53 FITZROY PARK CONCTRUCTION MANAGEMENT PLAN

53 FITZROY PARK, LONDON, N6 6JA.

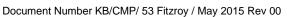


53 FITZROY PARK

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CONSTRUCTION MANAGEMENT PLAN







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Appendix A: Site Organisation Chart. Appendix B: Project Directory.



1 Introduction

Mr Volossov the Client is committed to ensuring that the environmental impact of the works undertaken during the redevelopment of 53 Fitzroy Park, London, N6 6JA are minimised and that the project is undertaken in an environmentally responsible manner to current industry best practice and standards and at the same time minimising the disruption to the surrounding environment including business, residents, visitors and members of the public. This Construction Management Plan sets out the strategy for addressing these issues.

The major environmental impacts likely to be associated with the project include:

- The use of raw materials and natural resources (including water and energy)
- Production of waste
- Noise and vibration
- Air emissions (CO2) dust, odour etc)
- Traffic and transport effects
- Impacts on the local community
- Visual impacts
- Pollution arising from construction activities
- Indirect impacts associated with the production of construction materials.

This document comprises of a Construction Management Plan (CMP) for The 53 Fitzroy Park project with the intent of providing a framework within which the environmental aspects of the project will be managed. It tries to identify and summarise the particular issues relevant to the works to be undertaken and contains a set of procedures for each construction and environmental issue.

The overall aim of the CMP is to facilitate:

- · Compliance with environmental legislation, rules and regulations
- Prevention of pollution
- Reduction in waste and consumption of resources
- Providing a framework of environmental communications, procedures and guidance
- Providing a framework to continually monitor and improve environmental performance
- Promoting an enhanced working and local environment

In addition we have set out the approach taken for the execution of the works themselves and in particular an outline of the site set up and logistics approach to be taken.

Amendment Record

Date	Rev. No.	Brief Description of Amendment
		Refer to drawing register



Distribution List

The site team will ensure that the following hold the latest version of this document whether by e-mail or hardcopy. Hardcopies will be issued under cover of a letter or Document Transmittal Sheet.

Recipient	Position	Address				
TBC	TBC	TBC				
TBC	TBC	TBC				
TBC	TBC	TBC				
TBC	TBC	TBC				

2 Project Scope & Overview

Project Location

The site is located in the area of Fitzroy Park, a private road with large detached houses, located along the north eastern boundary of Hampstead Heath. Whilst this lane is located not far from the centre of Highgate Village it is situated close to High Gate Ponds and Hampstead Heath two areas of natural beauty. This combined with tree lined narrow road and dense hedgerows.

Fitzroy Park is situated in the London Borough of Camden within the Highgate Conservation Area and the part of designated Fitzroy Open Space area.

Existing On-site Conditions and Proposed Construction

The proposal is for a 3 storey plus basement dwelling house with garage, including associated green roofs and landscaping works, following the demolition of an existing dwelling house. The basement storey provides residential leisure space. An extant permission for the redevelopment of the site for a 3 storey plus basement house also exists and is implementable, with approved CTMP.

The construction and site management techniques for this proposal draw on the principles established for the extant scheme and the precedents set by similar developments in the surrounding area. They also follow the requirements in the London Borough of Camden guidelines on Subterranean Development.

Construction Works to be undertaken

- Disconnections and Diversions
- Temporary Works Design and Installation
- Demolition of existing building
- Earth support and soil retention
- Contiguous Secant Piling
- Cased Segmental Flight Auger Piling
- Excavation
- Drainage
- Waterproofing
- Basement Slab Construction



- Walls, Columns and Stair Construction
- Suspended Slab Construction
- Fit out to new building

The Construction Management plan (CMP) identifies the environmental considerations associated with these activities and outlines appropriate measures that might be implemented for their mitigation. Planning and programming for the demolition and construction works is fairly developed at this stage however will be subject to further detailed development in consultation with The London Borough of Camden.

The CMP is therefore indicative as part of the planning application.

Legal and Other Requirements

Statutes, British Standards, Approved Codes of Practice and the like relevant to the Project are maintained on the intranet.

Registers of generally applicable health and safety and environmental legislation are maintained on the internet respectively. Additional Project specific legislation and legal requirements include:

Project Documentation

The Project is based on the following as retained by the Project Manager:

Document	Date	Rev No
Employers Requirements and Drawings	TBC	
Construction Drawings and Specification	TBC	
Contract	TBC	
Construction Phase Health and Safety Plan	TBC	
Construction Management Plan	TBC	
Quality Plan	TBC	
Construction Environmental Management Plan	TBC	
Waste Management Plan	TBC	
Inspection & Test Plan	TBC	
Emergency Plan	TBC	
Health and Safety File	TBC	

Significant Project / Milestone Dates

Milestone dates include the following

Event / Activity	Date
Start on Site	TBC
Project Completion	TBC

Objectives and Targets

Objectives are aimed at satisfying the client's needs including, customers, employees, regulators and other parties with interests in Knight Build's performance.



Information Required from the Client

- Pre-contract Health and Safety Information
- · Hazard Risk Register
- List of Planning Restrictions
- Health and Safety file

Working Hours

Normal Hours of Work Monday - Friday 08.00 to 18.00 Saturday 08 00 to 13.00

By arrangement only

No basement excavation work will be undertaken on Saturdays

No noisy work will be permitted on Sunday and Bank Holidays

Working outside these hours must be in agreement with the Client and Contract Administrator. In the case of work required for an emergency, the relevant parties, The London Borough of Camden Council and local residents will be advised as soon as reasonably practicable that the works are taking place and their likely duration.

Key Staff Emergency Contact Numbers

John Knight 07939 016007

Richard O'Leary 07951 902442

Knight Build Ltd will operate a Quality System to BS EN ISO 9001: 2008 using Knight Build Ltd Quality Assurance Manual and Procedures.

These Procedures are listed as follows;

Procedure Ref	Title	ISO 9001 Clause
QP4	Quality Management System	4.1, 4.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4.
QP5	Management Responsibility	5.1, 5.2, 5.3, 5.4, 5.4.1, 5.4.2, 5.5, 5.5.1, 5.5.2, 5.5.3, 5.6, 5.6.1, 5.6.2, 6.6.3.
QP6	Resource Management	6.1, 6.2.1, 6.2.2, 6.3, 6.4
QP7	Product Realisation	7.1, 7.4, 7.4.1, 7.4.2, 7.5, 7.5.1, 7.6,
QP8	Measurement, analysis and Improvement.	8.1, 8.2, 8.2.2, 8.3, 8.5, 8.5.2, 8.5.3



3 Management Quality System

Induction

All persons visiting or working on the Knight Build project must receive an appropriate induction before entering the work area.

The inductions will take place in the Knight Build project office.

On arrival to site, operatives must attend a method statement briefing by their employers before attending Knight Build's safety induction.

At the induction, Knight Build requires seeing evidence of CSCS competence for all operatives and CPCS plant training where appropriate.

Knight Build inductions will take place at 8.30am every day/by arrangement.

Re-inductions would be required for any operative who has been issued with a penalty for breaking site rules. These would be required the day after the penalty was issued and the re-induction would also include the supervisor.

At the start of the induction the operatives will be given a questionnaire for filling in personal details. The induction will cover the following as a minimum and it will be communicated with the aid of flip chart graphics or video:

- A welcoming message from the Project Manager
- Brief detail of the project
- Ancaster House Welfare facilities & First Aid
- Emergency Evacuation Procedures
- · See It, Say It
- Worker Engagement
- Manual Handling
- Dust and Emissions
- Lifting Operations and Procedures
- Use of Plant
- Permit to work
- Temporary Works & the use of Scaffold
- Do's & Don'ts
- Site Rules
- Tool Box talks & Method Statements
- COSHH
- Delivery & Storage of Materials
- Disposal of Waste
- Reward & Disciplinary Procedures
- PPE & Knight Build Dress Code
- Use of Alcohol or drugs
- Considerate Constructors Code of Practise

At the end of the induction process the operatives must demonstrate that they have seen and understood the method statements for the tasks in hand.

Visiting sub-contract managers/supervisors shall be required to attend the general induction on commencement and ensure they receive updates on any specific hazards prior to commence if their visits are infrequent.

Client representatives and other visitors shall be accompanied by Knight Build personnel at all times and as a result will be excluded from the full induction process but will receive a short induction covering emergency procedures.



