

NORTHERN GATEWAY STRATEGIC SITE BACKGROUND PAPER



**PART OF DARTFORD'S
LOCAL DEVELOPMENT FRAMEWORK**

August 2010 – Living Document

DARTFORD
BOROUGH COUNCIL

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1. Background

Purpose

- 1.1 The purpose of this Paper is to provide background evidence to support the proposals for the Northern Gateway Strategic Site Allocation, as identified in Dartford's Core Strategy – a site located on the northern edge of the Dartford town centre. It seeks to:
- Identify the strengths and opportunities of the site, so as to maximise the site's development potential.
 - Identify constraints to development and consider how these can be overcome through appropriate development of the site.
 - Consider development options.
 - Consider the phasing and delivery of the site, with a specific emphasis on the infrastructure required to support the redevelopment of the Northern Gateway.

Aims

- 1.2 With regard to infrastructure, this Paper aims to:
- Identify and quantify the elements of both physical and community infrastructure necessary to develop the site.
 - Identify appropriate locations for infrastructure across the Northern Gateway, taking into account site constraints.
 - Identify the appropriate phasing of infrastructure (and relate this to location), to ensure facilities are available when occupants and workers move into the site.
 - Aid discussions with service and infrastructure providers, public sector and grant-funding bodies, to ensure that funding is available and that essential infrastructure can be put in place in a timely manner.
 - Identify the funding and/or delivery body, where options for the funding of infrastructure by the public sector have been exhausted.
 - Aid delivery of sites by removing uncertainty regarding the required infrastructure.
- 1.3 Site specific and standard planning requirements, such as affordable housing and site-specific access arrangements, will be considered separately through the planning application process.
- 1.4 The following section provides a general background to the Northern Gateway by explaining the site's location, current land uses and ownership details.

Site Location

- 1.5 Appendix 1 shows the location of the Northern Gateway. It is immediately to the north of Dartford Town Centre. The railway line separates the site from the station and the town centre south of it. To the east, it is bounded by the residential areas of Temple Hill, The Bridge to the north and Burnham Road to the west. The River Darent, which flows from the town centre, traverses the site. It then flows out through the Dartford Marshes and into the River Thames. The Mill Pond, located near to the southern boundary connects the river to the creek and acts as a flood storage pond.
- 1.6 Due to its central location, with easy access to public transport, the Northern Gateway has the potential to create a sustainable working and living community. With the site located in the midst of residential communities, the potential exists to integrate these surrounding communities through the development of the site. Redevelopment of the site can assist in improving the permeability of the site and surrounding areas. The River Darent, which has been hidden from

view, can be made more accessible, with opportunities for recreation, navigation and wildlife and footpaths and cycleways alongside it.

Land Uses and Ownership

- 1.7 Historically, the Northern Gateway has been an important employment area for Dartford. Today, the Northern Gateway comprises approximately 90 hectares of land, with a number of different land uses and individual sites and a complex ownership pattern. [Appendix 2](#) shows the different parcels of land:
- The majority of GlaxoSmithKline's (GSK) land including the East site and Mill Pond site are already surplus to requirements and lie redundant. This land has been sold by GSK to a developer who is looking to redevelop it for a residential-led scheme with supporting uses. The North site currently remains in use for pharmaceutical operations but GSK's manufacturing will stop by 2013. It is likely that all three sites will be available for redevelopment in the future. GSK have an outline planning permission for employment uses on GSK's Dartford Fresh Marshes site. A renewal application has been submitted but has not yet been determined and future intentions are now unclear, in light of the cessation of GSK's manufacturing operations.
 - There are a number of other sites within the Northern Gateway that are currently available for redevelopment. SEEDA has acquired various sites (including Steam Crane Wharf, Milestone Garage, 3 Victoria Road and Unwins Depot) and is negotiating the acquisition of other sites, with the intention of redeveloping them, using a variety of funds including approximately £10m from the CLG Sustainable Communities Fund.
 - The former paper mill now has two separate ownerships. Arjo Wiggins own the northern part and Unicoil own the southern part. Both sites lie redundant and the owners are actively seeking redevelopment of these two sites.
 - The remaining land - the Riverside Industrial Estate, the Rochester Bridge Trust (RBT) site, the Victoria Industrial Park, the Abbott Murex site, parts of Hythe Street and the gas holder site are in existing employment use. There currently appears to be demand for this employment floorspace and they are likely to remain in the near future, although these sites could be considered as longer term redevelopment opportunities if sites are vacated or as and when leases come up for renewal.
 - Some residential properties exist in the south western corner of the Northern Gateway, along Hythe Street and at Humber Road and Kenwyn Road, with Kenwyn Road having been recently developed.

2. Methodology

Research Techniques

2.1 Figure 1 shows that a combination of research techniques have been used, including:

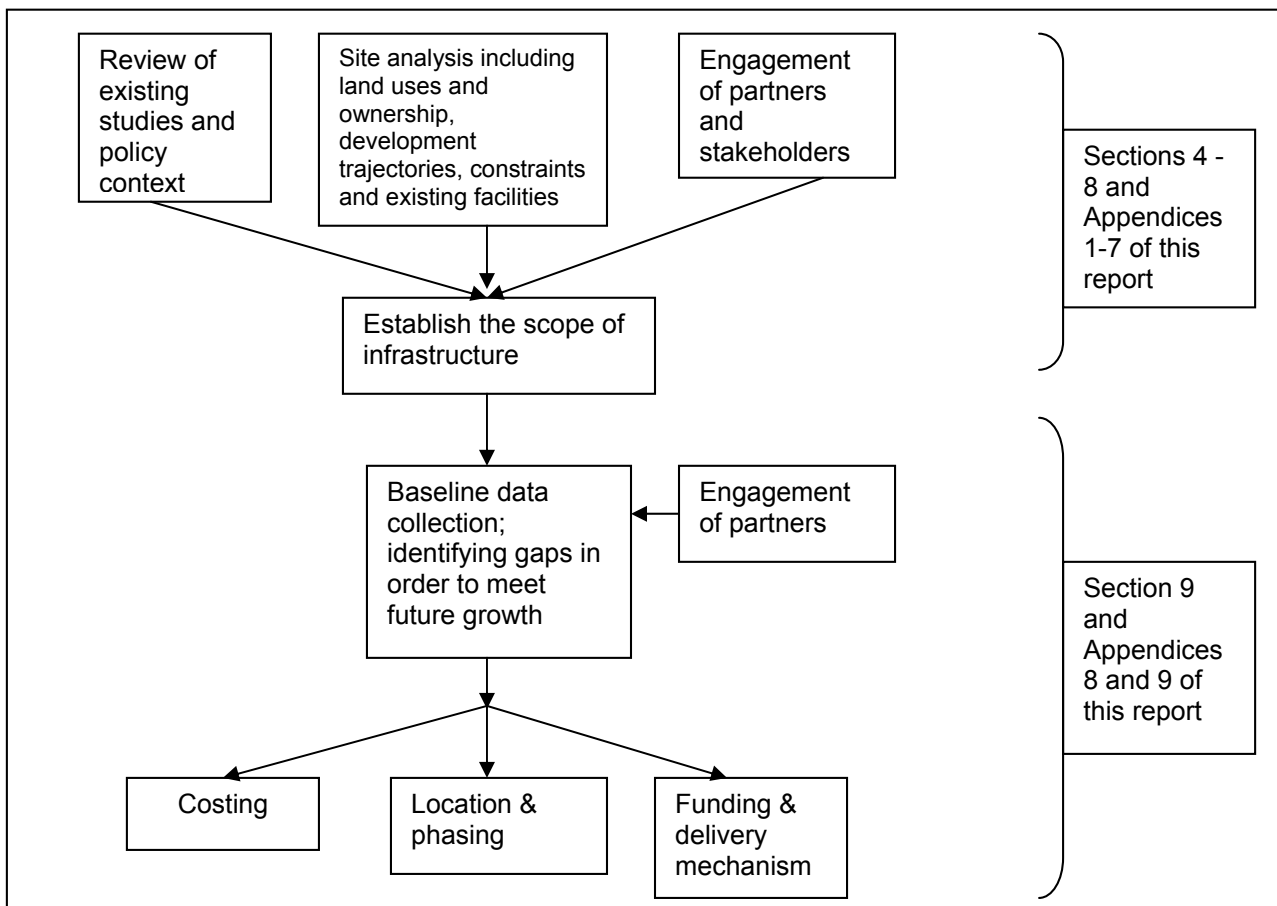
- A review of the policy context (section 4).
- Site analysis (section 5).
- Stakeholder engagement and consultation (section 6).
- A review of the evidence base (section 7).

The information collected has been used to determine the likely development that will take place at the Northern Gateway. Furthermore, the information has been used to scope how the sites, and the required infrastructure, can be delivered.

2.2 From a scoping list, further desk research and discussions have been carried out in order to identify a specific list of infrastructure requirements that are related to the Northern Gateway, together with details on how the infrastructure could be implemented such as costing, land take, phasing and delivery. Infrastructure requirements have been discussed with service providers, in tandem with Boroughwide forecasting and identification of infrastructure needs, which has been undertaken in developing the Infrastructure Delivery Plan and Infrastructure Background Document. The resulting information is shown in Appendix 8. This is a living document and will be subject to ongoing discussion with stakeholders and updated accordingly. The most recent version will be made available on the Council's website.

2.3 Throughout this process, there has been a focus on obtaining the commitment of key partners. Initial discussions with stakeholders helped during the scoping and drafting process.

Figure 1 Research Undertaken



3. Policy Context

3.1 A range of policy guidance exists, from national, regional, sub-regional and local level, which will inform the development of the Northern Gateway.

National Level

3.2 The emphasis on the delivery of spatial plans and the links between strategic sites and infrastructure provision has been significantly strengthened. **Revised Planning Policy Statement 12**¹ states that:

- *'Core Strategies may allocate strategic sites for development. These should be those sites considered central to achievement of the strategy'* (para 4.6).
- *'The Core Strategy should be supported by evidence of what physical, social and green infrastructure is needed to enable the amount of development proposed for the area, taking account of its type and distributions. This evidence should cover who will provide the infrastructure and when it will be provided. The Core Strategy should draw on and in parallel influence any strategies and investment plans of the local authority and other organisations.'* (para 4.8).
- *'Infrastructure planning for the Core Strategy should also include the specific infrastructure requirements of any strategic sites which are allocated in it'* (para 4.11) and
- *'Core Strategies should show how the strategy for the area will be delivered and by whom and when, including making clear how infrastructure will be provided based on sound infrastructure delivery planning and ensuring partners who are essential to the delivery of the plan are signed up to it and stating clearly who is intended to implement different elements of the strategy and when this will happen'* (para 4.45).

Regional Level

3.3 The adopted **South East Plan**² emphasises:

- The co-ordinated provision of adequate infrastructure, environmental improvement, multi-functional green space and community services, to support sustainable growth and to serve both existing and new communities (CC8, KTG1, KTG4 and S6).
- That the scale, pace and phasing of development will depend on sufficient capacity being available in existing infrastructure to meet the needs of new development or additional capacity being released through a) demand management measures, b) better management of existing infrastructure and/or c) new provision (CC7 and S6).
- The need for effective site delivery by identifying necessary infrastructure early in the planning process, together with a) the means, b) broad costs, c) timing/phasing of provision, d) role and scope of development contributions and e) a programme of delivery to be agreed before development begins (CC7 and KTG4).

Sub Regional Level

3.4 The **Thames Gateway: Delivery Plan**³ identifies a range of infrastructure including the Thames Gateway Parklands, planned investments in schools and Sure Start centres, opening up the River Darent and a health centre as part of the Northern Gateway development.

3.5 **Growth and Regeneration in the Thames Gateway**⁴ emphasises a) the timely provision of healthcare, education, public spaces, leisure services that meet the demands generated by

¹ CLG (June 2008) Revised Planning Policy Statement 12 Local Spatial Planning

² GOSE (May 2009) The South East Plan: Regional Spatial Strategy for the South East of England

³ DCLG (2007) Thames Gateway: Delivery Plan

growth, b) co-ordination to ensure balanced communities, c) clear phasing to make the best fit between capacity and demand and d) the need for both capital investment and the effective management and maintenance of facilities.

- 3.6 **Greening the Gateway**⁵ seeks to create a network of varied, well-managed and functional green infrastructure. It identifies the key challenges for delivery as ensuring multi-functionality and effective long term management.
- 3.7 The **TE2100 Plan Consultation Draft**⁶ identifies that extensive redevelopment can provide opportunities to improve fluvial flood risk management as well as to enhance river frontage and environment/amenity. It also emphasises the need to retain Dartford Marshes as an important green recreation and wildlife space. Furthermore, the Marshes are identified as one of four potential sites for tidal flood storage to help reduce extreme water levels at the Thames Barrier.
- 3.8 **Thames Strategy East**⁷ seeks to protect and enhance a) open estuarine and marshland character and biodiversity, b) the strategic connections to the Thames along the River Darent, c) marsh watercourses and ditches as part of a multi-functional green space infrastructure, d) space for water in riverside development proposals, e) river based transport and f) leisure and recreation.
- 3.9 The **Waterfronts and Waterways in Kent Thameside**⁸ acknowledges that the River Darent has little public access along its banks, a neglected public realm and a poor relationship with the amenity of the river. The study acknowledges the need for a) improved public access alongside the river and connectivity to the Green Grid network, b) reinstating the lock, c) moorings and a slipway to access the river, d) the restoration of two bridges across the river and e) protecting the Dartford Marshes. The study stresses that the public sector will be required to put in place infrastructure in order to unlock development.
- 3.10 **Growing Sustainable Communities**⁹ identifies the strategic priorities for investment including the revitalisation of Dartford town centre, progressing Fastrack, delivering the Green Grid and promoting the improvement and new provision of community hubs and health and social care centres.
- 3.11 The **North Kent Multi Area Agreement**¹⁰ (MAA) focuses on achieving sustainable economic growth and regeneration through a number of themes, a) developing new investment and funding mechanisms to underpin infrastructure delivery, b) securing sustainable transport and connectivity and c) fostering sustainable communities in tandem with housing growth. The MAA also contains a number of relevant outcome objectives: a) align investment and strategic priorities to support regeneration in North Kent, b) swifter and more certain delivery of transport infrastructure to support sustainable economic growth, c) more sustainable and integrated transport systems and d) maintain momentum in the delivery of new housing.
- 3.12 Kent County Council's (KCC) **Development Contributions Guide**¹¹ promotes a consistent approach towards the requirement for development contributions and provides a calculation for KCC provided services, usually expressed as rates per dwelling but often with different rates for flats and houses. These calculations have been included within the costs column of the Proposed

⁴ ODPM (2004) Growth and Regeneration in the Thames Gateway

⁵ ODPM (2005) Creating Sustainable Communities: Greening the Gateway Implementation Plan

⁶ Environment Agency (April 2009) TE2100 Plan Consultation Draft

⁷ Thames Estuary Partnership (2008) Thames Strategy East

⁸ Kent Thameside Delivery Board (2006) Waterfronts and Waterways in Kent Thameside

⁹ Thames Gateway Kent Partnership (2006) Growing Sustainable Communities

¹⁰ Thames Gateway Kent Partnership (2009) North Kent Multi Area Agreement

¹¹ Kent County Council (March 2007 and updated 2008) Guide to Development Contributions and Provision of Community Infrastructure

Infrastructure Framework in [Appendix 8](#). On substantial development sites (usually 300+ units) there may also be the requirement for a site upon which facilities can be built, with this land being provided at no cost to KCC.

- 3.13 Kent County Council's **Review of Current and Future Service Strategies in Kent**¹² identifies a number of future projects to improve the provision of community facilities across the Borough of Dartford although no specific mention is made of the Northern Gateway. New provision is expected as part of new developments in general, and where appropriate these have been incorporated into the Proposed Infrastructure Framework in [Appendix 8](#).
- 3.14 West Kent Primary Care Trust's (PCT) **Strategic Services Development Plan**¹³ prioritises the need for integration between GP and primary care provision and the transfer from single GP practices to shared GP centres. It acknowledges that primary care facilities in Dartford are often single practices that are at full capacity and with poor accommodation and a number of them have been identified as being in priority need for investment. It stresses that facilities in Dartford are currently under strain and this will be exacerbated by the level of planned new development, especially in the vicinity of the town centre. It highlights that investment in primary care provision to meet the needs of the increasing population is necessary but that this should be built and funded by third party developers with leases back to the PCT. It also recognises the need for the modernisation of Livingstone Hospital.

Local Level

- 3.15 The **Sustainable Community Strategy**¹⁴ identifies a number of relevant actions to enhance infrastructure in the Borough including:
- Setting out an agreed approach to the creation of sustainable communities with the provision of a comprehensive range of local community services (HSC1a).
 - Ensuring the provision of green space, sporting and cultural facilities as part of new developments (HW2a).
 - Expanding Fastrack to include new development sites (ET2b).
- 3.16 The **Dartford Town Centre Area Action Plan (AAP) Submission Document**¹⁵ was submitted to the Secretary of State but subsequently withdrawn in January 2009. This was because the major changes to the submitted AAP (arising from GlaxoSmithKline's unexpected announcement to vacate their large site) could not easily be dealt with as an amendment. Instead the Council resolved to commence work on bringing forward the GlaxoSmithKline sites and now intends to incorporate the proposals for the town centre and the Northern Gateway Strategic Site Allocation into the Core Strategy.
- 3.17 Although the AAP has been withdrawn, the content of its policies still remain relevant to the planning of the Northern Gateway. Policy 30 sets out a preferred approach towards redevelopment of the Northern Gateway, including:
- Direct access to the station, with a new entrance from the north (Policies 26 and 30).
 - New and improved walking/cycling routes and Green Grid links through the site and into the town centre and Central Park (Policies 13, 14, 15, 21, 23 and 30).
 - Improved access arrangements at Mill Pond Road/Central Road/Overy Street and new access points at Temple Hill/Central Road (Policy 30).
 - Safeguarded land along Central Road for longer term use by Fastrack and improved priority for Fastrack along Mill Pond Road (Policy 30).

¹² Kent County Council (March 2009) Community Infrastructure Provision: Review of Current and Future Service Strategies in Kent

¹³ West Kent Primary Care Trust (March 2008) Strategic Services Development Plan

¹⁴ DBC (October 2008) Dartford and Gravesham Sustainable Community Strategy 2008-2011

¹⁵ DBC (August 2008) Dartford Town Centre Area Action Plan Submission Document

- New cycle parking and facilities (Policy 23).
- Community facilities including a primary school, health facilities and a meeting hall (Policy 30).
- A wider range of community facilities to support an increased town centre residential and working population (Policies 7, 8 and 9).
- An improved riverside environment by reinstating a tidal lock and creating a new public realm around the Mill Pond, creating better public access along the river corridor, improving the biodiversity of the river and opening up the Creek for navigation (Policies 13, 14, 16 and 30).
- An enhanced environment for new and existing employment uses (Policy 30).
- Public information explaining site heritage (Policies 12, 13, 14 and 30).
- Environmental improvements and maintenance of the Listed Priory Wall (Policy 30).
- A Combined Heat and Power scheme (Policies 18 and 30).
- Sustainable Drainage Systems (Policy 18).

