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Consultants in Highways, Railways
Bridges and Underwater Engineering

Goodman Real Estate (UK) Ltd

(Goodman Developments)

Crossways Commercial Park

Clipper Boulevard

Dartford

TRAVEL PLAN

March 2020

Lawrence Walker Limited Registered Office as above
Registered in England No. 3001314

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Section 1 Introduction

1.1 Background

This Report has been prepared to discharge Condition 19 of Planning Permission DA/19/00991/FUL with respect to the development of land at *Land at Dartford International Ferry Terminal*. The Planning Authority for the submission is Dartford Borough Council (DBC) and the site is located at Clipper Boulevard, Dartford (**Figure 1 & Appendix A** refer). The Report will form part of the documentation required for the continued development of the site over time.

The Land at Dartford International Ferry Terminal Travel Plan (referred to as *The TP*, *The Travel Plan* or simply *The Plan* herein) has been developed by *Goodman Real Estate UK Limited* (Goodman) and has been produced by *Lawrence Walker Limited* (LWL). It is based on sustainable transport principles which are aimed firstly at reducing dependency on private car use and then secondly encouraging a switch to electric vehicles to reduce noise and air quality effects for those who do need to drive. *The Plan* promotes public transport, walking, cycling and car sharing as its main initiatives in order to reduce traffic congestion resulting from the site. It is presented in detail, but it should be noted that the implementation of sustainable travel proposals will include a process of monitoring on an annual basis to establish *The Plan's* overall effectiveness and to ensure that targets established are realistic and are being met.

1.2 Nature and Extent of the Development

The site is located to the south-east of the Dartford Crossing and lies to the south of the River Thames, close to the existing Trading Estate. Goodman wishes to implement the consented B8 Use Class development on half of the Thames Europort car storage site and the buildings so constructed will employ approximately 625 staff in the following areas, with first occupation expected early in 2021:-

			Proposed
B8 Logistics Park	-		500
Ancillary Offices	-		125
		Total	**625**

With respect to sustainable travel, it is proposed that the total number of car parking spaces related to the buildings will be approximately **450** including 75 visitor spaces, in line with **Appendix D**. The likely split is expected to be as shown below:-

		Spaces	Max Ratio (Staff)
B1 Ancillary Offices	-	75	0.60 (125)
B8 (Early Shift)	-	125	0.63 (200)
B8 (Afternoon Shift)	-	125	0.63 (200)
B8 (Late Shift)	-	50	0.50 (100)
Visitors & Servicing	-	75	N/A
	Total	**450**	**1 per 1.7 Staff**

As a consequence, the circumstances will exist in the future for the promotion of sustainable transport initiatives and the delivery of a less car dependant mode of operation within this part of Kent. Reference should also be made however to the accompanying *Parking Management Strategy* (PMS), which has been submitted separately in order to discharge Condition 20.

1.3 Sustainable Development

The parking policy and sustainable travel initiatives pursued by the Planning Authorities are founded in the political desire to reduce congestion along the M25 and A206. The emphasis is, therefore, on managing the system rather than expanding it further, using a variety of techniques as highlighted in this Report.

In addition, the need to minimise harmful noise and air-borne emissions associated with conventionally powered cars has come to the fore in recent years and is fully supported by Goodman. To aid a switch to electric power for those who do need to drive, Goodman has incorporated various measures into the development. These include full electric ducting in carb parks and service yards, as well as:-

- A minimum of 6 electric car spaces per building with 12 on the largest unit, and;
- Enhanced roofs to enable full solar panel provision to aid sustainable charging.

1.4 The Travel Plan Proposals

The main reason for introducing a *Travel Plan* arises from the planning priorities for the site and the parking and travel demands emanating from it. The TP therefore necessitates the identification of a range of alternative transport means to the site and also other ways of reducing car usage in overall terms in line with Condition 19.

Proposals thus include:-

- Measures to provide more travel choice;
- An implementation strategy for the proposals;
- Suggested targets for travel by various modes;
- A series of commitments on the part of Goodman;
- Proposals for monitoring the TP.

Section 2 Transport Policy Context

2.1 Current Policy Initiatives

A number of policy initiatives have been adopted over the past decade or so at National and European level to implement a new approach to transport policy. Many of the initiatives relate to emission standards, the development of new technologies and traffic management. At a local level, the most significant influences applicable to the development are:-

- Development Plans and Transport Plans and initiatives prepared by Dartford Borough Council and Kent County Council (KCC), including Policies DP3 & DP4 in the *Dartford Development Policies Plan*;

- *The National Planning Policy Framework (NPPF)* which seeks to assist growth and promote economic revival through sustainable development.

2.2 Future Policy Initiatives

Despite the passage of the *Road Traffic Reduction Act*, the pressure remains to further minimise the impact of road traffic. Some of the issues being discussed include:-

- Further equalisation of the cost between road and other forms of transport;

- Vehicle taxation and increased fuel duties, together with congestion charging;

- Limitations on non-residential car parking;

- Reform of the company car taxation system;

- Tax concessions for sustainable commuter initiatives;

- Public transport tax incentives and improvements to Public Transport (PT) services through further bus de-regulation and competition;

- The promotion of *Travel Plans*.

Some of these initiatives are already being tested and implemented along with further measures, including company based strategies such as *Company Travelwise* based in and around the Birmingham/Solihull area to the west of the site. The adoption of *The Travel Plan* by Goodman is therefore less of a matter of desirability and more a matter of good strategic planning, which Goodman supports. The specific measures outlined in subsequent sections of this Report are therefore based both on the developing transport strategies and the aspiration locally to limit traffic growth on the M25 and A206 strategic corridors.

Section 3 Travel Plans

3.1 Introduction

Transport Plans, *Commuter Plans* and *Company Travel Plans* are some of the key instruments designed to meet the demands of transport policy. Essentially they are all means by which organisations can manage the transport needs of their staff in a more environmentally sensitive way. These plans identify a package of measures encompassing all alternative modes of transport. They allow employers progressively to persuade members of their staff to choose non-car based forms of transport or to favour those who require use of their car, such as the disabled.

In support of *The Plan*, Goodman has carried out work in relation to the implementation and operation of sustainable forms of transport. Whilst there is a need to co-ordinate this work where appropriate, the defined targets and modal share predictions contained within this Report are based on a known level of employment and can be implemented knowing that sufficient resources and staff numbers exist to make such proposals work.

3.2 Benefits

As indicated above, the benefits of an integrated *Travel Plan* need to be captured in commercial as well as environmental terms. *The Travel Plan* therefore aims to provide for:-

- Reductions in the typical levels of car usage associated with the development types proposed;
- Improved quality of employee journeys to and from work;
- A demonstration of the environmental credentials of Goodman;
- Reduced congestion and improved safety along the M25 and A206 corridors and at Junction 1A in particular;
- An incentive to recruiting and retaining staff;
- Increased quality and prestige associated with the location;
- Improved accessibility for all staff;
- Reduced infrastructure costs associated with car parking;
- An improved compliance within the Local Authority planning context.

Section 4 Overall Development Transport Policy

4.1 Travel Plan Co-ordinator

This *Travel Plan* and the transport policies contained within it have been developed by Goodman in association with their Transport Consultants, Lawrence Walker Limited (LWL). They are intended for implementation as part of the development proposals for the site. All responsibilities for *The Plan*, its policies and its ultimate implementation rest with LWL, who's nominated Travel Plan Coordinator commencing from 1st January 2020 is:-

Mr. Steven Johnstone
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4.2 Travel Patterns

The Thames Europort site is currently used for open car storage and so no uniform travel patterns exist to establish a definitive set of measures for inclusion in *The Travel Plan*. However, as new occupiers may well in part be relocating or expanding out from other existing sites and as the site itself is surrounded by existing and successful commercial development including ASDA, records do exist of how employees currently travel to work in the area, which have been established over a long period of time. These include home postcode data, which can be employed within the limits of the *Data Protection Act* to help identify travel demand patterns. These patterns will, for a time after relocation of a particular company, be in a state of flux as employees adjust their journeys to work to suit the new requirements. The details established in the early years of the site will therefore need to be sensitive to such changes, but can be referenced against existing modal split characteristics to monitor progress against the proposed targets.

Due to the location of the site on the urban fringe adjacent to good highways links, there will always be a desire for employees and visitors to access the development by car. Indeed traffic surveys carried out as part of the evaluation process indicate that at present, 92% of all local employees based at the adjacent ASDA ADC travel to and from their existing workplace by private car as *Single Occupant Car Drivers* (SOCD's), whilst nationally for those working in distribution the figure is no better. To help to resolve the potential problems that this would create if repeated on the new development, the establishment of travel patterns through staff surveys is the first measure included within the TP. By this means measures provided by the Developer and occupiers as part of *The Plan* can be measured against known requirements, thereby maximising the potential take-up. An example of a previous survey produced and used by Lawrence Walker Limited on a similar site is appended as **Appendix C** to this report for reference.

Since travel surveys are accurate for only a relatively short period of time following their instigation, it is Goodman's intention that the survey process be repeated for all parts of the development in accordance with **Appendix C** to ensure that the information held is up-to-date (see below). The results of each survey will then be used to review progress against current day and targeted modal splits, as wells as a means of testing the effectiveness of new measures as required.

4.3 Targets

The setting of national road traffic reduction targets has been a contentious issue. The case for local traffic reduction targets however is a matter of political consensus that has been reinforced by the passage of the *Road Traffic Reduction Act*. The level of parking proposed in the Planning Application will, in itself, achieve the road traffic reduction targets which have been set for the site as outlined below. This restraint, which assumes the density of occupation in the various units will be no less than that which occurs in similar existing buildings elsewhere, results in only 70% of employees being able to park on the site following development at any one time. This compares to an average for *all* employment types in local B8 facilities of 92%, so represents a significant reduction when compared to the current situation.

Nationally the picture for B8 uses is one of almost total car dependency, which was reflected in the accompanying *Transport Statement* (TS) to the original planning application. The primary target of the *Travel Plan* is thus to achieve a 22% reduction in the trip generation values assumed in the TS, through the achievement of 30% non-SOCD car usage. This is an ambitious target for the types of development proposed.

The target led approach will give a focus to the *Travel Plan*. It provides inherent incentives and objectives and is essential to the credibility of the TP as far as "external audiences" are concerned.

When targets are first set, they are at their least certain and their achievability will need to be reviewed in the light of experience. With this in mind, the targets outlined above and below have been established by Goodman (based on the parking supply and the average number of employees likely to be present on the site) and centre round achieving a 30% mode-share for non-car based transport modes to the site by full occupation. They will apply linearly from initial occupation onwards on a graduated basis and are split as follows:-

- 2025 - 70% Drive, 10% Car Share, 10% Public Transport, 10% Walk/Cycle.

Further targets could be set which improve the walk/cycle mode-share following full build-out, but at present, these targets cannot be established until all of the buildings are occupied and have reached a greater level of maturity.

Current modes aside, there is potential to increase travel to work by Public Transport further and an additional 2% target is therefore proposed to reflect the possibility of this in the future.

In addition to the above numerical targets for the various travel modes considered, it is Goodman's intention to also implement a number of key "*Headline*" initiatives as the development progresses to assist in their delivery.

These "Action" type targets take the form of specific commitments that can be monitored by DBC to ensure their delivery. They are ultimately specific, measurable, achievable and time-bound, and comprise:-

- New footpath links identified in the TP to serve the development and enable easy access to the *Fastrack* Route A services;

- The installation of at least 30 covered cycle stands (60 spaces) upon site completion, introduced on a linear basis as development progresses. Stands will be secure and located in visible, well lit and safe locations and their number will be monitored as development progresses to ensure they always meet demand;

- The provision of changing facilities and showers within each building constructed on the site for use by cyclists upon opening;

- The provision of up-to-date cycle and walking maps and associated health advice by the first occupation of any building, together with new signage and a mobile cycle repair *"Workshop"* provided in conjunction with a local specialist;

- Encouragement of the provision of pool cycles & electric pool cars by employers;

- The setting-up of a care-share initiative by the time the first unit becomes operational. The initiative will be linked to priority reserved car parking spaces with a hierarchy favouring car-share users and will served by the County Council's scheme as covered by the www.kent.gov.uk/carshare Web Site and the national Liftshare scheme at www.liftshare.com/uk;

- The appointment of a Travel Plan Co-ordinator for the site from the beginning of 2020 as noted above, thereby ensuring that he is in position prior to the occupation of any part of the site.

4.4 Objectives

The transportation policy objectives which apply to the development are as follows:-

- To incorporate within the development pedestrian and cycle access ways which are convenient and safe and which encourage non-car usage by connecting the site to the local community and existing transport centres, particularly those relating to *Fastrack*;

- To promote car-share initiatives as a means of reducing use of the private car;

- To encourage a switch to electric vehicles through the provision of charging infrastructure.

