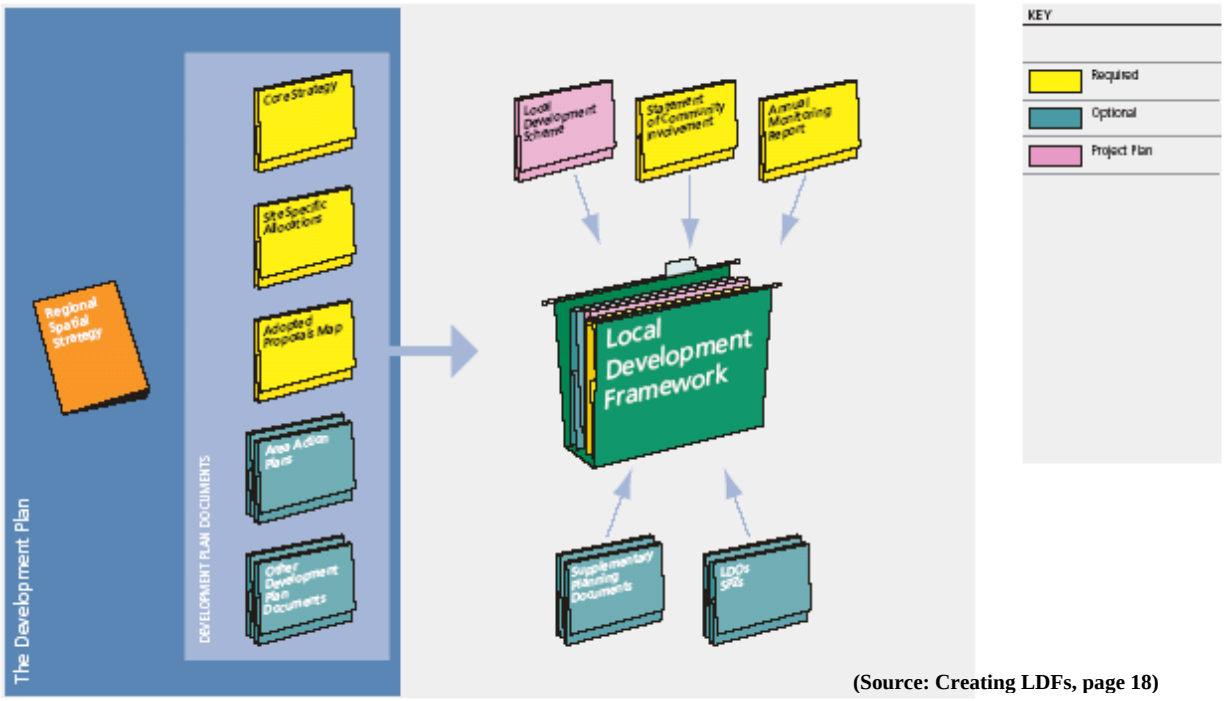
Reigate & Banstead
BOROUGH COUNCIL
Banstead | Horley | Redhill | Reigate

Horley Design Guide Supplementary Planning Document

Adopted 19 January 2006

What is the Local Development Framework?

The Local Development Framework, referred to as the LDF, is a folder of documents called Local Development Documents, as shown below.



(Source: Creating LDFs, page 18)

What will the Reigate & Banstead LDF include?

The policies from the previous local plan system are saved for at least three years. The current project plan, including timescales, for the LDF is set out in the Local Development Scheme. Check the Council's website for the latest information www.reigate-banstead.gov.uk under Business and Planning > Planning > Planning policies > Local Development Framework

What are Supplementary Planning Documents (SPDs)?

They are used to expand policy or provide further details to policies in Development Plan documents or saved policies. While not having development plan status, they are subject to community involvement and Sustainability Appraisal.

What is the Horley Design Guide SPD?

It provides details of local environmental features and includes a Building Design Code and other guidance, to ensure that the design and layouts of the new development reflect the characteristics of the Horley area and are sustainable. It is an updated version of Supplementary Planning Guidance (SPG) drafted in 1998 and revised in 1999.

Public consultation took place between 30 September and 11 November 2005. Twenty one organisations and individuals responded to the latest consultation. Half of these were Governmental, Agency or regulatory bodies. Three residents' associations, individuals (including the local Member of Parliament), a wildlife trust and developers' interests comprised the remainder. There was much support for the Guide, but with each organisation taking the opportunity to comment and suggest improvements within its particular area of expertise or interest. The consideration of the representations received has also included the recommendations from the Sustainability Appraisal (SA) Report. The main changes in response to issues raised are:

- Use of sustainability aims from a recognised source
- Expansion to the guidance on drainage
- New guidance on air quality
- Deletion of the "Parkways" concept
- Provision of highway specification in tabular form

Further details of the consultation process, the issues raised and how they were addressed in revising the SPD can be found in the separate Consultation Statement and Statement of Main Issues Raised Through Public Consultation.

CONTENTS

M:\EP\LDF\SPDs\Horley Design Guide\Final Publication Version 14.03.06.DOC

HORLEY DESIGN GUIDE SPD

ERRATA AND UPDATE
December 2007

Page 34: Specific Guidance – Mains Water Consumption

Since 2001, the legal maximum permitted flush volume for all newly installed WCs is 6 litres.

Developers are encouraged to provide dual flush WCs. The rates for the low flow taps and showerheads should be 6 litres/min and 12 litres/min respectively.

1. INTRODUCTION

SUPPLEMENTARY PLANNING DOCUMENT (SPD)

1.1 This SPD has been produced by the Borough Council under the Local Development Scheme primarily to provide extra guidance for those preparing planning applications for the new neighbourhoods in Horley. It was subject to public consultation and consequential changes, then adopted by the Council. It will be taken into account as a material consideration in the determination of planning applications.

1.2 The Document responds to policy SE4 of the Surrey Structure Plan 2004 in seeking to secure high quality design, making best use of land resources and giving emphasis to the needs of pedestrians, cyclists and public transport.

1.3 It also supplements policy Hr 2B of the Reigate and Banstead Borough Local Plan 2005, and the more general guidance in the Borough-wide "Local Distinctiveness Design Guide" published in 2004.

1.4 The Flood Risk Development Brief, an independent document but attached to the SPD as an Annex, supplements policy Hr 2A of the 2005 Local Plan.

1.5 The relevant Structure Plan and Local Plan policies are set out in Annex 1.

PURPOSE OF THIS SUPPLEMENTARY PLANNING DOCUMENT

1.6 The statutory documents relating to the provision of some 2,600 dwellings in Horley comprise a Written Statement of Policies and a Proposals Map.

1.7 By their very nature, neither of these is fully capable of describing and defining the form, layout, character and high quality of development which the Borough Council is seeking in Horley. This Supplementary Planning Document aims to provide such detail, together with additional guidance not provided by the planning policy documents.

1.8 A previous version of this Design Guide was the subject of public consultation alongside the statutory Local Plan policy documents in 1999. This version of the Guide has evolved from the 1999 consultation process and is now published as one of the Local Development Scheme documents for public consultation.

OBJECTIVES

1.9 The objectives of the Guide are:-

- to assist in the production of new high quality development, both conventional and contemporary in design, reflecting the local distinctiveness of traditional settlements in the area;
- to encourage the use of design elements and materials in a homogeneous way;
- to avoid arbitrary design changes within the street scene;
- to protect and where possible enhance the environment in terms of acoustic and air quality consistent with the need for new development;
- to encourage sustainable transport by securing a form of development where the car is subservient to pedestrians and cyclists and where traffic speed is controlled by design rather than by regulation;
- to resist standardised layouts which incorporate a high proportion of closed cul-de-sac development heavily dependent on car usage;
- to secure good accessibility to local facilities to minimise trips, and to the Fastway high quality bus service for trips to more distant destinations;
- to ensure that development embodies other sustainability principles by minimising its adverse impact on the environment, both in visual terms and in relation to drainage, recycling, energy and water consumption;
- to secure a form of development which conforms with the Flood Risk Development Brief for Horley;
- to achieve high standards of safety.

1.10 The critical role of the Guide will be to steer developers at two key stages; firstly at the initial layout or 'Framework Plan' stage and secondly at the building design stage.

1.11 The Guide focuses on the proposed major housing allocations in the North East and North West sectors of the town, but much of it will be more generally applicable. The Guide will also have a continuing role by giving householders advice on future extension or outbuilding proposals and also on appropriate materials for boundary walls or fences, selection of appliances, etc.

1.12 Although this Guide identifies and promotes the use of design elements traditional to the area, modern designs of high quality will also be encouraged.

DESIGN -THE POLICY BACKGROUND

1.13 Through its guidance in Planning Policy Statement 1, Government now requires new development to be designed and to fit better into its locality, reflecting local distinctiveness. This approach is also contained in the Core Regional Policies (Section D7) of the Draft South East Plan. Preceding these documents there had already been positive moves within the industry itself such as "Housing Layouts - Lifting the Quality" promoted to the volume house builders and to Local Authorities by the House Builders Federation. Also at central Government level, Planning Policy Guidance 3, Housing and its companion guide "Better Places to Live: By Design" are clearly relevant. Consequently, housing development

based on a standardised layout and with house designs unrelated to local character will not be acceptable. (See Figure 1)

1.14 It is also a Government objective (in Planning Policy Guidance Note 13) to reduce the need to travel by car. In this context the Government guidance document "Places, Streets and Movement" also places great emphasis on tailoring housing layout to achieve higher levels of walking, cycling and public transport, contrary to the approach of recent decades. The type of road network and pedestrian and cycle routes to serve new housing development will need to take into account such objectives and guidance. The principles of low speeds and safety inherent in the Surrey Local Government Association's guide "Surrey Design" are also relevant. The latter document will not be prescriptive however, and road layout may be subject to refinement at the discretion of the County Council as Highway Authority.

1.15 In recent years sustainability has also become an essential consideration in new housing, to ensure that development minimises its adverse impact on the environment. At Horley this means:-

- accessibility of jobs, key services and facilities by public transport;
- actively seeking to minimise climate change, including through energy efficiency and the use of renewables;
- minimising waste and disposing of it in accordance with current good practice;
- making efficient use of natural resources, encouraging sustainable production and consumption;
- protecting and improving biodiversity;
- demonstrating that new developments will not increase flood risk on site and elsewhere including during all phases of their development, and if possible reducing such risks;
- Appropriate size, scale, density, design and layout that complements the distinctive local character of the community.

1.16 From the above it can be seen that the pursuit in Horley of key Government objectives - local distinctiveness, reduced car dependency and sustainability - will influence the form and layout of development, the dwellings and their associated service requirements. In addition, biodiversity will be enhanced, resulting from the creation of a range of habitats in open spaces such as school playing fields and in the Riverside Green Chain. .

1.17 The Guide does not cover the design of recreational open space. This is covered by separate Supplementary Planning Guidance published by the Borough Council for outdoor playing space and by guidance from the National Playing

Fields Association. Details of the Horley Town Park are contained in the Borough Council's Infrastructure Supplementary Planning Document.

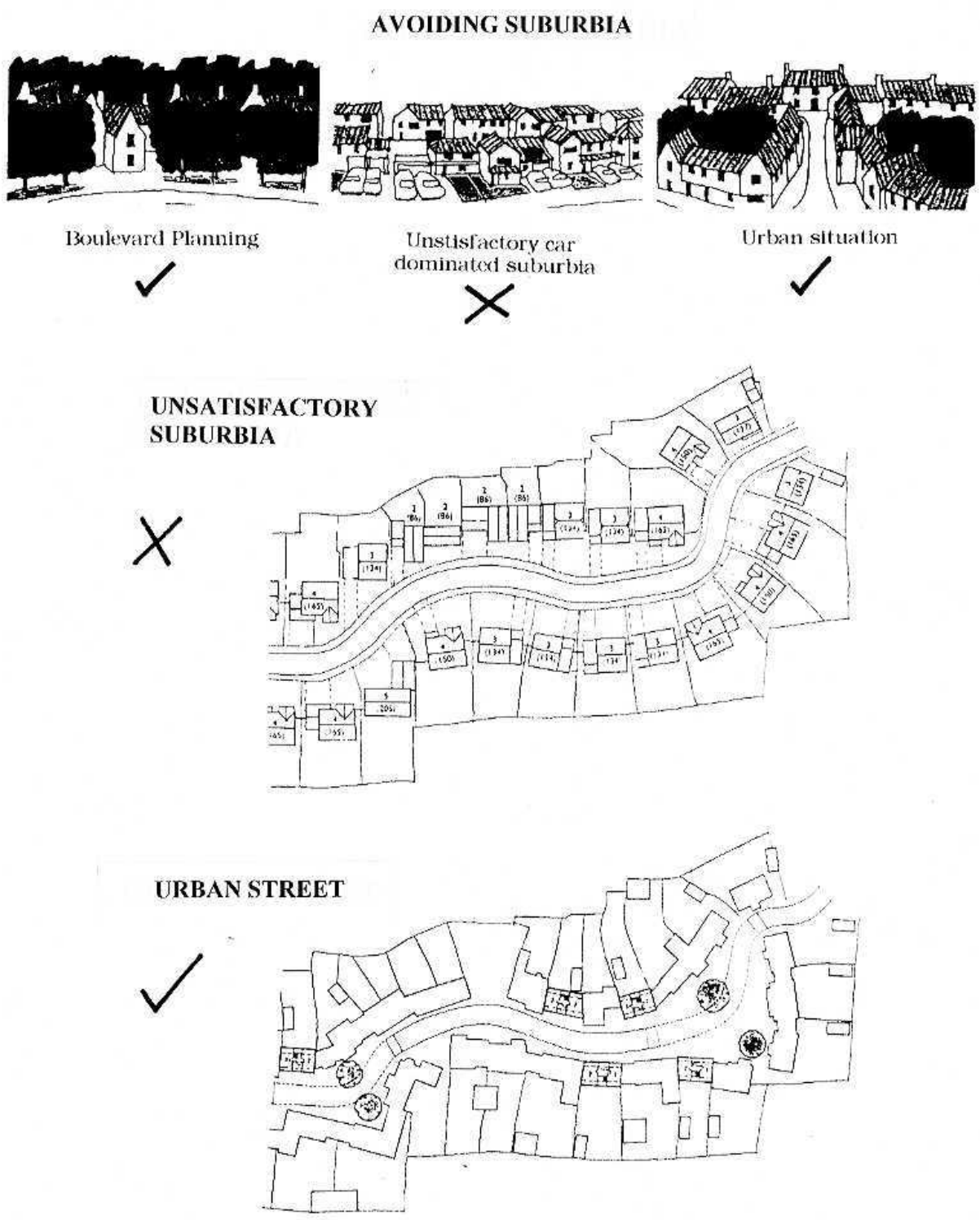
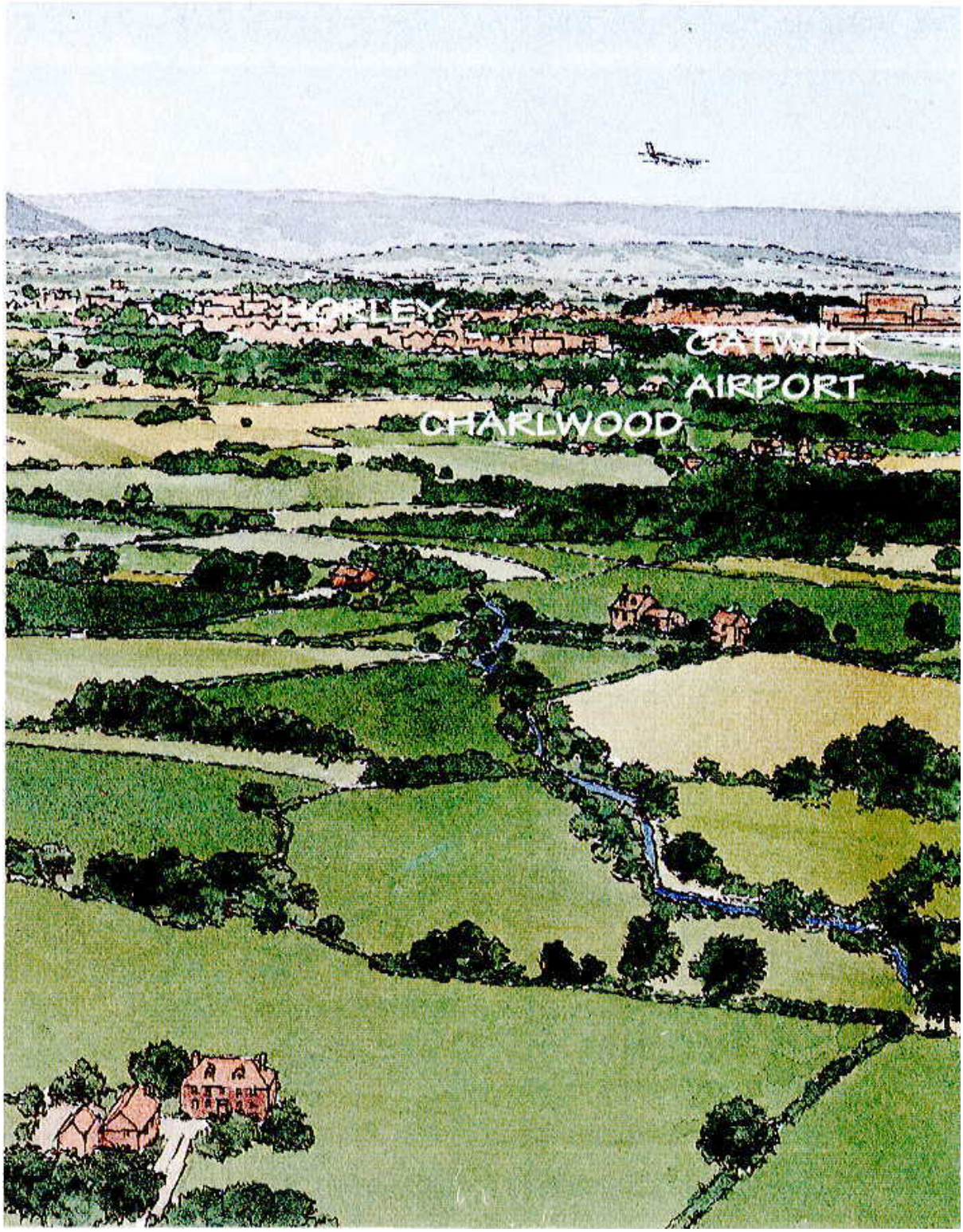