4 Stakeholder Engagement and Consultation

- 4.1 Early and continuous engagement with key partners including infrastructure providers and developers has been integral to this Background Paper, in the form of one-to-one meetings, focus groups and other correspondence.

Core Strategy Consultation

- 4.2 Public consultation on the **Core Strategy Preferred Options**¹⁶ was carried out in January 2008. The responses received highlighted the need for:
- A pattern of development which results in a close interrelationship between complementary land-uses, in particular homes and jobs, and homes and community facilities.
 - Communities to be sustainably planned with the inclusion of necessary supporting infrastructure, including cultural facilities.
 - The timely delivery of infrastructure so that it does not unduly delay development opportunities.
 - Green infrastructure to be developed and implemented in conjunction with new development, and linked to existing areas.

Dartford Town Centre Area Action Plan Consultation

- 4.3 Various rounds of early engagement with key service providers, stakeholders and developers took place when preparing the Town Centre Area Action Plan (AAP). Donaldsons LLP carried out public consultation on the **Dartford Town Centre and Northern Gateway**¹⁷ on behalf of the Council. The responses received highlighted that:
- The restoration of the River Darent is a key priority.
 - There is a need for more attractive and safe pedestrian routes.
 - There should be a complementary balance of town centre uses, including housing.
 - Additional community facilities should fit with the requirements of the community as well as strategic requirements of both Dartford Borough Council and Kent County Council.
 - There is a need to consider demand for water and waste-water infrastructure from proposed new developments and the impact it will have on existing capacity.
 - There should be an assessment of environmental issues, such as flood risk, biodiversity, recreation and energy and waste facilities.
- 4.4 Details of stakeholder comments can be found in the **Dartford Town Centre AAP Pre-Submission Consultation Statement**¹⁸. Specific infrastructure issues relating to the Northern Gateway that were raised during this consultation include the need for:
- A community hub around the Mill Pond, including possible uses such as a youth community facility, Further Education and a Magistrates Court.
 - A primary school on the GSK East site.
 - A health and social care day centre.
 - Clarification on where community facilities will be sited.
 - A high standard of public realm, with public amenity space.
 - Increased accessibility and recreational activity along the River Darent.
 - Green Grid corridors, biodiversity enhancements (especially the River Darent and the Mill Pond), habitat connectivity, adaptation to climate change and mitigation and enhancement measures for protected species.

¹⁶ DBC (January 2008) Dartford's Core Strategy – Preferred Options

¹⁷ Donaldsons (2006) Dartford Town Centre and Northern Gateway Area Action Plans Production Stage Issues and Options

¹⁸ DBC (August 2008) Dartford Town Centre Area Action Plan Pre-Submission Consultation Statement

- Restoring Dartford Lock and making the River Darent navigable.
- Considering archaeological remains.
- Improved links with the rest of the town centre.
- Contributions to be sought for infrastructure improvements, although these should be off-set where community facilities are provided on-site.

It should be noted that this consultation was undertaken before a wider site was considered for redevelopment. Some service providers requirements have changed since then, as a result of changed circumstances and through further development of their requirements.

Northern Gateway Consultation

4.5 Focus group meetings with key stakeholders were held in February and March 2009. [Appendix 5](#) provides the presentation at the February stakeholder focus group and the minutes of the discussion. The focus group meetings highlighted a number of main issues for consideration including:

- Site uncertainties and future development viability.
- Development phasing.
- Creating a sustainable community.
- A variety of development options were considered: COMAH remaining, employment-led, residential-led, or mixed use.
- Future job offers and type of jobs.
- Connectivity with the station.
- Access from Bob Dunn Way.
- Development options on Dartford Fresh Marshes.
- The need for planning obligations with some to be shared among sites.
- Design and sustainability issues, and possible CHP
- Public funding for investment and environment improvement.

4.6 The Council also carried out a Northern Gateway Development Options public consultation in July/August 2009, which sought comments from a wide range of organisations including a range of statutory bodies, neighbouring Local Authorities, key service providers, green infrastructure groups, land owners and their agents, funding organisations, local businesses/organisations and the local community. [Appendix 6](#) shows that the public consultation leaflet, **The Future of Your Community After GSK**¹⁹ identified possible infrastructure requirements including a) new public areas, b) new river crossings, c) a reinstated river lock, d) new Green Grid footpaths and cycleways including riverside walk to the town centre, e) new primary school and f) improvements to green space and biodiversity at the Dartford Fresh Marshes. Responses were received from and a number of statutory bodies and key stakeholders - ES Pipelines, National Grid, Thames Water, Environment Agency, Natural England, GOSE, SEEDA, Kent Thameside Partnership Board, Highways Agency, South East Rail, West Kent PCT, Kent County Council as well as landowners across the Northern Gateway area and their agents (Fort Knight Group, Argo Wiggins, GlaxoSmithKline (GSK) and Rochester Bridge Trust (RBT)).

4.7 A number of issues were identified through the consultation including:

- The need for an infrastructure framework (considered as part of this paper)
- The issue of planning obligations and the need to ensure reasonable and proportionate developer contributions.
- On going discussions between the Council and land owners and developers on site specific proposals and masterplans.
- Remediation against flood risk, the sequential approach across the Northern Gateway area, proposed environmental improvements to existing employment areas and along the River Darent, enhanced biodiversity, improving connectivity between open spaces, multi-functional

¹⁹ DBC (July 2009) The Future of Your Community After GSK

greenspaces, Green Grid links (including to Temple Hill Enchanted Woods), new river crossing, reinstatement of the lock, the use of SUDS and an automated waste collection system.

- Whether there is a case for limited development on the less sensitive parts of the Dartford Fresh Marshes, with compensating greenspace made available on adjoining sites.
- Contaminated land to be remediated as part of redevelopment of the sites.
- Utilities to be provided across the site.
- The known and potential heritage assets, with an integrated heritage strategy used to inform the redevelopment of the Northern Gateway.
- The funding and legal issues regarding the proposed re-routing of Fastrack Route A along Central Road.
- Possible schemes around Dartford Station for example National Station Improvements Programme, and the impact on access routes to the Station, with improved linkage between the station/ town centre and the area to the north of the railway.
- The need to ensure new development is balanced with adequate open space and community facilities, including a 2 GP surgery and a primary school as well as other facilities such as a secondary school, nursery and creche, visitor centre, gym, allotment and more social attractions for families and children, especially older children (such as cinemas, bowling, ice skating, basketball courts, skate park, football pitches).
- The Millpond 'active area' as a location for facilities, with sufficient flexibility to ensure viability and to meet market demand.
- The balance between providing facilities on-site and ensuring these are phased so as not to undermine facilities at Temple Hill or upgrading Temple Hill facilities rather than building new ones.

4.8 The Council has also carried out a range of informal consultation and has sought further information from a range of **stakeholders**, in order to strengthen and clarify the infrastructure proposals identified in the Proposed Infrastructure Framework in [Appendix 8](#). An overview of their comments is provided below.

4.9 **SEEDA** have estimated the likely costs for some of the infrastructure, including £2.5m for a high level bridge over the Mill Pond to the station and approximately £5m for Dartford Creek improvements and reinstatement of the lock, of which £950,000 has been secured from HCA.

4.10 **Kent County Council (KCC)**, who is responsible for providing key community services, have made a preliminary estimate of the type and amount of facilities that will be required, stressing that it is dependant on exact population, land use mix, housing densities and housing types/mix. KCC regard a new primary school in the Northern Gateway as crucial, in order to cater for the new demand for school spaces arising from the Northern Gateway but also to accommodate accumulated demand from other town centre development sites. KCC estimate that in the Northern Gateway, a 1 Form Entry Primary School should open by 2017, with a 2nd Form Entry open by 2022 (KCC were reviewing their requirements as of July 2010). Other on-site facilities identified by KCC include pre-school early years provision and multi agency facilities. In some instances, the demand generated from the development is insufficient to require new on-site facilities being built. Instead KCC have identified the need for developer contributions to be used to enhance existing secondary schools, a proposed health and social care centre in Dartford Town Centre, Dartford Town Centre Library and youth facilities at The Bridge and Dartford YMCA. KCC feel no contributions are needed for adult education, given the current spare capacity in existing provision.

4.11 **Kent Highways** have raised issues about the cumulative transport effects on the town centre arising from a number of development sites, especially if the Highways Agency prevents access onto Bob Dunn Way due to potential impacts on junction 1A. Further localised transport assessment is being carried out to identify suitable and sustainable transport options. Kent Highways also advise that all highway works, junctions and accesses (including at Central

Road/Mill Pond Road) are to be provided by the developer, with costs varying depending upon the need to divert or adjust underground services. They agree with the principle of Fastrack accessing Central Road but state this will be dependant upon a number of issues including a) funding by the developer, b) negotiations with ProLogis, GSK and KCC and c) restricting access to very limited traffic.

4.12 The **Fastrack** management team (part of KCC) support proposals to divert Fastrack Route A from Temple Hill to Central Road. However, will be subject to detailed planning and design issues including : a) the feasibility of accessing Joyce Green Lane and the amount of land take required, b) being able to create segregated track, dependant upon the amount of vehicular usage along Central Road, c) the impact of reduced access to bus services for Temple Hill residents, d) early provision alongside development phasing to encourage modal shift, e) negotiation with ProLogis who have entirely funded Route A and f) the ability to pay for capital infrastructure, new buses, ticket machines, bus stops, bridges, revenue payments and maintenance.

4.13 **Greening the Gateway Kent and Medway** acknowledge that the Northern Gateway can link with the Darent Valley Cluster Study, the Thames Gateway Parklands Green Grid and Sustrans Regional Cycling Route 14. They highlight that redevelopment provides the opportunity to improve public access to the lower reaches of the River Darent as well as the Dartford Marshes and the Thames footpath. They also stress the need to:

- Bring the countryside into urban area through habitat corridors and open spaces.
- Maximise upon the economic value of open spaces including raising land values and making the area a more attractive place to live, work and invest.
- Ensure long term maintenance caters for the multiple use of open spaces including biodiversity, linking fragmented habitats, recreation, sport, cycling, walking, health, education, interpretation panels/trails, resting and viewpoints.
- Ensure long term maintenance caters for the multiple use of open spaces and greenways by pedestrians, cyclists, wheelchair users, pram users etc, with links to public rights of way network, railway stations, bus stops and circular routes.
- Provide better signposting to Central Park and Brooklands Lakes, the key gateway to Darent Valley within Dartford town centre.
- Ensure Natural England's ANGST standard is met by locating homes close to natural greenspace.

5 Evidence Base

5.1 Various studies and evidence base documents that have been prepared for Dartford's Core Strategy have informed the preparation of this Background Paper.

Flood Risk

5.2 The **Strategic Flood Risk Assessment of Kent Thameside**²⁰ identifies the Darent Valley as flood zone 3a/3b, with a very high to high residual risk of flooding. It seeks appropriate mitigation measures to ensure flood damage is limited. It also stresses the need for an Integrated Water and Drainage Management Strategy across development site boundaries and the need for maintenance of flood management infrastructure.

5.3 The **Dartford Town Centre Strategic Flood Risk Assessment**²¹ takes a more in-depth look at flooding in the Northern Gateway, which in turn will impact on site layout and site uses. It finds that:

- The River Darent is highly likely to flood (zone 3b), with a probability of a 1 in 100 year flood risk event.
- Much of the land to the south west of the River Darent including SEEDA's sites and the former Paper Mill sites have a likely probability of flooding (zone 3a).
- The northern part of the GSK North site and Dartford Fresh Marshes have a likely probability of flooding (zone 3a). They also have a residual tidal flood risk (zone 3a).
- The southern part of the GSK North site has an unlikely flood risk (zone 2).
- The Mill Pond site is predominantly unlikely to flood (zone 2), with less risk of flooding in the eastern part of this site (zone 1) and more risk of flooding in the western section (zone 3a).
- The GSK East site has a low risk of flooding (zone 1).

5.4 The **Sequential Test**²² assesses the uses proposed on Dartford's development sites and determines their compatibility against flood risk. It determines that:

- Housing, open space, business use and a sub station are compatible on the East site, given the zone 1 low level of flood risk - these uses meet the Sequential Test.
- Housing, riverfront walkway and business uses are compatible on the RBT site, given the zone 2 medium flood risk associated with the site - these uses meet the Sequential Test.
- Being predominantly in flood zone 2, the Mill Pond site has the potential to pass the Exceptions Test, provided a Flood Risk Assessment (FRA) can identify sufficient site mitigation and evacuation routes west of the River Darent to make the site safe. In addition, a range of other uses including public open space around the Mill Pond and retail, business, leisure and restaurant uses are compatible with the medium flood risk of the site.
- The Former Paper Mill (North site) has a mixed risk of flooding. As housing uses can be located in the western part of the site where the risk of flooding is lowest, and business uses and open space can be located along the river front where the flood risk is higher, the site passes the Exceptions Test.
- The Former Paper Mill (South site) is located within flood zone 3a, and a riverfront walkway and business uses are compatible with the high level flood risk of the site. Housing is less compatible but the site has the potential to pass the Exceptions Test, provided an FRA can identify sufficient site mitigation and evacuation routes to the west to make the site safe.
- Being located in the high risk 3a flood zone, the North site may include a compatible mix of uses including riverfront walkway, playing pitches and business uses. Housing, primary school and early years provision may be less compatible but the site has the potential to pass the Exceptions Test, provided an FRA can demonstrate sufficient site mitigation and

²⁰ Kent Thameside Delivery Board (December 2005) Strategic Flood Risk Assessment of Kent Thameside

²¹ DBC / Entec (July 2008) Dartford Town Centre Strategic Flood Risk Assessment

²² DBC (February 2010) PPS25 Flood Risk Sequential Test: Dartford Borough-wide Assessment

evacuation routes to make the site safe. A development platform may be necessary to mitigate against flooding.

- Housing should be restricted on the West site as there are a number of site constraints including the fact that flood water depths on this site would be the highest in the town. Instead the site should be used for business use and a riverfront walkway, both of which are compatible with the high flood risk of the site. A hotel or nightclub would need to demonstrate site safety and evacuation routes through an FRA before the Exceptions Test can be passed.
- Overall, housing uses are directed away from parts of the sites that have the highest risk of flooding and housing in the Northern Gateway is more sequentially preferable than locating housing in a range of other town centre sites that have a higher risk of flooding.

Water Supply

- 5.5 The **Kent Thameside Water Cycle Strategy** aims to ensure that there is sufficient environmental capacity to cater for planned levels of development and that the necessary infrastructure can be provided in time and in the right place to support ongoing development. It finds that there are no absolute constraints to development on the grounds of water supply or waste water treatment capacity. It provides advice on water supply and water efficiency, waste water collection and treatment, integrated drainage strategies and green infrastructure. Thames Water are considering the need for a new waste water spur running from the Northern Gateway sites north-eastwards to the Longreach Sewerage Treatment Plant.

Transport

- 5.6 The Council is working with its partners to deliver a Strategic Transport Infrastructure Programme to ensure that the transport network operates at acceptable levels and that the transport infrastructure is in place in time to support new development. A funding mechanism is being developed which will require an appropriate contribution from development, to supplement other funding sources. One of the schemes identified for funding is an improvement of traffic management in Dartford Town Centre. In addition to contributions to the strategic fund, the Council expects that developments will continue to contribute to transport improvements relating directly to site access through S106 and S278 agreements.

Open Spaces

- 5.8 At the local level, the Council has prepared evidence base documents to support the Local Development Framework. The **Open Spaces Technical Report**²³ identifies that:
- The wards of Joyce Green and Littlebrook fall below open space standards, in terms of access to natural green space (ANGST) and/or play space, informal recreation and playing pitches (NPFA).
 - The Northern Gateway falls within the catchment of Central Park and the new park provision at The Bridge but restricted accessibility to these facilities may result in low usage by Northern Gateway residents, unless access routes are improved. The Northern Gateway will need to provide a local park in order to fill the gap in open space provision at the neighbourhood level.
 - There are eight equipped children's play spaces within the vicinity of the Northern Gateway, at Temple Hill to the east and Willow Walk to the west plus new play spaces being provided at The Bridge. However, restricted accessibility and the fact that these types of open spaces have small catchment areas, will limit their use by Northern Gateway residents. New play facilities will be required at the Northern Gateway to cater specifically for the local residential population and to fill the existing gap in equipped play spaces.
 - Close proximity to natural green space at Dartford Marshes, Dartford Fresh Marshes and The Bridge suggests that there is no need for this type of open space provision within the Northern

²³ DBC (July 2010) Open Spaces Technical Paper

Gateway, although improvements to Green Grid links would be beneficial to ensure improved access to natural green spaces off-site.

- Taking account of the existing supply of open space and the demand for open space in the future, there is a requirement for 20% of small development sites to be retained as open space and 30% on larger development sites (above 20 hectares).

5.9 Indicative open space provision across the individual sites has been estimated, taking into account likely site densities and 6 hectares of undevelopable land in the Northern Gateway (comprised of flood defence strips, the Mill Pond, River Darent, undevelopable greenspace and a 50 metre cordon sanitaire around a landfill site). The analysis shows that it is possible to deliver adequate amounts of open space across the Northern Gateway. Open space provision will vary across the sites, depending upon individual site characteristics. For instance, about 32% of the GSK East site has potential to be transformed from a landfill site into a local park. Less green space is likely to be provided on the Mill Pond site but this would be compensated by hard surfaced public realm area surrounding the Mill Pond. Open space in the GSK North site would be supplemented by maximising Green Grid links through to the Dartford Fresh Marshes. Overall, approximately 56% of the Northern Gateway area has the potential to be retained as open space, of which 24% will be on the developed parts of the site and the remainder through the retention of Dartford Fresh Marshes.

Playing Pitches

5.10 Dartford's **Playing Pitch Study**²⁴ identified that by 2011 in the wards of Littlebrook and Joyce Green, there will be deficiencies in the provision of junior and senior football pitches, mini soccer pitches, hockey pitches and rugby pitches. The new provision at The Bridge may help to reduce these deficiencies although access improvements would be required. Some on-site pitches may be possible at the Northern Gateway if community use of the primary school's pitches could be secured.

Residents Satisfaction

5.11 The responses received in a **Residents Satisfaction Survey**²⁵ have led to an improved approach to open spaces and community facilities. This approach was agreed by Members at Cabinet in July 2005 and has been taken forward into the Core Strategy Preferred Policy Approaches Document. The approach includes:

- Establishing community ties early on, with facilities being provided as early as possible and the use of temporary provision in early phases where needed.
- Ensuring that community requirements are specified in a realistic format to enhance their economic viability and the prospects of their early provision.
- Ensuring that community facilities are located so that residents can access them easily.
- Supplementing quantitative thresholds for provision of facilities with qualitative assessment of the type, scale and location of provision to be made in each development.
- Taking into account the cumulative needs arising from different development sites, and using commuted sums as an alternative to on-site provision.
- Ensuring Section 106 agreements cover topics such as future maintenance arrangements, the involvement of residents in administration of private maintenance agreements, agreed timeframes, provision of temporary/interim facilities, phasing and stepped delivery.