4.5 Management Support

Travel Plans can fail to operate properly if there is inadequate consultation between the participants or if the TP in question fails to enjoy management support. A number of measures have therefore been included by Goodman and these will be given their continuing and full support through an undertaking to provide for:-

- Monitoring of the new walkways to and from the site and between the buildings;
- Monitoring of the cycling and walking facilities in collaboration with the Highways and Planning Authorities;
- Support for the nominated Travel Plan Co-ordinator, and;
- A commitment to actively pursue, support and promote car-sharing as an effective means of reducing single occupancy car usage.

Section 5 Specific Travel Plan Proposals

5.1 Principles

Whilst the targets for modal share for work trips have been established for the development, they are in part subject to influence by how occupiers actually operate as development process. The main principle will nevertheless be to ensure that the parking provided is managed correctly and in accordance with the PMS. This will require forward planning and knowledge of the future workforce's travel patterns on the part of the occupiers.

A successful *Travel Plan* involves changing established or desired travel modes. The concept of senior staff leading by example, extensive consultation and staff involvement are therefore important. In addition, *The Plan* will require continual promotion and frequent monitoring if it is to be successful in meeting targets and providing long term benefits.

5.2 Mechanisms

5.2.1 Staff Travel Surveys

Indicative historic staff travel surveys of the travel patterns and modal split of employees based at existing adjacent facilities is already in existence and was included in the TS as a guide. The results need to be confirmed as relevant after occupancy of any new building on the site to determine the reasons for car dependency locally and the possibilities for reducing it in favour of more sustainable transport modes. The best options for reducing car usage can then be determined so that sufficient alternatives are provided. Therefore:-

- Staff travel surveys will be carried out by Goodman of their new development as buildings are occupied and these will be repeated at initially six monthly intervals. An example travel survey developed by LWL is included as **Appendix B**, which itself includes information on the levels of car ownership to ensure that appropriate provisions are maintained across the site.

5.2.2 Travel Plan Co-ordination

The Travel Plan will need to be monitored to ensure that it meets targets. This will be carried out by the nominated Travel Plan Co-ordinator, who will be dedicated to the initiation and publicising of the various *Travel Plan* initiatives.

The post will remain fully funded and supported for a minimum period of six years following its establishment, but will continue for at least five years after the occupation of the last building on the site irrespective of overall duration.

The primary duties of the Travel Co-ordinator will be:-

- To review, develop and oversee the implementation of initiatives outlined in the TP and the achievement of the modal shift targets specified therein;
- To monitor progress of the TP, develop and commission a proposed methodology for measuring mode split and detecting trends in change against targets and report to the participating organisation(s), including the County and Borough Councils;
- To liaise with equivalent employees in participating organisations and to represent Goodman at relevant forums;
- To oversee the promotion and marketing of the TP;
- To prepare *"Welcome Packs"* for all employees that will be handed out as they take up employment;
- To administer the car-share scheme.

5.2.3 Bus Services

The site is strategically well placed to be served by existing bus services without addition, which currently comprise predominately the *Fastrack A* service operated by Arriva as shown on **Figure 3**. The service operates at an 8 to 10 minute frequency between Dartford and Bluewater via the A206, making it very desirable from both a commuting and higher-order shopping perspective. The nearest bus stops to the development are located at Claire Causeway; a distance of some 200m from the site entrance. There is however no direct footpath link at present, which is discussed later in the TP. Further stops are provided at Galleon Boulevard at a distance of some 400m by the shortest route from the western part of the site.

Public Transport (PT) currently provides 2% of local travel and will be expected to cater for **10%** of peak hour movements to and from the development in the future.

Based on the above, Goodman undertakes to:-

- Deliver the best possible footpath link to the existing bus stops at Claire Causeway;
- Provide access to the Arriva "*Real-Time Travel Information App*" (RTI) and supplement with "*Welcome Packs*" for use by each commercial building (or part thereof) upon occupation, to ensure that information relating to bus travel options is available in both a quick and convenient format, and;
- Provide three months of free travel on *Fastrack* for employees of newly occupied units as part of the "*Welcome Packs*".

5.2.4 Rail Services

The nearest Railway Station to the site is Stone Crossing, which is served by *Fastrack* from Claire Causeway on an eight minute peak hour frequency. It is within a 5 minute walk of the development. The Station is served by an extremely good and fast service to and from London's Charring Cross Station every twenty minutes, together with further direct trains to Luton and a rash of other destinations to the East. It is therefore both highly desirable and accessible from a commuting point of view. There are a number of ways by which the proposed transport links between the main station and the site could be improved to further to encourage usage, in addition to the new footpath link noted above. These include:-

- By the guaranteed provision of timetable information for all staff and visitors to the site, from the initial occupation of any building;

- By the provision of access to a web-based information system regarding rail travel;

- By the inclusion of (and improvement to) cycle links to the Station and changing facilities including showers within the site to ensure that maximum use of cycles is made.

It is intended that the Travel Plan Co-ordinator will progress each of the above options, with a view to securing the best, most cost effective means of transferring passengers between the site and the Railway Station prior to first occupation.

5.2.5 Passenger Information

For rail and bus travel, the provision of passenger information is important to ensure that employees will view public transport as a viable alternative to the car. A major task of the Travel Plan Co-ordinator will thus be to disseminate information effectively and provide a *"Bulletin Board"* within the site complex. This will be made available both physically and electronically to all employees, with the information displays provided for public transport additionally being used to display train times.

Therefore:-

- Travel notice boards, a "*Real-Time Travel Information App*" (RTI) via Arriva and *"Welcome Packs"* will be provided within each building or part thereof upon occupation to ensure that information relating to travel options is available in both a quick and convenient manner. Information provided via each mode will be up-dated by the Travel Plan Co-ordinator on a regular basis;

- The Travel Plan Co-ordinator will, as a matter of priority, establish a new dedicated *Web Site*, which will provide and disseminate information on travel by rail and the use of non-car modes in general via the Internet on an RTI basis.

5.2.6 Car Parking

In line with the car parking appraisal for the site (**Appendix D**) around 375 employee car parking spaces will be made available uniformly across the scheme, with 75 additionally assigned for visitors and servicing needs, bringing the total to approximately 450. This represents an allocation of car parking across the site for 70% of employees, assuming the travel patterns identified. The spaces so provided will be allocated in favour of disabled and car-share or high occupancy users, pool cars and other needy groups as a priority, with at least 13% of all spaces being allocated in total to the former two categories close to entrances and walkways, on a building-by-building basis (or part thereof). The number of disabled spaces included within the total and their location will be in accordance with the approved Masterplan.

Both these, and additional spaces provided for motorcyclist, adhere to current County Council guidelines with the latter also being located close to building entrances. Parking areas for motorcyclists will additionally include rigid fixings to enable motorcycles and mopeds to be secured to the ground when parked.

It is suggested that other travel options (particularly car sharing and public transport) could be used over a period of time to reduce the targeted 70% figure still further, although it is recognised that the former would not necessarily lead to an overall reduction in the number of employees actually *arriving* by car. The bus proposal is consistent with the targets proposed in **Section 4.3** of this Report.

Careful planning of the phasing of the development and use of the spaces provided will be required. All occupiers will be required to sign-up to the targeted 70% *Single Occupancy Car Driver* (SOCD) initiative and contribute towards delivery of the PMS.

The Travel Plan Co-ordinator will, on behalf of Goodman, be responsible for managing car parking and ensuring that employees with a defined need (e.g. - the disabled) are given priority. Priority will also be given to car-share vehicles (those involved in the on-site car-share scheme) pool cars and employees for whom other travel modes are not an option. Allocation of remaining spaces will be by rotation.

The Travel Co-ordinator will therefore, on Goodman's behalf, undertake to:-

- Implement the PMS, which will be provided to occupiers for their guidance at least 3 months prior to any building on the site becoming operational;

- Ensure that employees of tenants who have over spill car parking problems do not park on other tenants car parks; communal areas or on any part of the Site Access Road (Clipper Boulevard);

- Seek to have illegally parked vehicles close to the site removed via referral to the Highways Authorities;

- Seek to direct available car parking spaces within each building plot away from able-bodied employees who live less than 2km from the site.

Public transport usage can be linked to parking permits to encourage reduced car usage. For example, if car commuters travel by train one day a week as opposed to the private car, then the car driver could be issued with a parking permit for the remainder of the week as a 'perk'. By this means, car usage can be reduced by 20% over a normal working week. The system would be supported by the issuing of five differently coloured permits (representing each day of the week) to allow flexibility.

- Goodman will undertake to encourage occupiers to implement this kind of system aimed at persuading the use of rail or bus transport by car users who would otherwise not choose public transport as their first option.

Whilst ultimately car parking charges maybe implemented as part of a Government wide national strategy, they do not form part of *The Travel Plan*. This is because without sufficient survey information to support the case, car parking charges could unfairly penalise those who have no public transport or other suitable option.

5.2.7 Car Sharing

Car sharing can be an effective means of reducing the number of cars driven to the work place and is particularly useful in doing so amongst shift workers. For this reason, it forms an important component of *The Travel Plan* and is expected to cater for **10%** of total commuter movements. The prevalent figure is 3%.

The Travel Plan Co-ordinator will take overall responsibility for all car sharing initiatives on the site.

Starting with the establishment of a database of potential car users prior to the occupation of any building within the site, he will specifically target potential car sharers by co-ordinating employees with similar travel patterns. By this means, staff with the potential to share lifts can be linked very early on, producing the best environment for car sharing to flourish.

If car sharing is to be successful however, then the concept of *a "Guaranteed Ride Home"* (a means of getting home if a car-share driver has to leave the site for any reason during the day and is then not available to take a passenger home) if is of importance. Passengers who travel to work with drivers who subsequently have to leave during the day in an emergency or for other reasons may, for example, require a free taxi ride home. There are other situations when this free ride home may also be required and clear guidance is a necessary pre-requisite for the introduction of car sharing. With this in mind, the following proposals for car sharing are included as part of the overall TP:-

- Joining of Kent County Council's existing web-based car share initiative via the national www.liftshare.com/uk/community/kent scheme through the setting up of a private group licence for the site.

- Once operational, the Travel Plan Co-ordinator will be responsible for maximising car sharing take-up amongst employees. To achieve this, he will be required to contact individual employees on a regular basis to maximise the numbers sharing journeys on a daily basis. To help in this goal, he will be provided with funding on an occasional basis to enable a safety net to be made available to all employees. This will be well publicised, thereby guaranteeing lifts home in the event of emergencies or other problems. He will also have the authority to allocate priority car parking spaces close to individual buildings across the site to high occupancy cars, or those forming part of the car sharing scheme. By this means, rewards in the form of easier parking and shorter transfer distances can be made available to those joining the system.

5.2.8 Motorcycles

Motorcycles are generally seen as providing a more sustainable option than the private car in terms of commuting, so their use within the site will be encouraged by Goodman. The following measures are therefore be included as part of the TP to facilitate motorcyclists:-

- The provision of secure parking within dedicated areas in accordance with County and Borough Council guidelines, located close to building entrances. Parking areas for motorcyclists will additionally include rigid fixings to enable motorcycles and mopeds to be secured to the ground when parked;

- A requirement to provide changing and shower facilities for motorcyclist within each building.

5.2.9 Company Cars & Business Mileage

The provision of company cars (or loans to purchase cars) offered to staff as part of their remuneration package plays a significant role in the making of travel decisions. Employers within any particular site who offer perks do so generally without considering whether other forms of transport should be offered instead.

Cars essential for work should be the only ones which are provided and business mileage rates and policies should be reviewed to minimise the financial gain to staff if they choose to travel by car instead of by train or bus to their normal place of work.

- Irrespective of any statutory action that may be taken by the Government to restrict the extent of the provision of company cars, Goodman undertakes to discuss company car usage with each occupier prior to occupation.

5.2.10 Cycling & Walking

The layout of the development in general has been designed to include cycleway and footway connections to all parts of the development from the local road and footpath network. Many existing areas and facilities are within easy walking and cycling distance of the site (**Figures 4 & 5**) and as a result, the plot layout for individual buildings has been used to help encourage foot and cycle use through good design.

In terms of off-site provisions, the key component is the missing shortest possible footpath link to the *Fastrack* bus stops at Claire Causeway and Stone Crossing Railway Station shown on **Figure 4**. Its provision would help deliver the targeted **10%** mode share for walking and cycling combined, against the prevalent 3%.

- Goodman undertakes to deliver a new short and direct route to Claire Causeway and ensure that any route so provided is be well lit, well signed and include security monitoring where thought to be required and appropriate.