Figure 1: APPROPRIATE URBAN FORM

Figure 2: TYPICAL WEALDEN LANDSCAPE



2. THE HORLEY CONTEXT – OVERVIEW AND GENERAL GUIDANCE

OVERVIEW

Geology & Geography

2.1 Horley is situated on the Wealden clay vale, underlain by river terrace deposits, an extensive area of generally flat open landscape. Due to its geology the landscape is characterised by rivers, streams and ditches and Horley itself is almost encircled by the River Mole and the Burstow and Gatwick Streams. Because Horley is so flat and the soil cannot absorb rainfall, the town is vulnerable to flooding, both from lying water and as the river system overflows its banks. Clearly therefore this is a key characteristic of Horley and will influence how surface water drainage is managed as the town expands. It also provides the opportunity to create a "Riverside Green Chain" for informal recreation, as shown on the BLPFA Proposals Map, using land most vulnerable to flooding.

2.2 The character of the Weald means that there are no hills to provide local features or landmarks and generally the area now lacks extensive woodland. As a result buildings become the landmarks, particularly the taller or larger ones such as churches or farm complexes. See Figure 2. New development should where possible respect this by protecting and providing glimpses of local landmarks and by creating new ones.

2.3 Ancient agricultural practice in Horley, whereby the area provided summer pasture for fattening pigs reared in manors further north, has resulted in a hedge system dating from the 8th century. In the North East of Horley some of these are still recognisable by their north-south alignment. Mediaeval and later historic hedges also remain and these together with historic farm building complexes must be carefully considered at the design stage of new neighbourhoods in Horley.

Building Materials

2.4 An area's geology, climate and the vegetation types they support always form the basis of indigenous building materials. In Horley's case the once extensive oak forests provided large section timber for the structure of timber framed buildings and also planks for wall cladding. Clay tiles were almost universally used for roofs and often for wall cladding too in the form of tile hanging. Clay bricks were subsequently used as the most common walling material, either as infill for a timber framed building or as a structural material in its own right. Tiles and bricks are still produced in the Weald.

2.5 In the past rendered wall finishes have also been used, either on timber lathing over a timber-framed structure or since Regency times as a fashionable decorative finish, sometimes over poor quality brickwork.

2.6 Therefore there are several geological, landscape and historic features together with indigenous building materials and forms which provide the area with part of its local distinctiveness and which should be reinforced by new development in the town.

2.7 In addition to indigenous materials, as transport systems developed other building materials were introduced into the area. These included London stock bricks and Welsh grey slates which were commonly used for Horley's Victorian development and which are now also characteristic of the town.

Flooding Potential

2.8 In addition to visual considerations it will be vital for development to minimise its impact on Horley's existing flooding situation. In this context a Flood Risk Development Brief has been prepared by the Borough Council, the Environment Agency and Thames Water Utilities. It supplements Borough Local Plan policy and applies in full to developments of about 50 units or more, including or course the two proposed new 'Framework Plan' neighbourhood areas. Certain flood risk attenuation measures will be applicable to smaller developments of 10 units or more, while others (such as water butts) will be achievable with single unit developments. For convenience the Brief is included in this Guide as Annex 2. Part of its requirements is a Sustainable Urban Drainage System (SuDS) regime. This involves a range of surface water drainage techniques, some of which will be invisible, such as porous surfaces for parking areas, while others will provide potential to create attractive new features such as shallow watercourses, ponds and reed beds. These will probably be placed in open space, notably in the Riverside Green Chain, and will be very effective in slowing down, filtering and reducing the volume of surface water compared with a normal sewer system, while also enhancing the area's biodiversity. Examples of SuDS techniques are shown later in this document at Figure 6. Further information on SuDS techniques is available from the Construction Industry Research Information Association (CIRIA), which publishes a code of practice and design manuals. In addition, a series of Case Studies has been published by the Environment Agency and SEERA as a "Toolkit for Delivering Water Management Climate Change Adaptation Through the Planning System".

THE HISTORIC ENVIRONMENT

Buildings of Historic Interest

2.9 Like most areas Horley's surrounds contain a number of individual and groups of Listed Buildings. These are shown on Figures 3 and 4. New development in such locations should respect the existing character using materials and details of the highest quality. Other buildings are indicated which may also be worthy of retention, particularly when these contribute to the setting of Listed Buildings.

FIGURE 3: HORLEY NW SECTOR - HISTORIC ENVIRONMENT ALERT MAP

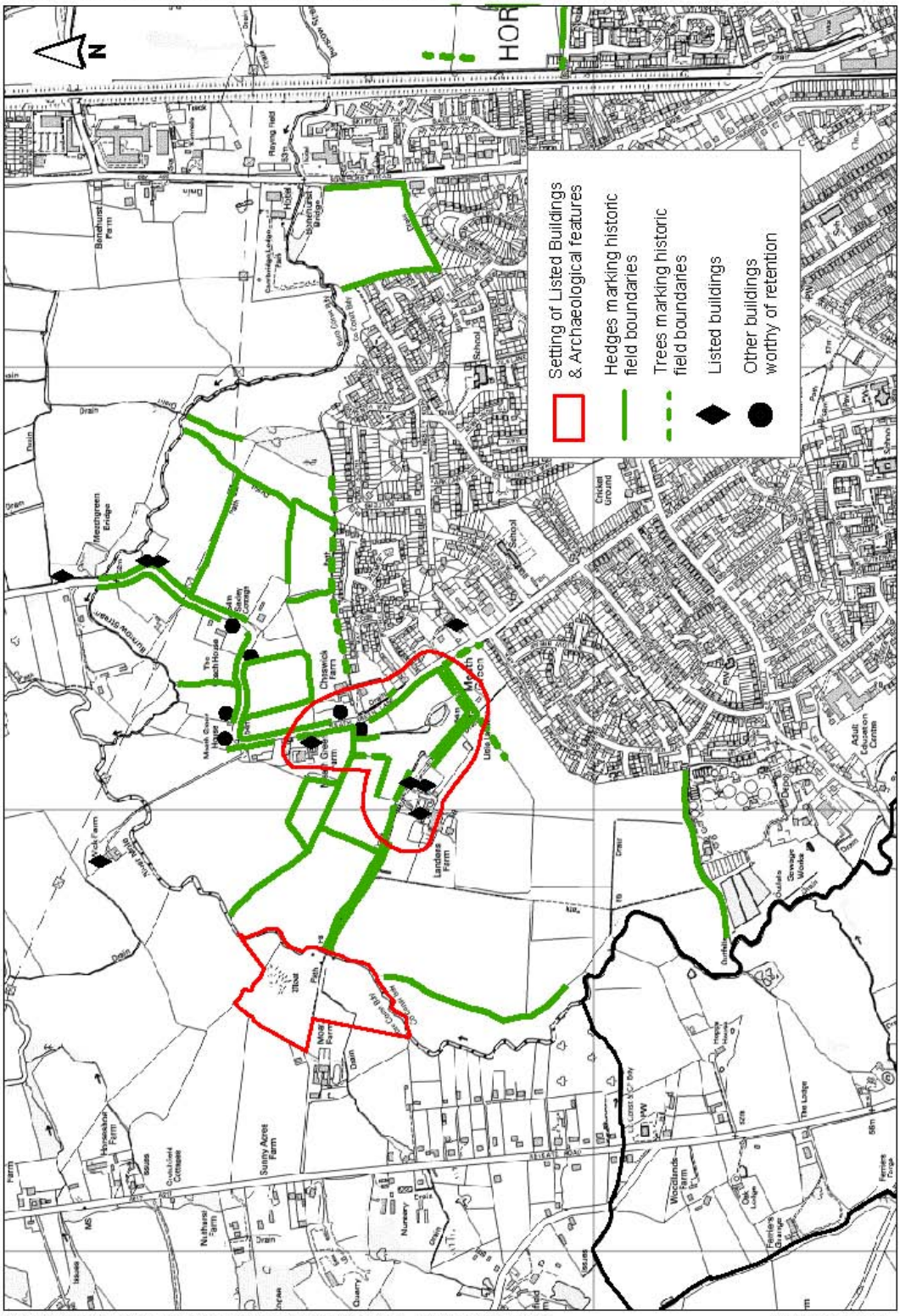
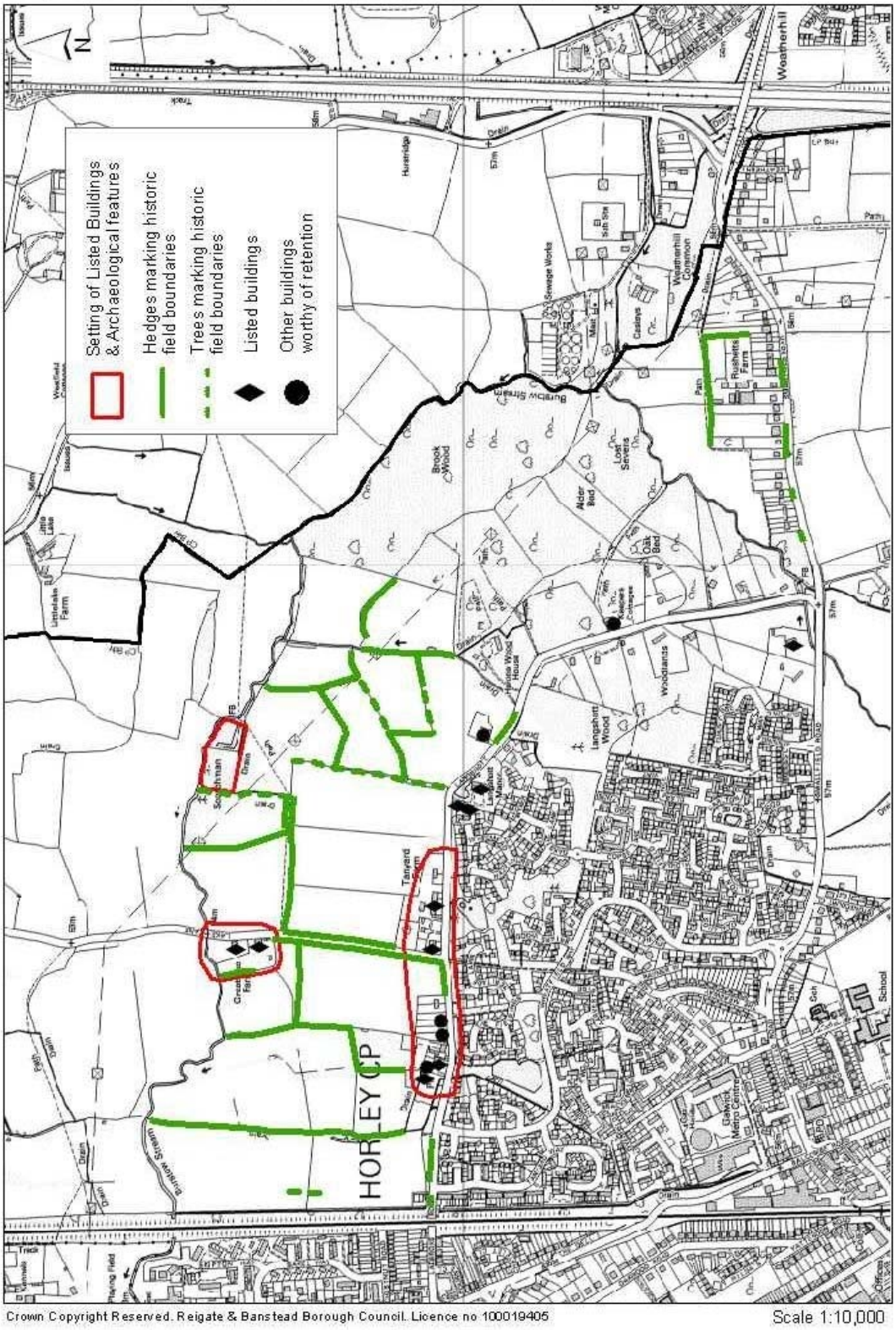


FIGURE 4: HORLEY NE SECTOR - HISTORIC ENVIRONMENT ALERT MAP



Archaeology

2.10. Four archaeological sites have been identified as worthy of protection in terms of their setting. These are also shown on Figures 3 and 4. Two of these lie within the Riverside Green Chain and could be enhanced and accompanied by interpretation material as part of the works associated with the Chain. Due to the size of their proposals, developers will need to undertake archaeological investigations so that the outcome of these can accompany their submissions.

