Bartram's Convent
Rowland Hill Street, NW3 2AD London
October 2014

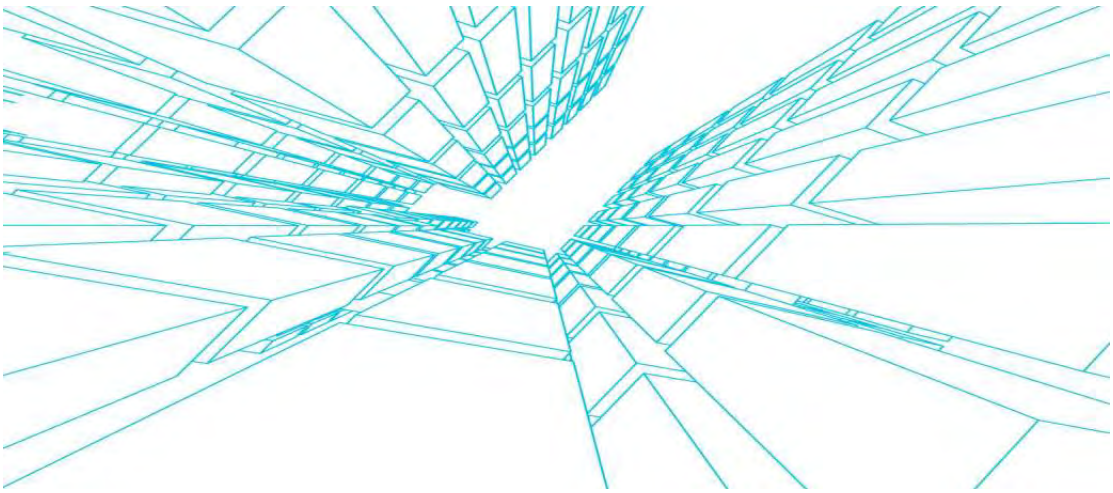
PegasusLife

A Detailed Planning Application, Submitted on behalf of PegasusLife to Provide Specialist Living Accommodation for Older People

Supporting Document 6 Construction Management Plan

Bartram's Convent

Construction Environmental Management Plan



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1.0 INTRODUCTION

1.1. This Construction and Environment Management Plan (CEMP) provides the framework required for the planning and implementation for the demolishing of Bartram's Convent and replacement with a building for the care and well-being of the elderly in Hampstead, London. It sets out the approach for the proposed demolition and construction works and in particular, explains how construction activities can be undertaken in accordance with environmental constraints that have been identified.

1.2. The report sets out the methodology and approach to the demolition of Bartram's Convent and the construction works for the extra-care accommodation for older people, incorporating living accommodation, a health and well-being facility; communal facilities including a restaurant/ cafe, activity room and a library, gardens and terraces; staff and concierge facilities; storage facilities and basement car parking. The report also includes details of site logistics, environmental controls and mitigation measures that will be deployed during both the demolition and construction phases of the project. It should be read in conjunction with the Addendum 'Bartram's Convent Construction Logistics Stage 01 Report' which details and graphically shows the Site Constraints and staged logistics information including:

- Traffic Routes;
- Pedestrian Routes;
- Traffic Estimates;
- Operative Estimates;
- Security and Protection Measures;
- Working Hours;
- Wheel Washing;
- Waste Removal;
- Staged Logistic Plans at Demolition, Groundworks and Construction stages.

1.3. Vacant possession of the site will be granted to the Contractor prior to commencement of the demolition and construction works.

1.4. Drawings showing the logistics plans for the demolition, ground works and construction works of frame and cladding together with an initial estimate of vehicle and site resource levels for the works are also provided as an addendum to this report (titled Bartram's Convent Construction Logistics Stage 01 Report. See Section 5 – Logistics Plans)

1.5. This CEMP has been prepared for the purposes of illustrating the controls and mitigation measures that will be put into place and has been based upon assumed working methods. The Principal Contractor for the works (once appointed) shall be required to take this document forward and update it in accordance with their finalised construction plan, method statements and any Planning Conditions placed upon the consent for development.

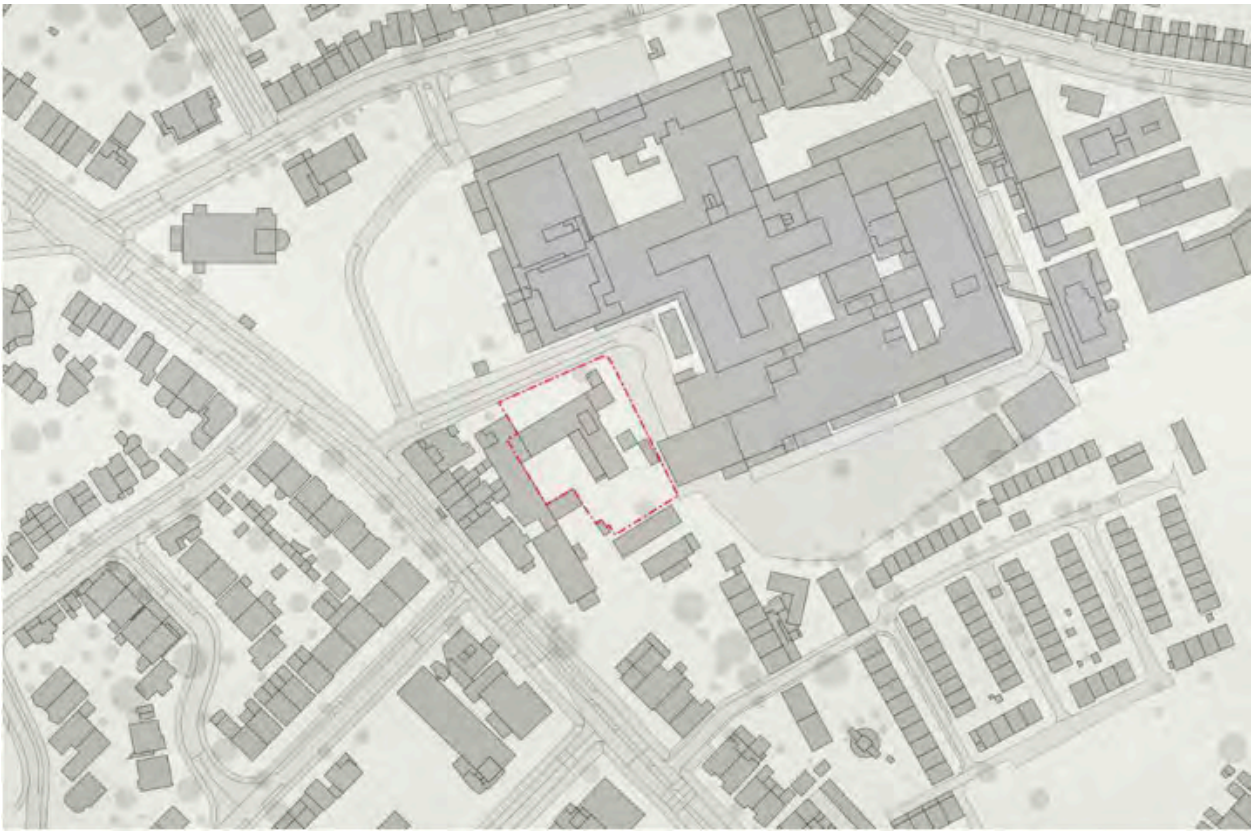
2.0 SITE LOCATION

2.1. Bartram's Convent extends over an area of 0.75 acres, within Hampstead Conservation Area and is located immediately adjacent to Rosslyn Hill, accessed from Rowland Hill Street in the London Borough of Camden.

