123 Broadhurst Gardens
London
NW6 3BJ

Construction Management Plan

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11th August 2017

CONTENTS

Methodology sequence for construction for the excavation of the existing lower ground floor under the existing house and consented extension & terrace (planning ref: 2016/4041/P). The construction of front lightwells adjacent to the host dwelling, with associated grilles at ground floor level. The construction of a rear lightwell adjacent to the host dwelling and the relocation of side access door and associated landscaping works at 123 Broadhurst Garden, London, NW6 3BJ

1. SCOPE OF WORKS

The site is located in the South Hampstead Conservation area. The property is not listed and consists of a five storey residential semi-detached dwelling house with front and rear garden, accessible from Broadhurst Gardens (public road). The site is neighboured by a number of semi-detached houses and large residential blocks (flats).

The proposed development comprises internal modifications of the existing single family dwelling. Excavation of the existing lower ground floor under the existing house and consented extension & terrace (planning ref: 2016/4041/P). Proposed front lightwells adjacent to the host dwelling, with associated grilles at ground floor level. Proposed rear lightwell adjacent to the host dwelling. Relocation of side access door and associated landscaping works.

2. CONSTRUCTION PROJECT MANAGER

The Construction Project Manager (CPM) will be responsible for implementing measures contained in the Construction Traffic Management Plan (CTMP) and will be the point of contact for local residents.

The contact details of the CPM will be displayed at the frontage of the site. The CPM will liaise with local residents when necessary to ensure that they are aware of the programme of works taking place and to give advance notice of any noisy or disruptive works.

The CPM will be responsible for monitoring and reviewing the CTMP and will deal with any concerns of local residents and businesses. The contact details for the CPM will be confirmed once a contractor has been appointed.

3. SITE SET UP

The site has an existing brick boundary wall with a central pedestrian access gate to the street frontage. There is either an existing brick boundary wall or fence that surrounds the perimeter of the site on the remaining three sides and the construction site activities will stay within its confines.

Site hoarding is to be erected on the site boundary with the public highway. The extent of the hoarding and lighting requirements will be agreed with the highway authority in accordance with their licensing procedure. The hoarding will assist in making the site area secure and creating a safe working area.

Structural / Non-Structural Works / Internal Fit Out

It is envisaged that all building materials will be brought onto site via the Broadhurst Gardens frontage of the site. Delivery vehicles would be required to pull up along Broadhurst Gardens, under the supervision of a qualified banksmen, then utilise the area to stop and deliver materials in a timely manner.

Towards the end of the project during fit-out it is proposed for smaller vehicles to be visiting the site such as plasterer's/electrician's/plumber's transit type vans which will need to park locally having first unloaded any heavy tools/materials.

Working Hours on the Site will be as below:

- Between 08.00 and 18.00 Monday to Friday.
- Between 0800 and 13.00 on Saturday.
- Not at all on Sunday, bank holidays and public holidays.

During all stages, the welfare facilities and the site office will be set up within the existing dwelling house.

Noise will be kept to an absolute minimum wherever possible and will not take place outside the above working hours.

4. PROJECT HAZARDS / RISK ASSESSMENTS / METHOD STATEMENT

Prior to operations, each sub-contractor is required to submit, to the CMP, documentation of any known hazards, risk assessments and method statements.

Suitable and sufficient risk assessments and method statements will be produced to minimise the H&S risk to operatives and members of the public during the site operations.

Sub-contractors' method statements will be reviewed by the CMP to ensure that risks and safe method of works proposed are suitable to the activities defined in the project. When reviewing a sub-contractor's method statement, a 'Method Statement Checklist' will be used, to ensure that the Control & Review Procedure has been carried out and assessed where necessary and appropriate amendments made if necessary.

5. NOISE, VIBRATION, DUST, DIRT CONTROL MEASURES DURING CONSTRUCTION

Noise monitoring:

Noise levels from construction during the working day will be monitored against the recommended levels in BS 5228-1: 2009 Annex E for a residential area.