Historic Landscape

2.11 Hedges and tree lines also contribute to Horley's historic environment by marking historic field boundaries. For the major housing allocations these are shown on Figures 3 and 4 and are not extensive in relation to the area of land allocated for development. Other features of this type also occur within the existing built up area. Consequently developers must retain and restore such features in their designs where appropriate. Experience has shown that although some hedges could well form garden boundaries, they survive better when in common or public ownership and subject to communal maintenance through a contract arrangement.

THE NATURAL ENVIRONMENT

Trees

2.12. Trees planted in the new neighbourhoods should be selected for their suitability to the location and soil. In larger public spaces and school playing fields species which are native and local to Horley such as Oak, Ash, Silver Birch and Alder should be considered as landmark trees, as demonstrated in Figure 15**.** A more extensive list is set out at Annex 3. Well chosen trees planted in rear private gardens, away from any buildings can also be valuable as landmark trees. Smaller species of local provenance should be considered for front gardens to provide an attractive and distinctive street scene. Trees should be positioned to avoid potential damage to underground services.

2.13. Development at Horley offers the opportunity to enhance the area's biodiversity through more extensive tree planting which will complement existing woodland to provide a closer network of habitats.

2.14. In this respect, particular opportunities will be provided by the larger play spaces and by school playing fields to bring elements of the countryside into the neighbourhoods, not least to avoid these being mundane 'clinical' spaces. Also, retention of small groups of mature trees on the outer edge of the neighbourhoods will aid integration with the countryside beyond whilst benefiting nature conservation and encouraging biodiversity**.**

Hedges

2.15. Section 3.31 of this Guide refers to the possible use of hedges for front garden boundaries in new development in Horley. New hedges should be planted using mixed native shrub species, appropriate to location, in order to provide variety in boundary treatment. Annex 3 provides more information.

Watercourses and Buffer Strips

2.16. In addition to the River Mole, the Horley area is traversed by many smaller watercourses and it is important that these are retained and incorporated into the new development. These small watercourses are ecologically important and development should incorporate buffer strips and bank side and in-stream enhancements where appropriate. Watercourses are also a very important drainage resource, providing storage capacity as water backs up along them when water levels are high in local rivers, reducing the risk of flooding.

Air Quality

2.17. In the southern part of Horley air quality is poor, and indeed an Air Quality Management Area (AQMA) has been declared. Although partly due to Gatwick Airport, vehicle and other emissions contribute to this situation. Horley is a small town, and the Council's aim is to ensure that the general background concentration of pollutants does not increase across the town as a whole. It is therefore evident that new development in Horley must minimise its adverse impact on air quality.

2.18. In relation to transport, there will be a range of sustainable transport initiatives implemented as part of the new neighbourhood developments. Similarly, heating systems will need to be as efficient as possible ensure that emissions are kept to the absolute minimum. In this respect low NOx boilers are desirable. For new development which may result in air quality standards being breached, there will be an obligation on the developer to reduce emissions from other existing sources.

3. FORM AND LAYOUT OF DEVELOPMENT GUIDANCE

NEIGHBOURHOOD AREAS

3.1 Alongside the aim to create a development which harmonises with local character are several equally important aims; to ensure that development contains a range of individual 'sub-characters' in order to provide a sense of place and identity for residents and visitors alike, to design out crime, and to secure the integration of house types and sizes (including affordable housing) in order to create mixed communities.

3.2 The size of the major housing developments is such that supporting community, retail and school provision are essential parts of the comprehensive approach to Horley's growth. By grouping these facilities, as shown on the Local Plan Proposals Map, there is an opportunity to establish neighbourhood centres and to use these, along with other distinctive layout features, to create a legible form of development.

3.3 Such development will therefore comprise several different types of character areas, echoing the traditional gradual growth of settlements over a period of time. See Figures 5, 6, 7 and 8**.** Some possible character areas and their key features are set out below:-

Neighbourhood Core

- relatively small (50 to 100 dwellings and shops/community building served by high quality bus service;
- irregular road pattern possibly centred on a formal space;
- close-knit development with front doors facing the public street, generally with very short front gardens or at the back edge of the footpath - minimum of 40 dwellings per hectare net;
- mix of dwelling sizes including prestigious landmark buildings, smaller terraced units, some flats including above shops;
- range of dwelling heights including variety of floor to ceiling dimension
- high quality traditional materials predominate;
- secure rear courtyards for parking or rear garden access, plus some on-street in designated bays.

Main Housing Areas

- largest part of development - all dwellings within 400m/5 minutes walk of bus stop;
- more regular road pattern, perhaps loosely based on a grid layout;
- roads designed to incorporate a number of character areas;
- dwellings fronting roads or main footpaths/cycle routes where relevant;
- dwellings generally in short terraces, with flowing rather than staggered building line - about minimum of 35 dwellings per hectare net.

AT THE HEART OF THE NEIGHBOURHOOD CORE, THE BUS STOPS, SHOPS AND MIXED USE HIGH DENSITY BUILDINGS. THE PEDESTRIAN WAYS WILL RADIATE AND IT IS LIKELY THAT MOST PARKING WILL BE IN COURTS.

Figure 5: NEIGHBOURHOOD CORE INDICATIVE PLAN

THE BUILT FORM OF THE NEIGHBOURHOOD CORE CAN CREATE A STRONGLY INDIVIDUAL SENSE OF PLACE. CARE TAKEN IN THE URBAN DESIGN CAN RESULT IN A HIGH DENSITY MIX OF HOUSING, SHOPPING AND COMMERCIAL USES WITHIN A FRAMEWORK CONTAINING PRIVATE, SHARED AND PUBLIC SPACES.

Figure 6: NEIGHBOURHOOD CORE SKETCH

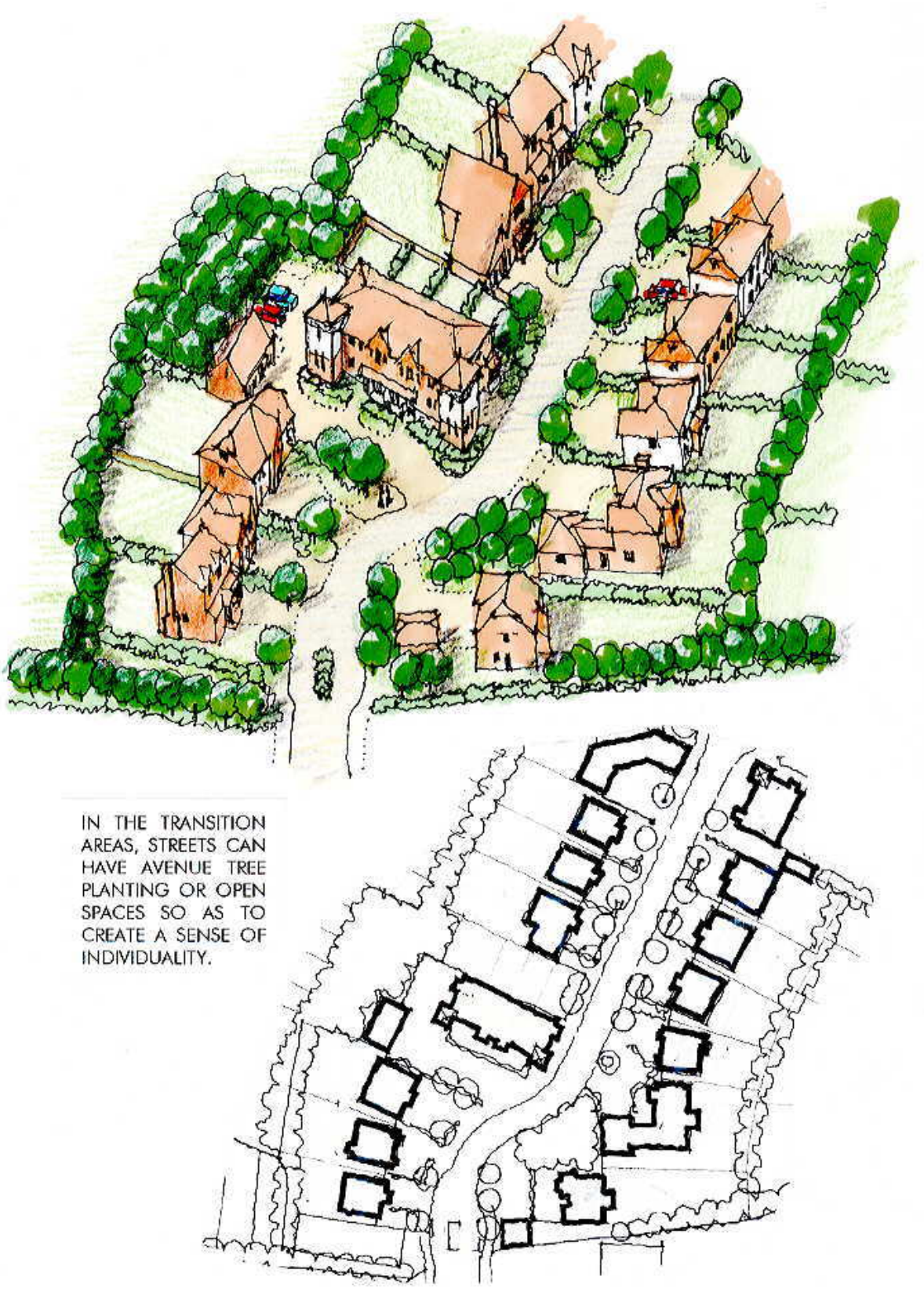


Figure 7: MAIN HOUSING AREAS INDICATIVE SKETCH

Figure 8: COUNTRYSIDE EDGE

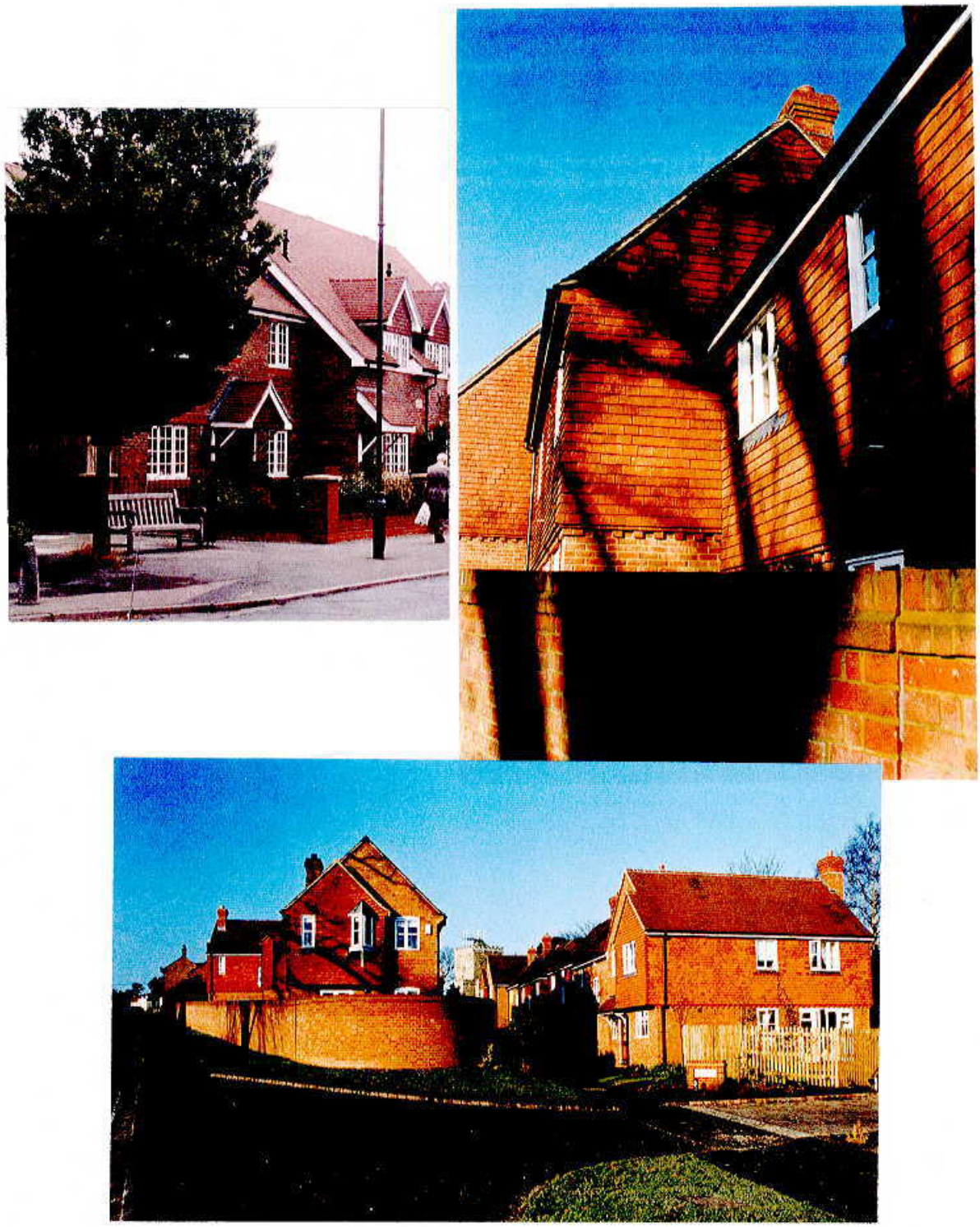


Figure 9: MODERN HOUSING RELATING TO ITS SURROUNDINGS

IT IS IMPORTANT TO AVOID BLANK GABLE ENDS IN THE STREET SCENE. THIS EXAMPLE SHOWS THE WINDOWS ADAPTED TO A CORNER HOUSE. ORIENTATION AND OUTLOOK ARE KEY FACTORS IN THE DETAIL DESIGN

Figure 10: COMPLETING CORNERS

- mass produced materials predominate but buildings still traditional in form, colour and character;
- gardens larger, often with side space for parking behind building line;
- parking for terraced housing in rear courtyards and partly on-street in designated bays;

Countryside Edge

- second largest part of development - all dwellings within 400m/5 minutes walk of bus stop;
- road pattern possibly loosely based on a grid layout;
- roads to incorporate a number of character areas;
- more spacious development with more hedges and tree cover - about 20 to 25 dwellings per hectare net / 8 to10 per acre;
- larger buildings more individual in design;
- buildings on outer edge to face countryside and footpaths/cycle ways;
- mixture of buildings reflecting local character and other designs of high quality;
- less regular building line with rear or frontage car parking access and limited on-street parking in bays;

3.4 In pursuit of the Objectives of this Guide, throughout the new housing areas the following Building Design Code will apply as a means of guiding designers towards both layout and a variety of building forms, finishes and features so that local characteristics are respected.

