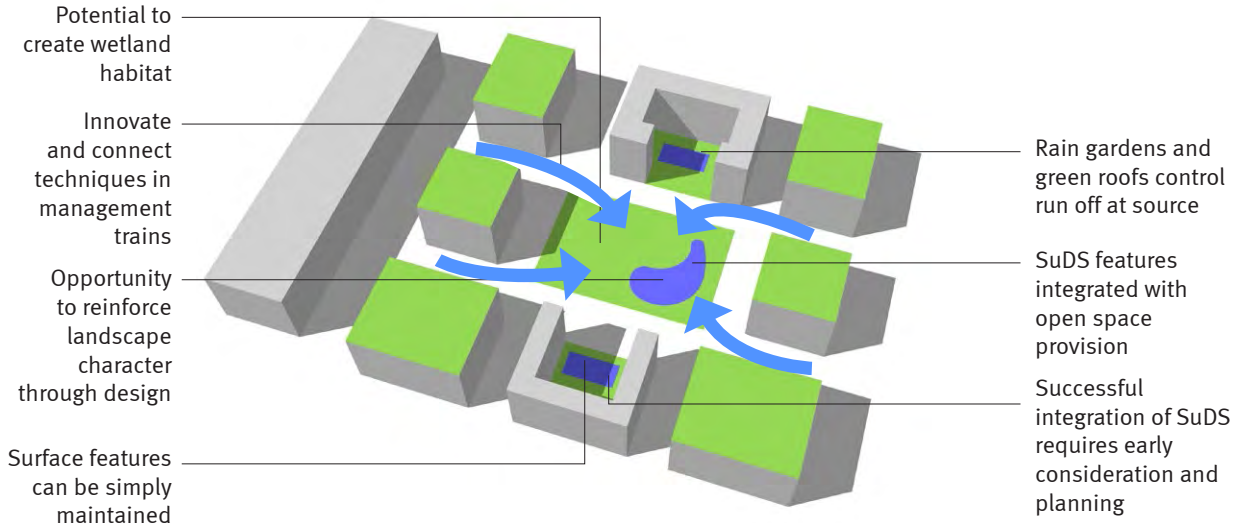


Figure 4.1.2: An integrated approach to surface water management

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 opportunities 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 co-located 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 cross-sections, 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.

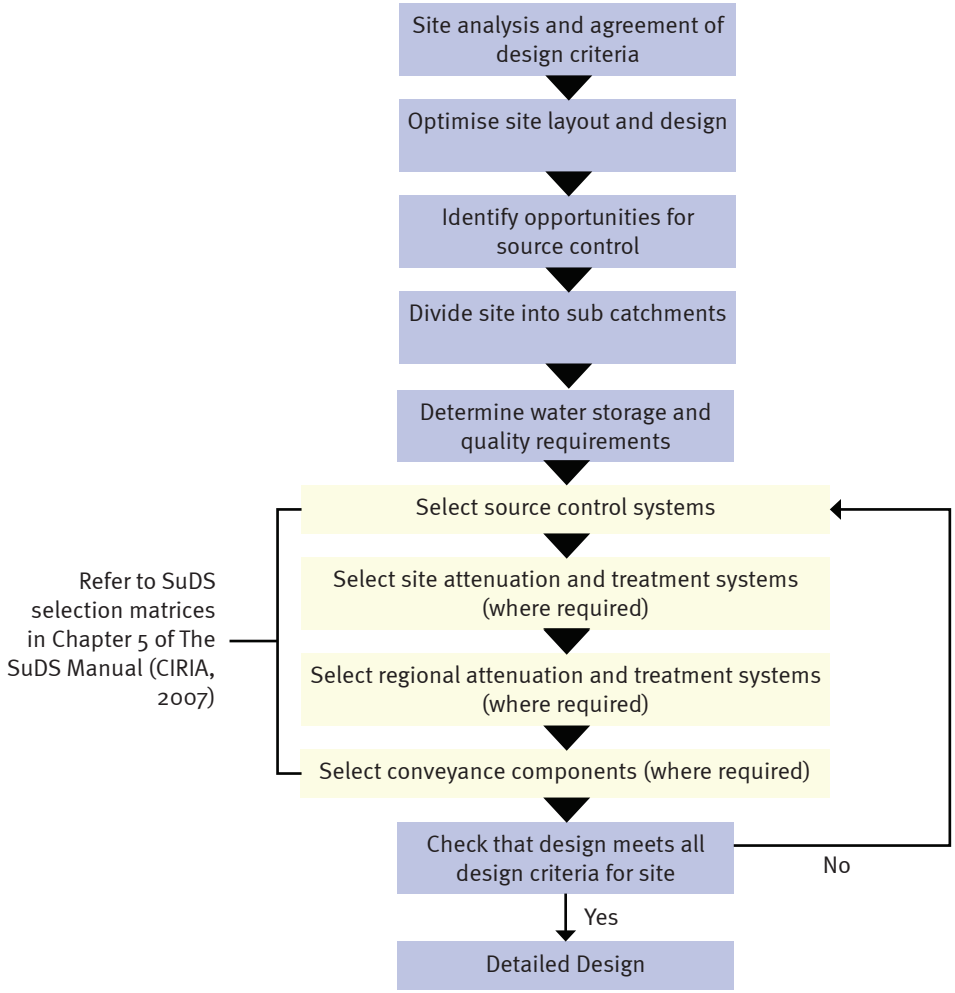


Figure 4.2.1 SuDS Selection Flowchart (adapted from CIRIA, 2007)

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.

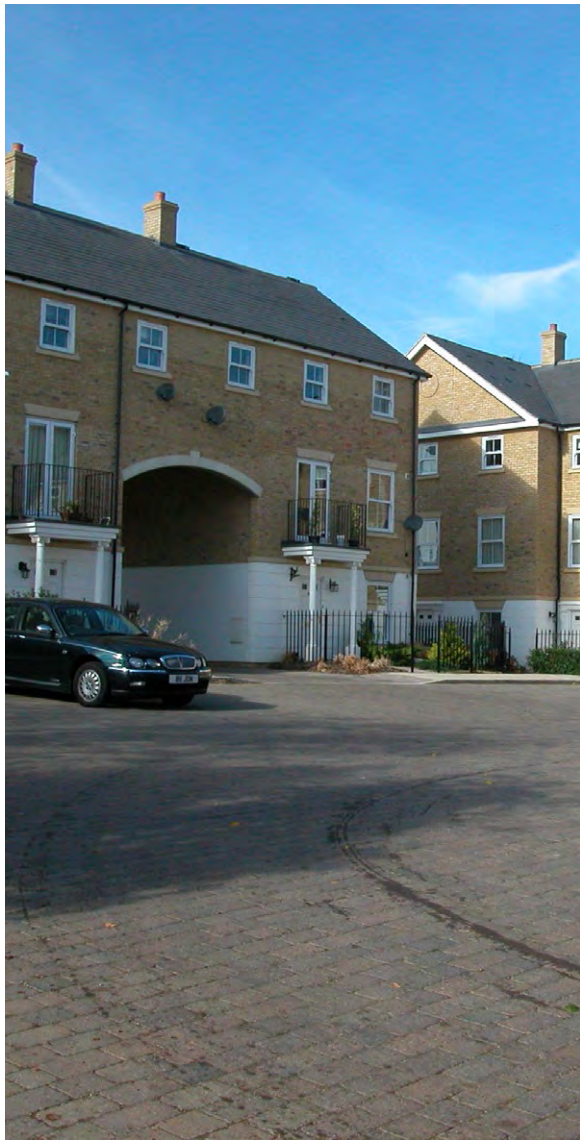
The site slopes gently from the north east to the south west and overlays soils of very low permeability. The drainage system for the mews courtyard will need to manage run off from the following areas:

- 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 1.0m - 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

Site Analysis:

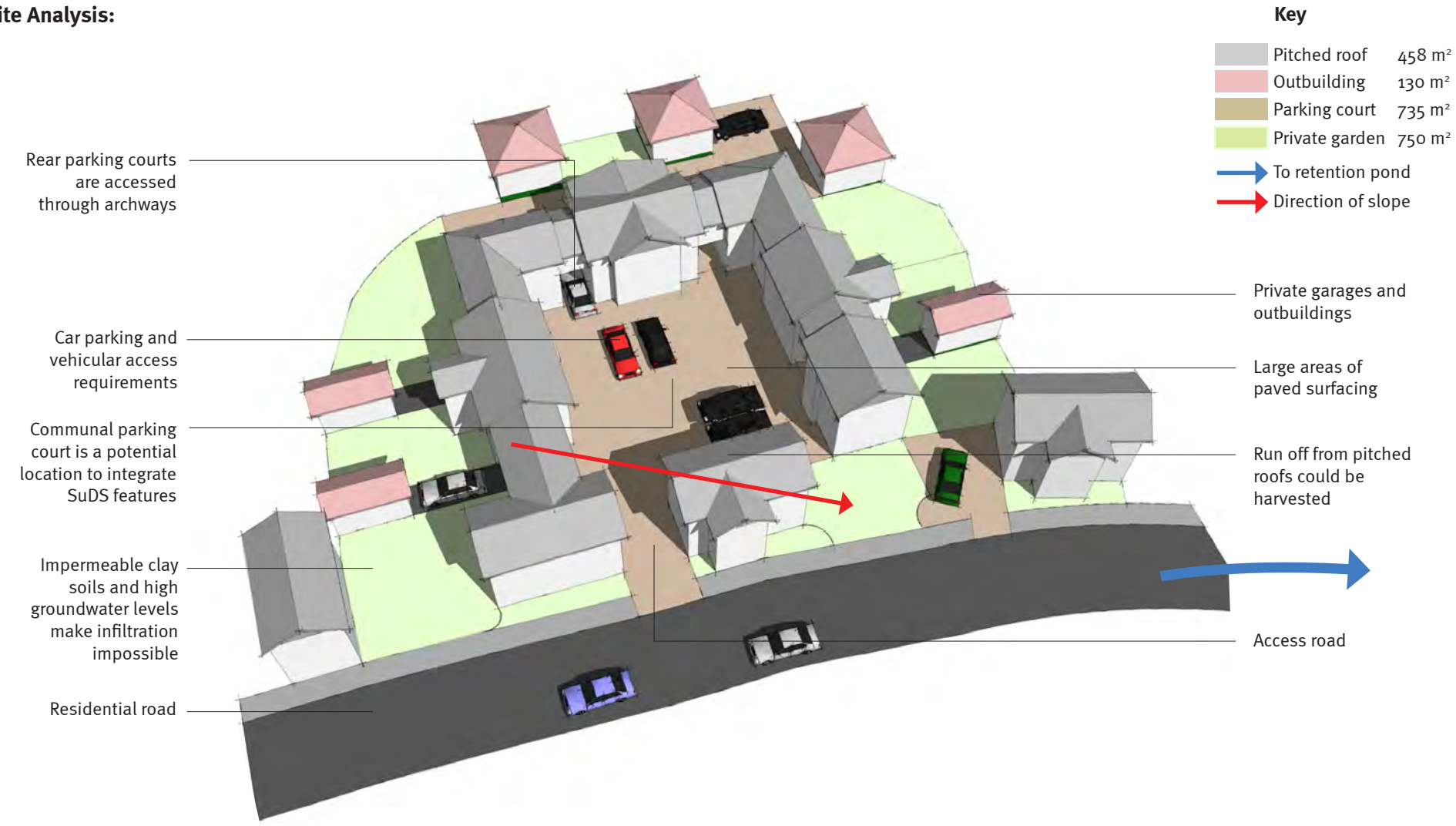


Figure 4.2.1.1: Analysis of proposed development

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.

