

Affordable housing

Affordable housing includes social rented and intermediate housing, provided to specified eligible households whose needs are not met by the market. Affordable housing should:

- Meet the needs of eligible households including availability at a cost low enough for them to afford, determined with regard to local incomes and local house prices.
- Include provision for the home to remain at an affordable price for future eligible households or, if these restrictions are lifted, for the subsidy to be recycled for alternative affordable housing provision.

Area Investment Framework (AIF)

The North Kent Area Investment Framework is a document that has been developed by a broad-based network of organisations and individuals working and living in North Kent (see Thames Gateway Kent Partnership). It is intended to be used as a tool by local and other partners to highlight the key priorities for investment by Government in projects and infrastructure to improve the quality of life for all communities in North Kent.

Areas of Outstanding Natural Beauty (AONB)

Nationally designated landscapes under the Countryside and Rights of Way Act 2000 as identified by the Countryside Agency and confirmed by the Secretary of State.

Aural

Those aspects the environment appreciated through the sense of hearing.

Biodiversity

The variety of life on Earth. The term refers to all species of plants and animals, their genetic variation and the complex ecosystems of which they are part.

Biodiversity Action Plan (BAP)

Three types of BAPs have been developed in the UK to set priorities for nationally important and locally important habitats and wildlife - Species Action Plans, Habitat Action Plans and Local Biodiversity Action Plans.

Brownfield land

See Previously Developed Land.

Built-Up Area Boundary

A policy line, defined on the Proposals Map, which seeks to identify the break between a built-up area, i.e. an area with an identifiable core of development, and the countryside.

Combined heat and power (CHP)

Technology for energy recovery systems that provides both electricity and heat and can be linked to community heating schemes or to individual premises.

Committed Development

A development proposal that is allocated in an adopted development plan or for which planning permission has been granted.

Community Plan

Under the Local Government Act 2000 a plan, developed by a local authority in partnership with other public, private and community sector organisations, must be prepared so as to promote economic, social and environmental well-being of the area, and to contribute to the achievement of sustainable development.

A APPENDIX A: GLOSSARY**Community services and facilities**

Includes schools and other education provision, social services, adult education, libraries, youth and community services, police and emergency services, health, culture, places of worship, recreation and amenity space, sport, local shopping, public utilities, and transport.

Compulsory Purchase Order (CPO)

Provisions available to a number of public bodies, including local authorities, English Nature and the South East England Development Agency to enable them to purchase private land in the public interest. Powers are currently available using a variety of statutes, but are being reformed by Government.

Conservation Area

An area designated under the Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990 on account of its special architectural or historic interest with the intention to preserve and enhance its character and appearance.

Development

The carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land.

Development Brief

Prepared for an individual site and forms a stepping-stone between the provisions of the development plan and the requirements of a planning application. The process of preparing and implementing a development brief provides a framework for collecting information about a site, and investigating and evaluating different interests in it. It would normally be agreed by the Council as a Supplementary Planning Document.

Development Framework

Document prepared for a large area, perhaps involving many disparate interests, where common principles should be set out to aid the co-ordination of joint working and the eventual preparation of individual site development briefs. May also include a Master Plan (see below). It would normally be agreed by the Council as a Supplementary Planning Document.

Eco-home

EcoHomes balance environmental performance with the need for a high quality of life and a safe and healthy internal environment. The location, siting, and design of such premises consider such issues as energy; water; pollution; materials; transport; ecology, land use; health and well-being.

Edge of centre

A location within easy walking distance of a town centre.

First Secretary of State

Government appointed Minister for a given department. In cases where a decision to be taken may involve more than one Secretary of State, 'First' is applied to the Minister who is responsible for the legislation under which the decision has to be made.

Flood Risk Assessment

A requirement of Government guidance and undertaken, usually by developers, in order to determine the degree of risk of flooding to or from a site and the measures needed to reduce the risk to an acceptable level.

Global Warming

A warming of the Earth's atmosphere through increases in airborne pollution and the depletion of the ozone layer resulting in rises in sea level.

Green Corridors

A network of open spaces, often linear in nature, where possible linked and providing connections between town and country.

Green Homes

See Eco-homes.

Green Travel Plan

See Travel Plans.

Greenfield land

Undeveloped land either within or beyond the confines of built up areas. National definition of this includes former mineral working which has been the subject of an agreed restoration programme.

Greenhouse Gas

A gas in the Earth's atmosphere (such as carbon dioxide) that absorbs infra-red radiation emitted by the Earth's surface as a result of exposure to solar ultra-violet radiation, thus increasing the mean temperature of the planet.

Ground Water

Water held within the ground (usually in aquifers and underground streams). The natural level of ground water within an area is identified by the water table.

Home Zone

Street, either formed from existing road space, or specifically designed within a new development, to give priority to existing residents, particularly children. Low vehicle speeds, usually 20 mph, are adopted as part of the design.

Household

One person living alone or a family or group of people living at the same address and sharing domestic facilities and housekeeping arrangements.

Informal Recreation

Recreation that does not require formal facilities or organisation (e.g. walking in the countryside).

Intermediate affordable housing

Housing at prices and rents above those of social rent, but below market price or rents, and which meet the criteria set out above. These can include shared equity products (eg HomeBuy), other low cost homes for sale and intermediate rent.

Lifetime Home

Lifetime Homes incorporate sixteen design features that together create a flexible blueprint for accessible and adaptable housing in any setting. The Lifetime Homes concept increases choice, independence and longevity of tenure, vital to individual and community well being. They provide accessible and adaptable accommodation for everyone, from young families to older people and individuals with a temporary or permanent physical impairment. All public sector funded housing in England will be built to the Lifetime Homes standard from 2011, with a target of 2013 for all private sector dwellings.

Lifetime Neighbourhood / Community

The CLG defines Lifetime neighbourhoods as those which offer everyone the best possible chance of health, wellbeing, and social, economic and civic engagement regardless of age. They provide the built environment, infrastructure, housing, services and shared social space that allow us to pursue our own ambitions for a high quality of life. They do not exclude us as we age, nor as we become frail or disabled.

A APPENDIX A: GLOSSARY**Listed Building**

Building of special historic or architectural interest listed by English Heritage under the Town and Country Planning (Listed Buildings & Conservation Areas) Act 1990.

Local Development Documents (LDDs)

New planning policy documents introduced under the Planning and Compulsory Purchase Act 2004 to replace Local Plans. LDDs will comprise both statutory Development Plan Documents and non-statutory Supplementary Planning Documents. LDDs are likely to include a core strategy, area action plans, proposals map, site-specific policies, and a Statement of Community Involvement.

Local Development Framework (LDF)

A folder containing the Council's Local Development Documents (LDDs). For Swale this currently comprises the Local Plan (2008) supported by a number of Supplementary Planning Documents including the Sittingbourne Town Centre and Milton Creek SPD.

Local Distinctiveness

What defines sense of place and our relationship with it. It is what makes one place distinct from another.

Local Nature Reserve (LNR)

Areas declared under the Wildlife and Countryside Act 1981 (as amended) and managed by the local authority or by another body on their behalf.

Local Plan

The statutory Development Plan setting out detailed policies and proposals for a local authority's area. As of 6 July 2010 the Swale Borough Local Plan forms the development plan for Swale Borough, following revocation of the South East Plan Regional Spatial Strategy by the Secretary

of State. They comprise a written statement and a Proposals Map. The Secretary of State has agreed (August 2010) to the saving of most of the Local Plan policies beyond February 2011.

Local Service Centre

Locations where employment, housing (including affordable housing), services and other facilities can be provided close together to help ensure these facilities are served by public transport and provide some potential for access by walking and cycling.

Low Cost Market Housing

Housing provided at a purchase price significantly below prevailing open market prices in the locality. Does not mean either smaller housing or housing built to a lower standard.

Massing

The shape/size of the components that make up a building or locality.

Masterplan

Similar to a development framework (see above), but will include visual overview of a site setting out broad principles to guide more detailed development proposals.

Mitigation

A measure or package of measures designed to limit the impact of any potentially adverse effects of a development on the local environment.

Mixed Use Development

Areas where a mixture of commercial, retail and residential uses predominate thereby meeting social, economic and cultural needs in one area and contributing to communities with good access to a full

range of services and reduced need to travel. Commonly considered to be a sustainable form of development.

National Nature Reserve (NNR)

Nature reserves of National importance, established by English Nature under the Wildlife and Countryside Act 1981 (as amended).

Natural Areas

Natural Areas are sub-divisions of England, each with a characteristic association of wildlife and natural features. Each Natural Area has a unique identity resulting from the interaction of wildlife, landforms, geology, land use, and human impact.

Net Density

A measure of density that includes only those areas to be developed. Land for major distributor roads, primary schools, open space serving a wider area and significant landscaping areas are not taken into account.

Net Site Area

The area of a site that includes only those areas to be developed. Would exclude land for major distributor roads, primary schools, open space serving a wider area and significant landscaping areas.

Network Rail

Formally Railtrack Plc, now state owned body running British railway network and offering track access to train operators, maintenance, and renewal of infrastructure, timetabling, and train planning and signalling.

Non-Conforming Uses

Uses that do not conform with the major land uses of a particular locality e.g. a business set in a predominantly residential

area. Such uses are often incompatible with neighbouring land uses because of nuisance from noise, fumes, dust etc.

Non-Renewable Resources

Resources that once used cannot be replaced e.g. fossil fuels.

Ordnance Datum Newlyn (O.D.N.)

Mean sea level calculated from observation taken at Newlyn, Cornwall, and used as the official basis for height calculation on British maps.

Permitted Development Rights

Development rights set out in Orders and Regulations made under the Planning Acts, which allow limited developments to take place, within strict criteria, without the need to apply for planning permission. Such rights may be removed through the use of planning conditions, for example, when a house is permitted, restricting the addition of extensions at first floor level, or the conversion of an integral garage to living space.

Planning Conditions

Conditions attached to planning permissions without which the development concerned would not be considered acceptable.

Planning Obligations

See Section 106 Agreements.

Planning Policy Guidance (PPG)

Government planning guidance published by the Office of the Deputy Prime Minister.

Planning Policy Statements (PPS)

To replace PPG (see above) with shorter more focused policy.

A APPENDIX A: GLOSSARY

Previously Developed Land

Planning Policy Statement 3 (PPS3): 'Housing' defines previously-developed land (often referred to as brownfield land) as:

Previously-developed land is that which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure.

The definition includes defence buildings, but excludes:

- Land that is or has been occupied by agricultural or forestry buildings.
- Land that has been developed for minerals extraction or waste disposal by landfill purposes where provision for restoration has been made through development control procedures.
- Land in built-up areas such as parks, recreation grounds and allotments, which, although it may feature paths, pavilions and other buildings, has not been previously developed.
- Land that was previously-developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape in the process of time (to the extent that it can reasonably be considered as part of the natural surroundings).
- As of June 2010 amendments to PPS3, the definition of previously developed land excludes garden land within residential curtilages.

There is no presumption that land that is previously-developed is necessarily suitable for housing development nor that the whole of the curtilage should be developed.

Proposals Map

Part of the Local Plan that identifies the proposals contained within the Written Statement on an Ordnance Survey base map.

Regional Planning Guidance (RPG)

Revoked as of 6 July 2010 by the Secretary of State. The development plan for an area now comprises the Local Plan / Local Development Framework

Renewable Energy

The term used to cover those energy flows that occur naturally and repeatedly in the environment for example solar, wind, geo-thermal and water power. It can also involve the use of combustible or digestible waste.

Renewable Resources

Resources that can be replenished, for example, wood.

Residential Amenity

The standards that can normally be reasonably expected to be enjoyed in association with the use of a dwelling, for example privacy, adequate natural light etc.

Residents Exempt Parking

A traffic management measure that restricts parking within certain streets or sections of streets, during specified time periods, with the exception of residents, usually upon the payment of a fee.

Retail

The sale of goods individually or in small quantities to consumers.

Retail warehousing

Stores specialising in an aspect of comparison goods retailing occupying a single-storey warehouse-type building of

500 sq. m gross floorspace or more with adjacent ground level car parking and frequently trading in bulky goods such as home improvement products, major electrical items, motor accessories, furniture, carpets and garden products.

Scale

The size of a building(s) in relation to other elements.