²⁴ DBC (January 2005) Dartford Borough Playing Pitch Strategy 2005-2011

²⁵ DBC (July 2005) Residents Satisfaction Survey Cabinet Report

6. Development Options

6.1 Alongside the policy background, consultation responses and evidence base documents, a number of site considerations have been taken into account when considering development options and drawing up development proposals for the Northern Gateway.

Site Constraints

6.2 Appendix 3 shows that the Northern Gateway contains a number of site constraints which will influence and restrict the type of development to be provided across the Northern Gateway:

- Lying within a river valley, the majority of the topography is flat and accessible. However, the GSK East site slopes steeply upwards towards Temple Hill in the east, creating challenging construction conditions.
- GSK's North site carries out manufacturing processes involving hazardous materials. It is subject to a Health and Safety Executive COMAH Zone stretching across much of the Northern Gateway. This could potentially constrain the early phases of development. As GSK operations wind-down, the COMAH Zone may be reduced in scale or eventually entirely removed. However, in the event that the site is re-occupied for its current use, there is a possibility that the COMAH zone would remain.
- There is a smaller COMAH Zone around the gas holder in the south western corner of the Northern Gateway.
- There are differing levels of flood risk, and limited escape routes from some parts of the Northern Gateway. Land to the west of the River Darent, Dartford Fresh Marshes and the GSK North site are in Flood Risk Zone 3a. See paragraphs 6.2-6.4 for more details.
- The north eastern part of the GSK East site contains a 2.5 hectare landfill site, surrounded by a further 2.1 hectares of land that falls within a 50m cordon sanitaire.
- Other contamination exists across the site (including elevated heavy metals and hydrocarbons), especially on GSK and Former Paper Mill sites. This is treatable but results in an additional cost.

Site Features

6.3 There are a number of other site features present across the area that do not pose a constraint to development but should be considered when redesigning the sites, including:

- The whole of the Northern Gateway is covered by Groundwater Source Protection Zones 1 and 2.
- A landfill site is located outside the site boundary to the west of Dartford Fresh Marshes and to the north of the former Paper Mill sites. The 250 metre consultation zone impacts on these two sites.
- Dartford Fresh Marshes are part of the mineral consultation area, which allows the need for mineral extraction to be considered, and where necessary for extraction to take place, prior to the redevelopment of sites.
- Two overhead power lines cross the Dartford Fresh Marshes, with a 50m cordon sanitaire.
- A range of underground utility networks exist under the site including a low pressure gas main network from ES Pipelines, water mains and sewers from Thames Water and high voltage underground electricity transmission cables from National Grid. Unrestricted and safe access to the networks are required at all times.
- If retained in its current location on the GSK East site, a Combined Heat and Power Plant would also require some separation between adjacent uses.
- There are some barriers that restrict accessibility across the site, e.g. lack of access along Central Road and Bob Dunn Way restricts access northwards, the railway restricts access southwards into the town centre, a lack of bridges across the River Darent restricts movement

east-west across the site, the lack of a complete footpath along the River Darent also restricts access.

- There is a Tree Preservation Order (TPO) close to the gas holder and a cluster of TPOs along the western edge of the former Paper Mill sites.
- There are two Listed Buildings including the Priory Walls located adjacent to the North Kent Line and one property along Hythe Street.
- There are no Scheduled Ancient Monuments and Conservation Areas but the area has the potential to contain historic remains, especially adjacent to the River Darent, on the former Paper Mill sites, GSK East site and at the northern end of the Dartford Fresh Marshes.
- An AQMA exists along Burnham Road and Victoria Road.
- There is a Crossrail safeguarding area along the North Kent Line, adjacent to Victoria Road and Mill Pond Road.

Strengths

6.4 The Northern Gateway's strengths lie in its location and natural assets. The key strengths include:

- It's proximity to the town centre and public transport.
- The visibility of the southern end of the site from the train and the station, signalling an arrival into Dartford.
- The large area available for redevelopment, providing many opportunities.
- The natural assets of the River Darent, Mill Pond and Dartford Marshes.
- The low vacancy rates in the remaining employment estates.

Opportunities

6.5 Drawing on these strengths, redevelopment of the Northern Gateway will provide a number of opportunities to enhance the local area and meet objectives in the Core Strategy, including:

- Opportunity to create a mixed use development with homes, including affordable ones, provided close to jobs and including a range of community facilities.
- A living and working community on the edge of Dartford Town centre can help support its regeneration, providing day-time as well as evening and weekend customers for the retail and leisure offer.
- Improved connectivity between the Mill Pond and Temple Hill Square, will help support retail and community facilities in the existing local centre, providing new facilities do not either compete with or place excess demand on existing facilities. Physical linkages will also assist in providing better integration and cohesion between the new and existing communities.
- An upgraded environment can help to enhance the quality of the area and its public perception. Specific environmental enhancement initiatives being progressed include public access along the River Darent, reinstated lock and a more active, interesting river navigable by boats, an active waterside/outdoor public realm area situated adjacent to the Mill Pond and a local park in the north eastern corner of the site.
- An improved network of attractive and safe footpaths, cycle paths and open spaces across the area will open up the site for the community to enjoy and help to increase permeability through the Northern Gateway including across the River Darent and out to the Dartford Marshes. The network will enhance connectivity with surrounding areas including the Town Centre and Temple Hill.
- An enhanced multi-functional Green Grid will provide leisure opportunities, an alternative and sustainable means of travel and will allow the movement of wildlife through the area.
- Improvements to biodiversity can help to increase the quality of the area and contribute to green infrastructure. This is especially so along the banks of the River Darent (a wildlife corridor of high local value) as well as the Dartford Fresh Marshes and the nearby Dartford Marshes (Kent Wildlife Sites, Sites of Nature Conservation Interest and important for the protection of water voles).

- Protection of, and enhancements to, existing active employment areas as well as the provision of new, modern and fit for purpose business premises will improve the local environment, make employment areas more sympathetic to their surroundings, encourage existing employers to remain and will encourage new ones to relocate to the Northern Gateway.
- Improvements to public transport with possible Fastrack service along Central Road and better linkages with the rail station will provide residents and workers with a choice of modes of sustainable transport and help to reduce reliance on the private car. Other improvements could include better pedestrian access and environment along Mill Pond Road and Temple Hill and a northern entrance to the rail station.

Existing Facilities

6.6 Appendix 4 identifies the existing community and social infrastructure across the Northern Gateway site and in the wider area. The list below builds on Appendix 4 to describe the provision of community facilities and green infrastructure surrounding the site:

- There are no community facilities currently **on-site** but there are existing open spaces and biodiversity features found at Dartford Fresh Marshes, along the River Darent and at the Mill Pond. These can form part of an enhanced green infrastructure in the future although there is currently limited accessibility in places and the open spaces are currently not of high quality.
- The Dartford Marshes are located to the **north** of the site and can be used for multi purposes, such as open space, recreation, nature conservation and flood storage. Improved connections between the Northern Gateway and the Dartford Marshes will increase accessibility to this natural area.
- A new community hub is being created to the **north-east** at The Bridge including a primary school (420 pupils)²⁶, a nursery (26 children), a 2 GP surgery, open space, playing fields and Green Grid Links. However, they are cut off from the site by Bob Dunn Way, making it difficult to access these facilities.
- Temple Hill, which is located to the **east** and is elevated above the site, has a variety of facilities including a local shopping centre, St Albans Road Infant School (270 pupils), Temple Hill Primary School 3 FE (420 pupils), a nursery attached to Temple Hill Primary School, a Sure Start Children's Centre, a community centre, youth centre, living well centre, a scouts group, library, GP surgery, church hall, small scale amenity green spaces, equipped children's play spaces and allotments.
- Overy Street, to the **south-east** of the Northern Gateway has a nursery but it is segregated by Mill Pond Road and the North Kent Line.
- The residential area located to the west of East Hill and to the **south-east** of the Northern Gateway (within the ward of Newtown) is elevated above the site, making it difficult to access facilities located here. Livingstone Hospital (located to the east of East Hill) is the closest to the Northern Gateway although it's future role is to be determined.
- To the **south**, the town centre contains Central Park, Dartford Library, Dartford Museum in addition to retail and employment uses but they are segregated by the North Kent Line, the town centre road network and indirect pedestrian routes into the town centre. Improved connections between the Northern Gateway and the town centre could increase accessibility to these district wide facilities.
- To the **south-west**, the North Kent Line and roads surrounding the town centre form a barrier and restrict walking access to community facilities further afield, such as Westgate Primary School (180 pupils), West Hill Primary School (490 pupils) and Our Lady's Primary School (210 pupils). The closest secondary schools include Dartford Grammar School (775 pupils), Dartford Grammar School for Girls (750 pupils) and Dartford Technology College (760 pupils). The closest Further Education college is the North West Kent (Dartford and Gravesham) College at Oakfield Lane.

²⁶ Source: Pupil numbers for schools taken from KCC (March 2009) Community Infrastructure Provision: Review of Current and Future Service Strategies in Kent

- To the **west**, in the Burnham Road residential area there are a few facilities including Holy Trinity Primary School (315 pupils), Willow Walk open space, allotments and equipped children's play spaces but very little in terms of community facilities.
- 6.7 Paragraphs 5.8 - 5.10 provide more detail about the gaps in open space and playing pitch provision.
- 6.8 Information from service providers indicates that the demand arising from new development cannot be met from existing provision²⁷. Key elements of infrastructure including primary schools and GP surgeries are at or close to capacity. Work is ongoing to identify more precisely the point at which development will require new provision. Community facilities to support the new community will need to be provided on-site, in order that they best address the needs of residents.
- 6.9 However, some facilities, such as the local shops at Temple Hill can address the new demand, at least in the short term. This will help improve the viability of provision. Kent County Council's preferred approach in the provision of some of its services, such as youth services, is to seek monetary contributions to improve nearby existing facilities, rather than to build new provision on-site.

Development Options

- 6.10 Taking into account the site analysis above, various development options were considered with the key stakeholders. [Appendix 5](#) provides the presentation at the stakeholder focus group in February 2009 and the minutes of the discussion. This led to the refining of the options and the development of a preferred option, which amalgamated elements of the various options and allowed for flexibility – a key issue arising from stakeholder discussions, given the uncertainty of the market and future constraints on the site. Wider public consultation took place in July 2009. The diagram in the public consultation leaflet in [Appendix 6](#) shows the Council's preferred proposals for the Northern Gateway, with approximately 1,200-1,700 new homes, 1,000 – 1,700 new jobs, 1,200 jobs retained, local shops and community facilities. The overall response from the consultation provided general support for the proposals - see paragraphs 4.6 - 4.7 for more details.
- 6.11 The homes and jobs figures in the preferred proposal were derived from a detailed assessment of different assumptions on density of homes and jobs and varying proportions of employment and housing on the site. The indicative ranges shown in [Appendix 7](#) allow for flexibility to respond to changing market conditions and site circumstances. The assessment results in the provision of homes and jobs in addition to new greenspace (see paragraph 5.9 for more details), improved river frontage including EA flood defence access strip, as part of the Darent Valley Path improvements and existing green/blue infrastructure to be retained and improved at the Mill Pond and Dartford Fresh Marshes.
- 6.12 [Appendix 7](#) contains two tables, the first showing that there is potential for between 1,180 – 1,270 new jobs to be created over the Plan period (up till 2026) and the second showing that there is potential for between 1,090 – 3,140 new homes to be built, with an indicative figure of 2,040. The provision approved will be subject to the full range of planning considerations.
- 6.13 [Appendix 9](#) shows that the individual sites will be developed at different times and contains three diagrams which show the sites that are likely to be under construction and sites that are likely to be completed in five year bands. The projected phasing of sites has been based on information available at the time of preparing this document. Factors impacting on the phasing of particular sites include:

²⁷ See also Infrastructure Background Paper

- The GSK North site is programmed to be vacated by GSK in 2013, although this is subject to change. Allowing time for the disposal of the site, it is likely to be developed in the later phases of the overall Northern Gateway site.
- The licence to store hazardous substances on the GSK North site impacts on the potential to develop the former Paper Mill sites for housing. The development of these sites may, therefore, be delayed until the COMAH zone is removed. Alternatively, landowners may decide instead to develop sites within the constraints of the COMAH zone, which will most likely result in more employment space.
- A lease for the RBT site which is due for renewal in 2015. Development of the site is unlikely in advance of this.

7 Infrastructure Requirements

Scope of Infrastructure

- 7.1 Site analysis and discussions with stakeholders and wider consultation has identified the extent of potential infrastructure requirements in the Northern Gateway. These have been grouped into categories and are outlined in Figure 2 below:

Figure 2 Scope of Infrastructure to be Considered

Transport	Utilities & Waste	Social and community Infrastructure	Environment, Green and Leisure Infrastructure
<ul style="list-style-type: none"> • Fastrack and other public transport • Use of Central Road • New access onto Bob Dunn Way • Improved junction Central Rd/Mill Pond Rd/Overy St • Northern entrance to rail station • Traffic calming along Mill Pond Road • Cycle routes and public footpaths • Cycle parking and facilities • Bridges over river • Demand mitigation measures • Taxi rank 	<ul style="list-style-type: none"> • Water supply, waste water, drainage, • SUDs and flood mitigation • Waste and recycling • Electricity supply / river crossing for cables • Renewable energy, CHP • Gas supply • Telecoms 	<ul style="list-style-type: none"> • GP surgery/ Healthcare • Education (primary, secondary and childcare), adult education, further education • Libraries and archives • Youth services and adult social services • Day care centre • Meeting space and visitor centre • Recreation, leisure, sports and cultural facilities • Local employment scheme • Magistrates Court and Police 	<ul style="list-style-type: none"> • River cleanup, re-instatement of lock and making a navigable river • Dartford Fresh Marshes, Green Grid links and biodiversity • Open space provision: via public realm at Mill Pond, landfill site, equipped play spaces, playing pitches and allotments • Environmental improvements • Public heritage displays/historic interpretative material • Improvement and maintenance of Listed Priory Wall

Proposed Infrastructure Framework

- 7.2 Table 2 above, has been used as a basis for Proposed Infrastructure Framework in [Appendix 8](#). The Appendix includes additional details on implementation of the identified projects. This is a living document and will be subject to ongoing discussion with stakeholders. Inevitably, external organisations will be working to different timetables than that of Core Strategy preparation, hence not all information is available at this time. Modelling outputs and requirements will not remain static over time. They will respond to changing circumstances and assumptions, as well as to changes in projected development patterns in Dartford. [Appendix 8](#) will be updated to take account of fresh evidence as it becomes available and the most recent version will be made available on the Council's website.
- 7.3 Not all the infrastructure identified in Table 2 is included in [Appendix 8](#) as some proposals are routinely delivered by the developer as *essential requirements*. These include:

- water supply in co-operation with Thames Water including connection to off-site water mains,
- electric supply in co-operation with EDF and the National Grid,
- gas supply in co-operation with Network Gas,
- telecommunications in co-operation with BT and other telecommunications operators,
- new accesses/improved junctions, cycle parking, demand management measures in co-operation with the Council and Kent Highways,
- waste collection and static recycling sites for collection of bottles, paper, cans, textiles in co-operation with Kent County Council,
- equipped play spaces and allotments in co-operation with the Council.

7.4 Other proposals have not been considered because of proximity of the same facility in the surrounding area or because of the commercial nature of the project e.g visitor centre, courts, police, taxi rank, recreation, sport, leisure and cultural facilities.

Phasing of Infrastructure

7.5 Appendix 9 focuses on the phasing of infrastructure and uses the information from Appendix 8, to create a timeline for the delivery of infrastructure, based on when the individual sites are expected to be built out. Overall it shows that:

2011 – 2016

- Most of the transport infrastructure will need to be completed (including Fastrack routes through Northern Gateway, vehicular access along Central Road and bridges over the River Darent) in tandem with delivery of Mill Pond, GSK East and SEEDA sites. This is important to ensure sustainable travel behaviour is embedded from the outset and to enable new residents to make their journeys.
- If, after further investigation by Thames Water, a new sewerage spur is deemed appropriate and practical to bypass the existing network of pipes, this will be required early on in the development so that it precedes the build out of sites. Forward funding is likely to be required for such provision but it may yield longer-term savings. Sustainable drainage, flood mitigation and a combined heat and power plant would need to be provided in tandem with the development sites being built out.
- Early provision of green infrastructure (such as cleaning up the River Darent, re-instatement of the tidal lock, Green Grid links, biodiversity, open space and public realm, environmental improvements, interpretation facilities and restoration of the Priory Wall) is required to enhance the quality and perception of the area, assist with the marketing of the area and attract investment for further phases, as well as to create a good quality of life for residents from the outset of development.
- Some of the proposed infrastructure identified above may continue into the following period.

2016 – 2021

- Transport improvements delivered in conjunction with development of the Mill Pond site include bus priority along Mill Pond Road and a potential northern entrance to Dartford railway station. This phasing will be dependent on timing of delivery of that site. A potential new access at Bob Dunn Way (subject to further assessment) is unlikely to precede the development of the GSK north site.
- Community facilities to meet the needs of new residents will be required in time for occupation of homes, where there is no existing capacity in the surrounding area. Further modelling and assessment is being carried out by Kent County Council and the Health Authority, particularly in relation to a school and health facility, to determine more precisely the timing and location of future provision.
- Previous modelling by KCC has indicated that a primary school is required in 2017. Latest modelling is indicating that the circumstances are changing and that a school may be required earlier. Further assessment is being carried out.
- Utilities infrastructure such as sustainable drainage and flood mitigation will need to be delivered at the same time as the individual sites are being built out.

- Green infrastructure such as Green Grid links, biodiversity, environmental improvements and public heritage displays will also need to be delivered at the same time as the individual sites are being built out.

2021 – 2026

- Further utilities and green infrastructure may be required in the longer term to serve individual developments as they come forward.

7.6 Detailed masterplans will be beneficial for some sites, especially the Mill Pond. Transport Impact Assessments will be required to determine traffic impacts and to identify the point at which development will trigger the need for on-site and off-site transport improvements to be made.