Training

The Project Manager shall ensure that all persons under Knight Build control or working on the project have received suitable and sufficient training in the aspect of the area of works for which he/she is responsible. Knight Build may require evidence of such training and will, if not satisfied, direct the individuals concerned to undergo and show competence in such training as Knight Build may specify - this may include training provided by Knight Build. In addition to this, if necessary, the Project Manager shall also arrange in conjunction with the suppliers of the Specialist Contractors to provide specific training and guidance to their members of staff in the use of particular products used on the site.

First Aid

The Project Manager is to ensure that first aid facilities and trained first aiders are available in conformance with the health and safety manual and that the first aid post in the site office is marked on the site plan.

All first aid provisions will be in accordance with the First aid regulations 1981 and all updates and amendments to the regulations including 2014.

First aiders will be identified by a white cross/green background sticker displayed on their hard hats.

First Aiders

Name	Location	Tel
TBC	Site	
TBC	Site	
TBC	Site	

Accident and Incident Management

All accidents and incidents are to be reported and managed in accordance with the Knight Build accident procedure. In particular, all accidents and near misses or dangerous occurrences shall be reported to Knight Build site management who will advise the Senior Safety Advisor or Environmental Advisor, as appropriate.

All accidents will be internally investigated and reported to the HSE where necessary in line with the RIDDOR Regulations 2013.

Programme

To be issued prior to commencement.

4 Fire Prevention

Objective

The objective is to work in such a way that reduces to a minimum the likelihood of the break out of fire, reduce the threat to life caused by fire and reduce the amount of damaged caused by any fire that does break out.

Informing All Personnel

- All personnel will be advised at induction of fire procedures, including the current location of fire escape routes, exits and muster point. This information will be displayed in a prominent location on site.
- Each time the procedure is changed all personnel will be advised by notices and at weekly site safety meetings.

Fire Safety Actions

- Inspections will be carried out and the completed sheets will be filed in the Safety Folder.
- Liaise with the Fire Brigade, where deemed necessary, to visit, inspect and give advice. All reports / comments will be issued to the Safety Adviser.

Basic Fire Safety Procedures

The Project Manager is responsible for ensuring that

- Fire risk assessment is available and up to date.
- A Fire marshal / warden (responsible person) is nominated.
- Fire alarms are installed to enable an audible warning to be given to everyone on site.
- Fire escape routes and exit points are clearly signed and kept clear at all times
- Each fire point is clearly marked, and contains a CO₂ or Powder & an H₂O extinguisher and is inspected weekly.
- A hot works permit system is effectively implemented and managed.
- · Regular fire drills are undertaken and recorded.

Subcontractors are responsible for ensuring that:

 All COSHH materials are removed from site in accordance with Waste Management legislation. All general waste is to be deposited in general waste skips provided by the sub-contractor.

All personnel on site have a duty to:

- Ensure escape routes are kept clear of storage hazards and obstructions at all times.
- Ensure good housekeeping is maintained and prevent the accumulation of combustible material.
- Remove unwanted materials at regular intervals.
- Ensure all waste material awaiting disposal is kept in an area away from temporary buildings, stores or equipment.
- Not burn rubbish on site

Smoking Restrictions

Smoking is strictly prohibited in all areas, apart from a designated smoking area that will be established on site away from the view of the public.

There will be NO SMOKING allowed by operatives or any other site users outside the hoarding or the boundary of the site.



Highly Flammable Gases, Liquids and other Materials

- All specialist contractors are to undertake a job specific risk assessment for the storage and use of the above materials. This assessment will also incorporate the identification of specific fire hazards, risks and precautions.
- The results of risk assessments are to be communicated to Knight Build. Persons exposed to specific fire risks are to be informed accordingly.
- Specialist contractors are to provide their own labelled designated secure storage enclosures. These enclosures shall enable separation of different gases and full and empty bottles. The location of these is to be agreed with Knight Build site management.

The storage of all dangerous materials on site will adhere to 'The Dangerous Substances and Explosive Atmospheres Regulations 2002' (DSEAR).

5 Emergency Procedures

The Project Manager will ensure that the Emergency Plans are maintained up to date and that direct and subcontractor employees are briefed with applicable fire safety, environmental and emergency evacuation procedures. He will also ensure that trials are carried out to ensure the effectiveness and practicability of the procedures.

- Spillage of fuel or chemicals
- · Evacuation from a confined space.
- Recovering a fallen worker suspended by a harness.
- Where recovery of an injured or incapacitated person would be complicated because of circumstances or location e.g. a deep excavation or the roof.

Site Security

Where the works require removal and adaption of the hoarding / monarflex this will be carried out and completed before the end of the shift, security of the site is to be maintained at all times.

Alarms will be fitted to all external scaffolds and patrolling security guards will visit the site in the evening and at weekends.

Workplace Inspections

The Project Manager will ensure that the following workplace inspections are undertaken in accordance with the Knight Build Management System.

The Project Manager will take necessary action, so far as is reasonably practicable, to remove risks identified during these inspections. Employees are to be encouraged to support Knight Build with maintaining safety on this project.

Subcontractors, managers/supervisors are required to carry out work place inspections and be satisfied before operatives are put to work.

The site management must ensure that the access & egress routes to the site accommodation and place of work are clear at all times.

The Project Manager shall ensure that Environment & Safety inspection are carried out for the entire site on a weekly basis and appropriate actions are taken on items found that require actions.



Inspections of temporary works/scaffold shall be carried out by competent persons and logged in the safety file.

6 Communications

As part of our commitment to open communication, we will inform our clients of all issues that might reasonably be relevant to them. Requests for information from the media/similar external bodies are to be referred to the client or their representatives.

Communication/Consultation with the workforce will be carried out in the following manner.

Project Level

Pre-award & Pre-start Meetings - Safety matters are discussed at the precommencement meetings and at the regular specialist contractors' progress meetings. A monthly Directors Safety meeting will be also held on site to discuss issues that concern Knight Build Ltd. Attendance to the meeting by all directors is mandatory.

Safety & Environmental meetings – The weekly Progress Meeting with the sub-contractor/s will include safety and environmental items, they will be held in the Knight Build Project office. Attendance to this meeting is mandatory. All Issues that are raised and discussed shall be rectified and recorded. Minutes of meetings will be distributed to site staff and the subcontractor/s. Following these meetings the Project Construction Environmental Management Plan will be revised if required.

Morning Co-ordination Meeting – A brief meeting is held every day between 8.00- 8.15 am to discuss daily safety issues, logistics, and proposed works for the day, and interface of works, expected visitors and deliveries. Project/Site manager or an appointed person is expected to attend this meeting.

Any issues that had arisen the previous day will also be discussed.

Site Operative Level

Site Inductions, toolbox talks and method statement briefings are given to all operatives and trades.

Individual Level

To improve the safety level on site, Knight Build has an open door policy where we would expect feedback from the workforce and others who may have concerns on current safety issues or suggestions for improvement. This could be done by bringing the issue to the attention of any Knight Build member of staff. Knight Build will also carry out operative engagements with individuals or groups to either develop on good practice or rectify poor practice.

All engagement/consultation with employees or other site operatives will be carried out in line with the 'Consultation with Employees Regulations 1996'.

Site Rules

The Site Rules are displayed in the site canteen and communicated during site inductions.



Permit to Work Systems

The following require permits:

Type of Permit	Issued by
Hot works	Nominated Knight Build personnel only
Permit to Dig	Nominated Knight Build personnel only
Permit to enter excavation or confined	Nominated Knight Build personnel only
space	
Permit to Strike/ Dismantle	Temporary works co-ordinator
Demolition Permit	Nominated Knight Build personnel only
Permit to Load	Temporary works co-ordinator

Hot Works Permit

- All hot works activities undertaken are strictly controlled and co-ordinated by Knight Build.
- Persons undertaking hot works are to be suitably trained and competent.
- The nominated person will issue the permit on a daily basis after undertaking an appropriate assessment of the nature of the works and associated fire risks.
- The permit recipient is expected to sign in the hot works permit by confirming to undertake the responsibility for taking necessary safety precautions to the area where the hot works is to be carried out.
- Hot works permit cannot be collected for and on behalf of another person.
- The person undertaking hot works shall provide their own suitable fire extinguisher for the task in hand. The fire extinguishers provided by Knight Build at the fire points shall not be removed for this purpose.
- Hot works operations shall cease at least 1 hour before the end of that shift to allow for a final inspection by the issuer, permits must then be signed off.
- There will be a board positioned to display the areas where the hot works are currently being carried out.
- All hot works permit must be logged in and closed out on a daily basis. The register of this shall be kept in a place where it can be accessed at any time.
- All permit holders are to wear a permit vest which is to be issued by the Knight Build site team. The vest is to be returned at the same time as the signed off permit.

