Bloomsbury Research Institute
15-17 Tavistock Place
London

Construction Management Plan & Construction Traffic Management Plan

Wilde

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UCL and London School of Hygiene & Tropical Medicine – Bloomsbury Research Institute
15-17 Tavistock Place Camden London

Construction Management Plan & Construction Traffic Management Plan DRAFT

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Introduction

1 Introduction

1.1 This draft Construction Management Plan & Construction Traffic Management Plan has been prepared by Wilde Carter Clack, Consulting Civil Engineers, on behalf of University College London (UCL) and the London School of Hygiene & Tropical Medicine (the School) in support of a planning application for a proposed extension to the building at 15-17 Tavistock Place, Camden, London.

1.2 The existing building at Tavistock Place, owned by the School, is an early twentieth century brick-faced building comprising four storeys plus a basement. It faces directly onto Tavistock Place, to which it has a highways frontage and from which it is accessed by vehicles and pedestrians. To the rear of the main building is a small courtyard area and towards the rear of the site is a single storey structure, a former depot.

1.3 UCL and the School propose to demolish the single storey structure to the rear of the site and to develop this area to provide additional laboratory and office space. Once completed, the finished building will become the Bloomsbury Research Institute, a global centre of excellence.

1.4 Construction Management Plans are an important tool for developers and their construction partners that help to ensure that sustainable construction practices are adopted. They are an important mechanism by which the negative transport effects of construction work on local communities, residents, businesses and the environment are minimised. An effective Construction Management Plan can help to minimise the adverse effects of construction activities, such as congestion, noise and pollution,

whilst helping to promote safety and the adoption of efficient working practices that reduce deliveries and costs.

1.5 This draft plan has been prepared having regard to the guidance published by London Borough of Camden, in particular CPG6: Camden Planning Guidance 6 Amenity – Section 8 relating to Construction Management Plans.

1.6 The draft plan has also been prepared having regard to the 'Construction Logistics Plan Guidance for Developers' produced by Transport for London on behalf of the Mayor of London and published in April 2013.

1.7 The draft plan is a requirement of the London Borough of Camden, as the local planning and highway authority, to form part of the planning submission for the proposed development. As such, it is of necessity an **Outline, or Draft Construction Management Plan** that is intended to give the planning authority an overview of the expected logistics activity during the construction phase of the project. It provides reassurance to the planning authority, local communities, residents and businesses that, if the planning application is approved, UCL and the School would have in place an effective plan to minimise disruption at and around the construction site. Following approval of the planning application and the appointment of a principal contractor, a **Detailed Construction Management Plan** would be prepared that provides the planning authority with the detail of the logistics activity expected during the construction stage of the project and the associated control and mitigation measures. The plan addresses all impacts of the demolition, excavation and construction phases of development and therefore deals with environmental as well as highways issues. As such, the plan goes some way beyond the scope of a Construction Logistics Plan.

1.8 The principal objective of the Construction Management Plan is, therefore, to demonstrate that UCL and the School will put in place effective and sustainable construction management protocols that will ensure, as far as possible, that construction activities associated with the proposed development should not have a detrimental effect on the highway network, in terms of safety and congestion, on neighbouring buildings or on the local community.

1.9 It is anticipated that the preparation and submission of the Detailed Construction Management Plan would be a condition of any planning permission that is granted and may be secured via a s106 agreement.

1.10 The agreed contents of the construction management plan must be complied with unless otherwise agreed with the Council. The project manager shall work with the Council to review this construction management plan if problems arise in relation to the construction of the development. Any future revised plan must be approved by the Council and complied with thereafter.

2 What are the Aims of this Construction Management Plan?

2.1 What, as responsible developers, are UCL and the School aiming to achieve by the preparation and implementation of this construction management plan?

2.2 The aims of this construction management plan are:

- To manage on-site impact from demolition, excavation and construction;
- To establish control over construction traffic so that there is no detrimental impact on highway safety (including cyclist safety) and congestion;
- To control the environmental impacts of the scheme on the local community;
- To ensure the stability of adjoining properties; and
- To minimise the impact of construction activities on the amenity of neighbours.

2.3 The developer intends that the plan should adopt a proactive approach to the management of the impacts of construction activities and will be a ‘live’ document that is reviewed, updated and amended as necessary as the project progresses and that is adaptable and responsive to any changes in circumstances that arise during construction.

Policy Context

3 The Policy Framework

3.1 The construction management plan has been prepared within a framework of national and local policies that support the principle of sustainable development. These can be briefly summarised as follows.

National Planning Policy Framework (NPPF) (2012)

3.2 The principle of sustainable development is at the heart of the National Planning Policy Framework. The framework establishes a presumption in favour of sustainable development. Section 4 of the framework provides the planning policy framework for promoting sustainable transport. Paragraph 32 requires that planning decisions about developments that generate significant numbers of trips should take account of the extent to which opportunities for sustainable transport modes have been taken up, safe access is provided for all people, and whether cost-effective improvements to the transport network can be undertaken to limit the impacts of the development. The National Planning Policy Framework states that development should only be prevented or refused where the residual cumulative impacts of development are severe. Paragraph 35 requires development plans to exploit opportunities for the use of sustainable transport modes for the movement of goods or people and requires developments to be designed where practicable to accommodate the efficient delivery of goods and supplies. Whilst relating specifically to the operation of the development once completed, the principles underpinning the National Planning Policy Framework equally apply to the construction phase of development, and increasingly there is a planning authority requirement for construction logistics to plan for the sustainable movement of plant, personnel, equipment, materials and waste and to embody these in a construction management plan.

Traffic Management Act (2004)

3.3 The Traffic Management Act 2004 places a duty on local traffic authorities to ensure that traffic can flow freely and quickly on their roads and was introduced to tackle congestion and disruption on the highway network, including that arising from temporary works. In performing this network management obligation, local traffic authorities may take any action which they consider will contribute to securing the

more efficient use of their road network or to the avoidance, elimination or reduction of road congestion or other disruption to the movement of traffic on their road network. Minimising disruption, or potential future disruption, from whatever source is therefore part of the network management function and can therefore be taken to include the effects of construction activities.

The London Plan (2011)

3.4 The London Plan makes specific reference to Construction Logistics Plans as a way of making better and more efficient use of the road network. Policies 6.3 and 6.14 in Chapter 6 'Transport' encourages developers to submit construction logistics plans and consider freight movements.

London Freight Plan (2008)

3.5 The London Freight Plan establishes a vision for sustainable freight distribution in London. The Plan acknowledges the important role that the movement of goods has in supporting the future growth of London's economy. The Plan also recognises that such transport can have negative impacts on the local environment. Construction Logistics Plans are a key element of the London Freight Plan, focused on the design and construction phases of development, specifically to improve construction freight efficiency by reducing CO_2 emissions, congestion and collisions. The London Freight Plan identifies the part that construction logistics plans play in the local traffic authority's fulfilment of their network management duty to increase road network efficiency by minimising congestion and disruption and consequently reducing the emissions generated directly and indirectly by construction-related trips. The London Freight Plan encourages traffic authorities to review delivery arrangements for construction sites. Construction logistics plans have subsequently been incorporated within the Mayor of London's Transport Strategy (2010) and the London Plan (2015).

Local authority policy

3.6 Planning decisions in the London Borough of Camden are made with regard to the London Plan and a number of planning documents adopted by the Council. Currently, the planning policy documents comprise the **Core Strategy and Development Policies**. These are supported by planning guidance. The London Borough of Camden is currently reviewing these main planning policies and is consulting on a draft **Local Plan,** which will ultimately replace the Core Strategy and Camden Development Policies. The Core Strategy and Development Policies contain several

strategic objectives and detailed policies that support and promote sustainable transport.

3.7 Policy CS11 'Promoting Sustainable and Efficient Travel' states that in order to support Camden's economic growth, the Council will promote the delivery of transport infrastructure and the availability of sustainable transport choices, reduce the environmental impact of travel and relieve pressure on the borough's transport network. Integral to this is promoting the sustainable movement of freight. The Core Strategy recognises that 'The movement of goods can have a significant impact on the environment, in terms of noise and disturbance, and air pollution' and that these impacts are particularly severe in an urban, densely populated borough, such as Camden. In applying policy CS11 the Council will therefore seek to minimise the movement of goods and materials by road, both by promoting alternative forms of freight movement that have lower environmental impacts and by seeking to deliver more efficient movement of goods. There is specific reference to the Council seeking to ensure that the impacts of construction traffic and the servicing of new developments are minimised.

3.8 Camden's Development Policies 2010-2025 contain the detailed policies that are designed to deliver the strategic objectives of the Core Strategy. There are several policies that relate to the delivery of sustainable transport. Policies DP16-21 specifically support Core Strategy Policy CS11 under the heading of 'Promoting Sustainable and Efficient Transport'.

3.9 Policy DP16 considers the transport implications of development, and seeks to ensure that new development is properly integrated with the transport network, with adequate provision of walking, cycling and public transport links. Specific reference is made to the need to assess the potential highway impacts associated with the construction of the development and the mitigation measures that may be required. The Policy identifies that a Construction Management Plan may be required as part of a planning application relating to the proposed development.

3.10 Policy DP20 relates to the 'Movement of Goods and Materials' and sets out the Council's requirements both during construction and when the development is in operation. The thrust of the policy is to minimise both the number and impact of the movements of goods and materials by road.

3.11 Policy DP22 'Promoting Sustainable Design and Construction' requires new development to incorporate sustainable design and construction measures. Policy DP26 relates to 'Managing the Impact of Development on Occupiers and Neighbours' and makes specific reference to the role of Construction Management Plans in mitigating those impacts. DP28 states that the Council will seek to minimise the impact on local amenity from the demolition and construction phases of development. DP32 discusses air quality.

3.12 Sustainable transport will remain central to the emerging Local Plan. The Council will continue to promote sustainable modes of transport as a means of reducing congestion, air pollution and carbon emissions, whilst promoting improvements in health and well-being. Policies T1 – T4 deal with sustainable transport requirements for new development, with Policy T4 dealing with 'Promoting the Sustainable Movement of Goods and Materials'. Under this Policy the Council would seek to minimise the movement of goods and materials by road and would expect applications for developments that generate significant movements of goods and materials by road to provide a Construction Management Plan.

3.13 It is evident from the policies outlined above that the effects of demolition and construction on the transport network and on local amenity are a material planning consideration.

3.14 LBC's forward strategy for the direction of transport provision in the borough is contained within the document '**Camden's Transport Strategy – Camden's Local Implementation Plan**' published in August 2011. The strategy sets out nine principle objectives for the transport network which include a reduction in motor traffic and vehicle emissions, encouraging healthy and sustainable travel choices, improving road safety and personal security, and the effective management of the road network to reduce congestion, improve journey reliability and ensure the efficient movement of goods and people. Clearly, these objectives are consistent with the development planning policies described above and are central themes of the draft construction management plan.

3.15 The strategy identifies Construction Management Plans as one of the key mechanisms for meeting the Council's objectives for the effective management of the road network and the efficient movement of people and goods.

3.16 Policy 4.4 of the strategy relates specifically to CMPs, stating that:
Camden will ensure that construction management plans are completed for appropriate larger construction and demolition projects to manage and, where possible, mitigate negative impacts associated with those construction activities. Traffic serving construction sites will be coordinated with other street improvements and maintenance works to minimise impacts.

3.17 The supporting text describes the scope of a construction management plan and the approach that it should take to the construction impacts of development, stating in particular that 'A construction management plan sets out the reasonable measures a developer should take (both on site and often off site) to minimize and manage impacts on highway safety and congestion, stability of adjacent properties, and environmental impacts such as dust prevention. It is a "proactive" rather than a "reactive" way of dealing with construction issues, and the process encourages developers to work with the Council and local people in managing the construction impacts from the early planning stage.'

3.18 This construction management plan, once developed with the input of the appointed principal contractor, sets out the measures that will be taken to manage the impacts of the construction activities associated with the proposed development and fulfils the requirements of the national, regional and local planning and transportation policies outlined above.

Site Information

4 Site Location and Description

4.1 The site of the proposed development, known as 15 – 17 Tavistock Place, is located in the King's Cross Ward of the London Borough of Camden.

