Appendix **F**

1 and 2 Falkland Mews Basements

Re Falkland House Mews and Raleigh House, Falkland Road

		0	1	2	3	4	5	6	7	8	9	10	11	12
Horizontal	wall	1.50	1.15	0.85	0.50	0.15	0.00	0.00						
	Excav	4.50	4.10	3.75	3.38	2.98	2.65	2.25	1.85	1.50	1.13	0.70	0.40	0
	Total	6.00	5.25	4.60	3.88	3.13	2.65	2.25	1.85	1.50	1.13	0.70	0.40	0
Vertical	wall	1.50	0.85	0.40	0.08	0.02	0.00							
	Excav	1.50	2.30	2.35	2.10	1.70	1.35	0.90	0.40	0.26	0.15	0.05	0.00	
	Total	3.00	3.15	2.75	2.18	1.72	1.35	0.90	0.40	0.26	0.15	0.05	0.00	
House Slope				2.75	2.43	2.10	1.78	1.46	1.13	0.81	0.49	0.16		
Delta Δ		3.00	3.15	0.00	-0.25	-0.38	-0.43	-0.56	-0.73	-0.55	-0.34	-0.12		

Δ/L DELTA/LENGTH (DEFLECTION RATIO) -0.00862

Ɛh % -0.046 HORIZONTAL STRAIN

CAT0 0.05 (standard data from CIRIA C760 table 6.4)

Δ/L/Ɛlim -1.72E-01

Ɛh/Ɛlim -0.92

CAT1 0.075 (standard data from CIRIA 760 Table 6.4) CATEGORY 1

Δ/L/Ɛlim -1.15E-01

Ɛh/Ɛlim -0.61333

Ground Movements due to new basement at 1 and 2 Falkland Mews, for Falkland House Mews and Raleigh House, Falkland Road, London

Taking height of adjacent houses as H=10m and length of houses as L=15m

Then L/H=1.5

Depth of basement excavation to Nos 1 and 2 take as 3.00m. Depth of walls 3.00m.

Horizontal movement due to installation of wall

0.05% x 3000mm = 1.5mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Horizontal movement due to excavation

0.15% x 3000mm = 4.50mm

Distance to negligible movement 4 x 3000mm =12,000mm

Maximum horizontal movement is 6.00mm (4.50+1.50mm)

Horizontal strain over 15.0m is 6mm /15,000mm x100 = 0.04%

Vertical movement due to installation of wall

0.05% x 3000mm = 1.50mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Vertical movement due to excavation

(0.10% x 3000mm = 3.00mm from Table 6.3)

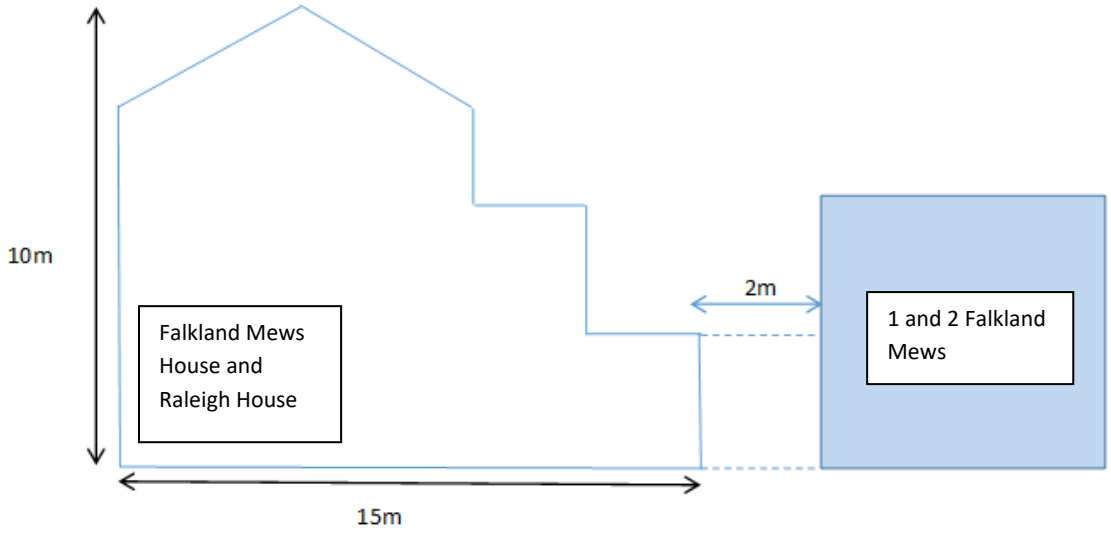
Instead use Fig 6.15(b) which is more accurate and shows 0.05% at the wall, 0.1% is never reached by the curve or the measured ground movements, so 0.05% is conservative.

0.05% x 3000mm = 1.50mm

Distance to negligible movement 3.5 x 3000 = 10,500mm

Maximum vertical movement is 3.00mm (1.50+1.50mm)

This calculation is for movement at 0m from the excavation/building, however, the building and adjacent building are separated by a gap of 2m in length as shown in diagram below.



Therefore at 2m from 1 and 2 Falkland Mews:

Horizontal movement due to installation of wall = 0.85mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Horizontal movement due to excavation = 3.75mm

Distance to negligible movement 4 x 3000mm =12,000mm

Maximum horizontal movement is = 4.60mm (0.85+3.75mm)

Maximum horizontal strain is 4.60/10m/1000x100=0.046%

Vertical movement due to installation of wall = 0.40mm

Distance to negligible movement 1.5 x 3000mm = 4500mm

Vertical movement due to excavation = 2.35mm

Distance to negligible movement 3.5 x 3000 = 10,500mm

Maximum vertical movement is 2.75mm (0.40+2.35mm)

House slope calculated as (max vert settl at 2m – (settl at 2m/8.50m)

By plotting house slope for full 10.50m distance of strain the maximum deflection (total vert settlement minus house slope) calculated is 0.73mm at 7m distance from the party wall. Therefore take 0.73mm for deflection to be conservative.

Deflection/length = -0.73/10.5-2m = -0.0086

Category 0 Assessment

Deflection/length/Elim for Category 0 = -0.0086 / 0.05 = 0.172

Horizontal strain/Elim for Category 0 = 0.046 / 0.05 = 0.92

The above plotted on CIRIA 760 Fig 6.27 fall above the L/H = 1.5 which is not acceptable.