Reward and Discipline

To promote a positive health, safety and environmental culture, Knight Build operates reward and discipline schemes.

The reward will be issued monthly to individuals who complete the Knight Build "See it, Say It" cards with the best safety comments/observations/concerns or any other general comments. This will be linked to attitudes of safety on site and good working practices.

Penalties are issued for breaches of site rules. Major breaches or repeat offenders will result in removal of the responsible operatives from site.



7 Risk Management

The hazards specific to this project have been identified and will be communicated to all by means of:

- Site Induction
- Method Statements
- Risk Assessments
- Morning Briefings
- Tool Box Talks
- · Site signage and posters

The Project Manager will ensure that all aspects of the works controlled by Knight Build are subject to formal risk assessments carried out by competent persons. This will normally be carried out by the specialist contractor and agreed through the method statement approval process.

A Risk Register shall be maintained for the duration of the site and revised at regular intervals or as tasks dictate.

Where risks to the long term health of construction operatives exists as a consequence of the type of work or construction process being undertaken, the materials used or the work environment, a specific and detailed Risk Assessment must be carried out. This may include comprehensive:

- · Noise Assessments.
- · Control of Dust and Emissions.
- Whole Body or Hand Arm Vibration (HAVS) Risk Assessments
- Manual Handling
- Risk Assessment for exposure to potentially hazardous substances (COSHH).

Personal Protective Equipment

Specialist Subcontractors

Their employers shall issue all operatives with suitable PPE for the task in hand. Operatives are expected to inform Knight Build Ltd if their employers do not issue them with the appropriate PPE. Knight Build would take appropriate action to ensure that PPE would be available to them.

All Knight Build personnel employed on the site and for those visiting Knight Build staff will be issued with appropriate PPE for the task in hand.

Both Knight Build and subcontractors must keep adequate supply of these on sites.

The following is **MANDATORY** on this site:

- Hard hats
- Safety steel toe capped boots
- High visibility jackets (generally a yellow colour-except for a banks man where an orange colour will be used)
- Gloves (Appropriate as identified by the specialist subcontractor)
- Eye protection (Relevant to the task at hand)



All PPE/RPE issued and worn on site is in accordance with the 'Personal Protective Equipment Regulations 2002' and relevant European EN standards.

Non-conformance

All non-conformances are to be reported and managed in accordance with non-conformance procedures.

Details that describe the non-conformance process will include or make reference to:

- Correction (carry out rework or repair)
- Corrective action (measures to prevent recurrence)
- Preventive action (measures to prevent occurrence)

Delivery, Storage and Distribution of Materials

All deliveries shall be notified to Knight Build at least 24 hours before arriving on site so as to avoid congestion and delay in unloading.

Details of proposed deliveries are to be advised at the morning co-ordination meetings when storage locations are to be agreed.

All sub-contractors are to have a method statement and risk assessment carried out for unloading from flatbed vehicles/trailers.

All vehicles must have safety rails fitted or means to protect operatives working from the back of a lorry.

Knight Build Ltd are members of the Fleet Operator Recognition Scheme (FORS) and encourages all associated supplies to achieve Bronze membership at a minimum if they are delivering to Knight Build sites.

The FORS standard is a voluntary scheme with a purpose of raising the level of quality within fleet operations.

The FORS standard is based upon legal compliance, safety, efficiency and environmental protection.

Knight Build are also a supporter of CLOCS the standard for construction logistics (CLOCS – Construction Logistics and Cyclist Safety) looking out for vulnerable road users.

8 Traffic Management

Objective

The objective is to work in such a way as to maintain, as reasonable practicable existing public access routes and rights-of-way during construction. Where this cannot be achieved, suitably agreed alternative routes will be discussed and agreed.

Key Legislative requirements:

 Obtaining permission by formal agreement for any works to/within the highways



- Obtain any licences to place temporary obstructions on the highways
- Prior notification for construction of vehicle crossovers
- Prevent the deposition of mud or other such materials and ensure/implement all necessary measures to prevent this
- Prevent any surface drainage from site crossing the footway part of the highway
- Obtain street works licenses for any excavations of the highway
- Do not obstruct or divert without an Order permitting so to a Public Right of way
- Obstruct the highway with anything that may result in public danger/nuisance-'statutory nuisance'
- Provide traffic management requirements
- Provide a duty of care for other users of the highway
- · Prevent and clear any soils which wash onto, or falls onto the highway

Access Constraints

The following main constraints for the project have been identified in terms of site access and will therefore be included with the site logistics proposal:

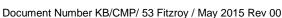
Vehicle Access to Site

All vehicles will be instructed to access the site from Highgate West Hill then turn into Merton Lane traveling to the end of the lane then met by a KBL Traffic marshal then turning right into Fitzroy Park (Private Road) where the vehicle will drive along the road with a traffic marshal walking in front of the vehicle until they reach the site gates and there the vehicle will reverse off the road onto the existing drive or newly established loading platform (see swept path drawings Appendix 1A) .

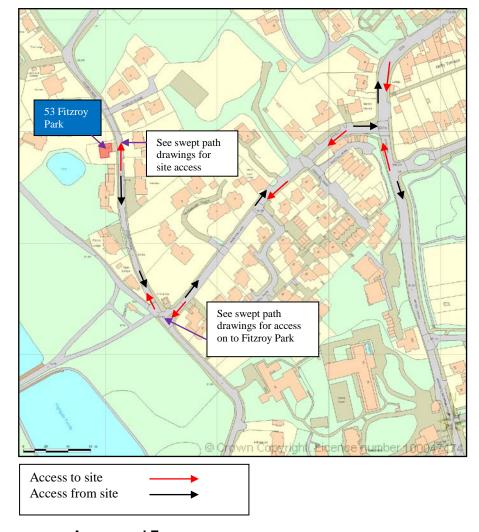
Vehicles will leave the site in forward gear by traveling back along Fitzroy Park to Merton Lane again with a Traffic Marshal walking in front of the vehicle travel up Merton Lane and back onto Highgate West Hill.

The wider access route to the site is in use by similar sized vehicles on a daily basis however it is proposed to station a fourth Traffic Marshal at the junction of Merton Lane and Highgate West Hill to prevent vehicles entering Merton lane and parking along the road waiting to gain access to the project on Fitzroy Park, vehicles will be told to keep moving until the loading area is clear and they are called to the site or return on another arranged day.

The agreed route shall be sent to our suppliers and all drivers are to be made familiar with the route before delivering to site so there will be no requirement for directional signage to be erected on the public highway.







Access and Egress

All construction traffic attending and leaving the site will be closely controlled

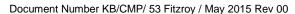
Traffic marshals will be employed throughout construction activities (working hours) to manage the flow of construction vehicles to ensure that public/pedestrians safety is maintained at all times.

All vehicles will be regularly maintained in accordance with manufacturer's recommendations.

Deliveries will be phased and controlled on a "just in time basis. This will minimise travel time around the site and any associated noise. The project will operate a strict system of bookings for delivery vehicles, and emphasis will be placed on planned deliveries.

Vehicles will not be permitted to "stack" in streets surrounding the site.

There will also be no overnight parking of Lorries within the vicinity of the site.





Vehicle Types

The surrounding access roads to the site are all particularly narrow and not suitable for large articulated vehicles. For this reason no articulated Lorries shall not be allowed to make deliveries for the whole construction period.

Waste shall be taken from site using 3 axle vehicles with a dwell time of 30 minutes.

The loading of vehicles shall be undertaken by the use of conveyors, Unic Cranes and loading beams that can load/offload vehicles whilst they are parked in the loading area within the site boundary

Concrete shall be delivered in 3 axle 4m3 volume trucks discharging into a pump located within the site gates with a dwell time of up to 40 minutes.

Vehicle Movements

All suppliers shall be written to before commencing on site ensuring they are aware of the route and to secure their acceptance of the CTMP before being allowed to deliver to site.

As there is no waiting or holding areas near the site deliveries shall be programmed at least 30 minutes apart to ensure that no vehicle arrives until the previous vehicle has departed. The Construction manager shall have the contact numbers of all suppliers to be able to manage this process and shall implement a 5 minute call up procedure to ensure this is achieved.

The maximum figures given will not be exceeded but the minimum could change to none where weather, access, site conditions or other factors prevent deliveries.

The figures are also based on providing the shortest possible programme and reducing them would increase the programme duration.

The amount of vehicles attending site is based on the following calculation.