BUILDING DESIGN CODE

Purpose of Code

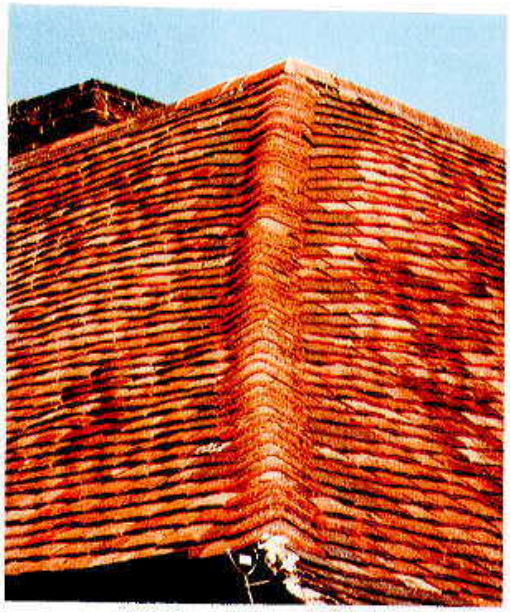
3.5 This Code provides key advice to prospective developers covering all elements of the built environment. It applies equally to market and affordable housing. It includes guidance on the creation of 'legible' development with a variety of distinctive characters through appropriate form and scale of houses, specification and use of materials, advice on road layout, the relationship of the house to the road, private car parking provision, landscape and streetscape. Within the framework of the Code the designer is free to put forward his/her original interpretation of a traditional development pattern. The Council attaches great importance to this Code and considers that the Code is in accordance with Government advice on planning and design. It clearly echoes initiatives within the industry towards higher quality design relevant to its local context.

3.6 It is intended that the Code will indicate to developers the constraints within which the Local Planning Authority expects them to operate in preparing their Framework Plans. Framework Plans will play a very important part in the design process and should be prepared by developers for each of the major housing

allocation sites to accompany any planning application. These should indicate to the Borough Council the intended general road layout and pedestrian and cycle routes, the bus route and any priority measures, traffic management measures, the broad layout of the neighbourhood centres including any employment space, the character, density and phasing of the housing areas and the general location of the larger play spaces. They offer the opportunity for the designer to show his/her skill in knitting together the individual Design Guide requirements into a composite layout, together with its relationship to other neighbourhoods, before detailed design work commences on buildings and civil engineering.

Decorative Handmade
Clay Tile Hanging

Flemish Bond Handmade
Red brickwork with
Burnt Headers



Handmade Sandfaced
Plain Tiles with
Third Round Ridge Tiles
and Bonnet Tiles to Hips

Figure 11: WEALDEN MATERIALS

Typical Asymetrical Wealden Vernacular Farmhouse

50 degree Pitch, Clay Tiles and Decorative Tile Hanging

Later Cottage with Classical Symmetry and Burnt Headers.
(Concrete tiles and modern Carolina Door are unfortunate additions)

Figure 12: VERNACULAR BUILDING TYPES

General Approach

3.7 Developers of the allocated housing sites in the north west and north east sectors will be required to produce their Framework and detailed plans in accordance with this Code, and are advised to consult with officers of the Local Planning Authority at an early stage in the design process.

3.8 To avoid monotony of building scale and roofscape, developers should ensure that their house designs for any one development phase create a certain amount of variety of building height and roof form. This can be achieved through the choice of the house type itself, by slightly varying floor to ceiling heights (perhaps between 2.2 to 2.5 metres) and by the choice of roofing material and the resultant pitch requirement. Allied to the above approach, developers should of course apply such guidance in a logical and relevant manner; for example, avoiding arbitrary changes of design and materials within composite terraces of housing and aiming for cohesion and simplicity within each street scene. It should be noted that the tallest or most prestigious 'landmark' buildings in traditional settlements generally occur at the centre of communities or on the boundaries of major public spaces. Developers are advised to follow this pattern and to use taller (up to three storeys) and grander buildings as focal points to mark the centres of local communities.

3.9 Where the Borough Council requires the provision of public service buildings eg: School, Neighbourhood Halls, Clinic or Doctor etc, these together with any local shops should be located at the heart of the community as indicated on the Proposals Map.

3.10 The appearance and character of a building are determined by the quality, design and detailing of its parts. External walls and the materials used in their construction, roofs and chimneys, and the detail of doors and windows will need to be considered early in the design process if satisfactory townscape is to be achieved. Advice on appropriate materials and their use is contained in the Specific Guidance part of this section and Annex 4 to this Guide also contains a palette of materials considered suitable for use in Horley. Figure 9 shows some examples of modern housing which have been successful in relating to their particular localities and surroundings.

3.11 Houses in the Neighbourhood Core, with the exception of those in mews/parking courts, should have front doors facing the public street; some with direct access to the street, others with short front gardens possibly not exceeding two metres in depth. Short terraces of varying lengths are characteristic. Generally no house or other building will back on to a major public space, street, footpath/cycle route or school playing field except where there is a buffer zone between housing site and public open space created by woodland or hedgerows.

3.12 Wherever possible care should be taken to avoid blank flank elevations at street corner locations. This could be achieved either by incorporating windows or more creatively by designing houses which 'turn the corner'. This is illustrated at Figure 10.

3.13 As well as echoing the types of building materials traditional in Horley, consideration should be given to incorporating landmark buildings at key locations, reflecting local characteristics. Development will need to relate to buildings of historic interest and also to local landscape features and species which are indigenous to the Weald. Any planting in the Riverside Green Chain should also reflect native species and the local landscape characteristics.

3.14 Developers in Horley should aim to minimise problems caused by noise. Gatwick Airport lies to the south of Horley, and aircraft noise is evident across the whole town. It is a factor to be taken into consideration at the design stage when assessing the acoustic impact of aircraft. It is likely that the new neighbourhoods will include some mixed use development. To protect upper floor residents from shop or restaurant noise at ground level a high standard of acoustic insulation should be incorporated. It will also be important to minimise construction noise so that the occupants of new dwellings are not badly affected by ongoing construction.

Specific Guidance - External Walls

3.15. External walls of all buildings including outbuildings and garages should be constructed with the following finishes (See Figures 11, 12 and 13**)**:-

(a) Bricks of types and colour appropriate to the area and to be agreed with the Borough Council. Generally stock bricks should be used. For new landmark buildings or those close to historic buildings, handmade bricks should be considered, laid in English or Flemish bond. Burnt headers or headers of a different colour to brick stretchers, used creatively to form pattern work, are appropriate to the area. Where brick is used as a boundary wall coping, soldier coping should be avoided in favour of saddleback shaped brick coping which is common locally;

(b) Rendered work should be used in moderation and be roughcast or wood floated to avoid too hard and precise a finish. Render is often used for ground floors with tile hanging above, or for upper floors with face brickwork at ground floor. Through colour renders should be used to create some variation in colour and to avoid the need for wall paint;

(c) Tile hanging, particularly to upper floors over a ground floor of brick or render construction, is a feature found in about half of the traditional buildings in the area. Rectangular standard plain tiles (approx 160x1600mm, non-sand faced), predominantly machine made clay/concrete in colours to match those typical of the area, or handmade

clay for the more important buildings and locations, should be used in new development. The local vernacular also displays a rich heritage in decorative and ornamental tile hanging and developers should continue this tradition to add individuality and variety to new construction;

(d) Weatherboard cladding, also a vernacular feature of the area, should comprise featheredged boarding approximately 160mm x 30mm. Generally featheredged boards should be finished black [black tar, black stain etc] and restricted in use to a limited number of garages and outbuildings. Where the weatherboard is to be used for domestic buildings, the boards should be planed and painted white. This may be appropriate for a landmark location.

3.16. Small constructional details often provide evidence of quality in new development. For example:

- expansion control joints in brickwork and render should ideally be placed where they can be concealed, for example at changes in materials, breaks in the building line or behind rainwater pipes;
- steel lintels to openings should ideally be faced with brick or plain tile arches. Use should be made of some gauged brick and segmental arches which are appropriate to the area. Routine use of soldier arches should be avoided.

Black Tar Weatherboarded Barns and Farm Buildings
The pond is also a typical Wealden Feature

White Weatherboard and Painted Brick

Figure 13: VERNACULAR BUILDING TYPES

VERNACULAR HOUSES OF THE AREA ARE CHARACTERISED BY WARM ORANGE CLAY TILES AND BRICK, BOARDING, SWEEPING ROOFS AND SUBSTANTIAL CHIMNEYS – ENCLOSING WALLS AND FENCES ARE INTEGRAL TO THE COMPOSITION.

TRADITIONAL WEALDEN FORMS AND MATERIALS HAVE BEEN EMPLOYED BY LATER ARCHITECTS TO PRODUCE HOUSES OF GREAT CHARM. THIS IS A GARDENERS COTTAGE AT MUNSTEAD WOOD BUILT IN 1901 BY LUTYENS.

A CONTEMPORARY DEVELOPERS HOUSE EMPLOYING TRADITIONAL FORM AND MATERIALS.

Figure 14: LOCAL DISTINCTIVENESS; FORM & DETAIL

Specific Guidance - Roofs and Chimneys

3.17. Generally roofs should be simple and symmetrical in form. The tradition is for roofs to sit low on buildings, ie: with little or no wall surface visible above upper windows. Gabled roofs account for about 70% of those in local Wealden settlements with the remainder hipped or half-hipped. Catslides are also part of the local vernacular. Single storey extensions (including garages) to taller buildings may be lean to. Flat roofs will not be permitted. The roofs of free standing garages and sheds or other outbuildings should be either hipped or gabled. Figure 14 illustrates roof form typical of the Weald.

3.18. Roofscape contributes much to the visual quality of any development. Roof pitches will vary according to the material of the roof covering, and a standardised pitch should be avoided. For plain tiled roofs, the most common type, pitches locally vary between 45 and 55 degrees. . In addition where appropriate the use of small scale dormers with hipped, gabled or curved lead roofs can add interest and character to the roofscape.

3.19. Materials for the roof covering shall be plain tiles (machine made clay or concrete, or in some cases hand made clay). Slate has become commonly used in Horley, as elsewhere, and may be appropriate as a contrasting material (natural or closely resembling artificial). Concrete tiles and artificial slates will not be permitted in the Neighbourhood core, on landmark buildings or within the settings of listed buildings. Due to their thermal, biodiversity and water management qualities the Council will welcome 'green roofs' in appropriate circumstances.

3.20. For hipped roofs in plain tile, bonnet tiles are preferable to form the hip. For hipped roofs in slate, lead rolls are the preferred method of constructing the hip; however, Staffordshire Blue ridge tiles may be an alternative. Eaves and barge detailing should follow the local tradition in all its varieties and should be used to enhance sense of place and legibility. Modern boxed eaves and knuckle ends are not characteristic.

3.21. All rainwater goods shall be finished black, on black fascias. Gutters generally shall be half-round or ogee in profile.

3.22. Each large house (4 bedrooms or more), landmark buildings and those close to historic buildings should normally have at least one chimney, ideally spanning the ridge. Where chimneys are functional, for best thermal efficiency fireplaces must be fitted with fires capable of burning wood smokelessly. This is also important in Horley because parts of the town suffer from poor air quality. By contrast, open fireplaces act as heat extractors, create draughts, and burn less efficiently and should be avoided. Chimneys on some smaller houses will also improve overall townscape quality, but in the interest of thermal efficiency these may well be non-functional, except perhaps as boiler flues or soil vent terminals.

In terraced buildings any chimney should be on the party wall The tops of the stacks should be detailed with over-sailing courses in accordance with local varieties and tradition. It should be noted that elaborate detailing should occur only on the more grand buildings and that smaller houses should have simple detailing. Chimney pots are available in a variety of patterns - honey pot, canon, plain, roll-top, octagonal etc. Mixing of various patterns will add greatly to the character and distinctiveness of the roofscape.

3.23. Boiler flue terminals should not be terminated, even if enclosed within a chimney, at a level lower than ridge height to avoid nuisance caused by fumes. Ideally, the height of a flue should not be lower than any house ridge within 10 metres. Soil pipe vents can of course be terminated at an Air Admittance valve within the building. In the case of boiler or cooker flues, these can be particularly important but difficult to install retrospectively for commercial premises used as restaurants. Flats above such premises compound the difficulties. It is suggested that commercial premises, such as those in the neighbourhood centres, should incorporate at the construction stage a chimney of suitable dimensions through which cooking fumes can be exhausted. This will provide built-in flexibility for the lifetime use of such premises.

Specific Guidance - Doors and Windows

3.24. All windows shall be of the sliding sash or casement pattern, generally finished in white, and set with a half brick reveal. For appearance and proven longevity, timber windows should be used, except when unacceptable to particular Registered Social Landlords. Glazing bars should follow the local vernacular types. Leaded lights will also be acceptable.

3.25. Window openings shall generally be vertical in proportion, and may be positioned either symmetrically or asymmetrically across building elevations, consistent with local tradition. Care should be taken to avoid fanlights which unbalance a double width casement on any elevation facing a public area.

3.26. External doors should be of vertical boarded, four or six panelled pattern designs typical of the area, constructed in timber and painted rather than stained or varnished.

Specific Guidance - Energy

3.27. New development at Horley must meet the minimum standard of energy efficiency required by Part L of the 2006 Building Regulations. In addition, in accordance with sustainability principles, voluntary compliance with the forthcoming Code for Sustainable Building would be welcomed in order to secure higher levels of efficiency.

3.28. On large sites it is a planning policy requirement that a minimum of 10% of predicted energy consumption is provided from renewable resources. Moreover, where the floor space in a development exceeds 5000 sq m, such as those in Horley, the Borough Council would expect the incorporation of 'Combined Heat and Power' generation, preferably as part of a district heating scheme, to be the norm. These systems can bring benefits for both house builder and house buyer, and could also be fuelled using renewable resources (eg: locally sourced biomass). For any buildings with freestanding conventional heating systems, condensing boilers, allied to good heating controls within the house such as thermostatic radiator valves or zone controls, are now mandatory. Under the Building Regulations (Part L1) new, tighter standards mean that larger dwellings and those using heating fuels other than mains gas are likely to need greater energy efficiency to meet the target carbon emissions rate (TCER). Using renewable energy technologies, low-energy design principles and high energy efficiency to reduce energy demand may be the best way to ensure these dwellings reach their target. So-called 'economy' electric storage heater systems are characterised by poor controllability and frequent reliance on supplementary electric fires at peak time rates and should be avoided. However, there may be a role for electric heating in very small units. Where storage heaters and a dual immersion are to be specified:-

- Fan-assisted storage heaters should be fitted with 'automatic charge' or 'CELECT' type controls. The system will then be accurately controlled and more responsive to the householder's needs;

- Dual immersions should be sized to provide adequate supplies of hot water; for a small household a144 litre cylinder is recommended, but larger households should have 210 litres or more. They should have at least 50mm of spray foam insulation, but 80mm is preferable.

3.29. Developers should also maximise active and passive solar gain where possible, through conservatories, solar water panels, and photovoltaics. These may be dependent on building orientation and design considerations would dictate that where possible roof-based panels are placed away from prominent elevations.

3.30. Fitted kitchen appliances should be low energy types, preferably 'AA' or 'A' rated on the energy scale. These, together with low energy lighting will play their part in saving electricity and money for the householder. Main bathrooms should be fitted with hot and cold plumbed showers as standard due their energy savings when compared with filling a bath or using an electric shower.

Specific Guidance - Boundary Walls and Fences

3.31. Where front gardens are to be enclosed, traditional materials and designs characteristic of the area should be used, such as dwarf walls, hedges or wrought iron or palisade fences.