Section 106 Agreements

A legal agreement, made under Section 106 of the Town and Country Planning Act 1990, between a developer and a local authority necessary to secure the provision, or a contribution towards the provision of facilities needed as a direct consequence of a proposed development.

Sequential approach to the location of development/Sequential test

A process that assesses categories of site in turn in order to give priority to certain types of land e.g. previously developed land and/or to certain locations e.g. town centres/ areas well served by public transport.

Site of Nature Conservation Interest (SNCI)

Non-statutory sites identified in Kent by the Kent Wildlife Trust and subject to public consultation through the local plan process.

Site of Special Scientific Interest (SSSI)

A national designation of areas identified by English Nature under the Wildlife and Countryside Act 1981.

South East England Development Agency (SEEDA)

Responsibilities being reapportioned to other bodies as of July 2010 following revocation of regional spatial strategies.

South East England Regional Assembly (SEERA)

Being wound up as of 31 July 2010 following revocation of Regional Spatial Strategies.

Social rented housing

Rented housing owned and managed by local authorities and registered social landlords, for which guideline target rents are determined through the national rent regime. The proposals set out in the Three Year Review of Rent Restructuring (July 2004) were implemented as policy in April 2006. It may also include rented housing owned or managed by other persons and provided under equivalent rental arrangements to the above, as agreed with the local authority or with the Housing Corporation as a condition of grant.

Special Area of Conservation (SAC)

Sites of the rarest and most threatened habitat types designated under the European Habitats Directive 1992 (92/43). Together with Special Protection Areas (SPA), SACs collectively make up the European Union's 'Natura 2000' network of habitats of European wide nature conservation importance.

Special Landscape Area (SLA)

Designated in the Kent and Medway Structure Plan where the landscape value is of strategic significance.

Special Protection Area (SPA)

Area designated under EC Directive 79/409 on the Conservation of Wild Birds requiring the UK government to take special measures to conserve the habitats of rare or vulnerable species and of all regularly occurring migratory species.

A APPENDIX A: GLOSSARY**Special Supported Housing Need**

The Housing Corporation states that it is accommodation that receives Intensive Housing Management. The level of housing support must be over and above that which would be provided by an RSL managing general needs housing. Intensive housing management involves the same activities as basic management, but is characterised by its higher frequency and 'difficulty of task.' Types of supported housing include: direct access hostels; purpose-built self-contained housing; foyers and floating support.

Statutory Undertakers

Private and public bodies empowered by law to provide utilities such as gas, water, electricity, waste disposal, and telecommunications.

Strategic Environmental Appraisal

An explicit, systematic, and iterative review of development plan policies and proposals to evaluate their individual and combined impacts on the environment.

Strategic Housing Land Availability Assessment

Catalogue of land available for housing with assessment of constraints suitability and viability. Part of evidence base for Local Development Framework.

Strategic Housing Market Assessment

Study of demand for different sizes type and tenure of housing within and between housing market areas covered by the study. Part of evidence base for LDF and for negotiating affordable housing on development sites as they come forward.

Strategic Rail Authority

Public body that monitors UK passenger train operating franchises in the interest of passengers.

Supplementary Planning Guidance (SPG)

Elaboration and interpretation of the policies of a Development Plan to assist their implementation. SPG is non-statutory but may be taken into account as a material consideration in deciding planning applications. Should be the subject of consultation before being agreed. Superseded by SPDs.

Supplementary Planning Document (SPD)

Replacing SPG (see above) as a provision under the Planning and Compulsory Purchase Act 2004.

Surface Water

Water collecting on the surface of the ground either through rain or snow fall. Within areas of built development, water is collected and disposed of via the use of gutters and drains.

Sustainability

The maintenance of social, economic and environmental systems in a way that avoids long-term damage to the environment and depletion of natural resources.

Sustainable Communities (Plan)

The Deputy Prime Minister launched the Communities Plan (Sustainable Communities: Building for the future) on 5 February 2003. The Plan sets out a long-term programme of action for delivering sustainable communities in both urban and rural areas. It aims to tackle housing supply issues in the South East, low demand in other parts of the country, and the quality of our public spaces. This document identifies some of the key requirements of sustainable communities as being:

- A flourishing local economy to provide jobs and wealth;

- Strong leadership to respond positively to change;
- Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long-term stewardship of their community, and an active voluntary and community sector;
- A safe and healthy local environment with well-designed public and green space;
- Of a sufficient size, scale and density, and the right layout, to support basic amenities in the neighbourhood and minimise use of resources (including land);
- Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres;
- Buildings - both individually and collectively - that can meet different needs over time, and that minimise the use of resources;
- A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes;
- Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure;
- A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it;
- A "sense of place";
- The right links with the wider regional, national and international community.

Sustainable Development

Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable Urban Drainage System (SUDS)

These provide for more environmentally sustainable urban drainage through systems designed to reduce run off, slow its rate, or provide for filtering, sedimentation, and biological degradation of the water.

Thames Gateway

The regional growth area on both sides of the Thames Estuary within North Kent, South Essex and East London which is of national and regional importance for economic regeneration, redevelopment of brownfield sites and the promotion of sustainable development.

Thames Gateway Kent Partnership

Group, comprising a board of Council's, private sector, and non-profit making bodies, formed to promote the interests of North-Kent within Thames Gateway. Authors of the Area Investment Framework (see above). Status unclear following revocation of Regional Spatial Strategy July 2010.

Timely Fashion

Referred to in connection with the provision of necessary infrastructure (physical and social) that is needed to meet the demands that arise from development proposals. The provision of such infrastructure should be made at the right or an opportune or appropriate time. This will usually be a matter for negotiation between the Council, the developer, and service providers and will usually be made the subject of a planning condition or Section 106 Agreement.

Town Cramming

A commonly used expression to refer to the development of all open sites within a built-up area, a practice which is identified by Government and District Planning Authorities as being generally unacceptable.

A APPENDIX A: GLOSSARY

Traffic calming

Measures to reduce vehicle speeds to improve road safety and enhance an area's quality of life.

Travel Plans

A package of practical measures to encourage staff and/or users of a development to choose alternatives to single occupancy car use and to reduce the need to travel.

Urban Regeneration

The encouragement of renewal and redevelopment of the urban environment to raise environmental quality and reduce the pressure for the decentralisation of people and economic activity from urban areas.

Use Classes

A classification of land uses for development control purposes defined by the Town & Country Planning (Use Classes) Order 1987 and subsequent amendment orders. Changes of use of buildings or other land between uses within a single use class are excluded from the definition of development in the Town & Country Planning Act 1990, thus making planning permission unnecessary. Uses referred to in this Plan are as follows:

A1 - shops.

A2 - Financial/professional services.

A3 - Food and drink.

A4 - Drinking establishments.

A5 - Hot food takeaway.

B1 - Business Use for all or any of the following purposes: (a) - As an office other than a use within Class A2 (financial and professional services) (b) - For research and development of products or processes;

or (c) - For any industrial process, being a use which can be carried out in any residential area without detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust or grit.

B2 - General industrial processes.

B8 - Storage or distribution

Windfall sites

Sites, which come forward for development that were not previously identified as committed development by way of an allocation in a Local Plan or an existing planning permission.

The SPD has been informed by a raft of planning policies at the national, regional and local levels. Those policy documents to which applicants should give due consideration include:

National

Planning Policy Statement 1: Delivering Sustainable Development

Planning Policy Statement 3: Housing (2006, as amended 2010)

Planning Policy Statement 4: Planning for Sustainable Economic Growth (January 2010)

Planning Policy Guidance 15: Planning and the Historic Environment

Planning Policy Statement 25: Development and Flood Risk

Planning for Town Centres: Guidance on Design and Implementation Tools (ODPM, 2005)

Going to Town: Improving town centre access (NRPF / DTLR, 2002)

Design Reviewed : Town Centre Retail (CABE, 2004)

Urban Design for Retail Environments (BCSC, 2002)

Retail Development in Historic Areas (English Heritage and PAS, 2007)

Sustainable Communities: Building for the Future (ODPM, 2003)

By Design: Urban Design in the Planning System – Towards Better Practice

Safer Places: The Planning System and Crime Prevention (ODPM, 2004)

Local

Swale Borough Local Plan (Swale Borough Council, February 2008): The Secretary of State has already confirmed that the policies in the Local Plan will be saved beyond February 2011 (para 1(2)(a) of Schedule 8 to the Planning and Compulsory Purchase Act 2004)

Developer Contributions Supplementary Planning Document (Swale Borough Council November 2009)

Supplementary Planning Guidance: Conservation Areas (Swale Borough Council)

Green Cluster Studies: Milton Creek (CLG, Greening the Gateway Kent & Medway, 2008)

B APPENDIX B – PLANNING POLICIES

APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS**C**

The masterplan provides a broad assessment of potential development quantum in the SPD area by use type. These are set out below (first in summary form and then broken down in more detail on a block-by-block basis by masterplan district) and will need to be tested further through the more detailed design process associated with development proposals.

The following points should be noted:

- The assumed average apartment size for the purpose of these calculations is 70sqm. However, an additional 12.5% floorspace has been added to this to account for circulation and internal access arrangements. This increases the average size used for calculation to 78.75 sqm
- The assumed average house size used for calculations is 85 sqm
- These residential unit sizes have been used for the purposes of these broad calculations. As part of the development application process developers will be required to investigate the quantum and mix of units in more detail
- Further potential exists to accommodate retail above residential uses within the Town Centre core and on those units along Eurolink Way. Quantum for these have not been measured as they are subject to more detailed design but should they be provided then they should take the form of apartment units.
- For retail floorspace a gross to net ratio of 70% has been used. Developers will be required to investigate further and provide more detail through the application process.

Table C.1 Summary of broad development quantum

District	No. Apartments	No. Houses	Gross retail floorspace (sqm)	Net retail floorspace (sqm)
Town Centre	329	217	51,256	35879
Milton Creek	471	890	11,530	8071
Western Gateway	0	152	0	0
Eastern Gateway	189	67	0	0
Mill Way	398	271	0	0
Total	1387	1597	62,786	43,950
Total Residential		2984		
Existing retail floorspace lost through redevelopment			13,025	9118
Total net new retail floorspace			49761	34,832

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS**Table C.2 Broad development quantums: Town Centre Core and Station Gateway Area**

Block	Flr Area (sqm)	Floors	Total area (sqm)	Primary Use	No. Apartments	No. houses	Gross retail space (sqm)	Other uses
TC1a	4345	0.3	1304	retail / civic			1304	
TC1b	245	3	735	retail			735	
TC2a	3955	1.5	5933	retail / leisure			5933	
TC2b	2880	1.5	4320	retail / civic			4320	residential above
TC2c	4130	1.5	6195	retail			6195	residential above
TC2d	1820	1.5	2730	retail			2730	
TC2e	3090	1.5	4635	retail			4635	residential above
TC3a	13485	1.5	20228	retail			20228	car parking below/residential above
TC3b	1525	1	1525	retail			1525	
TC4	915	3	2745	commercial				
TC5a	210	2	420	houses		5		
TC5b	670	3	2010	apartments	26			
TC5c	190	2	380	houses		4		
TC6	1365	3	4095	apartments	52			
TC7	925	3	2775	apartments	35			
TC8a	750	3	2250	apartments	29			
TC8b	275	2	550	houses		6		
TC9	650	3	1950	houses		23		
TC10a	1260	3	3780	apartments	48			
TC10b	1370	2	2740	houses		32		
TC10c	235	2	470	houses		6		
TC11	1845	1	1845	retail / commercial			1845	
TC12a	240	2	480	houses		6		
TC12b	225	2	450	houses		5		
TC12c	650	3	1950	apartments	25			
TC12d	400	2	800	houses		9		