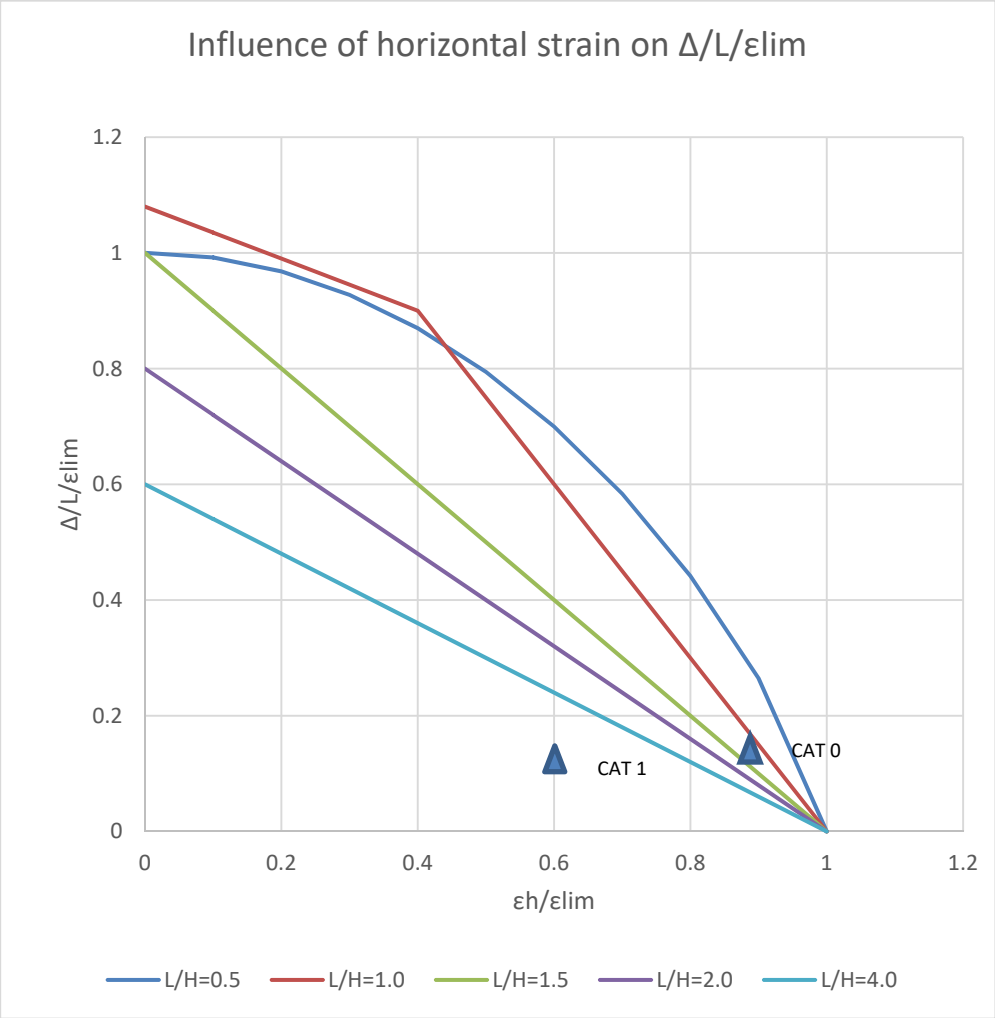
Category 1 Assessment

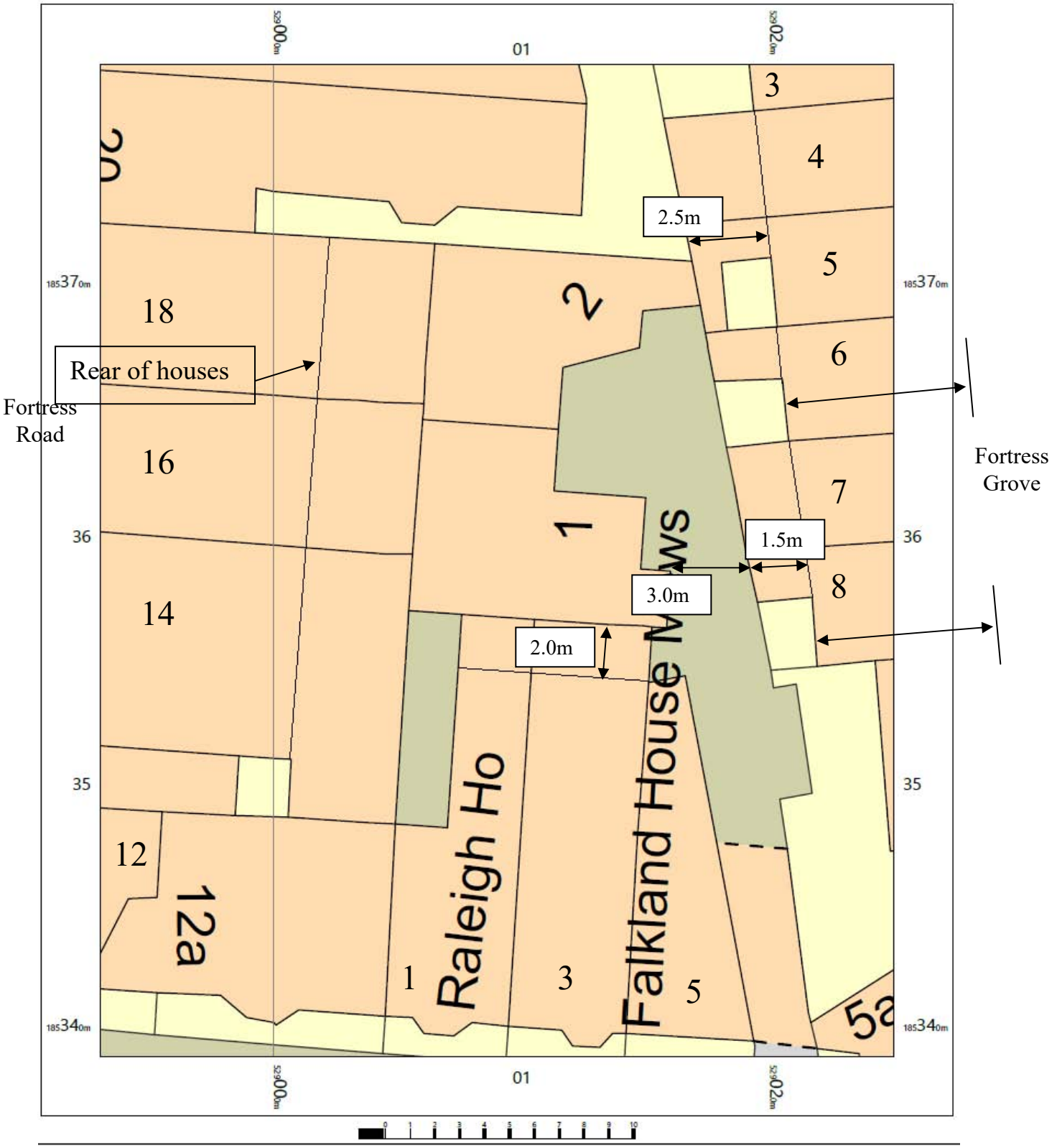
Deflection/length/Elim for Category 1 = -0.0086 / 0.075 = 0.114

Horizontal strain/Elim for Category 1 = 0.046 / 0.075 = 0.613

The above plotted on CIRIA 760 Fig 6.27 fall below the L/H = 1.5 as required.