3.32. The rear garden boundaries of any individual dwellings or other buildings within the development abutting any area accessible to the public (including courtyards) shall be screened by a close-boarded fence or brick boundary wall of sufficient height (eg:. 2 metres) to provide total privacy to the private garden of the building and to obscure all ground floor vertical glass (eg: windows, patio doors and all vertical glass of any present or future conservatory).

3.33. Boundary divisions between individual plots (ie: between adjoining rear gardens) should be constructed in timber.

Specific Guidance - Surface Water Drainage

3.34. Horley is on the flat Wealden clay vale, with the River Mole and its tributaries surrounding the town.

Figure 15: TREES

LANDMARK TREES AND OTHER NATURAL FEATURES CAN BE INCORPORATED INTO THE NEW BUILT ENVIRONMENT.

3.35. The edge of the town has a propensity to flood from lying water and as the river and streams overflow their banks. Contributory factors are the area's geology, which allows most rainfall to reach the river system relatively quickly, its topography and physical constraints to flow which causes water to back up.

3.36. Traditionally urban development with its high percentage of hard surfaces - roofs, paths, driveways and roads - normally entails a fully piped system which quickly and efficiently delivers all rainwater to the river system. In the case of

Horley such an approach would place additional loading on the river system, resulting in the likelihood of more frequent and serious flooding. This is clearly unacceptable. Equally unacceptable is any surface water draining to a foul sewer.

3.37. Although in recent times the worst effects of peak surface water flows have been addressed by the use of 'dry' storage ponds and underground tanks, additional techniques are now available and advocated by the Environmental Agency to further reduce the problems of rapid run off. These will form part of the SuDS approach required by the Flood Risk Development Brief (Annex 2).

3.38. Minimised mains water consumption, which is a sustainability aim in its own right, also dovetails with the need to reduce and properly control surface water run off.

3.39. Similarly, any urban development will normally increase the risk of pollution to a nearby river system. Water quality in the River Mole at Horley has improved steadily since the 1980s and the Borough Council and the Environment Agency are anxious to reduce setbacks to this improvement. As part of a sustainable development, and integral to layout and design, the use of certain drainage techniques such as swales, reed beds, and shallow ponds are beneficial in filtering, holding and to some extent treating pollutants. Developers should note that Horley's heavy clay soil will act against infiltration, and that the Civil Aviation Authority should be consulted on proposals which involve standing water due to concern over aircraft bird strikes.

Specific Guidance - Foul Water Drainage

3.40. Thames Water Utilities limited (TWUL) has stated that until a time when it is economically viable to relocate the Horley Sewage Treatment Works, foul drainage from the proposed North West sector development will flow to that works, while flows from the North East sector will drain to the Burstow Works. Developers will be required to demonstrate that there is adequate wastewater capacity both on and off site to serve new development and that it would not lead to problems for existing or new users.

Specific Guidance - Mains Water Consumption

3.41. Mains water usage must also be minimised within Horley developments, subject to full compliance with water regulations and taking account of health considerations. Developers shall:-

- install small cistern WCs (7.5 litres) with short flush facility;
- provide water-efficient kitchen appliances taking account of water labelling schemes, such as that proposed by Defra;
- provide low flow showerheads and spray taps;
- divert rainwater to butts for garden watering;
- incorporate other rainwater harvesting where feasible, possibly for WC flushing, washing machines and garden watering;

3.42 In pursuit of water efficiency, developers may also wish to consider recycling grey water from basins and baths for WC flushing and garden watering.

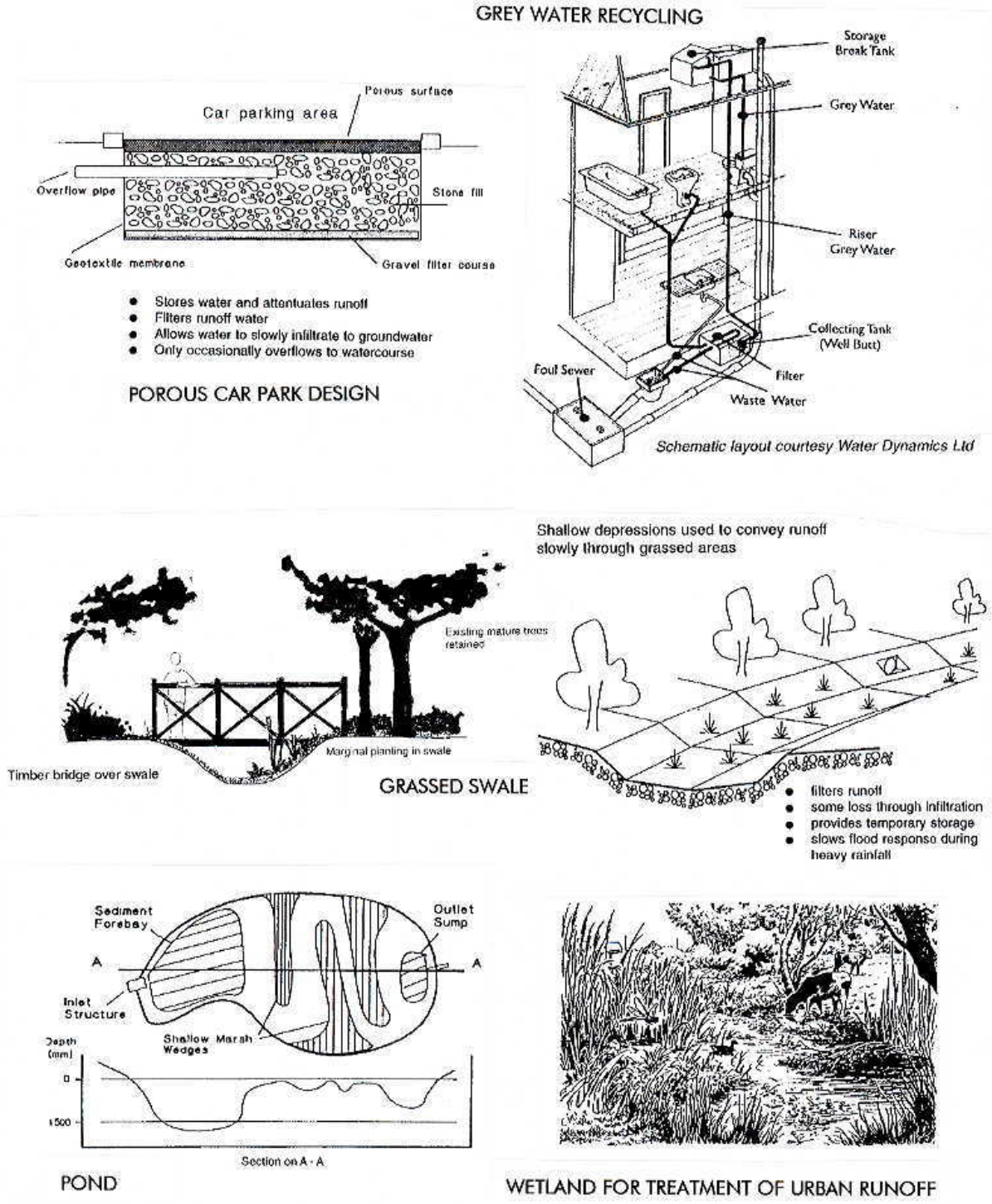


Figure 16: SUSTAINABLE URBAN DRAINAGE SYSTEM TECHNIQUES

Specific Guidance - Utilities, Aerials and Recycling

3.43 Meter boxes should be positioned where they are not highly visible from the street frontage, for example on a return wall or perhaps, in the case of terraced units, on a rear wall to a parking courtyard. Utility services should be run through grass verges wherever possible, resulting in less disruption to streets in future years caused by contractors' works. Developers should also liaise with cable laying companies to coordinate the availability of ducted cable television to all dwellings, and also with the Police and Borough Council on the installation of the CCTV system, in order to avoid subsequent disturbance.

3.44 Surrey Fire and Rescue strongly advise that all new dwellings be fitted with active fire suppression systems, for example sprinklers. As well as the safety advantages this can result in greater layout flexibility. Sprinkler systems can require additional mains connections to dwellings, and this should be considered when services are being planned.

3.45 Aerials and satellite receivers (up to a certain size) can be erected on houses under permitted development rights. It is important from an appearance point of view that these should be positioned away from elevations facing public areas, and to this end developers should pass on this guidance to house buyers within the Home Information Packs. For blocks of flats developers should ensure that communal receiver facilities should be positioned as discreetly as possible.

3.46 Refuse collection should take place from parking courtyards where feasible, with wheeled bins and recycling boxes stored by householders in private rear gardens and wheeled out on collection day. Bins have a capacity of 140 litres (240 for large households) and recycling boxes of 60 litres; these could be accommodated in a rear garden storage enclosure approximately 1.6m high x 1.2m wide x 0.75 deep. Where rear parking courtyards are not adopted as public highway or cannot accommodate refuse vehicles, space should be provided in the detailed layout for a collection point on the street frontage, perhaps simply by widening the footway or the entrance to the courtyard. A 'Bring' system of recycling also operates in the Borough, with the occasional provision of skips for larger items of household rubbish. To facilitate this in Horley, developers should provide compounds 8 x 10 metres in area serving groups of 50-100 dwellings. In the new neighbourhood developments, provision should be on the basis of one per 500 dwellings, in order to avoid an unnecessarily large number of compounds. Larger areas (100 sq.m) should be provided in the Neighbourhood Centres. The recycling compounds need to comply with the Council's specifications for fencing, framing and types of wheeled bins. These compounds, and those containing household waste bins, should be located where they are accessible for users but unlikely to cause disturbance to residents. Ideally the recycling areas should be located close to community areas such as local shops, village halls, etc. They should be located where they can be easily accessed by the Council's large

collection vehicles with the minimum of manoeuvring, ie: adjacent to the highway or areas that cannot be obstructed by parked cars.

Specific Guidance - Roads and Pedestrian/Cycle Routes

3.47 The purpose of this section is to set out the basic principles for the layout of the highway in order to achieve a pleasant safe environment for both residents and all highway users as well as achieving a more sustainable development. It is intended that this document will complement "Surrey Design" published by the County Council in 2002.

3.48 One of the main tenets of Surrey Design has been the emphasis on facilities for pedestrians, cyclists and public transport, reinforced by the principle of keeping speeds low within residential areas. This approach should apply to developments in Horley.

3.49 A sustainable development in terms of transport can be achieved through reducing the need to travel and by encouraging the use of alternative modes of transport to the private car. With regard to Horley this can be achieved through:

- availability of local services and facilities where viable;
- a high frequency quality bus service;
- a comprehensive network of foot and cycle paths serving the above as well as employment centres and other local destinations including the countryside;
- design of foot and cycle paths within the development area which takes account of the effects of climate change;
- traffic speeds controlled through road alignment and building layout;
- a permeable form of development probably loosely based on a grid pattern.

3.50 Everyday services, clustered in the village or neighbourhood centres, should be within easy walking/cycling distance of every dwelling. The road layout should be designed to discourage the use of the car for trips to these local services and positively encourage walking and cycling. In order to reduce the need for car travel outside the development areas these facilities should include local convenience store, general store with Post Office provision, chemist, public house, take-away food facility, community hall with meeting rooms available for visiting Health Services, eg: possibly a doctor, health visitor.

3.51 The purpose of the high quality bus (Fastway) is to provide a high frequency service between existing and proposed development areas and Horley Town Centre, Horley Station, Gatwick and Crawley. For the service to be effective careful consideration will need to be given to its route through the developments. Generally, the bus will take the most direct route through the development areas to the neighbourhood centres, consistent with providing accessibility to residents within a five minute walk time. For passengers

travelling into the new neighbourhoods Fastway will serve significant destinations within the proposed development areas, for example new schools. There will be no vertical traffic calming features along the route of Fastway through the proposed development areas.

3.52 Key stops will be provided with high quality passenger shelters offering maximum protection from the elements with bus service and other information, seating and lighting. They will be capable of taking real time information displays and be located in prominent locations well served by safe, direct pedestrian routes. In the neighbourhood centres there will in addition be computerised journey planning terminals.

3.53 An integrated system of cycle and footpaths should connect the development areas to adjacent destinations such as the town centre, secondary school, railway station, employment centres and the countryside. Cycle and pedestrian routes within the development areas should form a single homogeneous network with the vehicular routes and are to be designed to an appropriate standard to their use. They should represent the shortest and most convenient route to local services to encourage their use as an alternative to driving. This can be further assisted by ensuring they are both safe and provide a pleasant environment. Existing country lanes such as Lake Lane and parts of Meath Green Lane may play a useful role in this respect. The development should be planned to design out crime by ensuring that these routes are overlooked, being routed in front of houses wherever possible rather than to the rear flanked by high walls or fences. Dedicated pedestrian and cycle routes should also be well lit within the built area to further improve personal security and encourage their use. Consideration should be given to incorporating existing bridleways or lanes, suitably upgraded, into the cycle/pedestrian network. Guidance on cycle paths and other facilities may be found in Cycle Facility Design Guide published by Surrey County Council.

3.54 The road design will fall into a number of categories. In hierarchy sequence these are:- roads which connect the major new development areas to the existing highway network, known as Access roads in this document; local distributor roads, including roads forming part of the route for Fastway and residential roads of various types.

3.55 Access roads to the existing highway network and their junctions will be designed in accordance with the "Surrey Design". Generally they will be designed with a 40 mph design speed and have a 6.75 metre wide carriageway. However, speed should be reduced by layout design to 20 mph where the Access roads pass through the development areas. Appropriate foot and cycle ways should be incorporated into the design. Crossing points for pedestrians and cyclists will be provided within the development. Where access roads pass through the development areas they should not provide direct individual access to frontage development. Access should be provided either by shared private

drives serving up to 5 dwellings or by residential roads serving a greater number of dwellings.

3.56 Local Distributor roads from either the access roads or the existing road network will generally be 6.75 metres wide when designed for the Fastway bus route, with 2 metre footways both sides and verges where appropriate. Speed on these roads will be limited by design to 20mph, although the formal speed limit will be 30mph, and there should be no vertical traffic calming. They may have marked cycle lanes or segregated cycle ways where needed to enhance the integrated cycle network. Frontage development to these roads should be either via individual or shared access serving up to 5 dwellings.

3.57 Residential roads will be designed to provide a safe environment for all users where vehicle speeds should be no greater than 20mph, although the formal speed limit will be 30mph. Wherever possible this will generally be achieved through the horizontal alignment, managed by the arrangement of buildings and spaces. The carriageway width will depend upon its position within the road hierarchy, however, they will generally be no greater than 5.5 metres wide which would allow for some kerbside parking. A lesser width may be permitted where parking is unlikely to occur or is positively discouraged. 2 metre footways may be provided on both sides. Minor loop roads and short cul-de-sac may have a shared surface. Vehicular access to dwellings would be by either individual or shared accesses. There would not be the requirement to provide turning on site to ensure that vehicles can enter and leave in forward gear. Where a dwelling fronts a pedestrian/cycle route, vehicular access may be best provided to the rear of the property or in a parking court. In order to reduce driver frustration and ensure emergency service vehicles have good access the network should be designed to ensure that it is not necessary to drive more than 0.5 kilometre before joining a local distributor road. Cul-de-sac may compound this and must be avoided except where there is no alternative.

3.58 All roads, footways, footpaths and cycle paths which form part of a network will normally become Highways under Section 38 of the Highways Act 1980. There may be exceptions to this due to the nature of the required drainage features.

