

Camden Lock Village (Hawley Wharf) Stanley Sidings Limited

Transport Assessment
ARUP

September 2011



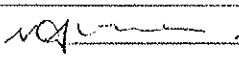
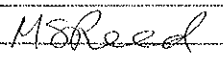
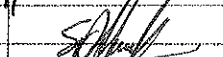
Stanley Sidings Limited
Camden Lock Village
Transport Assessment

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1 Introduction

Arup has been appointed by Stanley Sidings Limited (SSL) to undertake a Transport Assessment (TA) to accompany a planning application for Camden Lock Village. The Development lies within the planning authority area of the London Borough of Camden (LBC). The Development is also referable to the Mayor of London under the Town and Country Planning (Mayor of London) Order 2008.

The objective of this TA is to provide an assessment of the transportation effects of the Development and to identify measures essential to provide safe and effective access by all modes of transport. This report establishes the travel demands associated with the Development and assesses the potential effects on all modes of transport.

Arup has met on a number of occasions with LBC transport and planning officers and also representatives from the Greater London Authority (GLA) and Transport for London (TfL) to develop in principle the transport requirements for the Development.

The following items are included in the report:

- A description of the existing Site and Proposed Development;
- An overview of planning policy and context;
- A summary of the existing transport network, including public transport facilities and baseline traffic flows;
- Proposed access and route design;
- Development-related delivery and servicing requirements;
- Car and cycle parking provisions;
- Transport effects of the Development, including the cumulative effects of other committed developments;
- Identification of appropriate mitigation measures; and
- A Framework Travel Plan for the main elements of the Development.

2 Description of the Development

2.1 Existing Site

The Site and the surrounding area are shown in **Figure 1**. The Site is located approximately 350m north of Camden Town London Underground (LU) station and is bounded by Castlehaven Road and Camden High Street to the west, Hawley Road to the north, Kentish Town Road to the east and to south by the Regent's Canal.

There is a wide range of transport links within ten minutes walk of the Site including London Underground (LU) services, London Overground services, buses, taxis as well as walking and cycling facilities.

The two railway viaducts that run through the Site divide it into three parts that are referred to as Areas A, B and C. Further along the canal the Site also includes a small collection of office buildings referred to as Area D. These four areas currently comprise:

- Area A is adjacent to the Regent's Canal beneath and to the south-west of the southern railway viaduct and currently houses the Camden Canal Market;
- Area B is located north of the northern viaduct and is largely residential;
- Area C occupies the area beneath and in-between the railway viaducts and comprises office and light industrial units; and
- Area D is adjacent to the Regent's Canal beneath and to the south of the southern railway viaduct and also houses office and light industrial units.

Following discussion with LBC planning and transport officers, the existing conditions will form the baseline for assessment in the TA. The baseline floor areas within each of the four areas are outlined in **Table 2.1**.

Table 2.1: Baseline Land Use by Area

| Land use | GEA (m ²) | | | | Total |
|---------------------------------|-----------------------|--------|--------|--------|--------|
| | Area A | Area B | Area C | Area D | |
| Market Retail & Food Units | 2,734 | - | 251 | - | 2,985 |
| Office | - | - | 2,077 | 2,575 | 4,652 |
| Workshop / Industrial | - | - | 2,343 | | 2,343 |
| Sui Generis (Building Merchant) | | 1,017 | | | 1,017 |
| Residential | - | 1,786 | 520 | - | 2,306 |
| Total | 2,734 | 2,803 | 5,191 | 2,575 | 13,303 |

2.2 Proposed Development

The Development will comprise four areas as follows:

- Area A will maintain market retail on the Site and provide open spaces that enhance the Regent's Canal and the towpath;
- A Primary School will occupy the eastern half of Area B with residential units on the western half and employment in the arches;

- Area C will be mixed-use comprising residential, employment, retail, leisure (cinema); and
- Area D will be redeveloped and provide employment and residential uses.

The Development will have a total Gross External Area (GEA) of 49,785m². **Table 2.2** shows the proposed land uses for each area of the Development.

Table 2.2: Proposed Land Use by Area

| Land use | GEA (m ²) | | | | Total |
|----------------------------|-----------------------|--------|--------|--------|--------|
| | Area A | Area B | Area C | Area D | |
| Market Retail & Food Units | 8,835 | - | - | - | 8,835 |
| Local Retail (A1/A5) | - | - | 630 | 154 | 784 |
| Office | - | - | 5,434 | 1,395 | 6,829 |
| Workshop / Industrial | - | 1,257 | 1,060 | - | 2,317 |
| Residential | - | 4,825 | 12,548 | 4,665 | 22,038 |
| Leisure | - | - | 3,471 | - | 3,471 |
| Primary School | - | 1,931 | - | - | 1,931 |
| Storage / plant | - | 33 | 1,441 | - | 1,474 |
| Ancillary | - | 234 | 1,750 | 122 | 2,106 |
| Total | 8,835 | 8,280 | 26,334 | 6,336 | 49,785 |

To accommodate the Development the existing vehicular routes through the Site (Haven Street, Leybourne Street and Torbay Street) will be stopped up. A new vehicular access into the Site will be provided from Castlehaven Road. This will form the main vehicular access and provide a route to the central servicing area (see **Section 7** for further details).

3 Planning Policy Context and Guidance

This section outlines the national, regional and local transport policy context within which the Development must be assessed. A review of how the Development performs within the policy context is provided at the end of the chapter.

3.1 National Planning Policy

3.1.1 Planning Policy Guidance 13: Transport (as amended 2011)

The objectives of *Planning Policy Guidance (PPG) 13* (Communities and Local Government, 2011) are to integrate planning and transport at a national, regional and local level in order to promote more sustainable travel choices by:

- Promoting sustainable transport choices for both people and for moving freight;
- Promoting accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- Reducing the need to travel, especially by private car.

In order to ensure the delivery of the above objectives, *PPG 13* also identifies the measures that Local Planning Authorities (LPA) should take into account when considering planning applications. Those of relevance to the Camden Lock Village Development include:

- ensuring that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking, and cycling;
- using parking policies, alongside other planning and transport measures, to promote sustainable transport choices and reduce reliance on the car for work and other journeys;
- ensuring that the needs of disabled people as pedestrians, public transport users and motorists are taken into account; and
- considering how best to reduce crime and the fear of crime, and seek by the design and layout of developments, to secure community safety and road safety.

PPG 13 indicates that all LPAs should seek to maximise the use of the most accessible sites, including those situated in town centres such as Camden. *PPG 13* recommends that LPAs be pro-active in promoting intensive development on such sites.

3.1.2 Planning Policy Statement 3: Housing, 2006

Planning Policy Statement 3 (PPS3): Housing (Department of Communities and Local Government, 2006) provides guidance on a range of issues relating to the provision of housing including transport and sustainable development.

When assessing the design quality of a development, *PPS 3* advises LPAs to consider the extent to which the development:

- is easily accessible and well-connected to public transport and community facilities and services, and is well laid out so that all the space is used efficiently, is safe, accessible and user-friendly;
- provides, or enables good access to, community and green and open amenity and recreational space (including play space); and
- takes a design-led approach to the provision of car-parking space that is well-integrated with a high quality public realm and streets that are pedestrian, cycle and vehicle friendly.

PPS 3 encourages LPAs to take account of the following criteria when identifying suitable locations for new housing:

- The contribution to be made to cutting carbon emissions from focusing new development in locations with good public transport accessibility and/or by means other than the private car; and
- The accessibility of a proposed development to existing local community facilities, infrastructure and services, including public transport.

3.1.3 Draft National Planning Policy Framework, 2011

The Department for Communities and Local Government published for consultation its *Draft National Planning Policy Framework* (the draft *NPPF*) in July 2011.

Although it is unclear what weight to place on the draft *NPPF*, the document does state in its objectives that planning policies and decisions should consider whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and
- improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Subject to those considerations, development should not be prevented or refused on transport grounds unless the residual impacts of development are severe, and the need to encourage increased delivery of homes and sustainable economic development should be taken into account.

3.2 Regional Policy

3.2.1 The London Plan, 2011

The London Plan, produced by the Greater London Authority (GLA), forms the strategic plan for London and provides a framework for the development and use of land, linking in improvements to infrastructure and especially transport. The sixth objective of the Plan relates specifically to transport and outlines that London should be “A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes better use of the Thames, and supports delivery of all the objectives of this Plan”.

Policies within the *London Plan* of relevance to the Camden Lock Village Development are outlined as follows:

Policy 6.1 – strategic approach advises that the Mayor will work with all relevant partners to encourage the closer integration of transport and development by:

- encouraging patterns and nodes of development that reduce the need to travel, especially by car;
- seeking to improve the capacity and accessibility of public transport, walking and cycling;
- supporting development that generates high levels of trips at locations with high public transport accessibility;
- supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and
- promoting walking by ensuring an improved urban realm.

Policy 6.1 includes a number of transport proposals, including the 50 percent increase in capacity on the North London Railway (London Overground) which operates to Camden Road station and planned improvements to the Northern Line (London Underground). The improvements are secured by **Policy 6.2 – providing public transport capacity and safeguarding land for transport** which notes that development proposals that do not provide adequate safeguarding for the schemes should be refused.

Policy 6.3 – assessing effects of development on transport refers to assessing the effects of development on transport capacity. The Policy outlines that where existing transport capacity is insufficient for the travel generated by proposed developments, and no firm plans exist for an increase in capacity, boroughs should ensure that the development proposals are phased until it is known that these requirements can be met. The policy notes that the use of travel plans and addressing freight issues can help reduce the impact of development on the transport network.

Policy 6.7 – better streets and surface transport notes that high levels of priority should be provided to bus routes and there should be a direct and pleasant walking route to bus stops.

Policy 6.9 - cycling presents measures to increase cycling mode share in London to 5 percent by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme. To support this, developments should provide cycle parking to at least the minimum standards, provide showers and changing facilities and facilitate the major cycling schemes in London (Super Highways / Cycle Hire).

With regards to walking, **Policy 6.10 - walking** recommends the use of shared space principles with simplified streetscape, de-cluttering and access for all. Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the ‘Legible London’ pedestrian wayfinding system as a successful measure to support walking journeys.

The Plan outlines the need to seek an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. As such, car parking should reduce as public transport accessibility (measured by PTAL) increases. The policy recognises

the requirement to provide parking for disabled people which should be suitably designed and located. As a minimum, developments should provide at least one accessible on or off street space for Blue Badge holders, even if no general parking is provided.

3.2.2 Mayor's Transport Strategy (GLA, 2010)

Published by the GLA in 2010, the *Mayor's Transport Strategy (MTS)* envisages “*London's transport system excelling among that of global cities, providing access to opportunities for all people and enterprises while achieving the highest environmental standards and leading the world in its move towards tackling the urban transport challenges of the 21st century*”.

The *MTS* sets out a number of policy commitments or requirements which have implications for TfL and a range of other delivery partners including the GLA and the London Boroughs. Delivery of the *MTS* is essential to achieve the vision of the London Plan.

The policies that are relevant to Camden Lock Village are as follows:

Policy 8 indicates the Mayor's support for transport improvements in town centres that help to improve connectivity and promote the vitality and viability of town centres, and provide enhanced travel facilities for pedestrians and cyclists.

Policy 9 notes that the Mayor will use the local and strategic development control processes to ensure that:

- All high trip generating developments are located in areas of high public transport accessibility, connectivity and capacity;
- The design and layout of development sites maximise access on foot, cycle and to public transport facilities; and
- Access for deliveries and servicing maximise the opportunities for sustainable freight distribution where possible.

Policy 11 seeks to reduce the need to travel by encouraging the use of more sustainable, less congesting modes of transport, set appropriate parking standards, and through investment in infrastructure, service improvements, promotion of smarter travel initiatives and further demand management measures as appropriate, aims to increase public transport, walking and cycling mode share.

Policy 17 looks to promote healthy travel options such as walking and cycling.

3.3 Local Policy

3.3.1 Camden Local Development Framework, Core Strategy (LBC, 2010)

The London Borough of Camden's (LBC) *Core Strategy* forms part of the *Local Development Framework (LDF)* suite of documents that together with the *London Plan* (GLA, 2010) set out the planning policies for LBC. The *Core Strategy* and *Development Policies* documents replace the *Unitary Development Plan* (LBC, 2006) and were adopted by LBC in November 2010.

With regards to transport, **Policy CS11 – Promoting sustainable and efficient travel** of the *Core Strategy* states that “*the Council will promote the delivery of transport infrastructure and the availability of sustainable transport choices in order to support Camden’s growth, reduce the environmental impact of travel, and relieve pressure on the borough’s transport network*”.

In supporting growth in Camden, and to promote walking, cycling and public transport, LBC will:

- Improve public spaces and pedestrian links across the borough, including focusing public realm investment in Camden’s town centres and the Central London area, and extending the ‘Legible London’ scheme;
- Continue to improve facilities for cyclists, including the availability of cycle parking, helping to deliver the London Cycle Hire Scheme and enhancing cycle links; and
- Work with TfL to improve the bus network and deliver related infrastructure, and support proposals to improve services and capacity on the Underground, London Overground and Thameslink.

As part of its approach to minimising the environmental impacts of travel, LBC will continue to limit the amount of parking available for private cars. Therefore, LBC will seek car-free development in the most accessible parts of the borough. It will also seek car-capped developments where the provision of additional on-street parking would be harmful to parking conditions.

In promoting the sustainable movement of freight, LBC will seek to reduce freight movement by road and encourage the movement of goods by canal, rail and bicycle to minimise the impact of freight movement on local amenity, traffic and the environment.

3.3.2 Camden Local Development Framework, Development Policies (LBC, 2010)

LBC’s *Development Policies* document supports the *Core Strategy* by setting out additional planning policies that LBC will use when determining applications for planning permission in the borough. With regards to transport, the policies outlined in the *Development Policies* support the transport policies in the *Core Strategy* and the two documents should be read in conjunction.

To deliver the aims of the *Core Strategy* the *Development Policies* document includes the following policies on transport:

Policy DP16 - The transport implications of development notes that the LBC will seek to ensure that development is properly integrated with the transport network and is supported by adequate walking, cycling and public transport links. The policy notes that large sites should be permeable to ensure integration into the wider networks and developments are expected to contribute to off-site measures where existing connections are not appropriate.

LBC will expect new developments to provide appropriate, safe pedestrian and cycle links to promote sustainable travel and enhance accessibility as outlined in **Policy DP17 - Walking, cycling and public transport**. Furthermore, high quality cycle parking is required in accordance with **Policy DP18 – Parking standards and**

limiting the availability of car parking. This Policy states that LBC will expect development in Camden Town to be car free and will limit any on-site car parking to spaces for disabled people and any operational or servicing needs. No on-street parking permits will be issued and a legal agreement will be put in place to ensure that future occupants are aware that they are not entitled to on-street parking permits. LBC will strongly encourage contributions to car clubs and seek the provision of electric charging points as part of any car parking provision.

Policy DP20 – The movement of goods outlines that LBC will expect developments to accommodate goods vehicles on site and seek opportunities to minimise disruption for local communities through effective management, including the optimisation of collection and delivery timings and the use of low emission vehicles for deliveries. Regent's Canal, which runs along the south of the Site, is thought to be an economically viable route for some freight movements, notably the removal of demolition waste from the Site, and LBC will expect new developments to consider using the Canal.

As highlighted in **Policy DP21 – Development connecting to the highway network** LBC will expect the development to be linked to the highway network in a way that avoids the use of local roads by through traffic and ensures the use of the most appropriate roads in accordance with Camden's road hierarchy. In order to protect the safety of users, all connections to the highway network should be designed with appropriate sightlines, visibility splays and queuing distances.

Appendix 2 of the document contains parking standards that are in line with **Policy DP18**. The standards are outlined in **Table 3.1**.

Table 3.1: LBC Car Parking and Cycle Parking Standards

| Use | Car Parking and Cycle Parking Standards |
|-------------------------------|--|
| Retail (A1, A3, A5) | |
| Cycle parking | <u>Staff</u> : From a threshold of 500m ² , 1 space per 250m ² GEA <u>Customers</u> : From a threshold of 500m ² , 1 space per 250m ² GEA |
| Car parking | <u>Operational</u> ¹ : Maximum of 1 space per 1,500m ² GEA for low provision area <u>People with disabilities</u> : For staff/ operational - 1 space per disabled employee or, from a threshold of 1,000m ² , 1 space per 20,000m ² GEA - whichever is the greater <u>Customers</u> - from threshold of 1,000m ² , 1 space per 500m ² GEA |
| Employment (B1/B2/B8) | |
| Cycle parking | <u>Staff</u> : From a threshold of 500m ² , 1 space per 250m ² GEA <u>Visitors</u> : From a threshold of 500m ² , minimum of 2 spaces if any visitors are expected, plus any additional spaces needed to bring the total number up to 10% of the visitors likely to be present at any time |
| Car parking | <u>Operational</u> : Maximum of 1 space per 1,500m ² GEA for low provision area <u>People with disabilities</u> : For staff/ operational - 1 space is to be provided per disabled employee or, from a threshold of 2,500m ² , 1 space per 20,000m ² GEA - whichever is the greater <u>Visitors</u> - from a threshold of 2,500m ² , minimum of 1 space if any visitors are expected, plus any additional spaces needed to bring the total number up to 5% of the visitors likely to be present at any time |
| Residential | |
| Cycle parking | <u>Residents</u> : 1 storage or parking space per unit <u>Visitors</u> : From a threshold of 20 units, 1 space per 10 units |
| Car parking | <u>General</u> : Maximum of 0.5 spaces per dwelling for low provision area <u>People with disabilities</u> : Wheelchair housing - 1 space per dwelling. General housing - where justified by the likely occupancy of the dwelling and reserved for use by people with disabilities, above a threshold of 10 units, 1 space per 20 units |
| Recreation and Leisure | |
| Cycle parking | <u>Staff</u> : From a threshold of 500m ² , 1 space per 250m ² GEA <u>Customer</u> : From a threshold of 500m ² , 1 space per 250m ² GEA |
| Car parking | <u>Operational</u> : Maximum 1 space per 1,500m ² GEA for low provision area <u>People with disabilities</u> : For staff/ operational - 1 space per disabled employee or, from a threshold of 1,000m ² , 1 space per 20,000m ² GEA - whichever is the greater <u>Visitors</u> - from a threshold of 1,000m ² , 1 space per 500m ² GEA |

¹ Low Parking Provision Areas include the Central London area, town centres and other areas with high public transport accessibility such as Camden Town.

3.3.3 Hawley Wharf Area Planning Framework, Supplementary Planning Document (LBC, 2009)

In 2009 a planning framework for the Hawley Wharf area, in which the Proposed Development is located, was adopted as a *Supplementary Planning Document (Hawley Wharf SPD)*.

The *Hawley Wharf SPD* states that a TA is required for any major development in the area. The TA needs to demonstrate that public transport and footway capacity exists to accommodate demand generated by the development in this area. To measure this, it recommends pedestrian modelling is undertaken to show that development in the area will, where possible, improve current conditions and not make these worse. The document also indicates that TfL guidance should be followed in the preparation of the TA. With regard to travel planning, the *Hawley Wharf SPD* notes the requirement for a Framework Travel Plan to be submitted to support development proposals.

As the Hawley Wharf area has excellent access to public transport, the *Hawley Wharf SPD* notes the expectation for any development in this area to be car-free. The *Hawley Wharf SPD* outlines that for commercial uses, car parks should generally be constrained to the minimum for essential operational purposes only, while arrangements for servicing should be carefully planned.

Car club schemes within the area are encouraged and the document indicates that the needs of the disabled are to be considered through the provision of blue badge parking.

With regard to providing facilities for cyclists, LBC has indicated in the *Hawley Wharf SPD* that secure and accessible cycle parking will be expected with any significant development in the Hawley Wharf area. The number of cycle parking spaces required for developments is as currently set out in the *LDF Development Policies* document (see **Table 3.1** in **Section 3.3.2**). Covered and secure cycle parking will be required, with level access or access via a lift. LBC prefers that Sheffield stands or cycle lockers are provided for cycle parking.

The footways in the Camden Town area can be congested and as such, the design of development in the area needs to be sufficiently open with large pedestrian areas and permeable in all directions, to allow and encourage people to walk through the area, instead of using more congested streets such as Camden High Street.

3.4 Guidance

3.4.1 Transport Assessment Best Practice Guidance (TfL, 2010)

In April 2010 TfL published a revised version of the *Transport Assessment Best Practice Guidance Document* which provides high-level guidance to those undertaking Transport Assessments for developments which are deemed to be strategically important to be referred to the Mayor of London under the Town and Country Planning (Mayor of London) Order 2008.