4.2 The subject site is located in the Bloomsbury area of Central London, within postcode area WC1. The location of the site is shown in Figure 1 below.

4.3 The site is located on the northern side of Tavistock Place, approximately 150m to the north east of Tavistock Square (the easterly side of which, Woburn Place, is designated as part of the A4200) and approximately 300m south of the Euston Road, A501.

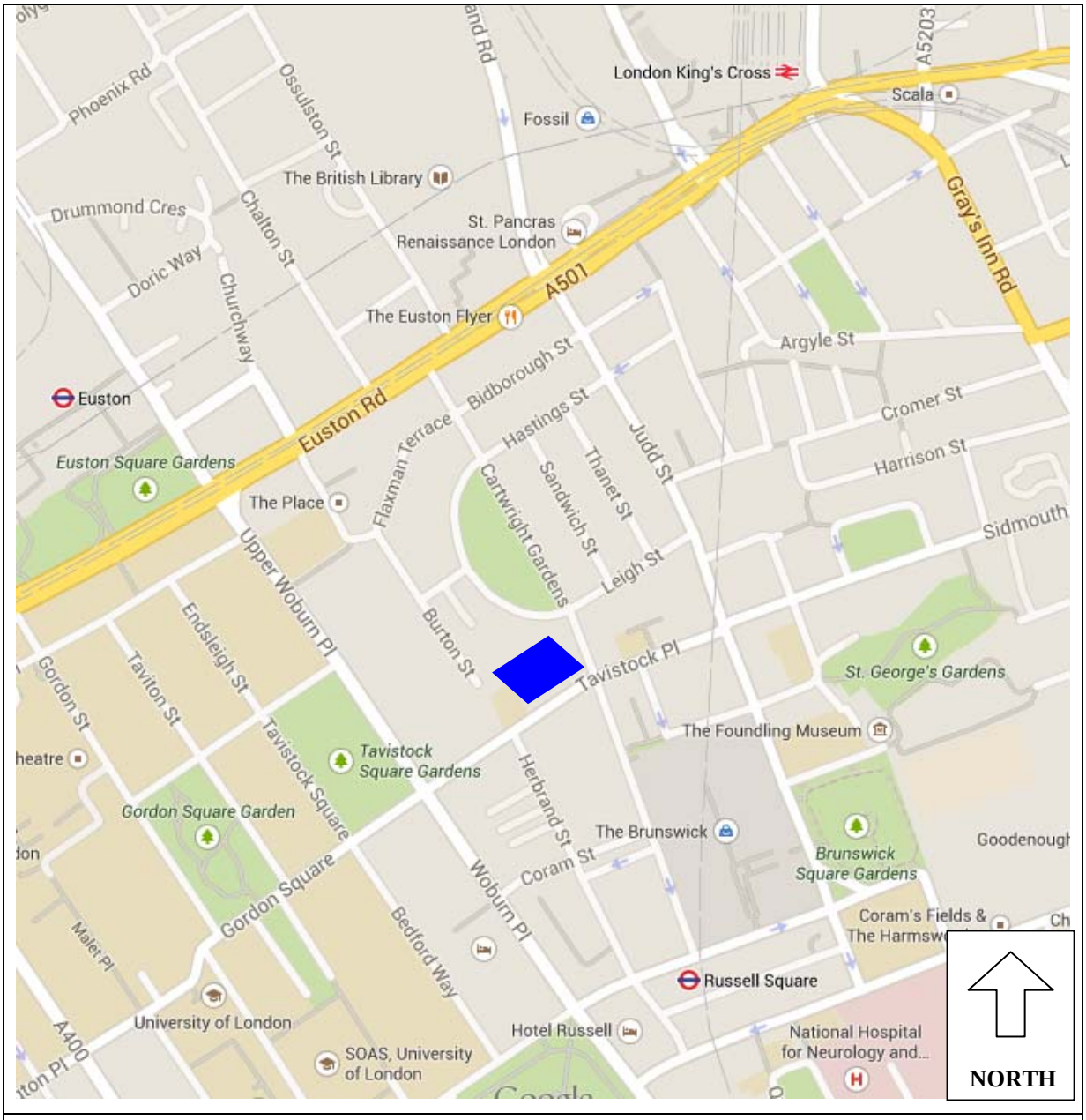


Figure 1 Location Plan

Location of Site

4.4 With an area of some 0.303 hectares, the site is broadly rectangular in shape, with a single highway frontage, to Tavistock Place, which runs along its southern boundary. The main building on the site, having four-storeys plus basement, is located on this southerly boundary, for all practical purposes contiguous with the highway. The proposals envisage a development towards the rear of the site.

4.5 The existing main vehicular and pedestrian access to the site is from Tavistock Place. This is located towards the westerly end of the site frontage. Given the developed form of the site, the vehicular access passes through the principal building via a gated passageway that provides access to the internal courtyard. The main pedestrian entrance to the building is accessed from the covered passageway.

4.6 A short distance to the east of the site and separated from it by a largely retail frontage, is Marchmont Street, which runs in a generally north-south direction leading to the Euston Road to the north and to the B502 Bernard Street to the south.

4.7 Leading from the westerly side of Marchmont Street, South Crescent Mews passes through the developed frontage, to the side of the Lord John Russell public house. The cul-de-sac end of the mews provides a gated access to the School's Tavistock Place site.

4.8 The main building dates from the early twentieth century and is laid out in a 'U' shape, with the main elevation to Tavistock Place and with two rear wings, one on each side boundary. Towards the rear boundary of the site is the former depot structure, now D1 use.

4.9 The site is within the Bloomsbury Conservation Area. The building itself is not listed.

4.10 The surrounding area is characterised by residential accommodation, hotels, and commercial properties, the latter extending along Marchmont Street from Cartwright Gardens to the Brunswick Shopping Centre and Bernard Street. To the east of the School's building are the properties that front Marchmont Street, which are generally four storeys in height, with retail and commercial activity at ground floor level and residential accommodation above. To the west of the site is a part three, part six storey residential mansion block which is divided from the

application site by an access way. The mansion block contains a number of habitable room windows on the flank elevation that face onto the School's building. On the opposite side of Tavistock Place is a row of terrace properties of four storeys with basement accommodation. These buildings are predominantly in use as hotels. To the rear of the site there are residential properties, especially on Burton Street, and hotel accommodation on Cartwright Gardens.

5 Project Description

5.1 The project would involve the demolition of the structure located at the rear of the site and the construction on the area to the rear of the site of two basement levels, ground floor and two upper storeys plus accommodation for roof-level plant. It is currently proposed to seek planning approval for the development in June 2015.

5.2 The project will provide two basement levels each of 1,040m^2 (Gross Internal Floor Area), a ground floor level of 1,120m^2 (including a covered atrium), a first floor level of 1,071m^2, and a second floor level of 782m^2 with roof level provision for plant and equipment. The London School of Hygiene & Tropical Medicine will retain floor space of 3,488m^2, whilst a total of 1,430m^2 (Gross External Floor Area) of floor space would be demolished, including the rear courtyard shed (957m^2).

5.3 Subject to receipt of planning approval, it is envisaged that building completion would be towards the end of 2018.

6 Construction Overview

6.1 To provide an initial indication of the construction and construction management methodologies, UCL and the London School of Hygiene & Tropical Medicine commissioned a major building contractor with extensive experience of working on confined inner-London sites and on projects with deep basements to advise on the 'buildability' of the Tavistock Place project. The following are, therefore, provisional but informed details that will need to be developed and amended as necessary as the design is finalised and a principal contractor appointed. It is considered to provide a good indication of the methodologies likely to be adopted and is considered to be of sufficient detail for this draft construction management plan.

6.2 The following sequence and scope of works is envisaged.

Enabling Works.

6.3 This phase of the project will involve accommodation works to ensure that the School's operations can continue during the course of construction works. There is a need to relocate the pedestrian entrance and reception desk to the easterly Tavistock Place access in order to segregate construction access from normal building operations, and there is a need to relocate existing emergency exit routes to maintain a means of escape. Site investigation works will be completed to ensure that a thorough knowledge of existing installations is acquired, including origins, routes of supply, interfaces with other systems and termination details. The accuracy of service record drawings cannot be guaranteed and it will be necessary to carry out proving works as appropriate, including trial pits, slip trenches, CAT scans etc.

6.4 In the event that services are to be diverted, isolated or worked on, strict Permit to Work safety procedures would need to be implemented together with detailed method statements and pre-planning to ensure safe working practices and that supplies are maintained. Service diversions will take account of the need to maintain services to adjacent facilities and contingency plans will be in place to take account of any eventuality. The diversion of services and utilities of any kind must be undertaken without disruption to areas and buildings outside of the site boundary.

Demolition.

6.5 The demolition phase would include the de-construction of the shed within the rear courtyard, its slab and foundations, removal of a buried fuel tank and removal of the existing boundary wall bordering onto the adjacent car park serving the Burton Street residences. In removing the shed, care will be needed to safeguard the existing boundary wall to be retained.

6.6 A number of special areas of consideration need to be taken into account. Due to the area's heavy bombardment during World War II, a desk top study would be undertaken to define the level of risk, and necessary precautions/actions, arising from the possible presence of unexploded ordnance. Prior to demolition, investigations will be required to identify the presence or otherwise of asbestos and other hazardous materials, and appropriate measures taken for its removal. A

desktop survey has already been carried out that has identified the potential existence within the site boundary of a medieval burial ground. Following demolition, trial pits and trench excavations will be required to prove the extent of the burial ground. In the apparently unlikely event that bodies are found, exhumation will be required. The affected area will need to be screened from the view of surrounding buildings and the bodies removed by hand and bagged. Prior to commencement relevant notices will need to be served.

6.7 These issues aside, the demolition phase would adopt the following approach:

- Barriers and warning signs erected around the demolition zone;
- Demolition debris cleared using a skid steer Bobcat or similar and deposited into waiting tipper truck or roll on/off skips. Continuous removal of material maintains unobstructed access, a relatively tidy site and avoids overloading the structure;
- Concrete debris to be taken to a crushing facility off-site for recycling;
- A copy of the Duty of Care – Waste Transfer Note, indicating the description, producer and carrier of the waste to be kept on site for inspection.

Basement Construction

6.8 The proposed basement would extend to a depth of approximately 10m below existing ground level. Subject to detailed design considerations, it is envisaged that the basement would be formed by the construction of a secant piled wall (secant piling offering minimal vibration, low noise levels and flexibility to accommodate complex site boundaries to maximise land use), with temporary cross-site propping during construction and in particular mass excavation of the basement. The present outline programme includes for two levels of props; just below ground level and just below first basement level. This would allow excavation to the underside of the lower basement level to be completed, followed by the lowest slab and then the remainder of the substructure.

Superstructure Construction

6.9 The superstructure would be constructed as an in-situ concrete frame with reinforced concrete flat slab floors.

Fit Out

6.10 Works are expected to commence with internal blockwork/dryline partitions followed by high level services distribution, ceilings and raised floors in a logical sequence together with joinery and final fix items.

Mechanical and Electrical

6.11 Lifts will be provided in locations shown on the planning drawings.

External Works

6.12 External works will include paving, drainage, external lighting and the installation of cycle parking facilities.

Programme

6.13 The outline programme indicates a construction period of 104 weeks (two years). A copy of the actual programme will be included at Appendix A to this plan following appointment of the Principal Contractor.

6.14 The proposed working hours at the site would be 8am to 6pm on Monday to Friday and 8am to 1pm on Saturday, with no working on Sunday or Bank Holidays, in accordance with the Considerate Constructor Code of Practice. These hours would be varied as necessary to accord with any specific planning conditions imposed on any approval for the proposed development.

6.15 Note the specific requirements relating to the movement of vehicles to and from the site as set out in Sections 18 - 22 of this Plan.

General Construction Management Considerations

7 Site Establishment and Welfare Facilities

7.1 The developer recognises that adequate provision and appropriate location of the site establishment and welfare facilities are an important consideration in the creation of a productive site environment. However, due to the constrained nature of the site, it is likely that the location of such facilities will need to change over the life of the project.