Therefore anticipated Damage Category according to C760 Table 6.4 is negligible to very slight.

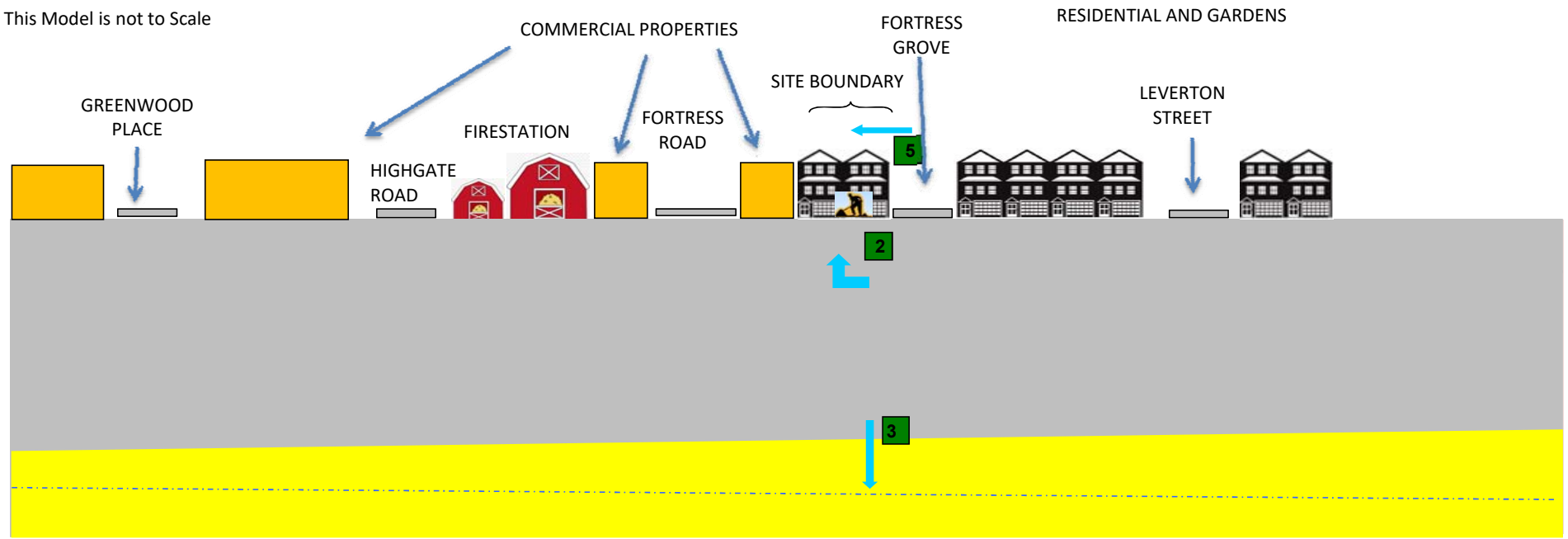



01
3
4
2.5m
5
6
Rear of houses
Fortress Road
Fortress Grove
18
16
14
12
12a
2
1
7
8
1.5m
3.0m
2.0m
Falkland House Mews
Raleigh Ho
1
3
5
5a
36
35
01

Ashton Bennett
ENGINEERING GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

Land to rear of Falkland Mews, Camden
Conceptual Model

This Model is not to Scale



SOURCES	PATHWAYS	RECEPTORS	RISK
HISTORICAL USE AS OPENLAND CURRENT USE AS RESIDENTIAL OFF SITE RESIDENTIAL	1 Inhalation of vapours from landfill/mining	Workmen / Future site users / adjacent land uses	Low No landfill within 250m. No Radon.
	2 Ingestion and or skin contact	Workmen / Future site users / occupants /adjacent land uses	Low - site tested to be uncontaminated
	3 Ingestion of drinking water / leaching to groundwater	Groundwater.	Low - No abstractions within 2000m
	4 Leaching to surface water	No surface water within 250m of site	Low - no surface water within 500m of site
	5 Inhalation of dust	Workmen / adjacent land users	Low - Appropriate measures during construction
	6 Slope Failure	Future land users	Low - No slopes within 250m
	7 Off site migration	Neighbouring land users.	Low - neighbouring land is residential since 1894

GEOLOGY

- MADE GROUND
- LONDON CLAY
- THANET SAND AND CHALK

Drg. No. APPW 3303

Appendix G

Construction Management Plan (CMP)

for the

Re-development of 1 & 2 Falkland Mews, London NW5 2PP

prepared by

Haig Construction Management Limited

Issue No.	Revision Description	Produced by	Date
1	Draft for Project Team	DL	1 May 2018
2	Final	DL	4 May 2018

Contents

Section 1 Introduction - Description of the Site and Development

The following Construction Management Plan (CMP) has been produced for Ashton Bennett to explain the proposed programming and construction logistics, methodology and traffic management for the redevelopment of 1 & 2 Falkland Mews.

Site Address 1 & 2 Falkland Mews
Kentish Town
London
NW5 2PP

Planning Ref: TBC

Main Contractor and Site Contact Details

Full contacts details of the site project manager responsible for the day-to-day management of the works and dealing with any complaints from local residents and businesses will be confirmed by Ashton Bennett post.