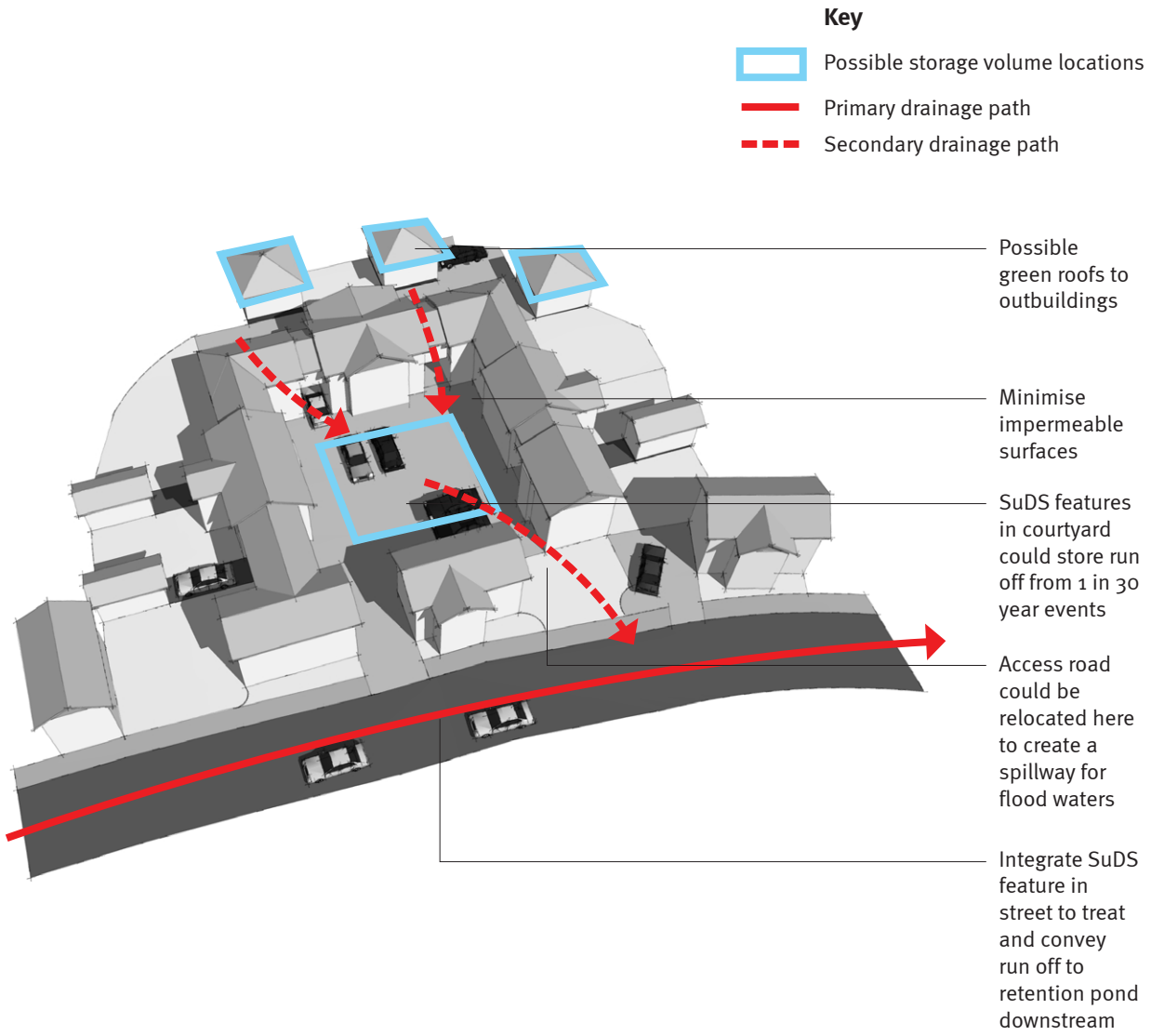


Figure 4.2.1.2: Initial assessment of flow routes and potential storage volumes

Case Study:

Scheme: Augustenborg Courtyards
Location: Malmo, Sweden
Techniques: Ponds, channels and rills

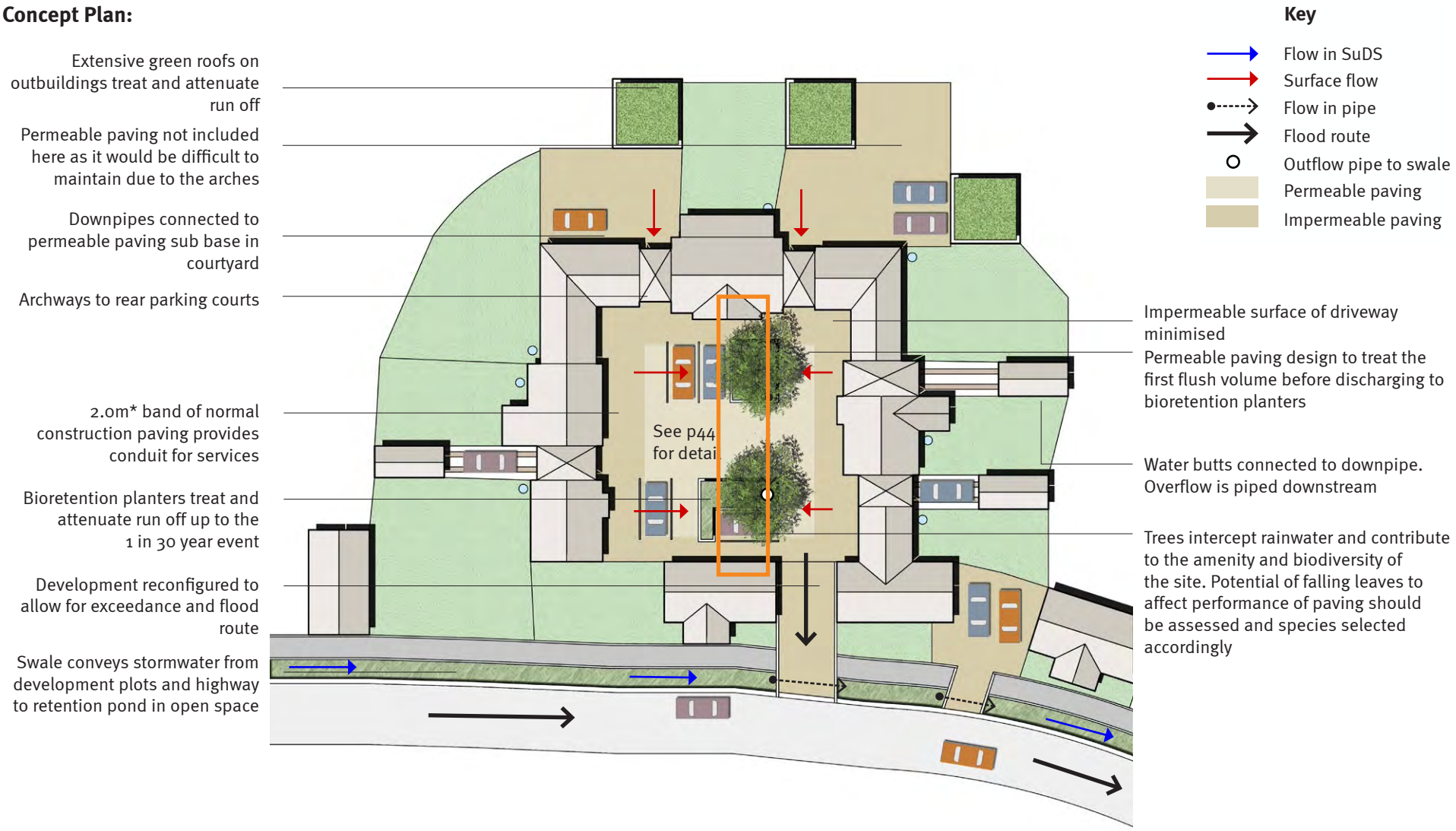
Ekostaden Augustenborg is the collective name for a program to make Augustenborg into a more socially, economically and environmentallysustainableneighbourhood. The storm water system has gone through a major change. Green roofs and open storm water channels leading into ponds have stopped the flooding 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:



* if infiltration proposed beneath permeable paving a 5m band should be provided in accordance with Building Regulations

Figure 4.2.1.3: Conceptual Drainage Solution

Illustrative detail:

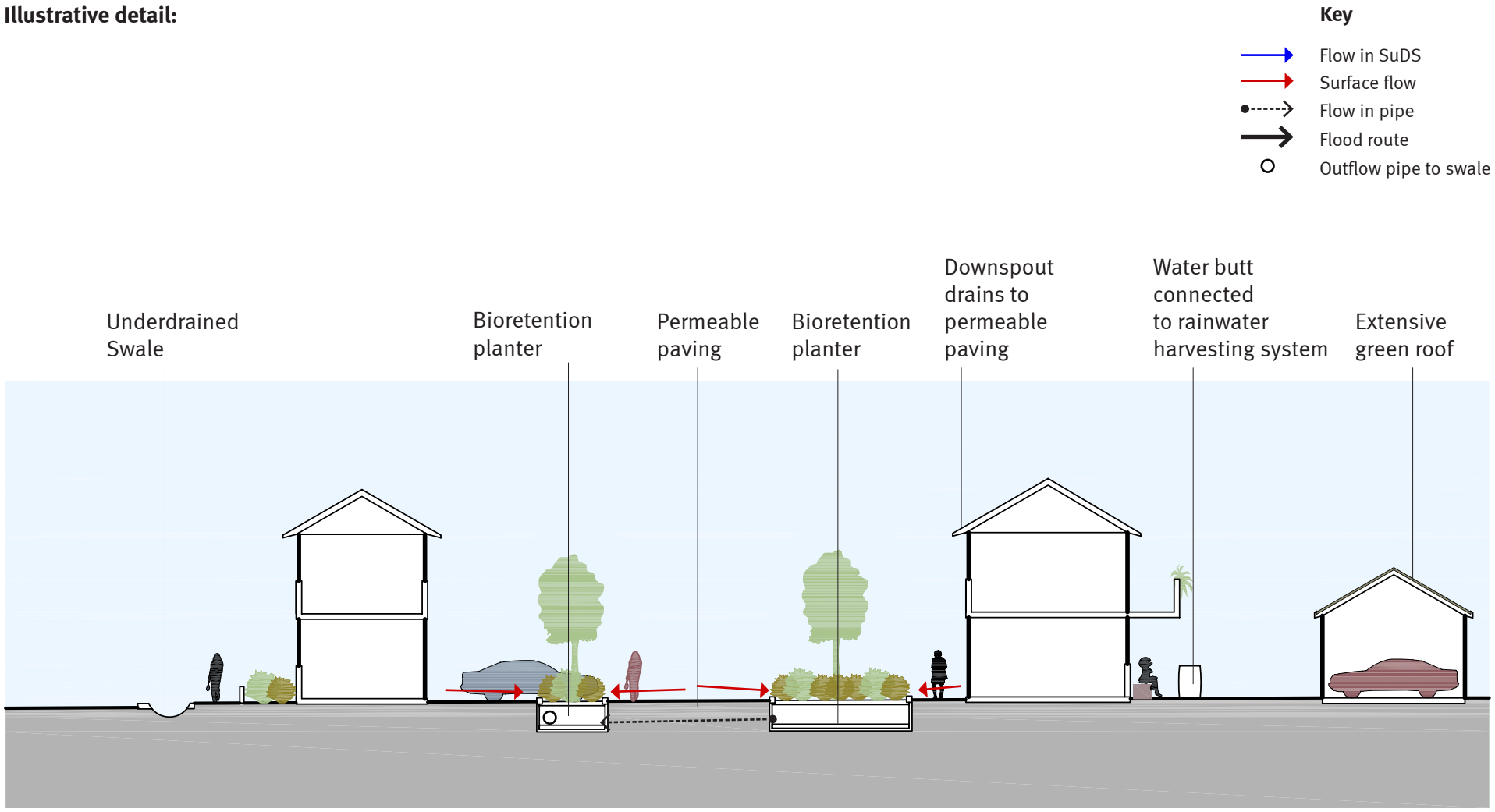


Figure 4.2.1.4: Typical section through mews courtyard

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

Site Analysis:

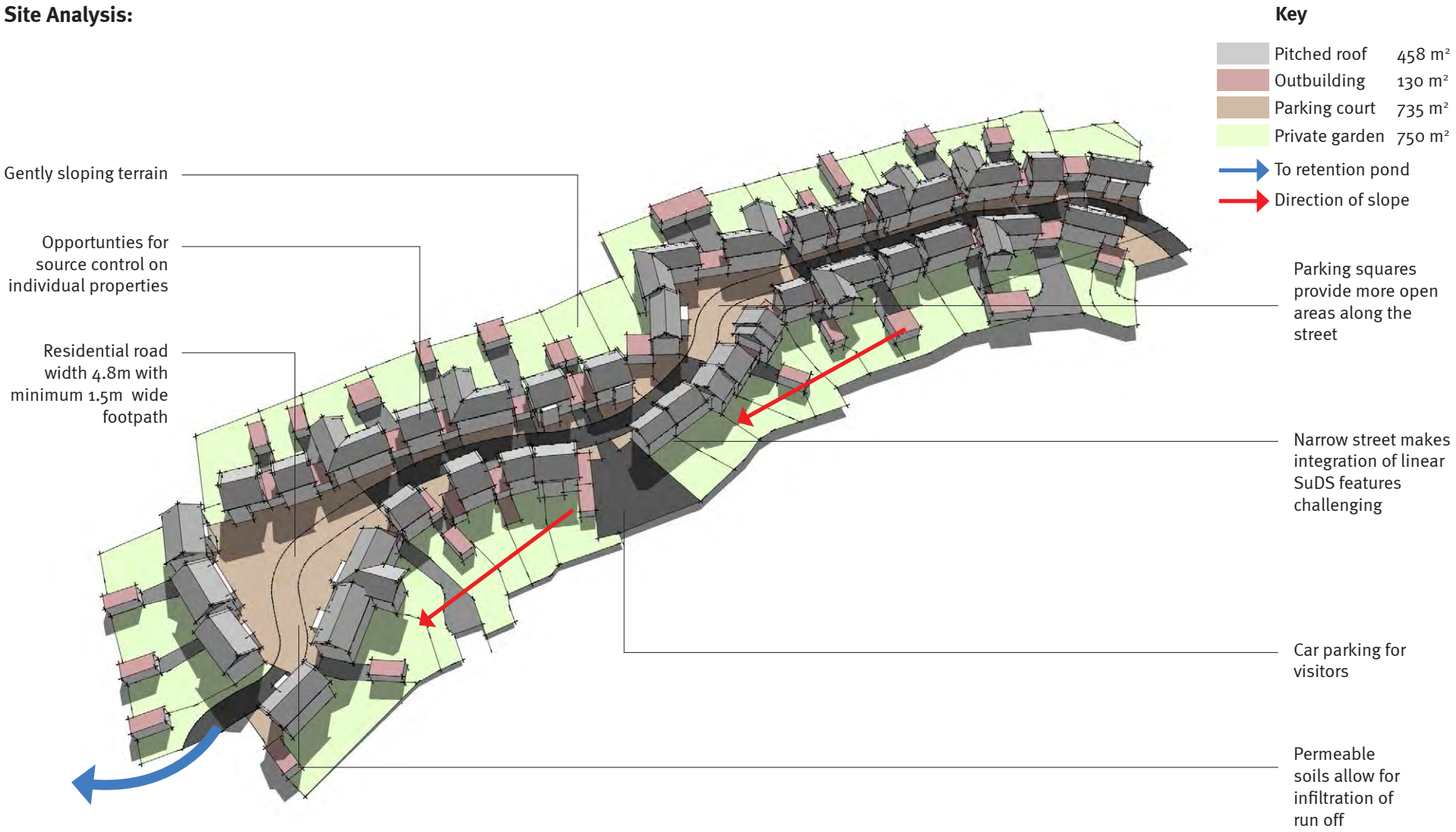


Figure 4.2.2.1: Analysis of proposed development

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.

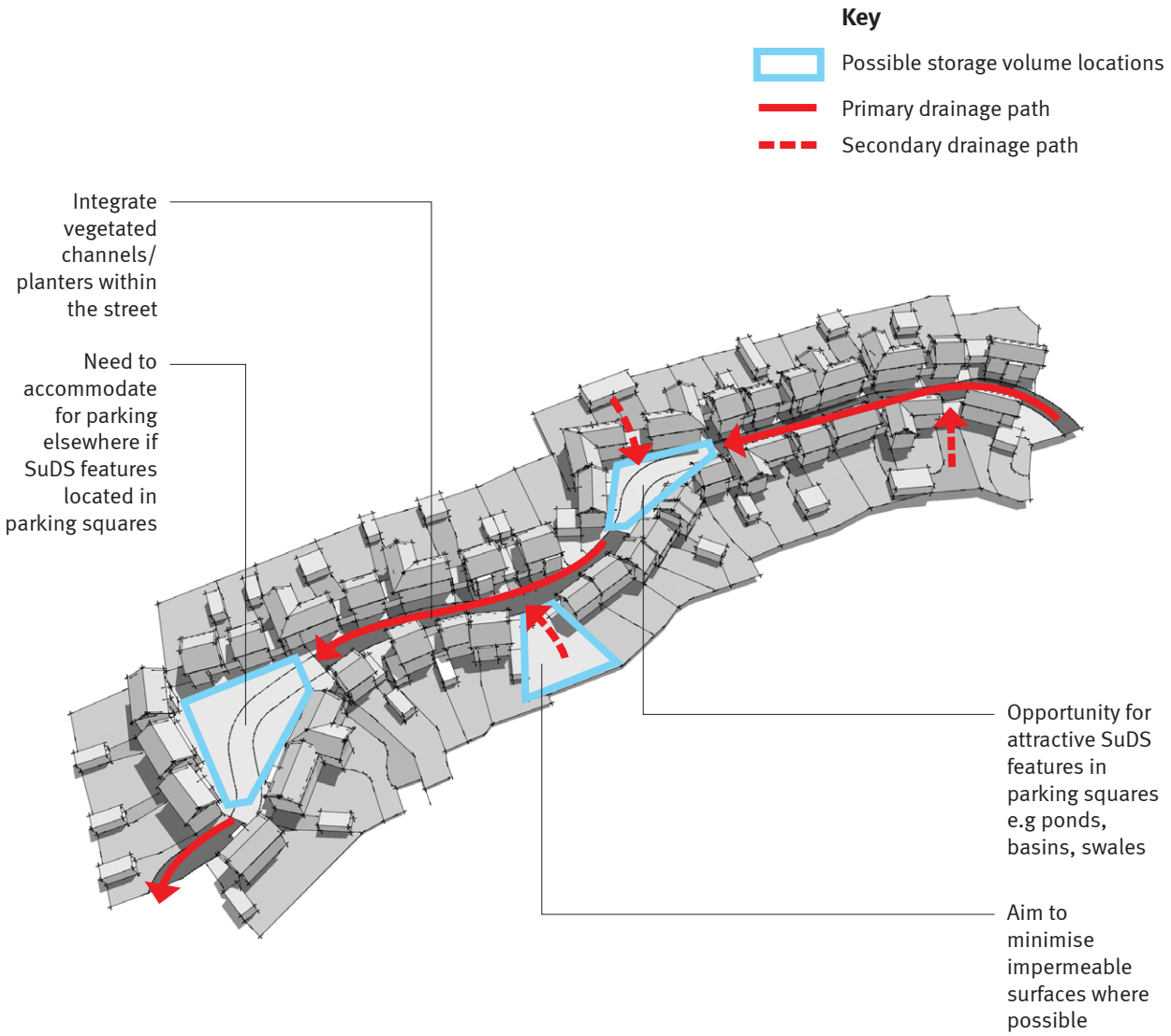


Figure 4.2.2.2: Initial assessment of flow routes and potential storage volumes

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

1. 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:

Figure 4.2.2.3: Conceptual Drainage Solution

Illustrative detail:

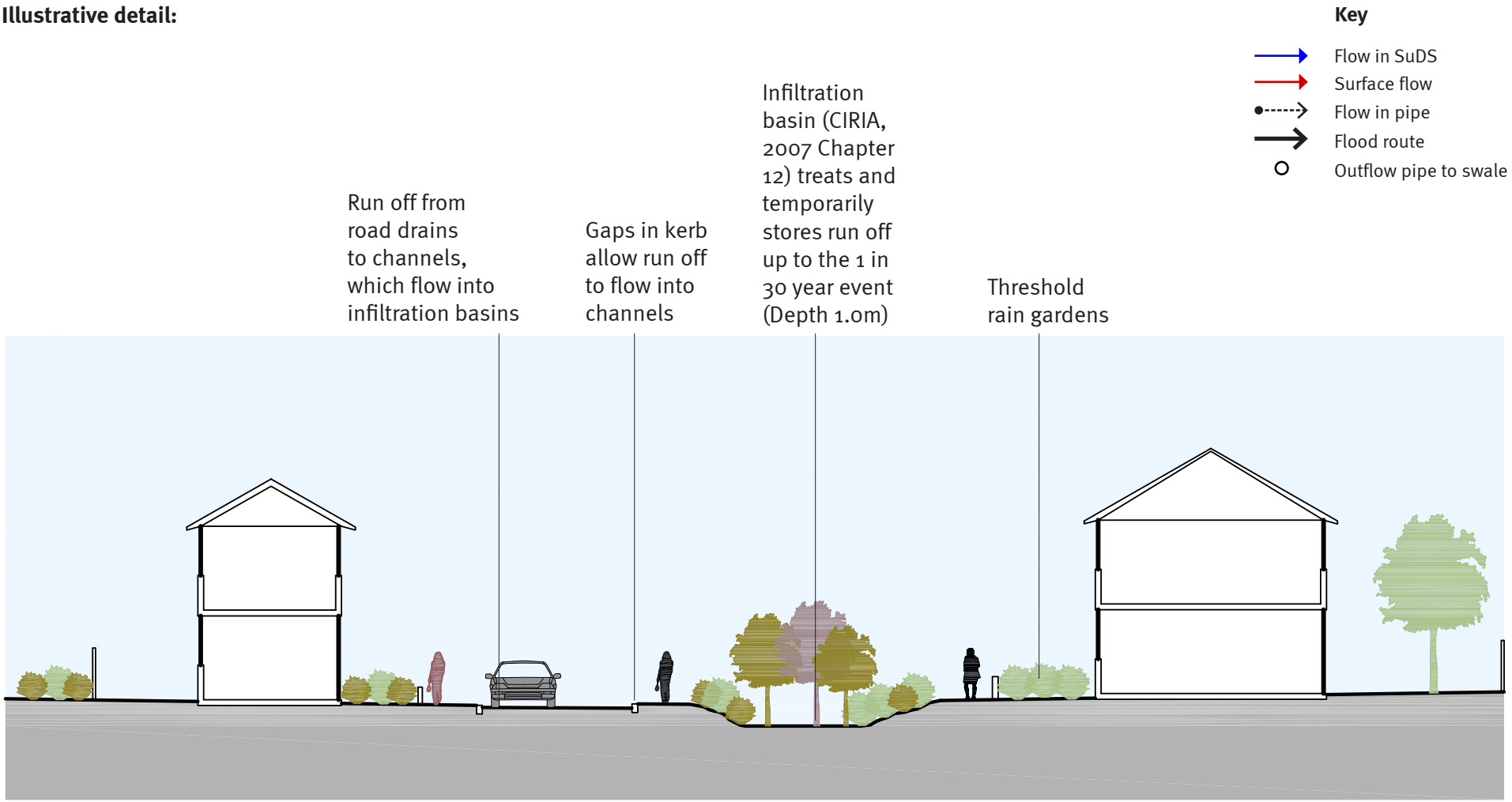


Figure 4.2.2.4: Typical section through street

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 infiltration 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

Site Analysis:

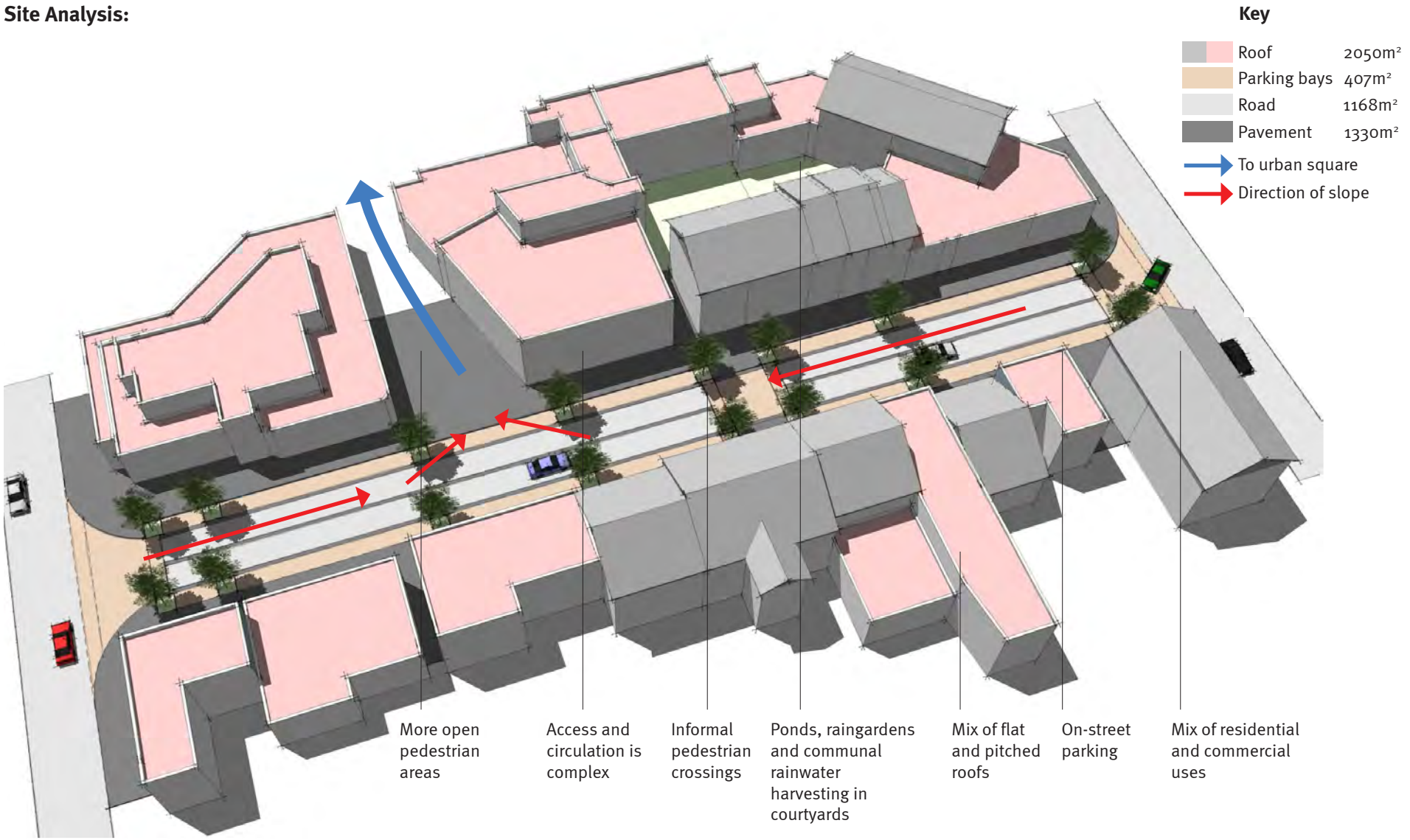


Figure 4.2.3.1: Analysis of proposed development

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.

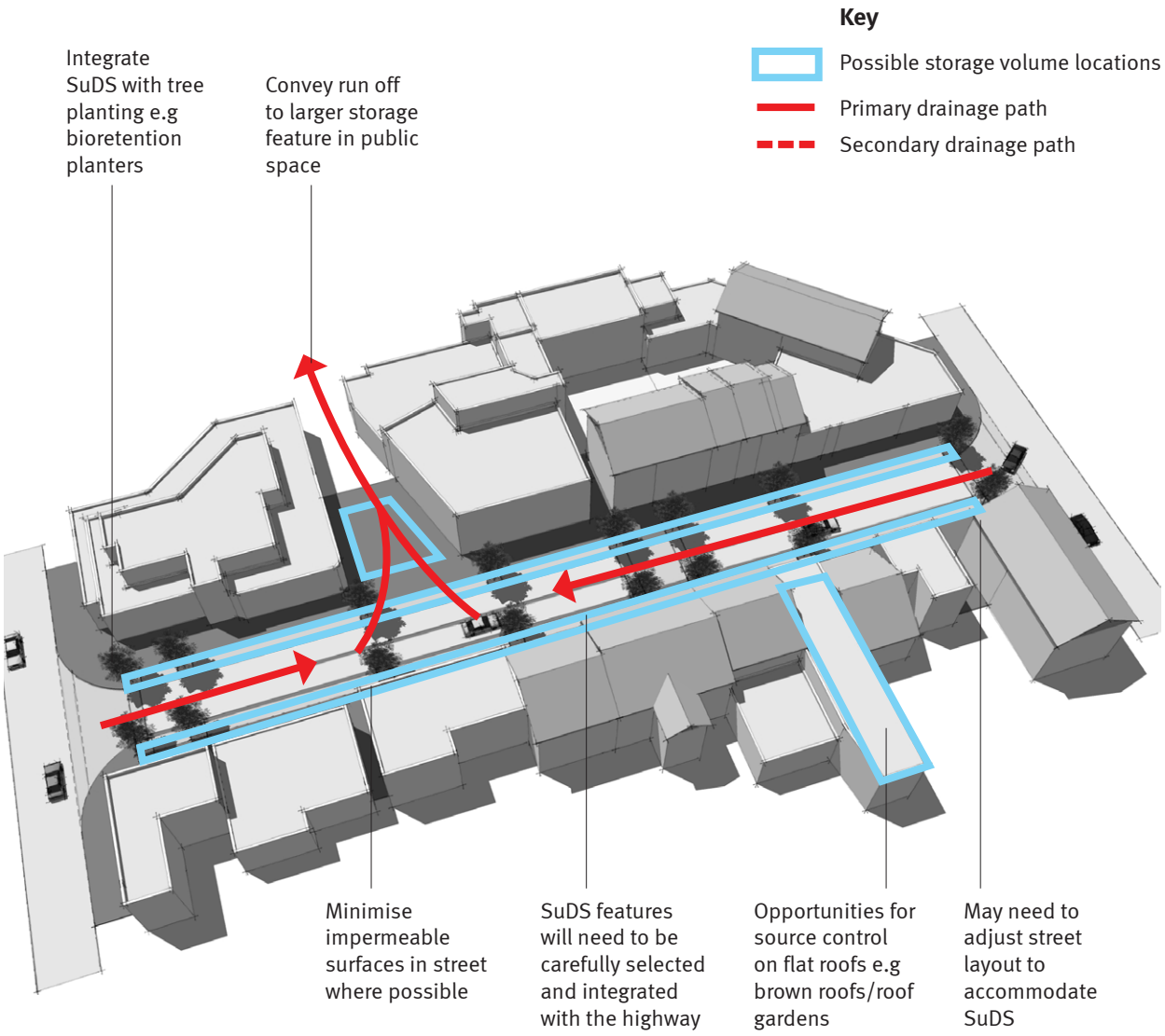


Figure 4.2.3.2: Initial assessment of flow routes and potential storage volumes

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

Concept Plan:

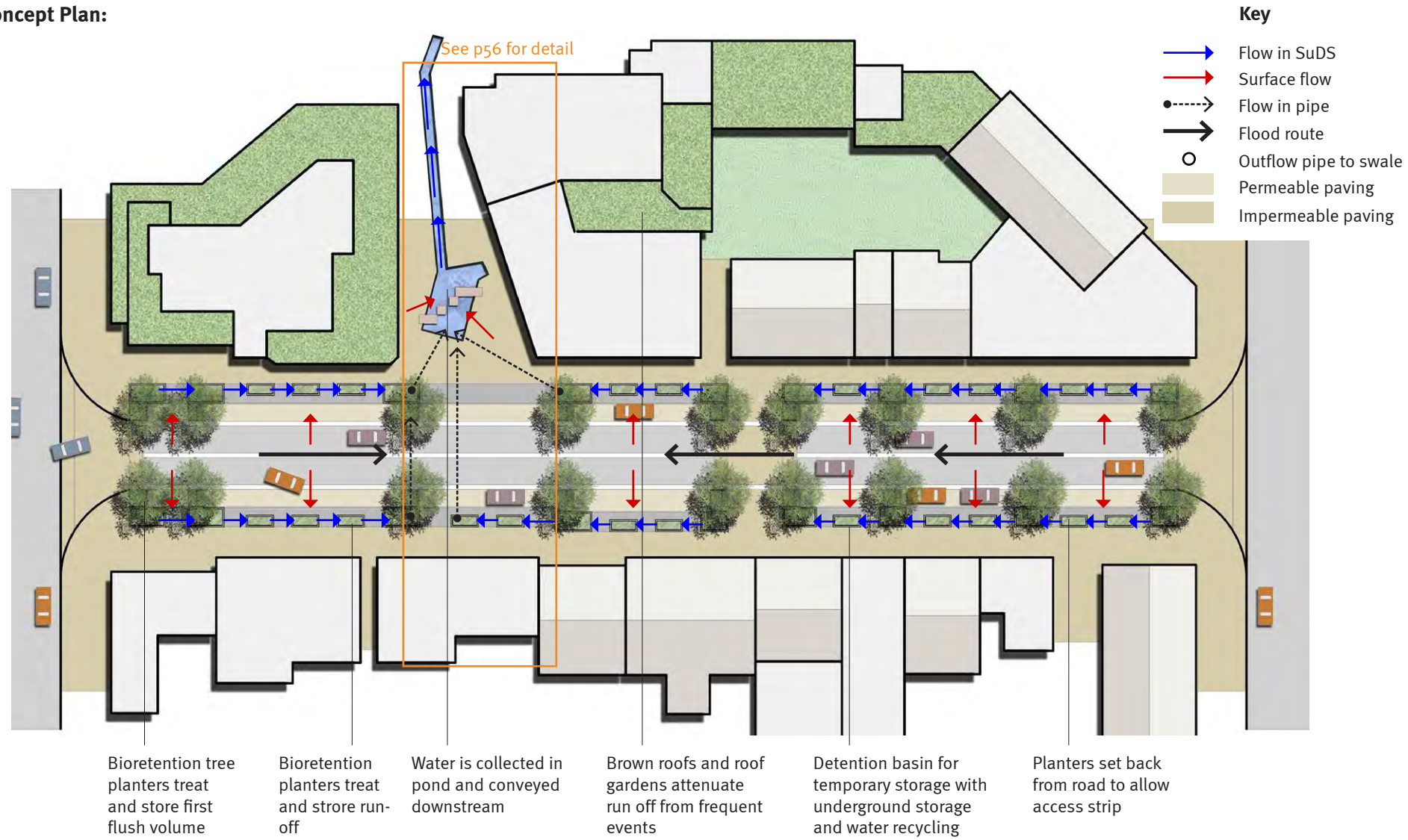


Figure 4.2.3.3: Conceptual Drainage Solution

Illustrative Detail:

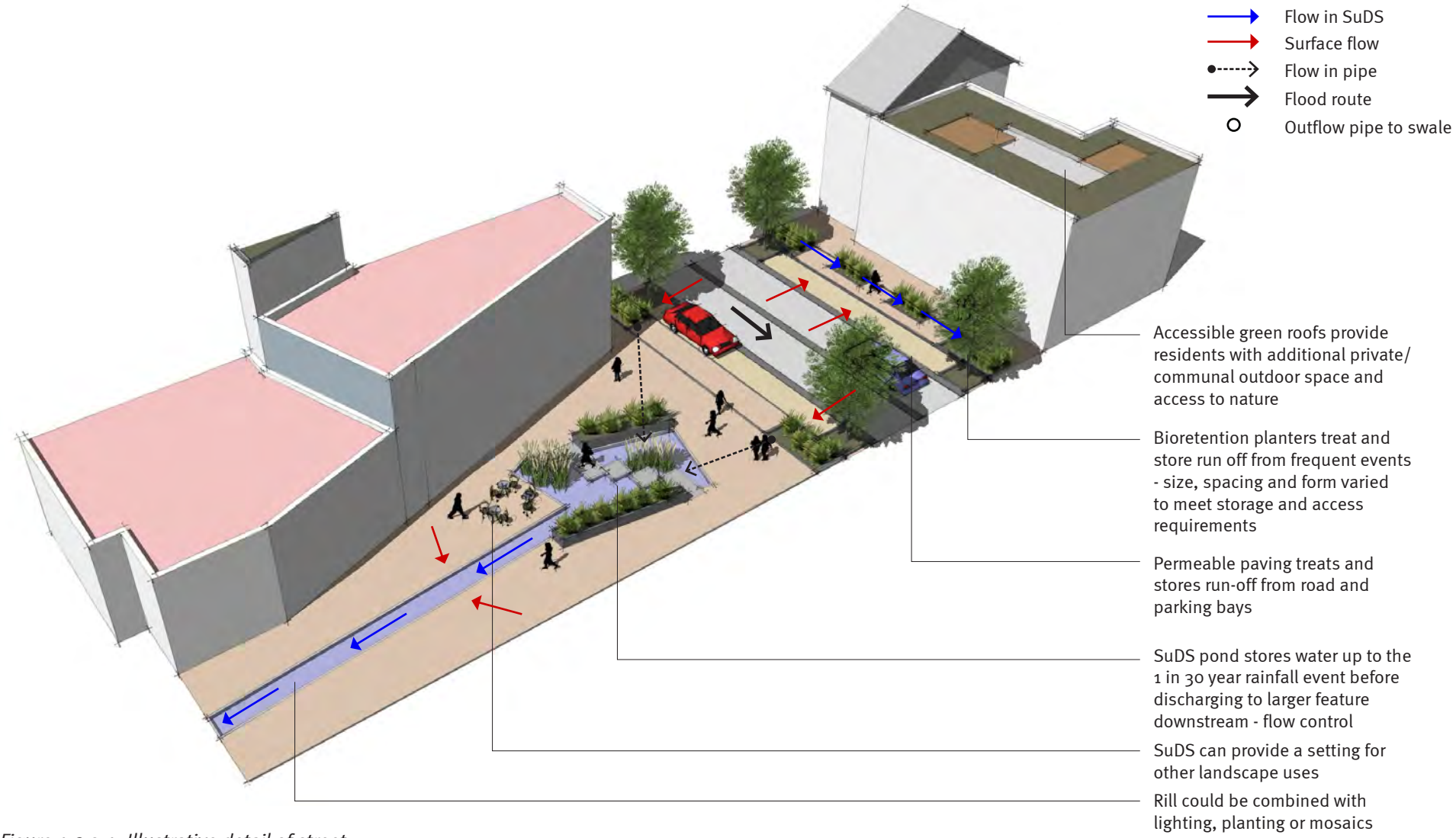


Figure 4.2.3.4: Illustrative detail of street

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

Figure 4.2.4.1: Analysis of proposed development

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.