2.2. The site is bounded to the north and East by Rowland Hill Street with the Royal Free Hospital accessed from this road. The southern and eastern boundaries are formed partly by a public house and The Rosary School.

2.3. Vehicular access to the site is currently gained from Rowland Hill Street.

Site Location Plan



3.0 ROLES & RESPONSIBILITIES

3.1. The line of responsibility for environmental management during the site clearance, demolition and construction phase is shown below. Descriptions of individual environmental management responsibilities are described in the following paragraphs.

Employer's Project Manager

3.2. The Project Manager AECOM would act on behalf of the Employer (Pegasus Life), with responsibility for managing the project within the agreed environmental constraints in conjunction with all other necessary management processes.

Environmental Manager

3.3. The Employer's Environmental Manager would liaise with the Contractor's Technical Manager and would be responsible for monitoring the performance of the project against statutory requirements and the agreed environmental standards specified in the agreed Construction Contract.

Contractor's Technical Manager

3.4. The Contractor's Technical Manager will be a named individual from the Principal Contractor's organisation and have overall day-to-day responsibility for Health and Safety, Environmental and Quality performance throughout the construction period. They would ensure that appropriate resources are made available, and any necessary environmental controls or mitigation measures are implemented. The Contractor's Technical Manager would report to the Contractor's Project Director.

Contractor's Environmental Manager

3.5. The Contractor's Environmental Manager would report to the Contractor's Technical Manager and would be responsible for coordinating and managing all the environmental activities during the demolition and construction phase. The Environmental Manager would carry out the following duties:

- ensuring that environmental considerations are included in risk assessments, Method Statements and work instructions;
- carrying out weekly environmental inspections of the site, initiating actions and completing a weekly environmental inspection report; and,
- act as a main point of contact between the Sub-Contractor and Main Contractor on environmental issues.

Environmental Specialists

3.6. The Main Contractor and key Sub-Contractors would be required to employ environmental specialists to support the project as required to provide the mitigation measures described both in the CEMP and in response to particular construction activities that may otherwise present an environmental risk.

3.7. Their role would be to undertake the detailed mitigation design within their specialist field, oversee its implementation, maintenance and monitoring throughout the construction

period up to the end of the maintenance period. Details of the various specialists to be employed would be reviewed by the Employer's Project Team at tender stage and would form a significant part of the tender evaluation process.

Training, Awareness and Competence

3.8. The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the CEMP. As a consequence, all staff would undergo environmental awareness training, initially by way of the pre-start induction process. A project specific training plan that identifies the competency requirements for all personnel allocated with environmental responsibilities would be produced and would be contained within the CEMP.

3.9. Training for all personnel identified in the training plan would be completed before commencement of the construction activities. Line managers and supervisors would ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken.

Supervision of Construction Activities

3.10. All demolition, construction and installation activities including those carried out by Sub-Contractors and suppliers would be supervised, or regularly checked through site inspections by the Contractor's Environmental Manager, to ensure that requirements identified in risk assessments or method statements have been implemented. The frequency and extent of this supervision would vary according to the degree of competence displayed by the workforce and the level of risk to the environment.

Inspection of Other Operational Impacts

3.11. Appointed environmental representatives would carry out weekly inspections of their respective construction areas, to verify that housekeeping or supporting controls are being implemented effectively. These inspections would utilise the site environmental standards as the minimum standards that should be achieved, with necessary actions being recorded and raised at weekly progress meetings. Subsequent inspections would commence with a review of all outstanding actions from previous reports to verify that they have been completed. Inspections of deliverables required by the CEMP would be subject to regular independent inspections by either the Environmental Manager or the relevant environmental specialists. These inspections would be used to confirm that:

- demolition and construction works are progressing in accordance with the agreed method statement;
- agreed protection or mitigation measures are in place, prior to or during the implementation of construction activities; and,
- the works have been completed in accordance with the design and commitments made during the statutory process.

Environmental Inspection and Reporting

3.12. The Contractor's Environmental Manager would carry out an assessment of the Project's environmental performance, based upon the reports from the environmental management representatives, the environmental specialists and from their own site inspections. This would be carried out at a frequency at no greater than monthly intervals but could be held more regularly depending on the nature of the construction activity and nature of the sensitivity of the site. An assessment of the performance over the month would be made and quantified. A monthly report detailing performance for the period would be provided to the Employer's Project Manager (or their Representative) and would include a summary of environmental inspections completed, audits undertaken, complaints and incidents.

4.0 DEMOLITION & CONSTRUCTION

4.1. The key elements and stages in the demolition and construction delivery programme are as follows:

- Vacant possession of the Bartram's Convent site;
- Full photographic survey of all surrounding footpaths and roads;
- Construction/formation of site hoarding, segregated pedestrian and vehicle gates, lighting and signage;
- Establishment of Contractor's site compound and connection of temporary services
- Existing services disconnection;
- Erection of scaffolding, work platforms and external sheeting;
- Demolition of Convent and out-buildings;
- Removal of demolition material from site
- Basement excavation;
- Foundation and groundworks;
- Substructure and basement construction;
- Superstructure frame construction;
- Cladding installation and roof installation
- External scaffolding removal
- Internal fit-out works;
- Testing and commissioning;
- Snagging, inspections and signoff
- External works landscaping and perimeter hoarding removal;
- Completion of contract.

Demolition

4.2. The exact methodology for the demolition will be established and agreed with the Specialist Contractor after careful examination of the existing structures and dilapidation surveys of the neighbouring properties.

4.3. The adopted demolition methodology will be primarily based on safety, but also focused on minimising the environmental impact of the works. Particular consideration will be given to the safety of operatives, nearby residents, The Rosary School, the Royal Free Hospital and its visitors, the general public, site visitors and adjacent neighbouring properties. Particular attention will also be given to the transportation of materials to and from the site respect to local residents and businesses.

4.4. The general sequence to the demolition works will be as follows:

- Set-up and secure the site with Hoarding;
- Identify all services serving the building and in the surrounding area;

- Disconnect incoming services and ensure supply to site is unaffected;
- Install noise, vibration and air quality monitoring equipment and all other necessary mitigation measures;
- Identify areas for sorting and storage;
- Soft strip, incl recycling;
- Erection of temporary works/protection as required for stability;
- Demolition of walls and/or frame by machine and hand methods;
- Sort demolition materials;
- Removal of ground floor slab, substructure and obstructions;
- Fill voids with crush material to provide safe, level surface; and,
- Removal of potential hazardous materials.

4.5. Upon the commencement of the works, the identification and isolation of local services will be undertaken. All classified and potential hazardous materials and substances will be double bagged and removed from site in sealed skips where it will be transported off site by road to one of a number of licenced hazardous substance tips. Hazardous substance and material consignment notes will record all waste before it leaves the site.

4.6. On completion of the hazardous materials removal, the hazardous materials enclosures will be cleaned and the area tested with samples taken to ensure that all hazardous materials, particles etc. have been removed. The enclosure will then be removed and the area handed over to the demolition team for soft strip and hard demolition.