In addition to the physical infrastructure identified above, information about safe cycle routes and the encouragement of employees to use cycles will be promoted by the Travel Plan Co-ordinator as part of the overall *Travel Plan*. As a consequence:-

- Goodman will ensure the provision of at least 30 covered cycle stands (60 spaces) upon site completion. Stands will be secure and located in visible, well lit and safe locations. All buildings will provide shower facilities for cyclist, together with changing areas and secure storage lockers;

- Goodman will provide suitable illumination of the off-site footpath link and any cycleways constructed between the site and the surround public infrastructure.

- As part of *The Travel Plan*, the Travel Plan Co-ordinator will promote cycling as a means of travelling to work, highlighting the health benefits thereof,

Other important aspects of cycling are security, maintenance and marketing. This is particularly true where the maintenance of lighting is concerned, which should be provided and repaired immediately in order to ensure that cycle routes enjoy the maximum patronage. One of the roles of the Travel Plan Co-ordinator will therefore be to ensure that cycleways both in and around the site are maintained and the vulnerability of those using them minimised as a consequence.

Another key part of cycling is knowledge, encompassing both routes and the use of cycles themselves. This is particularly true where employees may be unfamiliar with routes around the site that have been newly added as part of the development, or simply where would-be cyclists need a bit of encouragement to make the leap from car to cycle. With this and the previous context in mind, Goodman undertakes to:-

- Provide up-to-date cycle maps (encompassing both new productions and existing publications by the County Council) and improved signage in and around the site to encourage the use of cycles as a means of travel;

- Establish a *Cycle Group* within the development to allow users to share common thoughts and worries about cycling, including a cycle *"Buddy"* scheme. This will be promoted as part of the *"Welcome Pack"* to allow employees to sign-up on the day of induction onto the site;

- Work with local specialists to deliver a mobile cycle repair *"Workshop"*;

- The Travel Plan Co-ordinator will be responsible for ensuring that lighting to cycleways in and around the site is maintained to a high standard. This will be publicised as a key benefit of the cycle network and released as part of an overall marketing campaign aimed at cyclists.

- The Travel Plan Co-ordinator will additionally put together a *Cycling Scheme* booklet, which will include all of the above mentioned initiatives. This will be done prior to the occupation of any unit and will cover all aspects of cycling for inclusion in the "*Welcome Pack";*

Walking to the site is to be encouraged and there are currently numerous routes linking the surrounding residential areas to it by both recreational and more direct means (**Figure 4**). To maximise the potential of such routes, the Travel Plan Co-ordinator will:-

- Provide all employees with maps indicating safe walking routes throughout the area, including condition of surfacing, widths, distances and times to popular locations (such as The Wharf), lighting provisions and major road crossings;

- Secure new pedestrian signage from the site to the main destinations;

- Raise awareness of the health benefits of walking for all though organised team and company walking challenges, marketing campaigns in line with schemes such as walkit.com or "*Walk to Work Week*", and via "*Measured Mile*" schemes incorporating free issue pedometers and alarms;

- Encourage walking (and cycling) by discouraging car parking spaces from being allocated to able-bodied employees who live within 2km of the site.

5.2.11 Timescales

Specific timescales attached to the major initiatives contained within this TP are identified in **Section 4.3** as part of the "Action" target strategy. In addition, however (and to ensure early take-up of the *Travel Plan*) it will also be necessary to make each building aware of its existence and the need for co-operation individually. To achieve this, Goodman proposes to implement the following basic programme, based on first occupation in early 2021:-

Appoint of a Travel Plan Co-ordinator	by January 2020
Agree and undertake baseline staff survey	3 months
Provide information pack for both staff and visitors	3 months
Provide travel information board	3 months
Provide bus timetable information	3 months
Consider and design a car-share scheme	6 months
Formulate priority car parking proposals	6 months
Follow up and publish first Annual Statement	12 months

By the above means, it is considered that optimum take-up of the available non-car options for the site can be achieved, before commuting patterns become established.

5.2.12 Monitoring & Review

Monitoring of *The Travel Plan* will be the responsibility of the Travel Plan Co-ordinator, who will hold regular meetings with all interested parties in the pursuance of this responsibility. Apart from receiving regular updates from Goodman on the site and liaising with the County and Borough Councils on transport related matters, the main monitoring process will involve staff surveys in line with the example provided at **Appendix C**.

Since travel surveys are accurate for only a relatively short period of time following their instigation, it is Goodman's intention that the survey process be repeated on regular basis. This will ensure that the information held by the Travel Plan Co-ordinator is up-to-date. The results of each survey will then be used to review progress against targeted modal splits and also as a means of testing the effectiveness of new measures as required. To do this, the Travel Plan Co-ordinator will be required to calculate the percentage share of all travel modes to the site, based on all available information. This will then be presented on a rolling annual basis to the County and Borough Councils, as well as LWL for review. Where targets are not met, remedial actions will be proposed, agreed and then monitored for effect.

The figures calculated will additionally take account of known parameters (such as car movements) which will be calculable independently to ensure the robustness of the information provided.

- Goodman undertakes to provide an *Annual Monitoring and Review Report* for the site to the County and Borough Councils (at no cost to the Councils). The report will include a comparison of achievements against targets and remedial proposals for improvement where required. It will also include a summary of changes to personnel, any new or changed partnerships and outline plans and proposals for the coming year. In addition, survey results will be circulated to all employees and visitors upon the completion of each survey;

- The format of the reporting will initially be based on the TfL "iTrace" Travel Plan monitoring database as a guide; the details of which can be found at https://london.itrace.org.uk, but will then be subject to agreement with the Councils;

- Goodman will provide a comprehensive evaluation of effectiveness of *The Travel Plan* as part of their third *Annual Monitoring & Review Report*;

- Goodman agrees that the monitoring period for the site will be extended should the TP fail to meet its targets within two years of the last occupation. The length of any extension will be agreed with the County and Borough Councils and also Highways England, at the appropriate time.

The issue of non-compliance and (hence remedial measures) is sensible to at least consider at this stage, and in this respect LWL's approach for the later stages of the development are described below.

Based on progressively implementing additional measures to those currently described in the TP to deal with under-achievement, Goodman will consider:-

- Providing free daily *Fastrack* passes to targeted employees for an extended period of up to six months, based on the number of car trips being made above the agreed target;

- Provide additional cycle parking should there prove to be a demand.

5.2.13 Reducing Travel Demand

To encourage reductions in the overall travel demand associated with the site, a number of measures will be promoted. These will include incentives to work from home on an occasional or even regular basis via video links; the introduction of flexi-time and compressed working weeks. To help secure this:-

- Goodman will seek to minimise the need to travel to and from the development by investigating options such as flexi-time, home working and compressed working weeks with each occupier. These will be aimed at normal office staff, where attendance within a particular shift hierarchy is not a condition of employment. The provision of equipment and virtual additions such as Broadband connections to allow staff to work from home will also be sought;

- All office areas will be equipped with fibre optic Broadband as part of the development's construction. To make sure that maximum use of this facility is made, free Wi-Fi "Hotspots" will be created and built-in throughout the site to enable easy connection.

5.2.14 Personalised Travel Planning

The Travel Plan Co-ordinator will be available to assist with personalised travel planning and each employee will be entitled to a one-on-one individual session prior to taking up his or her employment. Additional measures will then include:-

- Tailored walking and cycling maps, including landmarks familiar to the individual alongside other easy to recognise destinations;

- An up-to-date travel booklet, showing all currently available travel options.

5.2.15 Marketing

Lawrence Walker's track record in promoting travel options for sites with which they are involved is good and as a consequence, take-up of non-car modes within them is generally high. This experience stems most recently from their work on Goodman's *London Medway Commercial Park* (LMCP) near Chatham in Kent.

The key to marketing travel options at LMCP is the site's Web Site, which covers all transport issues and can be accessed from any standard computer with an Internet connection at http://travelguide.londonmedwaycp.com.

Based on the LMCP approach:-

- Goodman will develop and maintain in conjunction with LWL a working travel Web Site for the development, which will be operational prior to the occupation of any building on the site (or part thereof);

- The Web Site will serve as the main marketing tool for *The Travel Plan* and will provide detailed travel information free of charge to all users. Its existence will be made known by a series of "Fliers" on a regular basis and by the one-off *"Welcome Packs"*, which will be given to each employee upon taking-up their employment for the first time.

In addition to the Web Site, there are a number of other measures that have proved popular at locations where LWL is involved, including regular on-site events. These measures are likely to include:-

- The scheduling of regular events within the site aimed at improving sustainability;

- The production of a regular *News Letter*, including things like a *"Bulletin Board"* and appropriate cases studies on businesses within the site;

- Publication of the survey data on a regular basis, an a "*How Well We Are Doing?*" basis;

- Participation in National events such as "*In Town Without My Car Day*" and others aimed at reducing car dependency on a fun basis;

- Updates on new initiatives comprising Press Releases, the release of new maps, posters, email shots, and other measures to keep sustainable travel at the forefront of employee's minds.

Section 6 Summary and Recommendations

6.1 Summary

The Travel Plan aims to promote sustainable transport through a number of initiatives. It is the framework by which Goodman will actively commit, both in the short term and long term, to meeting the objectives of a more sustainable transport policy. *The Travel Plan* sets out targets for realising a tangible modal shift from car to other more sustainable modes, including a new bus stop footpath link, cycling, walking and car sharing initiatives. It also defines the means by which the targets can be met and establishes a response to various factors including:-

- Recognition of the fact that a partnership approach between users, transport operators and the Local Authorities to transport issues is important, and;

- The need to take a pro-active approach to the development and implementation of a sustainable travel strategy for the management of travel demand in line with Government policies.

6.2 Recommendations

The future involvement of Goodman is regarded as an important component to the overall success of the TP. Nevertheless, LWL targets the reduction of car-born single occupancy traffic to no more than 70% of all travel modes upon full occupation of the development as the principal objective of the sustainable travel strategy.

Essential to the formulation and successful implementation of this Plan is a thorough understanding of the travel patterns of all future employees. This knowledge will allow *The Travel Plan* to be formulated and reviewed to achieve the optimum results.

In this context, and in conjunction with Kent County Council, Goodman will:-

- Commission staff travel surveys as outlined in the *Travel Plan* and at a frequency described there-in, including the reporting and monitoring thereof;

- Continue to engage the nominated *Travel Plan Co-ordinator* to oversee all travel policies and implement *The Travel Plan*. The role and duties of the Travel Plan Co-ordinator will be as defined in **Section 5.2.2** of *The Plan*;

- Deliver a prescribed footpath link to serve the development in accordance with **Section 5.2.3** of *The Plan*. Bus travel will be promoted as the prime surface transport option to the development wherever possible following this through the provision of free travel on *Fastrack* for all employees for 3 months following occupation;

- Establish a new dedicated *Web Site*, which will provide information on travel and the use of non-car modes via the Internet on an RTI basis;

- Provide access to the Arriva "*Real-Time Travel Information App*" (RTI) and supplement with *"Welcome Packs"* within each building (or part thereof) upon occupation, to ensure that information relating to travel options is available in both a quick and convenient format;

- Implement a controlled parking regime in accordance with **Section 5.2.6** above;

- Initiate a *Car-Share Scheme* as defined in **Section 5.2.7** of *The Plan*;

- Deliver a *Walking & Cycling Initiative* as described in **Section 5.2.10** of *The Plan*, including mobile cycle repair facilities;

- Seek to reduce the need to travel though a *Travel Reduction Policy* comprising a number of initiatives as outlined within **Section 5.2.13** of *The Plan*;

- Actively market *The Travel Plan* in accordance with the methodologies described therein and outlined in particular within **Section 5.2.15**, and;

- Provide all secondary and complementary measures described in *The Plan* to help deliver no more than 70% single occupancy car use upon full occupation.

The above forms the basis of *The Travel Plan* proposed for the development; the details of which remain to be agreed with the officers of the two Councils and Highways England. It is submitted for approval on this basis and in accordance with Condition 19 of the Planning Consent.

Figures

NOTES

1. DO NOT SCALE THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED/ VERIFIED ON SITE. IF IN DOUBT ASK.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.

3. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS IN METRES UNLESS NOTED OTHERWISE.