The document provides guidance on the following elements of the TA:

- Scoping and pre-application procedure;

- Inputs, including the requirements of baseline data;
- Organisation, including data assessment;
- Analytical techniques; and
- Mitigation and Travel Plans.

This TA has been developed in line with the guidance in this document.

3.4.2 Travel Planning for new Development in London (TfL, 2011)

Travel Planning for new Developments in London: incorporating deliveries and servicing provides guidance on producing effective travel plans for new developments and ensures the movement of people and goods is managed for the life of the development.

Thresholds are set out in the guidance for the level of travel planning required and in accordance with this guidance the retail, office and residential elements of the Development will all require strategic level travel plans.

3.4.3 Inclusive Mobility, 2002

Traffic Advisory Leaflet (TAL 6/02) introduces the issues covered in the DfT publication *Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure*ⁱ. The full document contains technical advice on all of the topics covered in *TAL 6/02*.

The main purpose of the guidelines is to provide good access for disabled people. However, it also considers designs that satisfy the requirements of many other people including:

- Those with small children;
- Those carrying luggage or heavy shopping; and
- People with temporary mobility problems.

Therefore, the overarching aim of the guidance is to achieve social inclusion through appropriate design guidance.

The early part of *Inclusive Mobility* focuses on barriers and obstructions which cause problems for pedestrians, including street-works, advertisement boards, over-hanging vegetation and cycles and cars parked on footways. Measures to counteract these issues are considered.

Many disabled people depend on the private car for independent mobility and thus, the ability to park close to their destination is highly important and provision should be made for car parking spaces design for blue badge holders. *Inclusive Mobility* advises on signage for blue badge parking as well as the design, number of spaces and management.

3.5 Summary

3.5.1 National Policy & Guidance

The policies outlined in *PPG 13: Transport* and *PPS 3: Housing* include a wide range of objectives relating to transport and sustainable development. The Development satisfies these objectives and fully supports the aims of current Government planning guidance on the integration of land use planning and transport for a number of reasons:

- Public transport accessibility in the vicinity of the Development is excellent and includes many local bus, rail and London Underground services;
- The Development provides additional housing in an area of high public transport accessibility, with limited car parking, to ensure it meets the criteria set out in *PPS 3*;
- The Development is located in an urban area and is highly accessible by means other than a private car. In particular it meets *PPG 13* requirements to offer a realistic choice of access by public transport, walking, and cycling;
- The Development will contribute to cutting carbon emissions by focussing new development in an accessible location and reducing car use; and
- The proposals encourage cycling by providing secure cycle parking in high quantities throughout the Development.

The Development also conforms to the national policy objectives of the draft *NPPF* by providing residential dwellings and economic development in a highly sustainable location.

The Development also complies with policies outlined in *TAL 2/06 Inclusive Mobility*. The needs of the disabled are considered through the provision of disabled parking at suitable locations around the Site. In addition, the needs of other groups of pedestrians, such as those with children, those carrying heavy luggage/shopping and people with temporary mobility problems are also considered through the on-street provision of adequate footway width and provision of dropped kerbs at crossing points.

3.5.2 Regional Policy

Camden Lock Village is located in an area with a high Public Transport Accessibility Level (PTAL) and capacity. As such, there is limited parking provided on-site. This complies with the overall aims of the *London Plan* to encourage development that reduces the need to travel by car and locating development in areas of good public transport accessibility and capacity.

Safe, convenient and direct pedestrian access is provided from the Development to public transport facilities and other important land uses in the area. The pedestrian environment is also accessible to disabled people. This is compliant with London Plan **Policy 6.7**.

In accordance with London Plan **Policy 6.9** the Development is located close to the LCN+ cycle route on Kentish Town Road. The route is segregated from pedestrians

and cycle lanes and advanced stop lines are provided to provide segregation from motorised traffic.

The Development also satisfies the objectives of the *Mayor's Transport Strategy (MTS)*. Transport improvements already implemented in the area, such as improved footway widths on Camden High Street, improve the connectivity in the Camden Town area as a whole and the Development promotes the vitality and viability of the centre. This is compliant with **Policy 8** of the *MTS*.

The Development is also located in an area of high public transport accessibility and access by walking and cycling is good. Therefore, the Development complies with **Policy 9** of the *MTS*. The main elements of the Development will have a Travel Plan and limited on-site parking will encourage the use of more sustainable modes and increase public transport, walking and cycling mode shares. Consequently, the Development is compliant with **Policies 11** and **17** of the *MTS*.

Camden Lock Village is located in an existing urban area with high public transport accessibility. The layout of the Development improves pedestrian linkages within the area and measures applied within the Development will promote walking and cycling to the Site. These design elements of the Development ensures it supports the policies within the *MTS*.

3.5.3 Local Policy

Camden Lock Village satisfies the objectives of the local policy and guidance documents, namely the *LBC Local Development Framework (LDF)* documents and the *Hawley Wharf SPD*.

LDF Core Strategy Policy CS11 seeks to promote the availability of sustainable travel choices in order to promote Camden's growth. This is achieved through the Development's highly accessible location and the implementation of travel planning measures. Furthermore, with the exception of disabled parking facilities there is limited private parking provided at the Development which is also compliant with the *LDF Core Strategy* and the transport policies included in the *LDF Development Policies*.

The provision of a TA and Framework Travel Plan for Camden Lock Village ensures that the Development is compliant with the *Hawley Wharf SPD*. The Development also satisfies policies included in the *LDF Development Policies* as there is adequate provision for pedestrians and cyclists. The provision of a publicly accessible cycle station within the Development supports *LDF Development Policy DP18*.

With regard to servicing, **Policy DP20** is satisfied by Camden Lock Village. The Development will accommodate goods vehicles on-site and it is located close to the Transport for London Road Network (TLRN), with the nearest connections being the A503 Camden Road, approximately 350m south of the Development and the A400 Camden Street, south of Camden Road.

4 Description of Base Networks

This section describes the existing (baseline) transport infrastructure and networks serving the Site.

4.1 Pedestrian Facilities

There is generally a good provision of pedestrian facilities in the vicinity of the Site, and recent improvements have included the widening of footways along Camden High Street to increase the capacity between Camden Town Underground Station (to the south of the Site) and the market retail areas. Consequently there is currently adequate width along the footways to cope with pedestrian flows. Market stalls and outdoor displays at some businesses may, however, obstruct the flow of pedestrians at points along the route.

The pedestrian facilities along Leybourne Road, which enters the Site from the west, are poor. Similarly, pedestrian conditions within the Site are substandard. Footways are narrow and navigation for the mobility impaired is difficult. Castlehaven Road and Hawley Road to the north are in a much better condition and provide more appropriate facilities for all pedestrians.

A two-stage signalised pedestrian crossing is provided at the junction of Chalk Farm Road and Castlehaven Road, directly adjacent to the north-west corner of the Site. This provides a connection to and from the Site for pedestrians wishing to access the market areas on the western side of Camden High Street (Camden Lock and the Stables Market) and the bus stops located on Chalk Farm Road.

To the north-east there is a signalised pedestrian crossing facility at the junction of Kentish Town Road with Hawley Road. This provides safe and convenient access for pedestrians travelling towards Camden Road station to the east of Kentish Town Road and the bus stops at Camden Gardens and Kentish Town Road.

Further south signalised pedestrian crossings are provided on all approaches to the junction of Camden High Street with Jamestown Road and Hawley Crescent. Dropped kerbs are provided at all crossing points to aid wheelchair users and the mobility impaired.

4.1.1 Pedestrian Surveys – October 2010

A survey of pedestrian and cyclist activity was carried out in the local area by Space Syntax in October 2010. Details are contained in the Space Syntax report attached as **Appendix A**. Movement levels were recorded at locations throughout the market retail area in Camden, including the entrances to the Canal Market, and the results analysed to obtain hourly average movement rates across the day.

The key findings from the survey were as follows:

- During the weekend the total number of pedestrians observed in the study area was much higher than on the weekday with an increase of more than 50%, primarily due to the dominance of the markets as a main destination and tourist attraction;

- The survey categorised pedestrians by type (locals, workers or tourists) and found that whilst locals are seen across the survey area, the other pedestrian groups tend to concentrate in the markets and on the towpaths;
- Residential streets such as Castlehaven Road and Hawley Road are not used much by tourists, despite the proximity to the markets, and are very quiet throughout the day;
- The ratio of business workers is higher in the eastern and southern parts of the survey area. Very few business workers were observed on Chalk Farm Road or Castlehaven Road;
- Cyclists are concentrated mainly on Kentish Town Road and the towpath;
- An analysis of existing spatial accessibility of streets surrounding the Site (refer to Space Syntax report, submitted separately) found Camden High Street, Castlehaven Road, Hawley Road and Kentish Town Road all had high levels of spatial accessibility. Conversely, the existing routes through the Site had low levels of spatial accessibility; and
- According to the TfL Pedestrian Comfort Level standard of pedestrian facility assessment, the capacity of almost all footways during the 2010 baseline survey were rated as comfortable, with the exception of some segments along the canal and Kentish Town Road due to narrow footway widths. The most highly used footways were on Camden High Street between Camden Town Underground station and the markets.

4.1.2 Pedestrian Environment Review System (PERS) Audit

A Pedestrian Environment Review System (PERS) audit of the routes to and from Chalk Farm, Camden Town and Camden Road stations was undertaken in March 2011. This assessment reviewed the baseline condition of the pedestrian environment and identified key issues for pedestrians travelling to and from the main public transport facilities to the Site.

A full audit report is contained within **Appendix B** but to summarise, the main findings of the PERS audit were:

- The PERS audit rated pedestrian connections to and from Chalk Farm and Camden Town Underground stations as ‘good’ however connections to Camden Road Overground station were rated as ‘poor’. This was largely due to the footways on the route being too narrow, obstructions on the footways and a lack of dropped kerbs and tactile pavings;
- It was noted that the junction at Chalk Farm Road / Castlehaven Road could be improved to benefit pedestrians; and
- Bus stops within the vicinity of the Site were rated as ‘good’ indicating adequate provision exists within the audit area.

4.2 Cycle Facilities

There are a number of routes that travel through the local area that form part of the London Cycle Network Plus (LCN+). The closest LCN+ route to the Site runs along Camden High Street and Kentish Town Road. This route continues north along Kentish Town Road, Highgate Road and Highgate West Hill, connecting with the A1 Archway Road/Great North Road and Muswell Hill to the east of Highgate Village.

To the south, the route connects to Streatham via Parliament Square and Westminster Bridge. All cycle routes within the vicinity of the Site are shown in **Figure 2**.

There are several cycle parking locations within 200m of the Site, including:

- Castlehaven Road close to the junction with Chalk Farm Road;
- Jeffrey's Street close to the junction with Hawley Road and Kentish Town Road;
- Camden High Street north of Inverness Street; and
- Bonny Street close to Camden Road Rail Station.

The area is not currently covered by the London Cycle Hire Scheme, a public bicycle sharing scheme for short journeys available in and around Central London.

4.3 Public Transport

4.3.1 Public Transport Accessibility Level

The accessibility of the Site has been assessed using the Public Transport Accessibility Level (PTAL) methodology used by TfL and London boroughs. PTALs are a detailed measure of the accessibility of a site to the public transport network, taking into account the walk access time and the service availability.

The Site has a PTAL rating of 6b (with 1a being the lowest accessibility and 6b being the highest). The PTAL rating of 6b equates to an 'excellent' level of public transport accessibility. The excellent accessibility of the Site can be attributed to the location of numerous bus stops within 640m walking distance of the Site. In addition, there are two London Underground stations within a 12 minute walk of the Site and there is also one London Overground station located approximately 450m from the Site.

The location of the public transport facilities in the vicinity of the Site can be seen in **Figure 3**.

4.3.2 London Underground

The two Underground stations located in the vicinity of the Site are Camden Town, located approximately 350m to the south of the Site, and Chalk Farm situated approximately 610m to the north of Site. Both stations are served by the Northern line.

Southbound trains at both stations travel to Kennington, with some trains continuing to Morden in south London, either via the Bank branch (King's Cross, Bank and London Bridge) or via the Charing Cross branch (Tottenham Court Road, Leicester Square, Charing Cross and Waterloo). Northbound trains from Camden Town either travel to Edgware on the western branch (Edgware branch) or High Barnet or Mill Hill East on the eastern branch (High Barnet branch). Only trains travelling on the Edgware Branch call at Chalk Farm Station.

The frequencies of the trains vary depending on the day of the week and the direction of travel. Generally, trains run every three to six minutes in both directions. The first and last trains (in August 2011) operating from these stations are shown in **Table 4.1**.

Table 4.1: First & Last LU Services from Camden Town & Chalk Farm

| Station | Direction | Monday to Saturday | | Sunday | |
|--------------------------------|--------------------------------------|--------------------|-------|--------|-------|
| | | First | Last | First | Last |
| Camden Town | Northbound (High Barnet Branch) | 05:54 | 00:45 | 07:42 | 23:55 |
| | Northbound (Edgware Branch) | 06:02 | 00:49 | 07:42 | 23:55 |
| | Southbound (Charing Cross Branch) | 05:45 | 00:23 | 07:19 | 23:33 |
| | Southbound (Bank Branch) | 05:46 | 00:24 | 07:19 | 23:33 |
| Chalk Farm (Edgware Branch) | Northbound | 06:03 | 00:50 | 07:43 | 23:56 |
| | Southbound | 05:42 | 00:20 | 07:15 | 23:29 |

Source: www.tfl.gov.uk

Table 4.2 shows the total number of people entering and exiting Camden Town and Chalk Farm stations during 2010. It can be seen that Camden Town is much busier than Chalk Farm station, with particularly high counts recorded on a Saturday.

Table 4.2: Camden Town and Chalk Farm Annual Entry & Exit Counts 2010

| | Camden | Chalk Farm | | Camden | Chalk Farm |
|---|---------|------------|-------------------------|--------|------------|
| Entry weekday total | 27,975 | 8,349 | Exit weekday total | 28,407 | 6,916 |
| Entry weekday early | 267 | 199 | Exit weekday early | 288 | 58 |
| Entry weekday AM Peak | 3,093 | 2,278 | Exit weekday AM Peak | 6,227 | 1,291 |
| Entry weekday Inter Peak | 8,285 | 1,984 | Exit weekday Inter Peak | 10,395 | 1,540 |
| Entry weekday PM Peak | 9,404 | 1,892 | Exit weekday PM Peak | 6,105 | 1,772 |
| Entry weekday evening | 6,926 | 1,996 | Exit weekday evening | 5,392 | 2,255 |
| Entry Saturday total | 35,842 | 7,967 | Exit Saturday total | 40,883 | 6,176 |
| Entry Sunday Total | 16,983* | 6,708 | Exit Sunday Total | 28,913 | 4,409 |
| Total annual entry and exit (in millions) | | | | 20,960 | 5,250 |

Notes: *Low entry total as Camden Town is exit only on Sunday afternoons

Source: www.tfl.gov.uk

Data has been provided by TfL detailing average Northern line loadings for the Autumn 2010 period at Camden Town and Chalk Farm station. **Table 4.4** presents the southbound data (which is busier than the northbound data) on a weekday morning peak and it can be seen that trains on the route via the City are, on average, operating at approximately 88% capacity.

Table 4.4: Weekday Morning Peak Hour Northern Line Data - Southbound

| Start station | Route | 08:00 – 0900 | | | |
|---------------|----------------------|--------------|---------------|--------------|----------|
| | | Link Count | Trains per hr | Average load | Capacity |
| Camden Town | SB via Charing Cross | 10,501 | 19 | 553 | 81% |
| | SB via the City | 11,318 | 19 | 580 | 88% |
| Chalk Farm | SB via Charing Cross | 4,478 | 10 | 448 | 66% |
| | SB via the City | 5,031 | 9 | 559 | 82% |

On a weekday evening, **Table 4.5** shows less intensive capacities travelling northbound and lower average loadings with the busiest train travelling northbound on the High Barnet branch.

Table 4.5: Weekday Evening Peak Hour Northern Line Data - Northbound

| Start station | Route | 18:00 – 1900 | | | |
|---------------------|---------------|--------------|---------------|--------------|----------|
| | | Link Count | Trains per hr | Average load | Capacity |
| Mornington Crescent | NB to Edgware | 3,640 | 20 | 182 | 27% |
| | NB to Barnet | 4,454 | 21 | 212 | 31% |
| Euston | NB to Edgware | 3,747 | 20 | 187 | 28% |
| | NB to Barnet | 4,680 | 21 | 223 | 33% |
| Camden | NB to Edgware | 6,920 | 20 | 346 | 51% |
| | NB to Barnet | 9,164 | 21 | 436 | 64% |
| Chalk Farm | NB to Edgware | 6,310 | 20 | 316 | 46% |

4.3.3 London Overground

London Overground services are available at Camden Road station, which is located approximately 450m to the east of the Site. Camden Road station is on the North London Line (NLL), which operates between Stratford in east London and Richmond and Clapham Junction in south-west London. Other important stations and interchanges on the NLL are Hackney Central, Highbury and Islington, Gospel Oak, Willesden Junction and Shepherd's Bush.

A range of improvements on the London Overground network, including longer and more frequent trains, were completed in May 2011. Following these improvement, there are seven London Overground services per hour from Camden Road station in each direction. On Saturdays, six trains per hour operate in each direction. The first and last London Overground services from Camden Road can be seen in **Table 4.6**.

Table 4.6: First and Last London Overground Services from Camden Road

| Direction | Monday to Friday | | Saturday | | Sunday | |
|-----------|------------------|-------|----------|-------|--------|-------|
| | First | Last | First | Last | First | Last |
| Eastbound | 06:11 | 23:38 | 06:19 | 23:38 | 09:22 | 22:07 |
| Westbound | 06:07 | 00:05 | 06:05 | 00:05 | 09:35 | 22:20 |

Count data has been provided by TfL for Camden Road station in 2009. The data shows:

- The number of passengers using the service is higher during the week than on a weekend;
- Boarding peaks both during the week and on a weekend at 17:00. Alighting peaks at 08:00;
- The highest load during the week is experienced between 07:00 – 08:00 travelling westbound between Caledonian Road & Barnsbury and Camden Road (1,864 pax / 56% of peak hour capacity). The highest load travelling eastbound during the week is between 18:00 – 19:00 (1,619 / 49% of peak hour capacity); and
- On a Saturday the highest load is experienced between 13:00 – 14:00 travelling westbound (1,010 / 46% capacity).

4.3.4 London Buses

There are a number of bus services operating in the vicinity of the Site. The nearest bus stops are located on Chalk Farm Road to the west of the Site (Area A), Hawley Road to the north of the Site (Area B) and Kentish Town Road to the east of the Site (Area B and Area D). Services and routes operating from these stops are detailed in **Table 4.7**.

Table 4.7: Bus routes and frequencies

| Bus Stop | Route No. | Route | Frequency (per direction) |
|------------------------------------|-----------|--|---------------------------|
| Hawley Road / Chalk Farm Road | 24 | Hampstead Heath to Pimlico | Every 5 to 9 mins |
| Hawley Road / Chalk Farm Road | 27 | Chalk Farm to Turnham Green | Every 6 to 9 mins |
| Chalk Farm Road | 31 | White City to Camden Town | Every 3 to 8 mins |
| Camden Gardens | 46 | Farringdon to Lancaster Gate | Every 7 to 11 mins |
| Camden Gardens | 88 | Clapham Common to Camden Town | Every 6 to 10 mins |
| Kentish Town Road / Camden Gardens | 134 | Tottenham Court Road to North Finchley | Every 3 to 8 mins |
| Chalk Farm Road / Camden Gardens | 168 | Old Kent Road to Hampstead Heath | Every 5 to 7 mins |
| Kentish Town Road / Camden Gardens | 214 | Highgate Village to Liverpool Street | Every 6 to 10 mins |
| Kentish Town Road / Camden Gardens | C2 | Victoria Bus Station to Parliament Hill Fields | Every 5 to 10 mins |

There are three other routes that travel within the Camden Town locality, namely Route 253 from Euston to Hackney Central, Route 274 from Islington to Lancaster Gate and Route 29 from Trafalgar Square to Wood Green station.

A number of the bus routes in **Table 4.7** offer 24 hour services, with a reduced bus service in the late evening, during the night and the early morning. These are Routes 24, 27, 88, 134, 214 and C2. In addition, there are a number of night bus routes operating in the Camden Town area and in particular, in the vicinity of the Site. These routes are shown in **Table 4.8**.