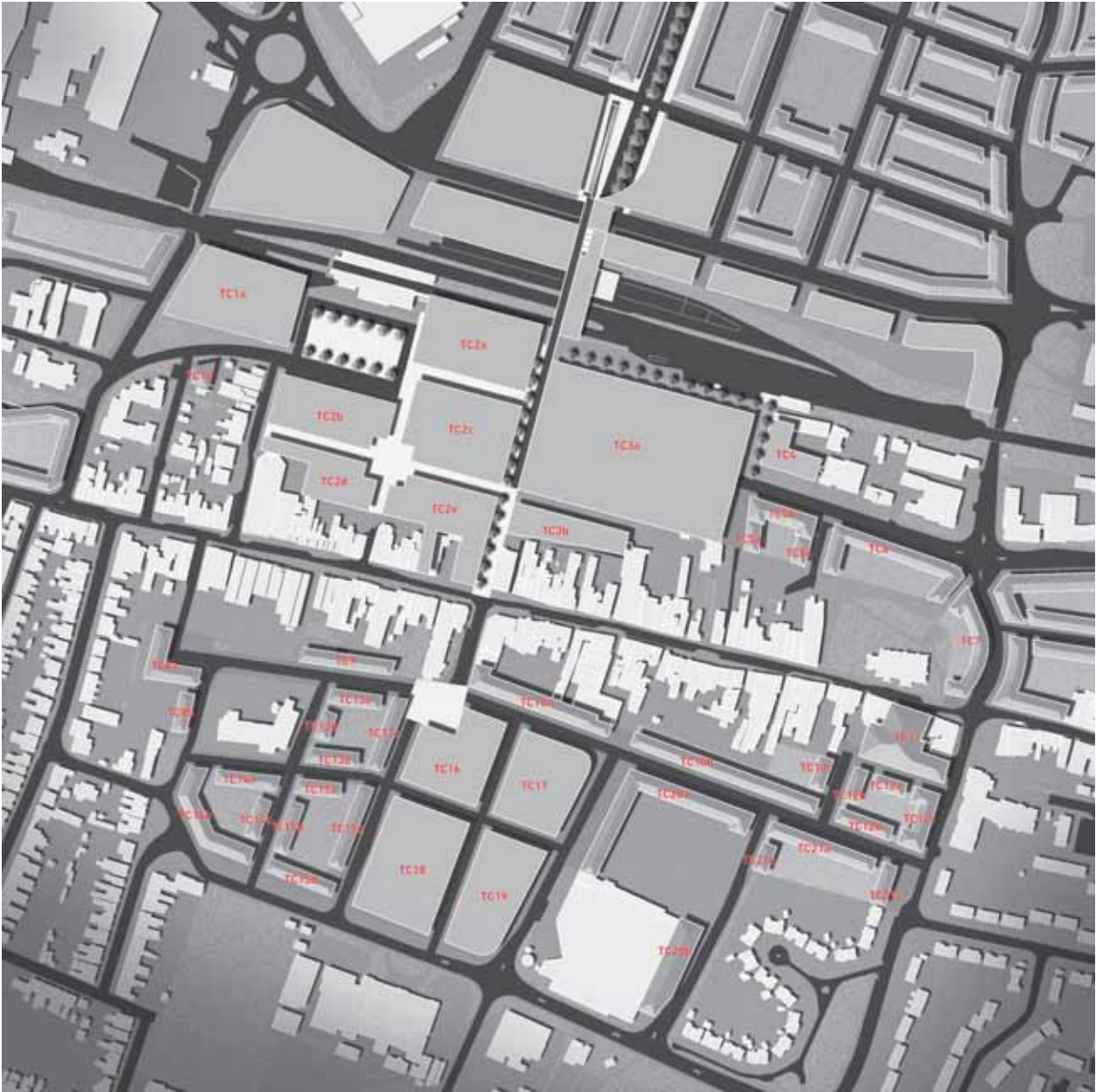
APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

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Block	Flr Area (sqm)	Floors	Total area (sqm)	Primary Use	No. Apartments	No. houses	Gross retail space (sqm)	Other uses
TC13a	360	2	720	houses		8		
TC13b	190	2	380	houses		4		
TC13c	530	2	1060	houses		12		
TC13d	355	2	710	houses		8		
TC14a	345	2	690	houses		8		
TC14b	1055	3	3165	apartments	40			
TC14c	285	2	570	houses		7		
TC15a	310	2	620	houses		7		
TC15b	365	2	730	houses		9		
TC15c	610	2	1220	houses		14		
TC15d	495	2	990	houses		12		
TC16	2940	3	8820	civic				
TC17	3130	3	9390	civic				
TC18	4625	3	13875	civic				
TC19	3340	3	10020	civic				
TC20a	1970	3	5910	apartments	75			
TC20b	1205	1.5	1808	retail			1808	
TC21a	775	2	1550	houses		18		
TC21b	205	2	410	houses		5		
TC21c	285	2	570	houses		7		
TOTAL					330	215	51258	

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

Figure C.1 Town Centre Core and Station Gateway: Development Blocks



APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

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Table C.3 Broad development quantum: Milton Creek

Block	FI Area (sq m)	Floors	Total area (sq m)	Primary use	No. Apartments	No. Houses	Gross retail space (sq m)	Other uses
MC1	980	3	2940	apartments	37			
MC2a	185	2	370	houses		4		
MC2b	845	3	2535	houses		30		
MC2c	795	2	1590	houses		19		
MC3a	385	4	1540	apartments	20			
MC3b	325	4	1300	houses		15		
MC3c	729	3	2187	houses		26		
MC3d	650	3	1950	houses		23		
MC3e	570	4	2280	apartments	29			
MC3f	160	3	480	houses		6		
MC3g	370	3	1110	apartments	14			
MC4a	980	3	2940	houses		35		
MC4b	435	3	1305	houses		15		
MC4c	355	3	1065	apartments	14			
MC4d	575	3	1725	houses		20		
MC5	690	2	1380	healthcare				
MC6a	1050	3	3150	houses		37		
MC6b	670	3	2010	houses		24		
MC6c	375	3	1125	houses		13		
MC6d	485	3	1455	houses		17		
MC6e	525	3	1575	houses		19		
MC6f	490	3	1470	houses		17		
MC7a	430	3	1290	houses		15		
MC7b	575	3	1725	houses		20		
MC7c	470	3	1410	houses		17		
MC7d	265	3	795	houses		9		

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

Block	Fl Area (sq m)	Floors	Total area (sq m)	Primary use	No. Apartments	No. Houses	Gross retail space (sq m)	Other uses
MC8a	420	3	1260	houses		15		
MC8b	520	3	1560	houses		18		
MC8c	580	3	1740	houses		20		
MC8d	420	3	1260	houses		15		
MC9a	495	3	1485	houses		17		
MC9b	625	3	1875	houses		22		
MC9c	1160	3	3480	houses		41		
MC10a	255	3	765	houses		9		
MC10b	445	3	1335	houses		16		
MC10c	360	3	1080	houses		13		
MC11a	395	2	790	houses		9		
MC11b	650	2	1300	houses		15		
MC11c	650	2	1300	houses		15		
MC11d	475	2	950	houses		11		
MC12a	230	2	460	houses		5		
MC12b	650	2	1300	houses		15		
MC12c	1260	4	5040	apartments	64			
MC12d	230	2	460	houses		5		
MC13a	365	2	730	houses		9		
MC13b	2500	4	10000	apartments	127			
MC14a	1090	2	2180	potential school site				
MC14b	800	3	2400	apartments	30			
MC15a	520	3	1560	houses		18		
MC15b	420	3	1260	houses		15		
MC15c	420	3	1260	houses		15		
MC15d	560	3	1680	houses		20		

APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

C

Block	FI Area (sq m)	Floors	Total area (sq m)	Primary use	No. Apartments	No. Houses	Gross retail space (sq m)	Other uses
MC16a	385	3	1155	houses		14		
MC16b	475	3	1425	houses		17		
MC16c	240	3	720	houses		8		
MC17a	620	3	1860	houses		22		
MC17b	400	3	1200	houses		14		
MC17c	425	3	1275	houses		15		
MC17d	730	3	2190	houses		26		
MC18	6610	1	6610	retail / leisure			6610	
MC19	3820	1	3820	retail			3820	
MC20a	185	3	555	houses		7		
MC20b	530	3	1590	houses		19		
MC20c	1225	3	3675	apartments	47			
MC21a	800	3	2400	houses		28		
MC21b	695	3	2085	apartments	26			
MC21c	1665	3	4995	apartments	63			
MC22	7485	4	29940	multi-storey car park				
MC23	3635	4	14500	commercial				
MC24	1100	1	1100	retail			1100	
MC25	1190	4	4760	commercial				
MC26	1055	4	4220	commercial				
MC27	1080	4	4320	commercial				
MC28	1870	4	7480	commercial				
Total					471	889	11530	

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

Figure C.2 Milton Creek: Development Blocks



APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS**C****Table C.4 Broad development quantum: Western Gateway**

Block	Flr Area (sqm)	Floors	Total area (sqm)	Primary Use	No. apartments	No. houses	Gross retail space	Other uses
WG1	1555	3	4665	houses		55		
WG2a	255	2	510	houses		6		
WG2b	375	2	750	houses		9		
WG2c	380	2	760	houses		9		
WG2d	850	3	1700	houses		20		
WG3a	1830	2	3660	houses		43		
WG3b	420	2	840	houses		10		
TOTAL						152		

Table C.5 Broad development quantum: Eastern gateway

Block	Flr Area (sqm)	Floors	Total area (sqm)	Primary Use	No. apartments	No. houses	Gross retail space (sqm)	Other uses
EG1a	1780	3	5340	apartments	68			
EG1b	775	2	1550	houses		18		
EG2a	1060	2	2120	houses		25		
EG2b	1045	3	3135	apartments	40			
EG3a	435	3	1305	apartments	17			
EG3b	1020	2	2040	houses		24		
EG3c	440	3	1320	apartments	17			
EG4	945	4	3780	apartments	48			
TOTAL					190	67		