7.2 It is envisaged that use would be made initially of the existing cafeteria and meeting room area located on the ground floor to the westerly end of the building. This location has been selected, as it would be impracticable to maintain safe access to this area as part of the on-going existing site use, due to its location to the west of the main access to the site. As explained later in this construction management plan, this is identified as the route into and out of the site for construction traffic.

7.3 The site office and site welfare facilities would be located in this area with their own pedestrian access directly from Tavistock Place, utilising an existing doorway. The access would have no material effect on existing pedestrians and cyclists using Tavistock Place.

7.4 As works progress, these facilities would need to be supplemented. Additional temporary cabins (e.g. toilet block, drying rooms) would be provided within the boundaries of the works, probably within the basement area once available. These would be relocated as necessary (but always within the site) to minimise disruption to the permanent works. The maximum demand for such facilities is likely to arise in the early stages of fit-out when most subcontractors will be present on site and personnel resources will be at their highest level. It will then be possible to locate facilities within the permanent works, delaying associated fit-out as necessary.

7.5 Welfare facilities, including men's and women's toilets, washing facilities, changing rooms and rest area/canteen, will be made available from the outset of construction and maintained throughout.

7.6 It will be a requirement for Personal Protective Equipment (PPE) to be worn on site at all times in accordance with relevant risk assessments and method statement, including as a minimum hard hats, high-visibility vests and safety boots.

7.7 Equipment and provision of First Aid facilities will be made available from the outset in accordance with the Health and Safety (First Aid) Regulations 1981. First Aid equipment will be located in the site office and welfare facilities and all operatives will be informed of the arrangements that are in place for First Aid on site. Notices will be erected prominently on the site to inform operatives of the names and location of First-Aiders and the locations of First Aid equipment. Adequate provision will be made for on-site personnel trained in First Aid to an appropriate level. At least one

trained First-Aider will be provided for every 50 personnel on site; First-Aiders will be trained to an appropriate level and will hold the relevant current certificate.

7.8 All operatives will receive an induction briefing before commencing duties on the site. This will cover, as a minimum, the site rules, hazards, safety procedures, the requirements for PPE, the arrangements for First Aid and the emergency evacuation procedures. Visitors on first entering the site will receive a similar briefing, which will include entry and egress protocols.

8 Management Structure

8.1 The Management Structure for the project will be as shown in Figure 2 below.

Figure 2 (to be inserted following appointment of Principal Contractor)

9 Safety

9.1 There will be a need for the Principal Contractor, once appointed, to demonstrate that appropriate health and safety management strategies are in place and are implemented. This would be achieved through the following pre-construction and construction phase activities.

9.2 Pre-construction activities would include:

- Review of the Pre-Construction Information provided by the Project Team/CDM Co-ordinator (Principal Designer – PD - under the CDM Regulations 2015);
- Carry out a project-specific pre-commencement Project Safety Assessment, based on the pre-construction information and site inspections;
- Develop the Construction Phase Plan specific to the project and obtain approval from the Principal Designer and the Client before commencement of construction;
- Ensure that a valid copy of the F10 is obtained from the Principal Designer/Client;

- Check and ensure that the proposed Sub-Contractors are H&S competent via their respective Supply Chain Management procedures;
- Arrange and specify the required site offices and welfare facilities in line with the projected workforce levels
- Arrange for training of traffic marshals, with particular emphasis on the special cycle flows along Tavistock Place
- Develop specifically for this project the following:-
    a) Project Execution Plan
    b) Site Waste Management Plan
    c) Strategic and Project Lifting Plan
    d) Traffic Management and Logistics Plan
    e) Fire Safety Plan
- Complete the final Construction Management Plan and submit for approval to the London Borough of Camden.

9.3 Construction Phase activities would include the following:

- Make site safe and secure;
- Arrange site inductions and any further information and training required;
- Display relevant signs/notices, including Site & Project managers' names, contact details, emergency numbers, etc. at all site entrances
- Continual maintenance of the welfare facilities;
- Consult the workforce;
- Liase as necessary with the Principal Designer;
- Review, revise and issue the Construction Phase Plan monthly to ensure it is suitable for the current and imminent construction activities.

9.4 Establishing safe systems of work will be critical to the effective management of the workplace operations to safeguard site operatives, local occupants and the general public. All Sub-Contractors will be required to adopt a safe system of working, demonstrated by the submission of task-specific risk assessments and health and safety method statements for review and approval by the Principal Contractor prior to the commencement of the work activities concerned. Risk assessments must be produced that identify the hazards associated with the work activity concerned, evaluating the level of risk that the identified hazards present and suitable control measures that, when implemented, would eliminate or mitigate the risk to an acceptable level (ALARP – As Low As Reasonably Practical). A structured, written

Method Statement will then be developed that provides a clear breakdown of the key work tasks associated with the hazards identified by the risk assessment and clearly identifies the risk control measures to be adopted to address each risk. It should be noted that certain specialist high-risk operations require specific means of control via permit-to-work procedures, authorised or appointed persons and/or the use of specialist safety equipment.

9.5 The Principal Contractor will carry out an auditable review of Sub-Contractors' health and safety method statements.

9.6 Once construction activities are in progress, procedures to measure, analyse and review health and safety performance standards will be initiated. The information will be regularly analysed to identify performance trends against a set of pre-defined Key Performance Indicators. Non-conformance trends will identify key causes to enable improvement action programmes to be implemented, the prime objective of which would be to improve health and safety standards. The process would be informed by regular inspections, tours and co-ordinated reviews to identify standards both within the site and at points of interaction with the highway, highlighting any unsafe practices or conditions and maintaining and improving safety for the public. Through the application of these pro-active measures the project should be able to reduce the Risk Exposure.

9.7 All operatives and staff will be required to undertake a site induction safety course to be familiarised with the site, the project-specific risks - both on site and at the interfaces with the public realm - at the time of commencing on site and site rules. Only following satisfactory completion of the course would personnel be issued with a security pass allowing access to the project.

9.8 A comprehensive set of Site Rules will be implemented. These will include, but not be limited to, requirements in respect of the wearing of PPE; site security (carrying ID cards at all times and signing in and out when entering and leaving the site); behaviour (no smoking except in designated areas, non-use of drugs and alcohol; non-use of radios, music players etc; non-use of mobile phones except during breaks, no racial or sexual harassment, no violence); site tidiness (avoiding litter, not leaving the workplace untidy, not blocking emergency exit routes etc); safe working practices (proper use of tools and equipment, receiving and understanding Method

Statement briefings, complying with safety and hazard signs, not using mechanical means of excavation within 1m of buried services etc); and knowing lines of communication, reporting and command, First-Aiders and safety advisors.

10 Security

10.1 The perimeter fence is the first line of security and as such needs to be established early in the construction phase.

10.2 However, the site is largely landlocked, with only one public boundary, to Tavistock Place. A small section of hoarding would be erected here to protect the safety of the public at the vehicular access to the site and provide the first line of security. The hoarding would be provided with bi-folding gates, opening into the site (and not outwards towards the highway) and manned by traffic marshals and security staff who would have a full-time presence during working hours. The exact location of the hoarding and gates will be in accordance with the detailed design of access arrangements for the site to be agreed with the Local highway Authority as described in section 18 of this Plan.

10.3 A section of the westerly boundary wall (contiguous with the private car park associated with the Burton Street residential properties) will need to be demolished and a replacement built on top of the new capping beam. During this work working space would be required within the car park and rights to this have been negotiated with the adjoining owners. The interface would be suitably protected during demolition and reconstruction. Construction vehicles for this work will be routed fully in accordance with this Plan.

10.4 The northerly boundary wall will be maintained, but may require strengthening or temporary propping.

11 Community Liaison

11.1 This is a constrained site, with neighbouring residential and commercial premises, an existing site occupier (London School of Hygiene & Tropical Medicine) whose operations need to be maintained throughout the construction project, and which adjoins a busy public highway. There is a critical need to ensure that there is the

minimum possible disruption and disturbance to these stakeholders, in addition to the public bodies and authorities, throughout the course of the project.

11.2 It is important that stakeholders' interests are taken into consideration and that good relations are promoted and maintained. One means of achieving this is by the timely dissemination of information to and engagement of stakeholders and by responding positively to feedback.

11.3 From the outset the intention will be to work closely with the local community and particularly with UCL and the London School of Hygiene & Tropical Medicine. Early engagement with stakeholders will take place during the pre-construction phase of the project. At this stage, an appropriate strategy for liaison with stakeholders will be developed, with their input. The Principal Contractor will use this process to gain a thorough understanding of stakeholders' concerns and to use that information to develop suitable mitigation strategies that will then be built into this construction management plan, especially in relation to environmental impact issues. Input from the professional team and Plan Co-ordinator will also be important in this process.

11.4 The initial issues of concern to be addressed in the developed plan might include:

- Protection of Sensitive Areas
- Energy Use and Management
- Minimising the Impact on the Local Community
- Traffic Management
- Green Site Management
- Waste Management
- Pollution and Hazardous Substances
- Noise and Vibration

11.5 It will be similarly important that the Principal Contractor provides information to stakeholders as the project progresses. This might be general information about the progress on the project, helping to promote understanding of the challenges and what is being done to overcome them in a way that is as sympathetic as possible to the needs of stakeholders. There might also be targeted interaction with specific stakeholders with regards to particular construction issues or work items that might have an impact upon them.

11.6 A comprehensive Community Liaison Programme will therefore be developed and maintained to ensure that the works are conducted and carried out with the absolute minimum of disruption and disturbance and adequate notification of changes to Construction activities / timetable is given, especially where it impacts on the public realm / traffic management. A variety of tools will be employed to achieve this, to include the following:

- Regular liaison meetings with stakeholders
- Regular bulletins such as project newsletters
- Press releases where appropriate
- Escorted site tours
- Viewing galleries
- Notice boards
- Photographs
- Letter drops
- Website

11.7 Additionally, the induction process that all operatives and staff will be required to undergo before commencing work on the site will ensure that they are aware of the constrained nature of the site, the proximity of neighbours, the specific problems of working in a sensitive environment, the need to ensure the safety of occupiers, neighbours and the general public, the methods of working and mitigation measures that are in place in order to minimise the impact of construction activities on stakeholders and, not least, how staff and operatives will be required to conduct themselves within and around the construction site.

11.8 The developer/Principal Contractor will also maintain an ‘open door’ policy, so that stakeholders, including the Community Engagement Co-ordinator for the Bloomsbury Research Institute project, have a means of bringing any concerns directly and quickly to senior personnel, so that any issues can be discussed, explained and, if appropriate, addressed.

12 Training and Handover

12.1 No project can be considered complete until the relevant operational and maintenance staff members have been trained.

12.2 A comprehensive training schedule will be drawn up and agreed between all parties to ensure that all operational and maintenance staff are fully conversant with, and trained in the use of, all the systems installed on the project.

12.3 The training programme will describe the training that is required, when it will be carried out and who will be required to undergo that training. Records will be kept of the training carried out.

Control of Environmental Impacts

13 General

13.1 The extent to which the potentially adverse impacts of construction have been controlled will be a significant consideration when it comes to judging whether the scheme has been successfully completed.

13.2 As a result, rigorous controls and precautions will be put in place at the outset and will be maintained throughout the project. Any activities likely to cause any pollution will be subject to strict control regimes. No work will be allowed to commence until the required controls and mitigation measures are in place.

13.3 These precautions will include:

- Monitoring of dust, noise and vibration
- The use of protective fans, screens and barriers
- Controlled storage of hazardous materials, chemicals, gases etc
- Controlled use and containment within a protected environment
- Good housekeeping

13.4 Given the close proximity to the site of existing buildings that will remain in use, great care and attention will be paid to ensure that any noise and vibration generating activities are carried out in a controlled and approved manner with feedback management to avoid exceeding any of the agreed limits set out in the various specifications.

13.5 Pre-planning and effective communications will be key, and the Principal Contractor will liaise closely with relevant bodies and adjacent occupiers.

14 Noise and Vibration

14.1 The following measures will be taken to limit the adverse impacts of construction activities in terms of noise and vibration.

14.2 Best Practicable Means (as outlined in Section 72 of the Control of Pollution Act 1974) will be employed to minimise noise and vibration levels throughout the period of the works.