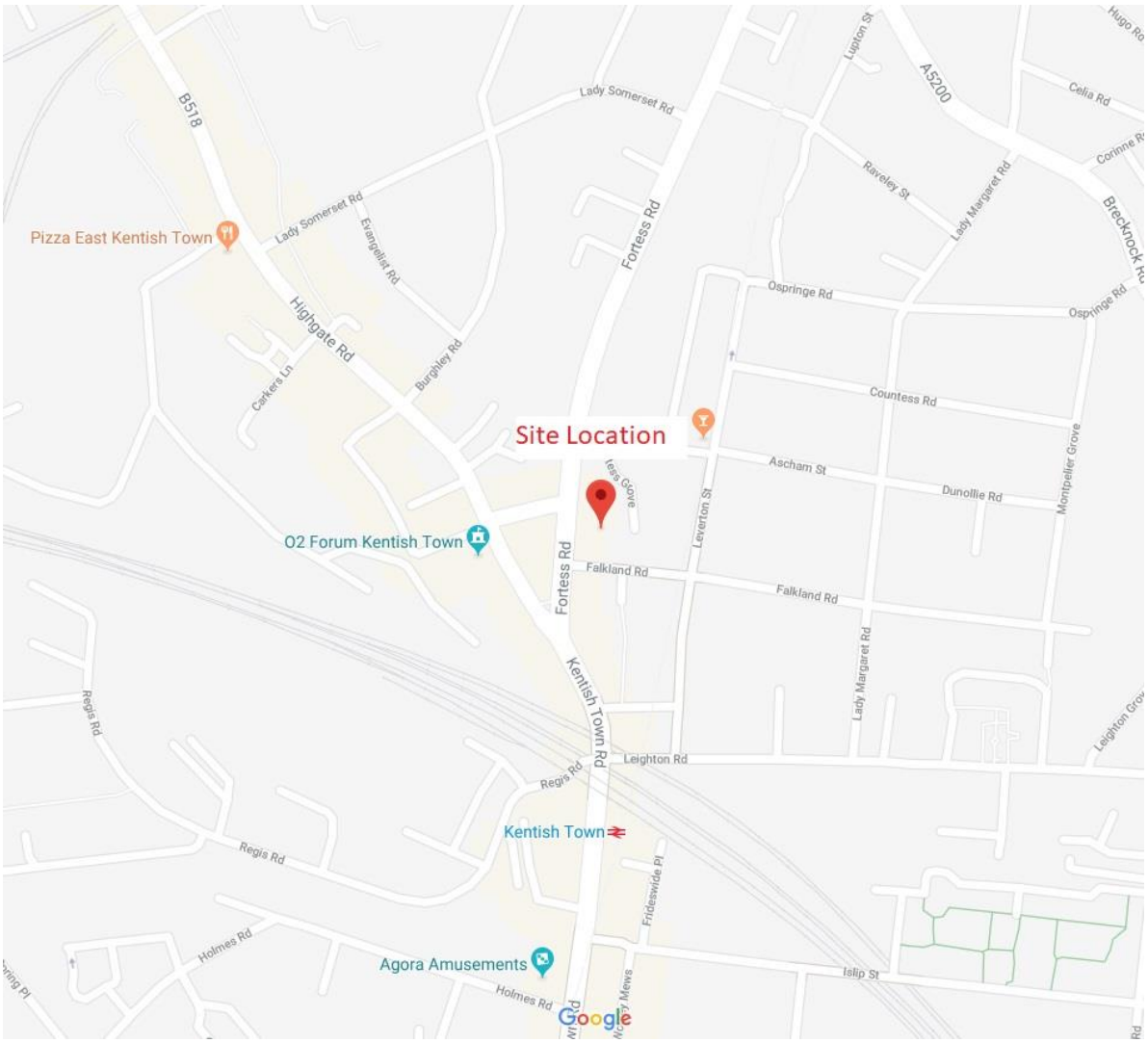
Outline Scope

The scope of works includes excavation and construction of a new basement and refurbishment of the existing properties. The basement excavation extends the entire plot of the two units.

The CMP provides an overview for both the excavation and construction works, its phasing, logistics and traffic management proposals and the management of health, safety, and environmental issues on and around the development. The intention is that the site operations will commence with the excavation works and under pinning and be immediately followed by waterproofing and fit out works.

Site Location

The site lies just off the A400 a short distance north of Kentish Town Station. The A400 is a quiet high street with lots of through traffic. The area is mainly residential with commercial units along the high street and industrial unit located in the mews adjacent to the property.



Location Plan

Key Issues and Challenges

- Access to and from site is through a narrow opening off Falkland Road.
- The site is within close proximity to neighbouring residential properties.
- There are narrow one-way streets leading to and from site.

Site Entrance

Section 2 Programming and Phasing

The programme outlined below, assumes that all planning issues have been resolved, and that all party wall awards with the adjacent owners are in place, if these are not it is likely that there will be a substantial extension to the pre-construction period whilst these are resolved.

- Preconstruction – finalisation of tender documentation (2 weeks), Tender (4 weeks), Review and Award contract (2 weeks).

- Lead Time – 4-6 weeks we would consider as normal for a specialist basement contractor.

- On site – we would expect that to complete these works in a planned underpinning sequence that we would be looking at 20 – 26 weeks on site. This can only be confirmed when the construction sequence is provided by the structural engineer and the extent of fit out works is fully defined. There will also be extensive works required to the ground floor as it is likely the ground floor slab will have to be replaced in full or in part to complete the basement box, which we need to understand in more detail to confirm the final programme.

The principle strategy in programming the works is to minimise the disruption to the residents surrounding Falkland Mews and the retail units in the high street. We would propose to achieve this both by timing the works to minimise disruption to adjacent properties during the working day, but to also avoid traffic movements to and from the site during peak periods.

Subject to the planning approval and discharge of the pre-commencement conditions of the planning approval being received during Q3 2018, it would be envisaged that strip out, excavation and underpinning works could commence during Q4 2018.

On commencement of the works it is envisaged that the excavation and underpinning would be carried out in a two to three-month period with the construction of the new basement completed in the following two to three months, with the overall construction and

fit out works being completed over a total six-month period for projected completion in Q3 2019.

The phasing will be as follows:

Phase 1. Excavation and underpinning works	8-10 weeks
Phase 2. Forming basement box and waterproofing	8-10 weeks
Phase 3. Construction and Fit out	4-6 months

The phasing outlined above is indicative and there will be some overlapping between the phases to suit site conditions and sequencing.

It is envisaged that during the Phase 1 Excavation and underpinning works all with excavated material will be loaded onto skips from basement to ground floor level via a conveyor and then manual handled to a skip in the suspended bay.

The programme is based on the working hours for the site being:

08:00 and 18:00 Monday to Friday
08:00 and 13:00 on Saturday; and
No work on Sunday, Bank and Public Holidays.

All site deliveries and rubbish removal will be arranged between these hours and will be co-ordinated and managed on a 'just-in-time' delivery basis. Deliveries will be programmed to avoid the peak travel periods. All subcontractors and suppliers will be required to agree dates and times prior to delivery in addition confirmation of size of vehicle and unloading point. To facilitate this there will be a designated holding area identified away from the site for delivery vehicles. The location of this will be in a local waiting zone/ lay by, such that vehicles can be called to site as the unloading point becomes available.