Task	Duration	Type of vehicle	Maximum number of vehicles that will visit site in any one day	Total number vehicles access to site per phase	Total vehicle movements per Phase (1 vehicle x 2 movements)
Phase 1 Enabling works, Demolition and erection of temporary platform.	10 Weeks	General Delivery Steel Delivery (loading platform) Concrete	8	Total = 48	Total = 96
Phase 2 Piling, basement construction, substructure and superstructure	35 Weeks	Muck Away Concrete Reinforcing General Delivery	10	Total = 811	Total = 1622
Phase 3 Fit out	50 Weeks	General Delivery	5	Total = 200	Total = 400
Total Phase 1 and 2 Works = Fit Out Works = 50 Weeks Total Construction Period =				Total = 1059 Total	Total = 2118



Muck Away

The total amount of excavation to be carried out is 2331m3 of this 250m3 will remain on site leaving a total of 2081m3 to be moved of site. The largest vehicle that we can get on to the site is a 3 axle tipper that with the bulking of spoil will remove 5.2m3 which amounts in total in a total of 400 lorries (800 movements)

Concrete

Total concrete required on site is 1100m3 the largest concrete lorry that can get on site will carry 4m3 which amounts in a total of 275 lorries (550 movements)

Reinforcing

The largest lorry to carry reinforcing to site will be a 7.5ton flat back lorry and a total 31 Lorries will be required (62 movements)

General Delivery

For 3 phases of the project we have estimated that a total of 305 deliveries will be required (610 movements)

Enabling Works

Will require a total of 48 deliveries (96 movements)

Control of Deliveries

Access is to be maintained at all times for the residents, neighbours and pedestrians who use Fitzroy Park this will be managed and directed by the KBL Traffic Marshals.

It is the intension of Knight Build to have 4 traffic marshals in place at all times during the working day and they will ensure that a safe pedestrian access route is maintained at all times for the residents and pedestrians using Fitzroy Park, Millfield Land and Merton Lane

All traffic marshals will operate a 2 way radio system and be in contact with each other and the site management.

At all times access will be maintained for emergency vehicles including during the working day, if emergency vehicles need to gain access or get passed all unloading /collections will stop and the works vehicle will clear the area, drivers will stay with their vehicles at all times.

Delivery and collection vehicles servicing the 53 Fitzroy Park project will be scheduled to take place between the hours of 08.00 and 17.00 Monday to Friday and no deliveries allowed at weekends or public holidays.

Site Opening Hours

The site working hours will be between 0800–1800 Monday-Friday, weekend work will only take place if required on a Saturday between 0800-1300 (It is not planned to work Saturdays). There will be no Sunday working.



As per The London Borough of Camden basement works will only be permitted Monday – Friday 0800 – 1800 no working Saturday, Sunday or bank holidays.

Refuse Collection

It is not envisaged that refuse collection shall be affected by the traffic plan, we will however contact the local authority and ensure that there are no deliveries at the appointed times for refuse collection.

Rubbish from site shall be collected whenever possible by wait and load trucks when skips are used they will be removed the same day

Surrounding Area

Vehicles shall remain on the hard standings at all times so no mud shall be carried on to the carriageway. Knight Build shall ensure the highway is kept clean at all times and ensure that in the unlikely event of the highway becoming soiled or damaged it shall be cleaned or repaired immediately.

A Jet wash will be kept on site if cleaning of any vehicles, carriageway or other areas is required.

Public Footway

We consider pedestrian safety to be a key responsibility; Traffic Marshals will be in constant communication by the use of radios with each other and the site management

Special provision will be made for vulnerable users using the carriageways near or adjacent to our project, we will ensure that wheel chair users, the elderly, people with walking difficulties, young children, people with prams, blind and partially sighted people can make their way passed our site without any obstructions, plant or construction vehicles causing them difficulties or distress, this will be controlled by a full time KBL Traffic Marshals.

Car Parking

There is no facility for car parking on site therefore the site labour force and site visitors will be expected to use public transport.

Pedestrian Segregation

Pedestrian access to the site will be segregated from vehicular traffic, with clear signage to maintain the safety of the site and public. Pedestrian entrance will be through the pedestrian gate within the site hoarding at 53 Fitzroy Park.

Vehicle Restrictions

Restrictions on the size and weight of vehicles accessing the site will be imposed and no artic Lorries will be allowed to deliver to site.

Abnormal Loads

If required, prior approval will be sought for any abnormal loads (large plant) and heavy lifting equipment deliveries from the Environmental Health Officer, local council and police force. Advanced notification of such activities will be provided to adjacent property owners.



Such activities may also include:

- Out of hours working (outside agreed working times)
- Road or footpath closures/diversions
- Miscellaneous provisions floodlighting, road protection
- Deliveries of oversized loads.

Temporary Crossings/crossovers

It is not anticipated that an application will be required for a temporary crossing.

Service Connections and Utilities

Any utility connections that have to be made will be carried out directly outside of the property. Whilst the connections are undertaken the access to the site may be prohibited, connections shall be undertaken with at least 4 weeks' notice and shall be complete within 2 days.

This should not happen more than 4 times throughout the project. All deliveries shall be cancelled whilst the utility excavations are ongoing.

Street Modifications including street furniture

Existing street furniture/layouts will need modifications and this will be advised at a later date

Key References

- The Highways Act 1980
- The New Roads and Street Works Act 1991
- Town and Country Planning Act 1990
- Environmental Protection Act 1999.

10 Plant

Only qualified and trained operatives shall be permitted to operate plant and machinery. This includes abrasive wheel and cartridge-powered tools. All plant operators must hold an appropriate and valid CPCS card. Copies of training certificates are required and must be made available to Knight Build at the induction prior to commencing work.

Plant and equipment shall be inspected prior to its use on each occasion, regularly serviced and maintained in a good working order to ensure that the exhaust emissions are of best possible quality and noise emissions are as low as feasible. Compressors/generators shall be positioned in such a way there is adequate ventilation to avoid build of toxic fumes. A copy of weekly plant inspection forms shall be given to Knight Build.

A plant register shall be maintained showing the type of plant used on site. All plant that is used for lifting purposes on site must have a valid certificate laid down under the "Lifting Operations and Lifting equipment Regulations 1998" (LOLER). These certificates shall also be kept in the site safety file.

The method of refuelling shall be appropriate to minimise the risk of spillage and any oil leaks will be attended to before a significant hazard occurs (spill kits will be available on site at all times).



11 Lifting Operations (including Hoists)

The management of all Lifting Operations will comply with Knight Build, Lifting Operations procedure. All plant and equipment involved in lifting operations, including hoists, will be identified, certificated and entered onto an up-to-date register. A register of weekly inspections will be held on site and as detailed in the Lifting Operations.

Lifting Plans will be compiled and issued to site for all lifting plant and equipment by the KBL Appointed Person.

The blank record sheets will be held in the site safety record folder the Project Manager should ensure that they obtain a set of record sheets from Knight Build.

The Project manager will be responsible and will monitor the above procedures.

12 Working at Height

The Project Manager is the nominated Work at Height Coordinator for the project. It will be his responsibility to ensure activities to be carried out at height (or depth) have been the subject of a review, and an action plan to comply with the Working at Heights Regulations is in place. The purpose of the review is to minimise the possibility of people, materials or tools falling from height or people being hit by persons, materials or equipment/tools falling from height.

13 Noise

Objective

The objective is to control and limit noise and vibration levels, as far as is reasonably practical, so that dwellings and other sensitive receptors are protected from excessive noise and vibration levels arising from construction activities.

Definitions

- 'Noise' arising from use of construction plant, machinery and construction processes
- 'Vibration arising from use of construction plant, machinery and construction processes

Where there is a significant noise, control measures must be identified, implemented and monitored as per the guidance for employers on the Control of Noise at Work Regulations 2005.

As a guide, noise, which prevents someone from hearing another person speaking in a normal voice 1m away, requires measures to be taken. Operations shall be subject to noise assessment as required and appropriate control measures implemented in accordance with the Knight Build Construction Safety Procedures and the Project Construction Environmental Management Plan.

All sub-contractors are to implement best practicable means to minimise noise in accordance with current regulations. Where necessary, sub-contractors shall include with their risk assessment a noise assessment that will identify the control measures to mitigate excess noise emissions. Knight Build management will halt all operations as necessary if deemed to be unreasonably noisy.



All possible steps shall be taken to reduce the noise levels to the acceptable limits. (e.g.; maintenance, alternative plant, alternative methodology, positioning of plant, acoustic screens/barriers, time spent and as a last resort with the issue of PPE).

All sub-contractors shall issue Personal Protective Equipment to their operatives to comply with the requirements of noise at work regulations 2005

Knight Build management reserves the right to halt any operations deemed to be causing an unreasonable noise level.