Noise levels will be monitored during construction as follows:

- Noise and Vibration monitoring will be carried out regularly, as well as in response to requests/complaints or any new activities that have the potential to generate significant noise.
- Checks will be made on method statements to ensure that the best practice described in the standards is being applied in the method and site activities.

Noise and Vibration Mitigation:

All hand operated tools and equipment shall be effectively silenced and will bear the manufacturers guaranteed maximum sound level generated. The recommendations made in BS 5228-1: 2009 "Code of Practice for Noise and Vibration control on Construction and Open Sites" will be specified for adoption by the contractor, and its sub-contractors.

- Any noise-emitting equipment on site that is required to run continuously will be housed in a suitable acoustic enclosure.
- Machines with intermittent use will be shut down in the intervening periods between works or throttled down to a minimum.
- The use of and noise from, percussive tools with be limited as far as reasonably possible.
- Building apertures shall be sealed with Monaflex sheeting which will reduce the transfer of noise.
- Excavators will be fitted with hydraulic pulverisers and shears whenever possible in preference to hydraulic hammers.
- All plant and machinery will be fitted with silencers and where hydraulic hammers are used they will be fitted with bafflers as per 855228-1: 2009.
- Sound reduced compressors will be used and/or fitted within acoustic enclosures where necessary.
- The positioning of compressors will also be taken into consideration to reduce noise transfer to neighbouring properties.
- Pneumatic tools will be fitted with silencers or mufflers
- Electrically powered tools will be used as opposed to petrol/diesel powered, wherever possible.
- Care will be taken when erecting or striking scaffolds to avoid impact noise from banging steel.
- No personal audio equipment will be allowed on site e.g. radio.
- Acoustic blankets will be employed where necessary on the party wall.

Dust Control

The site is largely enclosed at Lower Ground Floor level which shall substantially control dust emissions.

Visual assessments on dust levels will be taken on a daily basis by the works manager and recorded in the site diary.

Best Practice Means (BPM) will be used to ensure that dust does not cause nuisance. Where dust is considered to be a risk during a specific site activity, mitigation measures will be included in the task specific method statement for the work. The controls listed in the method statement will be assessed on site to ensure they are adequately carried out and effective. The controls will be briefed to the engineers and operatives to ensure they are aware of mitigation measures and controls to be employed.

Mitigation measures to ensure dust is kept to a minimum will include the following:

- Large stockpiles of materials will be avoided and are not anticipated due to the nature of the project.
- Use dust screening where possible.
- Damping down the areas with water to suppress the dust whilst ensuring the application does not create excessive mud.
- Construction plant will be well maintained and operated to minimise emissions to air.
- Good housekeeping including the regular sweeping of floors will be maintained and debris disposed of in enclosed skips.
- Outer surfaces of skip will be washed before leaving site.
- Equipment and techniques such as dust extractors will be used to minimise dust when using cutters and saws.
- Portable knapsack dust suppressors will be employed on floors.
- Wind conditions will be taken into account when arranging activities that are likely to emit aerosols, fumes, odours and smoke.
- Materials will be pre-fabricated and pre-cut off site where possible to minimise dust from cutting and grinding activities. If cutting and grinding cannot be mitigated off site then water suppressant systems and or local exhaust ventilation will be employed.

6. THE STORAGE OF PLANT AND MATERIALS

The materials will be stored on site in designated storage areas (front and rear gardens) in stock piles, the majority of the materials will be delivered on a "just in time" basis and loaded out directly to the intended work face.

- When storing materials and plant on site a location will be chosen that minimises the risk of materials and plant being damaged, stolen or vandalised. Materials will be stored neatly on flat solid ground to avoid damage and loss.
- Materials will be protected from damage by the elements by keeping them in their packaging for as long as possible.
- It will be ensured that there is good access to the storage area. This will help minimise damage caused to materials from mechanical handling equipment and people climbing over materials trying to get what they need.
- All waste packaging and redundant material etc. will be removed immediately.
- The delivery of materials and plant will be supervised to ensure correct location and method of storage.
- Workers will be encouraged to check that a material is fully used prior to starting a new batch and return to storage materials that have not been used. Off-cuts will be used where possible and formwork re-used as often as practically possible.
- Plant which uses fuel will be stored on drip trays.