Demolition of Bartram's Convent buildings

4.7. The Convent and associated out-buildings are of concrete frame and masonry construction. The buildings are generally not directly adjacent to any neighbouring buildings and therefore can be isolated on site. They are however connected to the Rosary School with an interconnecting door. This area would be demolished by controlled hand demolition. The other areas should allow safe demolition by specialist machine once the building is enveloped by protective scaffolding and Monoflex (reinforced plastic) sheeting. Areas of the upper floors near to the site boundary may also require controlled hand demolition to ensure safety.

CONSTRUCTION METHODOLOGY

Site establishment and enabling works

4.8. The build contractor will secure the site with 2.4m high securely founded hoarding and set up accommodation, power and signage. Movements to and from site including deliveries, plant and waste removals etc) must be planned to avoid congestion on the nearby roads. The contractor will clearly identify: the entrances; segregated for vehicle and pedestrian; routes across site; and the location of storage and standing plant (e.g. cranes, concrete lorries, concrete pumps etc.). A working platform is likely to be required for the piling rig and crane. These are shown in the appended Construction Logistics Report, Section 5 at key stages.

Substructure Construction

4.9. Piling will be carried out to the full area of the new building footprint. The contractor will plan and control the rig movements particularly closely when working at the site boundary near adjacent buildings. The piled walls should allow excavation to form the basement areas without extensive temporary works and elsewhere there should

be sufficient room to safety bank the existing ground. Following excavation the pile caps, basement slab, retaining walls will be formed. Waterproofing will be integrated as required. The columns, walls and insitu ground floor will be formed with penetrations for services.

Superstructure and roof construction

4.10. Construction of the superstructure will require a tower crane to lift materials and formwork to the upper floors. The crane type will be carefully selected to ensure no over-sailing, minimal noise or nuisance to residents. The formwork will be set up as a working platform with edge protection. Concrete for the slabs, columns and shear walls for the upper floors will be placed with a concrete pump or may be precast depending on the design development. Perimeter scaffold will be erected and sheeted to form temporary external walls. Steelwork and roof materials will be lifted as required to form the roof.

5.0 PLANNING OF CONSTRUCTION WORKS

5.1. The Principal Contractor will be required to prepare and submit a detailed schedule of environmental mitigation measures for the control of demolition and construction operations taking into account all the environmental constraints identified.

Risk Assessments

5.2. All activities undertaken on site would be subject to an environmental risk assessment. Risk assessments would be undertaken by specialist staff following an approved procedure which would:

- identify the significant environmental impacts that can be anticipated;
- assess the risks from these impacts;
- identify the control measures to be taken and re-calculate the risk; and,
- report where an inappropriate level of residual risk is identified so that action can be taken through design changes, re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level.

5.3. The results of risk assessments, and their residual risks will only be permitted for an activity if:

- the severity of outcome is reduced to the lowest practical level;
- the number of risk exposures are minimised; and,
- all reasonably practical mitigating measures have been taken and the residual risk rating is reduced to a minimum and considered to be acceptable.

5.4. The findings of the risk assessment and in particular the necessary controls would be explained to all operatives before the commencement of the relevant tasks using an agreed instruction format.

Method Statements

5.5. Method Statements would be completed on behalf of the Main Contractor and Sub Contractors by trained engineers or other appropriately experienced personnel, in consultation with on-site environmental staff and, where necessary, environmental specialists. Their production would include a review of the environmental risks and commitments, as identified, so that appropriate control measures are developed and included within the demolition and construction process.

5.6. Method Statements would be reviewed by the Project Manager / Representative, the Main or Sub Contractor's appointed environmental manager and, where necessary, by an appropriate environmental specialist. Approval of the Method Statements will be by the Project Manager / Representative only. If required, approved Method Statements would be submitted to the enforcement agencies (Environment Agency, Environmental Health Officer, HSE etc.) as appropriate. Method Statements would contain as a minimum:

- location of the activity and access/egress arrangements;
- work to be undertaken and methods of construction;
- plant and materials to be used;
- labour and supervision requirements;
- health, safety and environmental considerations; and,
- any permit or consent requirements.

Register of Environmental Impacts

5.7. A register of potential environmental impacts is required to be produced. This would comprise the various risks that have been identified to be associated with the site and would be regularly updated to reflect any additional risks resulting from the Contractor's selected methods of working, changing site conditions etc. Environmental impacts identified to date comprise:

- Transport and Roads;
- Waste, Recycling and Contaminated/Hazardous Materials;
- Noise & Vibration;
- Air Quality, Dust and Odour Emissions;
- Drainage and Water Quality;
- Ecology;
- Archaeology; and,
- UXO.

Background Monitoring

5.8. Baseline monitoring shall be undertaken in order to advise appropriate standards for noise, vibration and air quality etc. The following provision thresholds are suggested at this time.

Site Environmental Standards

Noise

5.9. Noise threshold levels at 1m from the façade of the nearest sensitive receptors should not exceed a 10 hour LAeq of 75 dB. The threshold level will need to be agreed with the Local Authority and will be subject to continual review should noise complaints be received notwithstanding no recorded exceedences of the initial thresholds. A trigger threshold for the site boundary may also require agreement.

Vibration

5.10. Vibration should not exceed a peak particle velocity of 25mm per second over the frequency range of 1 Hz to 80 Hz on the adjacent sensitive buildings, in both z axis (vertical) and x and y axes (horizontal).

Air Quality – Dust

5.11. Fugitive dust will be assessed by separately monitoring the Respirable fraction of dust (PM10), Total Inhalable Dust (PM100) and potential nuisance dust deposition.

5.12. PM10 data shall be collected at the site boundary prior to the commencement of works to demonstrate background concentrations and a threshold level agreed the Local Authority to ensure no deleterious impact on local air quality objectives. A provisional level for PM10 is 0.15mg/m 3 (15 minute mean).

5.13. Total Inhalable Dust (PM100) dust levels shall also be put forward for consideration and are suggested to be 10mg/m 3 over an 8 Hour Weighted Average.

5.14. Monitoring results for dust deposition will be compared to the guideline values set out in 'Suggested guidelines for deposited ambient dust ', Vallack HW and Shillito DE, Atmospheric Environment Vol 32 No. 16, pp 2732-2744, 1998. Specifically, the 'complaints possible' guideline for residential areas of 150 mg m-2 day-1 and the 'complaints likely' guideline of 200 mg m-2 day-1 are referenced. If results are consistently in excess of 150 mg m-2 day-1 this will trigger a review of procedures to further minimize dust generation. If results are consistently in excess of 200 mg m-2 day-1 this will trigger a temporary cessation of works and redesign of mitigation measures to ensure dust is properly controlled.

5.15. Dust deposition thresholds will be reviewed following collection of baseline data prior to the commencement of works.

Air Quality – VOCs / Odours

5.16. Consideration shall be given to minimising potential generation of VOCs and odours and agreed with the Local Authority. These are likely to be based upon Workplace Exposure Limits (WELs) under the Control of Substances Hazardous to Health Regulations 2002 (as amended) (2011) and set out in EH40.

Air Quality – Asbestos

5.17. A threshold for airborne asbestos fibres of 0.01 fibres ml-1 is currently suggested, although it is recommended that this confirmed by a Specialist Asbestos Consultant and agreed with the Local Authority.