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

Figure C.3 Western Gateway: Development Blocks

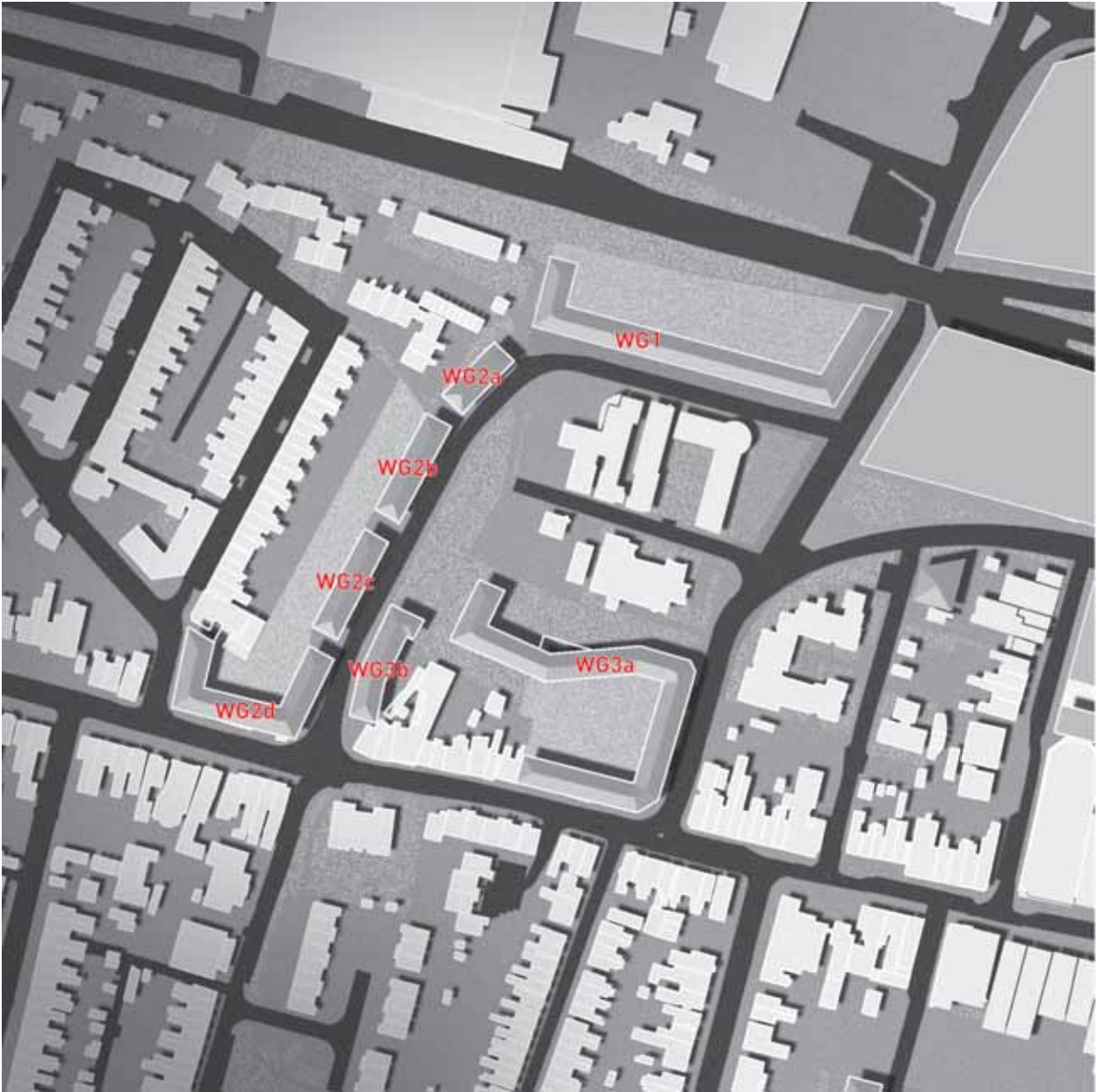
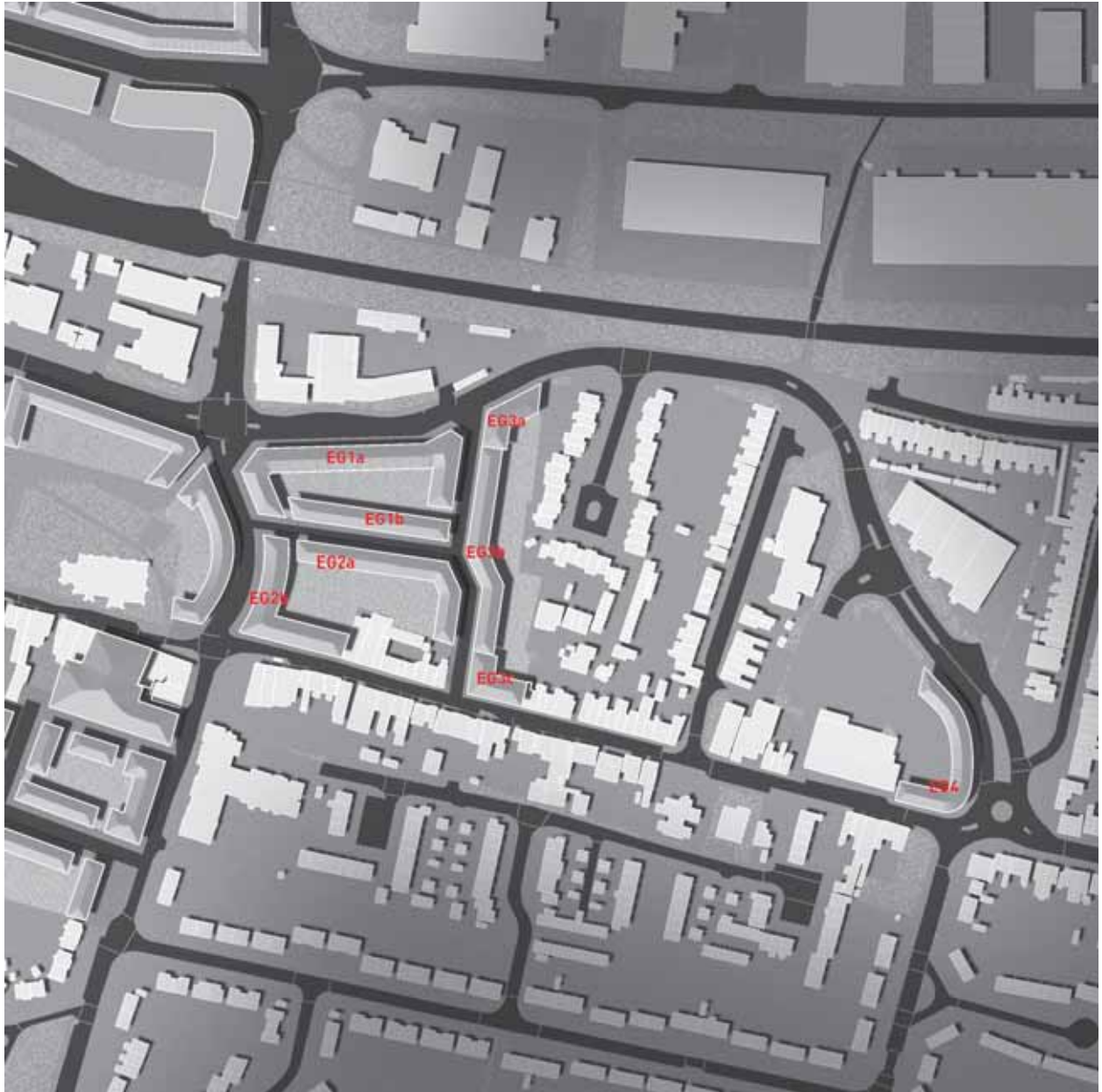


Figure C.4 Eastern Gateway: Development Blocks



C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS**Table C.6 Broad development quantums: Mill Way Fringe / Transition Area**

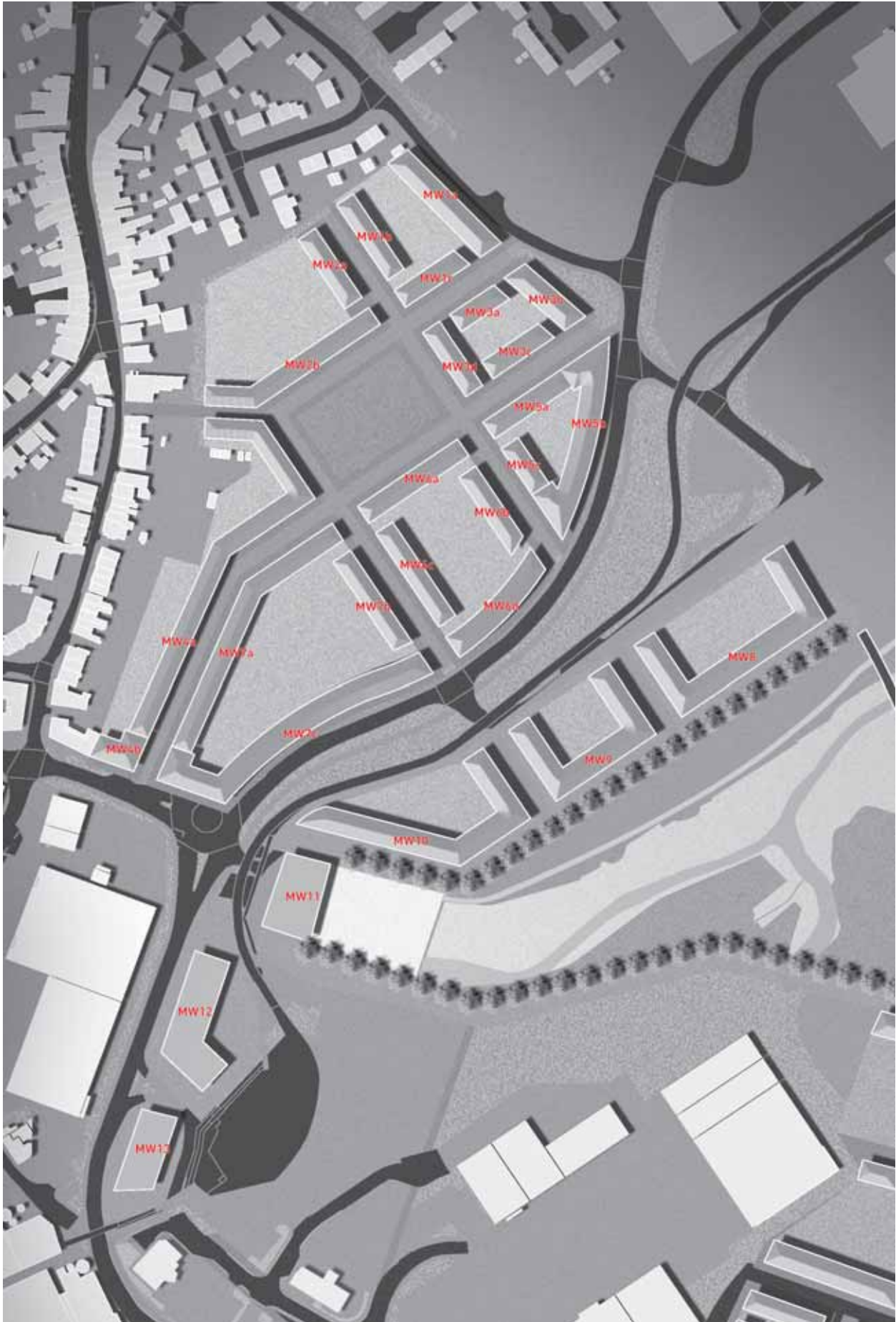
Block	Flr Area (sqm)	Floors	Total area (sqm)	Primary Use	No. apartments	No. houses	Gross retail space (sqm)	Other uses
MW1a	780	3	2340	apartments	30		-	
MW1b	445	2	890	houses		10	-	
MW1c	365	2	730	houses		9	-	
MW2a	410	2	820	houses		10	-	
MW2b	955	2	1910	houses		22	-	
MW3a	275	2	550	houses		6	-	
MW3b	470	3	1410	apartments	18		-	
MW3c	350	2	700	houses		8	-	
MW3d	380	2	760	houses		9	-	
MW4a	2120	2	4240	houses		50	-	
MW4b	345	3	1035	apartments	13		-	
MW5a	455	2	910	houses		11	-	
MW5b	1330	3	3990	apartments	51	47	-	
MW5c	270	2	540	houses		6	-	
MW6a	590	2	1180	houses		14	-	
MW6b	440	2	880	houses		10	-	
MW6c	555	2	1110	houses		13	-	
MW6d	720	3	2160	apartments	27		-	
MW7a	1365	2	2730	houses		32	-	
MW7b	535	2	1070	houses		13	-	
MW7c	1890	3	5670	apartments	72		-	
MW8	1750	3	5250	apartments	67		-	
MW9	1425	3	4275	apartments	54		-	
MW10	1730	3	5190	apartments	66		-	
MW11	915	3	2745	museum / heritage centre			-	
MW12	1245	3	3735	commercial			-	
MW13	715	3	2145	commercial			-	

APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS**C**

Block	Fir Area (sqm)	Floors	Total area (sqm)	Primary Use	No. apartments	No. houses	Gross retail space (sqm)	Other uses
TOTAL					398	270	-	

C APPENDIX C: POTENTIAL DEVELOPMENT QUANTUMS

Figure C.5 Mill Way Fringe / Transition Area: Development Blocks



APPENDIX D: STREET DESIGN THEMES AND DESIGN RESPONSES**D**

Following from the street hierarchy and layers of movement described in section 6 of the SPD, this appendix on street design now brings all of these components together in the context of place and character. It fleshes out the specific

character and design response for each of the key streets to be remodelled in Sittingbourne, and includes typological guidance on the design of the more generic streets to be incorporated into future development.