Specific Guidance - Street Lighting

3.59 Street lighting is a major element of a built environment and should be considered and resolved alongside the submission of a planning application, and not treated as a later issue as is the case with many developments. In Surrey, the County Council's document MaPS 21 provides technical guidance.

3.60 Lamp standards should be carefully sited in order to minimise street furniture clutter. In some locations lighting units could be bracket fittings attached to suitable buildings with wiring and control boxes built in as the construction proceeds. Selection of brackets, standards and luminaires should be

discussed with the Borough and County Councils to ensure technical and maintenance requirements are met.

Roads – Summary Specification

	Carriage-way width (m)	Footways (m)	Cycle provision	Parking provision on-road	Good surveillance	Target layout design speed
Access roads thru' countryside	7.3	1 x 2m 1 X 3m	Shared with 3m footway	N/A	N/A	40
Access roads thru' built area	7.3	2 x 2m	Separate	Parallel kerbside	Yes	20
Local distributor	6.75	2 x 2m	Separate or shared with 3m widened footway	Parallel kerbside	Yes	20
Residential roads with thru' vehicle access	4.8 to 5.5	1 or 2 x2m	On carriage-way	Parallel kerbside	Yes	20
Minor residential roads with through access for peds & cycles only	3.6 to 4.8	On carriage-way or on shared surface	On shared surface	Parallel kerbside	Yes	20
Rural lane	3.6 to 4.8	Shared	Shared	Parallel kerbside	Yes	20

Figure 17: PARKING COURTS

3.61 The selection of luminaires is critical to the performance of exterior lighting. Those luminaires which use white light sources or high pressure sodium will be preferred. Care must also be taken to minimise night sky pollution through light spillage.

Specific Guidance - Car Parking and Garaging

3.62 Despite the aim to create neighbourhoods well served by public transport and less dependent on the use of private cars it is inevitable that cars will be used for certain journeys.

3.63 Car parking should be provided in accordance with the Borough Council's current maximum residential standards. Secure cycle parking is an integral part of the parking standards, and should apply to both houses and flats. The full standards are set out in a separate document, but the residential standards are summarised here:

1 space per 1 bedroom unit;

1.5 spaces per 2 bedroom unit;

2 spaces per 3 bedroom unit or larger;

1 space per 1 or 2 bedroom elderly (self-contained) unit;

0.5 space per elderly (communal) sheltered unit.

Secure cycle parking for dwellings must be provided at a minimum of 1 space for unit.

3.64 "Places, Streets, and Movement" states that where and how cars are parked is critical to the quality of housing areas. It is important that the location of car parking is considered in great detail, whether within the curtilage of properties, within parking courts or on-street. .

3.65 Rear parking courts should be designed as private rather than public spaces, modest in size and well overlooked by adjacent dwellings for good surveillance. If they contain more than 10 spaces, a petrol interceptor will be required in the surface water drainage system. Where it is expected that parking will take place on the highway the carriageway must have a width appropriate to the role of the street with parking bays incorporated at the design stage. Figure 17 illustrates some good examples of parking courts.

Specific Guidance – Flexible and 'Lifetime' Homes.

3.66 The policies of the Local Plan provide for a limited amount of workspace allied to dwellings – live-work units. The type of use would be restricted to those acceptable in residential areas and would be no larger than half the floor area of the house (up to a maximum of 30 sqm). Office based activities could be accommodated in an attic, the top floor of a three storey house, an extension or an outbuilding.

3.67 Industrial activities (limited to those within Use Class B1) must be housed in a separate outbuilding within the curtilage, furthest from the dwelling. In this case the building should echo the design of the main house externally. It will be necessary to provide a high standard of noise insulation to avoid disruption to neighbours. It will also be necessary to position such units so that vehicular deliveries can take place without obstructing the pedestrian/cycle route role of rear courtyards. To minimise delivery problems it may be appropriate for dwellings with related workspace to be located close to a neighbourhood core where provision has already been made in the road layout for delivery vehicles. The guidance in these two paragraphs is provided primarily for new build situations; when proposals of this type come forward after the initial construction of a scheme, planning permission will normally be required.

3.68 As the population's age profile gets older, houses will better meet new needs if they are adaptable. Developers may wish to consider building a proportion of their units as "Lifetime Homes".

ANNEX 1 – RELEVANT STRUCTURE AND LOCAL PLAN POLICIES

SURREY STRUCTURE PLAN 2004

Policy SE4

Design and the Quality of Development

Development should contribute to improvements to the quality of urban and rural areas whilst retaining features that contribute to sense of place .The design, both of buildings themselves and of the way they integrate with their surroundings, must be of a high standard. Within this framework, new residential development should be built at a density which makes best use of limited land resources.

The layout of new development and the opportunities presented by redevelopment within built-up areas should give emphasis to the needs of pedestrians, cyclists and public transport users, thereby enhancing movement choice.

The local planning authorities will identify, promote and safeguard a framework of open spaces and green corridors for each settlement.

3.17 Development, particularly where higher densities are proposed, is often seen as a threat to the quality of life within existing developed areas but there is no reason why this should be so. The design and layout of new buildings and landscape features are ways in which new development can complement what already exists, strengthen the sense of place or form the basis of new character. Design excellence and a design led approach to development are national and regional objectives which must be applied locally and are a means of achieving greater efficiency in the use of urban land.

3.18 Design excellence will also be concerned with the objectives of sustainable construction which include:

- high energy efficiency and increased use of renewable supplies;
- high water efficiency with sustainable supply and water collection systems;
- healthy buildings – natural light & ventilation, non-toxic materials;
- maximising the use of local and regional materials and products;
- minimising waste.

3.19 The Spatial Strategy seeks to make the best use of urban and suitably located previously developed land. This puts a premium on the quality of development if higher densities are to be achieved and the objective of improving the quality of life is also to be satisfied. Higher densities also have other benefits, such as improving the viability and patronage of public transport services, increasing support to a range of local services and offering improvements in energy conservation and the potential for alternative means of energy generation, such as combined heat and power schemes (CHP).

3.20 PPG3 sets out minimum density standards for new residential development, avoiding densities below 30 dwellings per hectare and encouraging development at between 30 and 50 dwellings per hectare or higher in central locations. The local planning authorities should have regard to this guidance, and to the principles set out in this Plan and *Surrey Design* when setting local density guidelines. Where residential development is proposed on its own or as part of a mixed use scheme in an area with good public transport accessibility, such as within and around a town centre, higher densities of over 50 dwellings per hectare (net) should be sought. Significantly higher densities may be appropriate to deliver the objectives for the centres of strategic importance.

3.21 An imaginative approach to design and density should create attractive developments which enhance the character of an area. To ensure that higher density development makes a positive contribution to improving the quality of the living environment, proposals will need to be accompanied by:

- an infrastructure and needs statement which demonstrates that the proposed development addresses local social, economic and transport needs, particularly the need for affordable housing, and does not overload

local infrastructure or exacerbate existing deficiencies. Effective mitigation measures should be proposed to overcome, reduce or avoid any identified harm; and

- a design statement which demonstrates how the development responds to relevant design principles and identifies the positive benefits of higher density development to urban form, movement and the overall sense of place.

3.22 All development proposals, including small scale infill and redevelopment schemes, will be required to satisfy the fundamental design principles set out in the design guide *Surrey Design*, the maxim being that proposals must be good enough to approve, not bad enough to refuse. Small scale infilling and redevelopment schemes should not prejudice the established character and sense of place within existing primarily residential areas. Where green or open space is protected, this should be because it contributes to public amenity or nature conservation. Integration with existing development, particularly to facilitate and widen transport choices and connections, is a prerequisite of good design.

3.23 Surrey's towns and villages are rich in character. A traditional building, a famous landmark or view, or a natural asset like a stream or meadow, distinguish localities and stamp an identity on a settlement. Many features may already be protected through legislation but others are worthy of retention in their own right. Such local identity should be cherished and not submerged by anonymous new development. Where significant change is anticipated, consultation with local communities may be warranted to achieve new development which is sympathetic in form and layout to that which already exists.

3.24 Open land, such as parks, allotments and recreational areas, is important and appreciated by residents and visitors alike. Often a "corridor" that links open spaces can be just as important, whether it is a river or stream, or even a railway line or road. These can in themselves provide opportunities for informal recreation, have biodiversity significance, or form part of pedestrian or cycle routes. A greenspace strategy for settlements is required to ensure that future developments create the opportunity for new open spaces to be made or for improvements to the network and linkages between existing open spaces and playing fields to be achieved.

How the policy will be implemented

Surrey Design promotes a design led approach to new development to:

- promote good design through the development process;
- create attractive and accessible places that are easy to move through;
- ensure that all development contributes to local character and distinctiveness;
- conserve energy and water, maintain and enhance biodiversity and reduce waste and pollution;
- encourage vibrant and mixed communities where people feel safe;
- create places and buildings for people that are safe;
- make the best use of the available land;
- maximise the potential for the future conversion of buildings and occupation for alternative uses.

The local planning authorities will:

- adopt policies which require all new development to be of the highest design quality in accordance with the objectives and principles set out in *Surrey Design*;
- require design statements, as part of an application for development sites to explain the design philosophy and integration with surroundings;
- as part of a design statement, encourage an objective assessment of the sustainability of a development by using the SEEDA Sustainability Checklist, the Building Research Establishment's Environmental Assessment Methods (BREEAM) or equivalent.
- identify areas for urban renaissance and renewal;
- identify and justify areas of special character;
- identify local features contributing to sense of place;
- identify a greenspace framework including strategic open space and corridors;
- promote conservation area enhancement schemes;
- promote the use of village design statements, parish plans and conservation area appraisals;
- work with local communities to develop a shared vision of the type of built and physical environment they wish to see;
- set density standards for new residential development;
- prepare development briefs to guide the appearance, layout and density of major new residential development;
- require the submission of infrastructure and needs statements where there is a net increase in dwelling provision.

Indicators of policy performance

- Number of major developments subject to a design statement
- Number of design awards achieved for new development
- Adoption of greenspace strategies
- Area of and accessibility to greenspaces according to their function
- Number of developments achieving a BREEAM rating of 'excellent'
- Average density of new residential development
- Density of development in and around town centres relative to urban and rural areas

BOROUGH LOCAL PLAN 2005

Policy Hr 2A

Local Flooding and Transportation Models

14.29 **Introduction:** The Horley Master Plan has been based on a number of technical studies including on flooding and transportation. The Borough Council has employed independent consultants to audit the flooding and transportation studies prepared by the Environment Agency and County Council, respectively. The Consultants have concluded that the studies are basically sound for the Deposit Draft stage in the development of the proposals. However, it will be important that further detailed work is carried out to model both flooding and transportation in the areas local to the proposed developments. This work will need to be undertaken by the developers as an integral part of their Framework Plans. Developers should consult the Environment Agency with regard to flood modelling work.

14.29A **Purpose:** To ensure that there is detailed modelling of both flooding and transportation.

Policy Hr 2A
The Framework Plans must be based on suitable models of both flooding and transportation. A similar modelling requirement will apply to other allocated or unidentified housing sites for about 50 units or more.

Amplification

(1) The Environment Agency has provided a current best estimate of the likely 1 in 100 year flood event as a wide area model. The developers should prepare a suitable local flooding model, which will determine the extent of the 1 in 100 year flood plain based on the criteria set out in the Flood Risk Development Brief for Horley, prepared by the Environment Agency, Thames Water Utilities Limited and Reigate and Banstead Borough Council. The model should include a detailed assessment of flooding from main rivers, ordinary watercourses, sewers and surface water run-off. The brief also requires the assessment of the existing

sewerage systems and an action plan to ensure continued satisfactory performance of existing sewer networks that might be affected by development. The developers should also demonstrate that their new developments will not increase the risk of flooding at the site or elsewhere. The robustness of the model should be checked by sensitivity analysis.

(2) The developers should prepare a suitable transportation model, which will include an assessment of local traffic impacts at particular locations, assess delays and capacities within the network and measures how effective are any network improvements. The robustness of the model should be checked by sensitivity analysis.

Quality and Sustainable Development

14.30 **Introduction:** The Horley Master Plan has been based on a strong design philosophy and seeks to follow best practice on sustainable development. To this end the Borough Council has prepared the Horley Design Guide as Supplementary Planning Guidance to the Local Plan. The allocations and policies in the Plan can only take these principles so far and it will be important that developers and their architects take these principles forward into their Framework Plans and detailed design and layout of the new residential neighbourhoods and other sites**.**

14.31 **Purpose:** To ensure that the development is built of high quality and best sustainable development principles through compliance with the Horley Design Guide.

Policy Hr 2B
In order to secure high quality development only those proposals that have regard to the following criteria (or as otherwise agreed in the preparation of Framework Plans) will be permitted-:

(i) new development should reflect the visual qualities which characterise historic traditional settlements in the area;
(ii) 'standardised' layouts which incorporate a high proportion of cul-de-sac development heavily dependent on car usage are not used;
(iii) design elements and materials are used in a homogeneous way;
(iv) arbitrary changes within the street scene are avoided;
(v) a form of development is produced where the car is subservient to the pedestrian and where traffic speed is controlled by design rather than regulation;
(vi) good accessibility is secured to local facilities and to a new high quality bus service;
(vii) new development minimises its adverse impact on the environment; and
(viii) high standards of safety are achieved.

Development of the NW and NE Sectors will only be permitted following consideration of Framework Plans which demonstrate how their developments meet the Horley Design Guide and Local Plan requirements.

Amplification

(1) *The Horley Design Guide has been prepared as Supplementary Planning Guidance and has been published for public consultation before its adoption. It includes guidance on meeting the criteria in the Policy. It includes advice on form and layout, a building design code, sustainable surface water drainage, water and energy consumption, transport provision, and the historic and natural environments. It will apply to all development in the Horley Central, Horley East and Horley West Wards.*

(2) *The developers will be expected to prepare Framework Plans to accompany any planning application although it will be an advantage if these are agreed in advance. They should indicate the intended general road layout and pedestrian and cycle routes, the bus routes and any priority measures, traffic management measures, the broad layout of the neighbourhood centres, the nature, density and phasing of the housing; the treatment of the edges of the site where it abuts both existing development and the countryside; and the general location of the larger play spaces.*

(3) *Developers will be expected to do more than build housing estates but to become involved in developing healthy attractive local communities.*

(4) *The drive to promote quality in housing layouts is recognised in a number of national publications. The maintenance of biodiversity should be recognised as a measure of sustainability and its promotion should be encouraged in the development of new neighbourhoods.*

(5) *Development will only be permitted which follows best practice on sustainable development. This should be demonstrated by indicating how it minimises its impact on the environment, develops social cohesion and contributes to economic prosperity.*

(6) *Sustainable development is now recognised as being much more than minimising the impact of development on the environment, although that is important. It also includes the dimensions of social cohesion and economic prosperity. All three dimensions are interlinked, for example, attractive safe routes to the local primary school can encourage parents to walk with their children to school, thereby reducing the number of cars on the road with the attendant reduction in air pollution. Walking helps parents and children keep fit, and walking increases the opportunity for social interaction between neighbours. Such trips are likely to be combined with shopping in the neighbourhood centre increasing the economic viability of such local shops.*

ANNEX 2 – FLOOD RISK DEVELOPMENT BRIEF

PREFACE

"Where so much development is planned to abut the floodplain it is critical that there should be no doubts about the information about flooding"

- Reigate & Banstead Borough Local Plan Proposed First Alteration Inquiry Inspector's report, November 2001.