14.3 General measures will include the following:

- Careful selection of plant, construction methods and programming. Only plant conforming to the relevant national and European Union standards directives and recommendations on noise and vibration will be used.
- Design and employ scaffolding and site hoardings and screens where practicable and necessary to provide acoustic screening at the earliest opportunity
- Static construction plant to be located, wherever possible, as far as practicable from sensitive receptors
- Static and semi-static equipment (eg compressors and generators) will be fitted with suitable baffle enclosures
- Site personnel to be instructed, as part of site induction, on use of BPM
- Machines to be shut down when not in use
- Reduce the number of machines in use at any one time to a minimum
- Where possible, all plant on site to be silenced/muffled
- Strict adherence to site working hours.

14.4 Nuisance from noisy works of a percussive nature will be kept to a minimum wherever possible. Noisy work will be carried out at mutually acceptable times negotiated with adjacent occupiers to minimise inconvenience.

14.5 Noise monitoring points will be established around the site as appropriate to help ensure that agreed thresholds are not exceeded. Noise monitoring equipment to comply with BS EN 61672-2-2003.

14.6 Noise and vibration generation will be factors taken into account when determining construction techniques to be adopted on the project. For example, the use of secant piling offers minimal vibration and low noise levels.

14.7 Excavators, pneumatic breaker and loading operations are the most vibration-intensive activities planned on site during the demolition phase, therefore from the outset a vibration monitoring programme will be instigated, with continuous monitoring and manual vibration measurements being taken. In order to keep the operators on site aware of the vibration impact of their activities, alarm systems based on warning lights will be installed around the site.

15 Dust and Pollutants

15.1 Dust emissions at the working face and at the loading-away area will be controlled by a fine water spray. The quantity of water emitted by the sprays will be controlled to prevent flooding at ground level. Dust monitoring points could be established around the site as necessary to ensure agreed thresholds are not exceeded.

15.2 Dust monitoring equipment should be located on the perimeter hoarding, mounted at a height of approximately 3.5m above local ground level.

15.3 A risk assessment will be carried out prior to start of work on site to assess the levels of risk that might be posed by the anticipated demolition and construction activities in terms of dust and pollutants. Arising from the risk assessment, a Method Statement will be prepared that describes the monitoring and controls that will be implemented. A suitable programme of monitoring will be established and agreed with the Council, with an action plan developed for implementation if agreed thresholds are exceeded.

15.4 The method statement adopted as part of the final construction management plan will set out the measures to minimise gaseous and particulate matter emissions generated during the Construction Phase. The following best practice measures shall be included in the method statement:

- Techniques to control PM10 and NOx emissions from vehicles and plant;
- Techniques to control dust emissions from construction and demolition;
- Air quality monitoring; and
- Techniques to reduce CO2 emissions from construction vehicles.

16 Stability of Nearby Buildings

16.1 The site is flanked by existing buildings in a variety of uses that will remain in occupation and use and some of these buildings contain sensitive equipment. Not only will it be essential, therefore, that vibration and noise arising from the works are minimised, but perhaps more importantly that ground movement is kept to a minimum.

16.2 During construction there will be a need to satisfy a number of key objectives, namely:

- Check the adequacy of ground support in the excavation and to determine management trigger levels to required modifications of such support;
- Determine ground movements in the vicinity of the excavation;
- Determine the effects of construction works on existing structures above and below ground; and
- Determine the effects of construction works on third party structures, including the public highway.

16.3 A system of monitoring is therefore required. Monitoring will continue throughout the duration of the construction works and for a period after completion to ensure that the behaviour of the propped/retained excavation and the surrounding buildings comply with the design specification.

16.4 Monitoring mechanisms will be linked to an alarm system with threshold levels set at pre-determined levels based on a comprehensive programme of testing and modelling. In the event that such levels are exceeded work will be immediately suspended to enable investigations as to cause to be undertaken and remedial measures to be put in place if needed.

16.5 On-site deformation and structural monitoring together with vibration, noise and dust will be undertaken using a variety of instruments and devices, with all electrical measuring devices being capable of being remotely read from portable readout units.

16.6 Typical equipment and its purpose would include:

- Surface Precise Levelling Studs – To monitor vertical movement of the ground surface arising from anticipated heave and settlement due to the works
- BRE Levelling Studs – To monitor vertical movement of existing structures due to the works
- 3-D Reflective Targets – or prisms to enable Electronic Distance Measuring Equipment to be used to monitor movement
- Inclinometers – To measure lateral displacement which may occur during the excavation of the basement and the construction of the permanent works
- Magnetic Extensometers – To monitor subsurface heave within the basement excavation
- Crack deformation flat 6.2mm dia stainless steel monitoring studs in conjunction with a Digital Caliper – Fixed using rapid setting epoxy resin in a triangular pattern and measured using a Digital Caliper accurate to plus or minus 0.001mm
- Vibrating wire strain gauges – For measurement of axial forces in temporary props.

16.7 Once a series of targets and precise level points have been established at key locations monthly reports will be produced setting out the results.

Construction Traffic Management Plan

17 Start and End Dates and Working Hours

17.1 The start date for the project will be *(Start date to be entered)*.

17.2 The provisional programme indicates a construction period of 104 weeks (two years). The programmed end date is therefore *(End date to be entered).*

17.3 The proposed working hours at the site would be 8am to 6pm on Monday to Friday and 8am to 1pm on Saturday, with no working on Sunday or Bank Holidays, in accordance with the Considerate Constructor Code of Practice.

17.4 Any restrictions on the movement of vehicles to and from the site imposed by London Borough of Camden will be identified in this section of the construction management plan.

18 Access Arrangements for Vehicles

18.1 As part of the process of preparing a comprehensive planning application for the development, of which this draft construction management plan forms part, consideration has been given to construction logistics relating to the proposed development. Discussions with London Borough of Camden officers are on-going, as the highways officer raised concerns about the access to the site for vehicles during construction.

18.2 In response, available access options have been examined, in conjunction with London Borough of Camden's highways officer, and a detailed appraisal of the options available was undertaken and a report detailing the findings was prepared and submitted to the Council for consideration (Appendix B). The conclusions of the appraisal, as set out below, have subsequently been agreed by the Council. In this context, it was agreed that there are three possible access options to be considered:

- Burton Street, to the north west of the site;
- Marchmont Street, to the east of the site; and
- Tavistock Place, to the southerly frontage of the site.

18.3 A site visit with representatives of UCL, the London School of Hygiene & Tropical Medicine, the project design team and London Borough of Camden's highways engineer in attendance took place on Tuesday, 31 March 2015.

18.4 As indicated above, the School's site has a single direct highway frontage, to Tavistock Place. In the other two cases, third party agreements would be required to secure access rights to the site for vehicles. Negotiations have already taken place with the owners of the land that would need to be used if an access from Burton

Street were feasible. Extensive negotiations have failed to secure any agreement with the owners beyond the lease, for the duration of the works only, of two car parking spaces to provide working space on the boundary of the works. In the case of the Marchmont Street access, the land in question is used as an external extension of the activities of the adjoining public house. Whilst the School has a right of way over this land for emergency evacuation purposes, its use by construction vehicles would be detrimental to the operation of the business and the safety of patrons and would be unlikely to be secured.

18.5 Over and above any legal considerations, there are physical constraints in respect of all three access options. In all cases, due to the nature of the buildings, access in all cases would be through developed frontages, via a covered passageway with limited headroom. Additionally, whilst all three accesses are arranged at ninety degrees to the highway the Burton Street and Marchmont Street accesses have limited manoeuvring space, with restricted width.

18.6 A consideration of the maximum size of vehicle that would be anticipated during the demolition and construction phase of the project, relative to the maximum available width and headroom of the three passageways, quantifies the extent to which vehicular access to the site during construction is constrained.

18.7 The maximum height of vehicle to be accommodated during construction is a concrete lorry, at 3.75m. The following table provides the height and width dimensions of the three passageways in question.

Access Passageway	**Width (m)**	**Height (m)**
Tavistock Place	3.87	3.35
Marchmont Street	3.3	3.64
Burton Street	3.59	3.65

18.8 From the above table it will be seen that none of the three potential passageway access points has sufficient headroom to accommodate the maximum size of construction vehicle anticipated. Additionally, Marchmont Street is the narrowest of the three. The London Borough of Camden's highways engineer appeared to discount the Marchmont Street passageway as a viable access during the site visit.

There is no practical means of increasing the headroom of the Burton Street passageway or its width, not least because it is in third party ownership, and this means of access, which would also require construction vehicles to pass between sensitive residential frontages, is therefore discounted.

18.9 It is also true that the existing access from Tavistock Place has restricted headroom, insufficient to accommodate concrete lorries. However, as the building and its forecourt area are within the ownership of the London School of Hygiene & Tropical Medicine, there is greater scope than elsewhere to make alterations in order to accommodate the anticipated construction vehicles. Preliminary examinations have been carried out and it is considered that the opportunity exists to amend the levels of the forecourt area and passageway in order to achieve an increase in headroom, sufficient to enable access to the inner courtyard for all anticipated construction vehicles requiring access to the workface. Suitable protection measures for any underground services could be provided.

18.10 The available record drawings of the existing building have been examined. It appears that the first 1200 – 1500mm of the footway (adjacent to the carriageway) is well utilised by utility providers. There is a private forecourt area between the footway and the façade of the building. To the east of the passageway the older building has a single storey basement which includes pavement vaults. The record drawings also indicate that under the access passageway and the building to the west of the entrance there is no basement construction.

18.11 It is therefore proposed to reduce the level of the entrance to gain the additional headroom needed to allow access through to the rear courtyard for all construction vehicles. A ramp will be provided between the new reduced level and the existing footway/carriageway level. Steel road plates will be provided as protection to underground services. A hoarding would be erected to enclose the works, including those to reduce the levels in front of the entrance. A section through the proposed ramp, showing its relation to the existing footway, is included at Appendix C.

18.12 With these accommodation works carried out, it is considered that the Tavistock Place access can be safely used for access to and egress from the site for all construction vehicles likely to require access throughout the duration of the demolition and construction phases of the project.

18.13 As a result, there will be no need to accommodate the standing, loading or unloading of construction vehicles on the public highway.

19 Proposed Access Logistics and Routes

19.1 It is recognised that the Tavistock Place access places constraints on the size of construction vehicle that will be able to enter the site and a logistics operation will be implemented that ensures that only vehicles of that size will travel to the site and that no loading or unloading would take place from the highway of Tavistock Place (except temporary, one day closures of Tavistock Place that would be required for the placing and decommissioning of the necessary cranes required). It is anticipated that any closure would take place at weekend and that Tavistock Place would be kept open to pedestrians and cyclists wherever possible and safe to do so, subject to agreement with the highway authority.

19.2 UCL is currently carrying out a major building programme at a number of sites within its estate and has established a logistics centre at Silvertown in Docklands for the receipt of large, indivisible loads. For sites in the Bloomsbury area, a Local Logistics Zone has been established at Gordon Square by the temporary closure of part of Endsleigh Place, adjacent to the UCL Department of Anthropology. This provides an area where vehicles can be marshalled before being despatched, by radio, to the relevant construction site. This holding area would ensure not only that vehicles of the requisite size are despatched to the Tavistock Place site, but also that only one vehicle at a time is despatched. This prevents a build up of vehicles at the site that might lead to construction vehicles standing on the highway.

19.3 In accordance with the Council's CPG6 document, the construction management plan is required to demonstrate that consideration has been given to proposed routes for vehicles between the site and the Transport for London Road Network, the objective being to minimise the length of access routes that do not form part of the TfL Road Network.

19.4 In this context, consideration has been given to proposals, to be implemented by London Borough of Camden in the summer of 2015 (and which will therefore be in place before the anticipated commencement of construction) for revised traffic

circulation on Tavistock Place. Currently, the carriageway of Tavistock Place at this point provides a single traffic lane in each direction. The London Borough of Camden intends to introduce an experimental traffic scheme on Tavistock Place which will involve no physical works (during the experimental period) but will mean that general traffic flow will become one-way (eastwards from Gower Street to Judd Street) and a new westbound cycle lane will be provided along the southerly side of the carriageway. The arrangements for access to the proposed development site take this experimental arrangement into account.