- All small plant tools will be stored in metal locked tool boxes positioned at various locations on the site depending on the work face at the time.

All material deliveries will be in accordance and adhere to the Traffic Management Plan. (Refer to Section 9).

7. PLANT & EQUIPMENT

All plant brought on to site will be inspected prior to use. Evidence of last test and all statutory test certification will be submitted by the Sub-Contractor before commencement.

Plant will be recorded on a 'Plant Register' or through a software system and will be regularly reviewed and updated.

Maintenance and changing of abrasive wheels will be done by a competent person and recorded on 'Abrasive Wheel Register'.

All lifting equipment will be inspected in accordance with the relevant regulations.

Mechanical Plant operation is to be only by a nominated competent person.

Mechanical plant or equipment will be inspected in accordance with the relevant regulations. Inspections will be recorded on the suitable mechanical plant inspection form as identified in the company Plant Equipment Maintenance procedure.

8. NEIGHBOURLY ISSUES

The Construction Project Manager will be responsible for communicating with all neighbours prior to commencement and periodically throughout the project. In particular, newsletters / leaflets will be posted when certain main activities are planned.

Environmental management, sustainability issues and the sensitive particular neighbourhood issues will be explained and communicated to staff and sub-contractors on commencement of the site works.

Means of communication will include:

- Pre-start meeting for sub-contractor
- Site Inductions
- Site training to personnel.
- Circulation of key personnel contact telephone numbers
- Regular site meetings will be used as the basis for correspondence and information flow regarding aspects of the project. Neighbourly issues will form an important part of the agenda.

9. CONSTRUCTION TRAFFIC MANAGEMENT PLAN (To be read in conjunction with Appendix)

9.1 Introduction:

The Traffic Management Strategy for the project is one of minimising the interface, wherever possible, between third parties and site traffic and reducing the number of deliveries where practical, including the staging of deliveries such that the volume of traffic is kept as even as possible avoiding peaks and controlling vehicular movements on the project.

This document provides practical guidance on the planning of these issues, the control measures that will be implemented and highlights the points for consideration and necessary actions during the Construction duration.

Avoiding hazards and controlling the risks arising from the use of the vehicles in construction work is essential and can be achieved by:

- Planning and managing both vehicles and pedestrian routes.
- Safe driving and working practices.
- Protection of the public.

- Adequate vision and lines of sight.
- The provision of signs and barriers.
- Adequate parking and off-loading storage areas.

9.2 Main Objectives

It is imperative that the Safety of the general public and neighbours is treated with high priority at all times.

Relationships with Neighbours are of the utmost importance. Their enjoyment of the environment is paramount at all times.

Fire and Emergency procedures for adjacent properties are not to be compromised.

9.3 Responsibilities

a. Contacts

Telephone numbers for the Main Contractor, the Safety Advisor and the Contracts Manager will be available 24 hours a day.

b. Communication

The Construction Project Manager will be responsible for communicating with all neighbours prior to commencement and periodically throughout the project. In particular, newsletters will be posted when certain main activities are planned.

c. Site Supervisor

- The Site Supervisor will be the responsible person with regard to traffic safety and shall ensure that all Operatives comply with the Traffic Management Plan and that any works that affect the public highway shall comply with the DFT Transport Traffic Signs Manual: Chapter 8.
- The Site Supervisor will be responsible for policing the site entrance gate for all authorised vehicles and personnel.

9.4 Traffic Management

Route maps will show the proposed routes that all contractors and deliveries will be directed along to gain access to the site. Once materials have been delivered, they will be transferred to the storage areas on site as required.

The effectiveness of the Traffic Management Plan must be assessed at progress meetings and any issues rectified by amending the plan as necessary.