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KEY

Rev	Date	Description	Drawn
A	12.04.19	ISSUED FOR USE	SPJ

AMENDMENTS

LAWRENCE WALKER LIMITED
CHURCH FARM
LEAMINGTON
HASTINGS
WARKS
CV23 8DZ

Client

GOODMAN REAL ESTATE (UK) LIMITED

Project Title

LAND AT DARTFORD INTERNATIONAL FERRY TERMINAL

Drawing Title

GENERAL LOCATION PLAN

Scale	Date	Drawn by
As Noted	12.04.19	SPJ

Drawing Status

Planning

Drawing No:	Revision
Figure 1	A

A1

NOTES

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KEY

Rev	Date	Description	Drawn
A	12.04.19	ISSUED FOR USE	SPJ

AMENDMENTS

LAWRENCE WALKER
LIMITED
CHURCH FARM
LEAMINGTON
HASTINGS
WARKS
CV23 8DZ

Client

GOODMAN REAL
ESTATE (UK)
LIMITED

Project Title

LAND AT DARTFORD
INTERNATIONAL FERRY
TERMINAL

Drawing Title

LOCAL HIGHWAY
NETWORK

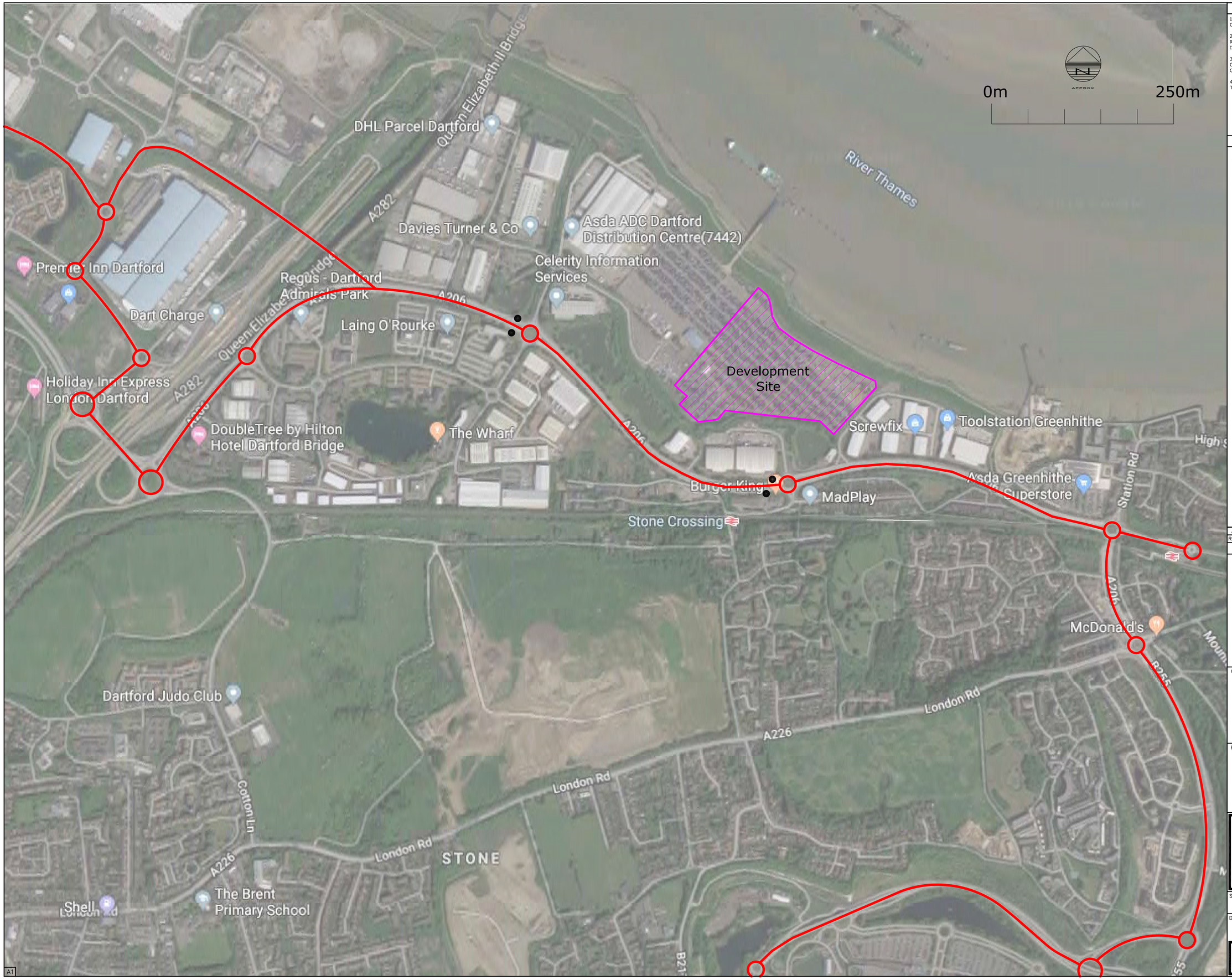
Scale	Date	Drawn by
As Noted	12.04.19	SPJ

Drawing Status

Planning

Drawing No:	Revision
Figure 2	A

A1



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KEY

- Existing Arriva Fastrack A Service (8–10 min)
- Existing Bus Stops

Rev	Date	Description	Drawn
A	12.04.19	ISSUED FOR USE	SPJ

AMENDMENTS

LAWRENCE WALKER LIMITED
CHURCH FARM
LEAMINGTON
HASTINGS
WARKS
CV23 8DZ

Client

GOODMAN REAL ESTATE (UK) LIMITED

Project Title

LAND AT DARTFORD INTERNATIONAL FERRY TERMINAL

Drawing Title

LOCAL BUS NETWORK & BUS STOPS

Scale	Date	Drawn by
As Noted	12.04.19	SPJ

Drawing Status

Planning

Drawing No:	Revision
Figure 3	A

NOTES

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KEY

Approximate Distance to Centre of Site

Rev	Date	Description	Drawn
A	12.04.19	ISSUED FOR USE	SPJ

AMENDMENTS

LAWRENCE WALKER LIMITED
CHURCH FARM
LEAMINGTON
HASTINGS
WARKS
CV23 8DZ

Client

GOODMAN REAL ESTATE (UK) LIMITED

Project Title

LAND AT DARTFORD INTERNATIONAL FERRY TERMINAL

Drawing Title

WALKING ISOCHRONES

Scale	Date	Drawn by
As Noted	12.04.19	SPJ

Drawing Status

Planning

Drawing No:	Revision
Figure 4	A

A1

NOTES

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KEY

Approximate Distance to Centre of Site

Rev	Date	Description	Drawn
A	12.04.19	ISSUED FOR USE	SPJ

AMENDMENTS

LAWRENCE WALKER LIMITED
CHURCH FARM
LEAMINGTON
HASTINGS
WARKS
CV23 8DZ

Client

GOODMAN REAL ESTATE (UK) LIMITED

Project Title

LAND AT DARTFORD INTERNATIONAL FERRY TERMINAL

Drawing Title

CYCLING ISOCHRONES

Scale	Date	Drawn by
As Noted	12.04.19	SPJ

Drawing Status

Planning

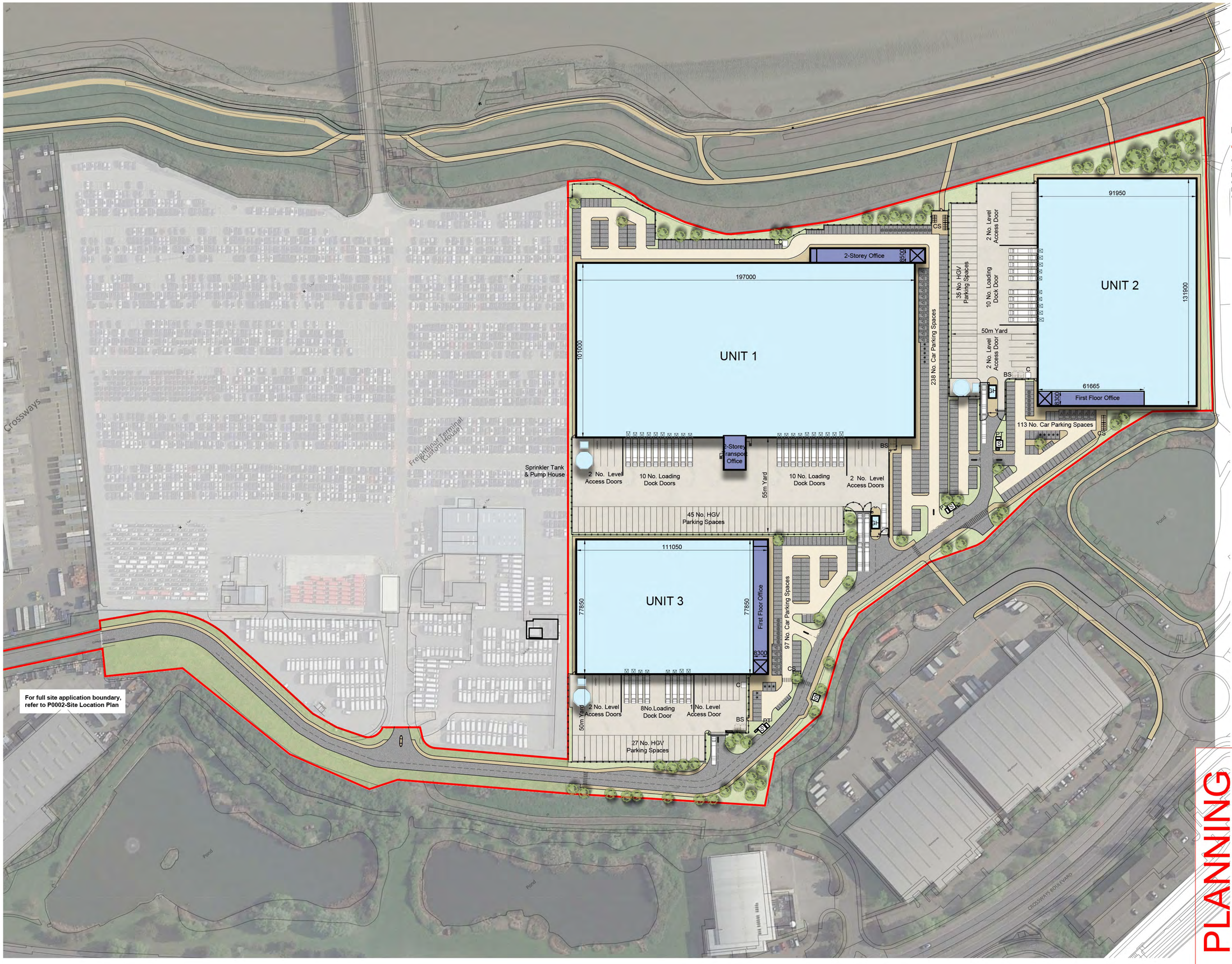
Drawing No:	Revision
Figure 5	A

A1

Appendix A

Development Masterplan

- Dimensions are in millimeters, unless stated otherwise.
- Scaling of this drawing is not recommended.
- It is the recipients responsibility to print this document to the correct scale.
- All relevant drawings and specifications should be read in conjunction with this drawing.



N

Key

	Application Boundary	26.83 acres / 10.86 ha
C	-	Condensors
S	-	Substation
PT	-	Private Transformer
CS	-	Cycle Shelters
BS	-	Bin Store
GH	-	Gate House
★	-	Designated Car Sharing Parking Spaces

Unit 1

Warehouse	212,470 sq ft / 19,740 sq m
Warehouse Undercroft	5,435 sq ft / 505 sq m
2-Storey Office	
FF & SF with GF Core	13,025 sq ft / 1,210 sq m
2-Storey Transport Office	5,000 sq ft / 465 sq m
Gatehouse	300 sq ft / 27 sq m
TOTAL	**236,230 sq ft / 21,947 sq m**

238 No. Car Parking Spaces (incl. 12 No Accessible & 5 No. Car Sharing)
20 No. Loading Dock Doors
4 No. Level Access Doors
45 No. HGV Parking Spaces
30 No. Cycle Spaces
10 No. Motorcycle Spaces

Unit 2

Warehouse	124,680 sq ft / 11,583 sq m
Warehouse Undercroft	4,575 sq ft / 425 sq m
First Floor Office	
with GF Core	5,810 sq ft / 540 sq m
Gatehouse	300 sq ft / 27sq m
TOTAL	**135,365 sq ft / 12,575 sq m**

113 No. Car Parking Spaces (incl. 6 No Accessible & 5 No. Car Sharing)
10 No. Loading Dock Doors
4 No. Level Access Doors
35 No. HGV Parking Spaces
20 No. Cycle Spaces
5 No. Motorcycle Spaces

Unit 3

Warehouse	85,900sq ft / 7,980 sq m
Warehouse Undercroft	5,820 sq ft / 541 sq m
First Floor Office	
with GF Core + Stair	7,450 sq ft / 692 sq m
TOTAL	**99,170 sq ft / 9,213 sq m**

97 No. Car Parking Spaces (incl. 5 No Accessible & 5 No. Car Sharing)
8 No. Loading Dock Doors
3 No. Level Access Doors
27 No. HGV Parking Spaces
10 No. Cycle Spaces
7 No. Motorcycle Spaces

10m SCALE 1:1000

PLANNING

rev	amendments	by	ckd	date

Clipper Boulevard, Dartford

Overall Site Layout

Goodman

umc architects
Newark Beacon Innovation Centre, Cafferata Way, Newark, Nottinghamshire NG24 2TN
o. +44 (0)1636 653027 f. +44 (0)1636 653010 e. info@umcarchitects.com