6.0 SITE ESTABLISHMENT

6.1. Prior to any works being undertaken and following receipt of the relevant approvals and licences, the perimeter of the site boundary will be hoarded a minimum of 2.4m high . Entrance gates, security facilities and lighting would be installed in the hoarding at appropriate locations.

6.2. The secure hoarding will be erected around the full perimeter of the site. The hoarding will be erected to also reduce the visual impact and noise transmission of the construction activities at the ground level. The hoarding will be a minimum of 2.4m high, adequately lit with statutory safety signage.

6.3. The hoarding will be branded and maintained to the highest standard throughout the project period. As part of our engagement with the local community, including residents, the Hospital and the Rosary School we would create a competition to create

a hoarding design. We also propose to install protective vision panels within the hoardings in order to allow the local residents and the general public to view the progress of the works on site.

6.4. All plywood hoarding will be painted and maintained in a clean and safe condition by regular cleaning and removal of all graffiti and fly-posters.

6.5. The lighting to the site will be provided with sufficient illumination for safe demolition and construction works and also the safety and comfort of the passing public. The lighting will be installed so as to minimise nuisance to local residents and adjacent properties, and also to reduce distraction or confusion to passing traffic on the adjoining public highway.

6.6. The Contractor will set up the site office and welfare facilities and temporary services.

6.7. The site establishment will include the site office and welfare facilities for the site management, construction operatives, Project Manager and third parties. Temporary power, water, telephony/broadband and drainage supplies will be fed off of existing services until new services are available.

6.8. Access will not be permitted to the site until each operative and third party visitor has completed the site induction at which point they will be issued with a photo identification document.

6.9. Once the induction has been completed operatives will be directed to the site welfare facilities via the safe access route. Full facilities will be available to allow operatives to get changed into their work clothes ready to work. The site will allow for a co-located project office for both Project Manager and the Contractor, which will allow for open communication and team relationship; there will also be a sub-Contractor office sample room and meeting rooms.

Working hours

6.10. It is proposed that the standard construction working hours will be 0800 -1800 hours Monday to Friday, and 0800- 1200 on Saturday. These hours of work will be subject to the Planning Conditions for the development and any Section 106 Agreement and the Contractor will adhere to these conditions.

Site communication

6.11. Site communication shall be planned for by the provision of two-way radios, notice boards etc. The site communications plan will establish these requirements.

Security

6.12. The provision of site security guards over the duration of the project will ensure the security the site. A 24 hour contact number for local residents and neighbours for the construction works and security will also be provided.

Programme and site layouts

6.13. The Contractor will update on a regular basis the construction, procurement programmes, and site layouts in advance of the work phases in order to pre-plan site logistics requirements.

Fire Plan

6.14. Hot work permits, fire safety systems, means of escape, fire escape routes and other measures will be considered for the protection of the neighbouring buildings and the proposed scheme during the project delivery.

Permit to Access System

6.15. The Contractor will establish a permit to access working system for all project phases and areas.

Health and Safety

6.16. Health and safety issues on this project are a fundamental factor in influencing the demolition, construction methods and programming/sequencing of the project and final occupation. A 'Construction Phase Plan' (CPP) (also known as a Construction Health and Safety Plan) will be produced in accordance with Construction (Design and Management) Regulations 2007 by the Principal Contractor to detail the arrangements for managing health and safety on site during demolition and construction work.

6.17. For each phase of works the environmental health and Safety Plans will be developed in accordance with general provisions. Housekeeping will be given a high priority.

COSHH Control

6.18. The strategy for controlling of all substances and materials coming onto the site and all work activities and processes that generate hazardous substances should be managed and controlled in accordance with COSHH requirements.

Emergency Fire and access procedures

6.19. The Contractor will provide and update a Fire Plan and provide fire drills, training and promote the use of non-flammable fire resistant materials where ever possible.

7.0 ENVIRONMENTAL CONTROL MEASURES

7.1. The following control measures have been developed as the provisional mitigation proposals and will be further developed for each stage of the works, to best reflect the actual methods of working and programming of demolition and construction activities. Construction teams will also use the control measures as guidance whilst completing risk assessments and method statements which would in turn provide the appropriate mechanism for implementation on site.

7.2. The measures described in this section will be imposed to minimise adverse environmental effects during demolition and construction works. It is recognised that this Construction Environmental Management Plan will be further developed and adopted.

Visual Intrusion

7.3. At the perimeter of the site a hoarding will be erected to reduce the visual impact of the demolition and construction activities at ground level, as well as to secure the site. The hoarding will be a minimum of 2.4m high and adequately lit. All plywood hoarding will be painted and maintained in a clean condition by regular cleaning and removal of all graffiti or fly-posters.

7.4. The buildings being demolished will be clad with plastic reinforced sheeting to reduce visual impact of the demolition works at high level.

Vehicular access

7.5. As demolition and construction works progress, access and egress to and from different areas of the site will be subject to change and development in line with on-going activities. This is particularly relevant during the early services diversions, demolition and substructure phases of the project. The main contractor will be encouraged to be signed up to FORS (TfL's Freight Operator Recognition Scheme)

7.6. Discussions will be held with the Royal Free Hospital, Highways Authority, Transport for London, Police, the Rosary School and all other stake holders with regard to access routes in advance of specific works being undertaken.

7.7. A review of the local road in the vicinity of the site shows that:

- Rosslyn Hill is a wide two-way single carriageway road, fronted by a mixture of residential, retail and commercial uses, plus the Rosary School;
- Rowland Hill Street is a short two-way cul-de-sac road leading only to the Royal Free Hospital and fronted by the site and commercial properties; Controlled parking is permitted in areas of the carriageway.

7.8 It is proposed that the site and contractors compound will be accessed via Rowland Hill Street. An articulated lorry loading bay would be proposed on this road directly adjacent to the site. We would propose that the Fire and Ambulance bays opposite this site entrance are relocated closer to the hospital on Rowland Hill Street. Additionally we would propose the suspension of a number of parking bays on Rowland Hill Street to facilitate the safe access and egress of site vehicles along with maintaining safe access and egress for fire and ambulance traffic. The width of Rowland Hill Street may preclude some larger vehicles from delivering to the site due to turning circles. However, no vehicles will be permitted to continue along Rowland Hill into Hospital area. The segregated vehicle and pedestrian site access will have secure, lockable gates, hoarding, lit and have road safety signage. Security and Banksman will be located at the access. At the end of each working day the site access will be closed and locked. Pavement cross overs will be protected. On completion of the works the area will be reinstated to its original condition.

7.9 During both demolition and the construction works the roads within the vicinity of the site are to be kept clean at all times. Strict measures will be adopted to minimise this potential impact and will include the following practices:

- The provision of easily cleaned hard standings for vehicles (to include the areas close to the site access);
- Regular cleaning by brushing and water spraying of heavily used hard surfaced areas;
- Provision of wheel washing facilities or high pressure hose to ensure all vehicles leaving the site are in a satisfactory state of cleanliness;

- Provision of road sweepers during all material import or exports;
- Materials stockpiles and dusty activities such as stone cutting and grinding to be sited away from the site boundary and/or effectively screened;
- Sheeting of vehicles transporting materials to and from the site; and, surfacing of the haul roads as soon as possible in the programme.