The Flood Risk Development Brief has been prepared to support Policy Hr 2A and applies to development proposals for the Horley area (see the map at Appendix A). Applicants and developers promoting proposals for this area would need to demonstrate compliance with the Brief's requirements as well as with Development Plan and all other relevant policies.

National guidance and Regional, County and Local policies that have been considered in the production of this Brief are listed at Appendix B. Borough Local Plan 2005 Policy Hr 2A on the need for flooding and transportation modelling is set out at Appendix D; this Policy requires local flood modelling for the Neighbourhood now Framework Plans and proposals for about 50 units or more. The figure of 50 units will be generally applied by the Council but because proposals for fewer housing units could still have an impact on drainage patterns, the flexibility for the Council to require flood modelling for these smaller schemes is needed and is therefore allowed for by this Brief. Policy Ut 4 is also relevant

The allocation of land to accommodate 2,600 dwellings, mainly on two large sites to the north east and north west of Horley, is included within the Reigate and Banstead Borough Local Plan 2005 and satisfies the 1994 Surrey Structure Plan requirement. The choice of these two sites has been the subject of considerable concern and debate.

The main concern was the fear that developments in these locations could be at risk of flooding and could cause or worsen flooding elsewhere as the land subject to the allocations, especially on the north eastern side of Horley, is very flat and has a history of flooding. The Council has taken due regard to the concerns raised and intends that no development should take place there until further research is carried out to demonstrate that flood risk areas are avoided and, in turn, that flooding safeguards are included as part of any development.

The outputs and deliverables from the studies resulting from the Brief will be used to add to our knowledge of flood risk in the Horley area.

The bodies that form a Steering Group to consider the flooding implications of development proposals, and their contacts, are shown at Appendix C.

CONTENTS

1. INTRODUCTION

1.1 Preparation of the Brief

This Flood Risk Development Brief (FRDB) has been prepared jointly by Reigate & Banstead Borough Council, the Environment Agency and Thames Water Utilities. They have formed a Steering Group, the main function of which is to assess flood risk of any development proposals on land in the Horley area (see map at Appendix A).

1.2 Status of The Brief

This FRDB and the Steering Group's role apply to any development proposal requiring a Flood Risk Assessment (FRA) as required by Policy Hr 2A in the First Alteration to the Borough Local Plan 1994 (see Appendix D). The Environment Agency and Reigate and Banstead Borough Council (RBBC) should be consulted to determine if a development proposal requires a FRA The requirements of this FRDB, which supplements the advice in PPG 25, must be submitted with or before a Planning Application before any relevant development will be considered.

1.3 Aims and Objectives of the Brief

The purpose of the FRDB is to ensure a holistic approach to flood risk management in the Horley area at the local level. The aim of the Brief is to provide the basis for which a FRA for any development should be undertaken in order to ensure that flood risk is avoided. In order to achieve the above aims, a FRA should be undertaken to:-

- Demonstrate that new developments will not increase flood risk on site and elsewhere including during all phases of their development;
- Provide a detailed assessment of potential flood risk from all sources such as fluvial, groundwater, sewers and surface run-off and a strategy to manage all such risks;
- Assess the potential impact of climate change, urbanisation and their inherent uncertainty;
- Update data upon and add to the understanding of flood risk in the Horley area;
- Take a strategic and integrated Best Practical Environmental Option (BPEO) to deal with drainage.

1.4 Available Data Sources

The following data sources should be used in the preparation of the FRA:-

Environment Agency:

i. Horley Flood Study (HFS), January 2004;

ii. Channel cross-section surveys and photogrammetry used in the HFS;

iii. Information on historical flooding;

iv. Drainage consents issued upstream;

v. River Mole Flood Defence Strategy 2004;

vi. Gatwick Stream Study 2004;

Thames Water

vii. Records of the foul sewerage and surface water systems;

viii. Strategic Study of Crawley/Horley/Burstow;

Reigate & Banstead Borough Council

ix. Local Drainage and Flooding Information;

Other

x. UKCIP Report – Climate Change Scenario for the United Kingdom, April 2002;

xi. UKCIP Technical Report May 2003 – Climate adaptation: Risk, uncertainty and decision-making or the most up-to-date government guidance on climate change and updated UKCIP report;

xii. Ordnance Survey maps of the area (various scales);

xiii. CIRIA SuDS Best Practice Manual 2001 C523;

xiv. CIRIA SuDS Design Manual for England and Wales 2000 C522; and

xv. CIRIA SuDS Hydraulic, structural and water quality advice C609

2. KEY ASSUMPTIONS

Developments in the Horley area must be based on two key assumptions with regard to flood risk. The first is to follow a 'Precautionary Approach' and the second is to ensure 'No Detriment' to the level of flood risk to existing land and property. The implications of these two key assumptions are summarised below.

2.1 The Precautionary Approach - Uncertainty & Climate Change

The precautionary approach adopted is to assume that climate change will occur and that as a consequence it is reasonable to consider the 1 in 100 year plus 20% scenario when planning the development.

i. No non-essential developments, including residential properties, will be allowed within the 1 in 100 year flood plain as specified by the HFS;

ii. Developments will be planned with consideration also to more extreme events and the potential flow paths in areas outside the 1 in 100 year flood plain from all sources of flooding;

iii. A minimum freeboard of 300mm should be included on all new development as a tolerance to reflect the modelling process and wave action. An additional freeboard allowance above the 1 in 100 + 20% flood plain level, to be determined in consultation with the Steering Group, should also be included to allow protection for any areas more prone to changes in flood levels as a result of climate change or blockage of bridges or culverts. This should inform the subsequent determination of the floor levels of new developments, including outside the 1 in 100 year flood plain level. The design solution for such areas should reflect the detailed levels and the retention of natural features in those areas and could include, for example, no habitable rooms on ground floors.

2.2 No Detriment - Drainage & Surface Water Runoff

i. The surface water outfall discharge from a new development site should not exceed the lowest of the natural surface water run-off or the existing site surface water run-off. Surface water run-off from developments will have to be infiltrated and/or attenuated in storage facilities, which should be located outside the 1 in 100 year flood plain;

ii. No loss of flood plain storage will be allowed within the 1 in 100 year or the 1 in 100 year + 20% flood plains. Any changes to the flood plain must be kept to the minimum. Any loss of flood storage capacity must be compensated for on a level for level basis and any obstruction to flow prevented;

iii. The two new Development Areas (NW & NE) must not discharge their surface water into existing sewers;

iv. Foul sewerage and surface water run-off must be drained by separate systems;

v. All main sewers must be built to an adoptable standard in accordance with the current version of Sewers for Adoption, WRC, with a design return period (for surcharge not to exceed ground level) of not less than 1 in 30 years. Surcharging sewers, during events greater than the design return period, shall not cause flooding to houses or other buildings up to the 1 in 100 year (critical duration) storm event;

vi. The drainage system of each new development must have the necessary spare capacity to serve future upstream development where it is known that it will have to connect to the same system;

vii. The drainage system must allow for minor incremental development such as house extensions, garages and driveways etc, as well as for the new developments added later to an existing system without increasing peak flow downstream. An additional 5% reduction in peak flows should be provided where practicable.

3. REQUIREMENTS OF A FLOOD RISK ASSESSMENT IN HORLEY

3.1 . Components of the Flood Risk Assessment (FRA)

Applicants or developers seeking permission for any proposal in the Horley area must provide a detailed FRA as set out in this FRDB if requested to do so by the Steering Group. The requirements of a FRA will be in 3 stages. The Steering Group will assess the findings and deliverables after each stage before the next stage can be commenced. The 3 stages, required as part of any Planning Application for the area in question are:

Stage 1: Background

Stage 2: Proposals

Stage 3: Managing Risk

The objectives and requirements of each stage are set out in more detail below. (Bracketed item numbers correspond to those in PPG25 Appendix F3).

3.2. Stage 1: Background

3.2.1 Objectives

i. To set out the basic site information;

ii. To establish and take into account the implications of existing topography and levels on flood risk;

iii. To use the detailed topographic information (item ii above) to determine the flood extent defined by the flood levels predicted by the HFS;

iv. To assess the site's existing drainage function and characteristics;

v. To identify and assess the flood risk from all potential sources of flooding.

3.2.2 Requirements

In accordance with PPG 25 Appendix F, Clause F3:

i. A location plan at an appropriate scale that includes geographical features, street names and identifies all watercourses or other bodies of water in the vicinity. This should include drainage outfalls and, if necessary, cross-refer to their operational arrangements in the body of the report. (Item 1)

ii. A plan of the site showing the current levels related to a GPS derived Ordnance Datum (Item 2);

iii. A more detailed indication, if appropriate, of flood alleviation measures already in place, their state of maintenance and their performance (Item 3);

iv. An assessment of the source of potential flooding including rivers, groundwater, surface flow or any combination of these (Item 4);

v. A plan of the site showing any existing information on the extent and depth of flood events or on flood predictions. Information may be anecdotal, photographic, survey results or model estimates. The events should be identified with date/time, source of the data and supporting information provided on rainfall and/or return period, or probability of occurrence of the flood or storm surge event, or a combination. Recorded data is particularly valuable and, if available, should be highlighted along with evidence of any observed trends in flood occurrence. Any changes that have taken place since the last event should be identified (Item 5);

vi. A plan and description of any structures that may influence local hydraulics. This will include bridges, pipes/ducts crossing the watercourse, culverts, screens, embankments or walls, overgrown or collapsing channels and their likelihood to choke with debris (Item 6);

vii. An assessment of the probabilities and any observed trends and the extent and depth of floods for the location and in the catchment context and, if appropriate, routes and speed of water flow. At this stage best estimates, based on the most up-to-date findings, should also be made of climate change impacts on probabilities. The assessment should ensure that all proposals are acceptable for the design life of the development (Item 7);

viii. An assessment of the hydraulics of any drains or sewers, existing or proposed, on or near the site during flood events. The methodology for assessment must be clearly stated (Item 10).

Other Requirements:

i. An analysis of existing groundwater conditions and soil type;

ii. A report on the condition of all existing on- and off-site sewers and drains potentially affected by or affecting the development. For example, using CCTV to check for rough sediment in existing sewers;

iii. A report that identifies and assesses the existing and potential future sources of flood risk related to:-

- rivers, ditches & watercourses;

- sewers;
- groundwater;
- surface flow; and;
- any combination of the above.

3.3 Stage 2: Proposals

3.3.1 Objectives

- To demonstrate that new developments will not increase flood risk on site and elsewhere including during all phases of their development;
- To ensure that if flooding does occur in development areas, that it is designed for and managed so that any damage is minimal. Consideration must also be given to secondary flood paths.

3.3.2 Requirements

In accordance with PPG 25 Appendix F, Clause F3:

i. A plan of the site showing levels related to Ordnance Datum for the planned development (Item 2);

ii. A plan and cross-sections of the site showing finished floor levels, road levels or other relevant levels relative to the source of flooding and to anticipated water levels and associated flood risk probabilities following development (Item 8);

iii. An assessment of the likely rate or speed with which flooding might occur, the order in which various parts of the location or site might flood, the likely duration of flood events and the economic, social and environmental consequences/impacts of flooding (Item 9);

iv. An assessment of the hydraulics of any proposed drains or sewers on or near the site during flood events. The methodology for assessment must be clearly stated (Item 10);

v. An estimate of the volume of water that would be displaced from the site for various flood levels following development of the site and of the run-off likely to be generated from the proposed development (Item 11);

vi. An assessment of the likely impact of any displaced water on neighbouring or other locations that might be affected subsequent to development. This should address the potential for change of the flooding regime both upstream and downstream of the site due to ground raising or structures (Item 12);

vii. An assessment of the potential impact of the development on fluvial morphology and the likely longer-term stability and sustainability (Item 13);

viii. A strategic and integrated approach using the BPEO to deal with surface water run-off and drainage.

3.3.3 Other Requirements:

A single report - or reports - setting out:

ix. How surface water flow will be infiltrated and attenuated before discharge from site to ensure that storage/infiltration facilities do not cause flooding of the site or elsewhere during the 1 in 100 year critical duration storm event;

x. How any flood risk implications resulting from any future use or development in the 1 in 100 year flood plain are to be allowed for and managed; for example, new footpaths and roads;

xi. How surface run-off from the site will be managed so as to prevent flooding during the construction phase;

xii. An action plan to ensure continued satisfactory performance of existing sewer networks that might be affected by a proposed development;

xiii. A hydraulic modelling report with detailed flood maps indicating the extent and depth of flooding. All river hydraulic modelling should be based on the latest approved model as compiled through the Horley Flood Study. This can be obtained from the Environment Agency (a charge may be raised for this data) and should be enhanced with additional channel cross-sections at approximately 20m intervals for a length appropriate to the development. Sufficient justification must be provided where additional cross-sections intervals are greater than 20m;

xiv. Details of how the strategic and integrated sustainable drainage systems to be employed will be used to create amenity areas and new wildlife habitats.

3.4 Stage 3: Managing Risk

3.4.1 Objectives

- To allow and plan for the inherent uncertainties regarding drainage management and performance, climate change and modelling;
- To allow and plan for the impacts on flood risk during construction;
- To allow and plan for an increase in discharge of water from activities upstream of the site;
- To allow and plan for additional surface water runoff from future minor incremental development;

- To outline the confidence limits of the local flood model.

3.4.2 Requirements

In accordance with PPG 25 Appendix F, Clause F3:

i. An assessment of the residual risks after the construction of any necessary defences. Where new or modified flood defence arrangements are provided, consideration should be given to their behaviour in extreme events greater than those for which they are designed and information should be provided on the consideration given to minimising risks to life in such circumstances (Item 15).

Other Requirements:

ii. An assessment of the impact of uncertainties in flood estimation and expected climate change on flood defences in order to determine the required freeboard allowance.

iii. A report assessing and addressing the likely impact of any future increase in discharge from upstream future developments, including changes in the riverine environment.

iv. A 'desk-top' study of the potential change in the flooding regime both upstream and downstream of the site due to ground raising, landscaping, structures and changes to flood embankments. The study should also consider the impact on the flood regime as a result of the following developments:

  i. Gatwick Airport, including any new drainage consents;
  ii. Crawley urban extensions;
  iii. Other significant Urbanisation and;
  iv. Rural or agricultural developments.

v. A proposed process to monitor the effects of a development and identify and remedy any adverse changes in the flow regime that might occur during construction or upon adoption of any drainage system.

vi. A report outlining the limits, reliability, operating range and restrictions applicable to the flood model.

vii. A report outlining the proposed Sustainable Urban Drainage System (SUDS) management regime.

viii. A report and action plan detailing how the following are taken into account:-

  i. the consequential impacts of climate change;
  ii. the uncertainties in flood estimation;
  iii. blockage of bridges/structures;

iv. uncertainties associated with the hydraulic and hydrological modelling undertaken for the Horley Flood Study and in connection with the specific development.