Neighbourhood Street (B1) e.g.: Mill Way**Table D.1**

Overall Street Function	<ul style="list-style-type: none"> • Important thoroughfare for vehicles • Provides for lower order bus movements • Cyclists provided for in wider 4.2m kerbside lane • Formal pedestrian priority facilities
Local Interface and Connections	<ul style="list-style-type: none"> • Formal pedestrian crossings provided at regular intervals • Strong focus on movement between Milton Regis and Sittingbourne rail station • Single points of access provided to development blocks • Parking provided to support ground floor activity where required • Managed access to development blocks
Public Realm	<ul style="list-style-type: none"> • Street trees used to mark parking areas and define points of interest • General hard landscaping provided • General carriageway/pedestrian lighting used with street furniture provided where necessary
Urban Form	<ul style="list-style-type: none"> • Primarily 3 storey development with vertical divisions reflecting topographic variety. Landmark development surrounding station car park rising to 4 or 5 storeys. • Much development setback behind privacy strips and landscaping creating a street with a wide avenue character. • Apartments form dominant street frontage on Mill Way and business / retail frontage dominates Eurolink Way

Neighbourhood special purpose (BS) i.e.: New East-West link alongside retail development/ railway line**Table D.2**

Overall Street Function	<ul style="list-style-type: none"> • Traffic access restricted • Designed to be future-proofed to allow vehicle access at a later date should the need arise • Shared pedestrian and cycle space
Local Interface and Connections	<ul style="list-style-type: none"> • Formal signalised crossing provided where pedestrian routes from High Street meet the new east west link • Kiss and ride and taxi parking provided adjacent to station • Single points of access provided to development blocks

D APPENDIX D: STREET DESIGN THEMES AND DESIGN RESPONSES

Public Realm	<ul style="list-style-type: none"> • Formal and large mature tree planting used to define the scale of the street • Signature hard landscaping used for the town square, extending as a proper shared surface over new east west link in conjunction with a super pedestrian crossing • Feature carriageway/pedestrian lighting and street furniture used • Cultural program initiated for town square including performances or markets etc
Urban Form	<ul style="list-style-type: none"> • 4 storey development rising to 5 for some of the buildings surrounding the new Station Square • Mixed use buildings around square with ground floor business and residential above. Residential units above shops designed to encourage visible activation of this higher level. • Residential and business frontage along rest of street. • Strong vertical division of all development blocks with controlled variety in recession and projection, and in architectural design. • Controlled variation in consistent building line. • Apartment frontage along eastern extent of street

Neighbourhood Special Purpose (BSH) e.g.: High Street

Table D.3

Overall Street Function	<ul style="list-style-type: none"> • Special purpose street with restricted traffic access • Buses run two-way in central carriageway • Cyclists not encouraged given width and pedestrian activity, although no prohibition envisaged • Pedestrians dominate space with little priority required
Local Interface and Connections	<ul style="list-style-type: none"> • Pedestrians take ownership of space and use it on their own terms through shared space design • Strong focus on retail promenading • All property access to be provided at the rear of premises, and off future commercial lanes to the south • On street parking provided where widths permit, prioritised for goods and services deliveries in the morning, and short stay parking for the rest of the day
Public Realm	<ul style="list-style-type: none"> • Mature tree grooves used to soften parking areas with the majority of the street clear of trees, providing uninterrupted views of the historic buildings • Signature hard landscaping used • Feature carriageway/pedestrian lighting and street furniture used • Street designed to encourage spill out activity on the street, such as retail and restaurants, with parking provided in support of strengthened night time economy uses • For new spaces, street activity may be encouraged where space allows

APPENDIX D: STREET DESIGN THEMES AND DESIGN RESPONSES**D**

Urban Form	<ul style="list-style-type: none"> • New development will reflect strong vertical division, historic frontage lines, narrow plot widths and 3-4 storey heights. • Architecture will reflect the high quality of buildings on the High Street, add to and enhance its attractiveness and actively front the pedestrian realm. • The enhanced heritage environment will continue to be the main attraction at the east end of the High Street, New development in the west will be of 3-4 storeys increasing density, and intensity of activity.
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Local Street (C1) e.g.: Avenue of Remembrance

Table D.4

Overall Street Function	<ul style="list-style-type: none"> • Provides for locally generated traffic only • Buses provided for in support of cultural, leisure and community uses, with bays provided in the general vehicle lane • Pedestrians provided for through a mix of junctions and informal crossing facilities
Local Interface and Connections	<ul style="list-style-type: none"> • Focus on pedestrian movement to and from leisure and community uses, particularly to and from the schools • Improved pedestrian facilities provided where the Street intersects with north south commercial lanes • Given street constraints and uses, no parking is envisaged along Avenue of Remembrance • Limited frontage access allowed
Public Realm	<ul style="list-style-type: none"> • Structured tree planting maintained along the length of the street, with feature tree pits provided in remembrance of the towns fallen soldiers • Hard landscaping to be maintained • Improved provision of median refuges desired to allow for more spontaneous and safe pedestrian movement across the street
Urban Form	<ul style="list-style-type: none"> • Garden city character with 2-3 storey landmark buildings of high quality fronting the street behind generous landscaped setbacks.

Commercial Lane (C1)

Table D.5

Overall Street Function	<ul style="list-style-type: none"> • Slow moving vehicular traffic only, with un-demarcated travel lanes sufficient for commercial vehicles • No buses envisaged • Signed for cyclists where on cycle route • Pedestrians encouraged to use the street with traffic management measures used to slow traffic, for example frequent raised tables
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D APPENDIX D: STREET DESIGN THEMES AND DESIGN RESPONSES

Local Interface and Connections	<ul style="list-style-type: none"> • Pedestrians encourages to use the street • Frontage property access provided • Frequent on street parking provided
Public Realm	<ul style="list-style-type: none"> • Tree planting provided where desired • Simple general hard landscaping and lighting used
Urban Form	<ul style="list-style-type: none"> • Predominantly 3 to 4 storey development • Secondary facades facing directly on to street from back of pavement. Some minor commercial activities providing areas of pedestrian interest. • Entrances and windows activating street at ground floor. • Shared surface streets with quiet and uncluttered character

Residential Lane (C2)**Table D.6**

Overall Street Function	<ul style="list-style-type: none"> • Slow moving residential traffic only, with appropriate traffic restrictions from higher order street put in place for this to occur • Carriageway sufficient for two cars to pass each other • Infrequent emergency/delivery/removals vehicles provided for where necessary • No buses envisaged • Signed for cyclists where on cycle route • Pedestrians encouraged to use the street with traffic management measures used to slow traffic, for example frequent raised tables
Local Interface and Connections	<ul style="list-style-type: none"> • Pedestrians take full ownership of the street • Frontage access provided • On street visitor and/or resident parking provided
Public Realm	<ul style="list-style-type: none"> • Streets designed as social spaces where children are safe to play on the street and use these streets on there own terms, not those of the vehicle • Simple general hard landscaping and lighting used
Urban Form	<ul style="list-style-type: none"> • 2.5 to 3 storey development behind private front gardens or privacy strips, overlooking quiet streets designed to encourage resident interaction and use. • Terraced houses with frontage facing higher order streets at corners. • Consistent building line and architectural design • Glimpses through to rear gardens through passages allowing direct access for residents to private space. • Active facades at all levels.

APPENDIX E: PLANNING OBLIGATIONS

The information summarised within the table overleaf has been obtained from the Swale Borough Adopted Local Plan (2008), the Swale Borough Council Developer Contributions SPD (adopted November 2009); the Kent County Council Guide to Development Contributions and the Provision of Community Infrastructure (Incorporating 2008 figures) and from infrastructure and service provision identified through the Town Centre SPD process.

The Districts set out within the table in the appendix correspond with the Districts summarised in section 5 of this report. Development should only contribute to the infrastructure and services that are

This table sets out the planning obligations relating to each of the districts as discussed in section 8.2

directly generated by development in that area. Thus, s.106 contributions are not sought for items such as education and libraries within the Station Gateway District because there is no residential development.

The items and costs identified within the table will be subject to review. The cost of some items will also need to be estimated and a cost per unit or per sq m of floorspace calculated.

Table E.1 Planning Obligations

s.106 item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Affordable Housing	n/a	✓	✓	✓	✓	✓	Policy H3 sets out the requirement for 30% affordable housing for developments in excess of 15 dwellings. The East Kent Strategic Housing Market Assessment (2009) should be referred to	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009)

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							in connection with property size and tenure.	
Education								
Education	Primary - £590.24 per flat extension Primary – £2,360.96 per house extension Primary - £1,389.99 per flat new build Primary – £5,559.96 per house new build Secondary - £589.95 per flat extension Secondary – £2,359.80 per house extension Secondary - £1,272.90 per flat new build Secondary – £5,091.60 per house new build	✓	✓	✓	✓	✓	Policy C2 (Housing Developments and the provision of Community Services and Facilities) applies to all new housing developments resulting in 10 or more dwellings. Need will be assessed by Kent County Council. On substantial development sites (usually 300+ units) there may also be the requirement for a new school or multi-functional site, to be provided at no cost to the LPA, KCC or LEA. Costs are subject to review as and when necessary but at least annually to reflect changes in build costs	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009). Costings are subject to review by the Kent County Education Service.

APPENDIX E: PLANNING OBLIGATIONS

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s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
	Adult education - £180 per dwelling							
Health								
Primary Health Care provision	Not known	✓	✓	✓	✓	✓	Policy C2. Applies only in very specific circumstances to developments in excess of 10 dwellings. Would relate only to capital facilities required to meet the additional needs generated by the development that could not otherwise be reasonably be provided by the PCT without developer contributions. Need assessed by the Primary Care Trust. Costs unknown.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009)
Youth and Community Facilities								
Community facilities (including Culture and Places of Worship)		✓	✓	✓	✓	✓	Policy C2 (Housing Developments and the provision of Community Services and Facilities) applies to all new housing developments resulting in 10 or more dwellings.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009)

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Libraries	£227 per dwelling	✓	✓	✓	✓	✓	<p>Needs will be identified by the Council but could include museums and heritage facilities, creek and foreshore enhancements and community centres.</p> <p>The provision or contribution sought will relate to the: existing pattern of provision in the immediate locality; scale and nature of the development proposed; and other priorities for contributions arising from the site.</p>	<p>See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009). Costings are subject to review .</p>

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Transport (Including Public Transport)								
Pedestrian and cycle bridge over railway lines	Not known		✓				<p>more dwellings. Need will be assessed by Kent County Council.</p> <p>Costs are subject to review as and when necessary but at least annually to reflect changes in build costs</p>	
			✓				<p>Construction of the Pedestrian and Cycle Bridge will be required in advance of, or simultaneously with any new development within the SPD boundary to the north of the railway lines. If this cost cannot be borne by a single developer, development to the north of the railway lines will be required to contribute through s.106 payments. The cost of the bridge is not known but will need to be estimated and apportioned between residential</p>	

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Provision of a new realigned north-south link between Dover Street and Eurolink Way, including junction improvements at Dover Street / West Street and Mill Way / Eurolink Way	Not known	✓	✓	✓	✓	✓	units and retail and commercial accommodation. The improvements will be required before any significant new development can take place within the Town Centre Core, Station Gateway, Milton Creek, Eastern Gateway or Mill Way Transition areas. Development in these Districts will be required to contribute through s.106 payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail, civic and commercial accommodation.	
Public realm improvements, traffic calming measures and possible signalisation of junctions along Ave. of Remembrance	Not known	✓					These improvements will be required before any significant new development can take place within the Town Centre Core. If this cost cannot be borne by a single developer,	

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							<p>development in this District will be required to contribute through s.106 payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail, civic and commercial accommodation.</p>	
<p>Traffic calming on residential streets around Avenue of Remembrance</p>							<p>These improvements will be required before any significant new development can take place within the Town Centre Core. If this cost cannot be borne by a single developer, development in this District will be required to contribute through s.106 payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail, civic and commercial accommodation.</p>	

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Upgrade of Eurolink Way, including junction improvements at Eurolink Way/ Crown Quay Lane	Not known		✓			✓	These improvements will be required before any significant new development can take place within the Milton Creek and Mill Way Transition areas. If these costs cannot be borne by a single developer, development in these Districts will be required to contribute through s.106 payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Upgrade to Mill Way and junction improvements at Mill Way/ St Paul's	Not known		✓			✓	These improvements will be required before any significant new development can take place within the Milton Creek and Mill Way Transition areas. If these costs cannot be borne by a single developer, development in these Districts will be required to contribute through s.106	

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Upgrade of Mill Way	Not known					✓	These improvements will be required before any significant new development can take place within the Mill Way Transition area. If these costs cannot be borne by a single developer, development in this Districts will be required to contribute through s.106 payments. The cost of the work is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Off -site Highway Improvements - Bapchild section of the Sittingbourne Northern Relief Road		✓	✓	✓	✓	✓	The final route and cost of this section has not been finalised at August 2010, but contributions will be	Policy T2 Swale Borough Local Plan (2008), See Swale Borough Council Developer Contributions Supplementary Planning

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							sought from developments likely to impact on town centre congestion.	Document (Adopted November 2009)
Public Realm/ Greenspace								
Open space and play facilities		✓	✓	✓	✓	✓	Policy C3 (Provision of Open Space on New Housing Developments) - on housing developments of 20 or more units, at least 10% of the net site area should be provided as public open space. On housing developments that would either, individually or cumulatively, provide or exceed 200 units, land should be provided for formal sport in accordance with National Playing Field Association standards, together with the necessary access, car parking and changing facilities. This is in addition to that outlined above. In some instances, it	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009)

APPENDIX E: PLANNING OBLIGATIONS

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s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							<p>may be more appropriate for this area to be provided as informal open space.</p> <p>This facility will normally be provided either directly by the developer, or by the Borough Council at the developer's expense.</p> <p>Currently, commuted sums in lieu of the 10% provision are £690 per dwelling + commuted sum for future maintenance. The maintenance contribution is for a 10 year sum based on actual contract costs and taking account of inflation and interest.</p>	
Station Gateway public square	Not known	✓					Construction of the Station Gateway public square will be required as part of the development of the new station. If this cost cannot be borne by a single developer,	

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							development in the Town Centre Core and Station Gateway will be required to contribute through s.106 payments. The cost of the square is not known but will need to be estimated and apportioned between residential units and retail, civic and commercial accommodation.	
Off-site public realm improvements – Town Centre Core	Not known	✓					The cost of the public realm improvements is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Off-site public realm improvements – Station Gateway	Not known	✓					The cost of the public realm improvements is not known but will need to be estimated and apportioned between retail, civic and commercial accommodation.	
Off-site public realm improvements – Milton Creek	Not known		✓				The cost of the public realm improvements is not known but will	

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Off-site public realm improvements – Western Gateway	Not known			✓			The cost of the public realm improvements is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Off-site public realm improvements – Eastern Gateway	Not known				✓		The cost of the public realm improvements is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	
Off-site public realm improvements – Mill Way Transition/ Fringe Area	Not known					✓	The cost of the public realm improvements is not known but will need to be estimated and apportioned between residential units and retail and commercial accommodation.	