Table 4.8: Night Buses in the Vicinity of Camden Lock Village

| Bus Stop | Route No. | Route |
|---------------------------------|-----------|---------------------------------|
| Hawley Road / Chalk Farm Road | N5 | Edgware to Trafalgar Square |
| Hawley Road / Kentish Town Road | N20 | Barnet to Trafalgar Square |
| Chalk Farm Road | N28 | Camden Town to Wandsworth |
| Chalk Farm Road | N31 | Camden Town to Clapham Junction |

4.4 Taxis

A TfL appointed taxi rank is located on Greenland Street close to its junction with Camden High Street, approximately 600 metres to the south of the Site. The rank operates throughout the day and can accommodate five taxis.

4.5 Highway Network

Vehicle access is permitted along the western, northern and eastern boundaries of the Site. The south of the Site is bounded by the Regent's Canal and towpath. The Site Plan is shown in **Figure 1**. The streets surrounding the Site can be described as follows:

- To the west, the **A502 Chalk Farm Road** connects with the **A400 Camden High Street** and provides a direct link from the A501, Euston Road. The A400 also connects with the A1 to the north of the Site near Archway London Underground station. This provides a direct link from the Site to the A406 North Circular Road and further north to the M1;
- To enter the Site from Chalk Farm Road / Camden High Street vehicles must turn into **Castlehaven Road** which travels along the north-western boundary of the Site in a one-way eastbound direction. Access into the Site is provided via **Haven Street** and **Leybourne Road** which are both accessed from Castlehaven Road.
- Castlehaven Road subsequently leads into **Hawley Road**, which also forms part of the A502, and provides a connection with the **A400 Kentish Town Road** and **Camden Street** to the east.
- **A400 Kentish Town Road** bounds the east of the Site and forms part of the Strategic Road Network (SRN). This is the responsibility of LBC although TfL must be consulted on any proposed alterations along this route. Approximately 200m to the south of the Site the route becomes part of the Transport for London Road Network (TLRN). Two access lanes into Area D of the Site are provided from Kentish Town Road. Water Lane is located to the south of the viaduct and an unnamed road provides access parallel to Water Lane north of the viaduct.

Other important routes in the area include Hawley Crescent and Jamestown Road, which form a signalised junction with the A502 Camden High Street just south of the Regent's Canal.

4.5.1 Baseline Vehicle Flows

The average seven day total flows for the roads surrounding the Site are summarised in **Table 4.9** for the morning and evening peak hour and the 24 hour average. These flows have been obtained from Automatic Traffic Counts (ATC) surveys

commissioned by Arup in October 2010 and the survey locations are shown in **Figure 4**.

Table 4.9: Link Traffic Flows (October 2010)

| Road Name | AM Peak (08:00 – 09:00) | Inter Peak (12:00 – 13:00) | PM Peak (18:00 – 19:00) | 24 Hour |
|--------------------|----------------------------|-------------------------------|----------------------------|---------|
| Camden High Street | 542 | 626 | 697 | 12,277 |
| Chalk Farm Road | 802 | 849 | 854 | 17,116 |
| Castlehaven Road | 582 | 671 | 770 | 12,120 |
| Hawley Road | 648 | 683 | 710 | 11,964 |
| Leybourne Road | 22 | 35 | 26 | 506 |
| Kentish Town Road | 726 | 811 | 844 | 14,714 |
| Hawley Crescent | 350 | 296 | 266 | 4,637 |

Chalk Farm Road and Kentish Town Road have the highest flows but these routes are two-way whereas all other routes in **Table 4.9** are one-way operations.

The Department for Transport (DfT) Annual Average Daily Flows (AADF) have been downloaded from the DfT matrix for routes around the Site. The data is presented in **Table 4.10**. The locations listed in **Table 4.10** are also indicated in **Figure 4**.

Table 4.10 Traffic Data (2010)

| Location | AADF |
|---|--------|
| Camden High Street – south of junction with Hawley Crescent | 12,292 |
| Kentish Town Road – close to junction with Buck Street | 8,289 |
| Kentish Town Road – north of junction with Hawley Road | 18,899 |
| Hawley Road – east of junction with Castlehaven Road | 13,618 |
| Camden Street – south of Bonny Street | 18,142 |
| Parkway – west of junction with Arlington Road | 17,714 |
| Camden High Street – South of Parkway | 24,367 |
| Camden Road – East of junction with Kentish Town Road | 27,583 |
| Bayham Street – north of Pratt Street | 16,537 |

Further analysis of the 2010 traffic flow data is contained in **Appendix C**.

4.5.2 Baseline Vehicle Speeds

The ATC survey in October 2010 also captured speed data over the 24 hour period. The key findings of the speed survey are summarised as follows:

- Speeds on Camden High Street (one-way) averaged between 17 and 18mph during the 24 hour survey period in October 2010. The 85th percentile speed on all days was 23 to 24mph;
- North of the Castlehaven Road junction 85th percentile speeds travelling northbound on Chalk Farm Road range between 23 to 24mph. Southbound

speeds on this section are lower (85th percentile of between 19 to 21mph) but this is due to the survey location as vehicles will be slowing as they approach the junction;

- Speeds on Castlehaven Road (one-way) along the north-western boundary of the Site averaged 24mph with 85th percentile speeds of 28mph;
- Hawley Road (one-way) has average speeds of 21mph and 85th percentile speeds of 25mph;
- Southbound speeds on Kentish Town Road (average of between 20 – 23mph) are higher than northbound speeds (average of between 19 to 20mph). Similarly, 85th percentile speeds reach 26mph northbound and 28mph southbound; and
- On Hawley Crescent (one-way) speeds are low, averaging 17mph with 85th percentile speeds ranging between 21 to 22mph.

Further analysis of the 2010 traffic speed data is contained in **Appendix C**.

4.5.3 Junction Turning Counts

Appendix C also contains an analysis of the Junction Turning Count (JTC) data that was collected between 07:00 and 19:00 on Wednesday 20th October and Saturday 23rd October 2010. The junctions that were included in the survey are shown on **Figure 4**. To summarise;

- The majority (79% on Wednesday and 83% on Saturday) of vehicles approaching the Camden High Street / Castlehaven Road junction from the south continue to travel northwards through the junction to Chalk Farm Road;
- Of the 58 vehicles that turned right into Leybourne Road from Castlehaven Road on Wednesday, 30 (74%) were goods vehicles. However on Saturday goods vehicles accounted for just 13% of vehicles making this manoeuvre;
- Approximately 80% of vehicles access the existing Site from Castlehaven Road to the west using either Haven Street or Leybourne Street. The remaining 20% of vehicle trips into the Site are relatively evenly split between the Torbay Street access to the north and the two access points located on Kentish Town Road to the east;
- The majority of vehicles (88% on Wednesday and 86% on Saturday) approaching the Kentish Town Road / Hawley Road junction from Hawley Road turn right into Camden Street;
- At the Camden High Street / Hawley Crescent / Jamestown Road junction the majority of vehicles approaching from the south (91% on Wednesday and 67% on Saturday) travelled straight across the junction to continue northwards on Camden High Street. Vehicles approaching from Hawley Crescent tend to travel straight across the junction (75% on Wednesday and 72% on Saturday) to Jamestown Road;
- 90% of vehicles approaching the Kentish Town Road / Hawley Crescent / Sainsbury's junction from the north on Kentish Town Road on Wednesday turn right into Hawley Crescent with the rest turning left into Sainsbury's (no access straight ahead). On Saturday this reduced to 76% turning right and 24% turning left into Sainsbury's; and

- Vehicles approaching the Kentish Town Road / Hawley Crescent / Sainsbury's junction from the south tend to travel northwards through the junction (89% on Wednesday and 82% on Saturday).

4.6 Car Parking

There are no large off-street public car parks within the immediate vicinity of the Site. However the nearby Morrisons Supermarket (Chalk Farm Road) and Sainsbury's Supermarket (Camden Road) do have car parks available to customers.

Parking bays are available on routes around the Site allowing pay and display parking for up to 2 hours and resident parking bays are available. The nearest locations are identified in **Table 4.11** and shown in **Drawing 209791-00-001**.

Table 4.11: On-Street Parking Bays

| Location | Type of Bay | Spaces |
|------------------|-------------------------|--------|
| Leybourne Road | Pay & display | 15 |
| Torbay Street | Resident Permit Holders | 6 |
| Hawley Road | Resident Permit Holders | 3 |
| Castlehaven Road | Car Club | 2 |
| | Pay & display | 7 |
| | Resident Permit Holders | 7 |
| | Motorcycle | 10 |

Several of the businesses operating within the Site also have private car parking areas within the boundary of their property.

Blue badge parking is provided in the vicinity of the Site. The nearest blue badge parking bays are located in the following locations:

- Leybourne Street and Hartland Road, to the west of the Site;
- Hawley Crescent to the south of the Site; and
- Hawley Road to the north.

4.7 Road Safety

Accident data for the three years to April 2011 has been provided by TfL for the Camden area. Of the 54 accidents recorded in the area, 42 (78%) were slight, 11 (20%) serious and 1 was fatal. The fatal accident involved a pedestrian and was located at the Hawley Road / Kentish Town Road junction. A total of 10 accidents were recorded on Camden High Street, two of which were slight accidents involving pedestrians at the junction with Castlehaven Road.

4.8 Proposed Transport Schemes

4.8.1 Northern Line Upgrade

As part of the ongoing TfL investment programme, the Northern line is to undergo a series of improvements. The upgrade of the line, which will be delivered

incrementally, includes a high-tech signalling system and a new control centre, allowing more trains to run, much closer together and at higher speeds. The upgrade works are currently due for completion in 2014 and should therefore be in place for the Development opening year. The improvements will reduce journey times by approximately 18% and will increase capacity by approximately 20%.

4.8.2 Britannia Junction

Major improvement works have been granted funding at Britannia junction outside Camden Town Underground station. The junction is the busiest in Camden Town and the improvements will make it easier for pedestrians to cross Camden High Street and make the junction less intimidating for pedestrians and cyclists. The changes will create a larger and more attractive public space outside the station by de-cluttering and widening footways and removing a lane of traffic on Parkway. The work is due to be completed in 2012.

4.8.3 Camden High Street / Chalk Farm Road / Castlehaven Road

LBC is currently exploring options to improve the Chalk Farm Road / Castlehaven Road junction to facilitate pedestrian improvements at the junction. This may include prohibiting right turns into Castlehaven Road from Camden High Street to provide more pedestrian capacity at the junction. Indicative proposals are shown on **Drawing 209791-00-002**. The proposals remove the right-turn filter lane, allowing the footway on Camden High Street to be widened, and allow pedestrians to cross the road in one phase.

There are other longer term aspirations which include alterations to the one-way system in Camden Town by reverting Castlehaven Road and Hawley Road to two-way operation and the potential pedestrianisation of Camden High Street between Camden Town Underground station and Castlehaven Road.

4.8.4 London Cycle Hire Scheme

The London Cycle Hire is a public bicycle sharing scheme for short journeys in and around central London. The scheme was launched in July 2010 and currently covers an area of central London extending north as far as Regent's Park. However, there are proposals to extend the scheme further eastwards and there are long-term aspirations to extend the scheme northwards but no announcement has yet been made. A location on Castlehaven Road, close to junction with Chalk Farm Road, has been identified as a potential location for a docking station.

5 Trip Generation and Modal Split

This section summarises the proposed levels of trips that will be associated with the Development and outlines how this differs from the existing Site. Full details of the trip generation methodology and the data analysis are presented in **Appendix D**.

Trips associated with servicing and waste collection are summarised in **Section 6**.

5.1 Trip Generation & Modal Split Methodology

In order to quantify the net impact of the Development on the local transport system, the existing and future trip generation of the Site must be determined. Given the nature of the Development and facilities in the local area, the methodology must also consider the proportion of trips that are linked to other land-uses in the overall appraisal of net change.

The trip generation methodology is discussed in detail in **Appendix D**. To summarise the process, the net impact on the transport network has been established by:

- Calculating the number of baseline trips by using existing survey data and trips rates from comparable sites;
- Calculating the number of future trips by applying the trip rates of the baseline uses to the new areas but assigning trips to each transport mode based upon the mode split targets specified in the Framework Travel Plan;
- Estimating the proportion of trips that are linked to other land-uses and would be on the future network irrespective of whether the Development goes ahead; and
- Removing from the future estimates those trips that are already on the network to calculate the net change in trips and evaluate the impact this change has on the transport network.

The baseline mode split for trips to the market area has been based upon existing visitor surveys. Baseline mode split information for Areas B to D has been based on data from the 2001 Census and existing Travel Plans for the Camden area supplied by LBC. Future mode split values have been estimated taking into account the implementation of a successful Travel Plan and measures to limit parking at the Development.

5.2 Market Retail

5.2.1 Trip Generation & Mode Split

A daily and peak hour trip rate for market retail has been established by analysing pedestrian count data in the local area from the baseline surveys (see **Appendix D** for further details). Based on the baseline and future floor area of the market, **Table 5.1** presents the number of trips estimated to be generated by the market retail element of the Site.

Table 5.1: Existing & Future Canal Market Trips

| | Daily Trips | | | Peak Hour Trips | | |
|--------------------|-------------|----------|--------|-----------------|----------|--------|
| | Inbound | Outbound | Total | Inbound | Outbound | Total |
| Existing - Weekday | 7,542 | 8,148 | 15,690 | 1,452 | 1,416 | 2,868 |
| Existing - Weekend | 11,034 | 7,842 | 18,876 | 2,406 | 1,734 | 4,140 |
| Future – Weekday | 22,323 | 24,116 | 46,439 | 4,298 | 4,191 | 8,489 |
| Future - Weekend | 32,658 | 23,211 | 55,869 | 7,903 | 5,132 | 13,035 |

Note: numbers subject to rounding.

The results indicate that, should the redeveloped market prove as popular as the existing market in the baseline survey, there could be up to 13,035 two-way trips to the Site in the weekend peak hour and 55,869 throughout the day.

The baseline mode share for trips to the market has been derived from a number of existing surveys of market visitors (see **Appendix D** for details). The mode share values that have been applied are presented in **Table 5.2**.

Table 5.2: Market Retail – Baseline Mode Share

| | Mode Share |
|-------------|------------|
| Underground | 57% |
| Bus | 19% |
| Walk | 14% |
| Car | 2% |
| Train | 5% |
| Cycle | 2% |
| Taxi | 1% |

5.2.2 Linked Trips

Prior to assigning the trips onto each mode it is necessary to ascertain how many trips are additional to those already on the network. Not all trips into the redeveloped market will be new trips on the network. It is probable that a large proportion of visitors will already be visiting other markets in Camden and will divert into the Site.

Section 4.3 of **Appendix D** provides details of three sources of information that have been assessed to determine the approximate proportion of future trips that will be linked to existing land-uses within Camden. Based on this available information it is estimated that between 10 to 15% of daily market trips would be additional trips on the network and travel to the area as a direct result of the Development. Based on the higher estimate of 15%, **Table 5.3** shows the number of new trips the market generates on each mode during a weekday with **Table 5.4** presenting the weekend data.

Table 5.3: New Weekday Market Trips (15% of all trips)

| Hour | Tube | Walk | Cycle | Taxi | Bus | Car | Train | Total |
|---------------|-------|------|-------|------|-------|-----|-------|-------|
| 08:00 - 09:00 | 112 | 28 | 4 | 2 | 37 | 41 | 0 | 197 |
| 09:00 - 10:00 | 146 | 36 | 5 | 3 | 49 | 51 | 3 | 256 |
| 10:30 - 11:30 | 463 | 114 | 16 | 8 | 154 | 16 | 41 | 812 |
| 12:00 -13:00 | 412 | 101 | 14 | 7 | 137 | 14 | 36 | 722 |
| 13:00 - 14:00 | 642 | 158 | 23 | 11 | 214 | 23 | 56 | 1,127 |
| 14:30 - 15:30 | 664 | 163 | 23 | 12 | 221 | 23 | 58 | 1,164 |
| 16:00 - 17:00 | 726 | 178 | 25 | 13 | 242 | 25 | 64 | 1,273 |
| 17:00 - 18:00 | 531 | 131 | 19 | 9 | 177 | 19 | 47 | 932 |
| 18:30 - 19:30 | 275 | 67 | 10 | 5 | 92 | 10 | 24 | 482 |
| Total | 3,971 | 975 | 139 | 70 | 1,324 | 139 | 348 | 6,966 |

Table 5.4: New Weekend Market Trips (15% of all trips)

| Hour | Tube | Walk | Cycle | Taxi | Bus | Car | Train | Total |
|---------------|-------|-------|-------|------|-------|-----|-------|-------|
| 08:00 - 09:00 | 36 | 9 | 1 | 1 | 12 | 1 | 3 | 62 |
| 09:00 - 10:00 | 143 | 35 | 5 | 3 | 48 | 51 | 3 | 252 |
| 10:30 - 11:30 | 236 | 58 | 8 | 4 | 79 | 82 | 1 | 413 |
| 12:00 -13:00 | 484 | 119 | 17 | 8 | 161 | 17 | 42 | 849 |
| 13:00 - 14:00 | 933 | 229 | 33 | 16 | 311 | 33 | 82 | 1,636 |
| 14:30 - 15:30 | 1,044 | 256 | 37 | 18 | 348 | 37 | 92 | 1,832 |
| 16:00 - 17:00 | 732 | 180 | 26 | 13 | 244 | 26 | 64 | 1,284 |
| 17:00 - 18:00 | 673 | 165 | 24 | 12 | 224 | 24 | 59 | 1,181 |
| 18:30 - 19:30 | 497 | 122 | 17 | 9 | 166 | 17 | 44 | 872 |
| Total | 4,777 | 1,173 | 168 | 84 | 1,592 | 168 | 419 | 8,380 |

5.3 Employment

5.3.1 Trip Generation & Mode Split

The baseline floor areas comprise 4,652m² of office (B1a) space. This floor area is currently split relatively evenly between Areas C and D. The remainder of the baseline Site comprises 2,343m² of B1c/B2 floor space largely used by vehicle repair type business. A further 1,017m² of baseline area is sui generis land use which was previously occupied by a builder's merchants (currently vacant).

Baseline trip rates for the employment land uses have been derived from TRICS (see **Appendix D**).

It is assumed that the majority of trips to the vehicle repair shops and builder's merchants are made by car. Baseline mode share information for the office floor space has been derived from 2001 UK Census data and workplace travel plans

provided by LBC for other local commercial developments. The applied baseline mode share is presented in **Table 5.5**.

Table 5.5: Office – Baseline Mode Share

| | Mode Share |
|-------------|------------|
| Underground | 28% |
| Bus | 13% |
| Walk | 15% |
| Car | 20% |
| Train | 16% |
| Cycle | 5% |
| Motorcycle | 3% |

Table 5.6 shows the total number of trips, by mode, that the employment land use generates in the baseline during the peak hours.

Table 5.6: Baseline Employment Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Underground | 28 | 49 | 19 |
| Train | 16 | 28 | 11 |
| Bus | 13 | 23 | 9 |
| Car | 93 | 99 | 29 |
| Motorcycle | 3 | 5 | 2 |
| Cycle | 5 | 9 | 3 |
| Walk | 15 | 26 | 10 |
| Total | 173 | 239 | 84 |

The redeveloped Site will comprise 6,829m² of office space (an uplift of 2,177m²) and 2,317m² of B1c/B2 floor space (a decrease of 1,043m²). It should be noted that the employment space in Building C2 will be flexible business space. As future occupiers are unknown office trip rates have been applied to this land-use as a robust assessment scenario.

As the B1c/B2 floor space will effectively replace the existing uses (vehicle repair shops) it is anticipated that the majority of future trips will continue to be made by car. However, the mode share for the office land use has been altered to reflect the limited parking available in the future Site and the initiatives that will be put in place to encourage travel by sustainable modes. The future mode share targets for office land use, and the reasons for the adjustments, are shown in **Table 5.7**

Table 5.7: Office – Future Mode Share

| Mode | Mode Share | Comment |
|-------------|------------|--|
| Underground | 22% | 6% decrease as a result of initiatives to promote other modes of public transport |
| Bus | 17% | 4% increase as employees that currently travel by car are encouraged to travel by public transport |
| Walk | 20% | 5% increase. Reflects more people living within walking distance of the Site as the number of residential units on the Site increases |
| Car | 5% | 15% decrease. With the exception of disabled parking bays, all parking associated with the office floor space is removed. The 5% accounts for disabled parking plus drop-off trips and is considered realistic following the review of a travel plan for a nearby site which has 12 onsite spaces and a car mode share of 5% |
| Train | 24% | 8% increase. The output area to the east of the site (which includes Camden Road station) already has a 24% train mode share. Service frequency has recently increased on the Overground service and employees will be encouraged to use the service. |
| Cycle | 8% | 3% increase as a result of initiatives to promote cycling to the Site |
| Motorcycle | 3% | No change |
| Taxi | 1% | 1% increase as parking is removed from the site which could result in some car trips switching to taxi |

Based upon the mode split targets presented in **Table 5.7**, the number of trips generated on each mode of transport by the office and industrial uses within the Development is shown in **Table 5.8**.