7.10. Works will be undertaken reflecting the requirements of:
The Highways Act 1980 which sets out requirements relating to construction work on or near the Highway and also makes it an offence to obstruct a Highway;
The New Roads and Street Works Act 1991 which contains updated provisions for carrying out works to Highways and construction of new roads;
The Town and Country Planning Act 1990 which requires that a public right of way may not be obstructed or diverted without an Order permitting it.

7.11. Good construction practice states that vehicles arriving or leaving the site shall do so during normal working hours and will avoid rush hour periods and Rosary School drop-off and home times . The Contractor will give careful consideration to preventing blocking of any roads to incoming traffic.

7.12. The number of lorry movements, hours of operation and any lorry holding areas will be agreed in advance with the Council and regulators. Vehicle movements will be kept to a minimum in order to cause the minimum of disruption to the local road network. In addition deliveries will be timed to avoid peak traffic periods and at school drop-off and collection times.

7.13. Vehicles and other deliveries will arrive at the site on a 'just-in-time' basis where they will drive into the site under the control of a Banksman. They shall not be permitted to arrive before the agreed site working hours and a strict policy in this regard will be enforced. An area on-site will be provided for HGV's to wait and turn in order to minimise the amount of time they spend on the local network. It is also proposed to limit any HGV's waiting on the public highway to enter the site but if this is unavoidable, they will be required to switch off their engines and to wait in an appropriate place so as not to cause any obstruction.

Transport management during demolition and construction

7.14. In order to minimise disturbance to local residents, the school, hospital and local businesses there will be no Contractor parking on the site. The workforce will be required to use public transport (local bus routes and Underground station), walk or cycle to and from the site. This will be mandatory.

7.15. The transport strategy for the site is to advise suppliers to with smaller vehicles approach the site along Rosslyn Hill, turning into left into Rowland Hill Street. Articulated lorries may have to approach turning right due to the constraints of this junction and the swept path of some vehicles.

7.16. Deliveries will be carefully managed in order to avoid numerous lorry movements in short periods of time.

7.17. We currently estimate that the daily trips associated with construction heavy goods vehicle (HGV) will be average 20 per day (a trip being one inbound and one outbound movement from the site).

Vehicle deliveries

7.18. 48 hour advance notification for all site deliveries and waste collections. The Contractor must ensure that they are on site to receive, load and unload and check all the deliveries.

Load consolidation

7.19. Load consolidation is the requirement to substantially reduce partially loaded lorries and thereby increase vehicle utilisation by achieving higher levels of vehicle fill. The Contractor will be expected (under the Local Authority's requirements) to achieve the highest average vehicle utilisation within the site constraints.

7.20. Measures to achieve load consolidation

- Backloading – This is where suppliers pick up during the same trip as they drop off supplies. This is most relevant to the management of on-site waste;
- Dedicated deliveries – sole suppliers for steel reinforcement cages for plies, concrete decking and formwork, steel reinforcement bars, ready mix concrete, pre-cast slabs and stairs, brick/blocks, windows and materials for inside finishes can be controlled to ensure that loads are consolidated by ensuring that the largest permissible lorries and concrete mix lorries are used;
- Maximise permissible carrying capacity – consideration by the Contractor, sub-Contractors and suppliers should be made to achieve deliveries on the largest possible vehicle in respect of weight and size
- Use of more space efficient packaging and palleting;
- Nominated day delivery system;
- Delivery collaboration;
- Reduction in Just in Time

Local resourcing of materials

7.21. The use of locally sourced materials to reduce transportation miles has been reviewed and the Contractor will, wherever financially possible, source materials from within the Home Counties to avoid unnecessary freight usage.

Plant and Equipment

- Modern excavators equipped with the latest attachments for crushing and pulverising concrete will keep the use of impact breaking to a minimum;
- A regular serviced and modern fleet of lorries will be used for the collection of waste, transportation of plant and equipment; and,
- Use of gas powered generators rather than diesel if possible and use of electric equipment and plant rather than diesel/petrol where practicable.

Site drainage

7.22. The control of surface water run-off during the construction phases will be based on best practice guidance provided by the Environment Agency and CIRIA (Construction industry Research and Information association) with systems put in place to ensure suitable treatment and discharge of surface water.

7.23. Surface water discharge from the Convent demolition and construction site will

require discharge consent from the Environment Agency with specific limits on the water quality of the discharge. A discharge consent will normally specify pH 6-9, suspended solids □200mg/l, no trace of oils or greases and no poisonous or noxious material.

7.24. In order to comply with the conditions of any discharge licence, good practice measures will be adopted including:

- Silt busters or settlement tanks will be used to reduce silt levels from dewatering prior to discharge;
- Keeping all sources of potential pollutants (e.g. flues, chemicals) away from drains on drip trays;
- Regular checks of quality for dewatering will be undertaken before it is discharged to the drainage system;
- All road ways and vehicle stopping areas will be sealed;
- Undertaking of concrete washout in areas with controlled drainage only;
- Surface water run-off from all parking areas and road way areas will be diverted to Class 1 oil separators with adequate capacity for the anticipated flows. These Class 1 separators will be designated to the standards outlined within Environment Agency Pollution Prevention Guidelines No 3; and
- Road sweeping to control mud on roads.

Waste management

7.25. Waste will be generated during all stages of the demolition and construction works. The likely major sources of waste during the construction stages are:

- Demolitions spoil: hazardous materials, concrete, brick rubble, steel, wood etc.;
- Packaging: plastic, pallets, expanded foams;
- Waste material generated from inaccurate ordering, poor usage, badly stored materials, poor handling and spillage; and,
- Dirty water for example from site run-off containing silts.

7.26. Section 34 of the Environmental Protection Act 1990 imposes Duty of Care on any person, who produces, imports, carries, keeps, treats or disposes of controlled waste. The identification and clean-up of contaminated land is governed by the Environmental Protection Act 1990 Part IIA which was enacted by Section 57 of the Environment Act 1995. The Pollution Prevention and Control Regulations 2000 are designed to prevent, reduce, and eliminate pollution at source through the efficient use of natural resources.

7.27. The Contractor will be required to develop detailed proposals for the management and/or disposal of solid waste created during the demolition and construction works, and these will form part of the Waste Management Plan for dealing with waste arising from the construction of the project, and included in the Site Waste Management Plan. As a minimum, these would include:

- Storing and reusing earthwork materials and general arisings to negate the export or import of inert materials;
- Materials for re-use will be under a Material Management Plan, produced in accordance with the CL:AIRE Code of Practice;
- Reduction of site generated waste through waste minimisation, segregation and recycling initiatives;
- Identification, storage and appropriate management of potentially contaminated materials;

- Any processing and / or treatment of contaminated soils on-site must be undertaken in accordance with an appropriate Mobile Treatment Licence (MTL);
- Provision of a suitably qualified and experienced Environmental Consultant to identify hazardous waste as defined in the Hazardous Waste (England and Wales) Regulations 2005 and European Waste Code (EWC) and classification in accordance with Environment Agency guidance 'Interpretation of the Definition and Classification of Hazardous Waste' WM2 (Second edition v2.3) so that the materials can be appropriately managed and disposed of during works;
- Appropriate methods of waste disposal linked to a robust waste disposal audit trial;
- All topsoil and/or subsoil would be handled and stored carefully to minimise the potential for damage to the soil structure. A detailed method statement would be produced clearly identifying correct stripping, soil handling, storage, placement and programming requirements to avoid compaction and moving the material in unsuitable weather conditions;
- Where possible, construction arisings would be reused within the site as fill;
- Where practicable, all concrete and redundant road pavements would be transported to a dedicated crushing and recycling facility for re-use on the project or within the local area;
- Detailed procedures and guidance would be developed and implemented through the construction process to minimise the import of non-sustainable raw materials and for identifying opportunities for re-using or re-cycling waste;
- Disposal sites and routes will be identified by the Contractor in consultation with the Council and the EA. In assessing the most suitable option for disposal, the contactor must consider the mode of waste transportation and alternatives to reduce adverse environmental impacts, transport times and licence conditions;
- The Contractor will comply with relevant legislation, technical guidance and regulations in the identification, handling, storage, recovery and disposal of waste; and,
- Site office wastes would be collected in separate containers to maximise the opportunities for recycling, this would include can, bottle, and paper banks.