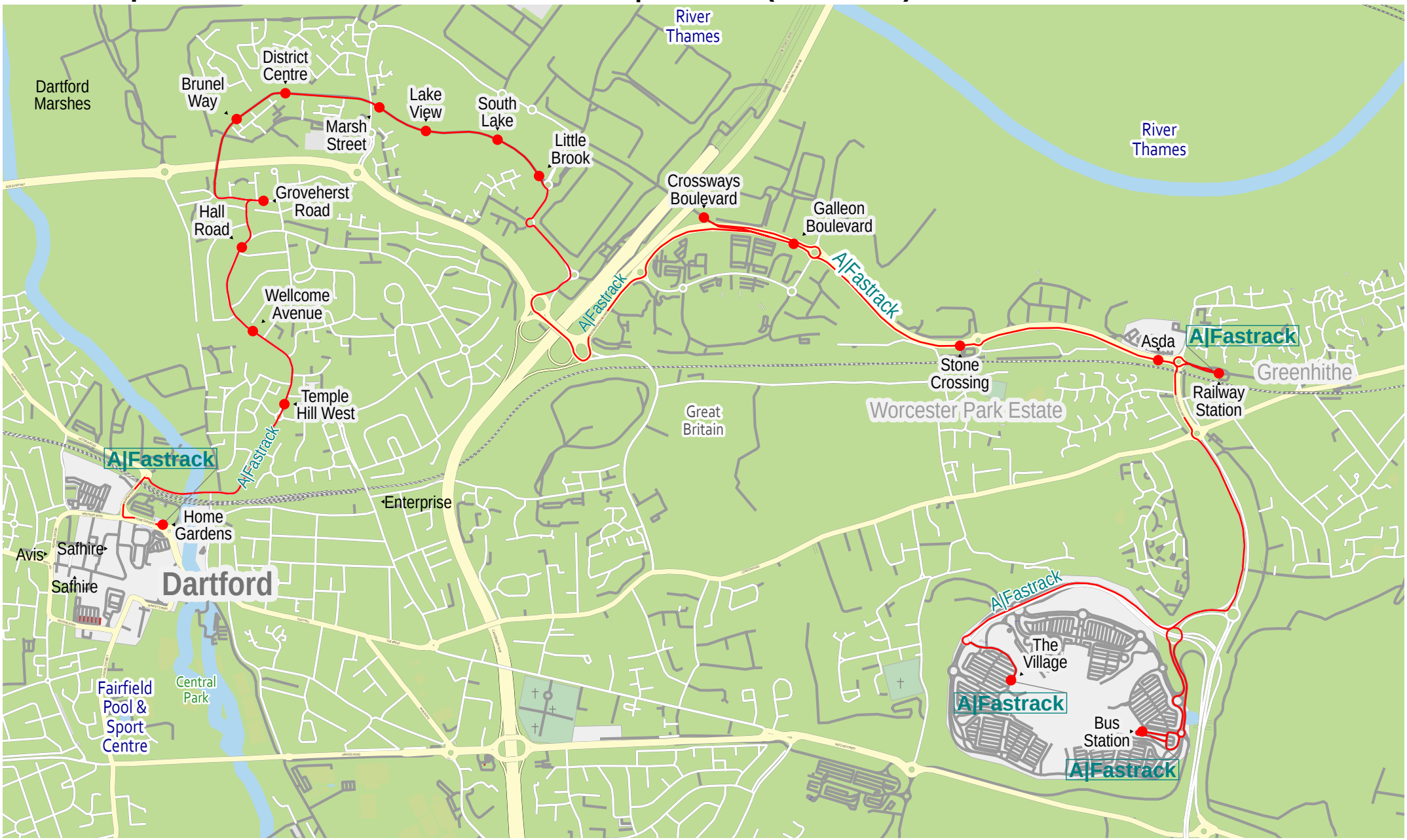
Drawing Status:	Planning
Drawn / Checked:	HJ / JJM
Date:	18.03.2019
Scale:	1:1000 @ A1
Drawing no:	Revision:
18122 P0001	V

Appendix B

Existing Transport Links

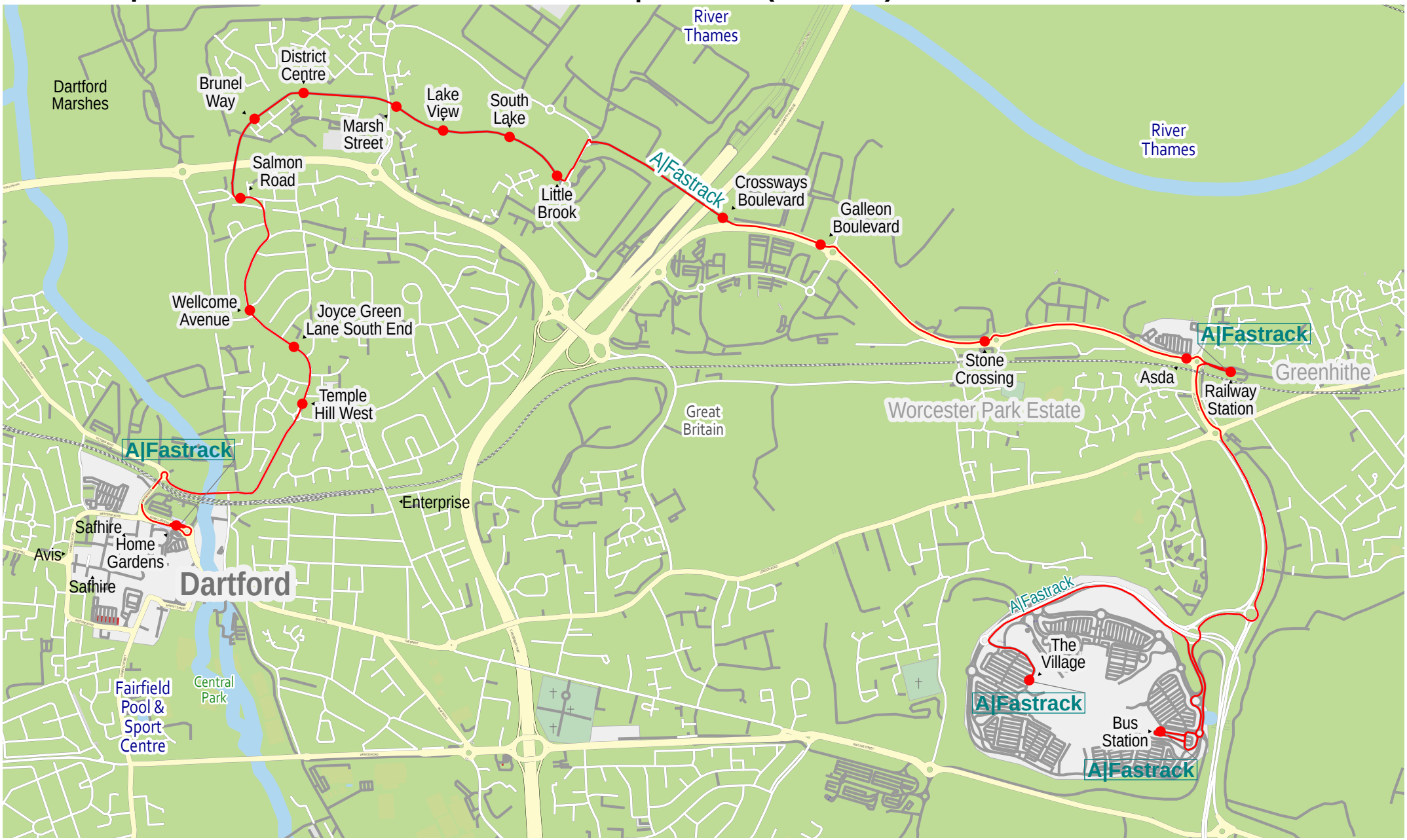
traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your phone company's access charge

Route map for Arriva Kent Thameside service A|Fastrack (outbound)



traveline.info/se
0871 200 22 33
Calls cost 12p per minute plus your phone company's access charge

Route map for Arriva Kent Thameside service A|Fastrack (inbound)



Dartford to Bluewater via The Bridge, Crossways and Greenhithe Station

A

Monday to Friday - towards Bluewater The Village

	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Dartford Home Gardens	0530	0550	0615	0635	0643	0651	0659	0707	0715	0723	0731	0739	0747	0755	0803	0811	0819	0827	0835
Dartford Marsh Street	0537	0557	0623	0643	0651	0659	0707	0715	0723	0731	0739	0747	0755	0803	0811	0819	0827	0835	0843
Dartford Galleon Boulevard	0540	0600	0626	0646	0654	0702	0710	0718	0726	0734	0742	0750	0758	0806	0814	0822	0830	0838	0846
Greenhithe Railway Station	0543	0603	0630	0650	0658	0706	0714	0722	0730	0738	0746	0754	0802	0810	0818	0826	0834	0842	0850
Bluewater Bus Station	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0855
Bluewater The Village	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	A		A	A	A	A	A	A		A	A	A	A	A	A		A	A	A		A	A	A
Dartford Home Gardens	0845		55	05	15	25	35	45		1835	1845	1855	1905	1915	1935		55	15	35		2315	2335	2355
Dartford Marsh Street	0853	Then at	03	13	23	33	43	53	past each	1843	1853	1903	1912	1922	1942	Then at	02	22	42	past each	2322	2342	0002
Dartford Galleon Boulevard	0856		06	16	26	36	46	56		1846	1856	1906	1915	1925	1945		05	25	45		2325	2345	0005
Greenhithe Railway Station	0900	these mins	10	20	30	40	50	00	hour until	1850	1900	1910	1918	1928	1948	these mins	08	28	48	hour until	2328	2348	0008
Bluewater Bus Station	0905		15	25	35	45	55	05		1855	1905	1915	1923	1933	1953		13	33	53		2333	--	--
Bluewater The Village	--		--	--	--	--	--	--		--	--	--	--	1938	1958		18	38	58		2338	--	--

Monday to Friday - towards Dartford Home Gardens

	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Bluewater The Village	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluewater Bus Station	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0900
Greenhithe Railway Station	0530	0555	0615	0625	0635	0645	0655	0703	0711	0719	0727	0735	0743	0751	0759	0807	0815	0825	0835	0845	0855	0905
Dartford Galleon Boulevard	0534	0559	0619	0629	0639	0649	0659	0707	0715	0723	0731	0739	0747	0755	0803	0811	0819	0829	0839	0849	0859	0909
Dartford Marsh Street	0537	0602	0622	0632	0642	0652	0702	0710	0718	0726	0734	0742	0750	0758	0806	0814	0822	0832	0842	0852	0902	0912
Dartford Home Gardens	0544	0610	0630	0640	0650	0700	0710	0718	0726	0734	0742	0750	0758	0806	0814	0822	0830	0840	0850	0900	0910	0920

	A		A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A
Bluewater The Village	--		--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bluewater Bus Station	0910	Then at	20	30	40	50	00	10	past each	1700	1710	1720	1730	1740	1750	1800	1810	1820	1830	1840	1850	1910	1930
Greenhithe Railway Station	0915		25	35	45	55	05	15		1705	1715	1725	1735	1745	1755	1805	1815	1825	1835	1845	1855	1915	1935
Dartford Galleon Boulevard	0919	these mins	29	39	49	59	09	19	hour until	1709	1719	1729	1739	1749	1759	1809	1819	1829	1839	1849	1859	1919	1939
Dartford Marsh Street	0922		32	42	52	02	12	22		1712	1722	1732	1742	1752	1802	1812	1822	1832	1842	1852	1902	1922	1942
Dartford Home Gardens	0930		40	50	00	10	20	30		1720	1730	1740	1750	1800	1810	1820	1830	1840	1850	1900	1909	1929	1949

	A	A		A	A	A		A	A	A	A
Bluewater The Village	1945	2005		25	45	05		2245	2305	2325	2345
Bluewater Bus Station	1950	2010	Then at	30	50	10	past each	2250	2310	2330	2350
Greenhithe Railway Station	1955	2015		35	55	15		2255	2315	2335	2355
Dartford Galleon Boulevard	1959	2019	these mins	39	59	19	hour until	2259	2319	2339	2359
Dartford Marsh Street	2002	2022		42	02	22		2302	2322	2342	0002
Dartford Home Gardens	2009	2029		49	09	29		2309	2329	2349	0009

