Appendices, Figures & Tables
Appendix A  Site Location Plan and Photographs
Photo 1- Arable field with low point in centre

Photo 2- Wooded grassland area in northern part of site
Photo 3- Motorcycle track in wooded area

Photo 4- Low point through field north of the arable land
Photo 5- Topographical low area in Dyers Road

Photo 6- Residential area to the north of the site
Photo 7- Low area in Warren Lane south of the kennels and cattery
Appendix B  Aerial Photograph, Ordnance Survey map and Proposed Development Outline
Appendix C  Environment Agency Flood Map and Ground Water Source Protection Zone Map
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Apply

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Help

For 30 year storage
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*Note: The image contains a hand-written note indicating a 100 year storage*
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Range of values based on efficiency of storage and soil structure.
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With infiltration storage is reduced to between 344 m$^3$ and 959 m$^3$.

These values are estimates only and should not be used for design purposes.
Appendix F  Environment Agency/Anglian Water Correspondence
Stinton, Matthew

From: Stinton, Matthew
Sent: 27 March 2007 14:05
To: 'nina.earrey@environment-agency.gov.uk'
Subject: RE: Dyers Lane- Stanway
Attachments: Dyers Lane-Stanway.pdf

Dear Sir or Madam,

RE: Dyer's Lane, Stanway-Essex: Flood Risk Assessment- (grid: 595260, 223390)

Our ref: MS/11500844/PT1/N/EA-001-L

I am writing on behalf of our client with regard to a proposed residential development at Dyer's Lane, Stanway in Essex. Please find attached a location plan indicating our redevelopment site, for clarity. We already have the flood zone map from the Environment Agency web site for the above site, which indicates that the site falls into Flood Zone 1; however, I have listed below a number of queries about further issues for this site and would be grateful for your attention to them.

Our queries are:

1. Confirmation that the site is located in Flood Zone 1.

2. Please could you supply us with any levels and return periods for significant historic flood events in the surrounding location to the proposed development site?

3. Details of any Strategic Flood Risk Assessments that may affect the site.

4. We would be interested in any groundwater table level or historic groundwater flooding information that you could supply for or near the site.

We would appreciate an early response, therefore, if you require any further information regarding the site to assist with our queries, please do not hesitate to contact me on the number above. Please will you inform me of the cost of this data at your earliest possible convenience.

Yours sincerely,

Matthew Stinton
Engineer
WSP Group
WSP House Unit 9, The Chase
John Tate Road
Foxholes Business Park
Hertford, SG13 7NN
Tel: +44 (0)1992-526000
Fax: +44 (0)1992-526001
Website: www.wspgroup.com

17-05-2007
Dear Sir

RESIDENTIAL DEVELOPMENT: DYERS LANE, STANWAY, COLCHESTER.

Thank you for your letter dated 30 March 2007.

We have the following interim comments.

1. The site is in Flood Zone One (low risk).

2. We hold no information on localised flooding in this particular area, and can only suggest that you contact the local Authority in this respect.

3. Colchester District Council have formed a consortium, along with Chelmsford, Braintree & Maldon Councils, which has appointed consultants to carry out The Mid Essex Strategic Flood Risk Assessment. It is our understanding that the final report should be completed by the end of May 2007.

4. We are not aware of any historic groundwater flooding on or near the site.

We have asked our Hydrometry Team for information on groundwater levels in this location and will provide the relevant details separately.

We would also add the following information:-

All surface water generated must be attenuated for the 1 in 1 year to 1 in 100 year rainfall event before the flows to the existing greenfield runoff rate. The Environment Agency prefers the use of SUDS (sustainable urban drainage systems) techniques for the control of surface water attributable to the development. Guidance can be found in Annex F of PPS25 (Planning Policy Statement - Development and...
Flood Risk) and also within the CIRIA C522 document 'Sustainable Urban Drainage Systems - design manual for England and Wales'.

Surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management (SUDS). This approach involves using a range of techniques including soakaways, infiltration trenches, permeable pavements, grassed swales, ponds and wetlands to reduce flood risk by attenuating the rate and quantity of surface water run-off from a site. Guidance can be found in Annex F of PPS25 (Planning Policy Statement - Development and Flood Risk).

The Flood Risk Assessment would need to provide calculations to show how the greenfield run-off rate has been derived. The method for such calculations is outlined in the Institute of Hydrology report 124.

Where the intention is to dispose to soakaway, these should be shown to work through an appropriate assessment carried out under BRE Digest 365.

Details of how the proposed drainage scheme is to be managed should be included within the FRA, in terms of whom will be responsible for the maintenance of the development in perpetuity. In order to secure a management scheme a section 106 agreement is often agreed to.

Any culverting or works affecting the flow of an Ordinary Watercourse requires the prior written Consent of the Environment Agency under the terms of the 1991 Land Drainage Act. The Environment Agency seeks to avoid culverting, and its Consent for such works will not normally be granted except if the works are for a means of access to land/property.

Yours faithfully

[Signature]
Andrew Hunter
Planning Liaison Officer
Planning Liaison Team

Direct dial 01473 706749
Direct fax 01473 271320
Direct e-mail andrew.hunter@environment-agency.gov.uk
03 May 2007

Dear Mr Duke

RE: STANWAY: DYERS ROAD
250 homes proposed

Thank you for the completed pre development enquiry received at this office on 12 April 2007.

You should have by now received direct from our Asset Data Management Centre copy extracts from our records showing the Anglian Water apparatus within the vicinity of the development site.

Please find enclosed report relating to your enquiry.

I hope this information is sufficient for you to consider your proposals.

Yours sincerely

C.Summers
Developer Services
Pre development report prepared for:
WSP

Development Site:
Land at Dyers Road, Stanway

Date: 03 May 2007
ASSETS WITHIN OR CLOSE TO THE BOUNDARY OF THE SITE

Our records show that there are no public water mains, public sewers or other assets owned by this company within the boundary of the development site. However, you need to be aware that the site may contain private water mains, sewers or other water installations not shown on our records and subsequently are not Anglian Water's responsibility but that of the landowners.
WATER SUPPLY

Offsite reinforcement works are required to provide a water supply for this development. We need to install a mains extension off the proposed main in Lakelands off Osprey Close; this will cost approximately £85,000. This development will also be required to contribute approximately £120,000 to the Lakelands main. Under the Water Industry Act 2003 there are a number of options available to pay for a requisition. If you wish to proceed, you need to complete an application for a new supply. An application form is available to download on www.anglianwater.co.uk, developer services page, quick reference, general information – application for a new main (and connections) or alternatively can be posted to you on request.

On receipt of a completed application form, an estimate of the requisition payment options can be provided.

It should be noted that to install any offsite reinforcement works could take a considerable time and therefore you are advised to requisition a water supply at the earliest opportunity.

This development will benefit from the Alton to Horksley and Horksley to Lexden Strategic schemes. These strategic schemes have been scoped to cater for the predicted growth by new development. All developments that will benefit from these schemes will be required to make a contribution proportional to the new demand requested. In this instance, the contribution will be £167,486.99 based on a 2.6675 litres per second demand.

Anglian Water Services Limited does not guarantee that any particular flow or pressure will be provided, the responsibility of this company in this respect are limited to those set out in current legislation. Our operational standard is that “Pressure of not less than 10 metres head shall be maintained to all customers at the boundary stop tap at a minimum flow rate of 9 litres per minute”. If your water pressure requirements exceed this then it is your responsibility to provide and maintain any booster requirements to the site.

Prepared by C.Summers
Marketing & Planning, Developer Services
Prepared on 03/05/2007
DRAINAGE

Foul

This site is not allocated for residential development within Colchester Boroughs Council’s Local Plan. Therefore a detailed drainage assessment of the network has not been carried out at this stage. Once the site is included within the Local Development Framework consultation documents, consideration of capacity of the downstream pumping station and/or works will be carried out.