7.28. Fly-tipping will not be permitted. All waste loads must be deposited at authorised landfill sites or transfer stations. Deposition will be in accordance with the requirements of the EA and the Duty of Care provisions of the Environmental Protection Act 1990. All Duty of Care documentation must be kept and available for inspection upon request. A ticket system will be operated to the Council's satisfaction including a sequential numbered system to confirm that each lorry load of waste is deposited at an approved site.

7.29. If required by the Council the Contractor must provide lorry stickers uniquely identifying the work site. For identification purposes, these will be fixed in a prominent position and must be legible from a distance of 20 metres on all lorries frequently serving the site.

7.30. All relevant sub-Contractors will be required to investigate opportunities to minimise waste arising at source and, where such waste generation is unavoidable, they will be required to maximise the recycling and reuse potential of demolition and construction materials. Wherever feasible, such arising will be dealt with in a manner that reduces

environmental effects and maximises potential reuse of materials. Recycling of materials will primarily take place off-site where noise and dust are more easily managed and less likely to impact on the occupants of surrounding properties.

7.31. A Site Waste Management Plan (SWMP) will be established in order to identify the processes required. Waste could potentially be collected daily from the site by means of skips or waste vehicles. Waste transfer notes will be held by the Contractor and will fully describe the waste in terms of type, quantity and containment in accordance with relevant regulations.

7.32. Recycling of materials will primarily take place off-site where noise and dust are more easily managed and less likely to impact on the occupants of surrounding properties. Management of Spillages, Run-off and Emergency response procedures

7.33. Most spills can be prevented with careful handling, storage and use of potential pollutants. Good practice measure that will be undertaken include:

- All flues, oils and chemicals will be stored in secure, appropriate containers, with labels clearly identifying the product;
- All products will be kept in secure storage with integral drip trays (e.g. COSHH cages);
- Containers with more than 200 litres of oil-based products will be provided with secondary containment (e.g. interceptor drip trays) capable of holding 110% of the volume of the container, or 25% of combined volume of the containers, whichever is greatest. They should also be locat4ed away from any surface water drains;
- Mobile fuel bowsers will be kept locked when not in use, and any hoses stored within the secondary containment; and
- All hoses associated with the delivery of oil or fuel will have automatic cut off devices, and will be kept in the secondary containment.

7.34. In the event that a spill occurs, the impact will be minimised by prompt and effective action. Spill kits including granules, absorbent pads, absorbent booms and hazardous waste bags shall be provided along with training of staff in their use. All used spill kit material will be disposed of as hazardous waste. Measures for dealing with emergency spillages will need to be included in the Contractor's Method Statements.

7.35. The operation and refuelling of plant can cause contamination of ground, ground water and surface waters from leaks, drips or spills. Drip trays (interceptor drip trays) will be used under gener4ators, pumps, and other plant equipment as determined necessary to protect the ground from oil/fuel contamination. Smaller, more mobile drip trays will be used when refuelling or carrying out maintenance of larger plant. Maintenance and refuelling of plant will be undertaken in designated areas, within which contingency plans will be implemented to ensure that the risk of spillage is minimised.

7.36. Interceptor drip trays will be located on flat surfaces and primed with two to four inches of clean water and drip trays will be emptied before they are moved.

Noise and Vibration

7.37. Estimates of the impact of demolition and construction noise and vibration relating to the Bartram's Convent site would be based on the latest available information. Demolition, piling works, excavations and construction for the frame will be the most significant construction site activities. The noisiest activities are likely to be demolition, piling, excavation and construction of the slabs, although concreting

operations will also give rise to a degree of noise, the levels generated are unlikely to be significant. During the construction above the ground, there will be some noise from the formwork erection but the majority of activities and plant are considered to generate low noise levels.

7.38. Noise and vibration levels will be controlled and consent sought from LB Camden under the Control of Pollution Act 1974, Environmental Protection Act 1990, local policy guidelines etc. to ensure that the Bartram's Convent site is operated in a way that is not detrimental to the amenity of residents, The Royal Free Hospital , neighbouring properties and the Rosary School.

7.39. Environmental monitoring measures to be adopted during demolition and construction phases to be included in the detailed CEMP the Contractor will engage the services of a Specialist Consultant to undertake the environmental monitoring of noise and vibration.

7.40. All demolition and construction on and off site activities will be undertaken in accordance with Planning Conditions, Section 106 Agreements, construction site rules, agreed working hours etc.

7.41. The Considerate Constructors scheme will be adopted to supplement the procedures outlined above.

7.42. The works will adhere the legislative requirements on noise and vibration contained within the Control of pollution Act 1974 and the statutory nuisance provisions contained within the Environmental Protection Act 1990 (s79-82). In this context compliance with BS 5228:1997, Code of Practice on Construction and Open Sites would be required.

- The monitoring regime will be reviewed with officers of LB Camden and the appropriate threshold and action levels agreed for the noise and vibration parameters that agreed to be measured, both pre and post construction. Monitoring locations will be established on and around the site and on delivery routes where necessary. On a regular basis the site team will produce reports and arrange meetings with LB Camden officers, Health and Safety Executive (HSE), if appropriate and other agreed stakeholders to review the reports, monitor the procedures and review the action plans;
- Weekly monitoring will be carried out both during demolition and construction activities, from previously established and agreed monitoring stations around the development, to ensure that action levels set and agreed have not been exceeded;
- The Contractor will develop a neighbourhood comment and complaint procedure for recording and dealing with complaints from local residents;
- Detailed construction and procurement programmes will be available in advance of work commencing on site;
- Noise emission and reduction measures should be considered in advance and noise should be attenuated considerably at site in accordance with both legislation and regulations;
- Unless otherwise agreed with LB Camden, noise and vibration values will be predicted in accordance with the methods set out in and the requirements of BS 5228 – Noise Control on Construction and Open sites. In addition, the guidance and procedures given in BS5228 Parts 1, 2 and 4 will be complied with. In the case of vibration, reference will also be made to BS 7385 and BS 6472;

- Design and use of 2.4m high site hoardings and screens/noise barriers, to provide acoustic screening. The hoardings may be moved from time to time to suite the progress of the works;
- All demolition and construction activities that have the potential to generate significant amounts of noise and/or vibration, will be undertaken during day time periods
- As a general rule, where adjacent neighbouring residents are likely to be affected by noise and vibration, it is expected that works of demolition and construction phase shall be carried out during the normal working hours:-
  0800 to 1800 hours Monday to Friday;
  0800 – 1300 hours Saturday
  No working on Sundays and Bank Holidays
- Where it is necessary for work to be carried out outside normal working hours that will be required to demonstrate and justify the need to do so in advance. Full details of the proposed works shall be submitted to the Local Authority in writing for approval prior to commencement;
- Provision of silent vibration free piling techniques will be utilised for driving piles to the perimeter of the site boundary if technically possible;
- Loading excavators at ground level will reduce movement vibration by remaining static; tipper lorries with rubber tyres will be loading from centralised rubble heaps;
- The utilisation of tipping skips lowered to the ground by crane will reduce the ground effect vibration;
- Effective silencers will be fitted to the exhaust systems of all plant and equipment;
- Use of mains generated electricity instead of diesel generators should be considered;
- Minimise the use of vehicle reversing alarms;
- Radios and other audio equipment will be prohibited on site;
- The utilisation of a two-way radio communication system will be implemented to reduce shouting;
- All operatives, management etc. will wear personal protective equipment on site.