Saturday - towards Bluewater The Village

	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Dartford Home Gardens	0530	0555	0625	0645	0705	0725	0745	0805	0815	0825	0835	0845	0855	0905
Dartford Marsh Street	0537	0602	0632	0652	0712	0732	0752	0812	0822	0832	0842	0852	0902	0912
Dartford Galleon Boulevard	0540	0605	0635	0655	0715	0735	0755	0815	0825	0835	0845	0855	0905	0915
Greenhithe Railway Station	0543	0608	0638	0658	0718	0738	0758	0818	0828	0838	0848	0858	0908	0918
Bluewater Bus Station	--	--	0644	0704	0724	0744	0804	0824	0834	0844	0854	0904	0914	0924
Bluewater The Village	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	A		A	A	A	A	A	A		A	A	A	A	A	A	A	A
Dartford Home Gardens	0915		25	35	45	55	05	15		1705	1715	1725	1735	1745	1755	1805	1815
Dartford Marsh Street	0923	Then at	33	43	53	03	13	23	past each	1713	1723	1733	1743	1753	1803	1812	1822
Dartford Galleon Boulevard	0926		36	46	56	06	16	26		1716	1726	1736	1746	1756	1806	1815	1825
Greenhithe Railway Station	0929	these mins	39	49	59	09	19	29	hour until	1719	1729	1739	1749	1759	1809	1818	1828
Bluewater Bus Station	0935		45	55	05	15	25	35		1725	1735	1745	1755	1805	1814	1823	1833
Bluewater The Village	--		--	--	--	--	--	--		--	--	--	--	--	--	--	1838

	A		A	A	A		A	A	A
Dartford Home Gardens	1835		55	15	35		2315	2335	2355
Dartford Marsh Street	1842	Then	02	22	42	past	2322	2342	0002
Dartford Galleon Boulevard	1845	at	05	25	45	each	2325	2345	0005
Greenhithe Railway Station	1848	these	08	28	48	hour	2328	2348	0008
Bluewater Bus Station	1853	mins	13	33	53	until	2333	--	--
Bluewater The Village	1858		18	38	58		2338	--	--

Saturday - towards Dartford Home Gardens

	A	A	A	A	A	A	A	A	A	A	A	A	A	A		A	A	A	A	A	A		A
Bluewater The Village	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--
Bluewater Bus Station	--	--	--	0630	0650	0710	0730	0750	0800	0810	0820	0830	0840	0850	Then	00	10	20	30	40	50	past	1740
Greenhithe Railway Station	0530	0555	0615	0635	0655	0715	0735	0755	0805	0815	0825	0835	0845	0855	at	05	15	25	35	45	55	each	1745
Dartford Galleon Boulevard	0534	0559	0619	0639	0659	0719	0739	0759	0809	0819	0829	0839	0849	0859	these	09	19	29	39	49	59	hour	1749
Dartford Marsh Street	0537	0602	0622	0642	0702	0722	0742	0802	0812	0822	0832	0842	0852	0902	mins	12	22	32	42	52	02	until	1752
Dartford Home Gardens	0544	0609	0629	0649	0709	0729	0749	0809	0819	0829	0839	0849	0859	0910		20	30	40	50	00	10		1800

	A	A	A	A	A		A	A	A		A	A	A	A
Bluewater The Village	--	--	--	1845	1905		25	45	05		2245	2305	2325	2345
Bluewater Bus Station	1750	1810	1830	1850	1910	Then	30	50	10	past	2250	2310	2330	2350
Greenhithe Railway Station	1755	1815	1835	1855	1915	at	35	55	15	each	2255	2315	2335	2355
Dartford Galleon Boulevard	1759	1819	1839	1859	1919	these	39	59	19	hour	2259	2319	2339	2359
Dartford Marsh Street	1802	1822	1842	1902	1922	mins	42	02	22	until	2302	2322	2342	0002
Dartford Home Gardens	1809	1829	1849	1909	1929		49	09	29		2309	2329	2349	0009

Sunday - towards Bluewater The Village

	A	A	A	A	A		A	A	A		A	A	A	A		A	A	A		A	A	A	A
Dartford Home Gardens	0755	0815	0835	0855	0915		35	55	15		1755	1815	1835	1855		15	35	55		2235	2255	2315	2335
Dartford Marsh Street	0802	0822	0842	0902	0923	Then	43	03	23	past	1803	1823	1843	1902	Then	22	42	02	past	2242	2302	2322	2342
Dartford Galleon Boulevard	0805	0825	0845	0905	0926	at	46	06	26	each	1806	1826	1846	1905	at	25	45	05	each	2245	2305	2325	2345
Greenhithe Railway Station	0808	0828	0848	0908	0929	these	49	09	29	hour	1809	1829	1849	1908	these	28	48	08	hour	2248	2308	2328	2348
Bluewater Bus Station	0813	0833	0853	0913	0934	mins	54	14	34	until	1814	1833	1853	1913	mins	33	53	13	until	2253	2313	2333	--
Bluewater The Village	--	--	--	--	--		--	--	--		--	1838	1858	1918		38	58	18		2258	2318	2338	--

	A
Dartford Home Gardens	2355
Dartford Marsh Street	0002
Dartford Galleon Boulevard	0005
Greenhithe Railway Station	0008
Bluewater Bus Station	--
Bluewater The Village	--

Sunday - towards Dartford Home Gardens

	A	A	A	A	A		A	A	A		A	A	A	A	A		A	A	A		A	A	A
Bluewater The Village	--	--	--	--	--		--	--	--		--	--	--	1845	1905		25	45	05		2245	2305	2325
Bluewater Bus Station	--	--	0830	0850	0910	Then	30	50	10	past	1750	1810	1830	1850	1910	Then	30	50	10	past	2250	2310	2330
Greenhithe Railway Station	0755	0815	0835	0855	0915	at	35	55	15	each	1755	1815	1835	1855	1915	at	35	55	15	each	2255	2315	2335
Dartford Galleon Boulevard	0759	0819	0839	0859	0919	these	39	59	19	hour	1759	1819	1839	1859	1919	these	39	59	19	hour	2259	2319	2339
Dartford Marsh Street	0802	0822	0842	0902	0922	mins	42	02	22	until	1802	1822	1842	1902	1922	mins	42	02	22	until	2302	2322	2342
Dartford Home Gardens	0809	0829	0849	0909	0930		50	10	30		1810	1830	1850	1909	1929		49	09	29		2309	2329	2349

	A
Bluewater The Village	2345
Bluewater Bus Station	2350
Greenhithe Railway Station	2355
Dartford Galleon Boulevard	2359
Dartford Marsh Street	0002
Dartford Home Gardens	0009

X80 - Chafford Hundred Station

https://bustimes.org/services/x80-chafford-hundred-station-lakeside-bluewater

Apps Web Store Imported From IE

Bus Times

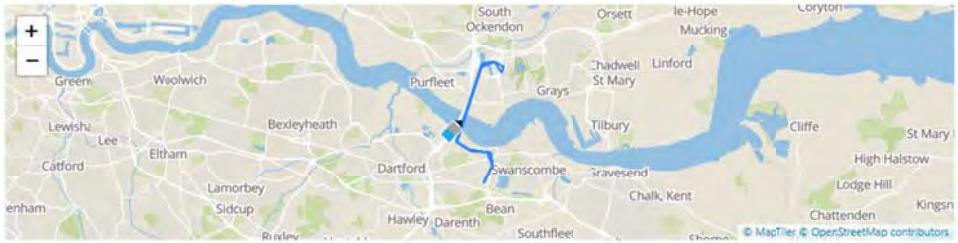
Search Search Map

Home South East Ensign Bus

X80 - Chafford Hundred Station - Lakeside - Bluewater

A bus service operated by Ensign Bus

1 bus online. Click on a bus to see when it last updated



Thursday 11 April 2019

Chafford Hundred Station - Lakeside - Bluewater

Show all stops

Chafford Hundred Railway Station (NE-bound)	06:30	then hourly until	09:30	10:00	then hourly until	16:00			19:05	20:05
Lakeside Bus Station (Bay N)	06:35		09:35	10:05		16:05	17:05	18:05	19:10	20:10
Lakeside, at Tesco	06:37		09:37	10:07		16:07	17:07	18:07	19:12	20:12
Dartford, before Galleon Boulevard	06:48		09:48	10:18		16:18	17:18	18:18	19:23	20:23
Greenhithe Railway Station (Stop 4)	06:50		09:50	10:20		16:20	17:20	18:20	19:25	20:25
Bluewater Bus Station (Stop 12)	06:55		09:55	10:25		16:25	17:25	18:25	19:30	20:30

Bluewater - Lakeside - Chafford Hundred Station

Show all stops

ENG

Appendix C

Model Staff Travel Survey

THAMES EUROPORT

STAFF TRAVEL SURVEY

(Confidential)

Please TICK relevant boxes

1 Title of your job .....

2 How many hours a week do you normally work? .....

3 What hours do you normally work?

..... am/pm till ..... am/pm

4 How do you mostly travel to work? Tick one of the following:

☐ bus ☐ rail ☐ cycle
☐ walk ☐ motorbike ☐ car, on your own
☐ car, with other(s)
☐ other (specify) .....

5 Which one of the following do you occasionally use instead of your usual form of transport?

☐ bus ☐ rail ☐ cycle
☐ walk ☐ motorbike ☐ car, on your own
☐ car, with other(s)
☐ other (specify) .....
☐ don't use an alternative

6 Do you have a disability that affects your travel?

☐ Yes ☐ No

7 How far do you travel to work?

☐ up to 1 mile ☐ 1 – 2 miles ☐ 2 – 4 miles
☐ 4 - 10 miles ☐ 10 - 20 miles ☐ over 20 miles

8 How long does it usually take you to travel to work?

☐ up to 15 minutes ☐ 16 – 30 minutes ☐ 31 – 60 minutes
☐ 61 – 90 minutes ☐ over 90 minutes

9 If you do not cycle now, which of the following changes would encourage you to cycle to work? Please tick no more than three.

☐ improved cycle paths on the journey to work
☐ general improvements in road safety (e.g. more traffic calming)
☐ improved cycle parking at work
☐ showers and changing facilities (should you need to change clothes)
☐ lockers for clobber (e.g. helmet, clothes)
☐ cycle training to improve confidence when cycling to work
☐ arrangements to buy a bike at a discount
☐ free taxi home in emergencies
☐ other (please specify) .....

10 If you already cycle, what improvements would you most like to see?

.....

.....

.....

11 Which of the following changes would encourage you to use public transport for your journey to work? (If you already use public transport which would you most like to see). Please tick no more than four.

☐ more direct bus routes
☐ more frequent bus service
☐ more frequent train service
☐ earlier/later buses/trains to fit in with my shift hours
☐ better lighting at bus stops
☐ provision of bus shelters
☐ provision of seating at bus stops
☐ new bus link from station (which? .....)
☐ provision of better public transport information at work
☐ interest-free season ticket/travelcard loan
☐ discount fares
☐ free bus travel at lunchtimes for shopping
☐ other (please specify) .....

12 Which of the following changes would encourage you to walk to work? (If you already walk, which would you most like to see?). Please tick no more than two.

☐ better maintained pavements
☐ safer road crossings
☐ more street lighting
☐ free taxi home in emergencies
☐ other (please specify) .....

13 Do you qualify for a company car?

☐ Yes ☐ No

14 If yes, do you use it to get to work?

☐ Yes ☐ No

15 Could you work from home occasionally if you had the necessary IT equipment?

☐ all the time ☐ most of the time ☐ occasionally ☐ never

16 How interested would you be in exploring home-working?

☐ very interested ☐ fairly interested ☐ not interested

PLEASE COMPLETE QUESTIONS 17 – 20 IF YOU OWN AND INTEND TO USE A CAR TO WORK

17 What are your main reasons for using a car to work?

☐ need to use it during the day on business
☐ need to use it during lunchtimes for shopping
☐ drop/collect children
☐ you get or give a lift
☐ for personal security
☐ lack of an alternative
☐ other, please specify .....

If you ticked the first box, how many days a week on average do you need it for business?

.....

and, how many hours are you normally away from the office at a time? .....

18 Where do you usually park?

☐ on site, SITE NAME / CAR PARK NAME
☐ OTHER NAMED LOCATION RELEVANT TO YOU
☐ free parking in nearby streets
☐ other, please specify .....

19 Would you be prepared to car share?

☐ yes ☐ no ☐ I already car share

20 Which of the following would most encourage you to car share? (If you already car share which would you most like to see?). Please tick no more than two.

☐ help in finding car share partners with similar work patterns
☐ free taxi home if let down by car driver or in an emergency
☐ reserved parking, closest to entrance for car sharers
☐ other, please specify .....
☐ none of these

PERSONAL DETAILS

21 Full home postcode .....

22 Gender ☐ male ☐ female

23 Age ☐ under 25 ☐ 25 – 34 ☐ 35 – 44
☐ 45 – 54 ☐ 55 & over

24 Do you have any comments about your travel to work?

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(continue overleaf if necessary)

Thank you for your co-operation. Please be assured that all your answers are confidential. Please return this form to _____ by _____ 2020.