Under no circumstances will lorries be allowed to "lay-up" in surrounding roads and this will be controlled using the following measures:

- Deliveries will be limited to out-of-peak hours i.e. not during times when parents are driving to or from schools with their children and contractors will be reminded of this in their induction.

a. General Site Traffic Access Arrangements

- A route Map will be issued to all sub-contractors and suppliers with the specific traffic routes at the order stage.
- A delivery booking system will be instigated on site.
- The traffic procedures will be explained to all site personnel in the initial Site Induction when first starting work on the site.
- Directional Signage will be placed if necessary and as approved with the Local Authority.
- General Health & Safety signage will be used around the off-loading area within the site

- Speed limit signs and additional warning notices will be placed on clear view on the hoarding at 123 Broadhurst Gardens.

- All Plant and delivery vehicles will be guided onto site by qualified banksmen, all wearing appropriate Personal Protection Equipment incl. hi-visibility jackets / vests.

- There will be no parking on site.

- Any discourteous behaviour or non-compliance of the site procedures will result in the drivers being removed from the site.

- Regular inspections of the road (Broadhurst Gardens) condition will be carried out.

- Companies and lorry drivers will be contacted via mobile phone to control one lorry at any time outside the site.

9.5 Pedestrian Routes & Fire Exits

Regulation 37(2) of the Construction (Design & Management) Regulations 2007 states: "Suitable and sufficient steps shall be taken to ensure that, where any person may be endangered by the movement of any vehicle, the person having effective control of the vehicle shall give warning to any person who is liable to be at risk from the movement of the vehicle". This will be achieved by ensuring:

- Pedestrian routes and fire exits will be wide enough to safely accommodate the number of people likely to use them.

- Pedestrian routes and fire exits will be kept free from obstructions.

- Pedestrian routes and fire exits will be clearly and suitably signed.

- Pedestrian routes and fire exits will have a clear view of traffic movement at crossing points and at gates which lead onto traffic routes.

9.5.1 Traffic Routes

The Traffic Management Plan requires that the works will be organised in such a way that the traffic routes are suitable for the passage of vehicles using them with regard to locations and the width of lanes. Traffic routes shall not be approved unless:

- Vehicles can use the traffic route without causing danger to themselves or other road users.

- Pedestrian access or egress is sufficiently separated from vehicle routes as this will enable the pedestrians to see any approaching vehicle or item of plant.

- There is sufficient separation of vehicles and pedestrians or where this is not practicable or in an emergency there are other means for the protection of others.

- There are effective means of warning of the approach of any vehicles.

Vehicles shall enter the site by arriving at Broadhurst Gardens from either West End Lane or Finchley Road. On entering from either, vehicles shall pull up in front of No. 123 Broadhurst Gardens under instruction from a trained banksman.

Loading/unloading of skips and goods will take place on the front driveway under the instruction of a trained banksman. Any materials will be moved immediately onto site.

9.6 Vehicle Analysis

The following list provides typical details of the type of vehicles that may need to gain access to the site during the construction process. Contractors will be advised that there is no parking on site and recommended to travel to the area by public transport.

- Skip Lorry for 8 yard skip 4 Wheel, 7.5 Tonne, G.V.W
- HIAB Flat Bed or 7.5 Tonne Rigid Vehicle
- Sundry Materials 4 Wheel, 3 Tonne, G.V.W,
- Van / Flat Bed

Anticipated traffic movements and the size and type of vehicle will vary throughout the programme period. As a general rule, the number and size of vehicles will be greater during the beginning of the project while the majority of the structural works are being completed.

9.7 Site Entrances

The only access to the site is via the pedestrian gate on Broadhurst Gardens and this will also serve as the exit.

Loading and unloading will be carried out directly to the front of the property to ensure that the public road is not blocked for any period of time.

There will a banksman present at all times to ensure no pedestrians use the footpath immediately outside the site, and where necessary, stop the vehicle(s) until pedestrians have passed safely, this will be backed up by the use of adequate signage as necessary.

Deliveries/ vehicle movements will be planned outside of peak times such as when persons are travelling to and from work or school and in agreement with the surrounding residents of Broadhurst Gardens to minimise the risk of disruption throughout the project.