Air Quality, Dust & Emissions

7.43. The main regulatory controls over dust are the statutory nuisance provisions contained in the Environmental Protection Act 1990. Dust can give rise to a statutory nuisance if it is considered to be prejudicial to health or a nuisance. Controls for Air Quality are covered by the provisions of the Environment Act 1995, Clean Air Act 1993 the Health and Safety at Work Act 1974, the Environmental Protection Act 1990 and the UK Air Quality Strategy.

7.44. Particular care is required to maintain dust and malodour emissions at a practicable minimum when working in environmentally sensitive areas. The use of Best Practicable
Means (as defined in Part III of the Environmental Protection Act 1990) will be employed to mitigate against dust generation. Mitigation measures will include:

- sealing and sheeting of stockpiles;
- sheeting of vehicles transporting materials to and from the site;
- limiting the speed of general vehicles within the site to 10mph;
- surfacing of the haul roads as soon as possible in the programme;
- regular cleaning of haul roads and nearby public highway;
- provision and compulsory use of wheel washing facilities at access points onto local roads (to prevent mud from getting on the public highways);

- damping down of haul roads using mobile water bowsers;
- proactive dust suppression via water spraying downwind of the activities that have the potential to generate dust i.e. breaking-out and excavating; and,
- Visual monitoring would be carried out at sensitive locations on a daily basis.
- The utilisation of modern fuel efficient machines will reduce the emission of exhaust gases into the atmosphere;
- All exhaust systems will be fitted with catalytic converters;
- Plant and equipment will be regularly serviced with air filters which will be regularly replaced or washed; and
- The COSHH survey and report will identify any substances likely to cause offensive odours. A risk assessment will be produced and effective control measures employed to prevent the release of odours.

7.45. The use of effective dust mitigation techniques, including good site planning, minimizes the potential for dust emissions and impact upon surrounding receptors.

7.46. The potential for dust to arise during the demolition, ground breaking, earth moving and excavation stages of the project is to a degree weather dependent. If carried out in dry weather, increased water spraying will be required to ensure the surface material remains damp and to prevent dust generation and dispersal. In wet weather greater attention will be paid to vehicle cleaning to ensure significant quantities of mud are not trafficked onto local roads, which once dry can become a significant source of dust.

7.47. Throughout the duration of works, care will be taken to ensure adequate control of dust from vehicles delivering and removing materials to and from the site. Drop heights, when loading and unloading materials, will be minimised. All dusty loads will be sheeted appropriately. Dried mud and dust carried onto roads by lorries and other machinery can be a significant source of dust. The hard surfacing of heavily used areas and adjacent public roadways will be regularly cleaned as required. A pro-active strategy will be adopted to minimise dust emissions.

7.48. Where dust is generated or trigger levels are exceeded, procedures will be reviewed to ensure effective mitigation. Such additional measures may include sheeting over of exposed ground or damping down of stockpiles/working areas. To mitigate nuisance or potential health impacts to local residents, a rigorous dust monitoring and control programme will be employed and where required, dust generation will be reduced by spraying demolition works with water.

7.49. Dust levels within enclosed areas must be measured with appropriate equipment to compare to the relevant Occupational Exposure Limits made under the Control of Substances Hazardous to Health (COSHH) Regulations 2002 and published annually in EH40.

7.50. The burning of materials on the site will not be permitted.

7.51. The Contractor will take all necessary precautions to prevent the occurrence of smoke emissions or fumes from site plant and fuel storage. This is to include:

- Plant should be well maintained;
- Plant should be shut down in intervening periods of work or throttled down to a minimum;
- Off-road mobile vehicles (bulldozers, excavators) should be run on low sulphur diesel;

- Off-road mobile vehicles with compression ignition engines must comply with
- Emission standards set in EC Directive 97/68/EC, meeting Stage II limits where possible;
- On-road construction vehicles must comply with European Directive EURO standards with regard to emission limits for pollutants and have a valid MOT to ensure compliance; and,
- Road vehicles must be switched off when stationary to prevent exhaust emissions and noise.

Asbestos

Asbestos may not be present in the existing Bartram's Convent building, however specialist surveys will be undertaken prior to demolition commencement and precautions for airborne dust monitoring and control will be established in areas found to contain asbestos. The Contractor must comply with the Asbestos Regulations 2012 and adhere to the exposure limits set out in the HSE Guidance Note EH10 Asbestos Exposure Limits and Measurements of Airborne Dust Concentrations 2001 (updated by HSG248). The Contractor is to submit a Method Statement and Risk Assessment for the controlled removal of asbestos containing materials, including details of monitoring proposals and validation. For the purpose of control of the remediation, the more stringent asbestos levels of 0.01f/ml is stated within the Contract for the works.

Ecology

7.52. The protection of ecology is provided for by the Wildlife and Countryside Act 1981 and the Conservation Regulations 1994. A range of ecological surveys will be undertaken to assess the effects of the demolition and construction works upon ecology and nature conservation.

7.53. If the presence of protected species on site is found then site clearance will be undertaken at an appropriate time of year to minimise the risks to them. An ecological clerk of works will be appointed who will have responsibility for ensuring that the site works proceed in accordance with the EMP.

Bats

7.54. The site offers negligible potential for roosting bats apart from the outbuildings which may offer roosting potential.

7.55. All bat species are protected under the Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981, as amended, the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006.

7.56. A pre-demolition bat survey will be undertaken to ensure that no bats have occupied the building. If bats are identified further activity surveys are require and should be undertaken between May and September. If surveys are undertaken in September, consultation with Natural England and the LPA is recommended.

Resident Native Birds

7.57. There is potential for the site to support breeding birds and suitable nesting habitat in areas containing trees and scrub.

7.58. Breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended). Schedule 1 of the Wildlife and Countryside Act 1981 provides further species protection from disturbance at or near an active nest site.

7.59. Wherever possible, vegetation clearance and building demolition should be undertaken outside of the breeding bird and nesting season (March- August). Should vegetation be required to be removed during the bird nesting season, it will be inspected by a suitably qualified ecologist prior to any works commencing, and appropriate mitigation measures will be adopted.

Foraging Mammals

7.60. A specialist survey will be undertaken to determine if the site may be used by foraging mammals. If found, any excavations that will be left overnight should be covered or fitted with ramps to allow trapped mammals a means of escape.