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Town Centre Management and Promotion								
Town centre management covering the planning construction and regeneration of the town centre and ongoing maintenance and promotion .		✓	✓	✓	✓	✓	Given the scale of proposals for regeneration of the town centre there will be a need for coordination and public promotion and public information.	Essential for the smooth implementation and management of change described by policies AAP7, AAP8 and B27 of the Swale Borough Local Plan (2008).
Police and Emergency Services								
	Not known	✓	✓	✓	✓	✓	Policy C2 refers. Recognition for contributions has recently been given by the adopted Local Plan. Applies only in very specific circumstances to developments in excess of 10 dwellings. Would relate only to capital facilities required to meet the additional needs generated by the development that could not otherwise be reasonably provided by the Police Authority without developer contributions, via Kent County Council. Costs unknown.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009)

APPENDIX E: PLANNING OBLIGATIONS

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s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Social Services								
	Contributions are currently set at £1201 per dwelling (if all services required).	✓	✓	✓	✓	✓	Policy C2 (older persons, learning disability and physical disability) applies to developments in excess of 10 dwellings. Need will be assessed by Kent County Council (in accordance with Countywide guidance March 2007, incorporating 2008 figures).	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009). Costings are subject to review .
Public Utilities								
Assessment of and possible enhancements to sewerage capacity. SUDs maintenance	Not known	✓	✓	✓	✓	✓	Policy U1. Applies to developments in excess of 10 dwellings. Currently assessed by the developer and/or provider. Relates to off-site improvements only, in accordance with public utility provider's requirements. On-site provision would not be a developer contribution matter; rather a cost to development. However, strategic	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							be assessed on a site by site basis. Need for Heritage centre, performance space and civic square identified in Sittingbourne Town Centre Culture feasibility study (2009)	
Community Facilities								
			✓	✓	✓	✓	Policy C2 applies to developments in excess of 10 dwellings. Need would normally identified by Swale Borough Council –creek and foreshore enhancements and community centres. Costs not generally known. In respect of Places of Worship (given recognition recently adopted Local Plan) it will not normally be the case that contributions would be sought as a stand alone item. However, contributions could be sought when provided as part of a	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
							multi-purpose community centre where people may worship.	
Recreation and Amenity Space								
	Costs are well developed by the Council. Currently, commuted sums in lieu of 10% provision are £690 per dwelling + commuted sum for future maintenance. The maintenance contribution is for a 10-year sum based on actual annual contract costs and taking account of inflation and interest.	✓	✓	✓	✓	✓	Policy C3 (play areas, kick about, equipment, formal space for sport and facilities, informal open space provision). Developments in excess of 19 dwellings will need to provide a 10% contribution on site (or commuted sum). Above 200 dwellings, land for formal sport in accordance with National Playing Fields Association standards is required. Need will be assessed by Swale Borough Council having regard to its PPG17 Open Space Strategy open space assessment (to be published December 2008).	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009). Costings are subject to review .
Environmental Improvements								

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Provision of environmental improvements	Not known	✓	✓	✓	✓	✓	Various policies apply. Swale Borough Council encourages developers to make provision within schemes. Link to development may not always be clear and in some cases may be argued as being a cost of development i.e. that necessary to make a scheme acceptable or to offset impacts. In some circumstances a case may be made to make provision in lieu of open space.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).
CCTV								
Provision of CCTV	Not known	✓	✓	✓	✓	✓	Policy U1/C2. Swale Borough Council encourages developers to make provision within schemes. Need to ensure that system is expanded and maintained to serve growing population. Costs identified in Community Safety Strategy. Need will be identified by Swale Borough Council.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Waste & Recycling								
Provision of waste and recycling measures	Bins are £21.48 each.	✓	✓	✓	✓	✓	Kent and Medway Structure Plan policy WM3. Need for strategic waste facilities will be identified by Kent County Council, local needs by Swale Borough Council. As recycling has a high priority, developments will be required to provide one blue and one green 240 litre wheeled bins for each property built.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009). Costings are subject to review .
Environmental Mitigation and Biodiversity								
Environmental mitigation & biodiversity	Not known	✓	✓	✓	✓	✓	Local impacts will be addressed as a cost of development; however, there may be a case to address strategic and sub-regional issues via developer contributions and the Local Development Framework and having regard to Biodiversity Action Plans.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).
Employment & Skills Training								

APPENDIX E: PLANNING OBLIGATIONS

E

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Employment & skills training	Not known	✓	✓	✓	✓	✓	In appropriate circumstances planning conditions will be applied to schemes for major development which address the issue of employment and skills training. In cases of strategic regeneration, contributions may be required for the provision of skills and learning facilities as identified by Swale Forward's Regeneration Framework.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).
Climate Change								
Climate change measures	Not known	✓	✓	✓	✓	✓	Emerging as an issue in Government advice with PPS1 supplement. The Council will produce a Sustainable Design and Construction Policy support document guidance document to inform the LDF and masterplanning projects, and the Council's Climate Change Strategy.	See Swale Borough Council Developer Contributions Supplementary Planning Document (Adopted November 2009).

E APPENDIX E: PLANNING OBLIGATIONS

s.106 Item	Contribution	Town centre core and station gateway	Milton Creek	Western Gateway	Eastern Gateway	Mill Way Transition/ Fringe Area	Comments	Source
Local Shopping								
Provision of local shopping	n/a	✓	✓	✓	✓	✓	Policy C2. Applies to developments in excess of 10 dwellings. Currently assessed by the developer. Developers will be expected to build units (as set out in a phasing plan), rather than making provision through developer contributions.	

The following recommendations are taken from the Creative Environmental Networks report: Climate Change Strategy, Sustainable Design and Construction, Swale Borough Council, Draft December 2008. These are used as a material consideration in determining planning applications.

Recommendation O1: Overall Environmental Performance

Residential

Proposals for new residential development in regeneration areas will not be permitted unless they achieve at least Level 4 of the Code for Sustainable Homes. In 2013 Code Level 5 will be required and in 2015 Code Level 6 will be required.

Proposals for new residential development in all other areas will not be permitted unless they achieve at least Level 3 of the Code for Sustainable Homes. In 2011 Code Level 4 will be required, in 2013 Code Level 5 will be required and in 2015 Code Level 6 will be required.

The conversions of properties to residential use and also the refurbishment of residential units will not be permitted unless they achieve the EcoHomes “Very good” Standard.

OPTION

Non-residential

Either: for non-regeneration areas

Proposals for new non-residential development will not be permitted unless they achieve the relevant “Very good” BREEAM Standard. In 2011 BREEAM ‘Excellent’ will be required. In 2016 BREEAM ‘Outstanding’ will be required’

OR: for regeneration areas

Proposals for new non-residential development will not be permitted unless they achieve the relevant ‘Excellent’ BREEAM Standard. In 2016 BREEAM ‘Outstanding’ will be required.

The conversions of properties to non-residential use and also the refurbishment of non-residential units will not be permitted unless they achieve the BREEAM “Very good” Standard.

Where landscape designations conflict with the achievement of the required BREEAM or Code for Sustainable Homes rating robust evidence must be provided to the council to justify that non-obtrusive options have been investigated in order to meet the policy.

Recommendation E1 – Passive Design

All proposals for new development are required to incorporate passive solar design measures that take advantage of natural light and heat from the sun and use natural ventilation, whilst preventing overheating in the summer. The following are good practice measures, however innovative solutions to suit each unique building will be welcomed:

- a) Orientating habitable rooms (e.g. living rooms) within 30° degrees of south;
- b) Locating windows at heights that allow lower sun angles in the winter;
- c) Providing louvres and balconies to provide shading to south facing windows in the summer months
- d) Using soft landscaping including deciduous tree planting, to allow natural sun light to pass through during the winter months whilst providing shade in the summer
- e) Integrating passive ventilation, for example passive stack ventilation and designing dual aspect dwellings to allow cross ventilation
- f) Providing north facing windows in office and industrial developments
- g) Integrating exposed thermal mass into buildings to modulate internal temperature gains
- h) Painting of flat roofs white or using green roofs to reduce heat absorption

All proposals for conversions and refurbishments should demonstrate how energy efficiency measures have been incorporated. In addition, any new building fabric elements should improve upon Building Regulations' requirements by at least 25%, i.e. a 25% reduction of the DER over the TER. Guidance on how this can be achieved can be obtained from the EST Best Practice Guides ⁽¹⁰⁾.

Recommendation E2: Decentralised energy generation

For regeneration areas ⁽¹¹⁾ only

All proposals for developments of 50 dwellings or more, where the net density is greater than 50 dwellings/ hectare, or with a non-residential floor space of more than 1,000m², should demonstrate that they have selected their proposed heating and cooling systems in accordance with the following order of preference:

- Connection to existing CCHP/CHP⁽¹²⁾ distribution networks
- Site-wide CCHP/CHP powered by renewable energy
- Gas-fired CCHP/CHP or hydrogen fuel cells, both accompanied by renewable energy technologies
- Communal heating and cooling fuelled by renewable sources of energy
- Gas fired communal heating and cooling⁽¹³⁾

Where there is an existing decentralised energy network near to a proposed development, the development must be connected unless it can be proved that this is not technically feasible ⁽¹⁴⁾.

Where waste heat as a bi-product of industrial processes is available on a development, it should be utilised for space heating.

Reasonable efforts should be made to connect existing buildings within the vicinity of any new decentralised energy schemes.

Where connection to a decentralised heat system is not considered possible, robust evidence of the feasibility assessment must be submitted to the Council. Any arguments on economic grounds must be supported by evidence of the cost of the proposed alternative heating infrastructure, marketing possibilities, and thorough investigation of the use of an Energy Services Company (ESCO).

As a general rule, all new developments which are close to an existing or planned heat network should be connected to this network, and provision should be made to address the interim period (e.g. a new development to be finished prior to the completion of the heat network will need an interim solution to operate the heating system of the building until the heat network).

-
- 11 The regeneration areas are: Sittingbourne Town Centre, Faversham Creek, Thistle Hill, Port of Sheerness and Iwade
- 12 CCHP: Combined cooling heat and power – suitable for non-residential and mixed-use developments. CHP - Combined heat and power suitable for residential and mixed use developments, where there is not a significant heating load
- 13 If this option is pursued, the design of the plant and related infrastructure should be designed to allow for a change in the boiler to an alternative technology at a later date
- 14 There is at the time of writing this report no existing heat network identified in Swale. However, it is likely that there will be a heat network installed at the Queenborough and Rushenden site and any future heat network should be considered for connection of existing buildings or new developments.