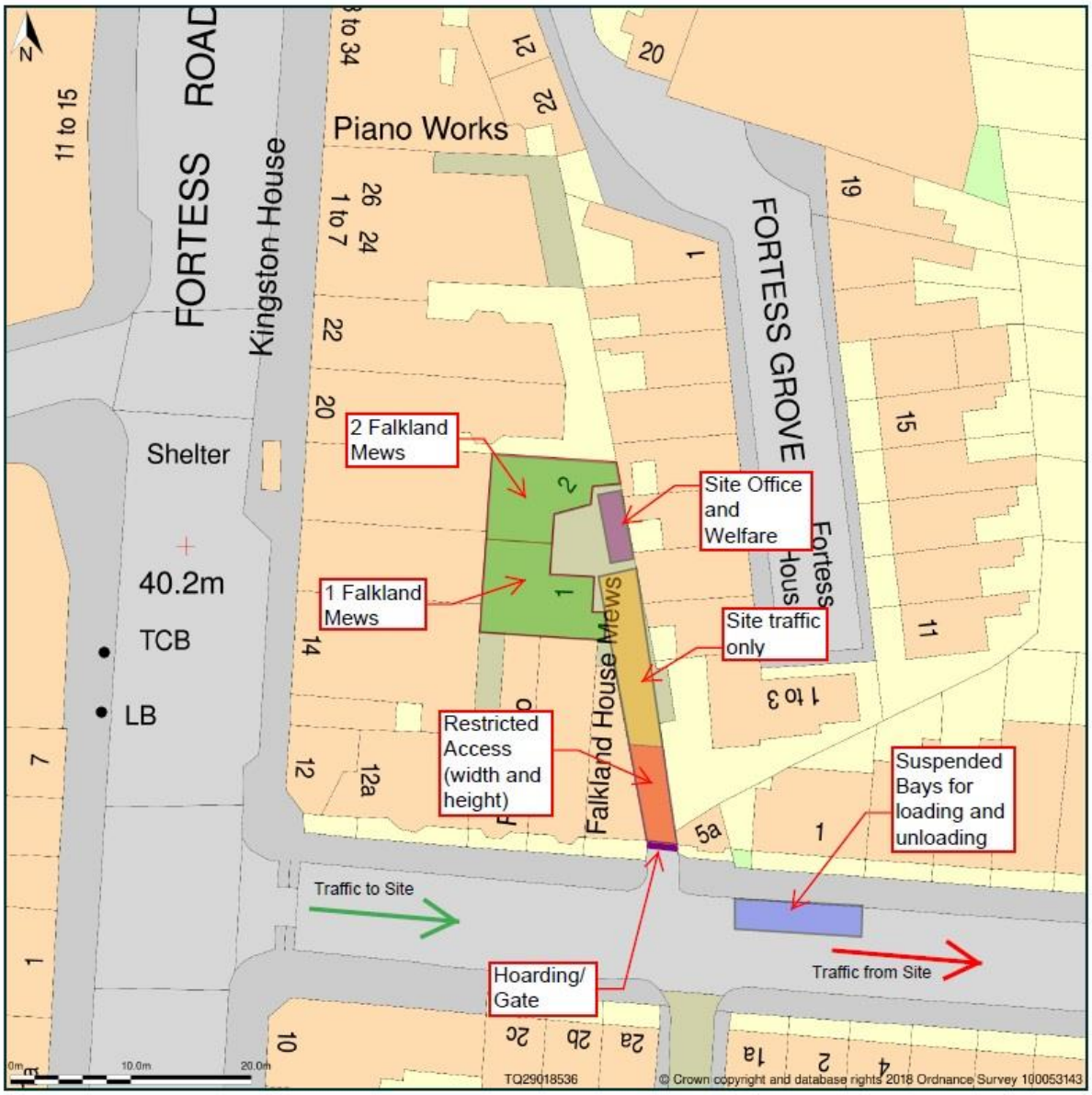
Any noisy work outside these hours will only be undertaken by prior agreement, and/or reasonable notice to Camden Council Highways and Environmental Health Teams.

It is not envisaged that works will require a road closure. If works required a road closure this would be discussed with Camden Council Highways Team before applying for the necessary permissions and orders.

Section 3 Construction Logistics

Site Offices and Welfare Facilities

It is proposed that the site offices and welfare facilities are located within the building. During the course of the works this may not be possible so will be temporarily located within the confines of the site. Access to site will be via the gate/hoarding.



Site Logistics Plan

Hoardings and Gates

The site entrance at the front of the property will be fully hoarded with a single point of entry and exit. These will have clear signage to direct public away from site and secured to prevent unauthorised site access. The hoarding provided will be 2.4m high plywood faced and painted hoarding.

Scaffolding and Gantries

During the basement works scaffold access into the basement area will be provided as work progresses.

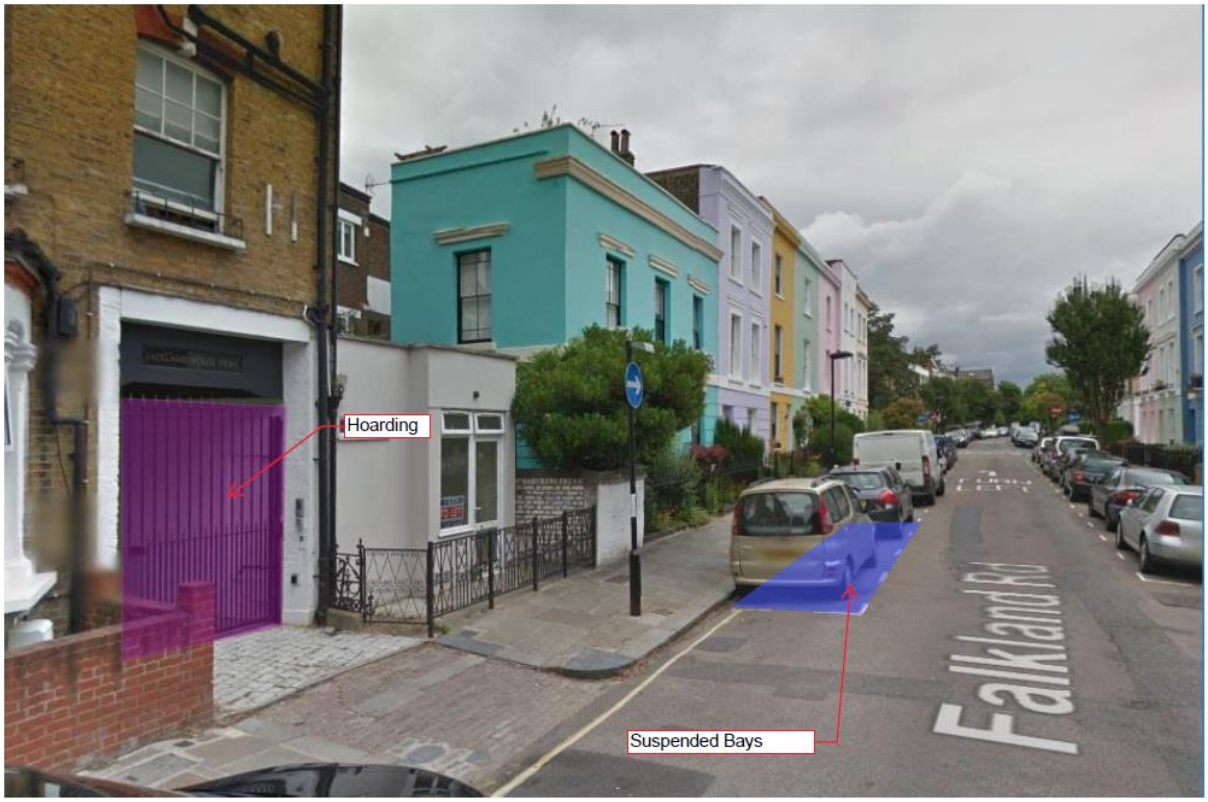
Cranes

It is proposed to utilise pallet trucks, dollies and sack trucks for moving the majority of materials on to site from the unloading area. A conveyor will be located on site to take material from basement to ground where it will be manual handled to the skip located in the suspended bay. To lower steel and heavy materials into the basement a winch/hoist will be required.