19.5 The suggested designated access routes are shown in Figure 3 below. They show vehicles routed to and from Euston Road, A501, part of the TfL Road Network. It is proposed that construction vehicles would access the Local Logistics Zone via Upper Woburn Place A4200 and Endsleigh Place. On leaving the Local Logistics Zone, construction vehicles would proceed via Gordon Square and Tavistock Square (by then operating one way eastbound) into Tavistock Place to access the site.

19.6 Leaving the site, vehicles would have to turn left, in accordance with the one way system, proceeding via Tavistock Place to Judd Street, where they would turn left to follow Judd Street northwards to Euston Road.

19.7 One constraint on a direct route to Euston Road for all vehicles, including construction vehicles, leaving the site, is a prescribed left turn on Judd Street at its junction with Euston Road that requires all vehicles to turn westwards onto Euston Road. A width restriction on Regent Square precludes exit for larger vehicles to A5200 Gray's Inn Road. This will require vehicles wishing to turn right onto Euston Road proceeding via Bidborough Street and Mabledon Place, and this involves a modest increase in mileage.

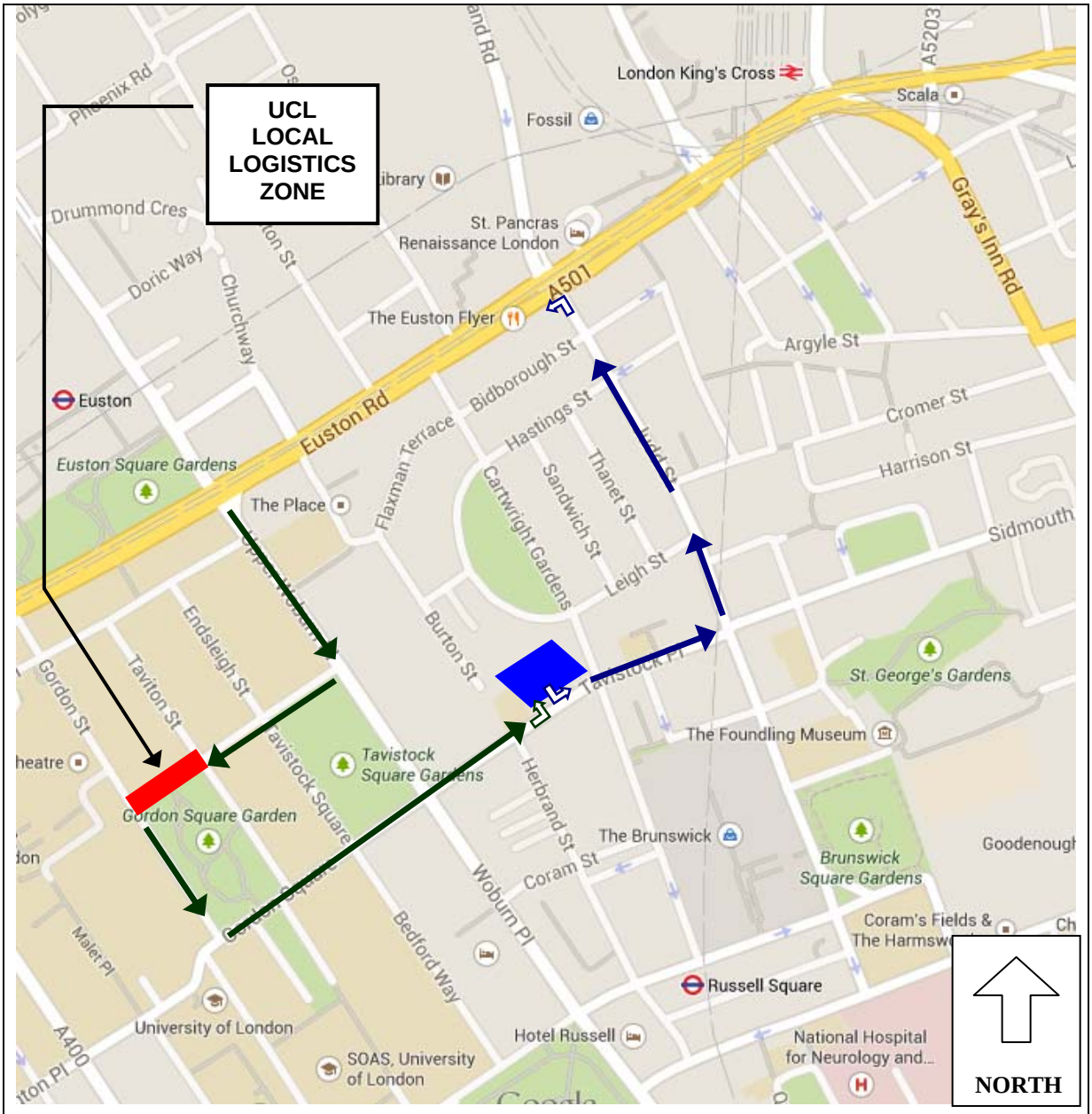


Figure 3 Site Access Routes

Approach Route

Exit Route

Location of Site

20 Size and Frequency of Vehicle Movements

20.1 It is anticipated that construction vehicles that would access the site during construction would include concrete lorries, 8.7m long and 3.75m high and small tipper lorries, 8m in length and 3.5m high. Additionally, a small number of abnormal loads for plant deliveries and for rebar/pile cages etc would be anticipated in respect

of which the timing and any special traffic management measures would be agreed in advance with the local authority.

20.2 An assessment has been made of the anticipated movements of vehicles to and from the site as the works progress. The following table provides an indication of the frequency of vehicle movements per week for each week of the 104-week demolition/construction phase. Note that 'movement' equates to either a vehicle arrival at or a dispatch from the site.

20.3 From the table below it will be seen that the anticipated peak is 180 lorry movements per week, between weeks 17-26, equal to an average of 33 per day based on a 5.5 day week and 4.1 per hour based on an 8-hour working day.

20.4 The number of lorry movements per week on average across the full construction phase is 103, equivalent to 19 per day based on a 5.5 day week and 2.3 per hour based on an 8-hour working day.

Project Week(s)	Lorry Movements per week	Project Week(s)	Lorry Movements per week
1	30	**17-26**	**180**
2	44	27-29	170
3	52	30-33	160
4	62	34-37	140
5	82	38-39	120
6	92	40-73	90
7	120	74-84	70
8	140	85-101	60
9-13	160	102-104	50
14-16	170		

21 Servicing Arrangements During Demolition and Construction

21.1 The developer acknowledges that the restrictions and requirements imposed by the local authority as set down in the final version of this construction management plan, and relevant planning conditions will need to be complied with.

21.2 The site of the proposed development is very restricted, resulting in a high level of activity in a small area.

21.3 Key matters to be considered include:

- Agreed traffic routes to and from the site (Section 19 above)
- Co-ordinated deliveries to minimise disruption (paragraph 19.2 above)
- Use of modular components to mitigate traffic movements and reduce man hours on site
- Segregation of vehicular movements and redirection of pedestrians

21.4 Delivery companies will be made aware of the site access/egress routes, operational hours, the offloading area and the general site protocol by means of careful written instructions and directions supplied to them at the time of confirming the delivery schedule.

21.5 Site access/egress for all material and waste will require stringent control. A scheduling system will be developed to provide an efficient means of controlling all deliveries and ensuring that deliveries arrive at the right time and are speedily despatched. Scheduling will, wherever possible, be used to minimise or avoid lorry movements to and from the site during peak hours.

21.6 Utilising the Local Logistics Zone established at Gordon Square means that at no time will project-related vehicles be permitted to stack up and park on any adjoining or nearby roads. Any unscheduled or early deliveries will be moved on and told to return at the correct time.

21.7 Critical to the success and ‘buildability’ of the project is the need to safely access the site, in order to feed the construction. Safe access to the work-face within the courtyard of the existing building is essential for muck-away operations and concrete and material deliveries. Sections 18 and 19 above demonstrate how this will be

achieved by means of modifications to the vehicular access to the courtyard from Tavistock Street and restrictions on the size of vehicles accessing the development.

21.8 Conscious that the site is physically constrained, UCL and the School have taken advice from a leading contractor with experience of working within constrained, inner-London sites, about the 'buildability' of the scheme. Within the site it is their advice that a gantry could be constructed at ground level, above the basement construction, to provide somewhere to stand vehicles during delivery and removal of material from the site. Given the size of vehicles that would be able to gain entry to this area, it is envisaged that there would be sufficient space to allow vehicles to turn within the site so as to be able to enter and leave the site in forward gear – a major advantage.

21.9 Swept path analyses have been carried out and swept path drawings are included at Appendix D to this plan that show how vehicles would enter and leave the site, utilising this gantry within the inner courtyard. Some modification of the existing island defining the cycleway would be required to accommodate these manoeuvres.

21.10 In order to construct this gantry at an early stage, it is anticipated that it would be supported on a number of plunge steel columns, which are co-ordinated with the permanent works design and constructed with the permanent pile locations. Plunge steel columns are normally associated with 'top down' construction techniques (which would need to be employed beneath the gantry) whereas the majority of the basement construction would be carried out under 'blue sky' conditions. The main load-bearing piles within the building under the gantry would be bored from ground/pile mat level and concreted to the level of the lower basement. Thereafter, a steel column section would be lowered down the open bore and 'plunged' into the wet pile. The remaining open bore around the steel column would then be back-filled with gravel material up to ground level so as to maintain a safe working site. During excavation, the gravel would fall away and be removed with the bulk excavation material , leaving a number of steel columns standing within the excavation. As these are exposed they would be connected together by additional steel beams (either permanent or temporary) to give the columns framing. The high-level gantry steel would be added at ground level to enable vehicles to drive off the road and be held on the gantry.

21.11 At the site entrance on to Tavistock Place it is then proposed to control vehicle access and egress across the existing footway and cycle facility with the use of temporary barriers deployed and removed by marshals (2 each side). This arrangement would operate in conjunction with the radio-controlled arrival and despatch protocol described above and which ensures that only a single vehicle is present at the site at any one time, and would allow the deployment of barriers on a 'just in time' basis thereby minimising disruption and delay to the travelling public, particularly pedestrians and cyclists. The traffic marshals would receive suitable training prior to working on the site.

21.12 The barrier-plus-marshal methodology described above is already in use by the developer at a nearby site on Torrington Place, where the access for construction vehicles crosses a footway and the same cycle facility that passes the Tavistock Place site. It is understood that that arrangement has now been in place for around six months and has operated without incident.

21.13 The logistics of supplying the right materials to the right place at the right time will be of prime importance. To avoid over-congestion on site will require an effective regime in terms of handling and storage of materials. The careful planning of deliveries will be key to achieving that objective. Wherever possible, materials will be brought to site for delivery straight to the work-face.

21.14 Selection and procurement procedures will require all sub-Contractors and suppliers who are required to deliver to the site to be members of TfL's Fleet Operator Recognition Scheme or equivalent. By so doing we will be promoting lower vehicle emissions and high standards of efficiency and safety, in particular with respects to cyclists. In this last context, we will also require all sub-Contractors and suppliers delivering to the site to adhere to the Standard for Construction Logistics (Construction Logistics and Cyclist Safety) to help manage work-related road risk, especially to protect the safety of cyclists. Account is taken of research conducted by Transport Research Laboratory and commissioned by Transport for London, entitled 'Construction Logistics and Cyclist Safety – Technical Report PPR639' published January 2013.

22 Protection of the Public Highway from Dirt and Dust

22.1 We will ensure that, as far as is reasonably practical, adjacent carriageways and footways will be kept clear of mud, dust, or other deposits at all times. To achieve this, we will ensure that the wheels of any vehicles are hosed clean before leaving the site. Any mud, or other material, deposited on the highway will be cleaned without delay by appropriate manual or mechanical means.

23 Community Liaison

23.1 General arrangements for liasing with stakeholders are set out in Section 11 above. Further to paragraph 11.8, senior site personnel will be on hand throughout the operating hours of the project to deal with any complaints or comments from members of the public regarding such issues as highway safety, traffic management or street cleanliness. All such comments or complaints will be recorded and reviewed as part of regular progress and site meetings, with records made of any corrective action required or taken.