9.8 Site Security

The front of the property has a metal pedestrian gate to allow entry onto the site. Any hoarding, along the front boundary wall and gate, shall be kept closed and locked from the inside at all times when vehicles are not loading or unloading.

- The doors will have the necessary lighting and signage as required by Camden Council.
- The doors will be maintained as necessary to keep the Site frontage as presentable as possible throughout the contract duration.

Signage will be fixed to the door, displaying the Project Manager's contact details along with any relevant project specific signage, such as "Site Safety" etc.

10.0 WASTE MANAGEMENT PLAN

10.1 The Waste Hierarchy

Waste management starts with resource efficiency, using raw goods which have been purchased wisely. Our waste management incorporates The Waste Hierarchy and prioritises all such measures to:

- Minimise the generation of waste and achieve Zero Waste to Landfill.
- Increase the use of recycled and recovered materials.
- Reuse materials on site, wherever possible.
- Segregate non-hazardous waste for recycling, wherever possible.
- Segregate hazardous waste.
- Ensure the waste collected on site is efficiently managed to enable recycling, recovery or the best disposal option.

In order to manage waste effectively on site, the contractor will also:

- Order the correct amount of materials to be delivered when needed.
- Ensure that materials delivered to site are not damaged or unusable.
- Reduce the amount of packaging, wherever possible.
- Ensure that waste is handled and stored correctly.

10.2 Segregation on site

Where possible, the Project team will segregate non-hazardous waste material into separate waste streams on site. When segregating waste, the Project Team will:

- Use appropriate containers.
- Label container clearly using appropriate signage.
- Allocate designated areas for container in suitable locations.
- Empty containers regularly to prevent lack of space and possible contamination.
- Monitor waste containers to ensure that contamination of segregated waste does not occur.
- Train site personnel via toolbox talks and the site induction programme.
- Enforce the segregation scheme using appropriate personnel and a waste champion.

If there is a lack of space on site to achieve segregation of non-hazardous waste, the Project team will work closely with the waste management contractor to ensure that the mixed containers are sorted for recycling at the waste facility and that high recycling rates are subsequently achieved.

10.3 Hazardous Waste

The Project Manager or waste champion will ensure that the hazardous waste is segregated, stored safely and that measures are implemented to avoid contamination of other waste.

No electrical equipment is to be disposed of directly from site. All electrical equipment, such as fridges, microwaves, computers and Visual Display Units (VDU) will be taken to Mitcham Consolidation Centre for testing and disposal according to the WEEE directive and current legislation.

The existing property has no hazardous materials stored.

10.3.1 Duty of Care, EPA 90

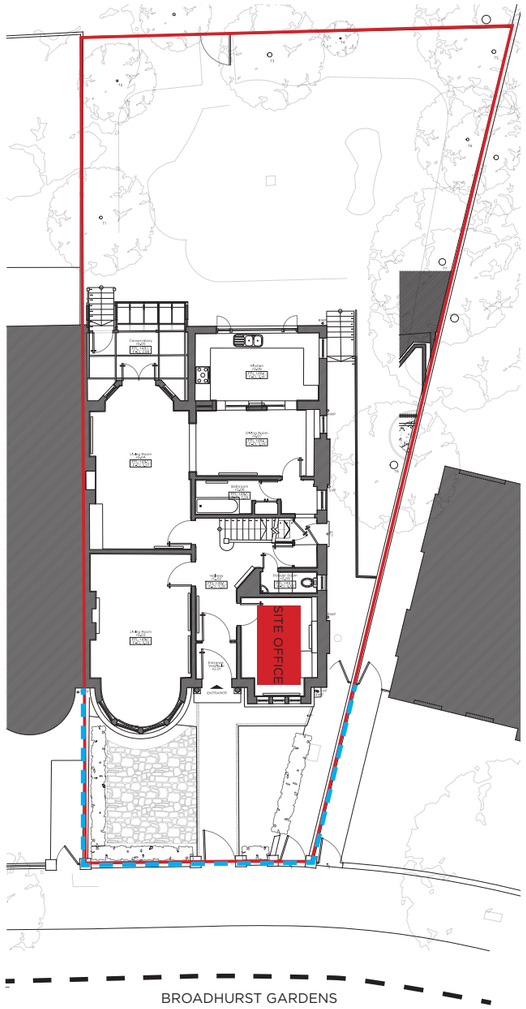
The Duty of Care is set out in section 34 of the Environmental Protection Act 1990 and associated regulations. It applies to anyone who is the holder of controlled waste.