F APPENDIX F: SUSTAINABLE DESIGN and CONSTRUCTION**Recommendation E3 - Low and zero carbon technologies**

The requirement for Code Level 3/4 Standard for homes (see Policy O1) includes a mandatory 25% or 44% CO₂ reduction respectively below Building Regulations Part L. However, planning permission will not be granted unless the proposed strategy to achieve this reduction incorporates sufficient low and zero carbon technologies to reduce the development's predicted total annual CO₂ emissions by at least 10%. The calculation of the predicted total annual CO₂ emissions will be required to include not only the Part L regulated CO₂ emissions (from space heating, water heating, lighting, pumps and fans) but also the CO₂ emissions from cooking and other appliances, taking into account any reductions predicted through the application of energy efficiency measures.

Likewise, to achieve the BREEAM "Very Good"/ "Excellent" standard, proposals for new non-residential development of more than 1000m² floor-space will not be permitted unless the proposed strategy incorporates sufficient low and zero carbon technologies to reduce the development's predicted total annual CO₂ emissions by at least 15%. The calculation of the annual CO₂ emissions for each non-residential building will be required to include the CO₂ emissions from space heating and cooling, water heating and lighting as required by BREEAM.

OPTION: This requirement could be increased to a 20% reduction in CO₂ emissions in regeneration areas.

Where landscape character conflicts with the achievement of the required energy guidance robust evidence must be provided to the council to justify that non-obtrusive options have been investigated in order to meet the policy.

Recommendation W1: Reducing Water Consumption in Non-residential Buildings

Applications for non-residential developments will not be considered if the following measures to reduce water consumption have not been implemented:

- Dual flush WCs
- Low flow showers (flow rate of less than 10 litres/minute)
- Taps with one of the following controls:
- Timed automatic shut-off taps e.g. push taps
- Electronic sensor taps
- Low flow screw-down/lever taps
- Spray taps

Recommendation W2: Water Metering

It is expected that any conversions, refurbishments or new development on brown-field land that takes place will incorporate water meters for each dwelling or tenancy section.

OPTION

Recommendation W3: Rainwater Harvesting

Development proposals for low-density developments (developments with a ground floor area: total internal floor area ratio of less than 2) will not be permitted unless they incorporate rainwater harvesting for flushing WCs and where practicable for supplying washing machines.

In addition, for houses with external space, development proposals must show that waterbutts for the harvesting of rainwater for irrigation have been included.

F APPENDIX F: SUSTAINABLE DESIGN and CONSTRUCTION**Recommendation M1: Use of Local Materials**

It is expected that the use of local materials i.e. those sourced from within a 30 mile radius will be maximised

Recommendation M2: Low Environmental Impact of Materials

In all development proposals, the following issues must be considered during the material specification process:

- Maximise the re-use of existing materials such as slate or clay roof tiles and wooden structural beams
- Minimise the use of cement – substitutes for cement should be considered. However, this should not be done at the detriment of introducing thermal mass into buildings
- Materials with a low life cycle environmental impact should be specified, meaning that the impact of material extraction, processing, manufacture, transport, use and disposal of the material is considered. The use of the Green Guide to Specification⁽¹⁵⁾ (published by the Building Research Establishment) will help to identify those materials that have a low embodied energy and low environmental impact.
- Minimising the use of products containing CFCs, PVC and formaldehyde glued chipboard or Medium Density Fibre Board (MDF)

Recommendation M3: Responsible Sourcing of Materials

Development proposals should show that at least 80% of timber for both permanent and temporary uses should be from a recycled, re-used or certifiably sustainably source as approved by the Central Point of Expertise on Timber, with local wood being used in preference.

The following schemes would be acceptable:

- Forestry Stewardship Council (FSC)
- Canadian Standards Association (CSA)
- Sustainable Forestry Initiative (SFI)
- Programme for the Endorsement of Forest Certification Schemes (PEFC)

Recommendation M4: Increasing the Recycled Content of Materials

Development proposals should demonstrate that at least 15% of the total value of materials used will be sourced from recycled sources.

OPTION

Recommendation M5: Green Guide to Specification

Key building elements should achieve at least a B rating against the Green Guide to Specification

- Roof
- External walls
- Internal walls
- Floors
- Windows

Recommendation T1: Cycle Storage

Residential developments will not be considered unless secure storage facilities are provided for:

- 1 bike for 1 bed homes
- 2 bikes for 2 and 3 bed homes
- 4 bikes for 4 bed homes⁽¹⁶⁾

Non-residential developments will not be considered unless secure facilities (together with changing facilities and lockers / dedicated drying space for wet clothes) are provided for:

- 10% for first 500 occupants
- 7% for occupants in the range of 501-1000
- 5% for occupants over 1000⁽¹⁷⁾

Recommendation T2: Travel Plans

Applications for all development over 1,000m² must be accompanied by a Travel Plan. The plan should be based around the strategy outlined in the pyramid below.

Recommendation R1: Provision of Recycling Facilities

Proposals for development will not be permitted unless:

- They are designed to incorporate adequate space for the storage of recyclable waste and non-recyclable waste, where different waste streams can be segregated and collected
- In the case of residential schemes, each dwelling with private garden space is equipped with a composting bin
- The siting of recycling facilities follows consideration of vehicular access to the site and potential noise impacts of amenity

16 Equivalent to 2 credits under Code for Sustainable Homes

17 Equivalent to 2 credits under BREEAM

F APPENDIX F: SUSTAINABLE DESIGN and CONSTRUCTION**Recommendation B1: Encouraging Sustainable Building Usage**

Completed developments must be accompanied by an easily understandable guide for the occupants of any building providing adequate information on the every-day use of the building, including the following information:

- Environmental strategy/ design features
- Energy
- Water use
- Recycling and waste
- Sustainable DIY

Recommendation C1: Reducing Demolition Waste

For redevelopment proposals, prior to demolition all possibilities for the re-use of the existing buildings must be investigated. This can be achieved through the use of the Institute of Civil Engineer's (ICE) demolition protocol⁽¹⁸⁾.

Recommendation C2: Increasing the Lifetime of Development

For all new development proposals it must be demonstrated how the expected lifetime of the development will be increased through following the principles below, this will also act to extend the lifespan of the materials used:

- Maximise the re-use of the buildings including the basements and roof spaces
- Investigate the opportunities to incorporate mixed uses within buildings, particularly public access uses (retail, leisure etc) at ground floor level
- Where other policies allow, consider increasing the floor space of the existing building through additional floors and/or extensions
- Review the function of any open land within the site
- Ensure works do not restrict the occupation of the building by other uses in the future, i.e. create a building with greater flexibility for future re-use

Recommendation C3: Site Waste Management

Site Waste Management Plans, when required, are expected to include procedures for minimising waste produced on site as well as sorting, re-using and recycling the waste that is produced. Targets for waste minimisation during the construction process should be set using the Construction Excellence's Environmental performance indicator benchmarks⁽¹⁹⁾.

Recommendation C4: Considerate Construction

Developers will be expected to be certified under the Considerate Constructors Scheme. A Score of at least 32 (demonstrating best practice) is expected.

18 <http://www.aggregain.org.uk/demolition/the-ice-demolition-protocol/>

19 <http://www.kpizone.com>

Recommendation S1: Designing Secure Development

The following issues should be considered in designing the development:

- Opportunities to incorporate passive surveillance of streets, spaces, parking and servicing areas
- A 'perimeter block' approach wherever practicable and appropriate, comprising frontages where the public realm is readily overlooked from adjacent properties and the rear gardens are private secure areas which are difficult for third parties to access
- Strong demarcation between public and private space
- Developments are constructed of vandal resistant materials, and that maintenance arrangements are in place
- Developers should consult the Crime Prevention Design Advisor from the local police to discuss how security is to be addressed within the development prior to a full application being submitted
- The Secured by Design Standard should be the minimum that developers aspire to

Recommendation A1: Ensuring Accessible Developments

The Council requests that accessibility extends beyond the remit currently addressed in Building Regulations:

- All development should meet the principles of inclusive design; to be used safely and easily by as many people as possible without undue effort, separation, or special treatment
- New development should be accessible for people walking, cycling and travelling by public transport
- Safe and convenient pedestrian, cycle and wheelchair access should be provided into the site and pedestrian and wheelchair access into the building and around the site itself.
- Appropriate convenient access should be provided within buildings for both occupiers and visitors. Measures to facilitate such access should not be separate from general access arrangements.
- E-enabling by the use of IT systems to facilitate virtual access should be considered
- Housing should be designed to Lifetime Homes standards as outlined at <http://www.swale.gov.uk/index.cfm?articleid=4827>

F APPENDIX F: SUSTAINABLE DESIGN and CONSTRUCTION**Recommendation G1: Green Infrastructure**

Development proposals should be accompanied by a consideration of the following green infrastructure principles:

- Identify opportunities to improve access to and the accessibility of open spaces, through support for public transport, cycling, walking, and improving access and facilities for disabled people.
- Identify opportunities for improving linkages between open spaces and the wider public realm
- Ensure that open space can be used and owned by the community (e.g. provision of allotments and access to green space for those without gardens).
- Make use of interpretation to help improve accessibility and foster understanding and ownership of common land
- Ensure convenient and enjoyable access to nature by prioritising increases in biodiversity where sites are within or near to areas deficient in accessible wildlife sites
- In residential developments, make provision or a contribution for open space, amenity space and children's play space.

Recommendation E1: Protecting and enhancing ecology

Proposals should show that the following measures will be undertaken prior to development commencing:

- A site appraisal should be undertaken to include ecological survey data with relevant desk and field studies carried out at the appropriate time of year
- The ecological appraisal should provide recommendations on protection, enhancement, and management of biodiversity on the site – in the design of the building and landscaping – and if necessary mitigation
- Special attention should be given to assessing the impact on protected sites and taking account of the unavoidable climate change anticipated in the locality over the lifetime of the development
- Development should protect, conserve and enhance the biodiversity of the river environment for sites which have a river or watercourses within their boundary
- Measures to be considered include: green or brown roofs; green walls; bird and bat boxes; links to wildlife corridors; wildlife ponds and other habitats; native planting schemes; the renaturalisation of river corridors where appropriate and inclusion of a vegetated buffer zone for biodiversity.
- In all development circumstances, the design for biodiversity sequential tests should be applied: Retain, enhance or create features of nature conservation value and avoid harm
- Mitigate for impacts to features of nature conservation value
- Compensation for the loss of features of nature conservation value

This appendix provides more information with regard to the potential technologies for use within the masterplan area, referring first to the energy interventions and then to flooding and drainage.

ENERGY INTERVENTIONS

COMBINED HEAT AND POWER

CHP is the production of electricity and useful heat from a single plant. In a CHP system energy can be produced the same way as conventional electricity, but the heat is retained for heating, hot water and cooling, distributed through a network of pipes. This improves overall efficiency of energy to around 85%. Electricity through CHP can be sold in following three ways:

- It can be made available to energy supply companies. Any rise in cost of conventional energy generation improves the economics for CHP operators. Figures from the Organisation for Economic Co-operation and Development (OECD) reveal that energy prices in Britain have increased by 16.7 per cent over the past year
- Transportation through local distribution networks, selling directly to other users. This incurs a distribution use of system charge.
- Selling directly to customers through a private wire network (PWN).

In summary, CHP:

- Increases efficiency over conventional grid supply by up to 50%.
- Reduces CO2 emissions by up to 40%.
- Can be used at all scales but most efficient when used as part of a sustainable energy network.
- Has a lifespan of around 15 years.

MICRO WIND

Wind is a potential energy source. Exposed roofs present the opportunity to use both micro and a medium-sized wind turbines. Micro wind turbines can be integrated into the roof ridgelines, and larger wind turbines can be positioned near to the site, although location does need to be considered with reference to local bird populations on the Swale. Ideal locations include both North East, and South West roofs. Wind turbines convert the power of wind into electrical energy using rotating blades in which to drive a generator. They can be either connected to the national grid to export electricity, used directly for electricity or used to charge batteries for on-site use.

In summary:

- Care should be taken in choosing turbine types and location to take advantage of available wind, but also to avoid or minimise visual impact.
- Developments will normally require planning permission.
- Larger turbines require suitable infrastructure.
- Can be stand-alone or integrated into a network.
- Lifespan of around 25 years, or less if connected to a battery.