23.2 We will liase with other Contractors working in the vicinity of the site and endeavour to co-ordinate activities with them in order to minimise any potential cumulative impacts arising from our collective activities.

24 Tower Crane

24.1 To avoid oversailing and to assist construction operations, it is anticipated that one Luffing Jib tower crane, strategically sited to give 100% coverage of the project footprint and suitably located so as to afford minimum interference with the permanent works, would be used.

24.2 The crane will primarily serve the structural frame and envelope and have a maximum radius of 45 metres, with a maximum height under hook of approximately 25 metres above ground level and a SWL of 3.0T at this point.

24.3 Erection and dismantling of the tower crane will be from Tavistock Place, which will require a temporary road closure of one day on each occasion. This would be pre-planned and agreed in advance with the London Borough of Camden. All necessary

permits and temporary notices would be applied for, noting that there is a ten-week lead-in time.

24.4 In addition, a goods hoist would be installed to provide material access to the basement and upper floor levels and to assist with the removal of waste.

25 Non-operational Travel To and From Site

25.1 This is a constrained site. There will be no parking available on site for staff, operatives or visitors throughout the period of demolition and construction.

25.2 Induction procedures will ensure that sub-Contractors are aware of this restriction prior to first commencing work on site. They will be briefed on the parking and waiting restrictions that are in force within the vicinity of the site. The building has a Public Transport Accessibility Level of 6b, the highest score attainable, indicating that the site is highly accessible by public transport, including Underground, main line rail and bus services. Sub-Contractors will be made aware of the services available and will be required to encourage their staff and operatives to travel to and from the site by public transport, on foot or by cycle, including providing adequate on site cycle parking.

Considerate Constructors Scheme

26 The Considerate Constructors Scheme

26.1 The project will be registered with the Considerate Constructors Scheme, a national initiative to improve the image of construction.

26.2 The project will also be conducted in accordance with the London Borough of Camden's guidance as set out in the 'Guide for Contractors Working in Camden' published in February 2008.

26.3 Under the Considerate Constructors Scheme, contractors commit to an eight-point Code of Considerate Contractor Standards as described below.

Considerate

26.4 *Consider the needs of everyone who is affected by the construction process and of its effect on the environment. You must give special attention to the needs of people with sight, hearing or mobility difficulties.*

26.5 We will liaise with all stakeholders from the outset so that we understand their needs and can take them into account, and provide suitable mitigation where necessary, at all stages of the project. We will endeavour to minimise the nuisance caused by our activities, including those associated with traffic, noise, dust and pollutants. We will take suitable precautions to protect our neighbours and their property.

Environment

26.6 *Be aware of the environment when choosing and using resources. You must pay particular attention managing waste, avoiding pollution, using local resources wherever possible and keeping noise as low as possible.*

26.7 A waste management plan will be developed following appointment of the Principal Contractor and will be incorporated into this construction management plan. All potential forms of pollution and environmental impact will be assessed and mitigation measures implemented, as described in this plan. Materials will be obtained from sustainable sources. Local suppliers will be used wherever possible, providing other procurement conditions are met, including those relating to vehicle operation.

Cleanliness

26.8 *Keep the site, footpaths and surrounding area affected by the work clear of mud, spillage, litter, and any unnecessary rubbish. Make sure that the site, hoardings, scaffolds, and other features are kept in a clean, tidy, and safe condition*.

26.9 As far as is reasonably practical, we will keep adjacent carriageways and footways clear of mud, dust, or other deposits at all times. Vehicle wheels will be washed clean as necessary prior to despatch from the site. Any mud, or other material, deposited on the highway will be cleaned without delay by appropriate manual or mechanical means.

Good neighbour

26.10 *Consult with neighbours about site activity from before the work starts to the final handover. Provide site information and viewing facilities where practical*.

26.11 We are committed to regular and comprehensive liaison with the local community. We will inform, consult, and listen, particularly in relation to concerns and complaints, and act quickly to resolve any issues. Detailed proposals for community liaison are given in section 11 above.

Respectful

26.12 *Promote respectable and safe standards of behaviour and dress. You must not accept rudeness and must deal with poor behaviour using the strongest possible disciplinary action*.

26.13 A comprehensive set of site rules will be imposed that, inter alia, will require high standards of dress and behaviour.

Safe

26.14 *Make sure all construction work and vehicle movements are carried out with care for the safety of passers-by, neighbours, and site personnel*.

26.15 We will carry out risk assessments of all potentially hazardous construction activities and develop method statements that will help to ensure that all such activities are carried out safely. This includes arrangements for vehicle movements to and from the site, with measures identified in this CMP to protect pedestrians and cyclists at the site entrance and safeguards identified to promote highway safety across the wider highway network as a result of its use by our vehicles.

Responsible

26.16 *Be responsible for making sure everyone on site understands the scheme*.

26.17 Measures are identified in this construction management plan to ensure that all staff and operatives are familiar with the project and their specific work activities. No-one will be allowed to commence work on, or visit the site without having first successfully completed a process of induction.

Accountable

26.18 *Be accountable (responsible for your actions) to the public by providing site contact details and being available to deal with their concerns and develop good local relations*.

26.19 We recognise our responsibilities as Considerate Constructors and will operate an 'open door' policy in terms of lines of communication for any members of the public to contact us and shall make appropriate personnel available to address concerns and complaints. We will use our best endeavours to develop good local relations.

Monitoring of the Construction Management Plan

27 Monitoring

27.1 The construction management plan is a 'live' document. It is important that it is regularly reviewed and, where necessary, adjusted to make sure that it remains an effective tool in managing the construction impacts of the project.

27.2 The various measures included in the plan will be monitored to ensure their continuing effectiveness and new management measures will be introduced as necessary to ensure that the objectives of the construction management plan are achieved.

27.3 The Principal Contractor will determine a suitable schedule for monitoring the construction management plan and that schedule will be incorporated into this document. The results of monitoring and review exercises will be recorded and any updates to the plan will be made available to the Local Authority on request.

27.4 The Principal Contractor will be responsible for determining and implementing any corrective action required as a result of the monitoring regime. The final version of the Construction Management Plan shall set out the details of any penalties that shall apply in respect of identified breaches of the plan.

Waste Management Plan

28 Site Waste Management Plan

28.1 In accordance with The Site Waste Management Plans Regulations 2008, a conforming Site Waste Management Plan has been prepared for this project.

28.2 The objectives of the Site Waste Management Plan are:

- To improve efficiency and profitability by promoting re-use, recycling and recovery of waste in preference to disposal;
- To reduce fly-tipping by keeping a full audit trail of waste removed from the site and complying with waste duty of care regulations; and
- To increase environmental awareness amongst the workforce and management.

28.3 The Site Waste Management Plan covers:

- Re-use – in other projects or in other phases of the same project;
- Recycling – such as turning the arisings from demolition into aggregates;
- Recovery – such as the recovery of serviceable building materials that can be used elsewhere (eg bricks);
- Disposal – to landfill, as a last resort.

28.4 Responsibility for the initial preparation of the Site Waste Management Plan rests with the Client, but the Principal Contractor will be responsible for maintaining, reviewing and updating the plan throughout the life of the project. The Principal Contractor is responsible for ensuring that all site personnel are aware of the Site Waste Management Plan, its contents and that they co-operate with its requirements.

28.5 The Site Waste Management Plan relating to demolition and construction will be included at Appendix E.

Conclusion

29 Conclusion

29.1 This Construction Management Plan sets out how UCL and the London School of Hygiene & Tropical Medicine will manage the demolition and construction phases of the Bloomsbury Research Institute Extension project at 15-17 Tavistock Place, London so that the impacts of these works on neighbours, nearby residents and the local community are minimised; so that hazards arising from whatever source are identified and appropriate control and mitigation strategies are put in place; so that the potential adverse impacts of noise, dust and other pollutants are effectively controlled and mitigated; and so that traffic disruption, nuisance and congestion are minimised in a safe and efficient manner.

Contacts

30 Project Contact Details

30.1 **Client:** *To be inserted*

30.2 **Principal Contractor:** *To be inserted*

30.3 **Principal Designer:** *To be inserted*

30.4 **Local Authority:** *To be inserted*

30.5 **Site Manager responsible for this Construction Management Plan:** *To be inserted*

Wilde Carter Clack Consulting Engineers
June 2015

Appendices

Appendix A

Project Programme

(to be inserted following appointment of Principal Contractor)

Appendix B

Construction Access Options Appraisal

University College London: London School of Hygiene and Tropical Medicine: Tavistock Place, London

Construction Access Options Appraisal

1. Background

1.1 The subject site, known as 15 – 17 Tavistock Place, is located in the King's Cross Ward of the London Borough of Camden.

1.2 The site is owned and occupied by the London School of Hygiene and Tropical Medicine (LSHTM).

1.3 University College London (UCL) and LSHTM proposes to redevelop part of the site to provide additional laboratory and office space, which would involve the demolition of the existing steel structure in the rear courtyard of the building and the construction on the area to the rear of the site of an extension comprising two basement levels, ground floor and two upper storeys plus accommodation for roof-level plant. It is currently proposed to seek planning approval for the development in June 2015.

1.4 As part of the process of preparing a comprehensive planning application, consideration is currently being given to construction logistics relating to the proposed development. Discussions with officers of London Borough of Camden (LBC) are on-going, as part of which the highways officer has raised concerns about the access to the site for vehicles during construction.

1.5 In response, available access options have been examined, in conjunction with LBC's highways officer, and the following represents an appraisal of the options available. In this context, there are three possible access options to be considered:

- Burton Street, to the north west of the site;
- Marchmont Street, to the east of the site; and
- Tavistock Place, to the southerly frontage of the site.

1.6 A site visit with representatives of UCL, the project design team and LBC's highways engineer in attendance took place on Tuesday, 31 March 2015.

2. The Site

2.1 The subject site is located in the Bloomsbury area of Central London, within postcode area WC1.

2.2 The site is located on the northerly side of Tavistock Place, approximately 150m to the north east of Tavistock Square (the easterly side of which, Woburn Place, is designated as part of the A4200) and approximately 300m south of the Euston Road, A501.

2.3 Having an area of some 0.28 hectares, the site is broadly rectangular in shape, with a single highway frontage, to Tavistock Place, which runs along its southerly boundary. The main building on the site, having four-storeys plus basement, is located on this southerly boundary, for all practical purposes contiguous with the highway. The proposals envisage a development towards the rear of the site and do not affect the principal existing building.

2.4 The existing main vehicular and pedestrian access to the site is from Tavistock Place. This is located towards the westerly end of the site frontage. Given the developed form of the site, the vehicular access passes through the principal building via a gated passageway that provides access to the internal courtyard. The main pedestrian entrance to the building is accessed from the covered passageway.

2.5 A short distance to the east of the site and separated from it by a largely retail frontage, is Marchmont Street, which runs in a generally north-south direction leading to the Euston Road to the north and to the B502 Bernard Street to the south.

2.6 Leading from the westerly side of Marchmont Street, South Crescent Mews passes through the developed frontage, to the side of the Lord John Russell public house. The cul-de-sac end of the mews provides a gated access to the UCL site.

3. Burton Street

3.1 Burton Street is a single carriageway residential road that lies to the north west of the site of the proposed development. It is fronted on both sides by terraced residential property. It can be accessed from Cartwright Gardens via Burton Place and Flaxman Terrace, whilst Duke's Road provides a one-way connection from Euston Road to the northerly end of Burton Street (in that direction).

3.2 The length of Burton Street that would, potentially, provide access for construction traffic to the site is that to the south of Burton Place. This length of road is largely provided with parking bays to both sides of the road, leaving space for single file traffic along its centre. The parking bays provide for resident permit holders during the weekday daytime and on Saturday mornings.

3.3 This length of road is a cul-de-sac with no turning facility. Lengths of working day waiting restrictions have been introduced towards the cul-de-sac end to afford some turning space for smaller vehicles. It appears, from the location of the yellow line restrictions that there is a length of carriageway at the end of the cul-de-sac that is not public highway. (This can be seen in Figure 1).