Delivery and Funding

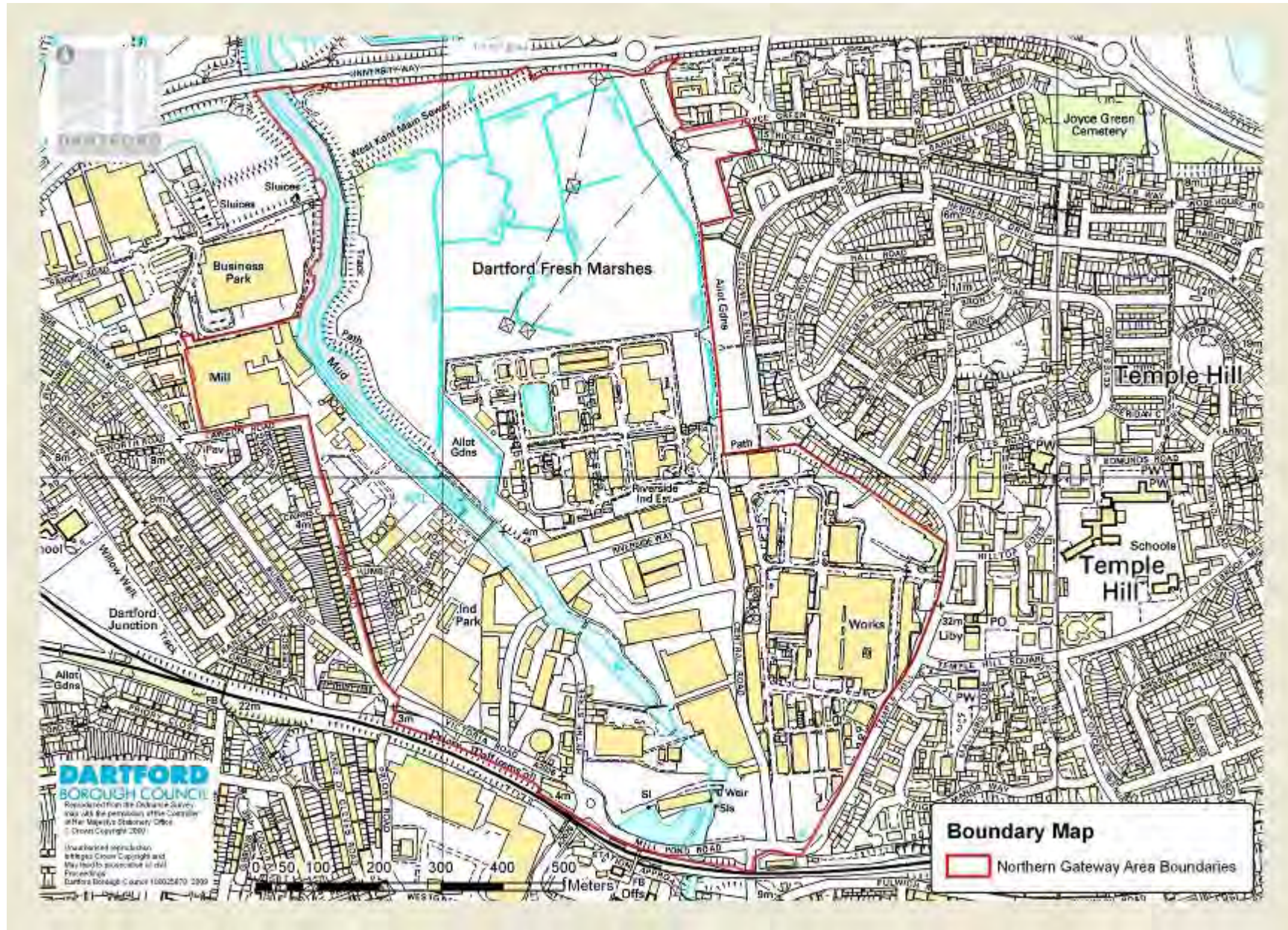
7.7 In order to achieve objectives in the Northern Gateway and to overcome constraints, there is a need for a significant quantity of physical, community and green infrastructure to be provided. The Proposed Infrastructure Framework in [Appendix 8](#) seeks to clarify requirements and, costs, where possible. The costs of provision need to be taken into account by developers in acquiring sites. Further costs may arise in the preparation of sites for development, including the remediation of contaminated land and these, too, must be fully taken account of in advance.

7.8 The Council is pursuing sources of public funding, so that the burden does not fall entirely on developers. Improvements to the River Darent, foot and cycle paths alongside it and improved access into the town centre are progressing, with funding through SEEDA. Negotiations are also taking place as part of the North Kent Multi Area Agreement, to secure public funding through the pilot 'Single Conversation' to assist in the delivery of housing and affordable housing on the site.

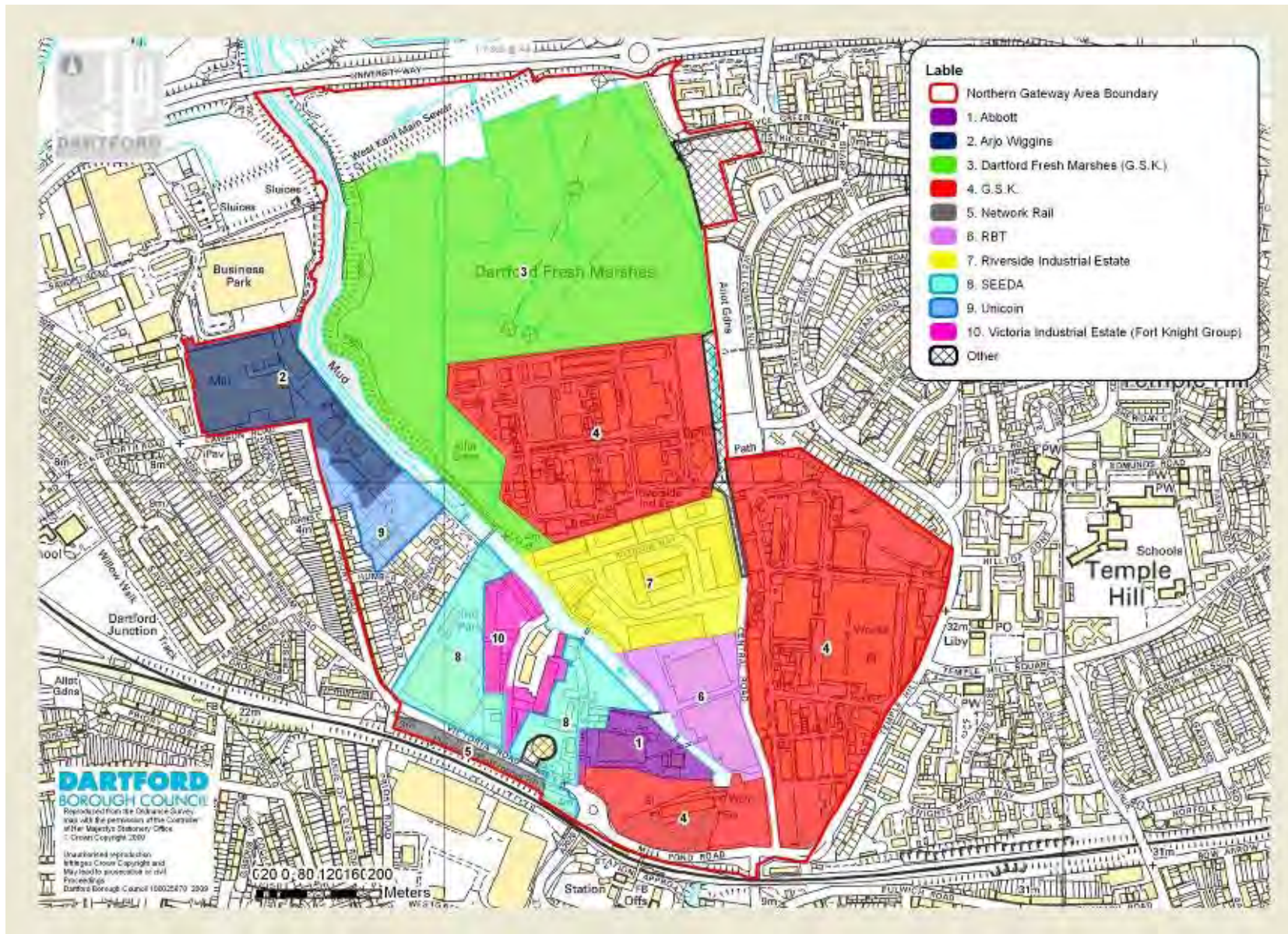
7.9 In some cases, where several sites need to contribute to the funding of a facility, a funding shortfall may arise due to the phasing of development sites. Arrangements for forward funding will need to be secured in these situations. These issues are being explored with service providers.

7.10 The Proposed Infrastructure Framework in [Appendix 8](#) is a Living Document and will be updated as new information becomes available, or as circumstances change. Further work will be progressed on further defining schemes, cost apportionment and delivery mechanisms.

Appendix 1: Site Boundaries

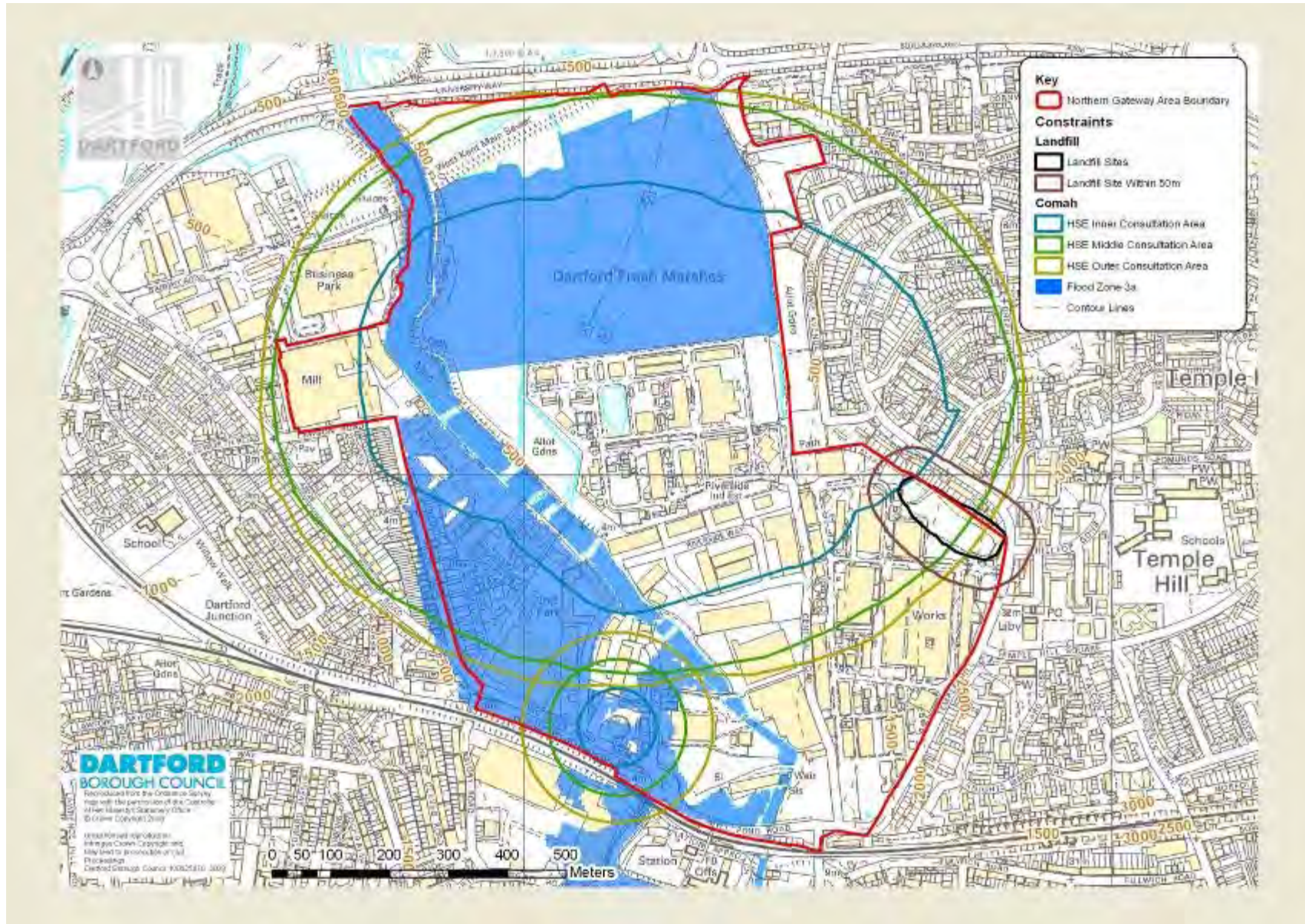


Appendix 2: Land Ownership

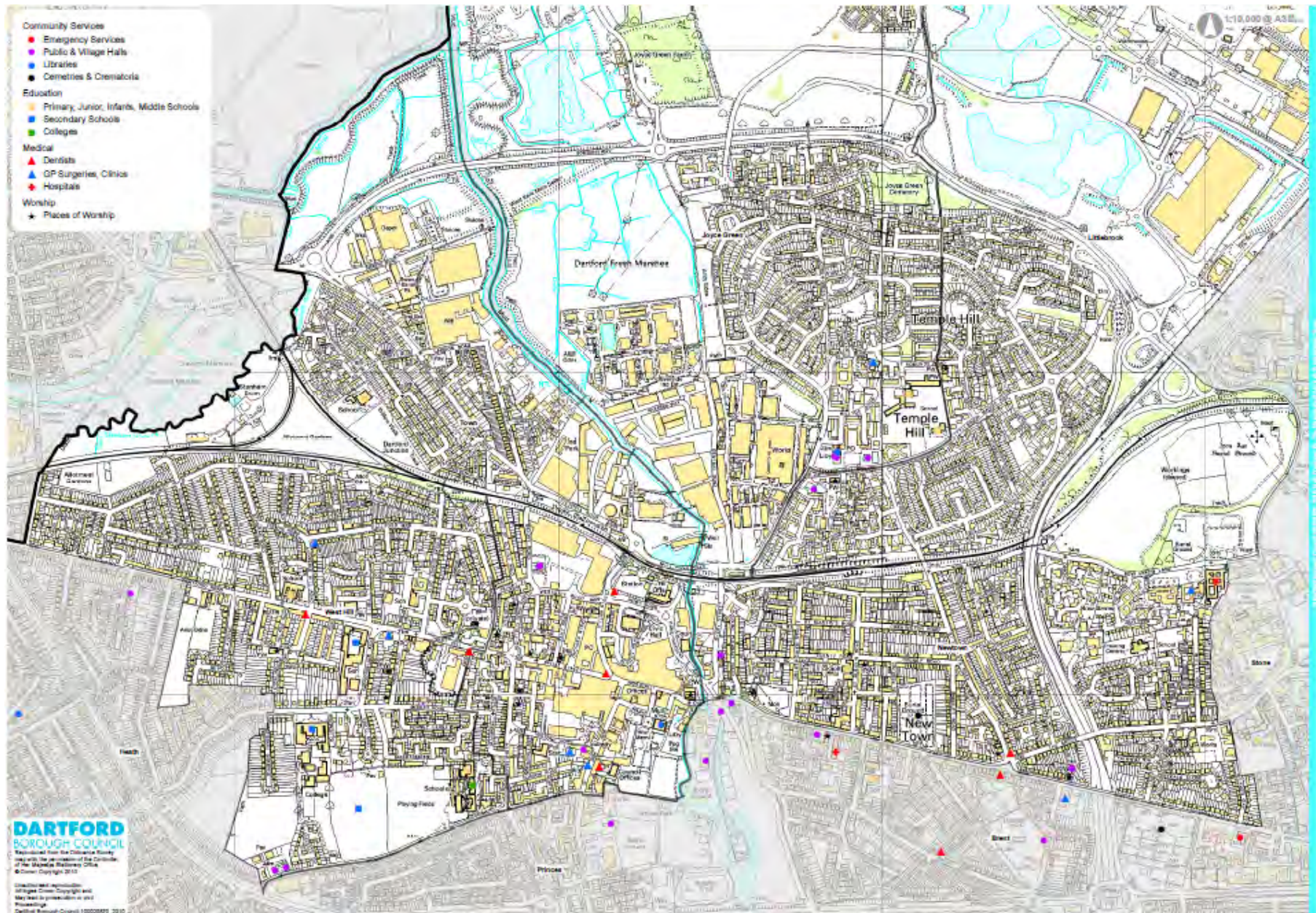


Note: Delancey now own parts of 4. GSK land including the Mill Pond and the majority of the GSK East site excluding the north west corner.

Appendix 3: Site Constraints



Appendix 4: Existing Facilities



Presentation

Objectives for the Northern Gateway

- High quality gateway into the town centre
- Contribute to the regeneration of the town centre: complement not compete
- Create a sustainable community

Q. Are these still valid?



Strengths

- Proximity to town centre & public transport
- River Darent & Mill Pond
- Low vacancy rate in remaining employment estates
- Large site available for development
- Southern end of site highly visible from railway

Weaknesses



- Isolation of site/physical barriers
- COMAH's
- High flood risk in west and north
- Topography of east site
- Some contaminated land
- Poor quality built and natural environment
- Some “bad neighbour” employment uses
- Limited public access to/along the river & the Mill Pond



Opportunities

- Size of site : sustainable mixed community -homes/jobs/facilities
- Improved access to station/town centre
- River-side and Mill Pond: public access and setting for development
- Waterside leisure opportunities (low key)
- Diversified employment opportunities/improved buildings
- Improved integration with adjoining communities
- High quality greenspace/ enhanced biodiversity
- Improved permeability: footpaths and cycle links

Threats

- COMAHs retained or removal delayed
- Known constraints : development costs?
- Additional unknown constraints?
- Fragmented land-ownership :
- Phasing /co-ordination of development
- Funding of community benefits

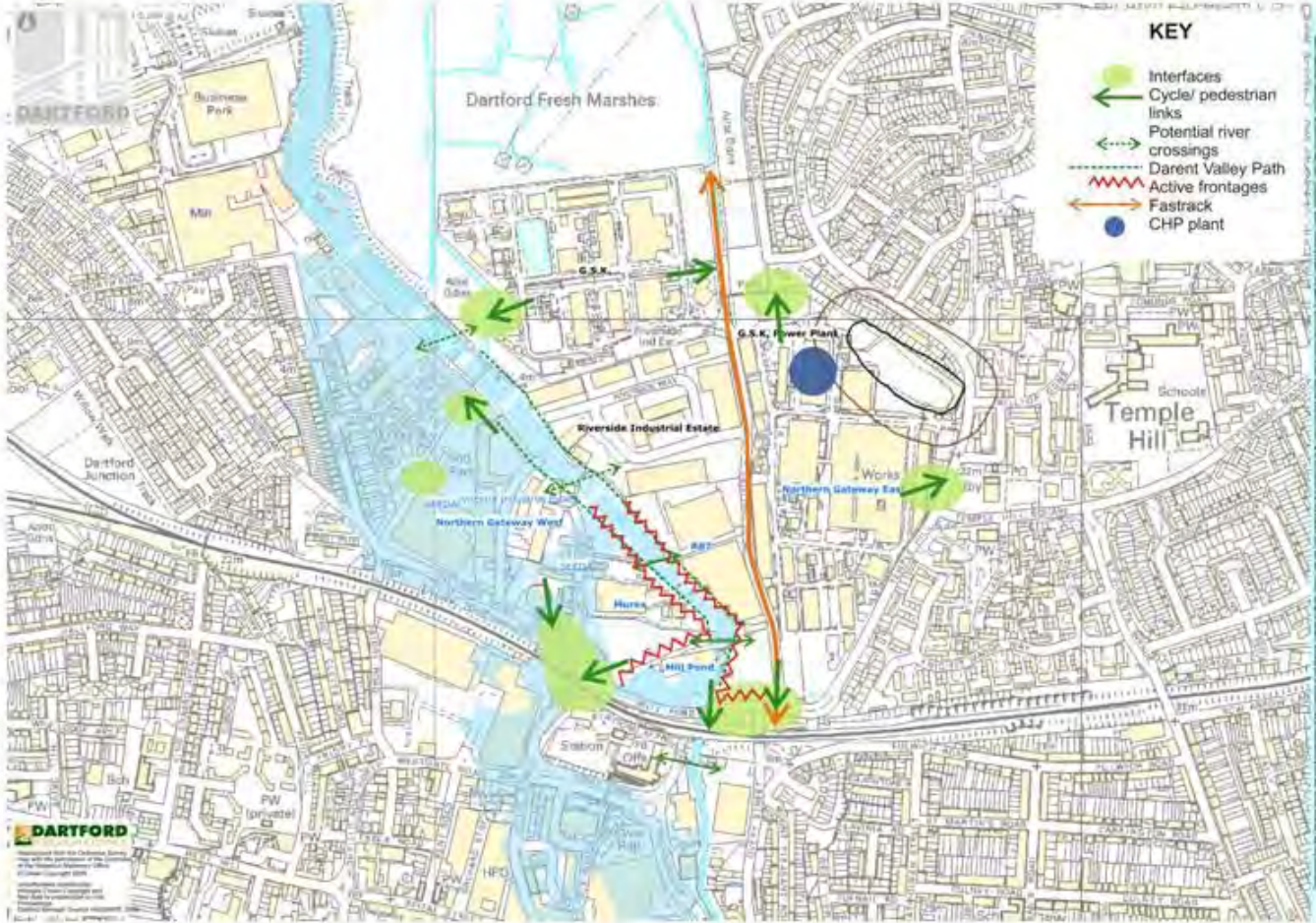
Informing the options

- Size of residential community : sufficient to support community facilities
- Higher density development near station
- Public access to Mill Pond and riverside
- Active area around Mill Pond : mix of uses
- Not compete with town centre uses
- Retain active employment areas
- Some compensation for jobs lost
- Population projections: requirement for new school
- Sustainable development: on-site CHP
- Walking/cycle routes to station, town centre, communities to east and west
- Open space contribution to green grid