14 Control of Hazardous Substances

All hazardous substances are to be controlled in accordance with the COSHH Regulations.

The 53 Fitzroy Park building will be subject to a full "Demolition/Refurbishment" (formally a TYPE 111) Survey. This is a full invasive survey which attempts to identify the location of all asbestos of any type within the building

Before works commence all asbestos will be removed from the building. All personnel on site will be briefed that the discovery of further asbestos is highly likely. In the event that further material is discovered this will be removed as the projected progresses.

Any person wishing to bring onto site any hazardous substance as defined by the Control of Substances Hazardous to Health Regulations 2002 (COSHH) or with a potential to harm the environment, must notify Knight Build. They shall also provide a COSHH Assessment identifying all necessary control measures.

Storage and handling of oils, fuels, chemicals

Under the Control of Pollution (Oil Storage) Regulations, all fuels and oils are to be stored properly to avoid pollution incidents. As such the following measures are required and will be implemented on the Ancaster House project.

Minimum requirements for all containers

- Must be structurally sound and strong enough to prevent leakage under normal circumstances
- Must be within a 'secondary containment system' such as a bund or drip tray
- Any valve, filter sight gauge, vent pipe or related equipment must be situated within the secondary containment system, a drip tray must be used to catch any oil spilled when the container is being filled
- Fuel bowsers must be locked at all times when not in use

Minimum requirements for all bunds and drip trays

- All bunds must have a capacity of at least 110% of the containers storage capacity, or if there is more than container within the system, greater than the following: 110% of the largest container's capacity, or 25% of the aggregate capacity
- Drip trays used as secondary containment for drums must have the capacity of at least 25% of the drums storage capacity
- Must be positioned so as to minimize any risk of damage by impact
- Must be impermeable to oil and water
- Must not be penetrated by any value or pipe used for draining the system



Spill kits

Spill kits shall be provided on site

In the event of a pollution incident, the spills response team will contain, recover, clean up and dispose of the pollution that has occurred (provided that this can be done without risk to their health or safety

15 Protection of the Public.

The site hoarding/walls and scaffolding around the site boundary will provide site security and preventing unauthorised access onto site. Adequate lighting and signage will be provided informing the general public it is a construction site and no unauthorised access is permitted.

Full time Traffic Marshals will be stationed outside the site during all of the working day to direct all access and egress movements of vehicles visiting the site and also ensure that all pedestrians and other road users are able to pass the site safely.

16 Dust and Emissions.

Objective

The objective is to work in such a way that emissions to air of dust, pollutants, odour, fumes and lightings are minimized and that the best practicable means are used to avoid creating a statutory nuisance

Procedures on site will ensure that the best working practices to avoid dust and emissions being generated are carried out e.g. "monarflex" to scaffolding, covers to skips, damping of demolition, filtered dust extraction, good housekeeping procedures.

Carry out dust suppression measures to reduce the potential for dust on site e.g. dampening down with fine water spray

Ensure all plant and equipment is regularly maintained to ensure emissions are kept to a minimum or reduced completely.

Knight Build will follow best practice guidance from the HSE and The London Borough of Camden Council

17 Site Waste Management Plan

In accordance with the SWMP (2008) Knight Build will produce a site Waste Management Plan prior to commencement of the construction phase. The SWMP will assist subcontractors in managing the waste produced on site and will provide the framework for forecasting the amount and type of waste to be generated. The plan will also identify how (where relevant) the waste can be reduced, re-used re-cycled and disposed.

There are different types of waste produced from site activities that may require different disposal routes.



- Inactive waste inert substance that are not contaminated such as concrete, rubble and all recyclable materials
- Active waste Anything that will decompose in the ground including timber, paper and green waste
- Special waste (hazardous waste) Hazardous or toxic to humans and or the environment and dealt with differently from other waste. These must be segregated from other controlled waste.

Knight Build will endeavour to minimise the types and quantities of wastes arising from its site operations. During the works being carried out by Knight Build Limited a number of trade subcontractors will be engaged by and managed by Knight Build Limited. The subcontractors shall normally provide their own plant, labour and materials. Knight Build Limited will work with the subcontractor to minimise waste and ensure correct disposal. Knight Build Limited shall be responsible for disposal of all waste generated from site, office and welfare facilities.

Knight Build Limited will ensure that wherever economically feasible wastes will be recycled and not disposed to land fill. For example, recycled aggregates such as stones, sands and clays will be incorporated into the works or sent to recycling/screening facilities. In a similar vein, Knight Build Limited will endeavour to maximise the use of sustainable resources such as timber (e.g. sourcing from temperate regions certified under the Forest Stewardship Council scheme), and minimise the use of non-renewable resources such as peat in soil conditioners.

Where recycling is not a realistic option, Knight Build Limited will also ensure that all its waste materials are managed correctly and in accordance with the Duty of Care:

- Wastes will be segregated wherever practical and stored under suitable conditions
- All wastes arising shall be transferred to a licensed waste carrier, processor, recycling or disposal site and documented correctly through Waste Transfer Notes.
- A waste management plan will identify the likely generators of waste, the type of waste and the method of disposal.
- Knight Build Limited is a member of SMARTWASTE and will produce monthly reports showing the amounts of waste recycled.

Waste transfer notes/consignment notes

A completed waste transfer note must include

- Details of the producer
- The carrier (inc. registration number)
- Waste destination (i.e. landfill, recycling, transfer station etc) including waste management licence number.

These are to be retained for 2 years

For special waste a five part consignment note must be completed. The EA must be notified at least 3 days before the waste is removed.

These must be kept for 3 years



Cement & Concrete

Washing out of concrete Lorries shall be carried out in designated areas only and the wash water will not be allowed to flow into any surface water drain. Wash water will be collected and disposed of offsite as contaminated waste by relevant trade contractors

On the 53 Fitzroy Park project all concrete wash out and waste will be directly washed out into polythene lined skips and then removed from site.

18 Community and Neighbour Relationships

Permits and Licences

Knight Build will obtain all the following:

- Environmental permits (e.g. licences, consents, authorisation) to undertake a certain activity (e.g. a discharge of consent)
- Construction licences from The London Borough of Camden Council for all aspects of construction subject to regulation (e.g. scaffolding, hoarding, skip, mobile cranes, parking suspensions etc)

Good Housekeeping

Knight Build will follow a 'good housekeeping' policy at all times. This will include the following:

- Ensuring considerate site behaviour of all persons employed on the project.
- Prohibit open fires
- Ensuring appropriate provisions for dust and road cleanliness
- Removal of rubbish at frequent intervals, leaving the site tidy
- Frequent inspection, repair and repainting as necessary of site hoardings
- Maintenance of toilet facilities and other welfare facilities for those employed on the project
- · Removal of food waste
- Provision of wheel washing facilities if required at appropriate phases of the project.
- · Prevention of vermin and other infestations
- Undertaking all loading and unloading of vehicles off the highways wherever this is practicable

Considerate Schemes

The 53 Fitzroy Park project will be registered with the Considerate Constructors Scheme.

Knight Build Ltd is an Associate Member of the Considerate Constructors Scheme.

Membership of the scheme requires compliance with a Code of Practice and seeks to:

- Minimise any disturbance or negative impact (in terms of noise, dirt and inconvenience) caused by construction sites to the immediate neighbours
- Eradicate offensive behaviour and language
- Result in an improved understanding and respect from residents and others in the community and fewer complaints



Newsletter/ Bulletins

Newsletters/bulletins will update neighbours/local residents on site progress.

Contact Board

Knight Build will display a 'contact board' outside the site, this will

- Contain heading CONTACT BOARD
- · Provide name and address of Knight Build
- · Progress the works including expected completion date
- Key projected activities of next month or so including those likely to cause disturbance
- names and telephone numbers of key personnel
- · emergency contact numbers

Complaints

All complaints, concerns, questions or request for information should be addressed to John Knight (KBL MD) at our Knight Build Head Office. Unit 22,

Childerditch Industrial Park, Childerditch Hall Drive, Brentwood,

Essex, CM13 3HD

Tel: 01277 810777

Email: john.knight@knightbuild.co.uk .

There will also be a 24 hour contact number 07939 016007 and email address john.knight@knightbuild.co.uk for our MD should any of the residents or neighbors wish to speak to him about anything.