Vehicle Offloading points

To ensure the minimum disruption to traffic a loading/unloading area will be established by suspending a couple of bays on Falkland Road. All deliveries will be distributed into site immediately on arrival. Also, the turning area for lorries will be marshalled by a Traffic Marshal and chapter 8 barrier to prevent cars parking where vehicles will be unloading thus preventing hold ups and frustration for residents.

All vehicles leaving site will be advised to turn down Leverton Street and then immediately right down Dunollie Street, where they can turn onto Lady Margret Road and pick up their route to their destination. Traffic Marshalls will be available to assist vehicles in leaving via this route on request.



Vehicle loading/unloading area

Licenses

Prior to the installation of the gantry, erection of any hoardings, placing of the static pump or any skips the appropriate licensees will be obtained from Camden Council to agree the use of Falkland Road for vehicle unloading to the site.

Also, prior to the erection of any hoardings or commencement of any demolition works a full photographic record survey will be taken of the surrounding roads, pavements, road signage, to record the condition of these items prior to works commencing, a copy of this survey will be issued to Camden Council Highways Team.

Entrance into Falkland Road

Section 4 Vehicle / Plant Schedule

The following details and schedules provide an overview of all plant and vehicles that will be involved in the delivery of materials and construction activities on site. The frequency of deliveries will be ascertained during the detailed logistics and traffic management statement produced during the pre-construction period, and as the vehicle movement statistics are generated to reflect the works programme and design components.

Plant and Usage	Phase 1	Phase 2	Phase 3	Vehicle Movements	Total Duration On Site
Ready mix Concrete Lorries required for new build construction	✓	✓		2 per week	5 months
Steelwork/Rebar Delivery Lorries required for new build construction	✓	✓		1 week	5 months
Concrete Pump Static required for new build construction	✓	✓		2 delivery & 2 collections	5 months
Mobile Cranes required for new build construction	✓	✓		1-2 total	1-2 days
Hand / Power Tools required for all works during period of construction	✓	✓	✓	1 week	12 months
Scaffolding and Hoardings required to protect public, safe methods of working to external envelope for movement of materials	✓	✓	✓	3-5 deliveries for erection (1-2 weeks) and dismantling	12 months
Material Delivery Vehicles required for all works during period of construction	✓	✓	✓	1 day	12 months
Skip and Compactor Vehicles required for all works during period of construction	✓	✓	✓	1-2 per day (1st 6 months) 3 per week (final 6 months)	12 months

All vehicles delivering to the site will be issued with the site rules in relation to delivery hours and will be allocated to a specific loading or unloading time. All delivery vehicles will be banked to minimise the risk to road users and pedestrians.

Section 5 Transportation

Photographic Condition Survey

The adjacent highways and footpaths and street signage in the vicinity of the site, will be subject to a photographic condition survey which will be completed prior to the commencement of any works on site. We will during the works, complete regular inspections to ensure any issues arising from the works traffic are notified and rectified promptly.

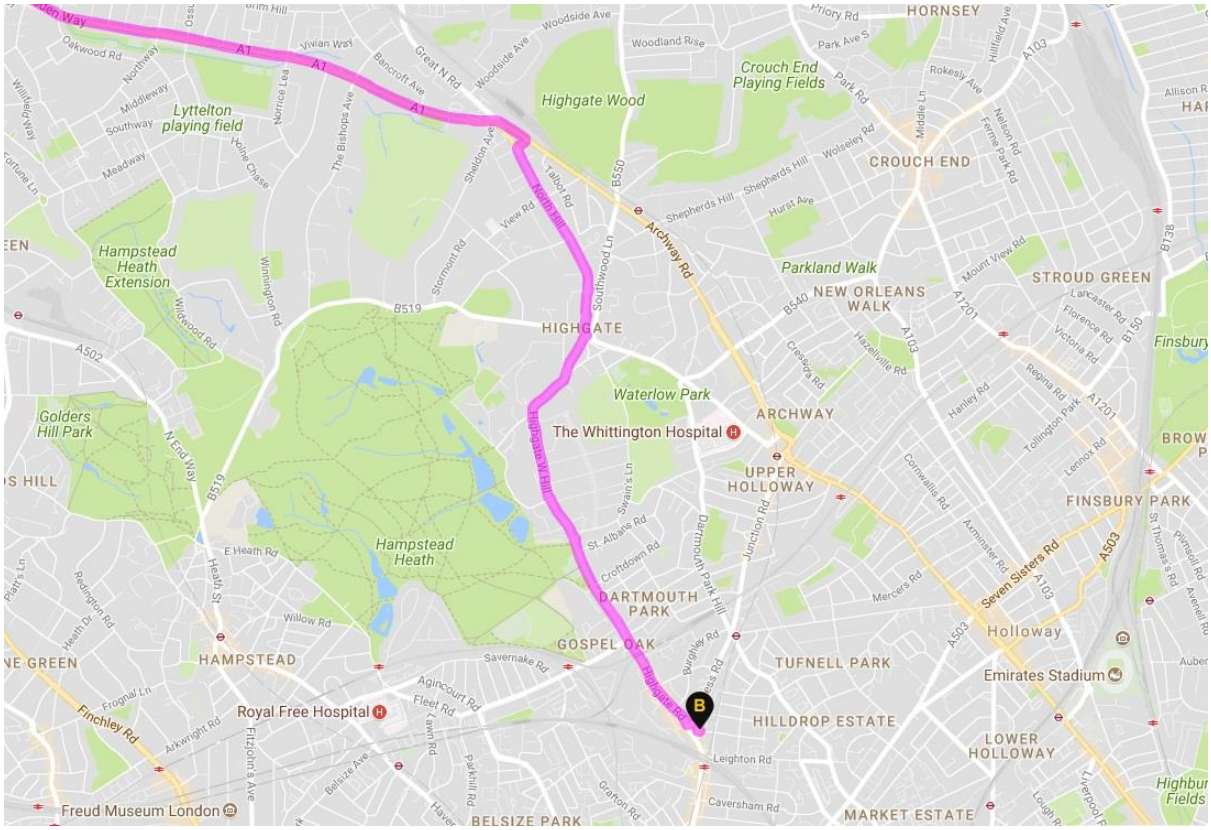
Construction Vehicles

Delivery vehicles will get as close to site as possible using the Transport for London Road Network (Red Routes) using either the A1 or A501 and A400. All vehicular access will be from Fortress Road, then on to Falkland Road.