The first ____ questionnaires opened will be awarded [BOTTLE OF CHAMPAGNE / FREE BUS TICKET / M&S VOUCHERS]. If you wish to be included, please write your name here. This will be separated from the completed questionnaire and used only for the purposes of the draw.

Name (please print).....

Appendix D

Car Parking Profile

THAMES EUROPORT (Two Shift)

EMPLOYEE TRAFFIC GENERATION

FIRST PRINCIPLES

SHIFT TIMES AND TRAVEL DEMAND

EMPLOYMENT GROUP	TOTAL STAFF
B1 Office Employees	125
B2 & B8 Employees	500
Other	0
TOTAL STAFF	**625**

SHIFT DITRIBUTION

Of the B2/B8 shift-working employees, data for the Qinetiq site in Farnborough provides a suitable breakdown.
B1 staff assumed to work standard hours. Other staff assumed to comprise shift and non-shift. Shift staff = 100%

B2/B8 Staff	Shift times	Qinetiq	B2/B8 %	B2/B8
Office and other non-shift staff:	09:00 to 17:00	0	0%	0
Factory and other staff DAY shift	07:00 to 19:00	50	50%	250
Factory and other staff NIGHT shift	19:00 to 07:00	50	50%	250
Factory and other staff late shift	N/A	0	0%	0
Total Warehouse and Other Shift Staff		*100*	*100%*	500
TOTAL STAFF		**100**	**100%**	

TOTAL TRAVEL DEMAND

Gross figures are before adjustment to account for part-time working, peak spreading, sickness and holidays.
Net figures are subject to the following discounts:

Discounts	Applies to	%
Part-time staff not travelling every day	All staff	10%
Staff on leave or sick	All staff	15%
Staff choosing flexi/off-peak times of travel	Remaining non-shift staff	10%

GROSS TRAVEL DEMAND

ELEMENT	TIME	GROSS		Net of P.T, leave and sick		Net of staff travelling off-peak	
		DEP	ARR	DEP	ARR	DEP	ARR
B2 & B8 Industrial	Pre-AM peak	0	250	0	188	0	188
	AM peak	0	0	0	0	0	0
	Shift Cross-Over	250	250	188	188	188	188
	PM peak	0	0	0	0	0	0
	Post PM peak	250	0	188	0	188	0
B1 Office	Pre-AM peak	0	0	0	0	0	0
	AM peak	0	125	0	94	0	84
	Shift Cross-Over	0	0	0	0	0	0
	PM peak	125	0	94	0	84	0
	Post PM peak	0	0	0	0	0	0
Others	Pre-AM peak	0	0	0	0	0	0
	AM peak	1	0	0	0	0	0
	Shift Cross-Over	0	0	0	0	0	0
	PM peak	0	0	0	0	0	0
	Post PM peak	0	0	0	0	0	0
TOTAL NET TRAVEL DEMAND	*Pre-AM peak*	*0*	*250*	*0*	*188*	*0*	*188*
	AM peak	*1*	*125*	*0*	*94*	*0*	*84*
	Shift Cross-Over	*250*	*250*	*188*	*188*	*188*	*188*
	PM peak	*125*	*0*	*94*	*0*	*84*	*0*
	Post PM peak	*250*	*0*	*188*	*0*	*188*	*0*

Total	460	459
Total Two-Way Staff Movements per Day to Work =		919
Total Two-Way Staff Movements per Day during Day =		181
* Visitor Movements per Day =		500
All Movements =		1600
Maximum Two-Way Movements per Day =		**2,000**

CAR DRIVER MODAL SHARE

Baseline %	Target %
92%	70%

Baseline figures are derived from TRICS.
Target figure is in accordance with the Travel Plan.

* Based on Car Parking Allocation (see adjacent Spreadsheet)

THAMES EUROPORT (Two Shift)

CAR PARKING DEMAND

FIRST PRINCIPLES

SHIFT TIMES - DISTRIBUTION OPERATIONS

SHIFT	START	END
Day Shift	7:00	19:00
Night Shift	19:00	7:00
Other Shift	-	-

CAR TRAVEL DEMANDS
Figures obtained from traffic generation calcs.

GROSS TRAVEL DEMAND **ALL TRIPS =** **100%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*Pre 7:00*	0	188	188	188
	AM peak	-	0	0	188	188
	Shift Cross-Over	*Day/Night*	188	188	188	375
	PM peak	-	0	0	188	188
	Post PM peak	*Post 19:00*	188	0	0	188
B1 Office	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	84	84	84
	Shift Cross-Over	*Day/Night*	0	0	84	84
	PM peak	-	84	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0
Others	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	0	0	0
	Shift Cross-Over	*AM/PM*	0	0	0	0
	PM peak	-	0	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0

CAR TRAVEL DEMAND (NO TP) **CAR DRIVER =** **92%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*Pre 7:00*	0	173	173	173
	AM peak	-	0	0	173	173
	Shift Cross-Over	*Day/Night*	173	173	173	345
	PM peak	-	0	0	173	173
	Post PM peak	*Post 19:00*	173	0	0	173
B1 Office	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	78	78	78
	Shift Cross-Over	*Day/Night*	0	0	78	78
	PM peak	-	78	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0
Others	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	0	0	0
	Shift Cross-Over	*Day/Night*	0	0	0	0
	PM peak	-	0	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0

CAR TRAVEL DEMAND (WITH TP) **CAR DRIVER =** **70%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*Pre 7:00*	0	131	131	131
	AM peak	-	0	0	131	131
	Shift Cross-Over	*Day/Night*	131	131	131	263
	PM peak	-	0	0	131	131
	Post PM peak	*Post 19:00*	131	0	0	131
B1 Office	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	59	59	59
	Shift Cross-Over	*Day/Night*	0	0	59	59
	PM peak	-	59	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0
Others	*Pre-AM peak*	*Pre 7:00*	0	0	0	0
	AM peak	-	0	0	0	0
	Shift Cross-Over	*Day/Night*	0	0	0	0
	PM peak	-	0	0	0	0
	Post PM peak	*Post 19:00*	0	0	0	0

CAR PARKING DEMAND (MAXIMUM ACCUMULATION)

Max No. of Cars on Site	B2/B8	B1 Hi-Tech	Other	TOTAL
No Travel Plan	345	84	0	**429**
With Travel Plan	263	59	0	**322**

CAR PARKING DEMAND (ACTUAL DEMAND WITH TP)

For Industrial, car parking provision needs to be assessed on the basis of the 3 shift system,
with each shift being allocated a separate car park to ensure maximum efficiency at shift change-over times.

ELEMENT	PERIOD	TIME	ARR	CAR PARKING AREA		
				1	2	3
B2 & B8 Industrial	*Pre-AM peak*	*Pre 7:00*	131	131	0	-
(With Travel Plan)	*AM peak*	-	0	-	0	-
	Shift Cross-Over	*Day/Night*	131	-131	-	131
	PM peak	-	0	-	0	-
	Post PM peak	*Post 19:00*	0	-	0	-131
TOTAL NUMBER OF SPACES REQUIRED IN EACH PARKING AREA				**131**	**0**	**131**

TOTAL NUMBER OF SPACES REQUIRED FOR INDUSTRIAL OPERATIONS	**263**

ALLOWANCE FOR SPACE SEARCHING AND DYNAMIC CAPACITY REQUIREMENTS

Additional allowances need to be applied to identified staff demands to ensure that spare capacity exists within each car park to allow for dynamic capacity and space-searching requirements.

Note that this requirement is reduced for the Industrial staff car parks where allocation of spaces by shift and permit should ensure that arrival and departure times do not coincide, and that employees are able to find allocated spaces rapidly. This should ensure efficient filling and emptying of each parking area.

THEORETICAL CAR PARKING PROVISION

ELEMENT	Demand	Allowance	Required	
B2 & B8 Industrial	263	2.5%	269	Nominal allowance for emergency use.
B1 Office	59	11.1%	66	Desirable demand to capacity ratio of 0.9, therefore 1 / 0.9 = 1.11
Others	0	11.1%	0	Desirable demand to capacity ratio of 0.9, therefore 1 / 0.9 = 1.11
TOTAL	**322**	**-**	**335**	

ALLOWANCE FOR VISITOR AND OTHER OPERATIONAL PARKING

ELEMENT	Requirement	Allowance	Visitors	
B2 & B8 Industrial	269	11.1%	30	Industry practice is to provide visitor spaces at a rate of 10% of total provision.
B1 Office	66	33.3%	22	Industry practice is to provide visitor spaces at a rate of 33% of total provision.
Others	0	-	0	Estimate
TOTAL	**335**	**-**	**52**	

PROPOSED CAR PARKING PROVISION

Proposals based on identified demand with TP in place, and assuming that TP meets its targets.
Visitor and other "operational" parking provided at a rate of approximately 10% of total provision.

With Travel Plan	Staff	Visitors/other	Total
B2 & B8 Industrial	300	50	350
B1 Office	75	25	100
Others	0	0	0
Total	**375**	**75**	**450**

Visitor Movements

50	x B2/B8 spaces @ 3 occupations per day
25	x B1 spaces @ 4 occupations per day
0	x Other spaces @ 5 occupation per day

THAMES EUROPORT (Two Shift)

CAR PARKING ACCUMULATION

B2 & B8 USES (LIGHT VEHICLE TRIPS)

HOUR COMMENCING	Traffic Flow		Accumulation				
	ARR	DEP	TOTAL	AREA 1	AREA 2	AREA 3	Areas 1-3
0:00	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0
5:00	131	0	131	131	0	0	131
6:00	0	0	131	131	0	0	131
7:00	0	0	131	131	0	0	131
8:00	0	0	131	131	0	0	131
9:00	0	0	131	131	0	0	131
10:00	0	0	131	131	0	0	131
11:00	0	0	131	131	0	0	131
12:00	0	0	131	131	0	0	131
13:00	131	0	263	131	0	131	263
14:00	0	131	131	0	0	131	131
15:00	0	0	131	0	0	131	131
16:00	0	0	131	0	0	131	131
17:00	0	0	131	0	0	131	131
18:00	0	0	131	0	0	131	131
19:00	0	0	131	0	0	131	131
20:00	0	0	131	0	0	131	131
21:00	0	0	131	0	0	131	131
22:00	0	131	0	0	0	0	0
23:00	0	0	0	0	0	0	0
TOTAL	**263**	**263**					
MAXIMUM ACCUMULATION			**263**	**131**	**0**	**131**	**263**

Early Shift
Afternoon Shift
Late shift
Non-Shift

Vehicles on site at midnight: 0

THAMES EUROPORT (Two Shift)

CAR PARKING ACCUMULATION

B1 OFFICE USES

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	0
1:00	0	0	0
2:00	0	0	0
3:00	0	0	0
4:00	0	0	0
5:00	0	0	0
6:00	0	0	0
7:00	0	0	0
8:00	59	0	59
9:00	0	0	59
10:00	0	0	59
11:00	0	0	59
12:00	0	0	59
13:00	0	0	59
14:00	0	0	59
15:00	0	0	59
16:00	0	0	59
17:00	0	59	0
18:00	0	0	0
19:00	0	0	0
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
TOTAL	**59**	**59**	
MAXIMUM ACCUMULATION			**59**

Vehicles on site at midnight: 0

THAMES EUROPORT (Two Shift)

CAR PARKING ACCUMULATION

OTHER STAFF

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	0
1:00	0	0	0
2:00	0	0	0
3:00	0	0	0
4:00	0	0	0
5:00	0	0	0
6:00	0	0	0
7:00	0	0	0
8:00	0	0	0
9:00	0	0	0
10:00	0	0	0
11:00	0	0	0
12:00	0	0	0
13:00	0	0	0
14:00	0	0	0
15:00	0	0	0
16:00	0	0	0
17:00	0	0	0
18:00	0	0	0
19:00	0	0	0
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
TOTAL	**0**	**0**	
MAXIMUM ACCUMULATION			**0**

Early Shift
Afternoon Shift
Late shift
Non-Shift

Vehicles on site at midnight: 0

THAMES EUROPORT (Two Shift)

CAR PARKING ACCUMULATION

ALL EMPLOYEES

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	0
1:00	0	0	0
2:00	0	0	0
3:00	0	0	0
4:00	0	0	0
5:00	131	0	131
6:00	0	0	131
7:00	0	0	131
8:00	59	0	190
9:00	0	0	190
10:00	0	0	190
11:00	0	0	190
12:00	0	0	190
13:00	131	0	321
14:00	0	131	190
15:00	0	0	190
16:00	0	0	190
17:00	0	59	131
18:00	0	0	131
19:00	0	0	131
20:00	0	0	131
21:00	0	0	131
22:00	0	131	0
23:00	0	0	0
TOTAL	**322**	**322**	
MAXIMUM ACCUMULATION			**321**

Vehicles on site at midnight: 0

THAMES EUROPORT (Three Shift)