Table 5.8: Future Employment Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Underground | 32 | 56 | 22 |
| Train | 35 | 61 | 24 |
| Bus | 25 | 44 | 17 |
| Taxi | 1 | 3 | 1 |
| Car | 58 | 58 | 20 |
| Motorcycle | 4 | 8 | 3 |
| Cycle | 12 | 20 | 8 |
| Walk | 29 | 51 | 20 |
| Total | 197 | 302 | 116 |

5.4 Residential

5.4.1 Trip Generation & Mode Split

The baseline Site features 16 residential units, with the majority being privately owned houses, converted into flats, located on Hawley Road and Torbay Street. Comparable trip rates have been extracted (see **Appendix D** for further details) and census data informs the baseline mode share values shown in **Table 5.9**

Table 5.9: Residential – Baseline Mode Share

| Mode | Mode Share |
|-------------|------------|
| Home | 9% |
| Underground | 31% |
| Bus | 19% |
| Walk | 18% |
| Car | 10% |
| Train | 3% |
| Cycle | 5% |
| Motorcycle | 3% |
| Taxi | 1% |

Table 5.10 shows the total number of trips, by mode, that the residential dwellings generate in the baseline during the peak hours.

Table 5.10: Baseline Residential Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Home | 2 | 1 | 2 |
| Underground | 7 | 4 | 5 |
| Train | 1 | 0 | 1 |
| Bus | 4 | 2 | 3 |
| Car | 2 | 1 | 2 |
| Motorcycle | 1 | 0 | 1 |
| Cycle | 1 | 1 | 1 |
| Walk | 4 | 2 | 3 |
| Total | 23 | 13 | 17 |

The redevelopment of the Site will provide 45 residential dwellings on Area B, 102 on Area C and 37 on Area D. The majority of these dwellings will comprise privately owned flats and trip rates from comparable sites have been identified to derive future trip rates.

The future residential mode share has also been altered to reflect the limited parking on the Site and the initiatives that will be applied to encourage residents to travel by sustainable modes. The future residential mode share targets are presented in **Table 5.11**.

Table 5.11: Residential – Future Mode Share

| Mode | Mode Share | Comment |
|-------------|------------|---|
| Home | 9% | No change |
| Underground | 31% | No change |
| Bus | 19% | No change |
| Walk | 19% | 1% increase. Reflects more people working within walking distance of the Site |

| Mode | Mode Share | Comment |
|------------|------------|--|
| Car | 3% | 7% decrease. Limited parking is available for residential dwellings. The reduced parking provision will result in a decrease in car mode share |
| Train | 5% | 2% increase. Service frequency has recently increased on the Overground service which should attract greater usage by local residents |
| Cycle | 10% | 5% increase. The output area that the majority of the site falls within (00AGGF0009) has an existing bicycle mode share of 10% and therefore given the initiatives that are proposed on the site to promote cycling it is anticipated that the whole site can at least attain this level of mode share |
| Motorcycle | 3% | No change |
| Taxi | 1% | No change |

Based upon the mode split targets presented in **Table 5.11** the number of trips generated by the residents of the Development during the peak hours is shown in **Table 5.12**.

Table 5.12: Future Residential Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Home | 11 | 5 | 10 |
| Underground | 38 | 19 | 33 |
| Train | 6 | 3 | 5 |
| Bus | 23 | 12 | 20 |
| Taxi | 1 | 1 | 1 |
| Car | 4 | 2 | 3 |
| Motorcycle | 4 | 2 | 3 |
| Cycle | 12 | 6 | 11 |
| Walk | 23 | 12 | 20 |
| Total | 121 | 61 | 107 |

5.5 Leisure

5.5.1 Trip Generation & Mode Split

There are proposals to incorporate a three screen cinema in the basement of Area C. Indicative drawings show the cinema will incorporate approximately 160 seats. Trip rates and mode share information have been derived from a survey of another local cinema (Odeon, Tottenham Court Road) contained in the TRICS database (see **Appendix D** for further details).

The cinema is busiest in the evening between 18:00 and 22:00 with the number of trips generated during the evening, by mode, as shown in **Table 5.13**.

Table 5.13: Cinema Trips

| Mode | 18:00 – 19:00 | 19:00 – 20:00 | 20:00 – 21:00 | 21:00 – 22:00 |
|-------------|---------------|---------------|---------------|---------------|
| Underground | 10 | 2 | 11 | 9 |
| Train | 4 | 1 4 | | 3 |
| Bus | 5 | 1 6 | | 4 |
| Car | 3 | 1 3 | | 2 |
| Walk | 30 | 7 | 32 | 25 |
| Total | 52 | 12 | 55 | 44 |

5.6 Primary School

5.6.1 Trip Generation & Mode Split

The Development proposals include an outline application for a Primary School on the eastern half of Area B. The school is expected to be occupied by Hawley Infants School which will relocate from its existing site on Buck Street, approximately 800 metres to the south of the Site, to Camden Lock Village.

The redeveloped school is anticipated to accommodate 220 primary school pupils and 26 nursery pupils. Future staff numbers are unknown but based on current levels; an estimate of up to 40 staff is considered realistic for the purpose of assessing transport impact.

Pupil mode share information has been derived from a hands-up travel survey undertaken in July 2011. Staff trips have been calculated by applying the employment mode share projections for the area (see **Table 5.5**). For further details regarding the school trip generation forecasts refer to **Appendix D**.

Table 5.14 presents the primary school trip future estimates and mode share values. These trips are forecast to arrive in the morning peak hour and depart in the afternoon.

Table 5.14: Primary School Trips

| Mode | Pupils | | Staff | | Total Trips |
|-------------|------------|-------|------------|-------|-------------|
| | Mode Share | Trips | Mode Share | Trips | |
| Underground | 0% | 0 | 22% | 9 | 9 |
| Bus | 5% | 13 | 17% | 7 | 20 |
| Walk | 48% | 118 | 20% | 8 | 126 |
| Car | 14% | 34 | 5% | 2 | 36 |
| Train | 3% | 7 | 24% | 9 | 16 |
| Cycle | 23% | 57 | 8% | 3 | 60 |
| Other | 7% | 17 | 4% | 2 | 18 |
| Total | 100% | 246 | 100% | 39 | 285 |

5.7 Whole Site Trip Generation

The total net change in two-way trips (removing baseline trips from future estimates) during the peak hours for the whole Site on a weekday is shown in **Table 5.15**.

Table 5.15: Net Change in Weekday Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Home | 9 | 4 | 8 |
| Underground | 152 | 666 | 320 |
| Train | 43 | 93 | 54 |
| Bus | 78 | 245 | 132 |
| Taxi | 4 | 14 | 7 |
| Car | -12 | -17 | 23 |
| Motorcycle | 4 | 4 | 4 |
| Cycle | 53 | 40 | 55 |
| Walk | 125 | 195 | 189 |
| Total | 456 | 1,243 | 793 |

Table 5.16 shows the total change in trips for each peak hour on a weekend. The Canal Market generates the greatest number of trips on a weekend. It is assumed that the Primary School and the majority of offices will be closed on a weekend so the trips generated by these land uses have not been included in **Table 5.16**. However, trips generated by the industrial units are included.

Table 5.16 Net Change in Weekend Trips

| Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Home | 9 | 4 | 8 |
| Underground | 66 | 948 | 535 |
| Train | 8 | 85 | 52 |
| Bus | 31 | 320 | 188 |
| Taxi | 2 | 17 | 10 |
| Car | 2 | 33 | 21 |
| Motorcycle | 3 | 1 | 3 |
| Cycle | 12 | 38 | 27 |
| Walk | 19 | 225 | 163 |
| Total | 152 | 1,673 | 1,007 |

5.8 Trip Distribution

5.8.1 London Underground

As shown in **Section 5.7**, the greatest increase in trips is on the London Underground given the networks accessibility to the Site and the high existing mode share. To determine the baseline distribution of trips on the London Underground, the annual

entry and exit counts for the two nearest Underground stations, Camden Town and Chalk Farm Road, have been downloaded for the latest full year available (2010). The entry and exit flows have been added together for the two stations to calculate the proportion of trips using each station as shown in **Table 5.17**.

Table 5.17 Total Annual Entry & Exit Counts 2010

| | Weekday | | Saturday | | Sunday | |
|-------------|---------|------|----------|------|--------|------|
| | Count | % | Count | % Co | unt | % |
| Camden Town | 56,382 | 79% | 76,725 | 84% | 45,896 | 81% |
| Chalk Farm | 15,265 | 21% | 14,143 | 16% | 11,117 | 19% |
| Combined | 71,647 | 100% | 90,868 | 100% | 57,013 | 100% |

Table 5.17 shows that the majority of London Underground trips to and from the local area travel via Camden Town station and this pattern of travel is unlikely to change in the foreseeable future. However, visitors and residents will be actively encouraged through a number of measures to use Chalk Farm station where more capacity is available. Both stations are located in Zone Two so there will be no financial penalty to passengers using Chalk Falk Station.

Taking the baseline proportions and the travel plan measures into account, the future distribution of Underground trips will be split 75% towards Camden Town and 25% towards Chalk Farm.

Table 5.18 presents the number of additional two-way trips forecast at each station based upon this distribution.

Table 5.18: Forecast Trips at Camden Town and Chalk Farm Stations

| | 08:00 – 09:00 | | 13:00 – 14:00 | | 18:00 – 19:00 | |
|-------------|---------------|---------|---------------|---------|---------------|---------|
| | Weekday | Weekend | Weekday | Weekend | Weekday | Weekend |
| Camden Town | 114 | 50 | 500 | 711 | 240 | 401 |
| Chalk Farm | 38 | 17 | 167 | 237 | 80 | 134 |
| Total | 152 | 66 | 666 | 948 | 320 | 535 |

The busiest period is a weekend lunchtime when an additional 948 Underground trips are forecast. This amounts to an additional 711 trips via Camden Town (to the south) and 237 trips via Chalk Farm station (to the north of the Site).

5.8.2 London Overground

All additional trips made by London Overground will arrive and depart via Camden Road station to the east of the Site.

5.8.3 Bus

The nearest bus stops are located on Chalk Farm Road (north and southbound), Hawley Road (eastbound only), Kentish Town Road (northbound only) and Camden Street (southbound only). Given the one-way nature of many of the surrounding routes the bus trips generated by the Development are forecast to be relatively evenly

spread across the network. The greatest increase in bus trips is during the weekend lunchtime period when an additional 320 trips are forecast.

Table 4.7 identifies nine bus services operating in the baseline with at least six buses per hour (10 minute minimum frequency – 54 bus services operating per hour). As future baseline bus frequencies are unknown, the distribution of bus passengers onto the network has been based on baseline bus services and frequencies. Distributing the additional 320 trips evenly onto the existing services would result in an additional six passengers per service. If future frequencies halved, the Development would generate approximately twelve additional passengers per service.

5.8.4 Car

The overall number of private car trips to the Site decreases during the weekday morning and lunchtime peak periods. This is due to the reduction in car parking provision and the reduction in industrial floor space (including the removal of the builder's merchant) which typically have higher vehicle trip rates. Car trips increase slightly on a weekend with the largest increase of 33 trips recorded in the lunchtime peak hour.

Traffic surveys undertaken in October 2010 (see **Appendix C** for details) identify that approximately 80% of vehicles currently access the Site from Castlehaven Road to the west using either Haven Street or Leynourne Street. The remaining 20% of vehicle trips are relatively evenly split between the Torbay Street access to the north and the two access points located on Kentish Town Road to the east.

Haven Street, Leybourne Street and Torbay Street will be stopped up as part of the Development proposals with the main vehicular access into the Site being via Castlehaven Road. A loading bay will be accessible from Hawley Road to the north and limited access will be provided from Kentish Town Road. Consequently the forecast vehicle trip distribution assumes 95% of trips will access the Site to the west, 3% to the north and 2% to the east. Refer to **Appendix D** for further details.

6 Servicing and Waste

This section summarises the Servicing and Waste Management Strategy (SWMS) which is contained in **Appendix E**.

6.1 Delivery and Servicing Trips

Service vehicle generation forecasts for the market retail element of the Site have been calculated based on data derived from a survey of goods vehicle trips to the market in 2009 (refer to **Appendix E** for details). Trip forecasts for other areas of the Site have been calculated based on trip rates derived from surveys of similar sites throughout London and industry standards based on Gross Floor Area (GFA). The trip rates that have been applied are:-

- 0.20 vehicles/100m²/day for office use;
- 0.06 vehicles/unit/day for residential use;
- 0.40 vehicles/100m²/day for the Primary School;
- 0.25 vehicles/100m²/day for leisure and entertainment (cinema) use; and
- 0.77 vehicles/100m²/day for market retail.

Table 6.1 presents the number of anticipated deliveries that would be generated by the Development.

Table 6.1: Daily Service Trip Generation

| Land use | | | | | | | | |
|------------------------|-------------|-----------|-------------|----------|-------------|----------|-------------|----------|
| | Area A | | Area B | | Area C | | Area D | |
| | Trips / Day | Peak | Trips / Day | Peak | Trips / Day | Peak | Trips / Day | Peak |
| Market Retail | 68 | 14 | | | | | | |
| Local Retail | | | | | 3 | - | | |
| Office/Business | | | 3 | 1 | 13 | 1 | 3 | 1 |
| Residential | | | 3 | 1 | 6 | 1 | 2 | 1 |
| Primary School | | | 8 | 1 | | | | |
| Leisure | | | | | 9 | 1 | | |
| Storage / plant | | | | | | | | |
| Total | 68 | 14 | 14 | 3 | 32 | 3 | 5 | 2 |
| Total A + C + D | 104 | | | | | | | |

The Development incorporates a central loading area which would serve Area's A, C and D (see **Section 6.2**). **Table 6.1** shows that the central loading area would have to accommodate a total of 104 delivery vehicle trips per day. The market retail and food deliveries for Area A would generate 68 of these deliveries.

The peak demand varies by land use. The office floor area in Site C and D generates a peak demand between 07:00 – 08:00 of 2 vehicles. The peak demand for market deliveries will be influenced by the introduction of a strict management and booking system that restricts the market retail deliveries to a five hour window between 07:00

– 12:00. As a result, during this period there is forecast to be up to 14 vehicle trips per hour. This would require up to four loading bays. A total of six bays are proposed within the central loading area (refer to **Drawing P6000**) which should be sufficient to accommodate the forecast deliveries.

Servicing trips would be managed by an on-site management team who would ensure the trips are co-ordinated to minimise the impact on the highway and minimise disruption to pedestrians.

6.2 Servicing Locations

Efficient design of the servicing area and access strategy is imperative to ensure that goods are delivered in an efficient manner whilst minimising traffic flow, vehicle noise and visual impact.

In line with the recommendations identified in the Hawley Wharf SPD (refer to **Section 3.3.3**), a centralised loading area is proposed to serve Areas A, C and D within Area C which will be accessed from Castlehaven Road. The loading area will:

- Be appropriately sized to cater for the different delivery vehicles anticipated, including 5m headroom and provision for a long term maintenance vehicle;
- Facilitate a coordinated facilities management team to book deliveries, store material, arrange goods transfer and manage waste;
- Provide an appropriately sized goods lifts with direct access between the loading bay on the ground floor and the centralised goods storage and waste storage areas in the basement;
- Allow for storage of goods and waste in dedicated basement areas within Area C; and
- Allow deliveries throughout the Site using electric vehicles.

Use of the central loading area by market deliveries will be subject to restricted hours of operation (7am - midday). This will offer improved public realm outside of these hours and ensure servicing takes place outside the market retail peak hours of operation.

The centralised location for servicing activity will focus movement and deliveries in an off-street area. The benefits can be summarised as:

- All vehicle loading within the Site and not the public highway;
- Reduced vehicle movement through the Site; and
- Centralised management strategy and internal delivery system.

The residential units and Primary School in Area B will be serviced using a loading bay within the Site accessed from Hawley Road (refer to **Drawing 209791-00-004**). This space will enable vehicles to enter and leave the Site in forward gear.

Vehicle access will continue to be permitted from Kentish Town Road to the east. An access route is maintained north of the viaduct with a loading area provided within the arches for occasional deliveries to Area D units.

6.3 Vehicle Types




6.3.1 Goods Vehicles

Table 6.2 illustrates the types of goods vehicles that are expected to arrive at the Development and the typical turnaround time for discharge. Note however that the existing servicing arrangements (see **Appendix E** for further details) identified that the longest dwell time observed during the baseline survey was 14 minutes.

Based on the existing servicing arrangements the majority of trips (90%) to the Site will be LGV's with the vehicle trip profile forecast to be:

- 90% 6m vans;
- 5% 8m rigid vehicles; and
- 5% 10m rigid vehicles.

Table 6.2: Typical Turnaround Times for Delivery Vehicles

| Vehicle Type | Vehicle | Characteristics | Turnaround Time (minutes) |
|-------------------------------|---|---------------------------------|---------------------------|
| LGV – Light Goods Vehicle |  | 3.5 Tonne, vehicle length 6m | 15 |
| MGV – Medium Goods Vehicle |  | 7.5 Tonne, vehicle length 8m | 20 |
| HGV – Heavy Goods Vehicle |  | 17 Tonne, vehicle length 10m | 25 |

6.3.2 Cycle Couriers

Cycle couriers will deliver documents and small packages and will typically be unscheduled arrivals to the Development.

6.3.3 Postal Services and Couriers

Royal Mail and private courier companies will make deliveries using transit vans or similar vehicles. These organisations tend to operate defined routes and customer rotation. This introduces an element of predictability into the arrival time to the Development which can be incorporated into a booking system.

6.3.4 Waste Collection Vehicles

Waste collection is expected to be made by the local council and specialist contractors depending upon the nature of the waste. Waste contractors will have defined or agreed collection days and times of arrival on Site.

6.4 Traffic Management

In order to manage the movement of traffic entering and leaving the Development a booking system will be employed. A booking system allows the facilities management team to actively manage the arrivals during the day and will have the following benefits:

- Manage the mid morning peak by moving deliveries to appropriate times;
- Improve the efficiency of security checks with drivers on arrival;
- Proactively manage the traffic flow through the surrounding streets to minimise queuing and congestion; and
- Reduce the environmental impact of these vehicles to those living adjacent to the Development through lower emissions and road congestion.

The booking system will apply to all deliveries of goods or services.

6.5 Waste Management

6.5.1 Waste Generation

Appendix E presents quantities of waste generation within each area of the Site.

6.5.2 Waste Storage & Collection

Waste generated by the commercial tenants, including the Canal Market in Area A, will be collected by the Facilities Management team using an electric vehicle towing one or two 1,100 litre bins. The electric vehicle will be stored in the central loading area overnight where a charging point for the vehicle will be located.

Non recoverable waste will be collected by the Facilities Management team and placed in the 10m³ waste compactor located in the central service area in Area C (refer to **Drawing P6000**). The compactor will need to be emptied 2- 3 times a week (including during the weekend) depending on the throughput from the market retail units.

All recoverable waste will also be collected by the Facilities Management team and taken to the waste room located in the basement of Area C. This waste room will be sized to store two days waste generation. The information on waste volumes and storage requirements are summarised in **Appendix E**.

Communal waste rooms will be provided for the residential elements of Areas B, C and D. Facilities management will ensure that either the bins are presented for collection or will arrange for the waste contractor to process the bins directly from the waste room. Occupiers will be encouraged to re-use and recycle waste materials where possible to reduce landfill.

A suitably sized waste room will be provided within the Primary School and a collection strategy confirmed when the proposals for the Primary School are detailed further.

7 Access and Movement Framework

In accordance with policy and best practice guidance, the Development will offer a high quality access and movement environment where access to, from and within the Development is focused on sustainable modes of transport.

The primary factor influencing mode choice and in reducing the need to travel is the location of the Development, which is within the highly accessible Camden Town area. The proposals identified in this section outline further improvements to local accessibility and connectivity, enabling a greater proportion of Site users to make their journeys using sustainable modes of transport. In particular, the proposed improvements will assist in encouraging a greater proportion of public transport journeys to be made away from Camden Town Underground station.