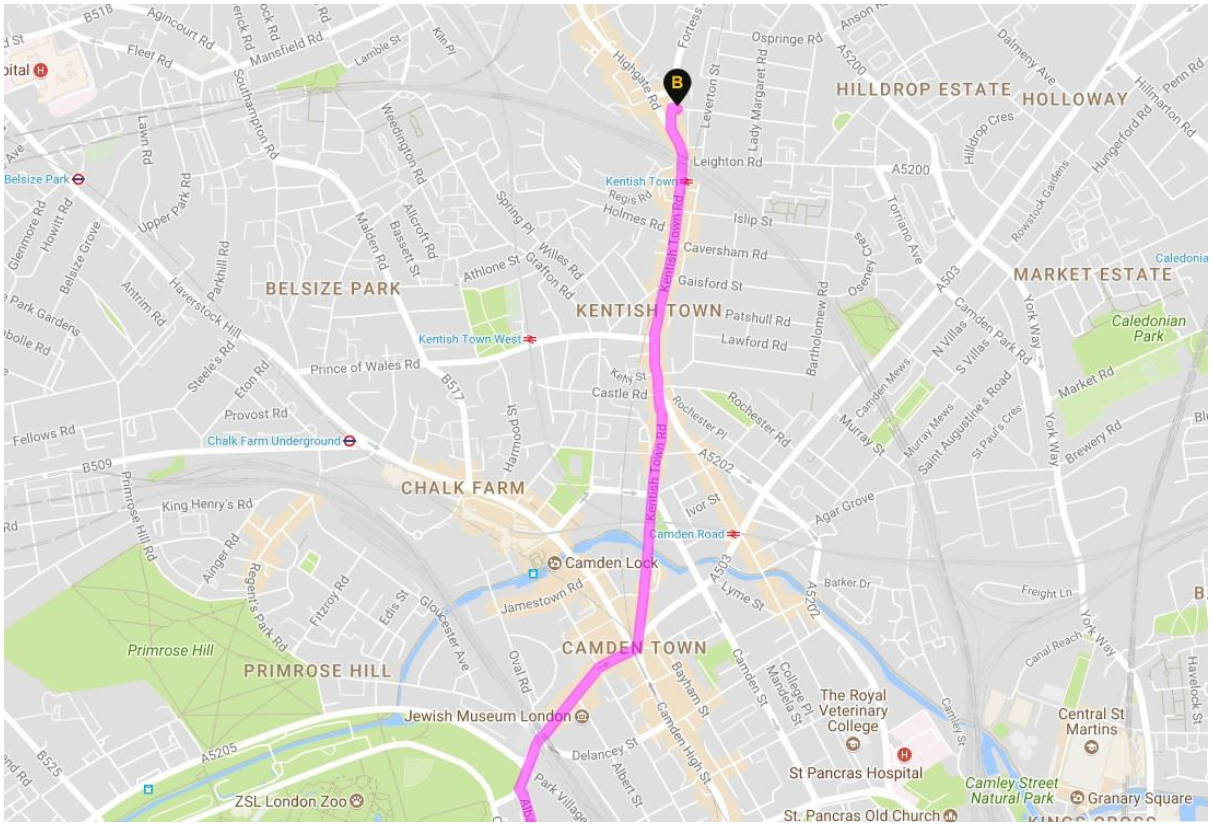
1 & 2 Falkland Mews are located next to the A400, this is close to the Archway and Holloway Road (A1) which is one of the primary north/south routes from Central London out to the North Circular and the M1. The A1 will be the primary route used by all vehicles arriving and departing the site if arriving from the North and East of London via the North Circular. Vehicles arriving from the Central, West or South of London are likely to take the A501 and A400 to site.

All suppliers and subcontractors will be advised of the access routes to the site to ensure that vehicles follow the designated access route, signage will be provided adjacent to the loading point to advise no waiting is allowed, other than in the designated unloading bay.

It is envisaged that there should be no implications to local bus routes from the proposed development.



To site from the North



To site from the South

Site Staff – Travel Plan

The location is well served with good transport links, so all site staff and operatives will be encouraged to use public transport to travel to and from the site, using the buses which operate on Fortress Road, Highgate road and Leighton Road or via the Northern Line and Overground lines at Kentish Town.

There will be no onsite parking for site staff or operatives, and it will be made clear to all staff and operatives that the use of adjacent residential streets for parking will not be allowed. Any person found using adjacent streets for parking will be subject to a warning and any repeat offenders will be excluded from working on the site.

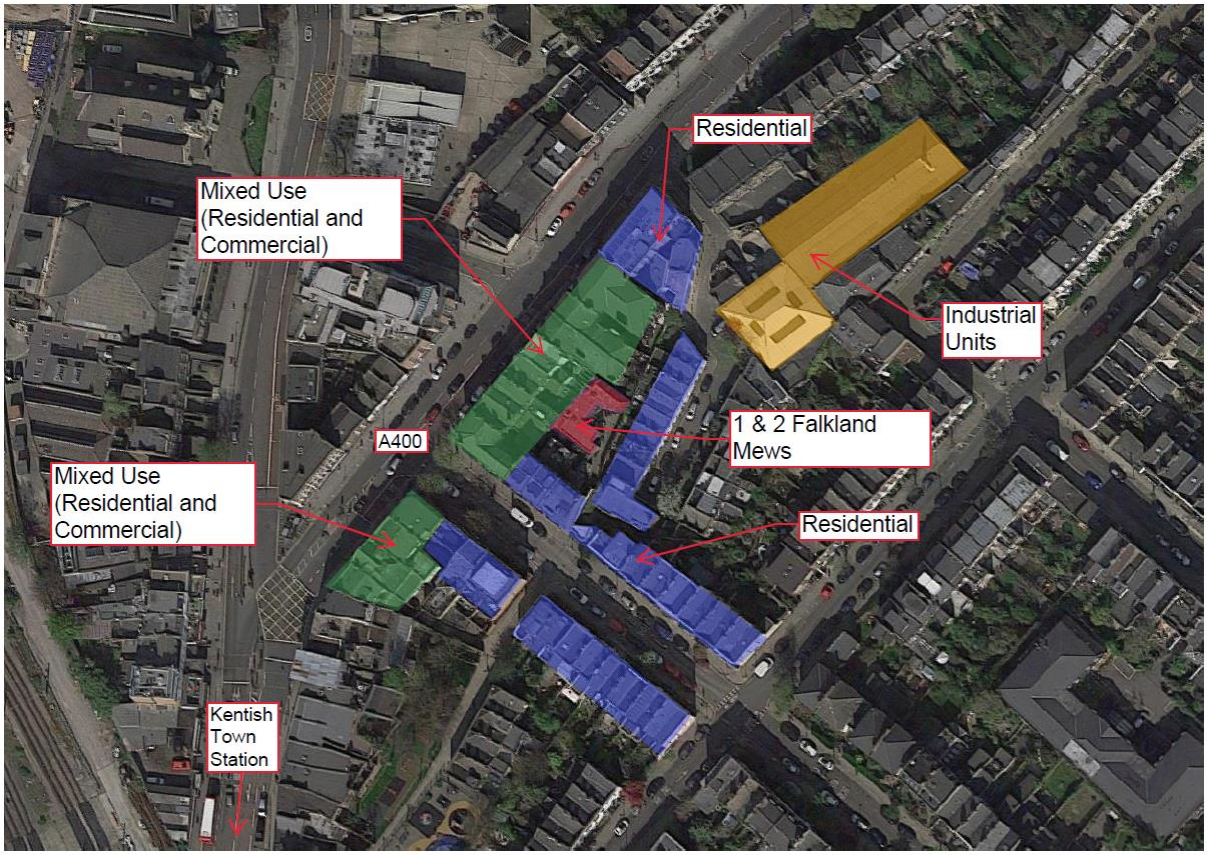
The premises are close to a busy high street. In developing the strategy for the CMP we have considered the peak hours for the nearby businesses and the residential nature of the adjacent properties.