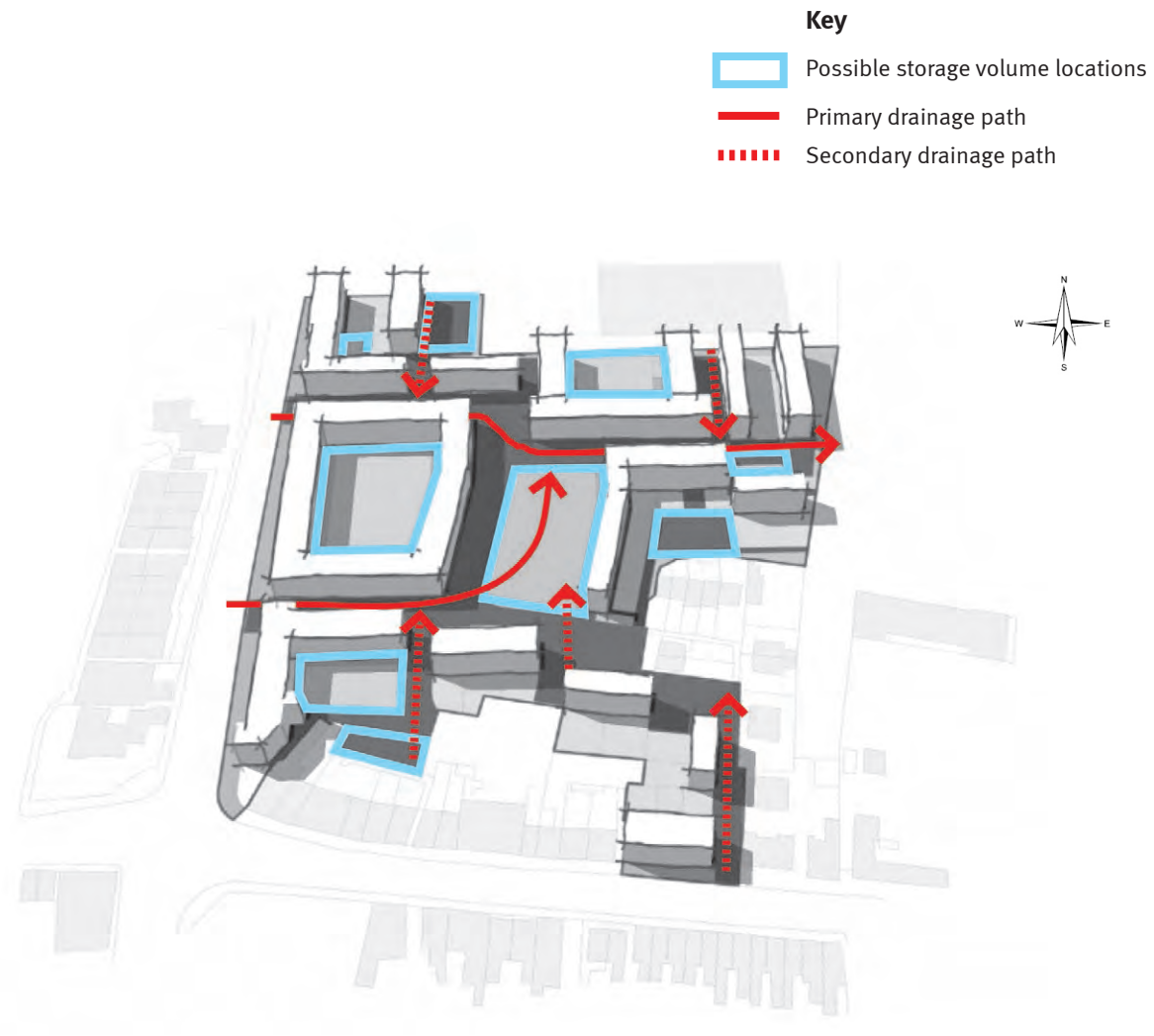


Figure 4.2.4.2: Initial assessment of flow routes and potential storage volumes

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

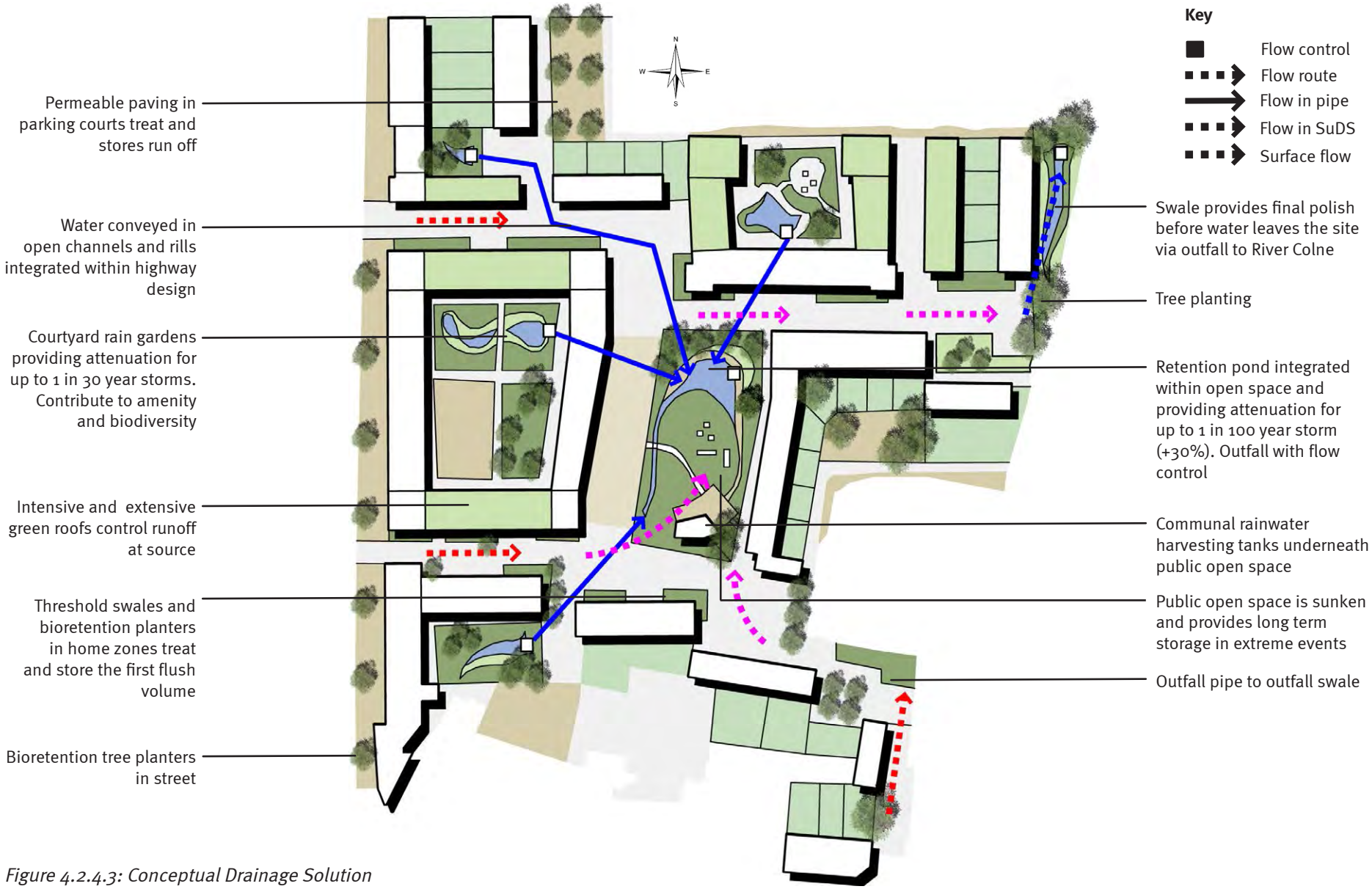


Figure 4.2.4.3: Conceptual Drainage Solution

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

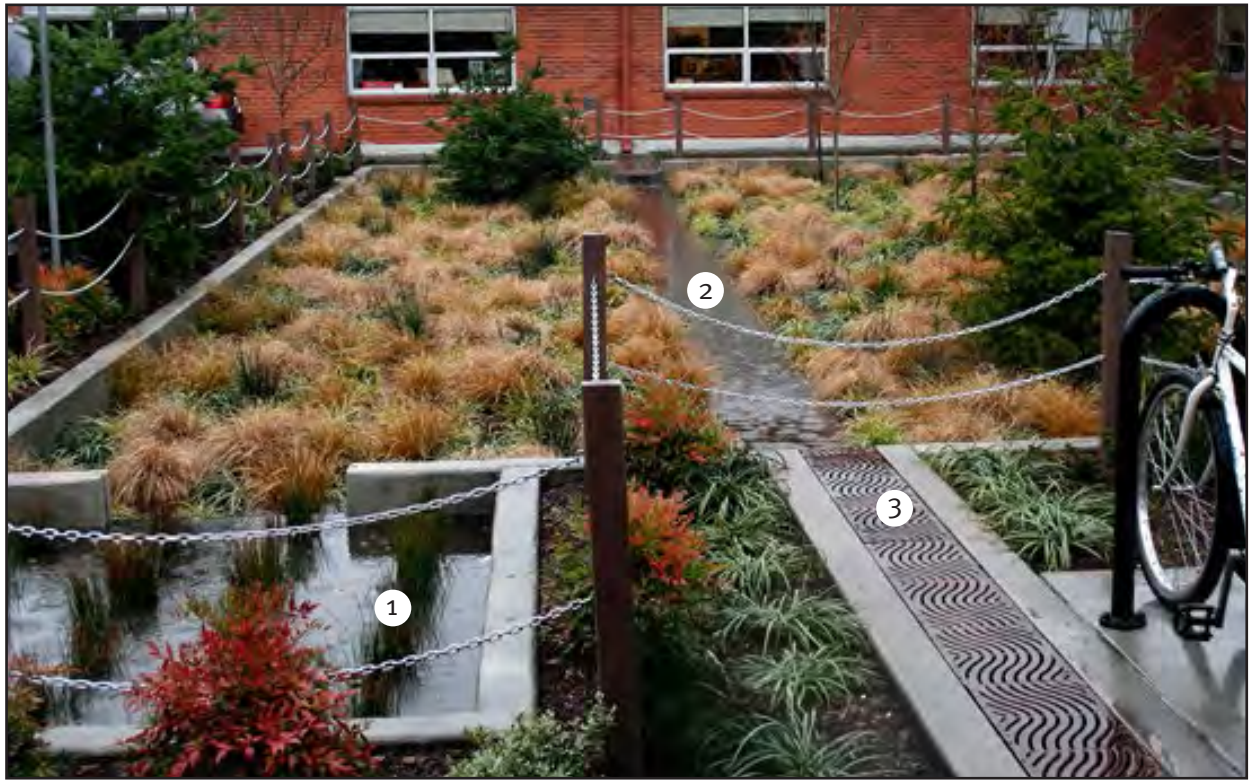
Case Study:

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.

Swale

Permeable paving

Detention basin

››Retention pond. Beaulieu Park, Essex

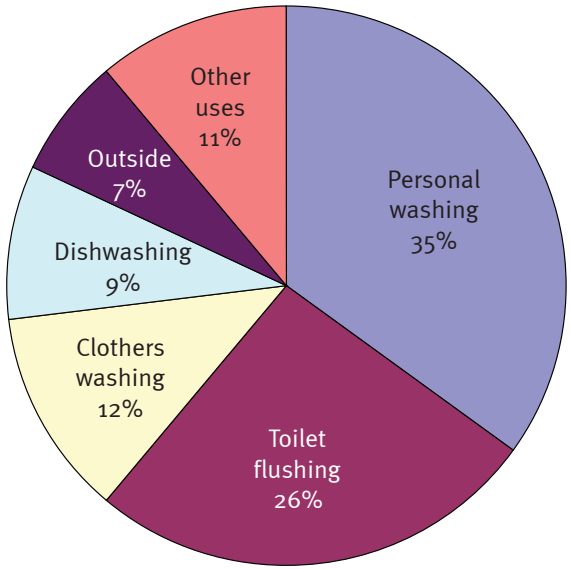
5.0 APPENDICES

IN THIS SECTION

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 pre-treatment, 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.

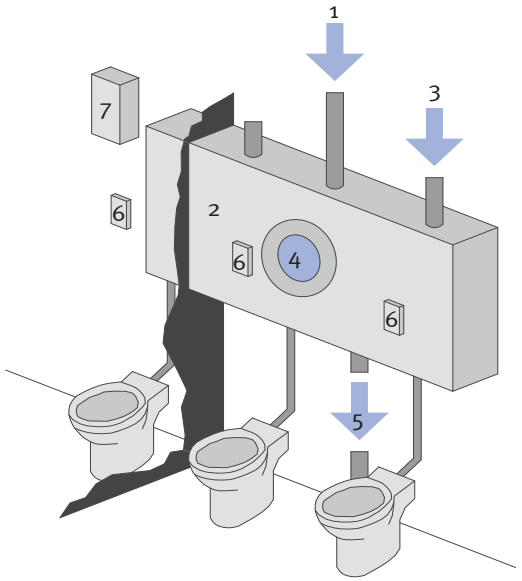
Types of rainwater harvesting systems range in terms of complexity and size ranging from complex district-wide systems to simple household systems linked to a water butt. However, most share the same principles.