The provision of high quality pedestrian and cycle facilities within the Development will ensure a safe and welcoming environment for all visitors and residents.

7.1 Pedestrian Access

The Development provides new links between Camden High Street and Kentish Town Road, between the towpath and Castlehaven Road, and between the towpath and Hawley Road. These new links will embed the Development well in its surrounding area. They will generally improve walkability in the area and better connect the Site with public transport facilities including the bus stops on Chalk Farm Road, Hawley Road and Kentish Town Road.

The new link between Camden High Street and Kentish Town Road in particular will contribute to easing pressure on Camden High Street by diverting some pedestrian movement between Camden Town Underground station and the Site onto Kentish Town Road.

Footways within the Development will be widened to enhance the local public realm and facilitate improved pedestrian accessibility. The towpath and canal environment will also benefit from the public realm improvements. It is anticipated that way-finding signs, in line with Legible London, will be installed at suitable locations within the Development and the surrounding area to facilitate pedestrian navigation.

Drawing 209791-00-002 shows indicative junction improvements at the Chalk Farm Road / Castlehaven Road junction. By removing the right-turn filter lane the pedestrian footway on Camden High Street can be widened and pedestrians can cross Camden High Street in one phase. This would improve connections between the Development, Camden Lock Market and the northbound bus stops located on Chalk Farm Road.

It is forecast that a greater proportion of journeys will be made by London Overground. The recent improvements to the Overground service will, in themselves, foster greater patronage along the line and at Camden Road station. Furthermore, Travel Plan initiatives will be put in place to encourage greater use of the Overground service. The PERS audit (see **Section 4.1.2**) rated the pedestrian route between Camden Road station and the Site as 'poor'. Therefore to encourage long term patronage increases the pedestrian route between the Development and Camden Road station requires improvements and indicative proposals are shown in **Drawing 209791-00-007**. A new crossing is proposed on Kentish Town Road to the south of the existing bus stop. This stopping is suitably located to capture pedestrian

movements both from the towpath (via steps) and Area D. The improvements will ensure there is a safe and welcoming route between the Development and Camden Road station.

7.2 Cycle Access

The Site will provide signage and connections to the local cycle network to facilitate improvements for cyclists, in line with the Mayor's aspirations for cycle usage in London. Cycle parking proposals, including the provision of a publicly accessible Cycle Station, are discussed in **Section 9**.

7.3 Vehicular Access

7.3.1 Cars / Taxis

Vehicular access to the Development will be primarily limited to servicing and delivery vehicles. **Drawing 209791-00-008** presents a plan of the highway to be stopped up to facilitate the Development which includes Haven Street, Leybourne Road and Torbay Street.

Vehicle access to the central loading area will be via Castlehaven Road. **Drawing 209791-00-003** shows the location of the vehicle crossover on Castlehaven Road and the two-way vehicular route which will provide access to the central loading bays and the car lift that provides access to the basement car park (car parking proposals are discussed in **Section 8**). Occasional vehicular access will be permitted to the Arches Space to the south-east of the central loading area. This route is intended for emergency and maintenance vehicle access only.

Vehicular access to a loading bay which will serve Area B is located off Hawley Road. **Drawing 209791-00-004** shows the one-way vehicular crossover which will be distinguished by different paving materials.

The existing access into the Site from Kentish Town Road will remain, as shown on **Drawing 209791-00-005**. The two-way access provides service access to the industrial units within the East Arches and Area D.

Drawing 209791-00-006 presents a summary of the site wide vehicle access points.

Taxis will not be able to enter the Development. Vehicles will be able to pick up and set down at locations around the Development as at present.

The existing Site benefits from a car club which has a parking bay on Castlehaven Road. The Development will continue to support the car club and any additional parking bays will be subject to future discussions with LBC.

7.3.2 Buses

Bus stops are located on Chalk Farm Road to the west of the Development, Hawley Road to the north and Kentish Town Road to the east. The pedestrian routes through the Development ensure adequate pedestrian connections to public transport facilities are provided. The routes to the bus stops will be promoted as part of the wayfinding strategy.

The new east-west link between Camden High Street and Kentish Town Road will also facilitate movement between the bus stops on Kentish Town Road and the bus stops on Chalk Farm Road.

7.3.3 Servicing & Refuse Vehicles

In line with the requirements set out in the *Hawley Wharf SPD* the Development will primarily be serviced from a central area within Area C which will be accessed from Castlehaven Road. This area will serve Areas A, C and D. A loading bay located off Hawley Road will provide a suitable servicing area for Area B. Vehicle access will also be permitted via Kentish Town Road to the east which will allow vehicles to access a loading area for occasional deliveries to Area D.

7.4 Primary School Access

The Primary School element of the Development is submitted for outline planning and therefore the detailed access proposals have not been developed at this stage. However, the principles of access to the Primary School can be established.

The school entrance will be located on Hawley Road, sufficiently set back from the highway. It is envisaged that road safety measures will be implemented outside the school gates to prevent vehicles parking across the main pedestrian access point.

The hands-up survey at Hawley Infants in July 2011 (refer to **Appendix D** for details) identified 14% of pupils travelling to school by car. When the school relocates a revised Travel Plan will encourage all pupils to travel by sustainable modes. However, it is acknowledged that some parents will bring their children to school by car and therefore some allowance should be made for vehicular drop offs.

There is limited opportunity close to the School entrance for parents to park. On-street parking bays are provided on the south side of Hawley Road but it is probable that these will be frequently occupied. If vehicles stop on the north side of Hawley Road there is a safety concern that this would encourage children to cross Hawley Road at unmarked locations. A signalised crossing is provided at the Hawley Road / Kentish Town junction to the east of the Site but if parking was to occur frequently on the north side of Hawley Road, a further controlled crossing on Hawley Road may be required.

As the school proposals are developed further it is envisaged that discussions will take place with the School Travel Advisor at LBC and local stakeholders to ensure safe routes to the school are in place from public transport facilities and vehicular drop-off locations.

8 Parking

This section summarises the car and cycle parking within the Development. Vehicle and cycle access proposals are discussed in **Section 7**.

8.1 Car Parking

Due to its excellent public transport accessibility the Development will provide only a limited number of car parking spaces. In addition to the limited number of spaces, it is acknowledged that in accordance with local policy guidance (see **Section 3.3.2**) the Development will be designated a ‘car-capped’ development. As a result, residents of the Development will be prevented from purchasing residential parking permits for streets in the borough. A car club parking space is located on Castlehaven Road. The Development will continue to support the car club and any additional parking bays will be subject to future discussions with LBC.

LBC’s *Core Strategy* requires disabled parking provision for 10% of units but LBC officers have advised that 5% will be acceptable, based on uptake in other new developments. It is proposed that 7 disabled parking spaces are provided in the basement of Area C for use by residents of Sites C and D. This represents a 5% disabled parking provision (137 dwellings).

A total of 9 private car parking spaces are proposed for the use of Area C and Site D residents. These will also be provided in a basement car park within Area C, which will be accessed using a dedicated car lift. The proposed layout of the basement car park is shown in **Drawing P4998**.

Standard private car parking will not be provided for residents in Area B. A total of 2 disabled car parking spaces for Area B will however be provided (5% provision). The closure of Torbay Street and the minor reallocation of existing on-street parking provision will enable two disabled spaces to be provided off-street within Area B, accessed via a vehicular crossover on Hawley Road. **Drawing B400** identifies the parking proposals for Site B.

8.2 Cycle Parking

Cycle parking for all elements of the Site will be provided in accordance with LBC and TfL standards. In certain cases, the level of provision will also be in accordance with relevant best practice guidance, which is in excess of planning standards. A publicly accessible Cycle Station will also be provided in the Development for use by visitors and to serve the wider area.

All cycle parking spaces will be sheltered and secure. Facilities provided at basement level are all accessible via lifts. Spaces within each area and within the Cycle Station will be provided in a combination of Sheffield stands and accessible double stacking systems.

8.2.1 Area B Cycle Parking

The 45 residential units within Area B will have access to 91 cycle parking spaces within Area B Buildings W and X. This is above LBC standards and in accordance with the Code for Sustainable Homes Level 4 standards.

Cycle parking will be provided to the requisite standards within the Primary School boundary for use by both staff and pupils. The location, type and amount of parking will be developed alongside the detailed school proposals.

8.2.2 Area C Cycle Parking

A total of 206 cycle parking spaces will be provided within the basement of Area C and will be accessible via a lift. Cycle parking for market staff, based within Area A, will be accommodated in the Area C basement. Market and leisure visitors however will be accommodated within the publicly available cycle station (see **Section 8.2.3**). Visitors and staff from the workshop / industrial units within Area B will also be permitted to park within the Area C basement.

Table 8.1 outlines how the cycle parking spaces achieve the minimum standards specified by LBC.

Table 8.1: Area C: Cycle Parking Requirements

| Land Use | LBC Standards - Minimum Required | | | Total Provided | | |
|---------------------|----------------------------------|----------|-------|-------------------|---------------|--------------|
| | Staff / Residents | Visitors | Total | Staff / Residents | Visitors | Area C Total |
| Market retail | 35 | 35 | 70 | 35 | Cycle Station | 35 |
| Local retail | 3 | 3 | 6 | 3 | 3 | 6 |
| Residential | 102 | 10 | 112 | 102 | 10 | 112 |
| Office | 22 | 3 | 25 | 22 | 4 | 26 |
| Workshop/Industrial | 9 | 4 | 13 | 9 | 4 | 13 |
| Leisure | 14 | 14 | 28 | 14 | Cycle Station | 14 |
| Total | 185 | 66 | 254 | 192 | 14 | 206 |

8.2.3 Area D Cycle Parking

A total of 58 cycle parking spaces are provided within the basement of Area D. A minimum of 49 spaces are required, in accordance with LBC standards, for the land-uses within the building as shown in **Table 8.2**.

Table 8.2: Area B: Cycle Parking Requirements

| Land Use | LBC Standards - Minimum Required | | | Total Provided | | |
|---------------|----------------------------------|----------|-------|-------------------|----------|--------------|
| | Staff / Residents | Visitors | Total | Staff / Residents | Visitors | Area D Total |
| Residential | 37 | 4 | 41 | 37 | 8 | 45 |
| Office / Flex | 6 | 2 | 8 | 10 | 3 | 13 |
| Total | 43 | 6 | 49 | 47 | 11 | 58 |

8.2.4 Public Cycle Parking Station

An additional 136 spaces will be provided within a publicly accessible cycle station to serve both the Site and the local area. This will be located underneath the viaduct arches and easily accessible from Kentish Town Road. This is suitably located on the London Cycle Network and is conveniently sited to tie into existing cycle patterns. Furthermore, the edge of site location will remove the potential for pedestrian / cyclist conflict within the centre of the Site.

As noted in **Section 8.2.2**, visitors to the market and leisure elements of the Development are anticipated to require up to 50 of the parking spaces. However this still leaves over 50% spare capacity to encourage cycling mode share and accommodate cyclists visiting other facilities within Camden Town.

9 Impact Assessment

9.1 Pedestrian & Cycle Network

9.1.1 Net Change in Pedestrian Movements

Section 5.7 summarises the number of trips that will be generated by the whole Site and **Table 9.1** presents the combined total of trips that will be added to the local pedestrian network. This includes trips to and from public transport connections.

Table 9.1: Additional Weekday Pedestrian Trips

| Main Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Underground | 152 | 666 | 320 |
| Bus | 78 | 245 | 132 |
| Rail | 43 | 93 | 54 |
| Walk | 125 | 195 | 189 |
| Total | 398 | 1,198 | 696 |

It can be seen that the Development attracts an additional 398 walking trips to the local streets during the morning peak hour. Market retail is the largest trip generator in the Development and trips to the market peak in the afternoon with an additional 1,198 walking trips on local streets. Unlike the morning peak when market trips are low, the evening peak experiences a high number of trips generated by all elements of the Site with an additional 696 trips on the pedestrian network.

The market attracts greater visitor numbers on a weekend, with numbers peaking at lunchtime. During this hour there are an additional 1,579 walking trips on the network as shown in **Table 9.2**.

Table 9.2: Additional Weekend Pedestrian Trips

| Main Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-------------|---------------|---------------|---------------|
| Underground | 66 | 948 | 535 |
| Bus | 31 | 320 | 188 |
| Rail | 8 | 85 | 52 |
| Walk | 19 | 225 | 163 |
| Total | 124 | 1,579 | 938 |

9.1.2 Net Change in Cycle Movements

The total number of additional cycle trips (arrivals and departures) generated by the Site during both the weekday and weekend peaks is shown in **Table 9.3**.

Table 9.3: Additional Cycle Trips

| Main Mode | 08:00 – 09:00 | 13:00 – 14:00 | 18:00 – 19:00 |
|-----------|---------------|---------------|---------------|
| Weekday | 53 | 40 | 55 |
| Weekend | 12 | 38 | 27 |

9.1.3 Impact on Pedestrian and Cycle Networks

The net impact on the pedestrian network has been calculated by Space Syntax using a computer model which aims to assess the spatial accessibility of the area and assess the impact of design options on pedestrian and cyclist activity. The additional pedestrian and cycle trips have been assigned onto the network using existing survey data (existing distributions) but also the spatial accessibility potential of any new and improved links within the Development. The forecast model is based on the additional weekend trips which are forecast to be higher than weekday trips, and therefore applies the most robust assessment scenario.

Full details of the Space Syntax pedestrian assessment is submitted in a separate report attached as **Appendix A**. To summarise, the assessment concluded:

- The introduction of new links between the radial routes will contribute to easing the pressure on Camden High Street;
- The new east-west links between Camden High Street / Chalk Farm Road and Kentish Town Road through the Site and along the towpath appear to have high movement potential;
- As a result of the new links and the increased use of Camden Road station, there is some redistribution of movement flows towards Kentish Town Road;
- The largely residential area to the north of the scheme remains relatively quiet with only a slight uplift on movement numbers; and
- All proposed new routes within the Development are rated as ‘comfortable’ according to TfL’s standard. TfL’s matrix of Pedestrian Comfort Level is an indicator of comfort in relation to the usable street width and is graded into six ranges from ‘comfortable’ to ‘very uncomfortable’.

9.2 Public Transport Network

9.2.1 London Underground

There are two London Underground stations close to the Development, Camden Town and Chalk Farm Road. The trip distribution (see **Section 5.8.1**) suggests that future trips will be split by a ratio of 75:25 in favour of Camden Town station and **Table 5.18** presents the number of additional trips forecast at each station during the peak hours.

Table 9.4 shows the effect the additional trips have on demand on Northern Line Underground services on a weekday compared to the base occupancies. It should be noted that the data represents a worst case as it adds the total number of additional trips to each Branch of the Northern Line.

Table 9.4: Weekday Demand on Northern Line Underground Services

| Start station | Route | 08:00 – 0900 | | 13:00 – 1400 | | 18:00 – 1900 | |
|---------------|----------------------|--------------|--------|--------------|--------|--------------|------|
| | | Base | Future | Base | Future | Base Fu | ture |
| Camden Town | SB via Charing Cross | 81% | 82% | 21% | 25% | 34% | 35% |
| | SB via the City | 88% | 89% | 22% | 26% | 36% | 38% |
| | NB to Edgware | 24% | 25% | 16% | 20% | 51% | 53% |
| | NB to Barnet | 22% | 22% | 14% | 18% | 64% | 66% |
| Chalk Farm | SB via Charing Cross | 66% | 67% | 15% | 18% | 25% | 26% |
| | SB via the City | 82% | 83% | 23% | 25% | 34% | 35% |
| | NB to Edgware | 21% | 21% | 14% | 15% | 46% | 47% |

It can be seen from **Table 9.4** that the greatest impact on demand will be during the lunchtime peak period, given the relatively low base occupancy. On average, demand on each route increases by 4% during this period. The effect on the busiest service, southbound into the City on a weekday morning, is a 1% increase in demand. This level of increase is unlikely to create any significant impact on demand.

The data provided by TfL showed higher link flows on a Saturday compared to Sunday. Therefore to provide a robust assessment, **Table 9.5** presents the weekend effects of the Development on demand on the Northern Line for the peak periods on Saturday.

Table 9.5: Saturday Demand on Northern Line Underground Services

| Start station | Route | 08:00 – 0900 | | 13:00 – 1400 | | 18:00 – 1900 | |
|---------------|----------------------|--------------|--------|--------------|--------|--------------|------|
| | | Base | Future | Base | Future | Base Fu | ture |
| Camden Town | SB via Charing Cross | 13% | 13% | 37% | 42% | 31% | 35% |
| | SB via the City | 12% | 12% | 27% | 33% | 33% | 36% |
| | NB to Edgware | 7% | 7% | 16% | 21% | 26% | 29% |
| | NB to Barnet | 5% | 5% | 14% | 19% | 28% | 31% |
| Chalk Farm | SB via Charing Cross | 12% | 12% | 24% | 27% | 21% | 23% |
| | SB via the City | 12% | 13% | 25% | 29% | 27% | 29% |
| | NB to Edgware | 65 | 6% | 13% | 15% | 23% | 24% |

The greatest increase in demand on a Saturday is during the lunchtime period when demand generated by the Development increases train occupancies by 6% southbound. However, baseline occupancies are relatively low with each service having sufficient spare capacity to accommodate an increase in demand.

The foreseeable concern with any increase in London Underground demand is the effect on Camden Town station. Due to the popularity of the retail area Camden Town is particularly busy on a weekend and as a result, Camden Town station is exit only on Sunday to manage congestion.

On a weekend the forecast number of additional daily trips generated on the Underground by the market element of the Development is 4,777 trips. If 75% of these trips (based on the proposed distribution) travel via Camden Town station this amounts to an additional 3,583 daily trips. The baseline passenger counts (see **Table**

4.2) show 35,842 people on average entered Camden Town station on a Saturday and 40,883 exited on a Saturday. The additional trips would therefore present an increase of between 9 to 10% on Saturday passenger numbers at the station.

To summarise, the assessment shows that the impact of the Development on the Northern Line capacity is minimal, peaking at a 6% increase in demand on a weekend. Analysis has shown that the services have sufficient spare capacity to accommodate this level of increase. However, the existing issue of congestion at Camden Town station on a weekend will be worsened by the Development. Travel Plan measures and promotional initiatives will encourage visitors, staff and residents to utilise other local stations and it is envisaged that effective measures can be introduced to manage the impact on Camden Town station in the long-term.

9.2.2 London Overground

The future mode share targets for rail were set at 5% for residential land-use and 24% for employment land use. These high targets were considered to be realistic as Camden Road station is located just 450m to the east of the Development (about 5 minutes walk) and recent service upgrades ensure a frequent service is available on the North London Line.

Weekday lunchtime is forecast to be the busiest period with an additional 93 trips. Data provided by TfL containing weekday link loads for the network indicate that peak hour trains are operating at just under half of their capacity in the baseline. Evidently there is sufficient spare capacity to accommodate up to 93 additional passengers during the peak periods and consequently there will be no adverse impact on the service.

9.2.3 London Buses

The greatest increase in bus demand generated by the Development will be on a weekend when an additional 320 bus passengers are forecast on the network.

The baseline review of public transport facilities identified at least 9 frequent bus services operating from the stops around the Site. With buses operating at least every 10 minutes this amounts to 6 buses arriving and departing from the Site on each service during an hour (54 buses per hour in total).

Future bus service frequencies are unknown. Basing the assessment on existing conditions, distributing the additional 320 trips evenly onto the existing services would result in an additional six passengers per service. If future frequencies halved, the Development would generate approximately twelve additional passengers per service. Given the number of bus services operating from bus stops to the north, east and west of the Development it is forecast that the additional trips should be dispersed on the network and the effect on each bus service would be negligible.

Residents and visitors will be provided with details of London Bus services via the implementation of a Travel Plan.

9.3 Highway Network

9.3.1 Private Car Trips

As vehicle access into the Development is limited very few visitors to the market are anticipated to travel by car. **Table 9.6** presents the number of private car trips the Site is forecast to generate during the peak periods when the Development is complete and calculates the change in car trips from the baseline.