Fixes

- New public realm & active frontages at Mill Pond
- POS at northern end of East Site
- Retain active employment estates and make some provision for jobs lost at GSK North Site
- NG West more suitable for employment
- Provision of supporting community facilities including a Primary School
- The relocation of Wickes to NG West
- EA access strip to river defences

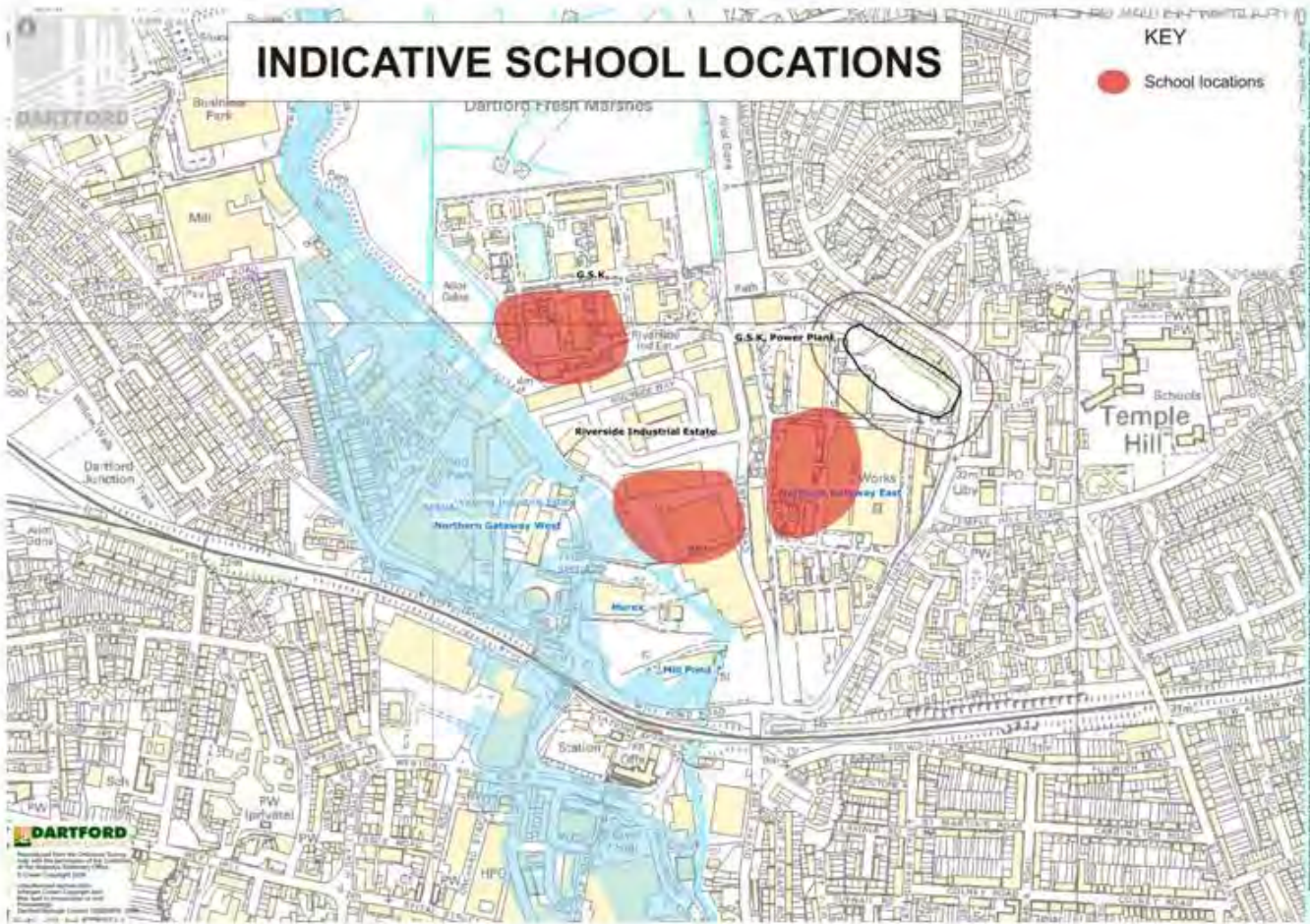
Planning Principles



Dartford Fresh Water Marshes



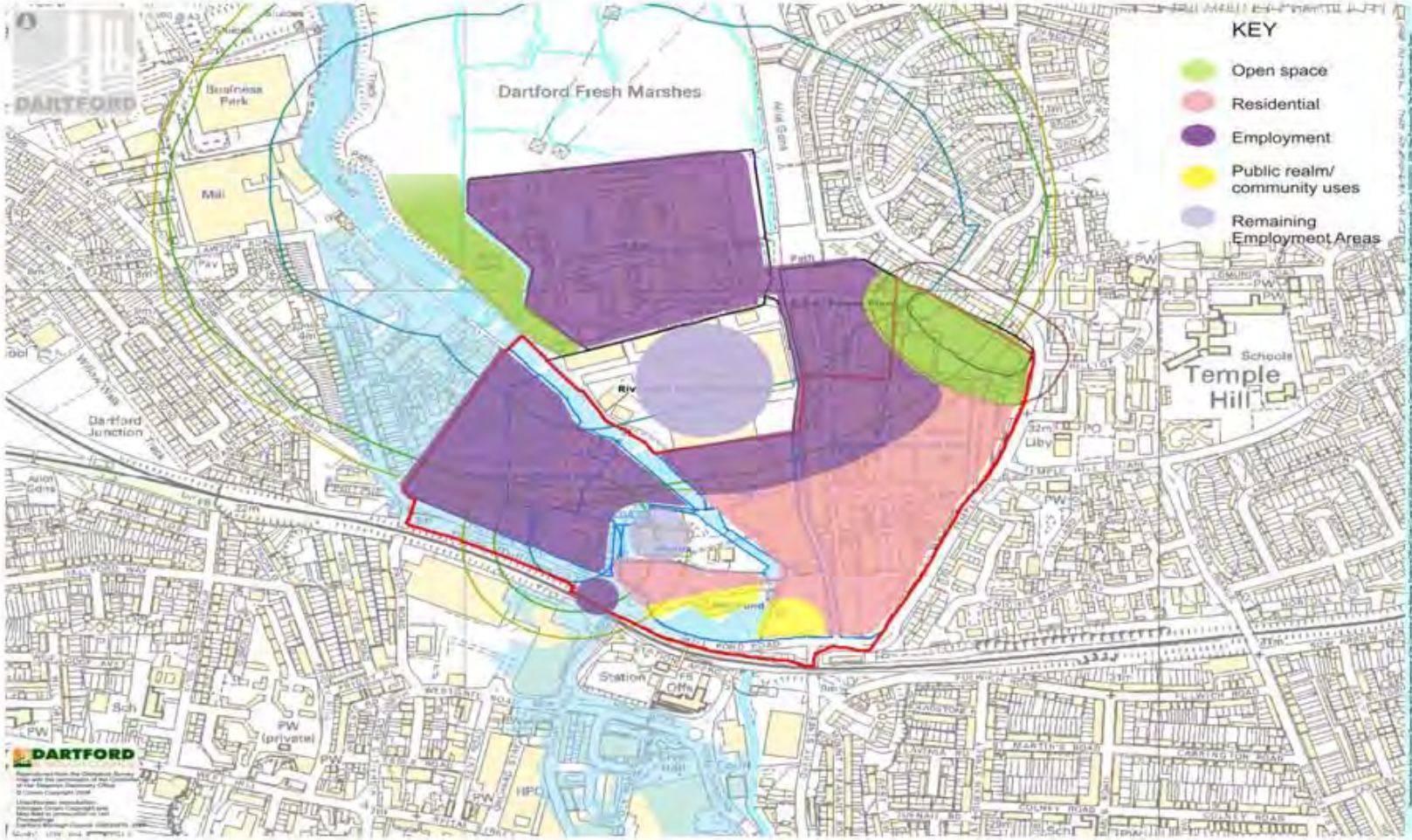
Appendix 5: Stakeholder Focus Group



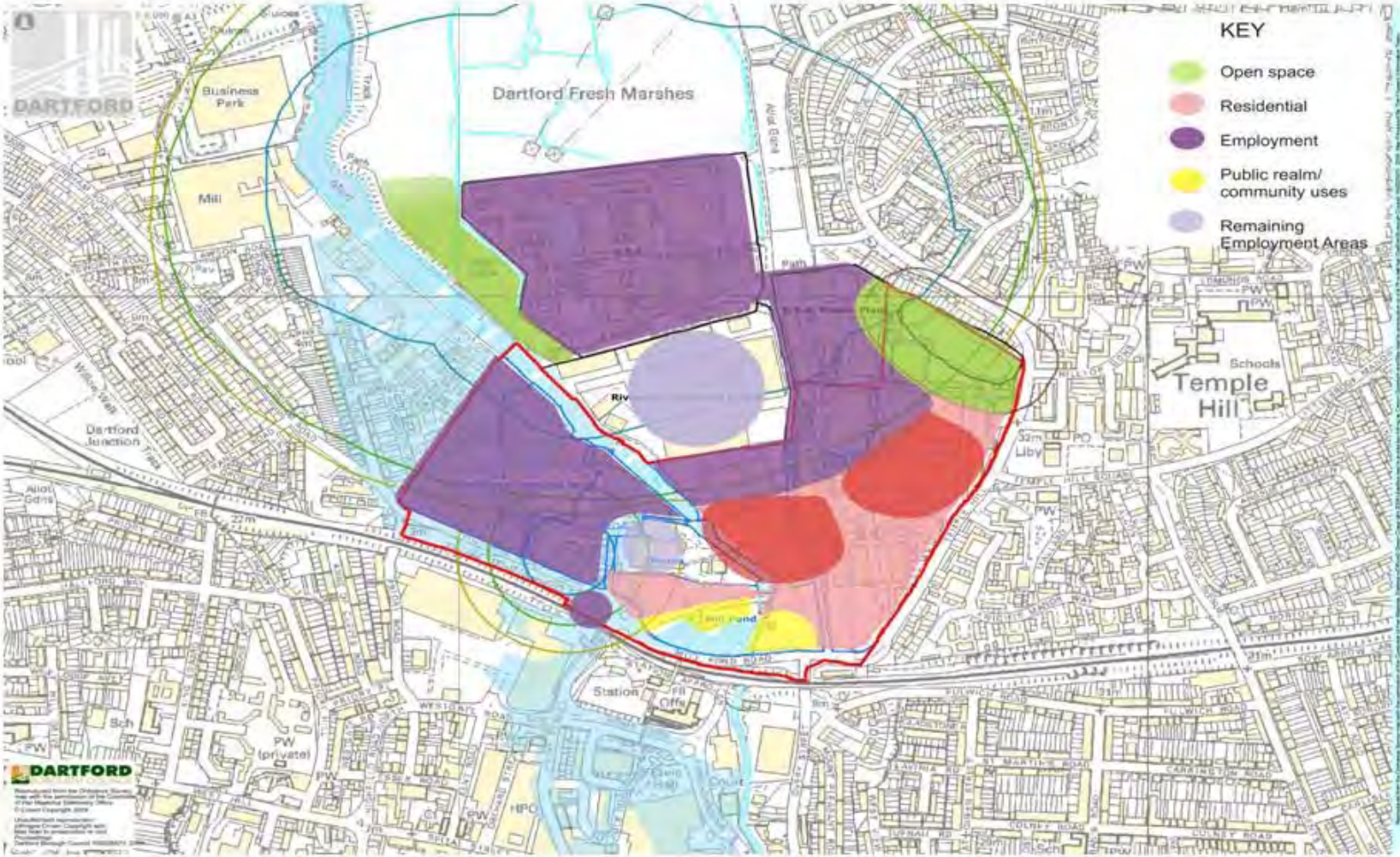
Options

- A COMAH retained
- B Employment Focus
- C Residential Focus
- D Mixed use

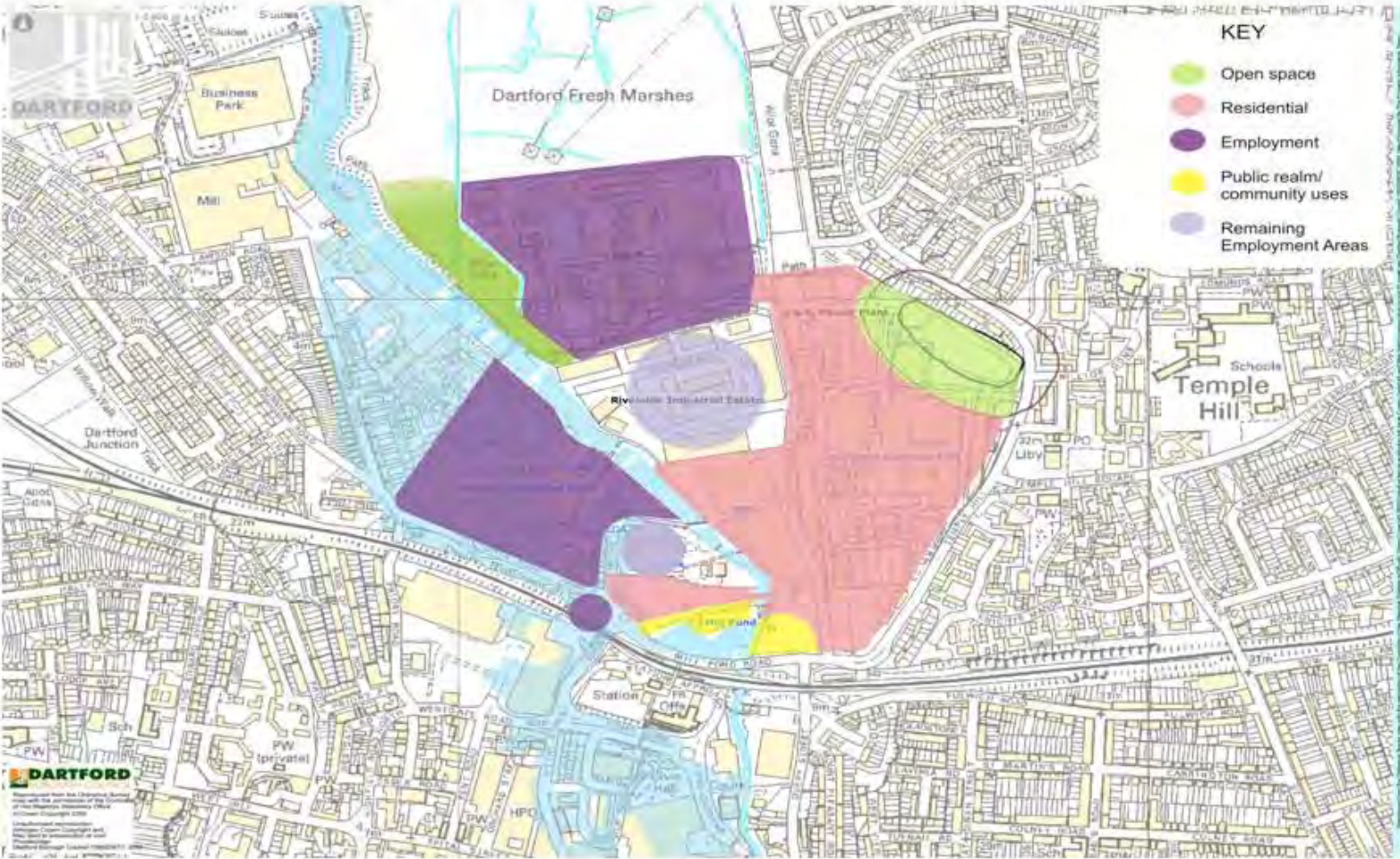
Option A–GSK COMAH Retained



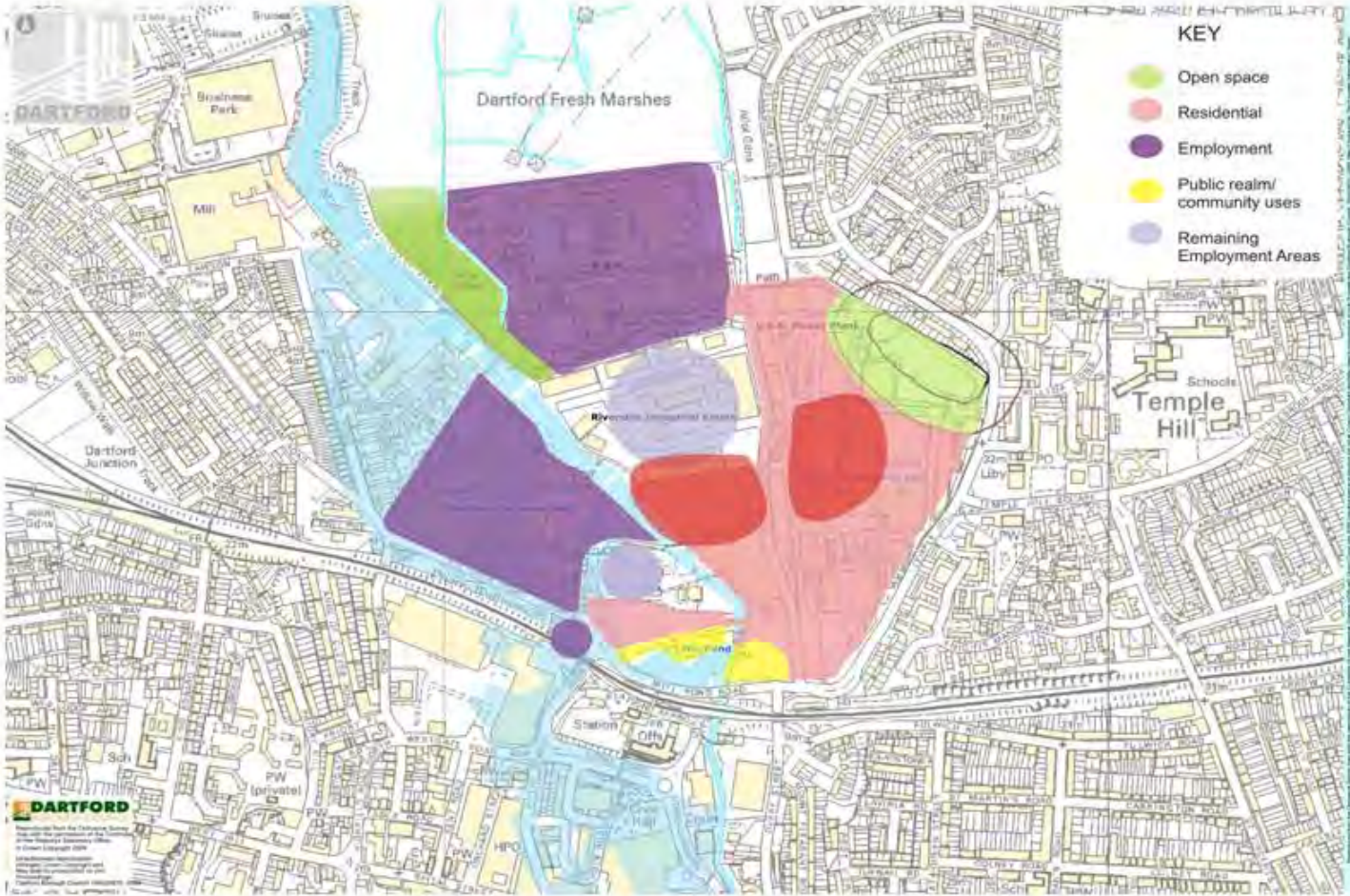
Option A–GSK COMAH Retained



Option B – Employment Focus



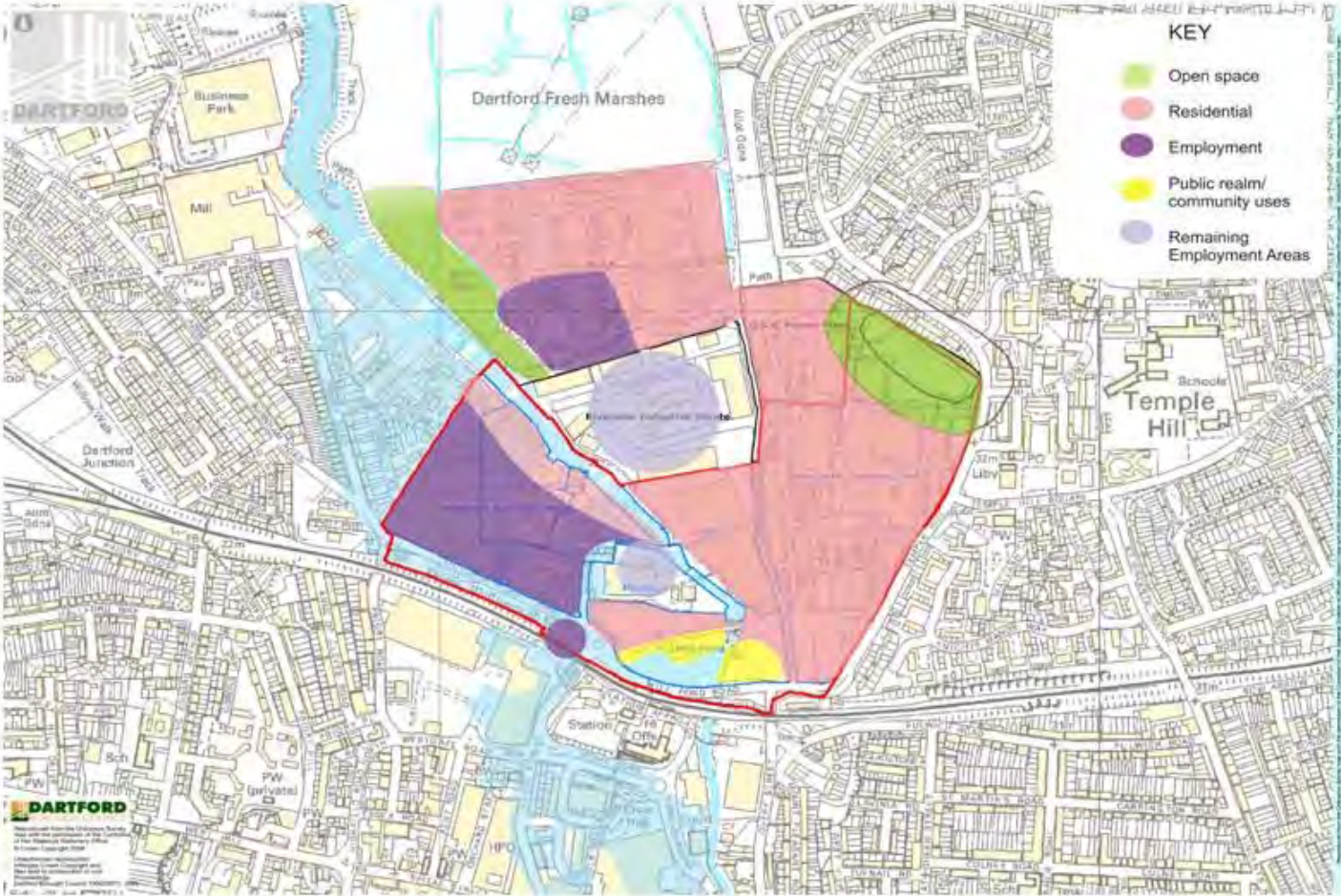
Option B – Employment Focus



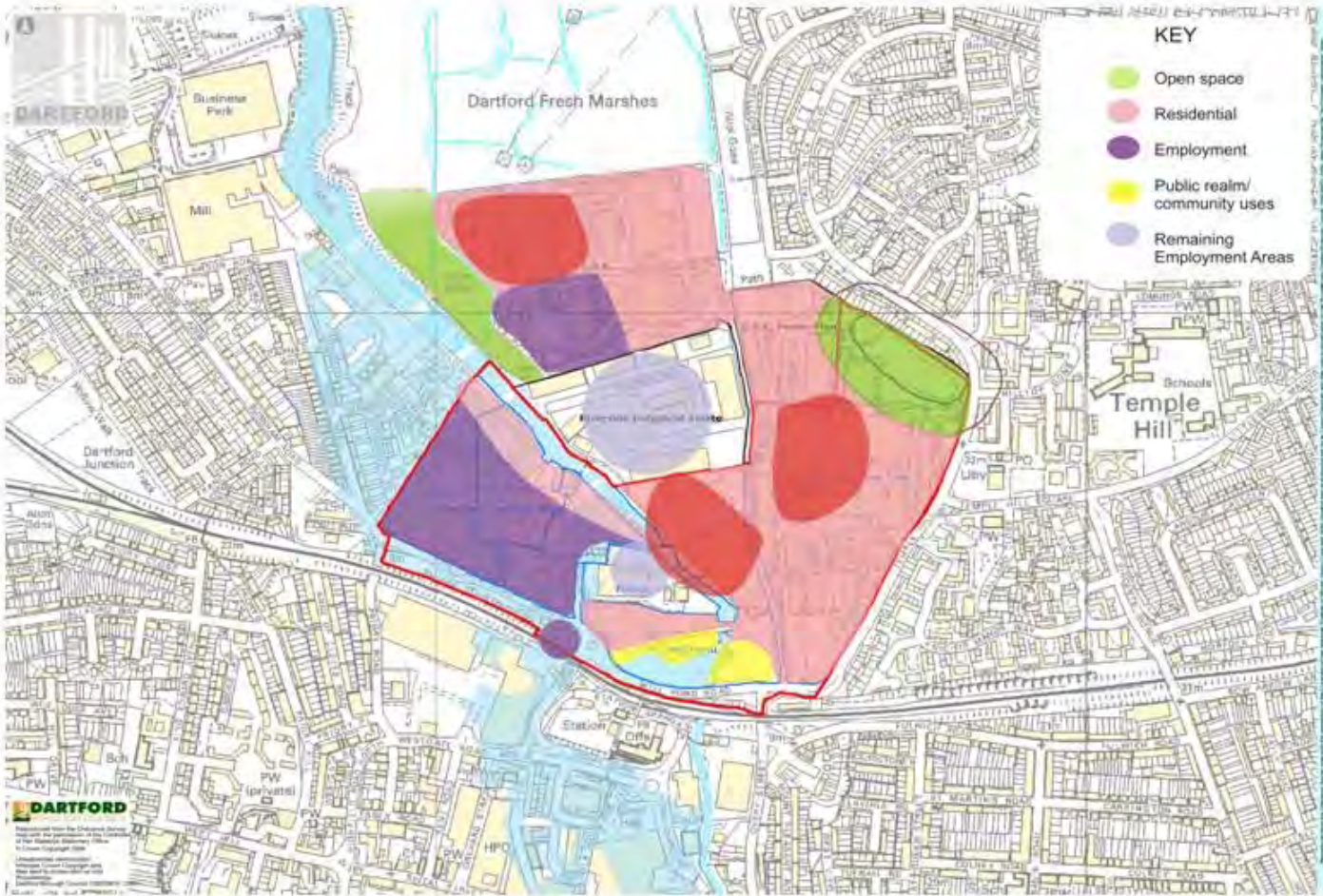
Questions

- Is there potential demand for this level of employment land at the Northern Gateway?
- Do the redevelopment costs of the North Site favour residential over employment uses?
- Will this produce sufficient resident population to support a community hub and child population to support a new primary school?

Option C – Residential Focus



Option C – Residential Focus



Questions

- Would there be a real benefit in developing west bank of the river (NG West) for housing? (given FNG estate is well used)
- Would the residential development costs of the North Site impact on its viability and deliverability?
- Will the potential staggered phasing of the site create issues relating to place making and the creation of a sustainable community?

Option D – Mix of Uses



Option D – Mix of Uses



Appendix 5: Stakeholder Focus Group

Stakeholder Discussion

27th February 2009

Attending

Dennis Pope(DP)	Nathaniel Litchfield (representing GlaxoSmithKline)
Lehane Sergison(LP)	SEEDA
Nick Young(NY)	SEEDA
Gergana Draganova(GD)	BDP (consultant to SEEDA)
Heather Kerswell(HK)	Rochester Bridge Trust
Diane Rider(DR)	Cluttons (consultant to RBT)
Emma Wilson(EW)	Homes & Communities Agency
Simon Webb(SW)	Kent County Council (Education services)
Bryan Fitzgerald(SW)	Kent County Council (Education services)
Vicky Thistlebrook(VT)	Kent County Council (Development Investment)
Teresa Ryszkowska(TR)	Dartford Borough Council (Planning Policy)
Paul Buckley(PB)	Dartford Borough Council (Planning Policy)
Tania Smith(TS)	Dartford Borough Council (Planning Policy)
Joyce Zhu(JZ)	Dartford Borough Council (Planning Policy)

Introduction

The Council representatives gave a presentation outlining the authorities' objectives, planning principles and "fixes", consideration of Dartford Freshwater Marshes and four options for future land uses across NG. (Powerpoint presentation is attached).

Discussion and contributions from participants took place at different stages of the presentation.

The Council explained that work regarding the development of a planning framework (as set out in the Dartford Town Centre Area Action Plan- now withdrawn) had been based on a broad level of agreement between stakeholders. The principles set out in the AAP were still proposed to be brought forward by the Council. But changes in circumstances including the decision by GSK to cease operations at their north site and the potential removal of the COMAH; and the current economic downturn and its impact on viability, required the Council to re-examine these.

The NG will now feature as a strategic site in the Core Strategy and therefore will have a less detailed policy than the AAP. The planning principles would be set in the context of a borough wide spatial strategy and requirements for housing and job provision. It is proposed that the policy approach will allow for flexibility in order that more details can be brought forward at a later stage either through a Supplementary Planning Document or through master planning (potentially running alongside a planning application - DP). The provisional timetable for the preparation of the Core Strategy is:

- March/April –ongoing informal consultation
- May –preferred option determined for inclusion in the Core Strategy
- Decision by members in July 09

Appendix 5: Stakeholder Focus Group

- Publication(pre-submission version) and consultation in September 09

It was clarified that the area identified as the NG by the Council included the SEEDA land to the west of the River Darent, the Victoria Industrial Estate, the Mill Pond, Murex Abbott operational land, GSK site to the west of Temple Hill, Rochester Bridge Trust land, Riverside Industrial Estate and GSK – north site. The future of Dartford Freshwater Marshes was also being reviewed in the context of the NG but not as part of it. Other potential development sites to the west of the Darent could be considered on their own merits through the statutory development process

Overall objectives

NY pointed out that NG had as big a footprint as The Bridge development and could be identified and treated as a sustainable community in its own right.

TR - therefore it may be right to identify this in the overall objectives rather than just within the planning principles.

HK - employment was now an important priority especially with the number of job losses expected.

Planning Principles and Fixes

NY - it is important to retain active employment uses but there is a need to caveat “bad neighbour” uses. The relocation of Wicks to NG west would be dependent upon the ability to redevelop its current site in Overy Street. Issues of flood risk may change – the EA was now completing the River Darent study (due end of March 09).

TR - the planning principles presented reflected the Council’s aspirations. These were for discussion. The provision of jobs at NG would be informed by the need for jobs, the job target for borough as a whole and the capacity elsewhere. However, it was important to make specific provision for employment uses at NG, both in terms of the appropriateness of the location as well as its suitability for a broad range of employment types. The Council would develop more details regarding indicative housing numbers and employment floorspace within different scenarios. This information could be shared with stakeholders in the future. The Council could consider adopting a more flexible approach to the connection between NG and the station, with the nature of the requirement for improved walking links left unspecified. A “high level” connection to the station, as set out in the former AAP policy, whilst still desirable, may not be identified as a specific requirement.

Dartford Fresh Water Marshes