This site will also be registered with the Considerate Constructors Scheme 0800 783 1423

19 Organisation and Personnel

a. Organisation Chart

The project organisation chart is included in Appendix A and prominently displayed on the site notice boards.

b. Project Directory

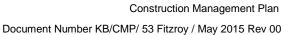
The Project Directory is included at Appendix B.

c. Phasing Drawings

The project Phasing Drawings can be found in Appendix C

d. Traffic Survey

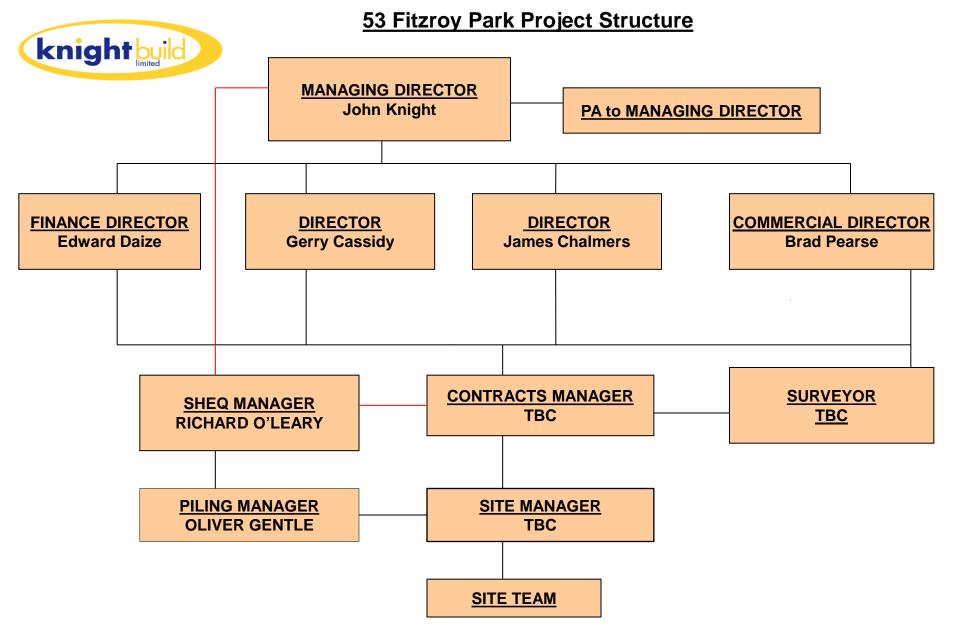
The Traffic Survey can be found in Appendix D