Section 6 Environmental

Prior to commencement of any site works, we will produce a detailed Site Environmental Management Plan (SEMP). The SEMP will set out how we intend to operate the construction and work sites and will set out the specific control measures necessary to deliver the project, the SEMP will follow the parameters outlined below.

We will demonstrate, via the SEMP, the management, monitoring, auditing and training procedures that are in place to ensure compliance.

Due to the proximity of the residential properties to the Site particular focus will be given on managing noise, dust and air pollution. The following will be addressed when producing the final detailed risk assessments and method statements.



Units surrounding 172 Falkland Mews

Noise

Where practicable noisy plant and equipment will be situated as far as possible from noise sensitive buildings and / or acoustic lined enclosures will be erected.

Where practicable, plant and equipment powered by mains electricity will be used in preference to equipment powered by petrol or diesel engine.

Where practicable, plant and equipment will be fitted with effective exhaust silencers; compressors will be fitted with properly lined and sealed acoustic covers which will be kept closed whenever in use; and pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers. All plant and equipment will be maintained in good and efficient working order and operated in such a manner as to minimise noise emissions. All plant will comply with the relevant statutory regulations.

Plant and equipment in intermittent use will be shut down or throttled down to a minimum when not in use.

Where practicable, percussive demolition equipment shall be avoided with preference given to bursting or nibbling equipment.

Vibration

Where practicable, plant, equipment and methods will be selected that will minimise vibration transferring to adjacent properties and the occupied retail units close by.

Dust and Air Pollution

The works will be carried out taking consideration of ‘The control of dust and emissions from construction and demolition’ best practice guide issued by the Mayor of London.

Methods of working will be selected for all activities that will aim to minimise dust and air pollution.

No burning of materials / refuse will be permitted on the site. No crushing of materials will be undertaken on site.

Excavation pollution will be minimised by a combination of screening and watering down.

All vehicles leaving the site, via Falkland Road, will be monitored to ensure that any dirt or dust dropped onto the highway is immediately cleaned up. Further to this, the area around the site, will be regularly and adequately swept on a regular basis to prevent any accumulation of dust and dirt, by the use of a visiting lorry mounted road sweeper during the demolition, excavation and piling phases.

All waste away vehicles shall be properly covered when leaving the site and disposed of at a licensed tip. In line with a project specific Site Waste Management Plan (SWMP).

Asbestos

A Type 3 Refurbishment & Demolition asbestos survey will be arranged when the site has been fully vacated. Any asbestos found will be removed by an approved removal company in accordance with all regulations and good practice.

Contaminated Land

Currently the project scope includes for a large amount of excavation which will produce spoil, therefore if contamination is discovered the Environmental Agency and Environmental Health Departments will be consulted; the contamination will be tested and the contaminated spoil, will be removed to a suitable licensed transfer station and/or landfill.

Drainage

Prior to demolition and excavation, any underground drainage runs connected to the public sewer, at risk of having construction waste entering into them, will be will be sealed off for the duration of these works.

Electrical, Data/Telecoms and Gas Services

All existing Gas Data/Telecoms and Electrical Services will be surveyed and terminated at the perimeter of the site, prior to commencement of main demolition works. Any services running within the site hoarding in Falkland Mews, will be identified, marked and protected with all access hatches/manholes left accessible.

Section 7 Health & Safety

A site-specific health and safety plan, which will comply with the relevant Health and Safety Regulations for the works being undertaken including:

- Provision of first aid cover and equipment is present
- Responsible for ensuring that material movement to and from the workface does not cause damage to the works, the workforce or the public
- Complete safety inspections to company and client standards
- Ensure team has safety training to the company and client's standard programme
- Create appropriate logistics awareness training and deliver to site workforce
- Manage and maintain visitor PPE stocks
- Produce method statements, risk assessments ensure lifting plans are produced
- To protect road users and pedestrians from traffic created by the site works

Section 8 Liaising with the Authorities and the Public

Camden Council Liaison

We will liaise with the local Camden Council Environmental Inspectors both before the issuing of licenses and subsequently when the works commence.

In particular, a schedule of work will be issued to the Inspectors to enable the Council to assess the potential for nuisance including the location of plant with respect to sensitive areas and the locations of delivery, storage and handling areas.

In relation to the management of site traffic, we will work closely with the Camden Council – Highways Department to ensure that we minimise traffic disruption in the area surrounding the site.

As a member of the Considerate Constructor Scheme we will operate the site in line with their code.

Public

Prior to any works commencing, we will inform occupiers of adjoining properties which may be affected by construction works about the works to be undertaken. This will include details of the nature of the works, proposed hours of work and their expected duration. The information will be delivered as a letter to their premises and also erected in conspicuous positions around the site, with links to a website.

The letter will also include the name, mobile telephone number and e-mail address of a main contact within our organisation who is able to give further information and deal with any complaints or emergencies that may arise at any time. A log will be kept of contact with the public and the actions taken to resolve any issues arising.

The letter will be updated mid-way through the works informing the neighbours of site progress and projected activities that might cause loss of amenity in the next period, e.g. road closures etc.

Agreement

The agreed contents of this Construction Management Plan shall be complied with unless otherwise agreed in writing by the Council. This may require the CMP to be revised by the Developer/Main Contractor and reapproved by 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 in writing and complied with thereafter.

This CMP has been prepared by:

Dan Lemon
Haig Construction Management Ltd
Duke Street House
50 Duke Street
London
W1K 6JL

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