DP – commented that there is a current planning application by GSK at the marshes.

PB - The Council were currently considering broad development options. The site is greenfield, has conservation value, is low lying (in Flood Zone 3) and has a number of high level power lines. Some of these factors brought into question the viability of future

Appendix 5: Stakeholder Focus Group

development on the marshes as well as being in conflict with national policy guidance. Therefore, we are currently minded not to identify the land for development. Sufficient capacity has been identified for residential and employment uses at other locations in the borough. These considerations would also be used in determining the current planning application.

School Provision

SW - when identifying a proposed sustainable community it often meant an assumption that it would contain a school. But KCC could not confirm the final requirement for a primary school until firm planning applications were in place that would enable the authority to have more certainty of future pupil requirements. Other issues that would impact on the requirement would be build out rate, availability at other local schools and birth rate. It was also preferred that future school provision follow the model set at The Bridge of a integrated community learning facility on one campus. By 2018 there may be a requirement for 1 FE school (1 class per year) that would expand to a 2FE at a later stage. There would be no requirement for secondary school contributions as sufficient provision had been planned at Ebbsfleet and close by in the neighbouring Borough of Bexley.

DP asked if it was certain that a school was required.

TR - there is a distinction between a known requirement and planning for future growth. Planning would have to be based on forecast numbers. KCC had provided the Council with school modelling data based on the future housing trajectory. This identified a requirement for a 2 form entry school. KCC had indicated that NG is the only suitable site in the area if a school is required in the future.

BF - there is an element of sensitivity that has to be applied to the forecast modelling. The authority (KCC) had to be reactive and could not commit at an early stage to actual requirement. For example the final design of a scheme and the type of homes it provides impacts upon forecast future pupil numbers. There would need to be ongoing communication between all parties. KCC were able to model different development scenarios which could be used in the identification of potential requirement. School forecast data could be shared with stakeholders

DP - commented that the Core Strategy could provide the broad principles for a potential school whilst there was no present definitive need identified.

NY – would footprint be similar to that at The Bridge?

VT – although a design solution was applied at The Bridge ie two floors and shared with other community uses, issues had arisen such as parking provision. There was a legal requirement to provide certain provision such as playing fields, and therefore in reality it was difficult to squeeze a school into a greatly reduced footprint. There may also be a problem as it would have to be built out as one but only part of the school used whilst it remained at 1FE. This has been done at The Bridge where the second storey had been released to the developer for the short term.

Appendix 5: Stakeholder Focus Group

DP – commented that as the north site would be likely to be built out in the longer term that it may be a more suitable location for a school.

Potential Landuse Options

Option A – COMAHs remain

It was important to retain this as an option as it was uncertain if the COMAH would be removed and also there was a possibility that it could expand or contract depending on how the north site was taken forward. GSK at early stages of exploring future options for the site.

The following options assume the removal of the COMAH.

Option B – employment focus

DR – the employment focus at the RBT site should remain in this option

NY – would there be viability issues?

TR – a borough wide viability assessment was currently underway which would give a long term indication. It would be difficult to accurately test specific site viability without scheme details. The CS although flexible would need to contain enough detail to steer development.

HK – viability would be the most important issue for landowners in terms of responding to different development options. The provision of Fastrack through the site may also affect stakeholders views on future landuse options.

VT – viability is also dependent on options for future use and therefore the level of mitigation of the site was required.

DP – GSK have undertaken investigations into contamination at north site– early indications show potential for residential and employment uses but need for continuing studies.

Option C – Residential Focus

NY – suggested that the central part of NG West (Victoria Road Industrial Park) could be a "fix" to be retained for employment use. It was unlikely that it would come forward for re-development. SEEDA have almost ruled out residential provision at their land to the west. .

DP – residential use at the north site probably preferred in market terms. But GSK were actively considering. There was also planning consent for a road to the north site from Bob Dunn Way, that could support development there.

Appendix 5: Stakeholder Focus Group

PB – may be issues of transport impacts. Will explore this particularly for Fastrack and other options with Kent Highways and Highways Agency.

NY – provision of Fastrack from The Bridge to the town centre was particularly important to mitigate against potential transport impacts of development.

TR – traffic is a key constraint and will need to be further explored in relation to options at NG. A borough wide transport forecast based on current trajectories has been developed. Presently the model is undergoing re-calibration so it is not an appropriate time to produce forecasts based on revised trajectories following the economic downturn. There will be a need for review and monitoring in the future. The Council were working with the HA to reach an understanding as to how the existing forecasts could be used to inform on the revised trajectories. All eligible development would be subject to the transport tariff which seeks contributions based on the net increase in traffic movements arising from the development.

HK - Tenants should not be demoralised in the short term regarding residential allocation so flexibility is very important. Wording such as “when existing uses cease” should be used.