EMPLOYEE TRAFFIC GENERATION

FIRST PRINCIPLES

SHIFT TIMES AND TRAVEL DEMAND

EMPLOYMENT GROUP	TOTAL STAFF
B1 Office Employees	125
B2 & B8 Employees	500
Other	0
TOTAL STAFF	**625**

SHIFT DITRIBUTION

Of the B2/B8 shift-working employees, data for the Qinetiq site in Farnborough provides a suitable breakdown.
B1 staff assumed to work standard hours. Other staff assumed to comprise shift and non-shift. Shift staff = 40%

B2/B8 Staff	Shift times	Qinetiq	B2/B8 %	B2/B8
Office and other non-shift staff:	09:00 to 17:00	60	15%	75
Warehouse and other staff AM shift	06:00 to 14:00	125	31%	156
Warehouse and other staff PM shift	14:00 to 22:00	125	31%	156
Warehouse and other staff late shift	22:00 to 06:00	90	23%	113
Total Warehouse and Other Shift Staff		*340*	*85%*	425
TOTAL STAFF		**400**	**100%**	

TOTAL TRAVEL DEMAND

Gross figures are before adjustment to account for part-time working, peak spreading, sickness and holidays.
Net figures are subject to the following discounts:

Discounts	Applies to	%
Part-time staff not travelling every day	All staff	10%
Staff on leave or sick	All staff	15%
Staff choosing flexi/off-peak times of travel	Remaining non-shift staff	10%

GROSS TRAVEL DEMAND

ELEMENT	TIME	GROSS		Net of P.T, leave and sick		Net of staff travelling off-peak	
		DEP	ARR	DEP	ARR	DEP	ARR
B2 & B8 Industrial	Pre-AM peak	113	156	84	117	84	117
	AM peak	0	75	0	56	0	51
	PM shift change	156	156	117	117	117	117
	PM peak	75	0	56	0	51	0
	Post PM peak	156	113	117	84	117	84
B1 Office	Pre-AM peak	0	0	0	0	0	0
	AM peak	0	125	0	94	0	84
	PM shift change	0	0	0	0	0	0
	PM peak	125	0	94	0	84	0
	Post PM peak	0	0	0	0	0	0
Others	Pre-AM peak	0	0	0	0	0	0
	AM peak	0	0	0	0	0	0
	PM shift change	0	0	0	0	0	0
	PM peak	0	0	0	0	0	0
	Post PM peak	0	0	0	0	0	0
TOTAL NET TRAVEL DEMAND	*Pre-AM peak*	*113*	*156*	*84*	*117*	*84*	*117*
	AM peak	*0*	*200*	*0*	*150*	*0*	*135*
	PM shift change	*156*	*156*	*117*	*117*	*117*	*117*
	PM peak	*200*	*0*	*150*	*0*	*135*	*0*
	Post PM peak	*156*	*113*	*117*	*84*	*117*	*84*

Total	454	454
Total Two-Way Staff Movements per Day to Work =		908
Total Two-Way Staff Movements per Day during Day =		168
* Visitor Movements per Day =		500
All Movements =		1576
Maximum Two-Way Movements per Day =		**2,000**

CAR DRIVER MODAL SHARE

Baseline %	Target %
92%	70%

Baseline figures are derived from TRICS.
Target figure is in accordance with the Travel Plan.

* Based on Car Parking Allocation (see adjacent Spreadsheet)

THAMES EUROPORT (Three Shift)

CAR PARKING DEMAND

FIRST PRINCIPLES

SHIFT TIMES - DISTRIBUTION OPERATIONS

SHIFT	START	END
Early Shift	6:00	14:00
Afternoon Shift	14:00	22:00
Late Shift	22:00	6:00

CAR TRAVEL DEMANDS

Figures obtained from traffic generation calcs.

GROSS TRAVEL DEMAND **ALL TRIPS =** **100%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*05:30-06:30*	84	117	117	202
	AM peak		0	51	168	168
	PM shift change	*13:30-14:30*	117	117	168	285
	PM peak		51	0	117	117
	Post PM peak	*21:30-22:30*	117	84	84	202
B1 Office	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	84	84	84
	PM shift change	*13:30-14:30*	0	0	84	84
	PM peak		84	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0
Others	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	0	0	0
	PM shift change	*13:30-14:30*	0	0	0	0
	PM peak		0	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0

CAR TRAVEL DEMAND (NO TP) **CAR DRIVER =** **92%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*05:30-06:30*	78	108	108	185
	AM peak		0	47	154	154
	PM shift change	*13:30-14:30*	108	108	154	262
	PM peak		47	0	108	108
	Post PM peak	*21:30-22:30*	108	78	78	185
B1 Office	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	78	78	78
	PM shift change	*13:30-14:30*	0	0	78	78
	PM peak		78	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0
Others	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	0	0	0
	PM shift change	*13:30-14:30*	0	0	0	0
	PM peak		0	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0

CAR TRAVEL DEMAND (WITH TP) **CAR DRIVER =** **70%**

ELEMENT	PERIOD	TIME	DEP	ARR	ACC	PEAK
B2 & B8 Industrial	*Pre-AM peak*	*05:30-06:30*	59	82	82	141
	AM peak		0	35	117	117
	PM shift change	*13:30-14:30*	82	82	117	200
	PM peak		35	0	82	82
	Post PM peak	*21:30-22:30*	82	59	59	141
B1 Office	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	59	59	59
	PM shift change	*13:30-14:30*	0	0	59	59
	PM peak		59	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0
Others	*Pre-AM peak*	*05:30-06:30*	0	0	0	0
	AM peak		0	0	0	0
	PM shift change	*13:30-14:30*	0	0	0	0
	PM peak		0	0	0	0
	Post PM peak	*21:30-22:30*	0	0	0	0

CAR PARKING DEMAND (MAXIMUM ACCUMULATION)

Max No. of Cars on Site	B2/B8	B1 Hi-Tech	Other	TOTAL
No Travel Plan	262	84	0	**347**
With Travel Plan	200	59	0	**259**

CAR PARKING DEMAND (ACTUAL DEMAND WITH TP)

For Industrial, car parking provision needs to be assessed on the basis of the 3 shift system,
with each shift being allocated a separate car park to ensure maximum efficiency at shift change-over times.

ELEMENT	PERIOD	TIME	ARR	CAR PARKING AREA		
				1	2	3
B2 & B8 Industrial	*Pre-AM peak*	*05:30-06:30*	82	82	-59	0
(With Travel Plan)	*AM peak*		35	-	35	-
	PM shift change	*13:30-14:30*	82	-82	-	82
	PM peak		-35	-	-35	-
	Post PM peak	*21:30-22:30*	59	-	59	-82
TOTAL NUMBER OF SPACES REQUIRED IN EACH PARKING AREA				**82**	**59**	**82**

TOTAL NUMBER OF SPACES REQUIRED FOR INDUSTRIAL OPERATIONS	**223**

ALLOWANCE FOR SPACE SEARCHING AND DYNAMIC CAPACITY REQUIREMENTS

Additional allowances need to be applied to identified staff demands to ensure that spare capacity exists within each car park to allow for dynamic capacity and space-searching requirements.

Note that this requirement is reduced for the Industrial staff car parks where allocation of spaces by shift and permit should ensure that arrival and departure times do not coincide, and that employees are able to find allocated spaces rapidly. This should ensure efficient filling and emptying of each parking area.

THEORETICAL CAR PARKING PROVISION

ELEMENT	Demand	Allowance	Required	
B2 & B8 Industrial	223	2.5%	229	Nominal allowance for emergency use.
B1 Office	59	11.1%	66	Desirable demand to capacity ratio of 0.9, therefore 1 / 0.9 = 1.11
Others	0	11.1%	0	Desirable demand to capacity ratio of 0.9, therefore 1 / 0.9 = 1.11
TOTAL	**282**	**-**	**294**	

ALLOWANCE FOR VISITOR AND OTHER OPERATIONAL PARKING

ELEMENT	Requirement	Allowance	Visitors	
B2 & B8 Industrial	229	11.1%	25	Industry practice is to provide visitor spaces at a rate of 10% of total provision.
B1 Office	66	33.3%	22	Industry practice is to provide visitor spaces at a rate of 33% of total provision.
Others	0	-	0	Estimate
TOTAL	**294**	**-**	**47**	

PROPOSED CAR PARKING PROVISION

Proposals based on identified demand with TP in place, and assuming that TP meets its targets.
Visitor and other "operational" parking provided at a rate of approximately 10% of total provision.

With Travel Plan	Staff	Visitors/Other	Total
B2 & B8 Industrial	300	50	350
B1 Office	75	25	100
Others	0	0	0
Total	**375**	**75**	**450**

Visitor Movements

50	x B2/B8 spaces @ 3 occupations per day
25	x B1 spaces @ 4 occupations per day
0	x Other spaces @ 5 occupation per day

THAMES EUROPORT (Three Shift)

CAR PARKING ACCUMULATION

B2 & B8 USES (LIGHT VEHICLE TRIPS)

HOUR COMMENCING	Traffic Flow		Accumulation				
	ARR	DEP	TOTAL	AREA 1	AREA 2	AREA 3	Areas 1-3
0:00	0	0	59	0	59	0	59
1:00	0	0	59	0	59	0	59
2:00	0	0	59	0	59	0	59
3:00	0	0	59	0	59	0	59
4:00	0	0	59	0	59	0	59
5:00	82	0	141	82	59	0	141
6:00	0	59	82	82	0	0	82
7:00	0	0	82	82	0	0	82
8:00	35	0	117	82	35	0	117
9:00	0	0	117	82	35	0	117
10:00	0	0	117	82	35	0	117
11:00	0	0	117	82	35	0	117
12:00	0	0	117	82	35	0	117
13:00	82	0	200	82	35	82	200
14:00	0	82	117	0	35	82	117
15:00	0	0	117	0	35	82	117
16:00	0	0	117	0	35	82	117
17:00	0	35	82	0	0	82	82
18:00	0	0	82	0	0	82	82
19:00	0	0	82	0	0	82	82
20:00	0	0	82	0	0	82	82
21:00	59	0	141	0	59	82	141
22:00	0	82	59	0	59	0	59
23:00	0	0	59	0	59	0	59
TOTAL	**259**	**259**					
MAXIMUM ACCUMULATION			**200**	**82**	**59**	**82**	**200**

Early Shift
Afternoon Shift
Late shift
Non-Shift

Vehicles on site at midnight: 59

THAMES EUROPORT (Three Shift)

CAR PARKING ACCUMULATION

B1 OFFICE USES

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	0
1:00	0	0	0
2:00	0	0	0
3:00	0	0	0
4:00	0	0	0
5:00	0	0	0
6:00	0	0	0
7:00	0	0	0
8:00	59	0	59
9:00	0	0	59
10:00	0	0	59
11:00	0	0	59
12:00	0	0	59
13:00	0	0	59
14:00	0	0	59
15:00	0	0	59
16:00	0	0	59
17:00	0	59	0
18:00	0	0	0
19:00	0	0	0
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
TOTAL	**59**	**59**	
MAXIMUM ACCUMULATION			**59**

Vehicles on site at midnight: 0

THAMES EUROPORT (Three Shift)

CAR PARKING ACCUMULATION

OTHER STAFF

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	0
1:00	0	0	0
2:00	0	0	0
3:00	0	0	0
4:00	0	0	0
5:00	0	0	0
6:00	0	0	0
7:00	0	0	0
8:00	0	0	0
9:00	0	0	0
10:00	0	0	0
11:00	0	0	0
12:00	0	0	0
13:00	0	0	0
14:00	0	0	0
15:00	0	0	0
16:00	0	0	0
17:00	0	0	0
18:00	0	0	0
19:00	0	0	0
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
TOTAL	**0**	**0**	
MAXIMUM ACCUMULATION			**0**

Early Shift
Afternoon Shift
Late shift
Non-Shift

Vehicles on site at midnight: 0

THAMES EUROPORT (Three Shift)

CAR PARKING ACCUMULATION

ALL EMPLOYEES

HOUR COMMENCING	Traffic Flow		
	ARR	DEP	ACC
0:00	0	0	59
1:00	0	0	59
2:00	0	0	59
3:00	0	0	59
4:00	0	0	59
5:00	82	0	141
6:00	0	59	82
7:00	0	0	82
8:00	95	0	176
9:00	0	0	176
10:00	0	0	176
11:00	0	0	176
12:00	0	0	176
13:00	82	0	258
14:00	0	82	176
15:00	0	0	176
16:00	0	0	176
17:00	0	95	82
18:00	0	0	82
19:00	0	0	82
20:00	0	0	82
21:00	59	0	141
22:00	0	82	59
23:00	0	0	59
TOTAL	**318**	**318**	
MAXIMUM ACCUMULATION			**258**

Vehicles on site at midnight: 59