Table 9.6: Private Car Trip Generation compared with the Baseline

| | 08:00 – 0900 | | 13:00 – 1400 | | 18:00 – 1900 | |
|------------|--------------|---------|--------------|---------|--------------|---------|
| | Weekday | Weekend | Weekday | Weekend | Weekday | Weekend |
| Car | 124 | 63 | 211 | 266 | 126 | 137 |
| Net change | -12 | 2 | -17 | 33 | 23 | 12 |

It can be seen that the overall number of private car trips to the Site decreases during the weekday morning and lunchtime peak periods. This is due to the reduction in car parking provision and the reduction in industrial floor space (including the removal of the builder's merchant) which typically have higher vehicle trip rates. Car trips increase slightly on a weekend with the largest increase of 33 trips recorded in the lunchtime peak hour.

The overall net change in private car trips is considered to be minimal and no more than the typical variation in daily traffic flows. Consequently the effect on the highway network is anticipated to be negligible.

9.3.2 Delivery and Servicing Trips

The main impact on the highway network will be a result of the increased level of delivery and servicing trips to the Development. The net increase in service trips is forecast to be 78 trips per day, 20 of which will be HGV trips. During the peak morning period, the SWMS (refer to **Appendix E**) forecasts 14 service vehicle trips per hour.

Given the reduction in car trips generated by the Site during the morning peak hour (a decrease of 12), the additional service trips are forecast to have a negligible effect on the capacity of the local road network and will be imperceptible to current users of the local road network.

There would however be an increase in HGV trips on the network. The greatest increase in HGV trips would be focussed on the access route to the central servicing area (within Area C) which effectively replaces Leybourne Road. Baseline HGV flows on this route are 6% of the total traffic and this is forecast to increase to 10%. However, measures will be applied through the SWMS to minimise the impact of servicing trips on local residents and visitors and the impact on the network should be negligible.

9.4 Cumulative Effects

Other development schemes within the local area could change the baseline conditions against which the Development has been assessed. Committed developments within the vicinity of the Development have therefore been reviewed

to determine if there are any cumulative effects that need to be assessed. **Table 9.7** presents the details of nearby developments.

Table 9.7: Committed Developments

| Details | Application Number | Any Cumulative Effect? |
|---|--------------------|--|
| Major applications | | |
| Delancey Street – 29 affordable residential units. | 2010/2911/P | No TA forecasts 7 PT trips / 3 car trips in the AM peak and 9 PT trips / 3 car trips in PM peak. Low trip generation and distance from CLV results in no cumulative effect. |
| Harmood Street – 192 self contained student units | 2008/2981/P | No No TA. Car free scheme. All access on Chalk Farm Rd. Assume no effect. |
| Camden Buck Street – redevelopment of market | 2004/0020/P | No Redevelopment complete. Any effect will already be included in baseline conditions. |
| Primrose Hill Primary School – use of school field for farmers market | 2006/5317/P | No No TA. Too far away from CLV to have any significant effect. |
| Twyman House – mixed use development | 2011/2072/P | No Pending consideration. Previous application refused – details of revised application not available on planning website. |
| Stables Market – market extension | 2005/0224/P | No Development complete. Any effect will already be included in baseline conditions. |
| Other developments | | |
| 13 Hawley Cres / 29 Kentish Town Rd – student units | 2009/3072/P | Yes The development will generate additional car and servicing trips on Hawley Crescent. |
| 39 – 45 Kentish Town Rd – pub redevelopment | 2011/1209/P | No No TA submitted. Small scheme. No significant cumulative effect. |
| Osborne House – office & residential | 2008/1277/P | No Car free development. Limited servicing trips. |
| St Giles House – change of use | 2009/2628/P | No Too far away from CLV to have any significant effect. |
| 1 Mill Lane – 40 residential units | 2008/3963/P | No Refused planning consent. |
| The Lighthouse Block – retail / restaurant units | 2008/5358/P | No. No net increase in trips and too far away from CLV to have any significant effect. |
| 120 Finchley Rd – mixed use | 2010/0552/P | No Too far away from CLV to have any significant effect. |
| 154 Loudoun Road – 42 residential units | 2009/2946/P | No Too far away from CLV to have any significant effect. |

It can be seen from **Table 9.7** that only one scheme will affect the networks included in the Development assessment. This is the student accommodation development on

Hawley Crescent (planning application number - 2009/3072/P). The Site is forecast to generate approximately 10 servicing trips per day on the network.

Along with the servicing trips generated by the Development this amounts to an additional 98 trips on the highway network each day. This marginal increase is unlikely to generate any significant adverse effects on the local highway network and should be well within the daily variation in traffic flow.

10 Framework Travel Plan

10.1 Introduction

The design and location of the Development offers numerous opportunities for individuals to travel in a sustainable manner. A Travel Plan developed for the main elements of the Site will ensure good travel patterns are established upon occupation and set in place a long-term strategy for encouraging sustainable modes of travel.

10.2 Framework Approach

A Travel Plan will be developed for the retail, employment and residential elements of the Development with the aim to:

- Influence travel behaviour of employees, residents and visitors;
- Encourage sustainable modes of travel such as public transport, cycling and walking; and
- Promote a healthy and sustainable lifestyle for those living and working within Camden Lock Village.

Hawley Infants School, who plan to relocate onto Area B, already have a Travel Plan which is currently being updated with assistance from LBC's School Travel Advisor. This Travel Plan will be adapted in due course to reflect the school's new location and will incorporate site-specific measures that will be necessary to manage travel to and from the Site.

This section outlines the framework for the other Travel Plans, detailing what will be covered by the documents and providing the best estimate of targets and potential measures that could be applied based on currently available information. Once the Site is occupied, further work will be undertaken with the occupiers to ensure the Travel Plans are up to date and relevant to site-specific circumstances.

10.3 Travel Plan Objectives

The objectives of the retail, residential and workplace Travel Plans will respond to the overall aims of the framework through:

- Making sustainable travel modes very accessible and user friendly;
- Reducing the environmental impact associated with vehicle movements by raising travel awareness and encouraging more sustainable travel patterns; and
- Linking the Development to the surrounding community by the strong promotion of walking, cycling and public transport.

As the Travel Plans will be evolving documents, the above objectives will be continually reviewed for relevance.

10.4 Targets

In order for the Travel Plans to succeed, and to enable a measurement of success, targets must be set which allow for the assessment of its measures and data. Such

targets need to be Specific, Measurable, Achievable, Realistic and Timed (SMART) ensuring that wherever possible, targets for modal split can be achieved.

Monitoring of the Travel Plans will be undertaken throughout their duration and, if necessary, changes to the implementation of the Travel Plans or the type of measures that they include will be made to ensure that the overall targets are achieved within the timeframe set.

Preliminary targets have been set for the framework but these will be reviewed when the Site is occupied and further information about future travel characteristics are known. It is anticipated that travel surveys will be carried out one year after occupation to inform the revision of these targets. The preliminary targets are shown in **Table 10.1**, **Table 10.2** and **Table 10.3**.

Table 10.1: Retail Mode Share Targets

| Mode | Base Year | Year 1 | Year 2 | Year 3 |
|-------------|-----------|--------|--------|--------|
| Underground | 57% | 55% | 53% | 52% |
| Bus | 19% | 18% | 18% | 17% |
| Walk | 14% | 14% | 14% | 14% |
| Car | 2% | 2% | 2% | 1% |
| Train | 5% | 7% | 8% | 10% |
| Cycle | 2% | 3% | 4% | 5% |
| Taxi | 1% | 1% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% |

Table 10.2: Residential Mode Share Targets

| Mode | Base Year | Year 1 | Year 2 | Year 3 |
|-------------|-----------|--------|--------|--------|
| Home | 9% | 9% | 9% | 9% |
| Underground | 31% | 30% | 28% | 25% |
| Bus | 19% | 18% | 18% | 18% |
| Walk | 19% | 20% | 22% | 24% |
| Car | 3% | 3% | 2% | 2% |
| Train | 5% | 5% | 5% | 5% |
| Cycle | 10% | 11% | 12% | 13% |
| Motorcycle | 3% | 3% | 3% | 3% |
| Taxi | 1% | 1% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% |

Table 10.3: Workplace Mode Share Targets

| Mode | Base Year | Year 1 | Year 2 | Year 3 |
|-------------|-----------|--------|--------|--------|
| Underground | 22% | 20% | 19% | 19% |
| Bus | 17% | 16% | 16% | 15% |
| Walk | 20% | 22% | 23% | 24% |
| Car | 5% | 4% | 3% | 2% |
| Train | 24% | 24% | 24% | 24% |
| Cycle | 8% | 10% | 11% | 12% |
| Motorcycle | 3% | 3% | 3% | 3% |
| Taxi | 1% | 1% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% |

The most desirable longer-term shift is towards walking and cycling and this is represented in the targets shown. If by the end of a particular year travel surveys indicate that mode shifts are not following the aspired patterns, the effectiveness of the Travel Plan measures will be reviewed and adjusted accordingly.

10.5 Travel Plan Responsibility

In order to maximise the chances of success, it is important to have a clear implementation strategy, identifying roles and responsibilities to maintain the momentum of the Travel Plans.

Once the Development is occupied, a Travel Plan Co-ordinator(s) will be appointed to oversee the implementation and monitoring of the Travel Plans. The Co-ordinator(s) will have overall responsibility for:

- Establishing and co-ordinating a Travel Plan Steering Group with meetings as required;
- Identifying key milestones, deliverables and a programme to oversee the development and implementation of specific initiatives;
- Development and dissemination of appropriate marketing / information materials;
- Overseeing implementation of Travel Plan measures in a timely manner;
- Liaison with any appropriate groups / organisations (e.g. the LBC Travel Plan Officers) to ensure co-ordinated working;
- Undertaking appropriate monitoring of the Travel Plans, including any appropriate review and revisions;
- Monitor and review progress and identify targets for taking the Travel Plans forward; and
- Ensure that the work of the Travel Plans are co-ordinated with other activities of the Development.

10.6 Initiatives and Measures

The Development is located in an area of excellent public transport accessibility and it is anticipated that a minimal number of car trips will be made. Despite this, a series of initiatives will still need to be implemented to further encourage the use of non-car modes and secure and promote incentives that actively encourage sustainable travel.

The initiatives discussed in this section are relatively general. Once the Site is occupied the initiatives will be developed by the Steering Group to ensure they are of particular relevance to local circumstances.

10.6.1 Measures to Facilitate Walking and Cycling

Walking and cycling are the most sustainable modes of transport and have many benefits not only to the environment but to the individual, including improving physical and psychological health. The location of the Site will automatically result in many people walking and cycling to and from local facilities however the Travel Plans should aspire to increase use of these modes by:

- Providing information on walking and cycling routes on notice boards and the website;
- Raising the awareness of the health benefits of walking and cycling through promotional material and events throughout the year;
- Providing dedicated signage at key points within the Site to direct people to facilities both within and outside the Site;
- Providing secure cycle parking at requisite levels around the Site. The Steering Group will be responsible for ensuring the level of provision is sufficient to meet demand; and
- Arranging financial incentives to cycle. For example the Governments 'Cycle to Work' scheme or arranging discounts with local cycle stores in exchange for marketing. Such initiatives will be explored to reduce the cost of cycling.

10.6.2 Measures to Facilitate Public Transport Use

Measures that may be considered to facilitate public transport use include:

- Displaying up-to-date public transport information on site notice boards and website. Such information will include timetables, frequencies, maps and fares. Information on mini-cabs and private hire vehicles will also be provided;
- Exploring opportunities to offer discounted season tickets / season ticket loans to residents and employees;
- Promoting the use of Chalk Farm station as an alternative Underground station for accessing the Site; and
- Encouraging London Overground patronage via the nearby Camden Road station by raising awareness and providing incentives to use the Overground network.

10.7 Monitoring and Review

An important part of all the Travel Plans is the on-going monitoring and review of its effectiveness. It is important that each Travel Plan is not just a one-off event but part of a continually evolving process.

It is proposed that the Travel Plans are monitored after one year, three years and five years. The monitoring will be the responsibility of the Travel Plan Coordinator and will review:

- Travel patterns (via a travel survey);
- Full Site audit;
- Parking counts (all vehicles including bicycles); and
- Uptake of travel planning measures.

10.8 Action Plan

All the Travel Plans will have a clear action plan outlining how and when initiatives will be implemented.

11 Summary and Conclusions

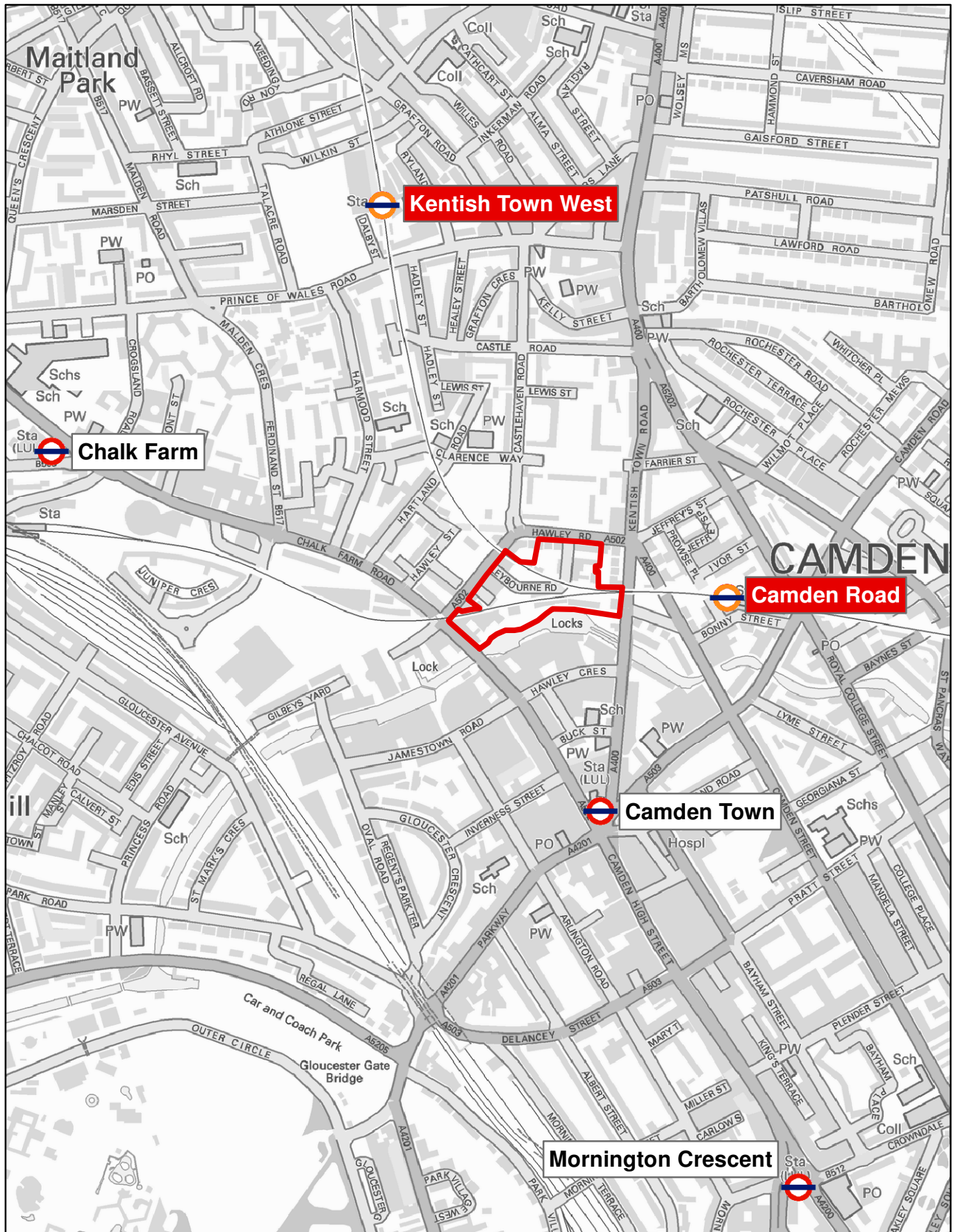
The Development represents a high quality proposal in accordance with policy guidance. The location is within close proximity to a range of public transport services including bus, London Underground and London Overground services. There is also a dense network of walking and cycling routes.

The transport proposals for the Development support a highly sustainable Development. The majority of trips to the Site are expected to be made by walking, cycling and public transport. Demand generated by the Development can be accommodated on the existing networks; however the existing issue of congestion at Camden Town Station, during peak periods, will remain.

The Development will support growth within Camden Town and promote sustainable travel by:

- Focussing mixed use development in an area of excellent public transport accessibility with a wide range of public transport facilities;
- Improving the pedestrian environment, particularly links between Camden High Street and Kentish Town Road, and routes to Camden Road station;
- Substantially reducing car parking provision within the Site, resulting in a reduction in vehicular trips on a weekday and setting a precedent to encourage sustainable travel in and around Camden Town;
- Providing each element of the Development with secure cycle parking and a public cycle station to encourage and promote cycling throughout Camden;
- Centralising servicing in a managed environment and the application of a Servicing and Waste Management Strategy which will mitigate the effects on the surrounding area; and
- Implementing an effective Travel Plan for each element of the Development to support travel by sustainable modes and implement measures that suitably manage travel to resolve local issues (e.g. overcrowding at Camden Town).

Figures

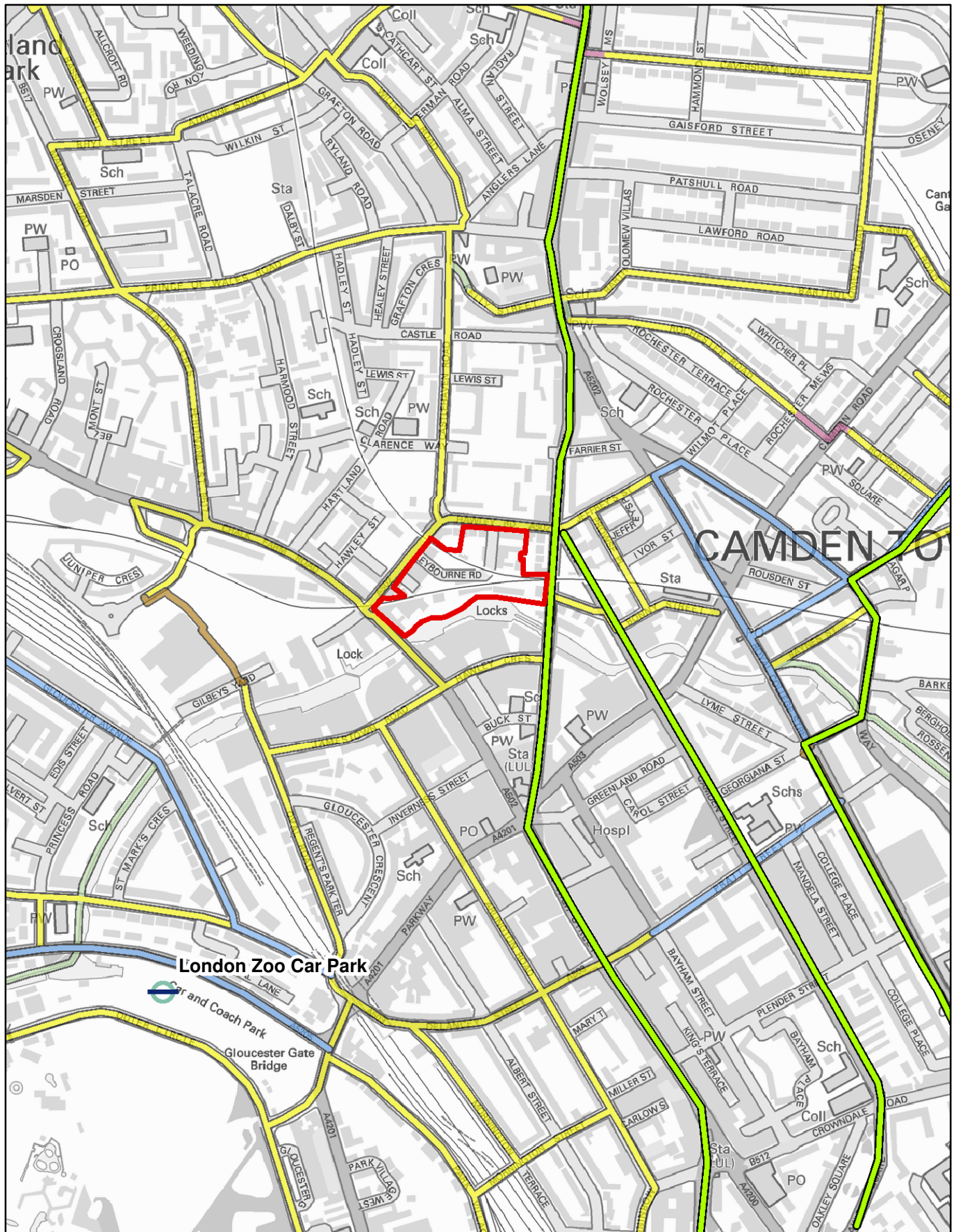


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- Site
- ⊖ Underground Station
- ⊖ Overground Station