Option D – Mixed uses and focus on potential of design approach that integrates with the openness and conservation characteristics of the Dartford Fresh Water Marshes and creates potential for live/work lifestyle.

DP – new commercial partner at East site has been looking at early master planning at North site and potential for connectivity.

GD – Further thought should be given to the retention of the Riverside Industrial Estate which may impact on the isolation of the North site

TR – will consider in the context of integration but need to be aware of the number of jobs that have/due to be lost in the area already. It is a very active site.

EW – north site may benefit from landscape buffer if Riverside Industrial Estate retained.

DR – Consideration should be given to release of some of the allotments to the east of the north site to improve accessibility.

NY - The Institute for Sustainability at The Bridge would probably be very interested in assisting with the understanding of options for on-site CHP. North site could benefit from public realm improvements. Public funding has been secured for some environmental improvements to the river bank but funding now unlikely to be available to re-install the lock.

TR – this could be flagged up as a long term ambition and consideration given to contributions from the private sector

HK – RBT presently very cautious. If market improves this view may change. Although many of the buildings on the Trust’s land have a limited lifespan (circa 10 years), at

Appendix 5: Stakeholder Focus Group

present they were securing a good level of income. In the meantime there may be some scope for reviewing how the Trust could be involved with environmental improvements at the riverside.

VT – NG has been identified as requiring a 2 GP surgery, the PCT also plan to bring this together with existing GP practices from the surrounding area. West Kent PCT and KCC have identified a requirement for a joint health and social care centre. The preferred location is Lowfield Street (currently in negotiation) but NG is second choice.

Future

The Council will continue to talk to stakeholders individually throughout March and April. A preferred option will be developed in May and we will informally consult on this before publication of the Core Strategy.

The future of your community after GSK



Tell us what you think about the development of your local area.
 Complete the questionnaire and return it to us by **7 August 2009**.
 Talk to us at a drop-in session on Wednesday 22 July or Friday 24 July, 10am-1pm at the Living Well Centre, St Edmund's Road, Temple Hill.

www.dartford.gov.uk/planning

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The future of your community after GSK

Help shape the future of your area

You have probably heard that GSK (Glaxo Smith Kline) are vacating the town after successfully operating here for 120 years and providing many jobs for local people. Arjo Wiggins paper mill has also recently closed. Buildings now lie empty and unattractive with little prospect of being re-used.

The Council wishes to see life breathed back into this area in a way that benefits the local community and the local area. We want to involve you in the changes and hear your views before any plans are finalised.

A great opportunity

The GSK and Arjo Wiggins sites are part of a larger employment area to the north of the railway station, which we call the Northern Gateway (see plan opposite). The area is changing and although two big businesses are moving out, many others continue to operate successfully.

The changes provide an opportunity to create a new community of homes, jobs and supporting facilities. The River Darent, the Mill Pond and the Dartford Fresh Marshes, until now, difficult to reach and obscured by industrial buildings, can be

opened up for the community to enjoy. Factory buildings can be replaced with new buildings much more sympathetic to neighbouring homes within an improved local environment.

We are determined that new homes are supported by the right community facilities, including health, education and other local needs. We will work with Kent County Council to ensure that a school, if needed, is put in at the right time.

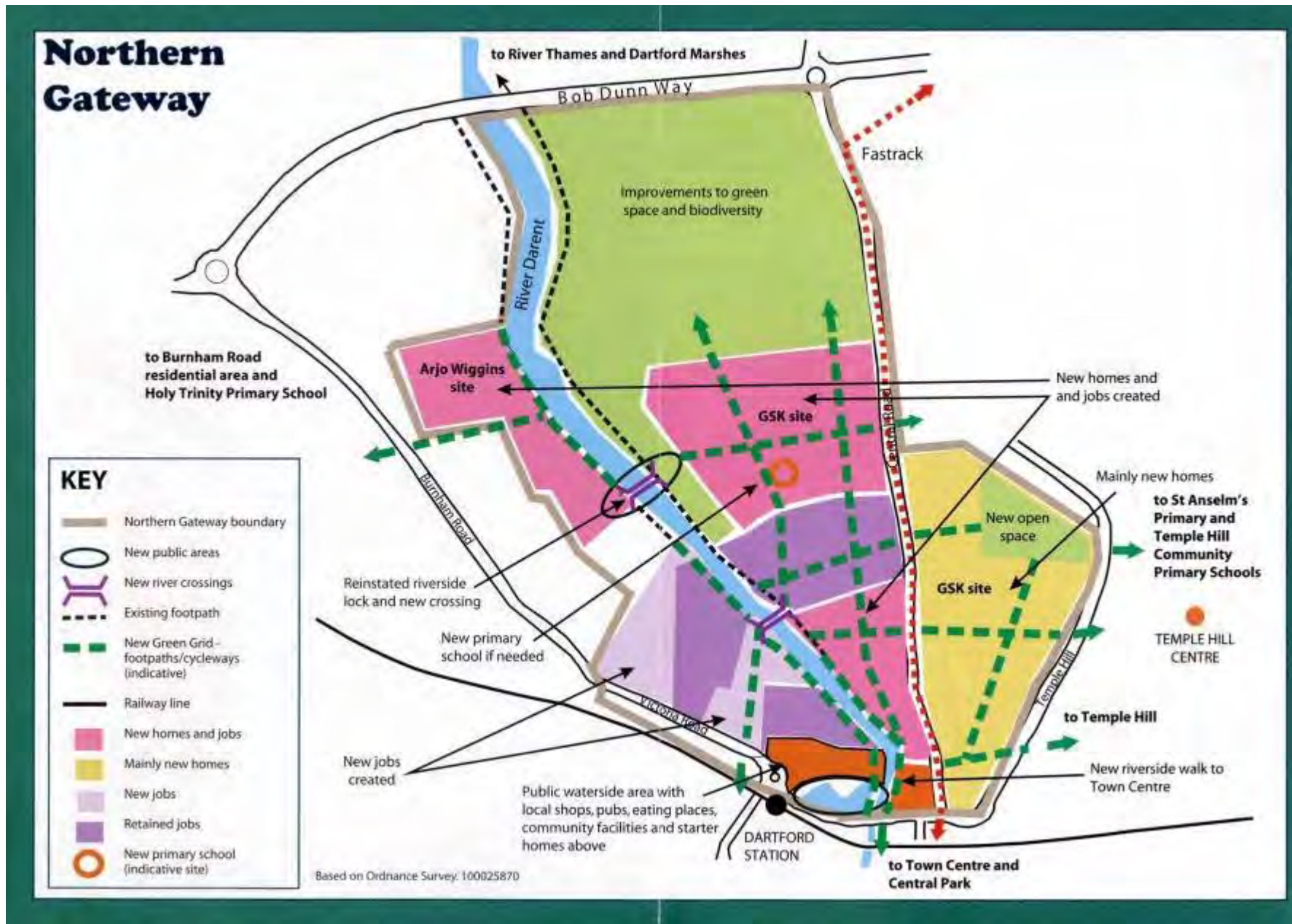
Being located so close to the town centre, development at the Northern Gateway can help support the much needed revitalisation of Dartford town.

Improved connections with the local centre at Temple Hill might also encourage the use of these local shops and facilities by new residents and workers.

Although one or two big employment sites are vacant or will become so in the near future, other parts are fully occupied and active. There is an opportunity to keep these businesses going and improve their working environment.



Appendix 6: Public Consultation Leaflet



Appendix 6: Public Consultation Leaflet

What could the proposals look like?

- ➔ **Homes:** 1,200-1,700* of which between 360 and 510 will be affordable
- ➔ **New jobs:** 1000-1700*
- ➔ **Jobs retained:** 1,200
- ➔ **Local shops, pubs and eating places**
- ➔ **Community facilities:** We are exploring what facilities, such as a doctor's surgery, dentist, primary school and social care provision, will be needed.

*depending on the balance between homes and jobs

What else will the proposals provide?

- Modern new business facilities in an attractive waterside setting.
- Protection of employment areas at the Riverside Industrial Estate and the Victoria Industrial Estate.
- A new community of homes, including affordable homes available to local people, supported by local shops, health and other community facilities.
- A primary school, if this is needed in the future- but not whilst there are still available places in existing local schools, so as not to undermine these.
- A public outdoor area around the Mill Pond for people to enjoy, with a lively atmosphere created by shops, community facilities, cafes and pubs fronting onto the waterside.
- A network of footpaths, cycle paths, open spaces and play areas, alongside the river and across the site. These will provide pleasant and convenient routes between homes, jobs, shops and community facilities for the existing and new communities. They will also link in to the wider Green Grid, providing leisure opportunities for walking or cycling out to the River Thames or the countryside.
- Cleaning up of the River Darent and re-instatement of the lock, with creation of an informal leisure space alongside it. The increased depth of water will allow boats to use this stretch of the river, creating more activity and interest on the river.
- Convenient, safe and attractive walking routes into Dartford town centre.
- A more direct route to Dartford train station from the north of the railway line.
- New pedestrian and cycle bridges across the River Darent.
- Removal of some uses which make poor neighbours.
- Opening up views to the River Darent.
- A Fastrack service along Central Road.



Development of the Northern Gateway

Proposals for the area, if agreed, will take place in phases and over many years, simply because it is such a large area. Further local consultation will take place on proposals or planning applications before any development takes place on the site.

There are some constraints which could limit our proposals for the future of the area. We have taken these into account as best we can, but there is still uncertainty on some issues. We have assumed that:

- All the storage of chemicals on the Glaxo Smith Kline site will cease once the site is vacated.
- The gas holder on Victoria Road will remain for the time being, so new housing will not be built close to it. Although the holder may be removed in the future, it is uncertain when this will be.
- It would generally be better to have businesses rather than homes to the west of the River Darent, because of the risk of flooding.

These assumptions have influenced our proposals for the Northern Gateway, although our plan will need to be flexible enough to adapt, if the situation changes.

Help shape the future of your area

The proposals in this leaflet are part of a wider plan we're preparing for the whole of Dartford. We want to make sure that the changes happening here over the next 20 years are managed in a way that bring most benefit to people who live and work here.

We previously asked your views on the Northern Gateway as part of the wider town centre consultation in September 2007. We are asking your views again because the closure of the GSK and Arjo Wiggins sites opens up new possibilities that we did not previously consider. We need to look at the area afresh and consider how we can make best use of the opportunity.

The final plans will form part of the Council's Core Strategy – a plan for the whole of Dartford setting out how we want to make Dartford fit for the challenges ahead.

If you would like more information about the Core Strategy or other Local Development Framework documents you can:

- read about it on our website at www.dartford.gov.uk/planningpolicy/ldf.htm
- see previous LDF consultation documents at the civic centre and at your local library
- contact the planning policy team on 01322 343213 or by e-mailing ldf@dartford.gov.uk

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Appendix 7: Employment and Housing Ranges

Employment Ranges

Site	Estimate	Employment Floorspace sqm (gross)		Jobs	
		2009-2016	2016-2026	2009-2016	2016-2026
		Northern Gateway North Site	High	0	8,300
	Low	0	6,700	0	164
Northern Gateway East Site	High	4,600	0	0	162
	Low	3,800	0	0	134
Millpond	High	9,300	0	437	0
	Low	9,300	0	437	0
RBT ²⁸	High	0	0	0	0
	Low	0	0	0	0
Former Paper Mill (North Site) ²⁹	High	0	0	0	0
	Low	0	0	0	0
NG West	High	14,940	4,200	368	102
	Low	14,940	3,400	368	83
Total 2009-2016 2016-2026	High	28,840	12,500	805	469
	Low	28,040	10,100	805	381
TOTAL	High	41,340		1,274	
	Low	38,140		1,186	

²⁸ This site already contains employment floorspace which will be retained

²⁹ There may be some temporary employment use on the site

Housing Ranges

Site	Density		
	High	Indicative ³⁰	Low
GSK North Site	567	370	200
GSK East Site	1075	735	440
GSK Millpond	420	280	140
RBT	570	325	131
Former Paper Mill (North Site)	360	230	125
Former Paper Mill (South Site)	150	100	55
NG West	Not identified for residential		
TOTAL	3,142	2,040	1,091

³⁰ Note: Indicative density is based on a 'normal' range of assumptions for each site. Actual permitted densities may be higher or lower, depending on the characteristics and design of the site.

Appendix 8: Proposed Infrastructure Framework

This appendix provides details of the identified infrastructure and implementation details of how the infrastructure should be implemented. It is divided into four tables:

- Transport Infrastructure.
- Utilities infrastructure.
- Social and Community Infrastructure.
- Green Infrastructure.

Explanatory notes:

- **Second column: Description** - In some cases more than one option needs to be considered and alternative options are outlined here.
- **Third column: Costs** - Indicative estimates have, in general, been derived on the basis of similar projects or estimates from service providers.
- **Fourth column: Land Take and Location** - Indicative estimates have, in general, been derived on the basis of similar projects or estimates from service providers. Some of the infrastructure will require provision of land. Land costs may need to be apportioned between Northern Gateway sites that will generate a demand for the facility, in proportion to that demand. This is particularly applicable to a school and is line with Kent County Council's guidelines.
- **Fifth column: Phasing/Development Period** – This is dependent on the timing of a specific site, with the infrastructure being provided in tandem with development. In some cases, it is required at the start of development so that sustainable patterns of behaviour are encouraged from the outset, as for example with public transport provision. In some cases, temporary provision can be made in the early phases.
- **Sixth column: Delivery Body** – This identifies the range of bodies responsible for implementing the proposal.
- **Seventh column: Funding** – This identifies how the proposal will be paid. The need for developer contributions has been identified. Sites may need to contribute to the infrastructure capital costs as well as ongoing management/ maintenance costs. Cost apportionment will be progressed further in consultation with stakeholders.

This is a living document and will be subject to ongoing discussion with stakeholders. Inevitably, external organisations will be working to different timetables than that of Core Strategy preparation, hence not all information is available at this time. Modelling outputs and requirements for infrastructure and community facilities will not remain static over time. They will respond to changing circumstances and assumptions, as well as to changes in projected development patterns in Dartford. This document will be updated to take account of fresh evidence as it becomes available and the most recent version will be made available on the Council's website.

Appendix 8: Proposed Infrastructure Framework

Transport Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Partners	Funding
Fastrack route through Northern Gateway	<p><u>Option A:</u> Provision of dedicated Fastrack route through site.</p> <p><u>Option B:</u> Provision of non segregated route through site.</p> <p>Choice of option will be dependent on further traffic assessment and proposals.</p> <p>This may be provided along Central Road and/or through Northern Gateway East site.</p> <p>Early provision will only be practicable through the southern end of Central Road and GSK East site</p>	<p>Costs include: land costs, road construction, new buses, bus stops/shelters with real time displays and footpaths.</p> <p>Total capital costs estimated at approx. £10m.</p> <p>Revenue costs totalling up to £29m to 2022.</p> <p>Maintenance of all non-adopted highway and bus shelters approx. £8m to 2022.</p>	<p><u>Option A:</u> 19 m wide route required for a 2 way carriageway, footpath/cyclepath plus segregated Fastrack route.</p> <p><u>Option B:</u> Minimal land take, mainly for the provision of bus stops.</p>	To be available in early phases of Mill Pond site/GSK East site occupation.	<p>KCC is delivery body for the Fastrack network.</p> <p>Delivery as part of development of sites.</p>	Funded by development sites through which route passes.
Vehicular access along Central Road	The northern part of Central Road is currently owned by GSK and use is restricted to GSK traffic. Once GSK operations cease and assuming redevelopment of	Costs dependent on design of scheme and proposed useage. Costs for a typical footpath/cycleway adjacent to a highway are £100 - £200 per metre ³¹	19 m to accommodate a segregated Fastrack route in addition to the 2 way carriageway and footpath/cycle path	To be available in early phases of Mill Pond site/GSK East site occupation.	KCC Delivery as part of development of sites.	Funded by development sites through which route passes.

³¹ Source: Kent County Council (March 2007) Guide to Development Contributions and Provision of Community Infrastructure

Appendix 8: Proposed Infrastructure Framework

Transport Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Partners	Funding
	<p>site, potential exists for wider use of road for Fastrack or limited vehicular access. Traffic assessment is being undertaken to explore options for traffic circulation and access. Highways Agency has reservations about vehicular access onto Bob Dunn Way. Further evaluation of impacts is required.</p>					
Bus priority along Mill Pond Road	<p><u>Option A:</u> Improved priority for Fastrack or other buses along Mill Pond Road, with bus lanes and bus priority at junctions. Option only likely to be achieved through loss of some of the Mill Pond.</p> <p><u>Option B:</u> Provision of relief road to the north of Millpond, to allow segregated Fastrack/ bus route. This would also allow for an</p>	Costs dependent on options selected.	16.5 m to accommodate a Fastrack within the 2 way carriageway, footpath/cycle path and laybys for on-street parking	To be available in early phases of Mill Pond site/GSK East site occupation.	KCC Delivery as part of development of sites.	Funded by development sites through which route passes.

Appendix 8: Proposed Infrastructure Framework

Transport Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Partners	Funding
	improved walking and cycling environment. This would need to be incorporated into masterplanning of Mill Pond site.					
Northern entrance to Dartford railway station	<p><u>Option A:</u> Covered bridge across railway track to station concourse on southern side.</p> <p><u>Option B:</u> Construction of a station concourse and tunnel from the Station Approach site with direct access to concourse from Mill Pond Site. This option now likely to be impractical, given that work is about to commence on replacement of existing station building with concourse at ground level.</p>	<p><u>Option A:</u> Indicative £2.5m - £3.5m cost for new bridge and associated track possession costs.</p> <p><u>Option B:</u> In addition to Option A, £4million³²</p>	Land take dependant upon options selected	Dependent on phasing of development at Mill Pond/Station Approach sites.	<p>Network Rail</p> <p>Delivery as part of development of sites.</p>	Possible pooled funding contribution from all Northern Gateway sites. Forward funding would be required to enable implementation.

³² Source: SEEDA, Dearle and Henderson (2007) Dartford Station Mound and Mill Pond Feasibility Study.

Appendix 8: Proposed Infrastructure Framework

Transport Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Partners	Funding
New vehicular access	<p>New/improved accesses into the site. Specific access points subject to further assessment but could include:</p> <ol style="list-style-type: none"> 1. Improved access at Millpond Rd/Overy St 2. Access from Central Rd onto Bob Dunn Way. 3. Eastern access from Temple Hill 	<p>Costs will depend upon the type of junction (roundabout, signal controlled) to be provided.</p> <p>Estimated cost of Roundabouts: (Mini) £ 5,000 – £ 20,000 (Major) £ 200,000 - £ 500,000 Traffic Signals £ 50,000 - £ 70,000³³</p>	<p>Possible land take along Joyce Green Lane, Temple Hill and at Mill Pond Rd/Overy St.</p>	<p>In tandem with development of relevant sites.</p>	<p>KCC</p> <p>Delivery as part of development of sites</p>	<p>Funded by relevant development sites.</p>
2 new foot / cycle bridges over River Darent	<p>One bridge towards the northern end of the area, either provided as part of a re-instated riverside lock, incorporated as part of a replacement bridge for EDF's power lines, or free-standing bridge.</p> <p>Second bridge at the northern end of Hythe</p>	<p>Estimated cost of bridges and lock totals £3million³⁴.</p> <p>Costs would be lower without re-instatement of lock.</p>	<p>Land take would be required on both sides of the river</p>	<p>Northern bridge in tandem with development of former Paper Mill (Arjo Wiggins /Unicoin sites).</p> <p>Southern bridge in tandem with the development of SEEDA's site</p>	<p>HCA (SEEDA)</p> <p>Private developers</p>	<p>Pooled contributions from development, in addition to funding from HCA (SEEDA) and EDF</p>

³³ Source: Kent County Council (March 2007) Guide to Development Contributions and Provision of Community Infrastructure

³⁴ Source: SEEDA figures for the Dartford Creek Project.