In order to ensure compliance with the Duty of Care the following practices will be followed:

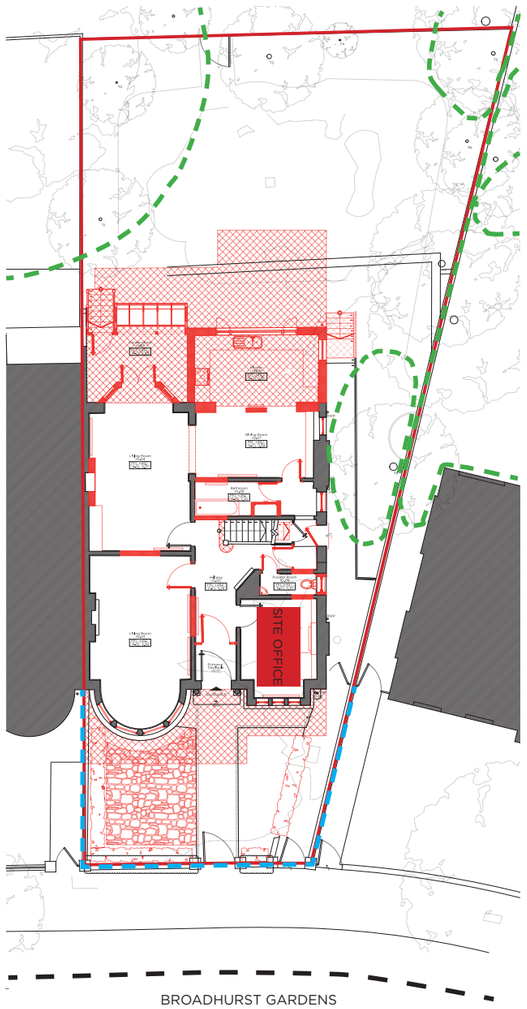
- A copy of the waste carrier licence of the waste carrier company will be obtained.
- A copy of the environmental permit or waste management licence of the Waste Transfer
- Stations (WTS) where the waste is segregated will be obtained.
- A copy of the environmental permit of the landfills where the waste from the WTS is finally
- Disposed will be obtained.
- It will be ensured that waste transfer notes and hazardous consignments notes are completed and signed to include:
    - Producer of the waste.
    - Premises code.
    - Name, address and postcode where the waste is going to be taken to.
    - Description of the waste.
    - The appropriate six-digit European Waste Code {EWC) e.g. Construction Mixed Waste 17 09 04
    - Quantity (total weight) in kilograms.
    - The chemical/biological components of the waste.

    - Physical form (gas, liquid, solid, powder, etc).
    - Container type, number and size.
    - Time, date and place site address of collection.