SITE LOCATION

FIGURE 1

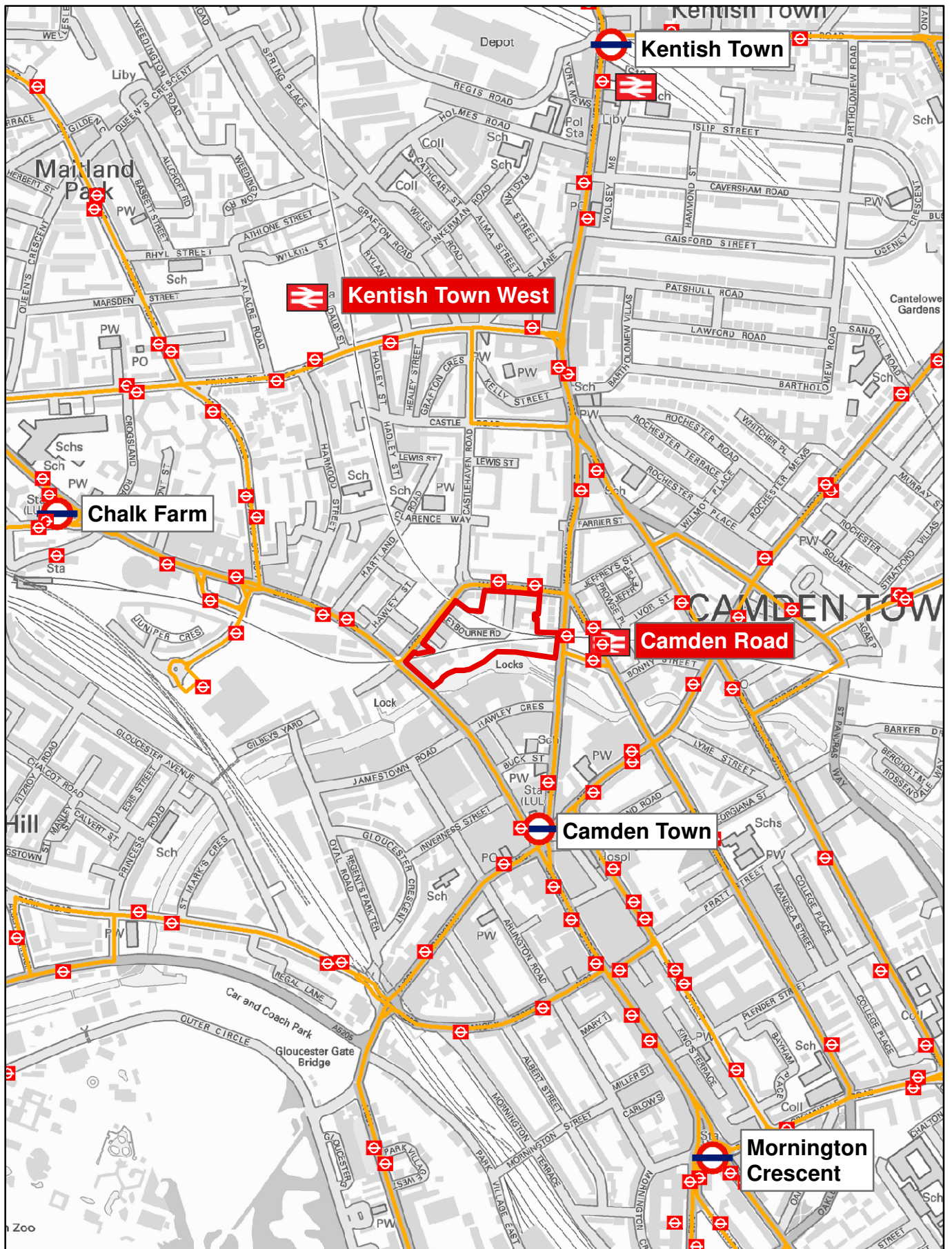


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- Site
- LCN+ Route
- Provision for cyclists alongside busy roads
- Routes signed for cyclists that may be on busier roads
- Routes on quieter roads recommended by cyclists
- Routes through parks for walking & cycling
- Pedestrian only route
- e London Cycle Hire Locations

LOCAL CYCLE NETWORK

FIGURE 2



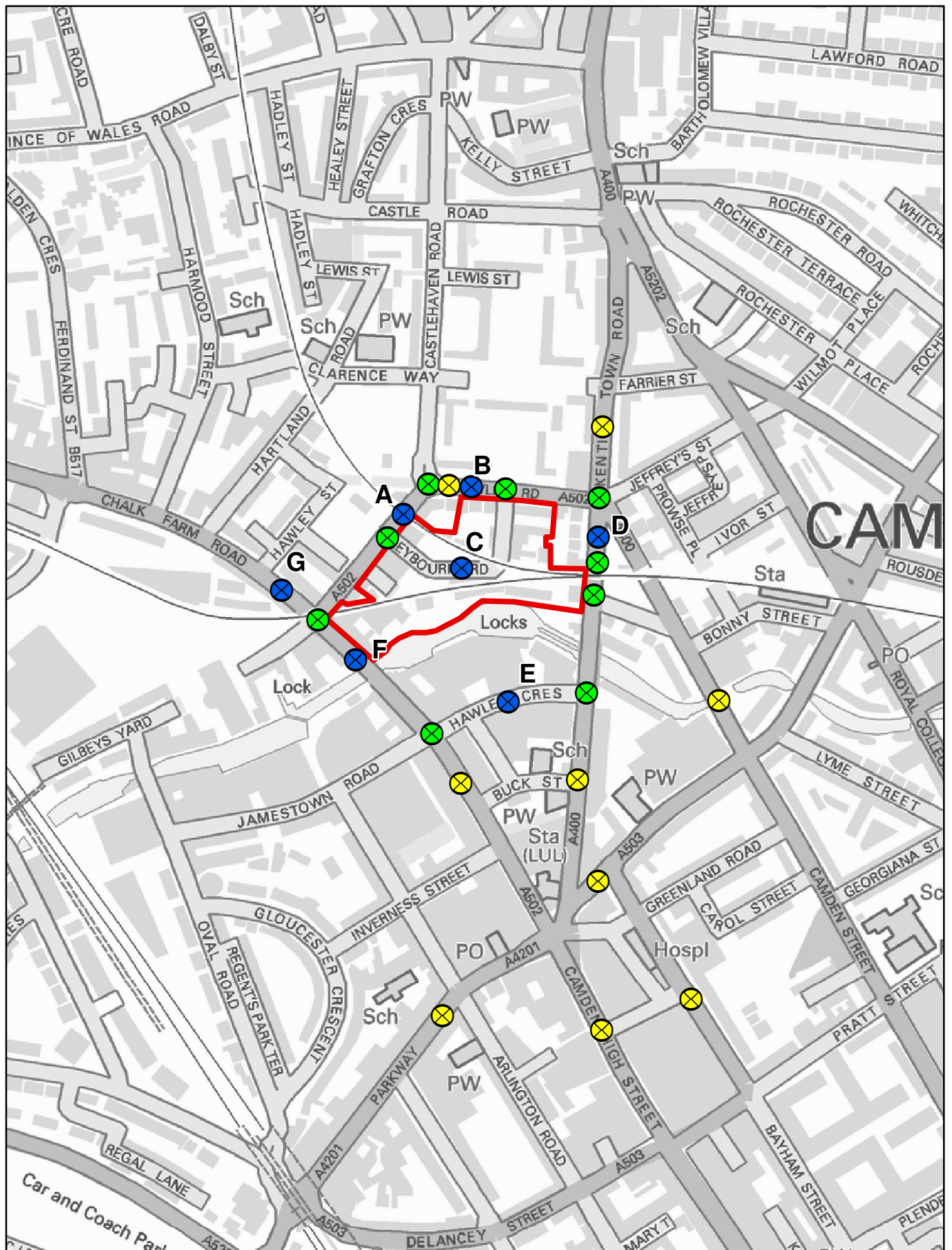
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Legend

- Site
- Bus Routes
- Bus Stops
- London Underground station
- Rail station

Local Public Transport Network

FIGURE 3



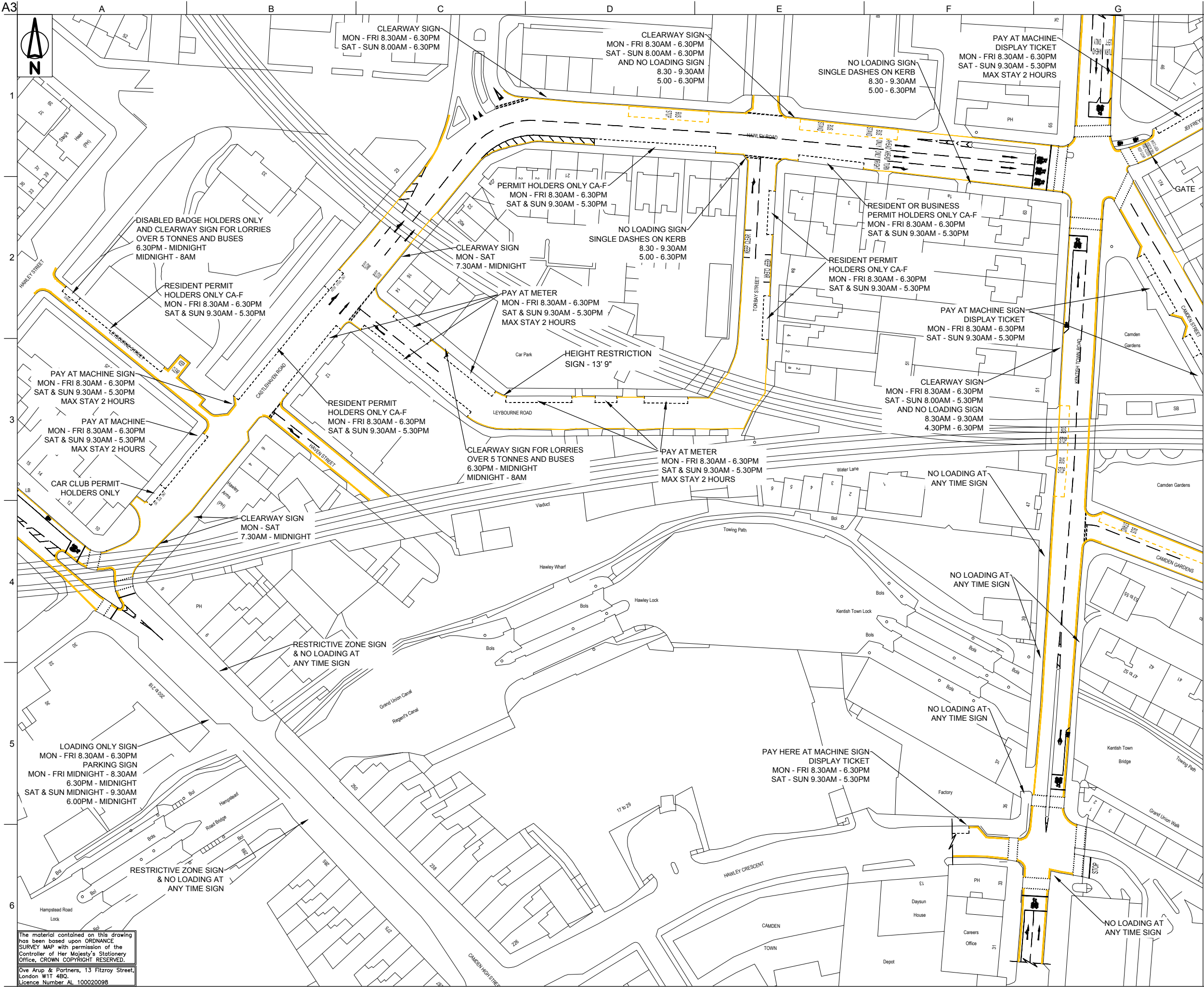
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- ▭ Site
- ⊗ Junction Turning Counts (JTC)
- ⊗ Automatic Traffic Counts (ATC)
- ⊗ Annual Average Daily Flows (AADF)

Traffic Survey Locations

FIGURE 4

Drawings



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| - | 15/09/11 | GW | NJ | MR |
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www.arup.com

Client
Stanley Sidings Limited

Job Title
Camden Lock Village

Drawing Title
On-Street Parking and Road Markings

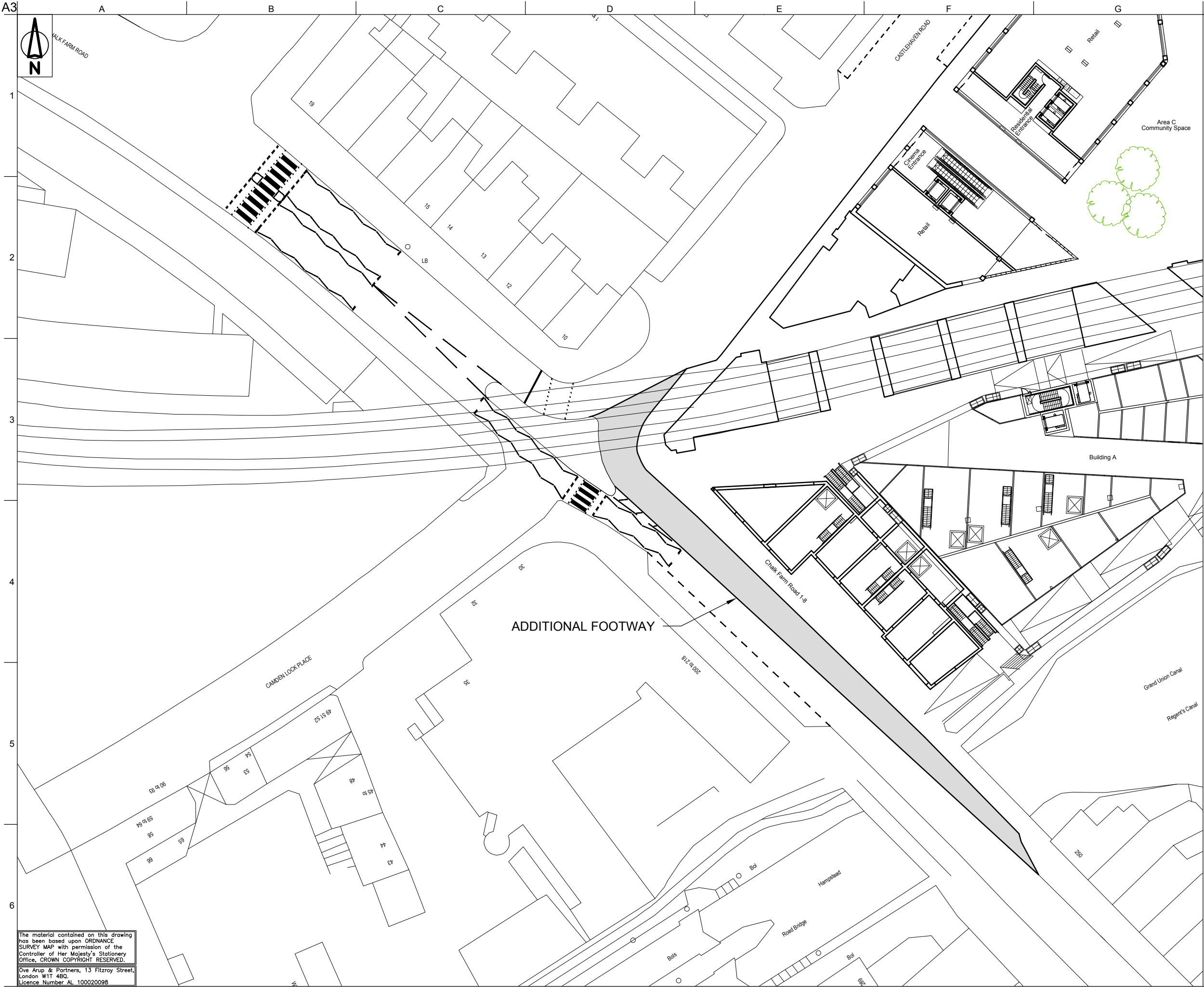
Scale at A3
1:1000

Discipline
Civil - Transport

Drawing Status

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| | | |
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| Job No | Drawing No | Issue |
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www.arup.com

Client
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Job Title
Camden Lock Village

Drawing Title
Chalk Farm Road -
Indicative Junction Improvements

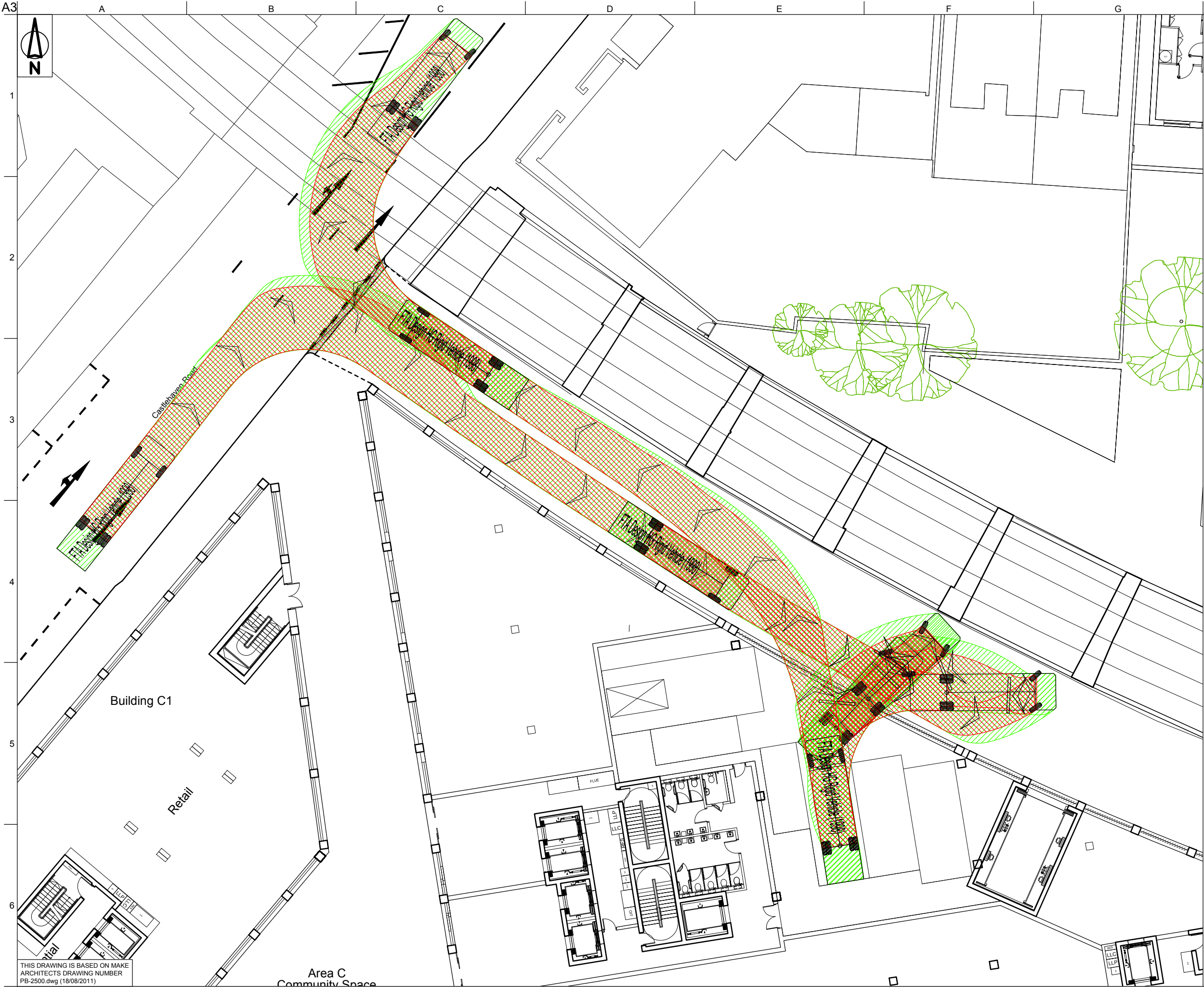
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Discipline
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Drawing Status