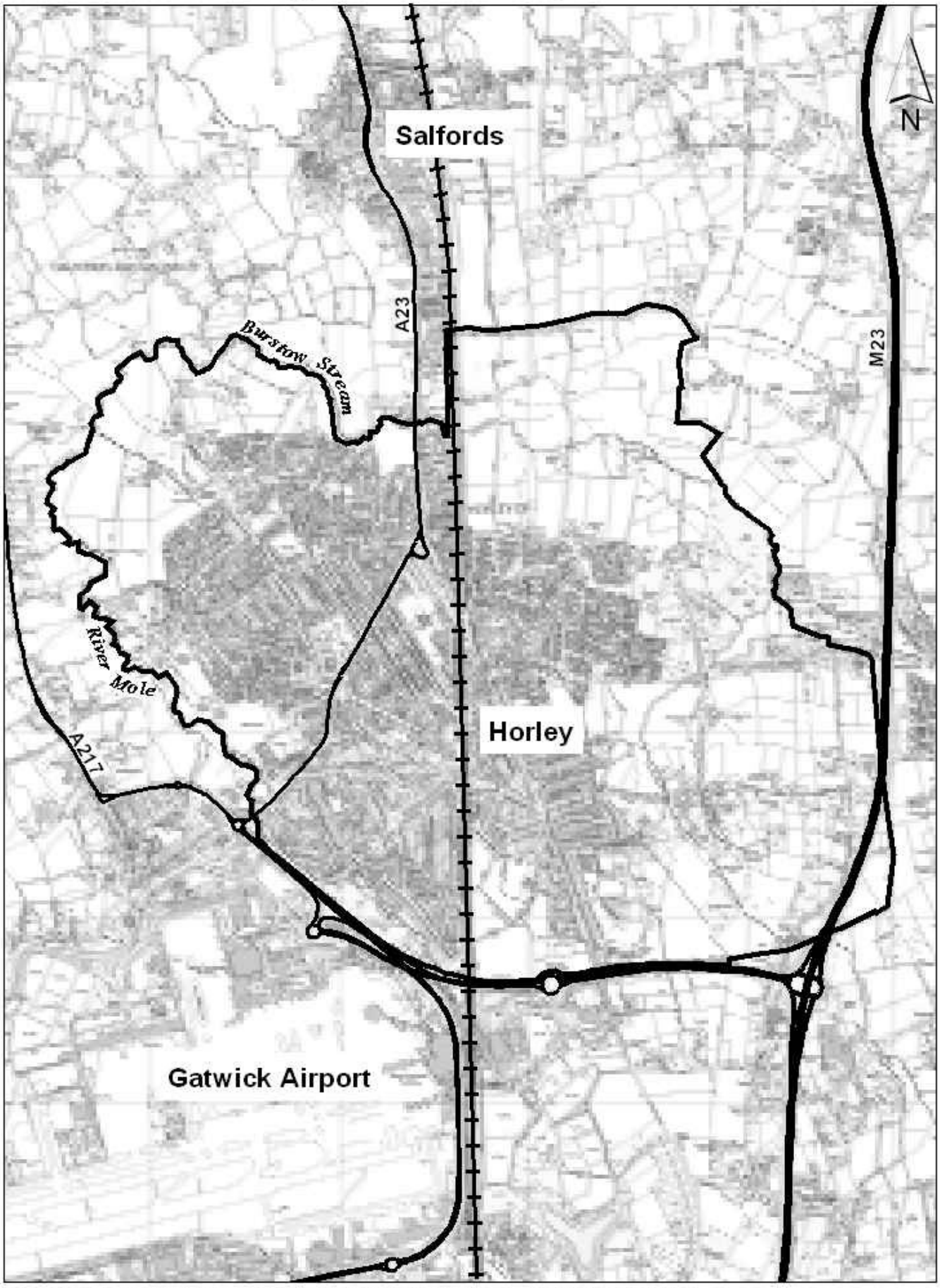
ix. A report detailing the mitigation measures employed to address the impact of flood events in excess of the 1 in 100 year flood event. The report should include:

a. a review and update of current information and guidance;
b. the management of residual flood risk;
c. flood routing to deal with residual flood risk and how drainage systems are to be built so that they can be incrementally adapted to accommodate uncertain flood magnitudes.

3.5 Updating EA Flood Maps

The outputs and deliverables from the studies resulting from the requirements of this Brief will be used to add to our knowledge of flood risk in the Horley area. The EA has prepared guidance to developers when using river modelling as part of a FRA, to ensure a suitable standard for inclusion into any mapping they publish. Please contact the Agency for further information.

Appendix A - The Horley Area



APPENDIX B

NATIONAL, REGIONAL, COUNTY AND LOCAL POLICIES

NATIONAL POLICY

PLANNING POLICY GUIDANCE PPG 25 Development and Flood Risk, 2001

Draft PLANNING POLICY STATEMENT PPS 25, 2005

REGIONAL POLICY

RPG9: REGIONAL PLANNING GUIDANCE FOR THE SOUTH EAST, 2001
Policy INF1 Flooding
Policy INF2 The Water Cycle

Draft SOUTH EAST PLAN JULY 2005

COUNTY STRUCTURE PLAN POLICIES

SURREY STRUCTURE PLAN 2004
Policy SE 3 Flooding and Land Drainage
Policy SE 10 River Corridors and Waterways

LOCAL PLAN POLICIES

REIGATE & BANSTEAD BOROUGH LOCAL PLAN 2005
Policy Ut 4 Flooding

Policy Hr 2A Local Flooding and Transportation Modelling
Policy Hr 38 Riverside Green Chain

FLOOD STUDIES

Horley Flood Study, January 2004
River Mole Flood Defence Strategy
Gatwick Stream Study

APPENDIX C

STEERING GROUP CONTACTS

ENVIRONMENT AGENCY
Thames Region
Swift House
Frimley Business Park
Frimley
Camberley
Surrey
GU16 7SQ Contact: Justine Glynn, Tele: 01276 454328

THAMES WATER
Engineering Division
Gainsborough House
Manor Farm Road
Reading
Berkshire
RG1 8DQ Contact: Justin Camis, Tele: 0208 7713 3630

REIGATE & BANSTEAD BOROUGH COUNCIL
Engineering Services
Earlswood Depot
Horley Road
REDHILL
Surrey
RH1 6PN Contact: Peter Russell, Tele: 01737 276606

REIGATE & BANSTEAD BOROUGH COUNCIL
Building and Development Services
Town Hall
Castlefield Road
REIGATE
Surrey
RH2 0SH Contact: Holly Pitcher, Tele: 01737 276010

APPENDIX D

POLICY Hr 2A of the Reigate & Banstead Borough Local Plan 1994 Proposed First Alteration 2000 Proposed Modifications 2004

Local Flooding and Transportation Models

14.29 **Introduction:**

The Horley Master Plan has been based on a number of technical studies including on flooding and transportation. The Borough Council has employed independent consultants to audit the flooding and transportation studies prepared by the Environment Agency and County Council, respectively. The Consultants have concluded that the studies are basically sound for the Deposit Draft stage in the development of the proposals. However, it will be important that further detailed work is carried out to model both flooding and transportation in the areas local to the proposed developments. This work will need to be undertaken by the developers as an integral part of their Framework Plans. Developers should consult the Environment Agency with regard to flood modelling work.

14.29A **Purpose:**

To ensure that there is detailed modelling of both flooding and transportation.

Policy Hr 2A

The Framework Plans must be based on suitable models of both flooding and transportation. A similar modelling requirement will apply to other allocated or unidentified housing sites for about 50 units or more.

Amplification

(1) The Environment Agency has provided a current best estimate of the likely 1 in 100 year flood event as a wide area model. The developers should prepare a suitable local flooding model, which will determine the extent of the 1 in 100 year flood plain based on the criteria set out in the Flood Risk Development Brief for Horley, prepared by the Environment Agency, Thames Water Utilities Limited and Reigate and Banstead Borough Council. The model should include a detailed assessment of flooding from main rivers, ordinary watercourses, sewers and surface water run-off. The Brief also requires the assessment of the existing sewerage systems and an action plan to ensure continued satisfactory performance of existing sewer networks

that might be affected by developments. The developers should also demonstrate that their new developments will not increase the risk of flooding at the site or elsewhere. The robustness of the model should be checked by sensitivity analysis.

(2) *The developers should prepare a suitable transportation model, which will include an assessment of local traffic impacts at particular locations, assess delays and capacities within the network and measures how effective are any network improvements. The robustness of the model should be checked by sensitivity analysis.*

ANNEX 3 – RECOMMENDED SPECIES GUIDE

The following list of species is recommended as a general guide to trees, hedges, shrubs and pond plants that complement the ecology and landscape character of the Horley area. It has been developed as an initial approach to encourage good practice and promote the awareness of local distinctiveness in new planting. The Environment Agency and other environmental organisations may also advise on appropriate species, especially in relation to ponds, rivers, wetlands and 'sustainable urban drainage' features. In particular the suite of pond plants may be amended depending on local conditions. As a general principle the Borough Council would, where possible, encourage the use of plants with native provenance.

Trees

Alder	*Alnus glutinosa*
Ash	*Fraxinus excelsior*
Field Maple	*Acer campestre*
Hornbeam	*Carpinus betulus*
Pendunculate Oak	*Quercus robur*
Silver Birch	*Betula pendula*
Wild Cherry	*Prunus avium*
Downy Birch	*Betula pubescens*
Rowan	*Sorbus aucuparia*
Sessile Oak	*Quercus petraea*

Shrubs

Blackthorn	*Prunus spinosa*
Dog Rose	*Rosa canina*
Field Rose	*Rosa arvensis*
Buckthorn	*Rhamnus cathartica*
Dogwood	*Cornus sanguinea*
Guelder-rose	*Viburnum opulus*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Spindle	*Euonymus europaeus*
Wayfaring-tree	*Viburnum latana*
Wild Privet	*Ligustrum vulgare*
Bell Heather	*Erica cinerea*
Alder Buckthorn	*Frangula alnus*
Crab Apple	*Malus sylvestris*
Goat Willow	*Salix caprea*

Hedges

Mixed native species, e.g.:

Blackthorn	*Prunus spinosa*
Guelder-rose	*Viburnum opulus*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Spindle	*Euonymus europaeus*
Field Maple	*Acer campestre*
Yew	*Taxus baccata*

Pond plants

Marginal/ emergent species, e.g.:

Water plantain	*Alisma plantago-aquatica*	Rushes, Reeds & Grasses, e.g.:	
Fool's-water-cress	*Apium nodiflorum*	Greater Pond-sedge	*Carex riparia*
Marsh-marigold	*Caltha palustris*	Lesser Pond-sedge	*Carex acutiformis*
Purple-loosestrife	*Lythrum salicaria*	Soft Rush	*Juncus efusus*
Water-cress	*Rorippa nasturtium-aquatica*	Reed Canary Grass	*Phalaris arundinacea*
Water Mint	*Mentha aquatica*		
Water Forget-me-not	*Myosotis scorpioides*	Submerged/ oxygenating plants, e.g.:	
Yellow Flag-iris	*Iris pseudacorus*	Rigid Hornwort	*Ceratophyllum deresum*
		Common Water-starwort app.	*Callitriche stagnalis app.*
Floating leaved plants, e.g.:		Water Crowfoot	*Ranunculus aquatalis*
Water Lilly	*Nymphaea alba*	Water Violet	*Hottonia palustris*
Yellow Water Lilly	*Nuphar lutea*		
Common Arrowhead	*Sagittaria sagittifolia*		

Species to avoid

Pond plants:		Trees/ shrubs:	
Swamp Stonecrop	*Crassula helmsii*	Sycamore	*Acer pseudoplatanus*
Nuttal's pondweed	*Elodea nuttallii*	Rhododendron	*Rhododendron ponticum*
Curly pondweed	*Largariosiphon major*	Himalayan balsam	*Impatiens glandulifera*
Parrot's Feather	*Myriophyllum aquaticum*		*Royle/ Impatiens*
Alien Marsh Pennywort	*Hydrocotyle ranunculoides*		*royei Walp*
		Japanese knotweed	*Fallopia japonica/ Reynoutria japonica*

References & Acknowledgements

Internet: Native Flora in the RH6 Postal District (Horley) - derived from the Atlas of the British Flora 3rd edition (published by the Botanical Society of the British Isles, 1982).
Julia Wycherley (1993) The Outdoor Classroom - Pond Guidelines. Appendix B. Published by Surrey County Council.
Western Billingshurst Housing Development Master Plan and Design Brief - Annex 1 - Select List of Plants.
British Standard 5837:1991 - Guide for Trees in Relation to Construction.

ANNEX 4 – SUMMARY OF BUILDING MATERIALS FOR LOCAL DISTINCTIVENESS IN HORLEY

The following illustrates the types of materials which would contribute to the creation of high quality development in Horley.

LANDMARK LOCATIONS IN HORLEY GENERALLY, NEIGHBOURHOOD CENTRES AND THE SETTINGS OF LISTED BUILDINGS.

External Walls

Bricks should be handmade and of the following types: Dark Red Bricks with variety of colour from the firing (ATR All Through the Range) match the traditional brick in the locality. Glazed contrasting headers are a common feature. Red stocks or rubbers are found on the more refined buildings. Multi Stock brick, a Victorian innovation, is distinctive of the area.

Handmade tiles for tile hanging, sometimes including some courses of decorative tiles.

Weatherboard cladding; either planed & white painted for houses, or featheredged & black for garages and outbuildings.

Roofs

Handmade clay plain tiles, including decorative tiles; a range of oranges & red/browns are characteristic, with those darker than the external walls preferred.

Natural Slate in blue, black, grey, or heather blue. Wales and Spain are the most common sources.

OTHER AREAS

External Walls

The high quality handmade bricks above.

In addition, simulated handmade and other sandfaced bricks with a varied texture. Colour range should reflect the above.

Rendered finishes – but used in moderation and wood floated or roughcast. Through colour renders desirable.

Plain tiles for tile hanging. Colour range should reflect the above.

Roofs

The high quality handmade plain tiles and natural slate above.

Simulated handmade and sandfaced machine made plain clay or concrete tiles; colours as above.

Natural slates such as Spanish are on a price level with artificial slate and therefore are an option.

ALL AREAS

Fenestration & Doors

Painted Timber Windows and Panelled or Vertically Boarded Doors
(Casements to have equal proportions)

Chimney Pots

A number of companies produce clay chimney pots.

Ridge Tiles

Third round handmade clay.

Staffordshire Blue Clay Ridges for slate roofs (alternatively handmade clay & lead)

Machine Made Clay Decorative Ridge Tiles (use in moderation)

Brick Arches

Many brick manufacturers produce gauged brick arches for windows.

ACKNOWLEDGEMENTS

FIGURE 1 :	**Essex Design Guide - Essex County Council**
FIGURE 2 :	**The Future of Surrey's Landscape and Woodlands (Surrey County Council**
FIGURE 5 & 7:	**Omega Partnership Limited**
FIGURE 6, 14 & 15:	**Crest Homes/Omega Partnership Limited**
FIGURE 8 & 10:	**Laing Homes/Omega Partnership Limited**
FIGURE 16 :	**A Guide to Sustainable Urban Drainage (Scottish Environment Protection Agency)**

Robert Cottrill
Head of Policy & Community Initiatives
Reigate & Banstead Borough Council
Town Hall
Reigate
Surrey RH2 0SH

For further information on the Local Development Framework please visit the Council's website www.reigate-banstead.gov.uk under Business and Planning > Planning > Planning policies > Local Development Framework

or telephone the Council's Help Line on 01737 276000