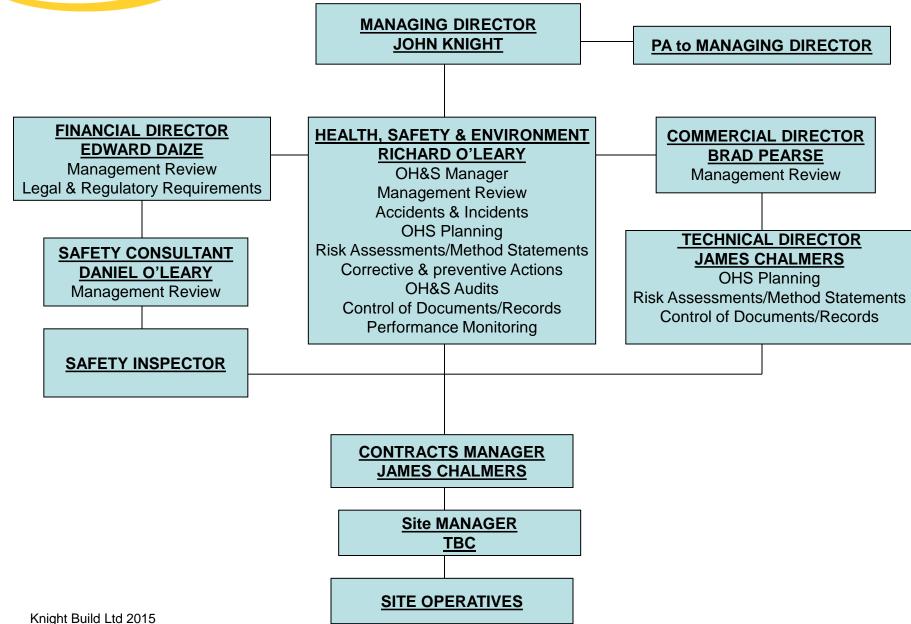
Appendix A – Organisation Chart

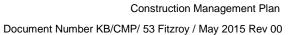
See attached





SHE STRUCTURE CHART 53 FITZROY PARK







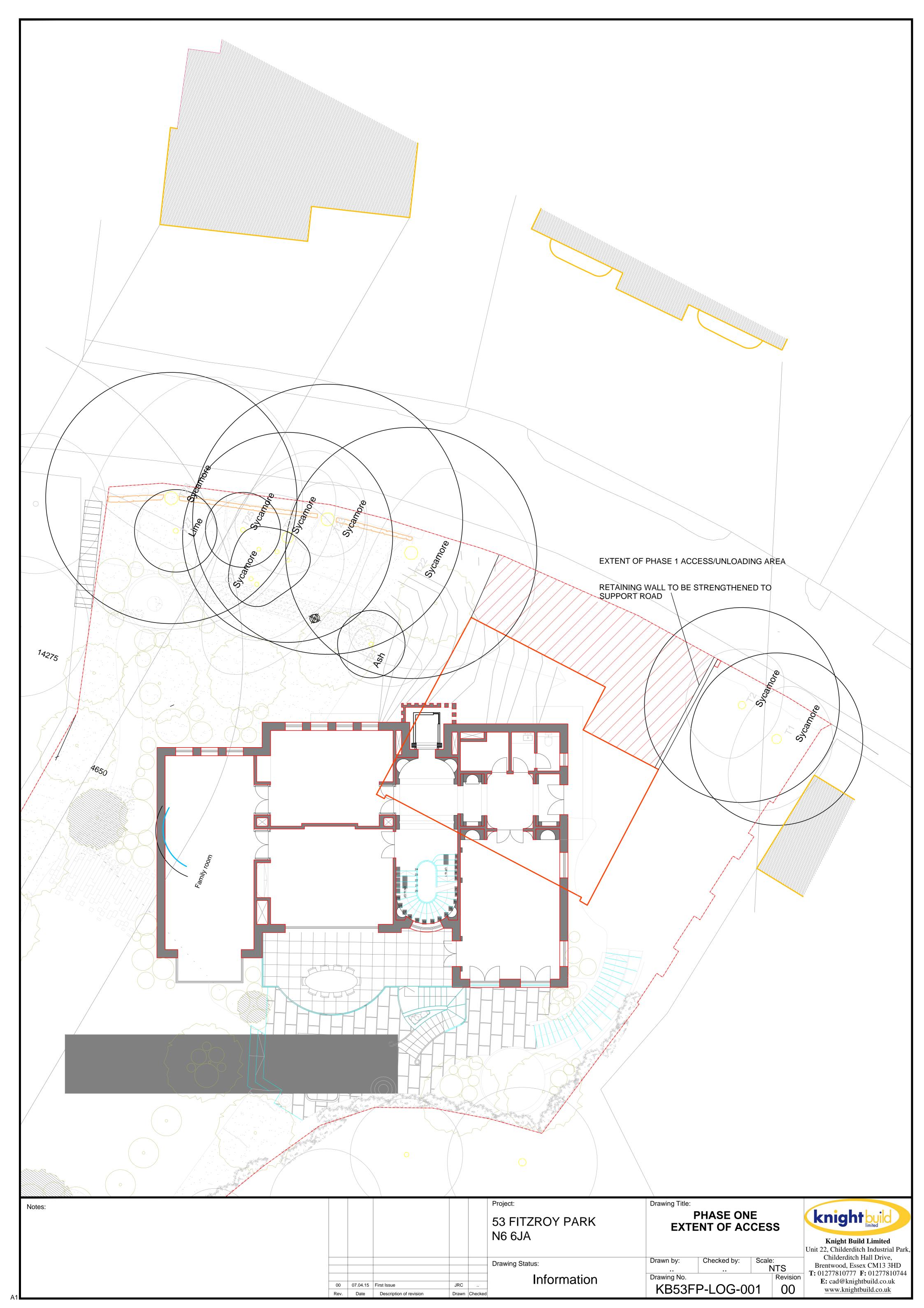
Appendix B – Project Directory

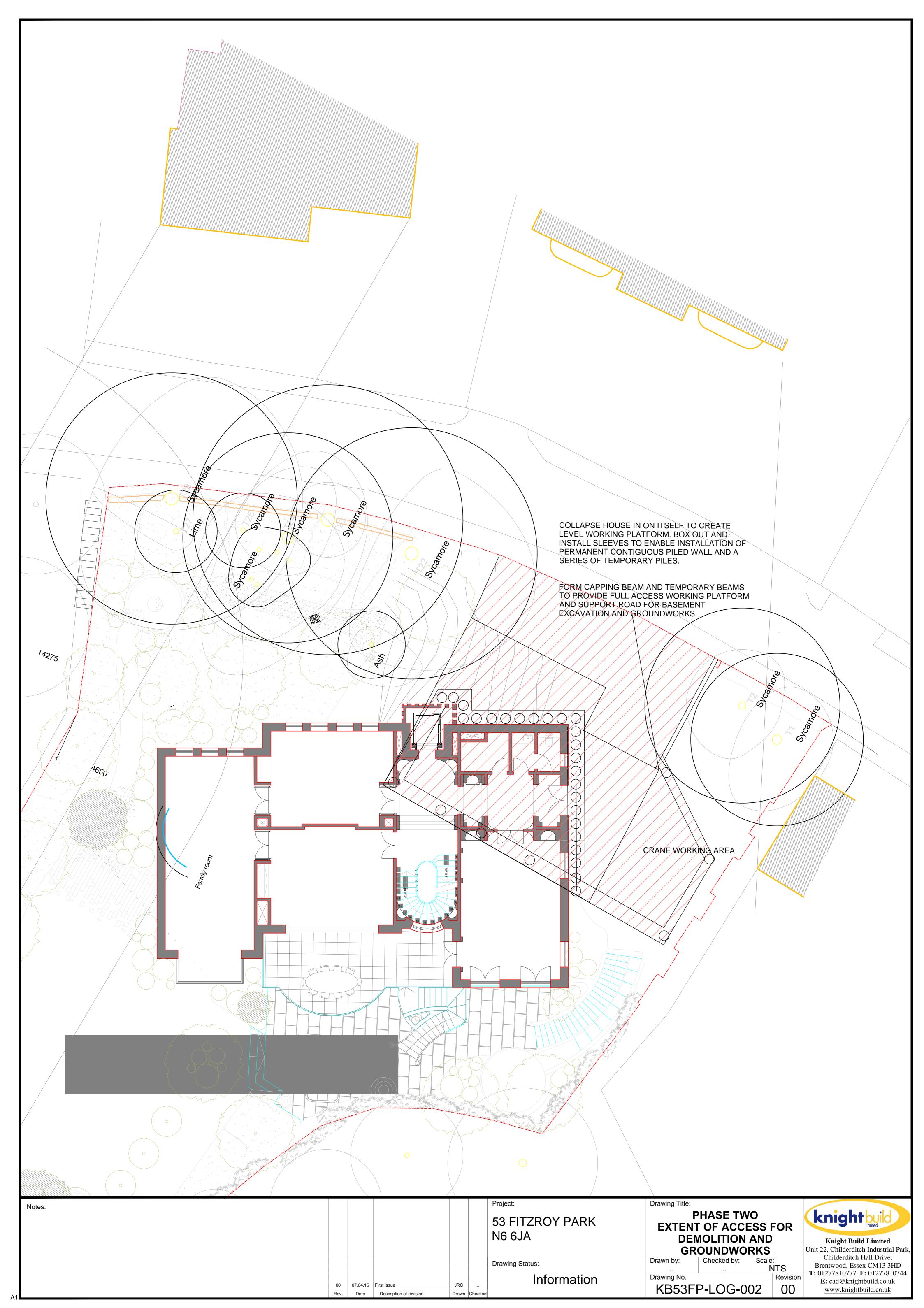
See attached.

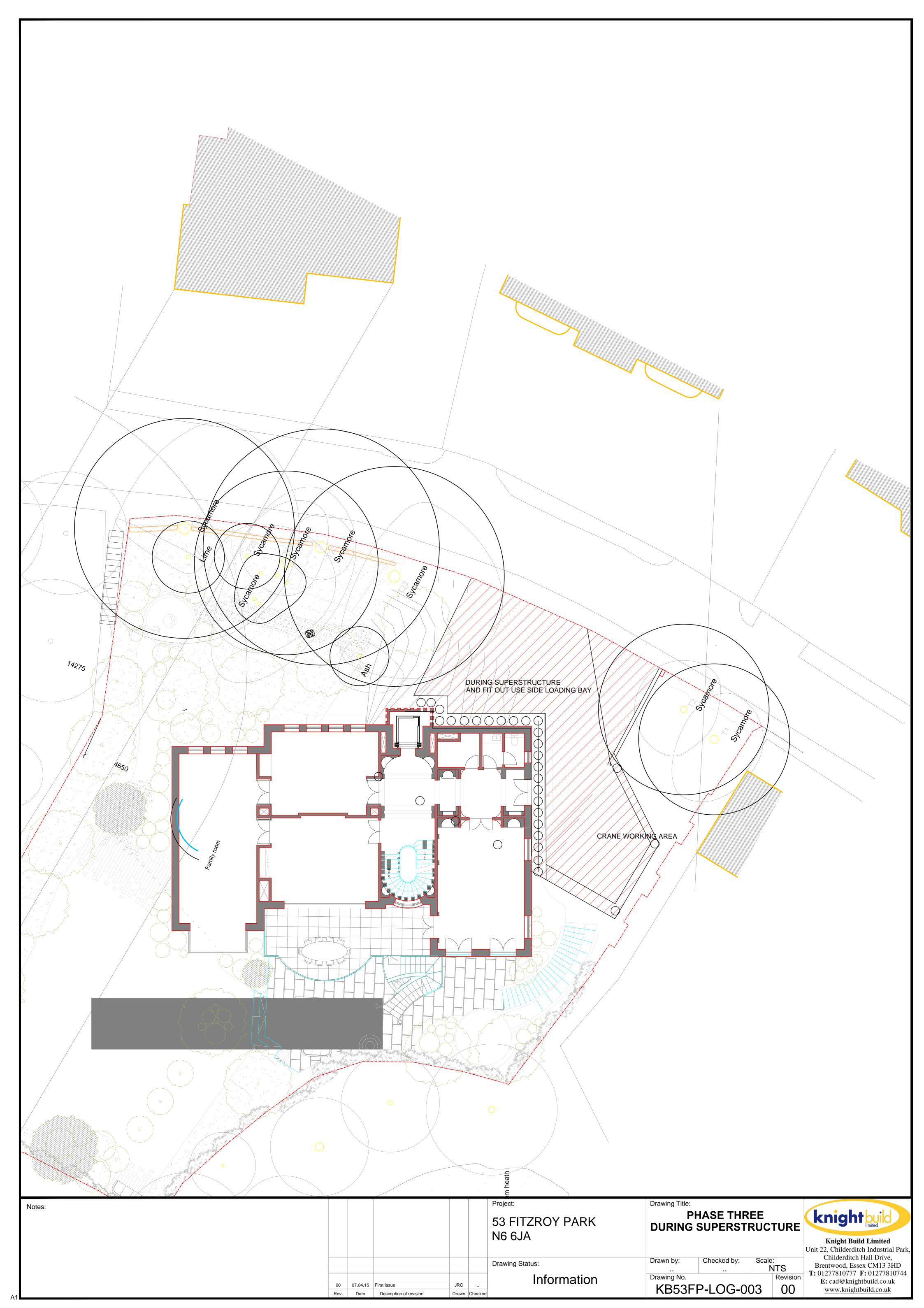


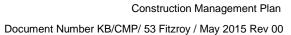
Appendix C – Phasing Drawings

See attached.











Appendix C - Traffic Survey

See attached.



Adrian Gamble
Wolff Architects
16 Lambton Place
Notting Hill
London
W11 2SH

8 Duncannon Street, London WC2N 4JF

tel: 020 7031 8141 email: info@motion-uk.co.uk

www.motion-uk.co.uk

Our ref. wofitz/150436/ps

23rd April 2015

Dear Adrian,

53 Fitzroy Park Traffic Surveys

Thank you for asking Motion to undertake traffic surveys on Fitzroy Park in relation to the development works at 53 Fitzroy Park near Hampstead Heath. Traffic surveys were undertaken by an independent survey company on Tuesday 14th April 2015 between 08:00 and 18:00 recording the number of vehicle movements northbound and southbound along Fitzroy Park. The full survey results are appended to this letter whilst a summary of the results is provided below.

The results show that there were a total of 207 two-way vehicle movements (excluding cyclists) along Fitzroy Park over the survey period consisting of 142 car movements, 50 light or medium goods vehicle movement, 4 heavy good vehicle movements and 11 motorcycles movements. This equates to an average of 21 two-way vehicle movements per hour throughout the day; 1 vehicle every 3 minutes. In addition, there was an average of 8 cycle movements per hour along Fitzroy Park.