3.4 At the southerly end of the cul-de-sac a passageway through the easterly terraced building provides access to a rear car park for residents. This car park shares a boundary with the proposed development site. Potentially, therefore, this has been identified as a possible access route to the site for construction vehicles during the building phase of the project.

3.5 The passageway is orientated at ninety degrees to the carriageway of Burton Street and measures 3.59m wide by 3.65m high. Entrance to the passageway is restricted (Figure 2) with footways creating a pinch point and with one pedestrian entrance to the building projecting into the accessway. This, stepped entrance, shown on the right in Figure 2, serves 17 apartments. A similar pedestrian entrance is evident to the left of the access.

Figure 1 **Burton Street looking southwards towards the cul-de-sac end showing the area beyond the transverse yellow line that is not public highway and the covered passageway to the left at ninety degrees to the road**

Figure 2 **Covered passageway from Burton Street leading to rear car park, showing narrow access, proximity of pedestrian entrances and orientation relative to the road**

3.6 The orientation of the passageway relative to the carriageway of Burton Street makes manoeuvring of large construction vehicles extremely difficult and establishes unacceptable conflicts with pedestrians gaining access to and egress from the adjoining residential premises.

3.7 It is anticipated that construction vehicles that would access the site during construction would include concrete lorries, 8.7m long and 3.75m high and small tipper lorries, 8m in length. The height of the existing passageway would therefore not permit access by the anticipated size of concrete lorry and the orientation of the access to the road would preclude access by all such vehicles. Damage to the footways would be likely to arise as a result of construction vehicles attempting to enter the site. It was noted that during a site visit on 31 March 2015 the local authority refuse vehicle manoeuvred at the junction of Burton Street and Burton Place and reversed along this length of Burton Street.

3.8 Consideration of the construction logistics suggests that, at peak, there would be 36 lorry movements per day (1 movement equates to either an arrival at or despatch from the site), which is considered likely to cause disturbance and inconvenience to residents. During a site visit on 31 March 2015 it was noted that several vehicles were parked in the area between the limit of the public highway and the cul-de-sac end and these vehicles would need to be removed in order to facilitate access via this route.

3.9 In addition to the practicalities of securing access via the Burton Street route and passageway, there are also legal issues to be overcome. The site is not contiguous with the public highway but would need to be accessed across private land and rights of access would therefore need to be secured. As indicated above, access to the covered passageway is across an area of carriageway that is not public highway. It would therefore be necessary to secure a legal right of access over this land with the owners and, as indicated above, to ensure that current parking within this area is suspended for the duration of the work. Further, the site is only accessible via the covered passageway across a private car park. Again, a legal right of access would need to be secured and this may impact significantly on residents' parking.

3.10 In this context, there have been negotiations with the owners of the car park regarding rights of access and boundary construction issues. Extensive negotiations have failed to secure the purchase of the car park or to secure any agreement with the owners beyond the lease, for the duration of the works only, of two car parking spaces. It is UCL's opinion, based on the outcome of these negotiations, that it would not prove possible to secure the necessary agreements to access the site for construction traffic via this route. A copy of an e-mail outlining the outcome of negotiations to date is attached to this report by way of substantiation of UCL's conclusion in this matter.

3.11 It is concluded that there are a number of significant obstacles to the use of Burton Street as an access to the site for construction traffic during the building of the project. These can be summarised as:

- It is unlikely to be possible to secure the necessary agreements to allow access for construction traffic across the private car park
- Access to the covered passageway from the public highway is across an area of carriageway that is not part of the highway, requiring a right of access with the owners to be secured
- Parking in this area would need to be suspended for the duration of the works, which would need to be negotiated with the owners

of the land and would have an impact on those parking in this area

- The covered accessway is narrow and low, too low to accommodate the concrete lorries likely to access the site
- Vehicles would be likely to overrun the footways, potentially causing damage
- Significant conflicts would arise between construction vehicles and residents entering and leaving via the pedestrian entrance that projects into the access
- The covered passageway is orientated at ninety degrees to the carriageway of Burton Street that precludes access to larger vehicles.
- Construction traffic would be likely to cause disturbance and inconvenience for residents
- Access via the car park would be likely to lead to a loss of parking for residents during the works.

3.12 It is therefore concluded that access for construction vehicles via Burton Street is not a practicable option.

4. Marchmont Street (South Crescent Mews)

4.1 There is access to the site from Marchmont Street via South Crescent Mews, an alleyway that runs between the Lord John Russell public house and the adjacent retail premises (Figure 3).

4.2 The Marchmont Street frontages within the vicinity of the subject site are largely retail and commercial in character and are likely, therefore, to generate a requirement for on-street loading and servicing activity. Single yellow waiting restriction lines are evident to these frontages. Footways are present on each side of the street.

4.3 The alleyway does lead into the site, where there is a gated access, but in common with the Burton Street and Tavistock Place accesses would require vehicles to pass between and beneath buildings. In the case of South Crescent Mews, the width of the passageway is 3.3m and the minimum height available is 3.64m. The available headroom is, therefore, insufficient to afford access to the concrete lorries anticipated to deliver to the site (paragraph 3.7 above). This would preclude the use of this access for a significant proportion of the construction vehicles likely to service the site during the building phase. As none of the frontage buildings and associated forecourt areas are in the ownership of the developer it is considered unlikely that it would be possible to carry out works in these areas to improve the headroom.

4.4 The alleyway is also relatively narrow, and there are air conditioning units that project into the alleyway. These would represent a significant impediment to the passage of construction vehicles.

Figure 3 View of access from Marchmont Street via South Crescent Mews showing restricted width and height

4.5 The legal status of South Crescent Mews is not immediately apparent. Although a named 'street' it is understood that it has never been a through route, and has only ever been a cul-de-sac serving private premises. Under these circumstances it is not clear that there are public rights of way over the Mews. It is understood that UCL enjoys a private right of way over the Mews but only for the purposes of emergency evacuation from the site. UCL does not own the land over which the Mews runs.

4.6 It is evident that, whether or not legal rights of way and access exist, there has been some encroachment on the enjoyment of the use of the Mews as a means of access by adjoining property occupiers. Recent observations have revealed the presence of benches within the Mews that prevent access and that, in addition to the air conditioning units from the pub that protrude into the Mews, hanging baskets, shelves etc have been fixed to the outside wall of the public house. The area clearly provides an important extension to the activities of the public house that is, potentially, economically beneficial to the business, and it is considered likely therefore that negotiation of the suspension of this activity during the course of the building works would be difficult to achieve. There is also a door to the public house premises on the corner of the alleyway that could lead to unacceptable conflicts between pedestrians and construction traffic.

4.7 It is concluded that there are a number of significant barriers to the use of South Crescent Mews as an access to the site for construction traffic during the building of the project. These can be summarised as:

- Access from Marchmont Street via South Crescent Mews is via a passageway with restricted width and headroom; the present headroom is insufficient to allow access to concrete lorries and there appears little if any prospect of carrying out physical works to increase the headroom sufficiently.
- The width of the alleyway is restricted further by the projection of air conditioning units into the passageway from adjoining buildings.
- There would be potential conflict between construction traffic accessing and egressing via this route and delivery and other vehicles servicing the adjoining commercial premises.
- The status of rights of way over South Crescent Mews is unclear but it is understood that UCL only have a right of way for the purposes of emergency evacuation from their site; additional rights would thus have to be negotiated with adjoining third party landowners/tenants.
- Irrespective of rights of way, the public house has established use of the alleyway as an extension to the commercial activity of the premises; use of the access would require this activity to be suspended for the duration of the works, which would need to be the subject of negotiation.

4.8 During a site visit on 31 March 2015 the LBC highways officer acknowledged that South Crescent Mews would be unlikely to represent a satisfactory access to the site of the proposed development for construction vehicles. It is therefore concluded that access for construction vehicles from Marchmont Street via South Crescent Mews is not practicable.

5. Tavistock Place

5.1 The existing access to the site, for pedestrians and vehicles, is from Tavistock Place.

5.2 As with the other access points under consideration, access from Tavistock Place requires vehicles to pass under and through an existing building via a covered passageway. In the case of this access, the width of the existing access is 3.87m and the headroom is 3.35m.

5.3 The headroom is currently, therefore, insufficient to afford access to the concrete lorries that it is anticipated would deliver to the site (paragraph 3.7 above). However, as the building and its forecourt area are within the ownership of UCL there is greater scope than elsewhere to make alterations in order to accommodate the anticipated construction vehicles. Preliminary examinations have been carried out and it is considered that the opportunity exists to amend the levels of the private forecourt area and passageway in order to achieve an increase in headroom of 0.5m, sufficient to enable access to the inner courtyard for all anticipated construction vehicles. Suitable protection measures for any underground services could be provided.

5.4 The major advantage of this proposal relative to the other two options is that negotiations over access rights with third parties would not be required. Works required to facilitate access for construction vehicles, and provision of measures to protect the public, would therefore be entirely within the control of UCL.

5.5 It is recognised that Tavistock Place is the busier road from which to take access and that, other things being equal, there would be a preference for taking access from less busy roads. However, in this case, it is considered that the obstacles to the provision of access from alternative less busy highways, as described above, are such that access from Tavistock Place is the only realistic, practical and achievable access during the construction phase of the works and that, providing satisfactory measures are put in place to manage the arrival and departure of construction vehicles, access from Tavistock Place should be acceptable to the highway authority.

5.6 Tavistock Place in the vicinity of the subject site is a single carriageway, two-way urban street with footways to both sides. At this location the development within the street is predominantly residential in character, some premises providing hotel accommodation. It is accepted therefore that access arrangements for construction vehicles to the UCL site cannot have an unacceptable impact on neighbouring properties, including their servicing and access needs.

5.7 Currently, the carriageway of Tavistock Place at this point provides a single traffic lane in each direction. Waiting restriction lines are evident along both sides of the road. On the northerly side of Tavistock Place, adjacent to the frontage of the subject site (and extending from beyond its junction with Tavistock Square to the west to its junction with Judd Street to the east) is a two-way cycle lane segregated from the main carriageway by raised, kerbed and paved islands. These latter provide a largely continuous division of the cycle lanes from the main carriageway, interrupted only to provide level crossing points for pedestrians and to afford vehicular access to off-street parking and loading areas. There is a break in the island at the vehicular access point to the subject site from Tavistock Place. In discussions with the LBC highways officer it is apparent that, in the Summer of 2015, LBC intends to introduce an experimental traffic scheme on Tavistock Place. This will involve no physical works (during the experimental period) but will mean that general traffic flow will become one-way (eastwards from Gower Street to Judd Street) and a new westbound cycle lane will be provided along the southerly side of the carriageway. Again, the arrangements for access to the proposed development site need to take this experimental arrangement into account. UCL believes that this can readily be accommodated.

5.8 The junction of Tavistock Place with Marchmont Street is controlled by traffic signals. Both the left turn and right turn for general traffic from Tavistock Place into the northerly arm of Marchmont Street are prohibited at this junction, whilst Marchmont Street to the south of the Tavistock Place junction is one-way in a southwards direction, leading away from the junction.

5.9 The existing access, and the preferred access for construction vehicles, is located well away from the traffic signal controlled junction with Marchmont Street and is ‘set back’ relative to the pedestrian footway desire line, thereby affording the opportunity of amending levels to generate the additional headroom required.

5.10 Even so, it is recognised that the access places constraints on the size of construction vehicle that will be able to enter the site and UCL would implement a logistics operation that ensures that only vehicles of that size would travel to the site and that no loading or unloading would take place from the highway of Tavistock Place (except temporary one day closures of

Tavistock Place that would be required for the placing and decommissioning of the necessary cranes required).

5.11 UCL is currently carrying out a major building programme at a number of sites within its estate and has established a logistics centre at Silvertown in Docklands for the receipt of large, indivisible loads. For sites in the Bloomsbury area, a Local Logistics Zone has been established at Gordon Square by the temporary closure of part of Endsleigh Place, adjacent to the UCL Department of Anthropology. This provides an area where vehicles can be marshalled before being despatched, by radio, to the relevant construction site. This holding area would ensure not only that vehicles of the requisite size are despatched to the Tavistock Place site but that only one vehicle at a time is so despatched. This prevents a build up of vehicles at the site that might lead to construction vehicles standing on the highway.