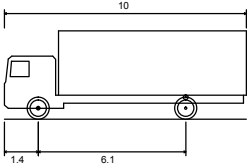
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FTA Design HG Rigid Vehicle (1998)

| | |
|-----------------------------|----------|
| Overall Length | 10.000m |
| Overall Width | 2.500m |
| Overall Body Height | 3.645m |
| Min Body Ground Clearance | 0.440m |
| Track Width | 2.470m |
| Lock to Lock Time | 3.00 sec |
| Kerb to Kerb Turning Radius | 11.000m |



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Client
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Job Title
Camden Lock Village

Drawing Title
Central Loading Area Access Route
& Swept Path Analysis

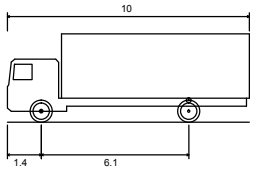
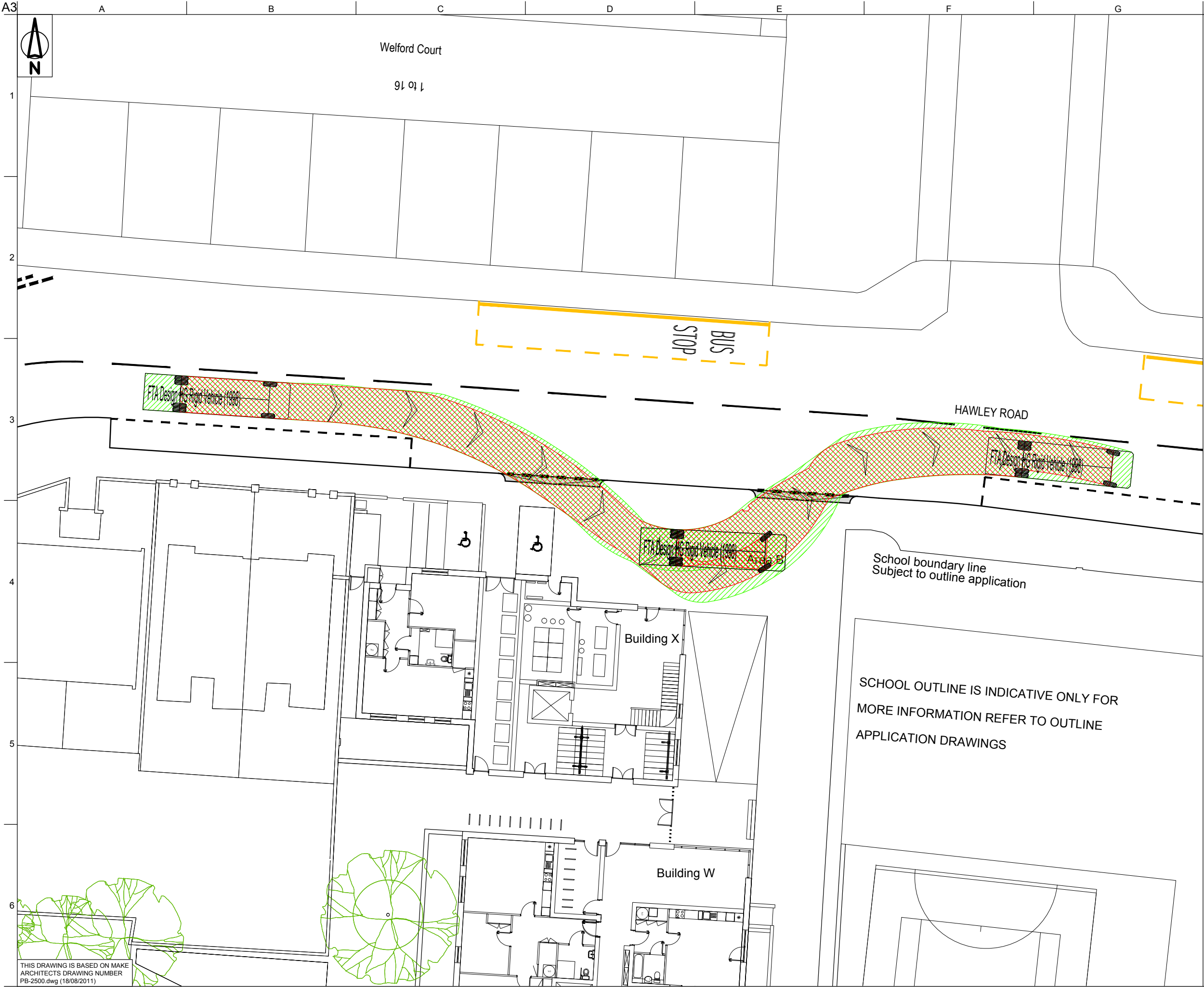
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Discipline
Civil - Transport

Drawing Status

For Issue

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| Job No 209791-00 | Drawing No 209791-00-003 | Issue A |
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| | |
|------------------------------------|----------|
| FTA Design HG Rigid Vehicle (1998) | |
| Overall Length | 10.000m |
| Overall Width | 2.500m |
| Overall Body Height | 3.645m |
| Min Body Ground Clearance | 0.440m |
| Track Width | 2.470m |
| Lock to Lock Time | 3.00 sec |
| Kerb to Kerb Turning Radius | 11.000m |



| | | | | |
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Client
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Job Title
Camden Lock Village

Drawing Title
Hawley Road Loading Bay
& Swept Path Analysis

Scale at A3
1:1000

Discipline
Civil - Transport

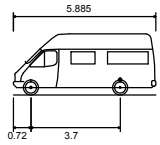
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Do not scale



| | |
|---|----------|
| 4.6t Light Van based on Mercedes-Benz 410 | |
| Overall Length | 5.885m |
| Overall Width | 2.000m |
| Overall Body Height | 2.526m |
| Min Body Ground Clearance | 0.299m |
| Track Width | 1.765m |
| Lock to Lock Time | 4.00 sec |
| Kerb to Kerb Turning Radius | 6.000m |

| | | | | |
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Job Title
Camden Lock Village

Drawing Title
Kentish Town Road Access Route
& Swept Path Analysis

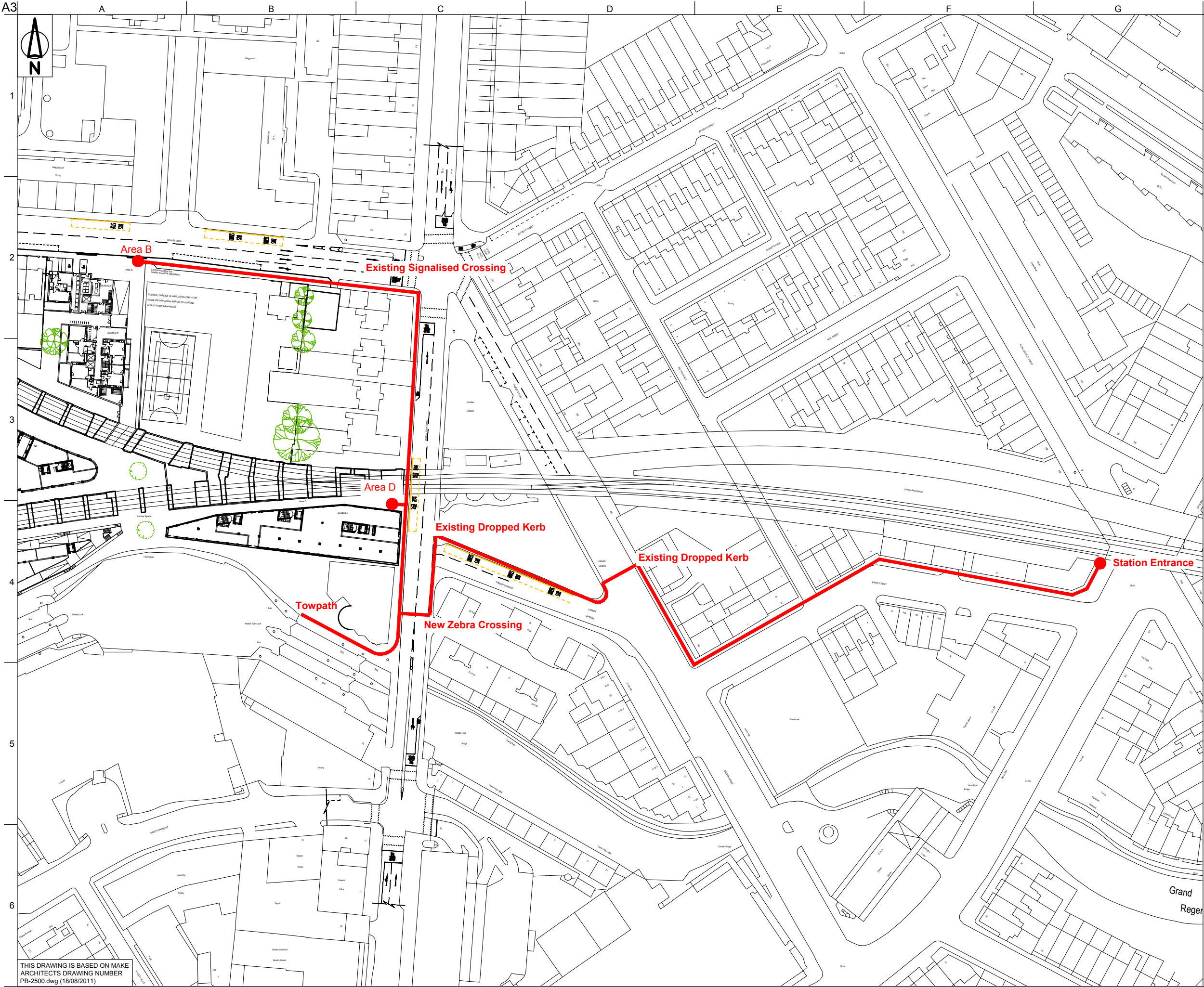
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1:1000

Discipline
Civil - Transport

Drawing Status

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Client
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Job Title
Camden Lock Village

Drawing Title
Camden Road Station -
Indicative Pedestrian Route

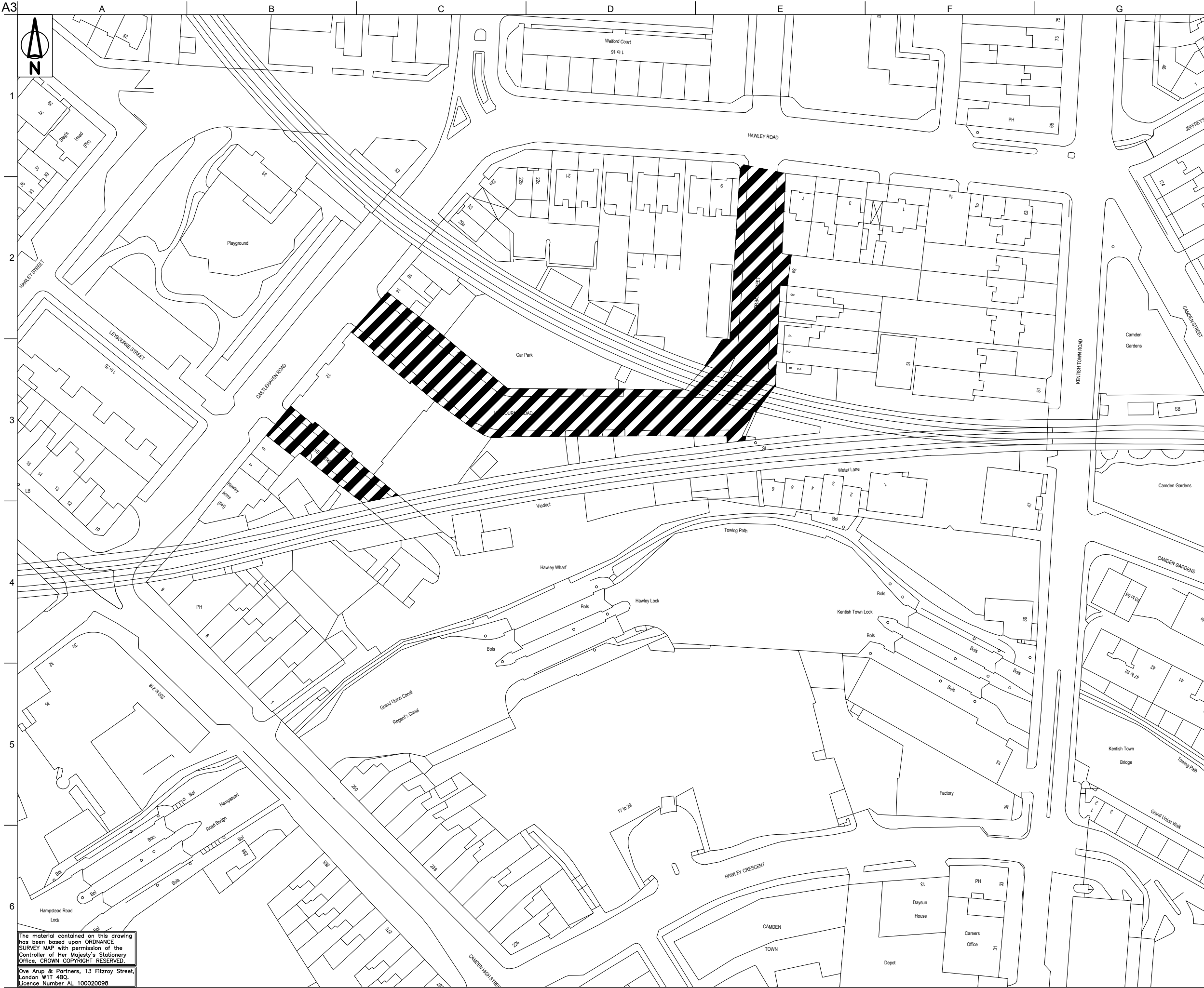
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Discipline
Civil - Transport

Drawing Status

For Issue

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Key

Highway to be Stopped-Up

| | | | | |
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| Issue | Date | By | Chkd | Appd |

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Job Title

Camden Lock Village

Drawing Title

Stopping-Up Plan

Scale at A3

1:1000

Discipline

Civil - Transport

Drawing Status

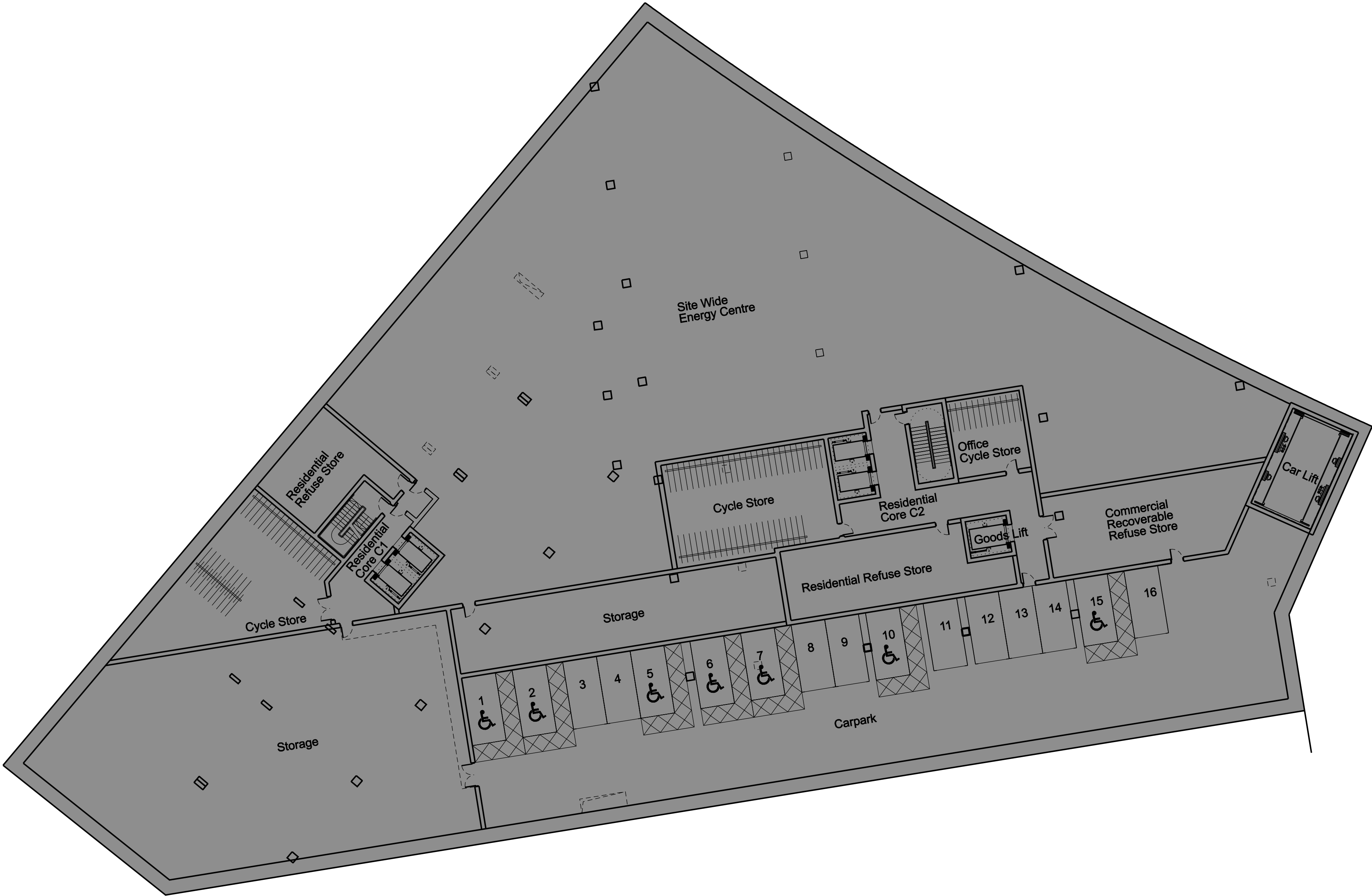
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Building 2
Level 00



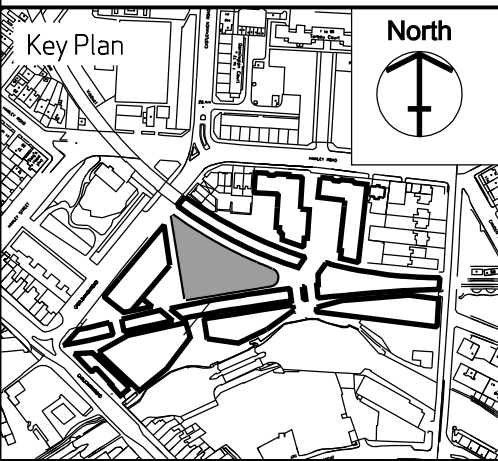
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Client
**Stanley Sidings Ltd
&
Chelsfield Ltd**



Project
Camden Lock Village

Drawing Title
**Site C
Level -02**

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AREA B BOUNDARY

BOUNDARY OF OUTLINE APPLICATION

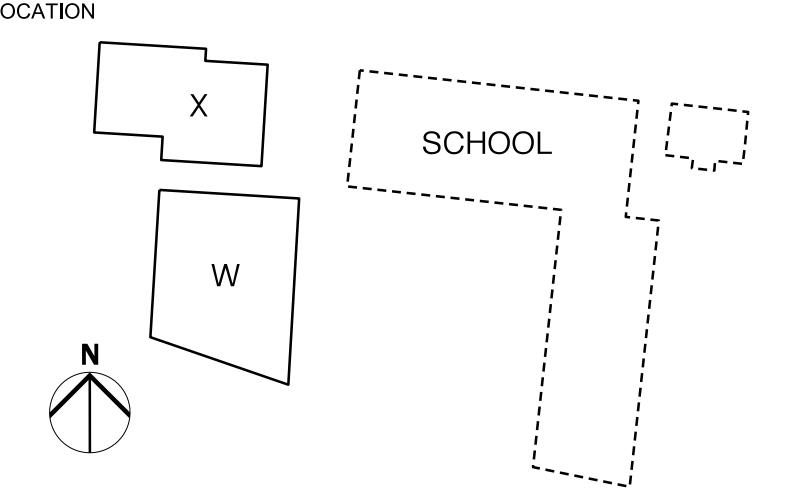
HAWLEY ROAD

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| A | 17/08/2011 | Revisions from Access and M&E comments |
| - | 26/06/2011 | Detailed Residential Layouts for comment and co-ordination |
| REV | DATE | |

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| job title HAWLEY WHARF | | | | | |
| drawing title / location PRELIMINARY GROUND FLOOR PLAN | | | | | |
| drawn by MM | checked WL | scale 1:200@A1; 1:400@A3 | status PRELIMINARY | | |
| project 09175 | zone S | source - | C/SIB ref P | drawing no. B4000 | revision A |