The result show that the busiest period on the road (including cyclists) was between 17:00 and 18:00 with 36 two-way vehicle movements recorded along Fitzroy Park equating to 0.6 vehicles per minute. The peak hour in terms of motorised traffic was between 11:30 and 12:30, with 28 two-way movements recorded, equating to less than 1 vehicle every 2 minutes.

The quietest hour was between 14:00 to 15:00 with 16 two-way vehicle movements (including cyclists) recorded, equating to 1 vehicle every 3-4 minutes. This included 2 cycle movements.

The results presented above indicate that Fitzroy Park is a lightly trafficked road which experiences on average 1 motorised vehicle every 3 minute throughout the day. At its busiest, 1 vehicle could be expected every 2 minutes. In addition, the road is used regularly by cyclists with an average of 8 cycle movements per hour.



I trust that this information is of assistance to you. Please do not hesitate to contact me if you have any questions or we can be of any further assistance to you.

Yours sincerely,

Peter Sturgeon

PETER STRUGEON

Associate Director

E psturgeon@motion-uk.co.uk

K&M TRAFFIC SURVEYS

DATE: 14th APRIL 2015

DAY: TUESDAY

LOCATION: FITZROY PARK, WEST OF MERTON LANE, HAMPSTEAD HEATH.

			NOR	тнво	UND		SOUTHBOUND							
			МС	VEME 1	NT					МС	VEME 2	NT		
	CAR	\97	MGV	ABH	MCYCLE	PCYCLE	TOTAL	CAR	\97	MGV	- NgH	MCYCLE	PCYCLE	TOTAL
0800-0815	0	0	0	0	0	2	2	1	0	0	0	0	0	1
0815-0830	3	0	0	1	0	2	6	2	0	0	0	0	3	5
0830-0845	0	1	0	0	0	2	3	3	0	0	0	0	4	7
0845-0900	1	0	0	0	1	1	3	1	0	0	0	1	4	6
0900-0915	1	2	0	0	0	0	3	0	1	0	0	0	0	1
0915-0930	3	1	0	0	1	4	9	0	1	0	1	0	1	3
0930-0945	2	1	0	0	0	0	3	5	1	0	0	0	0	6
0945-1000	3	1	0	0	0	1	5	1	0	0	0	0	0	1
1000-1015	0	0	0	0	0	1	1	3	1	0	0	0	0	4
1015-1030		0	0	0	1	1	2	2	0	0	0	2	1	5
1030-1045	2	0	1	0	0	1	4	1	0	0	0	0	0	1
1045-1100	0	0	0	0	0	3	3	2	0	1	0	0	0	3
1100-1115	3	1	0	0	0	2	6	1	0	0	0	0	0	1
1115-1130	3	1	0	1	0	0	5	2	1	0	0	0	2	5
1130-1145 1145-1200	2	1	0	0	0	1	4	2 2	2	0	0	0	1	5
1200-1215	2	<u>1</u> 1	0	0	0	1 0	2	4	<u>1</u> 0	0	0	0	1	5 5
1215-1213	1	0	1	0	1	0	3	4	0	0	1	1	0	6
1230-1245	0	0	0	0	0	0	0	1 1	0	0	0	0	1	2
1245-1300	0	1	0	0	0	1	2	3	0	0	0	0	1	4
1300-1315	1	1	0	0	0	0	2	3	0	0	0	0	0	3
1315-1330	3	3	1	0	0	1	8		2	0	0	0	1	4
1330-1345	2	0	0	0	0	1	3	2	0	0	0	1	0	3
1345-1400	1	0	0	0	0	0	1	2	0	0	0	0	0	2
1400-1415	2	0	0	0	0	1	3	2	0	1	0	0	0	3
1415-1430	1	0	1	0	0	1	3	1	0	0	0	0	0	1
1430-1445	2	0	0	0	0	0	2	2	0	0	0	0	0	2
1445-1500	0	1	0	0	0	0	1	0	0	1	0	0	0	1
1500-1515		0	1	0	1	2	5	2	1	0	0	0	3	6
1515-1530	2	2	0	0	0	1	5	0	2	1	0	0	0	3
1530-1545	2	0	0	0	0	1	3	0	0	0	0	0	1	1
1545-1600	3	1	1	0	0	1	6	4	1	0	0	0	1	6
1600-1615	2	0	0	0	0	2	4	3	0	0	0	0	0	3
1615-1630	0	0	0	0	0	2	2	2	0	0	0	0	1	3
1630-1645	1	0	0	0	0	2	3	3	0	1	0	0	0	4
1645-1700	2	0	1	0	0	3	6	1	0	0	0	0	0	1
1700-1715	6	0	0	0	0	3	9	5	0	0	0	0	1	6
1715-1730		1	0	0	0	0	2	1	0	2	0	0	1	4
1730-1745	3	0	0	0	0	1	4	2	0	0	0	1	0	3
1745-1800	2	1	0	0	0	2	5	2	0	0	0	0	1	3
0800-1800	64	22	7	2	5	47	147	78	14	7	2	6	31	138

K&M TRAFFIC SURVEYS

DATE: 14th APRIL 2015

DAY: TUESDAY

LOCATION: FITZROY PARK, WEST OF MERTON LANE, HAMPSTEAD HEATH.

			NOR	тнво	UND				sou	тнво	UND			
			MC	VEME	NT					MC	VEME	NT		
	1										2			
	CAR	TGV	MGV	HGV	MCYCLE	PCYCLE	TOTAL	CAR	\D	MGV	HGV	MCYCLE	PCYCLE	TOTAL
0800-0900	4	1	0	1	1	7	14	7	0	0	0	1	11	19
0815-0915	5	3	0	1	1	5	15	6	1	0	0	1	11	19
0830-0930	5	4	0	0	2	7	18	4	2	0	1	1	9	17
0845-0945	7	4	0	0	2	5	18	6	3	0	1	1	5	16
0900-1000	9	5	0	0	1	5	20	6	3	0	1	0	1	11
0915-1015	8	3	0	0	1	6	18	9	3	0	1	0	1	14
0930-1030	5	2	0	0	1	3	11	11	2	0	0	2	1	16
0945-1045	5	1	1	0	1	4	12	7	1	0	0	2	1	11
1000-1100	2	0	1	0	1	6	10	8	1	1	0	2	1	13
1015-1115	5	1	1	0	1	7	15	6	0	1	0	2	1	10
1030-1130	8	2	1	1	0	6	18	6	1	1	0	0	2	10
1045-1145	8	3	0	1	0	6	18	7	3	1	0	0	3	14
1100-1200	10	4	0	1	0	4	19	7	4	0	0	0	5	16
1115-1215	8	4	0	1	0	2	15	10	4	0	0	0	6	20
1130-1230	6	3	1	0	1	2	13	12	3	0	1	1	4	21
1145-1245	4	2	1	0	1	1	9	11	1	0	1	1	4	18
1200-1300	2	2	1	0	1	1	7	12	0	0	1	1	3	17
1215-1315	2 4	2	1	0	1	1	7	11	0	0	1	1	2	15
1230-1330 1245-1345		5 5	1	0	0	2	12 15	8 9	2 2	0	0	0	3 2	13 14
1300-1400	6 7	5 4	1	0	0 0	3 2	14	8	2	0	0	1	1	12
1315-1415	8	3	1 1	0 0	0	3	15	7	2	0 1	0 0	1 1	1	12
1330-1430	6	0	1	0	0	3	10	7	0	1	0	1	0	9
1345-1445	6	0	1	0	0	2	9	7	0	1	0	0	0	8
1400-1500	5	1	1	0	0	2	9	5	0	2	0	0	0	7
1415-1515	4	1	2	0	1	3	11	5	1	1	0	0	3	10
1430-1530	5	3	1	0	1	3	13	4	3	2	0	0	3	12
1445-1545	5	3	1	0	1	4	14	2	3	2	0	0	4	11
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1515-1615	9	3	1	0	0	5	18	7	3	1	0	0	2	13
1530-1630	7	1	1	0	0	6	15	9	1	0	0	0	3	13
1545-1645	6	1	1	0	0	7	15	12	1	1	0	0	2	16
1600-1700	5	0	1	0	0	9	15	9	0	1	0	0	1	11
1615-1715	9	0	1	0	0	10	20	11	0	1	0	0	2	14
1630-1730	10	1	1	0	0	8	20	10	0	3	0	0	2	15
1645-1745	12	1	1	0	0	7	21	9	0	2	0	1	2	14
1700-1800	12	2	0	0	0	6	20	10	0	2	0	1	3	16