5.12 Conscious that the site is physically constrained, UCL has taken advice from a leading contractor with experience of working within constrained, inner-London sites, about the 'buildability' of the scheme. Within the site it is their advice that a gantry could be constructed at ground level, above the basement construction, to provide somewhere to stand vehicles during delivery and removal of material from the site. Given the size of vehicles that would be able to gain entry to this area, it is envisaged that there would be sufficient space to allow vehicles to turn within the site so as to be able to enter and leave the site in forward gear – a major advantage.

5.13 At the site entrance on to Tavistock Place it would then be proposed to control vehicle access and egress across the existing footway and cycle facility with the use of temporary barriers deployed and removed as necessary by marshals. This arrangement would operate in conjunction with the radio-controlled arrival and despatch protocol described above and which ensures that only a single vehicle is present at the site at any one time, and would allow the deployment of barriers on a 'just in time' basis thereby minimising disruption and delay to the travelling public, particularly pedestrians and cyclists.

5.14 The barrier-plus-marshal methodology described above is already in use by the developer at a nearby site on Torrington Place, where the access for construction vehicles crosses a footway and the same cycle facility that passes the Tavistock Place site. It is understood that that arrangement has now been in place for around six months and has operated without incident.

5.15 Suitable access routes to and from the site via Tavistock Place would be agreed with LBC as part of the Construction Logistics Plan and would ensure that impact on neighbouring residents and businesses would be minimised,

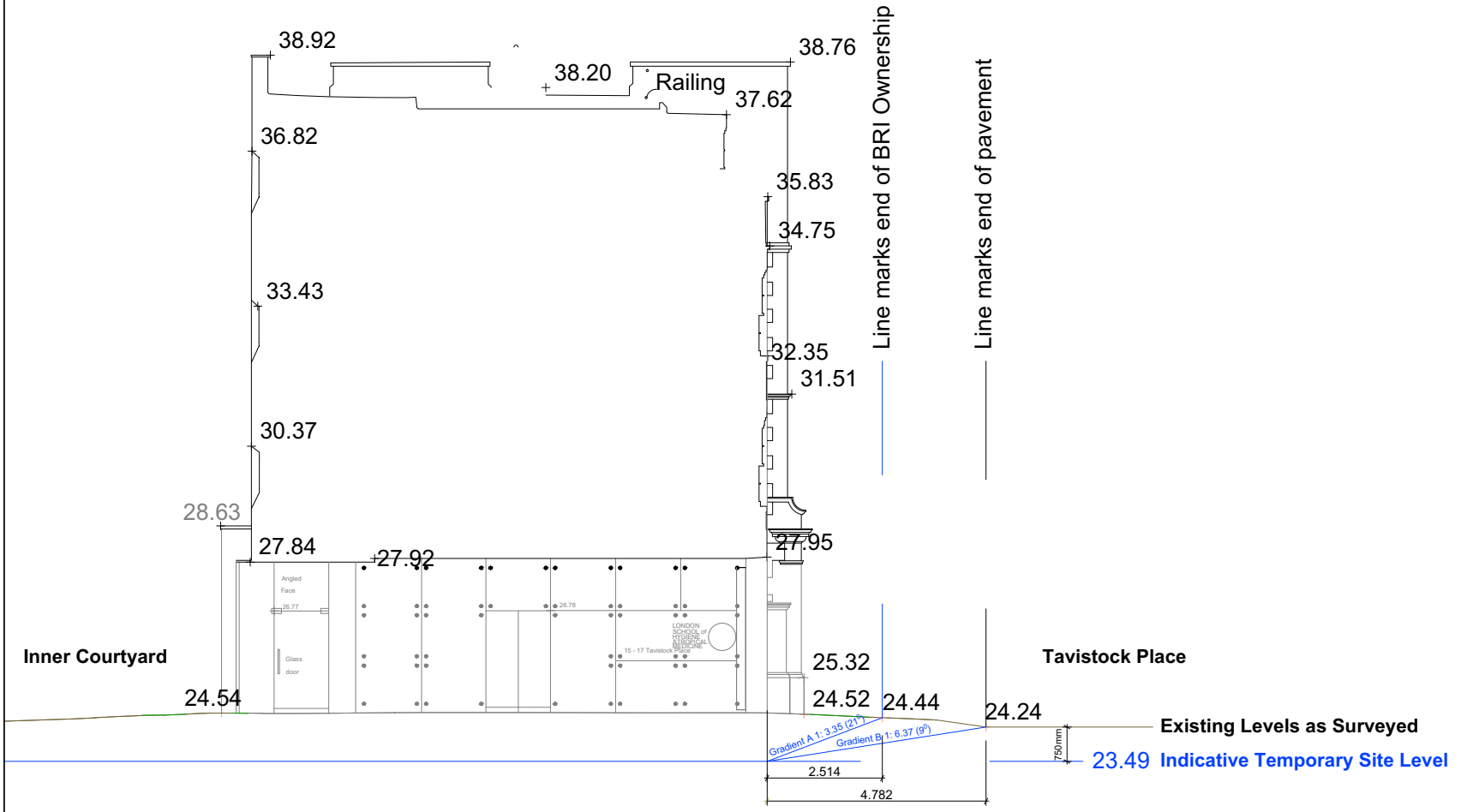
6. Conclusions

6.1 From the above it can be concluded that the most practicable access to the site of the proposed development during the construction phase of the project is that from Tavistock Place.

Wilde Carter Clack Consulting Engineers
April 2015
AG

Appendix C

Cross Section through Vehicle Access Ramp



Section taken from BMJ Architect's plan SK(90)05

Key

Indicative reduced level through archway and range of potential ramped access to highway

REV	DRN	CHK	APP	DATE	DESCRIPTION
A	TB	TB	TF	29/05/15	Issued for information

Wilde
Consulting Civil & Structural Engineers
Brindley Lodge, Adcroft Street, Stockport, Cheshire. SK1 3HS.
www.wildecivil.co.uk
Tel : 0161-474-7479
Fax : 0161-474-7492

Client
WILDE CARTER CLACK

Project
UCL - BLOOMSBURY RESEARCH INSTITUTE
TAVISTOCK PLACE, LONDON

Title
CONSTRUCTION TRAFFIC ACCESS PROPOSAL
SECTION THROUGH ACCESS

Scale	Drawn	Date	Chkd	Approved
1:100	TB	May 2014	TB	TF

Drawing No.
683_013_010

Revision
A

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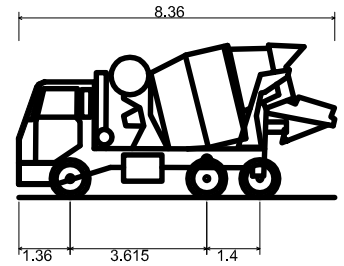
FOR INFORMATION

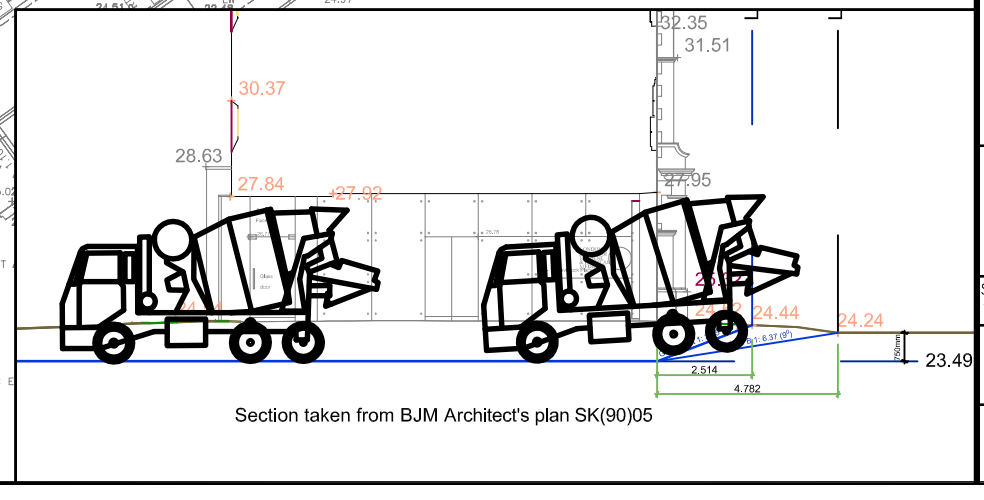
Sheet Size
A3

Appendix D

Swept Path Analyses



Concrete Mixer	
Overall Length	8.360m
Overall Width	2.390m
Overall Body Height	4.027m
Min Body Ground Clearance	0.358m
Max Track Width	2.413m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	8.210m



Section taken from BJM Architect's plan SK(90)05

REV	DRN	CHK	APP	DATE	DESCRIPTION
B	TB	BB	TF	02/06/15	Access profile added
A	TB	TB	TF	29/05/15	Issued for information

Wilde
Consulting Civil & Structural Engineers
ISO 9001
Brindley Lodge,
Acdroft Street,
Stockport, Cheshire.
SK1 3HS.
www.wildecivil.co.uk
Tel : 0161-474-7479
Fax : 0161-474-7492

Client
WILDE CARTER CLACK

Project
UCL - BLOOMSBURY
RESEARCH INSTITUTE
TAVISTOCK PLACE, LONDON

Title
CONSTRUCTION TRAFFIC
CONCRETE MIXER
SWEPTH PATH ANALYSIS

Scale	Drawn	Date	Chkd	Approved
1:200	TB	May 2014	TB	TF

Drawing No.
683_013_ATR01

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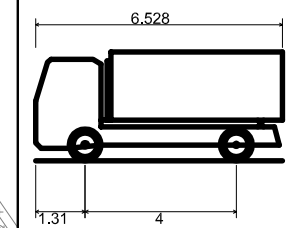

Small Tipper	
Overall Length	6.528m
Overall Width	2.500m
Overall Body Height	2.877m
Min Body Ground Clearance	0.327m
Track Width	2.393m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	7.850m

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A	TB	TB	TF	29/05/15	Issued for information

Wilde
Consulting Civil & Structural Engineers
ISO 9001 Registered
Brindley Lodge, Adcroft Street, Stockport, Cheshire. SK1 3HS.
www.wildecivil.co.uk
Tel : 0161-474-7479
Fax : 0161-474-7492

Client
WILDE CARTER CLACK

Project
UCL - BLOOMSBURY RESEARCH INSTITUTE
TAVISTOCK PLACE, LONDON

Title
CONSTRUCTION TRAFFIC
SMALL TIPPER
SWEPTH PATH ANALYSIS

Scale	Drawn	Date	Chkd	Approved
1:200	TB	May 2014	TB	TF

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683_013_ATR02

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A

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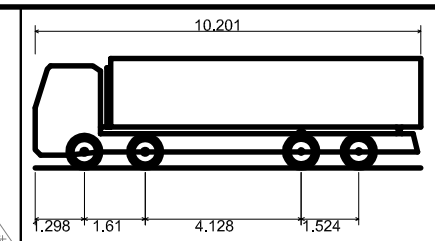

Large Tipper	
Overall Length	10.201m
Overall Width	2.500m
Overall Body Height	2.893m
Min Body Ground Clearance	0.343m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.550m

REV	DRN	CHK	APP	DATE	DESCRIPTION
A	TB	TB	TF	29/05/15	Issued for information

Wilde
Consulting Civil & Structural Engineers
ISO 9001 Registered
Brindley Lodge, Adcroft Street, Stockport, Cheshire. SK1 3HS.
www.wildecivil.co.uk
Tel : 0161-474-7479
Fax : 0161-474-7492

Client
WILDE CARTER CLACK

Project
UCL - BLOOMSBURY RESEARCH INSTITUTE
TAVISTOCK PLACE, LONDON

Title
CONSTRUCTION TRAFFIC
LARGE TIPPER
SWEPTH PATH ANALYSIS

Scale	Drawn	Date	Chkd	Approved
1:200	TB	May 2014	TB	TF

Drawing No.
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Revision
A

Status
FOR INFORMATION

Sheet Size
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Appendix E

Site Waste Management Plan

(to be inserted following appointment of Principal Contractor)