Funding for any potential improvement works to the downstream system will not be available until 2011 at the very earliest.

Surface Water

Please note that there are no public surface water sewers within the vicinity of your development with available capacity and therefore you will need to investigate alternative methods of surface water drainage disposal which is outside the responsibility of Anglian Water and you will need to seek the approval from the local office of the Environment Agency or if relevant the Internal Drainage Board.

Under no circumstances will surface water be permitted to discharge into the foul system.

However, there is a private surface water sewer currently under a Section 104 adoption agreement that may be able to accommodate the surface water flows from your development. You must seek the consent of the current owner for approval of any proposed connections and available capacity.
BUDGET COSTS

Please note that any costs indicated in this report are a current estimate and for budget purposes only and will be valid for a limited period.

On receipt of applications for supply and connection a quotation will be provided.

A summary of charges 2007/08 is included in this report.

GENERAL

All information provided is current at the time of the report. This may change if there is further development in the area or for other reasons. You are advised therefore to renew your enquiry should there be a delay in submitting your application for water supply/sewer connection to re-confirm the situation.
Mr Matthew Stinton,
W S P Development Environmental
9 The Chasee John Tate Road
Hertford
Hertfordshire
SG13 7NN

Dear Mr Stinton,

ENQUIRY ASSOCIATED WITH FRA FOR THE SITE. SITE OFF DYERS ROAD, STANWAY.

Thank you for the information which you provided in your FRA associated with the above enquiry, my apologies for the delayed response.

As you are aware all surface water generated must be attenuated for the 1 in 1 year to 1 in 100 year rainfall event gearing the flows to the existing greenfield/brownfield runoff rate. The Environment Agency prefers and supports the use of SUDS (sustainable urban drainage systems) techniques for the control of surface water attributable to the development. We are therefore pleased to see that such systems are being considered for this site. As previously stated surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management (SUDS). This approach involves using a range of techniques including soakaways, infiltration trenches, permeable pavements, grassed swales, ponds and wetlands to reduce flood risk by attenuating the rate and quantity of surface water run-off from a site. It would appear that you have sought guidance in Annex F of PPS25 (Planning Policy Statement - Development and Flood Risk), which we are very pleased to see.

We do have concerns that storage cells are being considered, we would prefer that this option only be utilised if all other SUDS techniques have been explored (Ponds, reedbeds, swales etc) and discounted because on site geology so dictates. We appreciate such systems are “land hungry” however that must be factored into the equation when the site is being designed. The use of oversized pipes and storage tanks/cells does not constitute SUDS, system therefore suitable justification should be given as to why they are being installed.
The FRA would need to provide calculations to show how the greenfield/brownfield run-off rate has been derived. The method for such calculations is outlined in the Institute of Hydrology report 124. On site storage for the 1:100 year event will be required and indications given as to whether the 2,000m³ stated can be accommodated in the gravels on site.

Additional guidance can be found in Annex F of PPS25 (Planning Policy Statement - Development and Flood Risk) and also within the CIRIA C522 document 'Sustainable Urban Drainage Systems - design manual for England and Wales'.

We note the reference to attenuation, in our experience “hydrobrake” systems, and similar are capable of attenuating to 3 litres per second certainly 5 litres per second is considered perfectly attainable, so we would expect to see an attenuation in th region of this figure.

In essence we feel your FRA is structured comprehensive and addresses all the issues associated with this Flood Zone 1 site. As already stated we would prefer to see SUDS surface water systems utilised, and it must be noted that our we may object to the proposal when at a planning stage if suitable justification is not provided to justify the comprehensive use of SUDS use on this site.

Yours sincerely,

Mr Chris Wheadon
Development Control Officer
Direct dial 01473 70 6370
Direct fax 01473 70 6360
Direct e-mail wheadc.Kelvedon1.AN@environment-agency.gov.uk