Appendix 8: Proposed Infrastructure Framework

Transport Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Partners	Funding
	Street, allowing for a direct route into the town centre from the eastern bank.					

Utilities Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Body	Funding
Waste water drainage	New sewerage spur to provide connection to Longreach Sewerage Treatment Works, bypassing the existing network of pipes. Subject to further assessment and modelling by Thames Water.	Unknown	None at surface level	If this proposal is taken forward, implementation would need to be timed to enable early development to link new spur, otherwise benefits will be lost.	Thames Water Private developers	Development would normally pay for direct connection to existing network. Further liaison required from Thames Water on funding arrangements for this option.
Sustainable drainage systems (SUDS)	Creation of SUDS, with a sealed impermeable system so that it does not impact on the Groundwater Source Protection Zone 1, as the primary means of	Unknown	Underground network required and need for temporary water storage areas. These can be incorporated into amenity area of sites.	In tandem with build out of development sites	Private developers Environment Agency	Provided as part of development of individual sites

Appendix 8: Proposed Infrastructure Framework

Utilities Infrastructure						
Type of Infrastructure Required	Description and Issues		Land Take and Location	Phasing/ Development Period	Delivery Body	Funding
	managing surface water.					
Flood mitigation	Separate access to the River required as a flood defence strip. A range of flood mitigation measures and evacuation routes will need to be designed into the development to ensure site safety is maximised.	Unknown	The EA require an 8 m buffer zone to access the River Darent for maintenance of flood defences.	In tandem with build out of development sites, especially the Mill Pond site.	Thames Water Environment Agency	Developer contributions from all sites. Contributions may be required for ongoing management/ maintenance costs.
Combined heat and power plant (CHP)	Development to achieve reductions in carbon emissions and work towards zero carbon homes. On site low/zero carbon combined Heat and Power Plant serving the whole of the Northern Gateway and potential to provide heat to a wider network	Likely to be £5 m plus	Land take required for CHP plant. Potentially on site of existing CHP on GSK East site. Underground network also required.	In tandem with build out of early development sites.	Private developers Possible joint venture with energy company	Funding options to be explored.

Appendix 8: Proposed Infrastructure Framework

Social and Community Infrastructure³⁵						
Type of Infrastructure Required	Description	Costs	Land Take (sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
GP surgery/ community hub.	<p>2 GP surgery.</p> <p>Explore potential to combine with a possible library access point, community meeting space, occasional police officer base etc.</p> <p>Employment of community worker to manage communal parts of building and help develop early integration of community.</p>	<p>Estimated cost of £3m, excluding land costs, for a dedicated 2 GP surgery . Increased cost for multi-use space.</p> <p>The specific level of contribution for the 2 GP Surgery will be calculated based on the Department of Health's HUDU model and may amount to approximately £230 per dwelling.</p> <p>Revenue costs for community worker</p>	<p>Potential location at the Mill Pond. The 2 GP surgery is likely to amount to 275 sq m.³⁶</p>	<p>At the same time as the Mill Pond site is developed.</p>	<p>PCT</p> <p>Kent Library Services</p> <p>Private developers</p>	<p>Developer contributions, with contributions from all sites (except those solely for employment use).</p>
Primary school	<p>2 FE primary school and early years pre-school provision and/or multi-agency facility for children's social services. The anticipated pupil</p>	<p>Approximate estimate for school provision ranges from £7m to £8.5m, excluding land costs.</p>	<p>KCC size requirement for a 2 FE primary school is 2.1 hectares including playing fields. Emerging Core Strategy</p>	<p>KCC earlier modelling exercises predicted requirement for 1st FE by 2017 and 2nd FE by 2022.</p> <p>The early years</p>	<p>KCC</p> <p>Sure Start</p> <p>Private developer</p>	<p>Developer contributions, with contributions from all sites (except those solely for employment use), in line with KCC</p>

³⁵ Information supplied in this table is taken from Kent County Council (March 2007) Guide to Development Contributions and Provision of Community Infrastructure and from emails received from KCC during stakeholder consultation.

³⁶ Estimates as part of the Lowfield Street application.

Appendix 8: Proposed Infrastructure Framework

Social and Community Infrastructure³⁵						
Type of Infrastructure Required	Description	Costs	Land Take (sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	product from the Northern Gateway development cannot be accommodated within existing local schools.		proposes an indicative location on the GSK North site. This will be kept under review in light of KCC further assessment of phasing and site suitability.	facility to be provided at the same time as the primary school. Modelling is being re-run in light of new information. Phasing likely to be reviewed.		contributions guidelines. Proportionate funding from all sites to cover land costs.
Secondary school	Currently no requirement for on-site facility. Requirement for extensions to existing secondary schools to cater for demand arising from the Northern Gateway	In accordance with KCC developer contribution guidelines for extensions to existing schools	N/A	Contributions to be paid on first occupation of homes on each development site.	KCC	Developer contributions on all housing sites
Kent Adult Social Services (KASS)	No on-site provision but KCC seek contributions towards proposed Health and Social Care Resource Centre (HSCRC) in Dartford Town Centre.	In accordance with KCC developer contributions guidelines.	N/A	Contributions to be paid on first occupation of homes on each development site.	Kent Adult Social Services	Developer contributions from all sites (except those solely for employment use)
Libraries and archives	KCC seek contributions towards improving capacity at Dartford Town Centre Library and Temple Hill Library.	In accordance with KCC developer contributions guidelines.	A library access point would require a small amount of space – 11sqm.	Contributions to be paid on first occupation of homes on each development site.	KCC	Developer contributions from all sites (except those solely for employment use)

Appendix 8: Proposed Infrastructure Framework

Social and Community Infrastructure ³⁵						
Type of Infrastructure Required	Description	Costs	Land Take (sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	A library access point (for drop offs/collections) could be co-located with other community services.					
Youth services	No on-site provision but KCC seek contributions to support youth facilities at The Bridge, the YMCA Dartford and a detached youth worker at Temple Hill.	In accordance with KCC developer contributions guidelines.	N/A	Contributions to be paid on first occupation of homes on each development site.	KCC's Kent Youth Service YMCA	Developer contributions from all sites (except those solely for employment use)
Adult education	No on-site provision and KASS are not seeking contributions as there is spare capacity in existing adult education facilities.	N/A	N/A	N/A	N/A	N/A
Local employment scheme/ Job shop	Consider options for implementing a local employment scheme which could include the use of existing training resource (job shop) at The Bridge or on-site provision of a new job shop.	£500,000 per job shop	The location of a possible on-site job shop will need to be explored.	In tandem with the development of HCA's (SEEDA) (GSK West), GSK East, Mill Pond, GSK North site	Private developer Employ Kent Thameside (a consortium which includes North West Kent College and Greenwich University)	Developer contributions from all sites

Appendix 8: Proposed Infrastructure Framework

Appendix 8: Proposed Infrastructure Framework

Environmental, Green, Recreational Infrastructure³⁷						
Type of Infrastructure Required	Description	Costs	Land Take (Sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
Cleanup of River Darent	Footpath improvement works along west side of the river in addition to existing proposals for improvements along east side of river (including cantilever walkway) tree removal and planting, improvements to river revetments along river banks, planting within the river, access and ecological improvements to a section of wet woodland to the north of Dartford Creek ³⁸ .	Part of the Dartford Creek project which has total estimated cost of £5million	N/A	Feasibility work has already been carried out and project appraisal work is currently being undertaken for east side of river. Enhancements to west of river to be provided as former paper mill sites are re-developed	HCA (SEEDA) CLG Private developers	HCA(SEEDA) - £750,000 agreed CLG - £3.68 million from Sustainable Communities Fund
Re-instatement of tidal lock on the River Darent	Part of the Dartford Creek project (Reach 5 includes new lock and associated work). The resulting increased depth of water will allow boats	Estimated cost of bridges and lock totals £3million as part of the Dartford Creek project.	Land surrounding the river will be required to re-build the lock and some land may be required for mooring sites	At the same time as building out HCA's (SEEDA) sites, if not before	Environment Agency HCA (SEEDA)	Previous funding through CLG is no longer available. Future funding to be investigated

³⁷ Information supplied in this table is taken from SEEDA's reports and emails during stakeholder consultation.

³⁸ Source: DBC (2009) October Cabinet Report, Agenda Item 12.

Appendix 8: Proposed Infrastructure Framework

Environmental, Green, Recreational Infrastructure ³⁷						
Type of Infrastructure Required	Description	Costs	Land Take (Sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	to navigate the river to the weir at the Mill Pond, providing an enlivened water environment and improving the biodiversity value of the river.					
Green Grid links	Improved footpaths and cycleways across the site, both north-south and east-west, with improved links along both banks of the River Darent to the town centre, to surrounding communities, to Dartford Fresh Marshes, Dartford Marshes (currently cut off by Bob Dunn Way), Thames Estuary footpath, Temple Hill's Enchanted Forest, Central Park and other local circular	Approximately £80-100 /sqm for 2.5m gravel path, plus 15-25% for landscaping/ furniture ³⁹ Improvements to Darent Valley Footpath on both side of the River Darent could amount to £270,000.	This depends upon how many routes will be created and whether they will be new or use existing Rights of Way The total land take for the riverside path is approximately 3,584 x 2.5, equating to 8,960 sqm.	In tandem with building out development sites. Some work on the east bank of the River Darent has already commenced.	HCA(SEEDA) Council KCC PRoW Private developers	Partial funding agreed on SEEDA owned part ⁴⁰ . Further phases of the riverside walkway are subject to finding alternative funding. Developer contributions from all sites. Contributions may be required for ongoing management/ maintenance costs.

³⁹ Source: Based on Dartford Creek project costs.

⁴⁰ Source: Planning application 09/00852/FUL).

Appendix 8: Proposed Infrastructure Framework

Environmental, Green, Recreational Infrastructure ³⁷						
Type of Infrastructure Required	Description	Costs	Land Take (Sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	walks, with links to the rail station, bus stops and Public Rights of Way (PRoW).					
Biodiversity	Improvements, especially along the river banks including intertidal habitats of Dartford Creek and the Mill Pond, soft landscaping around Mill Pond, roosting and nesting sites, bat boxes, water vole friendly river banks etc. Ecological improvements to Dartford Fresh Marshes to increase biodiversity in the freshwater grazing marsh.	Unknown	Some land take along the river frontage and new land may be required alongside footpaths to allow for the development of wildlife corridors. Should limited development takes place on the Fresh Marshes compensating open space will be required on adjoining sites.	In tandem with building out development sites. The introduction of new species and the transfer of existing species may be dependant upon particular times of the year. Improvements to Dartford Fresh Marshes should take place at the same time as developing the GSK North site.	Council Kent Wildlife Trust Private developer	Developer contributions, with contributions from all sites, not just the site where biodiversity will be improved. Contributions may be required for ongoing management/ maintenance costs.
Open space and public realm	Provide for a variety of open spaces to serve the needs of the community and connect these through Green Grid corridors across the site including a local park and a public	£2.4 m for local park. Other open space unknown	56% of the whole site will be open space, of which 24% will be on the developed parts of the site. Individual sites will have differing amounts of open space depending	In tandem with building out development sites. Local park likely to be located at GSK East site.	Council Private developers	Developers to provide as part of development sites. Contributions may be required for ongoing management/ maintenance costs.

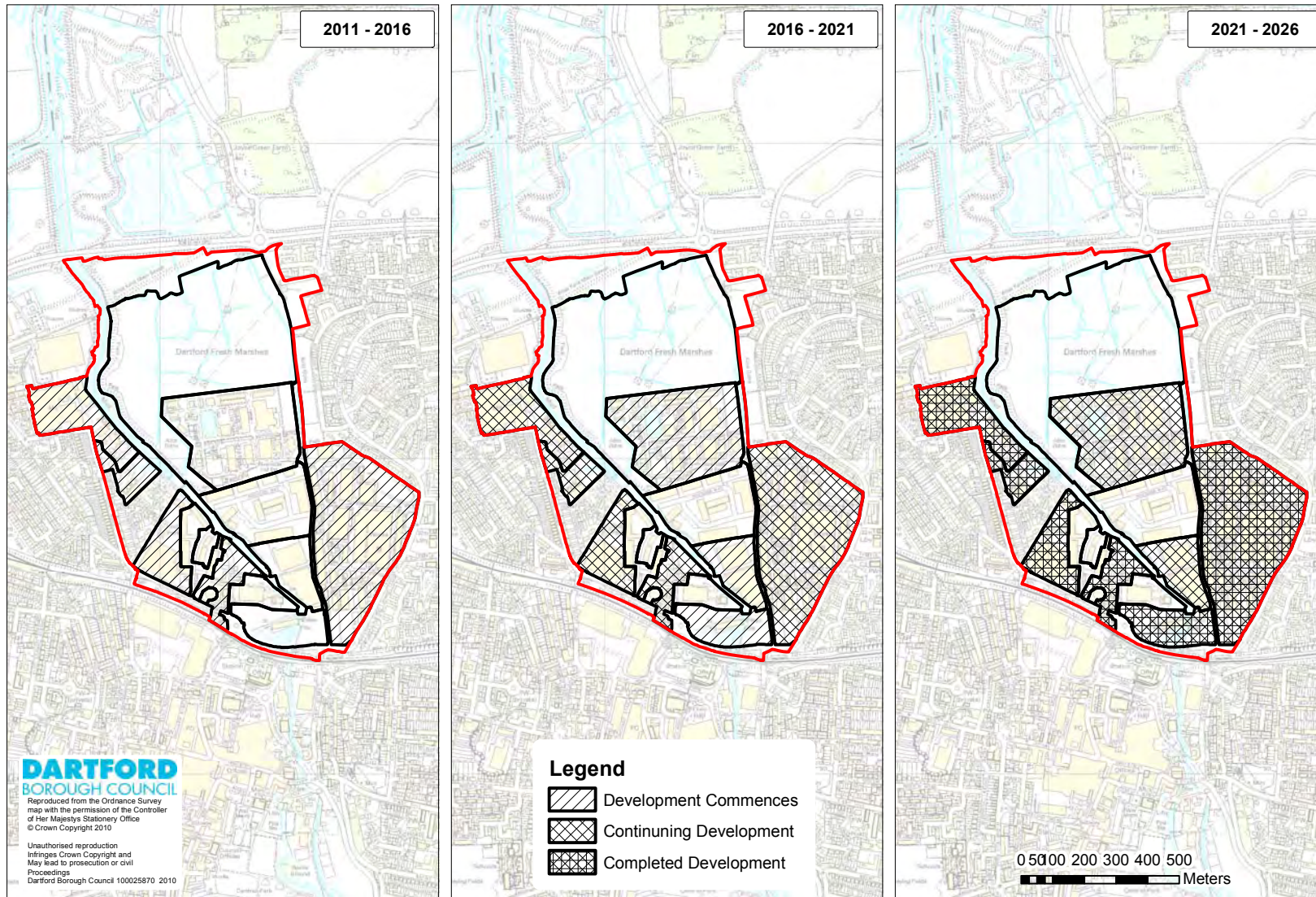
Appendix 8: Proposed Infrastructure Framework

Environmental, Green, Recreational Infrastructure ³⁷						
Type of Infrastructure Required	Description	Costs	Land Take (Sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	area at Mill Pond		upon site characteristics. For example, local park created on the landfill site and 50 metre cordon sanitaire will account for 32% of the GSK East site. 10% of the Mill Pond site may be hard standing public realm.			
Playing pitches	Provision of playing pitches as part of the school. Potential for shared community use as part of the s106 agreement to be explored.	Costs included within school costs although the specification of the pitches would need to be of higher quality to cater for heavier use and greater wear and tear.	Land take included within school site area.	Subject to phasing of school, which is under review.	Delivery as for primary school	Funding as for primary school
Environmental improvement to employment sites	Upgrades of existing employment sites that are likely to be retained, e.g. Victoria Industrial Park and Riverside Industrial Estate. Visual improvements, boundary treatments, riverside walkways	Unknown	Land take will depend upon the specific environmental improvements implemented	Boundary treatments and Green Grid links in tandem with building out adjoining development sites.	Private developers, as part of development of adjacent sites. SEEDA(HCA) and KCC in respect of Green Grid links	Developer contributions from adjacent sites. Contributions may be required for for ongoing management/ maintenance costs.

Appendix 8: Proposed Infrastructure Framework

Environmental, Green, Recreational Infrastructure ³⁷						
Type of Infrastructure Required	Description	Costs	Land Take (Sqm) and Location	Phasing/ Development Period	Delivery Body	Funding
	and Green grid links across the sites to enable permeability of the wider site and provide access to the river.					
Public heritage displays/ interpretative facilities	The provision of heritage/educational display boards or trail explaining the heritage, architectural and archaeological, wildlife and recreational resource found in the Northern Gateway Retention/housing of Burroughs/Welcome Museum?	Public heritage interpretation boards: approximate cost £6,000 at £1,000 per board. Possible housing of Museum in multi-purpose community space?	Minimal space required for display boards	Archaeological surveys may be required prior to the redevelopment of sites, especially SEEDAs, former Paper Mill sites and Mill Pond sites. Heritage displays will be delivered alongside the development of sites.	KCC Council	Developer contributions, with contributions from all sites. Contributions may be required for for ongoing management/ maintenance costs.
Restoration of the listed Priory Wall	Environmental improvement and long-term management and maintenance of the Listed Priory Wall	Unknown	N/A	Alongside the development of adjacent sites.	KCC Council	Developer contributions from adjacent sites. Contributions may be required for for ongoing management/ maintenance costs.

Indicative Phasing of Sites



Appendix 9: Indicative Phasing

Indicative Phasing of Infrastructure

	2011-2016	2016-2021	2021-2026
Transport Infrastructure			
Fastrack through Northern Gateway			
Vehicular access along Central Road			
Bus priority along Mill Pond Rd			
Northern entrance to Dartford railway station			
New accesses			
2 new bridges over River Darent			
Utilities Infrastructure			
Waste water drainage			
Sustainable drainage system			
Flood mitigation			
Combined heat and power plant (CHP)			
Social and Community Infrastructure			
GP surgery/multi-use space			
2 FE primary school (subject to further assessment)			
Environmental / Green Infrastructure			
Cleanup of River Darent			
Re-instatement of tidal lock on River Darent			
Green Grid links			
Biodiversity			
Open space and public realm			
Playing pitches			
Environmental improvements to employment sites			
Public heritage displays / interpretative facilities			
Restoration of listed Priory Wall			