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 – pre-treatment system performance, water quality

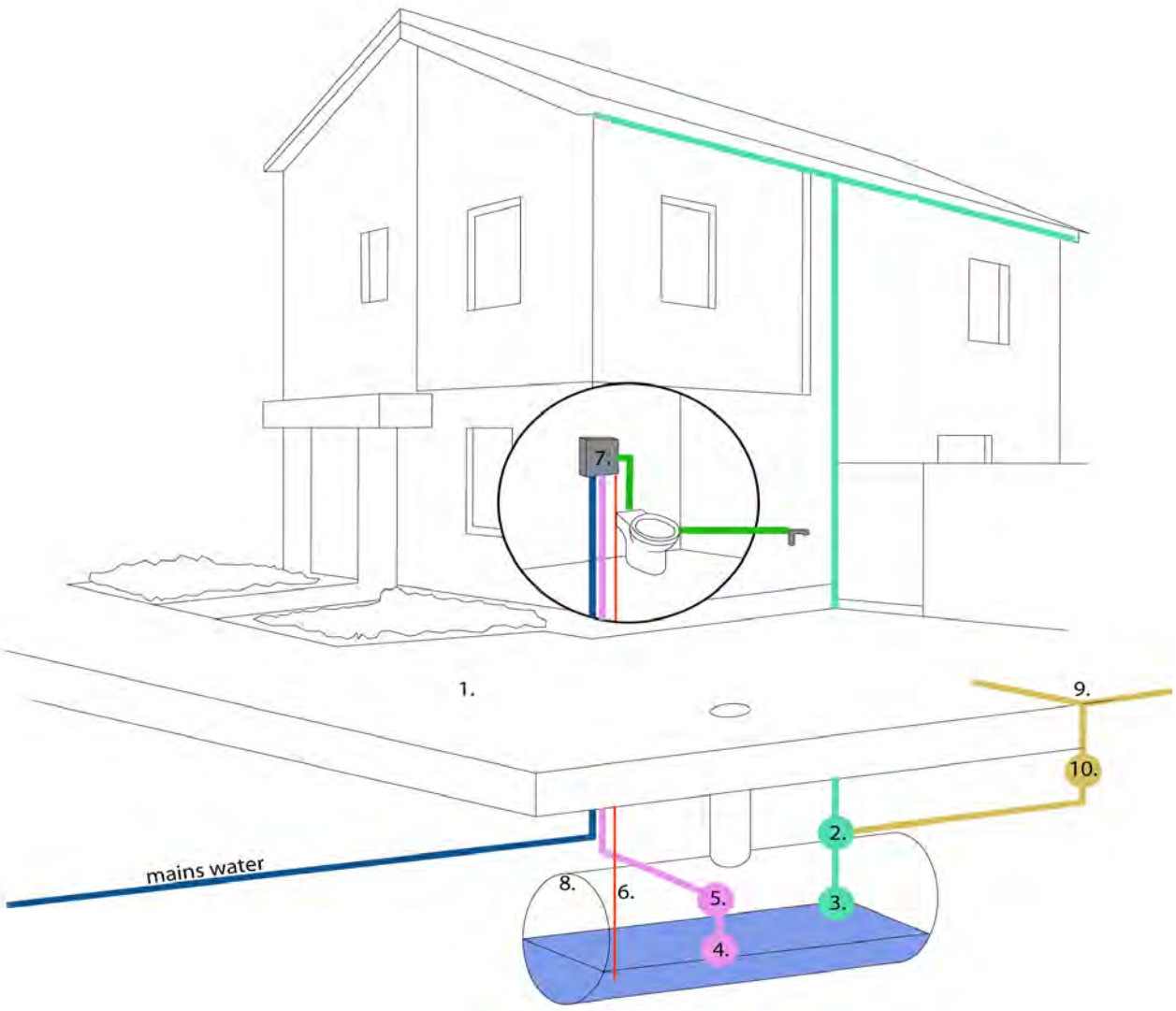


in storage, and disinfection (second stage of treatment if required) infrastructure.
A typical passive rainwater collection system directly conveys rainwater into flushing tanks. (Pipex Flowstow system)
1-Rainwater outlet with filter, 2-Flushing tank
3-Mains water inlet, 4-Inspection cover
5-Overflow, 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

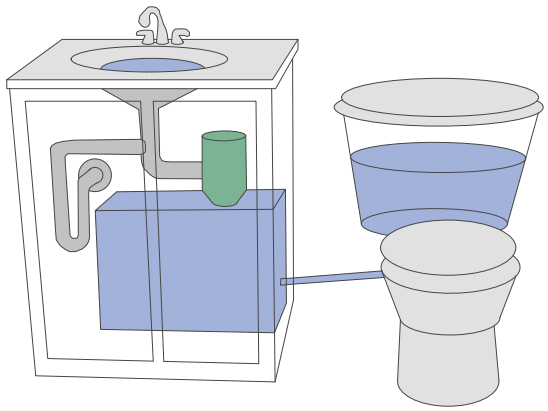
Introduction

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:

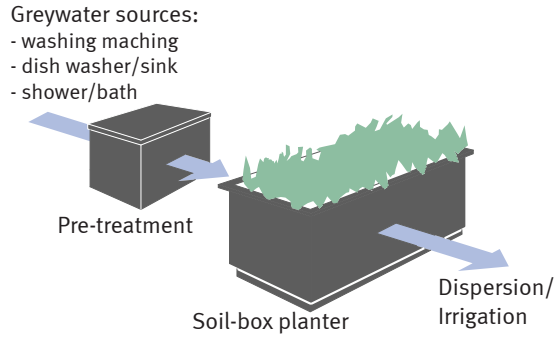
- Reduced mains water usage, e.g. greywater toilet flushing should reduce home usage by over a quarter.
- Sourcing reliability compared to rainwater harvesting.
- Reduced demand for water helps protect wetland habitats.
- Reduced water discharge into the sewerage system.
- Compliance with regulations 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.

››Retention pond takes run off from roof at M42 Services, Hopwood (Robert Bray Associates)

6.0 GLOSSARY OF TERMS AND ACRONYMS

6.0 GLOSSARY OF TERMS AND ACRONYMS

Amenity	The quality of being pleasant or attractive; agreeableness.
Attenuation	Reduction of peak flow and increased duration of a flow event.
BAP	Biodiversity Action Plan
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.
Biodegradation	Decomposition of organic matter by micro-organisms and other living things.
Biodiversity	The diversity of plant and animal life in a particular habitat.
Bioretention area	A depressed landscaping area that is allowed to collect runoff so it percolates through the soil below the area into an underdrain, thereby promoting pollutant removal.
BRE	Building Research Establishment.
Catchment	The area contributing surface water flow to a point on a drainage or river system. Can be divided into sub-catchments.
CDM	Construction Design and Management Regulations 2007.
CIRIA	Construction Industry Research and Information Association.
Conventional drainage	The traditional method of drainage surface water using subsurface pipes and storage tanks.
Conveyance	Movement or water from one location to another.
Defra	Department for Environment, Food and Rural Affairs.
Design criteria	A set of standards agreed by the developer, planners, and regulators that the proposed system should satisfy.
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.
ECC	Essex County Council.
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. This is required when the design capacity of the drainage system has been exceeded.
Filter drain	A linear drain consisting of a trench filled with a permeable material, often with a perforated pipe in the base of the trench to assist drainage.
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.
Filtration	The act of removing sediment or other particles from a fluid by passing it through a filter.
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.
Geotextile	A plastic fabric that is permeable.
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.
Greenfield runoff	The surface water runoff regime from a site before development.
Groundwater	Water that is below the surface of ground in the saturation zone.
Habitat	The area or environment where an organism or ecological community normally lives or occurs.
Highway Authority	A local authority with responsibility for the maintenance and drainage of highways maintainable at public expense e.g. Essex County Council.
Impermeable	Will not allow water to pass through it.
Impermeable surface	An artificial non-porous surface that generates surface water runoff after rainfall.
Infiltration	The passage of surface water into the ground.
Infiltration basin	A dry basin designed to promote infiltration of surface water into the ground.
Infiltration trench	A trench, usually filled with stone, designed to promote infiltration of surface water to the ground.
Interception storage	The capture and infiltration of small rainfall events up to about 5mm.
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.
Management train	The management of runoff in stages as it drains from a site.
Non-performance bond	A written financial guarantee (usually a bank or insurance company) given by a developer underwriting their agreement to construct the works to an agreed standard.
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.
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.
Permeable pavement	A permeable surface that is paved and drains through voids between solid parts of the pavement.
Piped system	Conduits generally located below ground to conduct water to a suitable location for treatment and/or disposal.

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.
Pond	Permanently wet basin designed to retain stormwater and permit settlement of suspended solids and biological removal of pollutants.
Prevention	Site design and management to stop or reduce the occurrence of pollution and to reduce the volume of runoff.
POS	Public Open Space.
Rain 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.
Recharge	The addition of water to the groundwater system by natural or artificial processes.
Retention pond	A pond where runoff is detained for a sufficient time to allow settlement and biological treatment of some pollutants.
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).
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 management authority	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
Runoff	Water flow over the ground surface to the drainage system. This occurs if the ground is impermeable, saturated or rainfall is particularly intense.
Sediments	Sediments are the layers of particles that cover the bottom of waterbodies such as lakes, ponds, rivers and reservoirs.
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.
Sewerage undertaker	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.
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.

Soakaway	A sub-surface structure into which surface water is conveyed, designed to promote infiltration.
Source control	The control of runoff at or near its source.
Sub-base	A layer of material on the sub-grade that provides a foundation for a pavement surface.
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.
SuDS Team (ECC)	The SuDS Team sits within the Flood & Water Management Team at Essex County Council
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.
Wetland	Flooded area in which the water is shallow enough to enable the growth of bottom-rooted plants.
1 in X year event	This is the recurrence interval and is based on the 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 a given year.

7.0 REFERENCES

Andropogon Associates (2011) Photograph accessed online at http://andropogon.com/sidwell-friends-school-middle-school-addition
BACA Architects & BRE (2009) The LiFE Project Report. Bracknell.
CIRIA (2006) Designing for exceedence in urban drainage- good practice (C635). London.
CIRIA (2007) The SuDS Manual (C697)
CIRIA (2010) Planning for SuDS- making it happen (C687)
HSE (2007) Construction, Design and Management Regulations
Future Water:The Government's water strategy for England (2008)
Ian Yarham (2010) Photograph accessed online at www.geograph.org.uk/photo/2033292
Sheffield City Council (2010) Photograph accessed online at www.sheffield.gov.uk/out--about/parks-woodlands--countryside/ecology-service/local-nature-reserves/sharrow-school-green-roof.html

8.0 FIGURE TABLE

This information is issued by
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Essex County Council

Local Plan Committee

Item 10

13 April 2015

Report of	**Head of Commercial Services**	**Author**	**Beverley McClean 01206 282480**
Title	**Colchester Local List**		
Wards affected	**Urban Colchester wards, Wivenhoe Quay and Wivenhoe Cross**		

The Local Plan Committee is asked to agree the proposed amendments to the adopted Colchester Local List

1. Decision(s) Required

1.1 The Committee is asked to agree the proposed amendments to the adopted Colchester Local List.

2. Reasons for Decision

2.1 The Local List for Colchester includes buildings, architectural features and historic assets that, while not of national significance, are considered to be locally significant for their architectural or historic value. It is not a static list and will change over time in response to planning decisions or as a result of new buildings being proposed for inclusion on it. When the Local List for Colchester was approved by the Local Development Framework Committee in December 2011, it was agreed that it would be reviewed annually.

2.2 Procedures for amending Colchester's Local List were agreed at the Local Plan Committee on 28 January 2013. The Local List which covers both urban Colchester and Wivenhoe is now due for its 3rd review. A number of amendments have been put forward and the committee is being asked to review and agree the suggested changes.

3. Alternative Options

3.1 The alternative option is to not review the Local List. Without a regular review, the information on the Local List would become out of date and inaccurate. The inclusion of a heritage asset on the Local List is a material consideration when determining planning applications affecting them. The lack of a properly maintained Local List would reduce the Council's ability to make informed decisions when assessing development proposals affecting buildings or historic assets that are architecturally or historically significant in the Borough. This in turn would make the conservation of these buildings and assets more difficult.