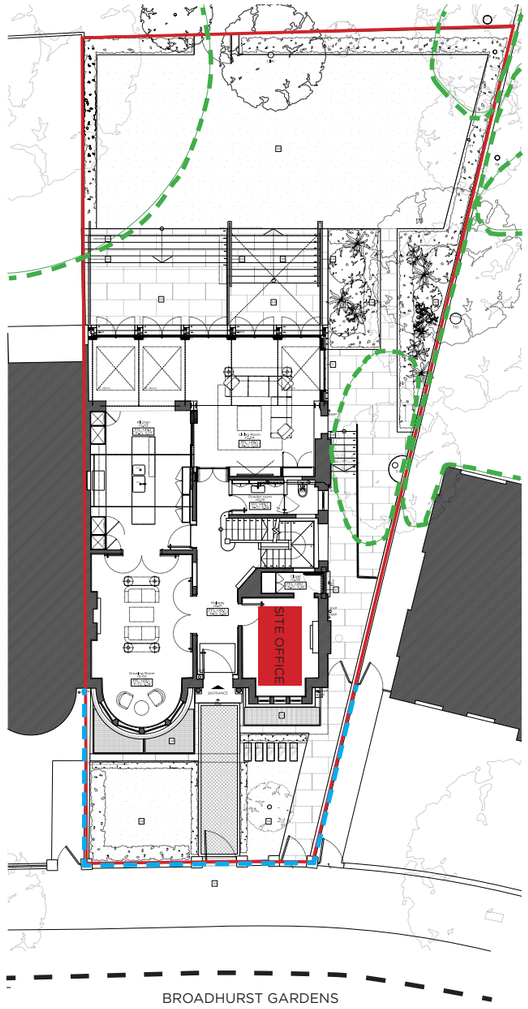
- Copies of waste transfer notes and hazardous consignment notes will be kept for 3 and 5 years respectively.
- Payments will be linked to final copies of the waste transfer notes and hazardous consignment notes.
- It will be ensured that staff receive appropriate training.
- Make sub-contractors aware of the waste site procedures.



PHASE 1 - SITE ESTABLISHMENT



PHASE 2 - STRUCTURAL WORKS



PHASE 3 - FIT OUT AND EXTERNAL WORKS

KEY

SITE BOUNDARY

HOARDING

PARKING BAY ROAD LINES

TREE PROTECTION
(In accordance with Arboriculturalists' report)

1.0 Site Description

The site is located on Broadhurst Gardens, Hampstead. The site was originally built as a semi-detached single family house.

The site is accessed via Broadhurst Gardens. There is no vehicular access to the property but there is a pedestrian gate central on the front boundary wall. Broadhurst Gardens is a two-way street with residential parking on either side on the road.

2 Logistics

2.1 Site Machinery

During the main part of the construction contract, site machinery will be delivered to, collected from and stored within the site.

2.2 Vehicle Routes

The site lies approximately 0.4 miles from the TLRN (Transport for London Road Network) on the A41 and can be accessed without specific height restriction via Canfield Gardens. Alternatively the site also lies approximately 0.1 miles from the TLRN (Transport for London Road Network) on the BS10 and can be accessed directly without restrictions.
The following restrictions should be noted:
Loading and unloading will be carried out on the front of the property to ensure that the public road is not blocked or vehicles parked for any period of time.

2.3 Scaffolding

Scaffolding will be required but will not obstruct the public highway.

2.4 Construction Sites in the Local Area

To be confirmed

2.5 Tree Protection

Tree protection shall be installed during phase 1 and shall be maintained until the commencement of landscaping works in Phase 3.

3.0 Operations Summary

Key site operational tasks and their methodology are outlined below:

Operation	Proposal
i. Parking of vehicles of site operatives and visitors	Site labour and visitors shall attend site via public transport.
ii. The loading and unloading of plant and materials	Loading and unloading of equipment and heavy goods will occur to the front garden of the property with the assistance of a banksman. This can occur on site during phase 1, 2 and 3.
iii. The storage of plant and materials used in constructing the development	All plant and materials will be located on site.
iv. The erection and maintenance of security hoarding	Site hoarding is to be erected on the site boundary with the public highway. The hoarding will assist in making the site area secure and creating a safe working area.
v. Wheel washing facilities	The relevant parts of Broadhurst Gardens shall be swept and washed down daily as required.
vi. Measures to control the emission of dust and dirt during construction	Dust and sand dirt shall be contained. Cutting shall occur in a dedicated cutting tent. The new hoarding/existing masonry walls shall provide a dust and noise barrier.
vii. The recycling/disposing of waste resulting from demolition and construction works	Waste will be bagged, stored on site and privately collected from Broadhurst Gardens

4.0 Concurrent Building Operations

There are no active construction sites which will impede access to the proposed works at Broadhurst Gardens.