SOLAR PHOTOVOLTAIC

Solar Photovoltaic (PV) Technology is employed to directly convert solar energy to electrical energy by a "solar silicon cell". The latest technology now includes Thin Film PVS that can be applied to glazing. These arrays are best located on south orientation or about 20° east or west. They can be fitted on roofs, but also used as brises soleils to reduce heating in summer. New buildings need to consider orientation and design so that PV arrays can be retrofitted. Factory roofs are a prime place

G APPENDIX G: ADDITIONAL GREEN CHARTER INFORMATION

for solar arrays, and even orchards can be used, with the arrays deflecting winds over the trees. PVs are silent, long life with zero maintenance levels. PV cells are more efficient at lower temperatures, so require good ventilation. At Sittingbourne we can integrate solar cells with cool green roofs, improving overall efficiency. The angle of the PV array works efficient at an angle of 45 degrees.

In summary:

- Silent operation with no moving parts, leaving minimal operational or maintenance costs.
- Can be integrated into the building fabric, thereby offsetting costs such as solar shading, roofing or cladding.
- Does not require direct sunlight, though care must be taken to avoid overshadowing.
- May have implications for load capacity of the roof or structure of a building.
- Lifespan of at least 15–20 years.

BIOMASS AND BIOFUEL

Biomass is the production of energy through organic matter. Biomass fuels are determined as virtually carbon-neutral. The growing plant or tree absorbs CO₂ during its lifetime, and the same amount is released upon conversion to energy. Biomass/biofuels can be produced from a variety of plant types such as short rotation willow coppicing, as well as from waste materials. At Sttingbourne it may be possible to integrate bio-mass with a CHP unit.

In summary:

- Virtually carbon neutral (CO₂ emissions associated with transportation).

- Cost of fuel is comparative with conventional heating fuel, and will improve as fossil fuel prices increase.

- Can operate at a variety of scales.
- Storage of fuel and disposal of ash are considerations.
- Biomass can be processed as low moisture content pellets or burned in situ.
- Lifespan of approximately 20 years.

SOLAR THERMAL HOT WATER COLLECTORS

Solar Thermal Technology is employed for collecting & converting the solar energy to heat energy for application such as water & air heating, cooking & drying, steam generation, distillation, etc. A solar thermal device consists of a solar energy collector - “the absorber”, a heating or heat transferring medium, and a heat storage or heat tank – they require a south aspect for efficient use. The system consists of solar collectors that are often roof-mounted. Water or oil is passed through the collectors to a heat exchanger in the hot water cylinder, which will also have a top-up heat source from a conventional system. Solar thermal collectors fall into two broad categories:

- Flat plate collectors are usually glazed. They are less expensive than evacuated tube collectors but also slightly less efficient and subject to convective and conductive losses.
- Evacuated tube collector the absorber surface is placed inside a glass tube. The air is removed to stop nearly all convective and conductive losses. Evacuated tubes are more efficient and expensive than flat plate collectors. The ease of integration with other renewable technologies is limited. Solar thermal competes against the viability of CHP and community heating

because it reduces the demand for heating which is needed to make CHP and community heating efficient and economic.

In summary:

- Can be either flat plate (cheaper) or evacuated tube (more efficient) collectors.
- Does not require direct sunlight, though care must be taken to avoid overshadowing.
- Can be used with combination boilers.
- Lifespan of at least 20 to 25 years.

GROUND SOURCE HEAT PUMPS (GSHP)

Ground source heat pumps harness energy from the ground. On average ground temperatures remain more stable in comparison to ambient air temperatures. A typical system consists of a ground-to-water heat exchanger 'ground coil' a heat pump and a distribution system. Underfloor heating is the most efficient way to distribute the heat. A GSHP has little or no maintenance costs, as the pump can be replaced without having to replace the whole system.

In summary:

- Provide either heating or cooling.
- Trench systems require a large area.
- Borehole systems need access for drilling, a geological survey and possibly a permit from the Environment Agency.
- Life span for heat pump – around 15 years; for the coil system – around 30 years.
- A typical borehole system costs around £1,000 per kilowatt.
- Trench systems cost around £500–700 per kilowatt.

FUEL CELLS

Fuel cells convert hydrogen and air into heat, with the only by-product being water. The hydrogen required to power them has to be manufactured using primary energy. Solar, or wind energy can be used to help fuel the required power. They are currently relatively expensive.

In summary:

- Efficiencies of around 60%.
- Pollution free: by-product is water.
- Fossil-fuel energy is required to produce hydrogen fuel.
- No moving parts, silent operation and little or no maintenance.
- Can be used at micro up to very large scales.
- Lifespan is at least 20 years.
- Cost of about £1,000 per kilowatt is often cited.

OTHER IMPORTANT ENERGY CONSIDERATIONS

ORIENTATION

The orientation of buildings and streets is key to reducing energy consumption, surely this is the first place to look for carbon savings. A home that will cost significantly less to heat or cool, is more cost effective and provides a degree of insurance to householders against world change. For example, the energy penalty of a house oriented west as opposed to south can be around 500Kw hours per year. This generates a major selling point in today's world of inflated fuel prices. Landscape design can play a part in reducing energy consumption through the active cooling of streets in hot summers, helping to create more amenable microclimates in winter, especially when dealing with wind. In

G APPENDIX G: ADDITIONAL GREEN CHARTER INFORMATION

Sittingbourne there is a particular exposure to the cold East and North easterly winds at the beginning of spring and towards the end of autumn.

BUILDING INTEGRATED VEGETATION

Planting can act as a dynamic building cladding providing services or functions. This can be on roofs, walls or on immediately adjacent land. Green walls comprise a planted façade can make a significant contribution to the building and its immediate environment in a variety of ways. As a dynamic building fabric, vegetation can provide the following services:

- **Shading-** As a significant surfacing to exterior walls annual creepers provide protection from the sun in summer and as they defoliate in winter, allow solar penetration in winter.
- **Acclimatisation-** Perennial plants help in the convection cooling of air through heat absorption during transpiration. The spaces between building skin and vegetal skin acts as a thermal flue improving convection airflow creating a buffer zone of cooler air between building and outside

Green walls can lower ambient temperature by 2 degrees centigrade on hot days and prevent building masonry from heating up. They act as a good dust filter and provide some habitat to wildlife. Deciduous vegetation allows winter solar gain. Evergreen vegetation in winter, on the other hand reduces heat loss from buildings by up to 30% in temperate climates.

Green roofs provide a wide range of public and private benefits. These range from improved storm water management and air filtering, to better energy efficiency and new amenity space for building occupants. The ecological value of green roofs needs to be integrated with the landscape, to maintain a healthy wildlife resource. Standard asphalt of mineral covered roofs are

generally biological deserts. Green roofs can provide living conditions which meet certain plant requirements and a micro climate for insects and birds which feed on them. The concept of creating suitable micro climates is integrated within the fabric of street trees. Such trees help to lift cooler air, creating more temperate stable climates beneath.

FUTURE TECHNOLOGIES

We might expect improvements in performance and cost of current technologies, but an important new energy source will be Hydrogen. Currently this is relatively expensive and has a high energy demand to split water, but a number of technologies are being developed using catalysts such as boron, or using hydrogen as a means of storing wind harvested energy. An extension of biofuels may be the emerging algae technology which requires good solar access.

FLOODING AND DRAINAGE APPROACHES

GREEN ROOFS

Green roofs can retain 75-90% of a rainstorm in the short term slowing surface run off in the same way that, for example, woodland cover on water sheds do. By holding water in place for longer, more time is available for natural processes to work in the wider system such as evaporation and percolation into the soil. This, in turn, provides time for natural cleaning process to act upon the water, reducing the incidence of point loading of pollutants entering the creek, or being flushed from it into the Swale and Thames Estuary

In some states of Germany and in Switzerland, a percentage of roof space must be green as part of the municipal surface water management strategy. In Sittingbourne this should be a requirement as well, embodied in the Green Charter.

In Germany, over 10% of all flat roofs are 'green roofs'. This represents over 55 million square metres of green roof infrastructure put in place since 1989. Green roof infrastructure is funded through public-private partnerships in Germany. Almost 50 per cent of German cities (77 cities) have programs in place that support the development and growth of a market for green roof infrastructure. 80% of the green roofs are extensive, involving lower costs, growing media and plant diversity. The German Roof Gardeners Coalition has been successfully advocating for green roofs since 1984. For information (in German) about this coalition, their research and lobbying efforts, visit: <http://www.dachgaertnerverband.de/stadt.htm>

RAIN WATER HARVESTING

The pressure on water resources is increasing with the increased development of the Thames Gateway, over use of water, and the fact that this part of England has some of the lowest rainfall in the country apart from East Anglia. One third of all treated water used in the home is flushed down the toilet - an unnecessary level of treatment and high embodied energy, carbon and environmental footprint (chemical treatments etc). Harvesting roof water for sanitation is, therefore, a sensible approach to a sustainable use of resources and helps to build in security of supply, at a time when London is considering building desalination plants (with all the energy and environmental issues that follow). Long term climate forecasts for climate change suggest longer summer droughts which need to be considered in the planning of development now.

SHALLOW INFILTRATION BASINS

These can be managed as wild flower meadows. They are not designed to be deep ponds and should not present a danger. Deeper or permanently wet parts of the basin may become colonised by reeds and rushes, and willows. The

maintenance would follow simple regime of mowing each year, and thinning/pruning willows every few years. This facility also provides an ecological resource.

SURFACE CONVEYANCE CHANNELS AND SWALES

There are three main ways in which surface conveyance channels and swales can be incorporated within development areas:

- **Rip rap and Riffles:** The amount of surface water generated during a storm in a car park or large area of hard standing can be considerable, and in order to minimise erosion, energy has to be taken out of the water entering a shallow lagoon. A stone riffle, water stair, or rip-rap can not only be a design feature, but can slow down the pace of water run off by taking the energy out of the flowing water and allows it to fill the shallow infiltration bed. The grassed area may be expected to be wet only from time to time, and there may be a need for a piped overflow to a deeper pond feature associated with water cleaning marginal and emergent planting.
- **Swales:** These are shallow ditches which can be grassed, filled with wetland plants such as common rush, yellow flag iris, meadow sweet or hemp agrimony, or planted with damp tolerating shrubs in a more formal 'horticultural' sense. They are sometimes referred to as bio swales. These swales can be located between rows of parking bays or as collectors at the edges of roads and car parks. These are essentially 'Green fingers.'
- **French Drains:** are a gravel filled filter drain - sometimes referred to as a french drain located between rows of parking with a slotted pipe at the base discharging into a collecting basin. The benefit of planted swales is that apart from appearance, the vegetation and microbes at the rootzone act as a filter for low level pollutants.

G APPENDIX G: ADDITIONAL GREEN CHARTER INFORMATION

Permeable surfaces can comprise porous tarmac, gravel, or proprietary porous paving blocks such as 'Aquapave' or 'grasscrete'.

SALT MARSH

The value of saltmarsh habitat, in terms of the diversity of animal and plant life present in an estuary and to estuarine processes generally, is considerable. Saltmarshes are amongst the most productive ecosystems in the world in terms of the amount of vegetative annual growth, and the mass of invertebrate life that develops by feeding on the dead vegetation. As such, undisturbed saltmarsh is a significant carbon sink, and it plays a major role in restocking local fisheries. Fish fry float upstream on the flood tide, and find refuge in the channel margins during the ebb tide. Without adequate and appropriate edge habitats, the fry migrations would be impeded, and the fish populations would diminish.

A significant quantum of salt marsh has been lost from the greater Thames Estuary due to development of flood defences and land reclamation. Climate change is now a further threat, squeezing the narrow area in which saltmarsh can exist due to rising sea levels (effectively 4-5mm per year due to a combination of sea level rise and local sinking of the area). Therefore, as an essential component of our environmental infrastructure for food resources and carbon sequestration, as well as this being a locally distinctive feature, there is good reason to celebrate and interpret the resource along Milton Creek and the Swale.

Saltmarsh vegetation shows a progression from species that are immersed for greater lengths of time and can tolerate different levels of salinity, to an interface with fresh water wetland above the tide. These zones are characterised as:

- The Upper marsh zone
- The Lower marsh zone
- The Strandline and Suppralittoral Zone

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