4. Supporting Information

4.1 National Planning Policy Framework (paragraph 129) states that Local Authorities should identify and assess the significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of available evidence and any necessary expertise. This includes buildings or assets that are locally listed.

4.2 A Local List is essentially a list of heritage assets that although not suitable for designation as Listed Buildings are considered historically or architecturally important at a local level. The List can include a range of historic assets including individual buildings or whole streetscapes. It can also include individual features on buildings such as railings, lamp posts or post boxes as well as locally valued archaeological features i.e. crop marks. The important factor is that the assets included on the Local List are of historic interest locally and/or make a significant contribution to the character and setting of the area in which they are located and are valued by the local community. Inclusion on a Local List is a material consideration when planning applications affecting such buildings or features are being considered. Similarly, Planning Inspectors will have due regard for buildings or assets on a Local List as part of appeals as in the case of the Bovis Homes challenge on part of the Calvary Barrack site.

4.3 Colchester Borough Council set out their intention to prepare and adopt a Local List in Development Policy DP14 (Historic Environment Assets). The first List for Colchester was adopted by the Local Development Framework (LDF) Committee in December 2011.

4.4 A survey of the built historic assets in and around urban Colchester resulted in 665 buildings/features being identified for inclusion on the draft Local List. A further 76 assets were added to the Local List following approval of buildings and assets in Wivenhoe in March 2012. All references to the Colchester Local List include the Wivenhoe information too and in 2014 there were 742 buildings/assets on the Colchester Local List. If the current changes are approved, the total number of buildings and assets will be 744. .

4.5 The original Colchester Local List information is stored on the Colchester's Historic Buildings Forum website (www.colchesterhistoricbuildingsforum.org.uk) and on the Council's C-MAP system.
https://stratus.pbondemand.eu/connect/colchesterborough/?mapcfg=planningservices
The approved changes will be added to the existing Local List information on Colchester Borough Council's C-MAP system and to the Civica database.

5. Proposals

5.1 2014/2015 Review

In January 2015, a press release was issued inviting members of the public and local groups to nominate buildings or historic/architectural features for consideration for either inclusion or removal from Colchester's Local List. The Spatial Policy team also consulted colleagues in Development Management to gather information about any planning applications that had resulted in the loss of or alteration of buildings or historic/architectural features on the Local List. Representatives from the Colchester Historic Buildings Forum, who drew up the original Local List, were also consulted for advice.

5.2 In response to the press release and internal consultation a total of 8 changes have been proposed to the Local List which are detailed below. Seven buildings/assets were proposed for inclusion and one for removal .The five proposed changes to the list are detailed in the table. Three proposals will not be taken forward for the following reasons;

- The Hyams One Factory building is already on the Local List.
- 17 North Hill is a Grade II Listed Building and has higher protection under this designation than that afforded through inclusion on the Local List.

- 11 Glen Avenue currently has no formal protection and is scheduled for demolition as part of a redevelopment scheme.

For the reasons stated these buildings have therefore not been given any further consideration in the context of the Local List review.

5.3 Table 1 below includes the proposed changes to the Local List in more detail.

Building/asset	Action	Information
Ballast Quay Road	No change to Local List – Highways are not considered to meet the criteria for inclusion on the Local List. Also It is not included on the Protected Lanes Inventory of Historic Lanes. The protection of this road should be considered through an alternative mechanism such as the Wivenhoe Neighbourhood Plan.	Ballast Quay Road originated around the C18 as a private road, originally quite separate from the rest of the local road system, for use by carts carrying gravel from the Ballast Pits to the Ballast Quay for ships returning home from Wivenhoe empty (mainly coal ships to the north east). In the 1860s the new model farm buildings of Ballast Quay Farm were erected to the south of it, including Ballast Quay House (both locally listed separately); these still form the principal backdrop today. With the tree / hedge growth that occurred over the subsequent period it had by the C20 become an attractive unsurfaced 'green lane' which today still provides an attractive and unspoilt off-road corridor leading directly from the heart of Wivenhoe village into the adjoining countryside, without passing through C20 developments.
The Lighting Shop, 61- 65 North Station Road	Add to Local List	Designed by Architects Goodey & Cressall in 1924, who also designed the similar (already locally listed) 23 Drury Road in 1926. This is a single storey building designed to provide three shop units for the Colchester Co-Operative Society, for grocery, confectionary and butchery. The front façade is clad in creamy coloured faience, mimicking stone. The pilasters have art-deco enrichment, matching the original shopfront which survives intact. The inset entrance doors with their canted flank walls give additional interest to the shopfront. The large fascia signage area is currently covered with an unsympathetic plastic sign but the surround appears to be partially present behind. It is unlikely that the original raised lettering or divisions across the fascia survive but the building is nevertheless well preserved and its quality is worthy of recognition.
17-19 Honywood	Add to Local list	Both these unique semi-detached Edwardian houses were designed by the leading Colchester architect Edward Ernest May (1858-1938), who was a member of the Arts

		and Craft Movement, which evolved between 1860 and 1910. This pair of semi-detached villas was ordered to be built by William Claridge for his daughters in 1908. Claridge had a coach and saddle store where Red Lion book shop is at 125 High Street Colchester. "No 125 High Street was the premises of W Claridge & Co., Wholesale and Retail Saddlers and Saddlers' Ironmongers, in 1888-1890. 17 and 19 Honywood Road were designed by architect E E May, who also designed the High School on Wellesley Road Colchester (James Bettley and Nikolaus Pevsner, Essex, p. 279). The houses were built by Builder, R. Beaumont.
Nurse Home plus extension, courtyard and iron gates, balconies and front door (County Hospital, Lexden Road)	Add to Local List	The Nurses' Home was built was built in 1897 (Queen Victoria Diamond Jubilee Fun and extended in 1932 in the Art Deco style including the Oxford Road main entrance, with its wrought iron gate and matching the balconies. The extension was built (eventually, when money was available) as a local World War 1 memorial. The nurses' home and the extension are attached and form a single unit. The proposal includes adding the whole of the nurses' home including the Oxford Road entrance gate, courtyard and front door onto the Local List.
William and Griffin	Remove from Local List	Building façade altered as part of wider redevelopment plans.

5.4 The committee is asked to review and agree the above proposed changes to Colchester's Local List. This would involve the removal of 1 building from the current Local List which has been has been altered as a result of wider approved redevelopment plans and the addition of 3 new buildings to the Local List. 4 of the proposals have not been accepted under this review because the building/assets are either nationally listed or already on the Local List, are planned for demolition or are not considered suitable for inclusion on the Local List.

5.5 The approved changes will be added to the existing Local List information on Colchester Borough Council's C-MAP system and Civica database. The Local List will next be reviewed in March 2016.

6. Strategic Plan References

6.1 The Local List provides evidence to help the Council deliver its strategic priorities to make more of Colchester's great heritage and culture so that people can enjoy them and draw inspiration for their creative talents, promote Colchester to attract further inward investment and additional businesses, providing greater and more diverse employment and tourism opportunities, promote Colchester's heritage and wide ranging tourism attractions to enhance our reputation as a destination and make Colchester confident

about its own abilities, to compete with the best of the towns in the region to generate a sense of pride.

7. Consultation

7.1 All those who proposed additions or deletions to and from the Colchester Local List will be notified of the decision of the committee.

8.0 Publicity Considerations

8.1 None

9. Financial Implications

9.1 None

10. Equality, Diversity and Human Rights implications

10.1 An Equality Impact Assessment has been prepared for the Local Development Framework and is available to view by clicking on this link:-
http://www.colchester.gov.uk/article/4962/Strategic-Policy-and-Regeneration
Or go to the Colchester Borough Council website www.colchester.gov.uk and follow the pathway from the homepage: Council and Democracy > Policies, Strategies and Performance > Equality and Diversity > Equality Impact Assessments > Strategic Policy and Regeneration and select Local Development Framework from the Strategic Planning and Research section.

10.2 There are no particular Human Rights implications.

11. Community Safety Implications

11.1 None.

12. Health and Safety Implications

12.1 None

13. Risk Management Implications

13.1 Reviewing the Local List will help ensure that planning decisions are based on the most current built heritage data available for the Borough. This will help ensure that locally important or distinctive buildings and historic assets are better protected for the future.

Local Plan Committee

Item **10**

13 April 2015

Report of	**Head of Commercial Services**	**Author**	**Beverley McClean 01206 282480**
Title	**Colchester Local List**		
Wards affected	**Urban Colchester wards, Wivenhoe Quay and Wivenhoe Cross**		

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5.2 In response to the press release and internal consultation a total of 7 changes have been proposed to the Local List which are detailed below. Seven buildings/assets were proposed for inclusion. The four proposed changes to the list are detailed in the table. Three proposals will not be taken forward for the following reasons;

- The Hyams One Factory building is already on the Local List.
- 17 North Hill is a Grade II Listed Building and has higher protection under this designation than that afforded through inclusion on the Local List.

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The Lighting Shop, 61- 65 North Station Road	Add to Local List	Designed by Architects Goodey & Cressall in 1924, who also designed the similar (already locally listed) 23 Drury Road in 1926. This is a single storey building designed to provide three shop units for the Colchester Co-Operative Society, for grocery, confectionary and butchery. The front façade is clad in creamy coloured faience, mimicking stone. The pilasters have art-deco enrichment, matching the original shopfront which survives intact. The inset entrance doors with their canted flank walls give additional interest to the shopfront. The large fascia signage area is currently covered with an unsympathetic plastic sign but the surround appears to be partially present behind. It is unlikely that the original raised lettering or divisions across the fascia survive but the building is nevertheless well preserved and its quality is worthy of recognition.
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5.4 The committee is asked to review and agree the above proposed changes to Colchester's Local List. This would result in the addition of 3 new buildings to the Local List. 4 of the proposals have not been accepted under this review because the building/assets are either nationally listed or already on the Local List, are planned for demolition or are not considered suitable for inclusion on the Local List.

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7. Consultation

7.1 All those who proposed additions or deletions to and from the Colchester Local List will be notified of the decision of the committee.

8.0 Publicity Considerations

8.1 None

9. Financial Implications

9.1 None

10. Equality, Diversity and Human Rights implications

10.1 An Equality Impact Assessment has been prepared for the Local Development Framework and is available to view by clicking on this link:- http://www.colchester.gov.uk/article/4962/Strategic-Policy-and-Regeneration Or go to the Colchester Borough Council website www.colchester.gov.uk and follow the pathway from the homepage: Council and Democracy > Policies, Strategies and Performance > Equality and Diversity > Equality Impact Assessments > Strategic Policy and Regeneration and select Local Development Framework from the Strategic Planning and Research section.

10.2 There are no particular Human Rights implications.

11. Community Safety Implications

11.1 None.

12. Health and Safety Implications

12.1 None

13. Risk Management Implications

13.1 Reviewing the Local List will help ensure that planning decisions are based on the most current built heritage data available for the Borough. This will help ensure that locally important or distinctive buildings and historic assets are better protected for the future.