Trees

7.61. Any trees and/or hedgerows on site, or overhanging the site, which are not to be removed as part of any proposed works should be protected in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – recommendations'. Protection should be installed on site prior to the commencement of any works on site.

7.62. All works should be carried out in accordance with the recommendations detailed in an specific Arboriculture Survey.

7.63. The following generic guidance should also be taken into account during the construction phase of the development:

- Any trees, hedges or woodland that are to be retained should be adequately protected by Heras fencing (in line with BS5837) extending at least to the Root Protection Radius (RPR), to prevent accidental damage by vehicles or Contractors;
- All pruning works are to be carried out by a competent tree surgeon to BS3998 (2010) tandards;
- Tree protection should be included in the induction and/or briefing sessions by the Contractors to their workforce;
- Soil compaction, from the storage of large quantities of materials and plant tracking, may result in changes to soil permeability and local drainage. This may lead to waterlogging or loss of soil crumb structure. These effects may in turn lead to root asphyxiation and root death, a cause of instability and or mortality in trees. For this reason, heavy machinery and the storage of materials should be excluded from the crown radius of all trees;
- The recommendations of BS5837 (2005) and NJUG Volume 4 (as appropriate to operations) should be followed when working close to trees;
- Any damaged tree branches should be treated by a competent tree surgeon; and
- If works take place during the bird breeding season, usually from March to September inclusive, trees and hedgerows should be checked for nesting birds. If any trees are to be removed this should be done outside the breeding season or in the presence of a suitably qualified ecologist.

7.64. An Arboricultural Method Statement will be produced for the site as various aspects of the proposed development will require works to be undertaken within the RPAs of retained trees. The document will identify all areas where specific working methods will be required to ensure protection to trees. The document will also specify the location and extent of tree protection barriers and ground protection.

Habitats

7.65. A Biodiversity Enhancement Plan will be incorporated into the landscaping scheme to maximise the ecological value of the site.

Archaeology and Heritage

7.66. An archaeological watching brief should be undertaken in accordance with the guidance for archaeological watching briefs published by the Institute of Field Archaeologists (IFA,1999).

Unexploded Ordnance

7.67. A Detailed Unexploded Ordnance (UXO) Risk Assessment should be undertaken to determine risk of UXO at the site.

8.0 COMMUNICATION AND REPORTING

Communications

8.1. Internal project communications would be via two processes:

- Weekly team meetings; and,
- Monthly Progress Meetings.

Weekly Team Meetings

8.2. Weekly meetings chaired by the Project Manager of the Construction team will be held to review performance and co-ordinate short-term planning of forthcoming activities. Environmental management representatives would use these meetings to report on the findings of their inspections together with recurring issues. Actions from these meetings would be recorded via minutes and reviewed by the Contract Manager.

Monthly Progress Meetings / Environmental Review

8.3. Environmental issues would be primarily discussed at a monthly Project Environmental Review, chaired by the Contract Manager and attended by the Contractors Environmental Manager, relevant sub-Contractors environmental representatives and, when necessary, environment specialists and representatives from statutory consultees. The Project Environmental Review would:

- consider past performance from inspections, audit reports and monitoring
- data;
- plan actions required to mitigate forthcoming risks; and,
- disseminate best practice.

8.4. The results of the Environmental monitoring shall be made available to the Local Authority Environmental Regulators.

Communications with the Public

8.5. The area in the vicinity of Bartram's Convent development site is predominately of mixed residential and commercial uses in the immediate surrounds with the Royal Free Hospital and the Rosary School of particular note. Therefore the nature of the works being undertaken and the arrangement for deliveries require that the impact on the neighbours and local residents will need to be stringently managed.

8.6. It is our aim to reduce this impact through use of clear information and reporting methods, exemplary external housekeeping and satisfactory responses to ant queries raised. We propose developing and issuing a newsletter to local neighbours, local residents and the school. The newsletter will provide useful information about the Considerate Contractors approach and contact details for both the Contactor and construction team should any concerns need to be raised. The Contractor contact details will also be clearly displayed at the site entrance and security areas.

8.7. A Project Community Liaison Plan would be established to provide a framework for managing communications with local residents and interested parties and agreed with the Local Authority. Given the high sensitivity of the site located in the immediate locale of local residents, this is expected to include provisions for active public engagement, continuous updates and presentations to interested parties (elected Councillors and representatives / resident groups / school pupils and staff etc) as required.

8.8. During the works there will be regular communications with neighbouring properties, local residents and the school. A monthly newsletter will be sent to the surrounding residents to keep all parties informed about progress to date and forthcoming works.

8.9. The ultimate aim of the document is to be informative to the local residents, the school and local neighbours and to make the Contractor approachable when they need to engage with local residents.

8.10. A complaints register will be established to provide a permanent record of the performance of the project. Any complaint from residents or other parties will be treated seriously, and the complaint logged and the cause investigated. The outcome should allow procedures to be implemented with the aim of avoiding any reoccurance.

Resident Liaison Office

8.11. The works may cause some inconvenience to the local residents, neighbouring properties including the Royal Free Hospital and the Rosary School. The Contractor will therefore develop a philosophy for minimising any inconvenience to local residents, neighbouring properties and the school.

8.12. This philosophy recognises the need for detailed liaison between the Contractor and the local residents etc. To meet this requirement it is proposed that the Contractor develops a management function of Resident Liaison Officer. The proposal is therefore to make the Contractor responsible for liaison to ensure that smooth communications are maintained throughout the project with the local residents, neighbouring properties, the school and Local Authority.

8.13. Measures will be implemented to ensure that a coherent management plan is developed for the project that will include the following:

a) The project team will work closely with all project stakeholders and local residents in order to address the following:

- The project parameters;
- Lines of communication
- Time scales and methods;
- Areas of operation;
- Security;
- Site cleanliness;
- Significant activities; and
- Positively address any questions or concerns expressed by residents, the school and local neighbours regarding the site and works.

b) Prior to contract commencement prepare and implement in association with the residents and key stakeholders a procedures plan for co-operation between all parties concerned.

c) Maintain regular meetings with local residents, especially during the pre-lead period to explain how the works are to be carried out;

d) Notification to local residents of impending works;

e) Liaison between local residents and the Contractor of specialist deliveries and functions;

f) Maintain liaison at all times between the local residents and the Contractor regarding matters of concern, ensuring that a satisfactory outcome is achieved; and

g) Inform the status of progress reports of the works to local residents, the school, hospital and local neighbours.

8.14. Experience have shown that friction between the Contractor can be avoided by continuing the process of consultation and dialogue and giving adequate prior notice of any significant operation and phasing of the works and not to ignore the needs of the local residents etc.

Audit and Review of Performance

8.15. The Contractor will be required to demonstrate an appropriate method of auditing the CEMP process via an internal or external auditing procedure. Provision of evidence that the agreed auditing procedure has taken place will be a requirement of regular meetings between the Contract Manager and the Camden Council's Project Manager.

Control of Non-Conformance

8.16. Non-conforming products or processes would initiate a Non-Conformance Report, which would identify the nature of the problem, the proposed corrective action, action taken to prevent recurrence of the problem and verification that the agreed actions have been carried out.

9.0 APPENDIX: BARTRAM'S CONVENT CONSTRUCTION LOGISTICS STAGE 01 REPORT

CONTENTS

1.0 INTRODUCTION

This document has been prepared by AECOM Construction Services (ACS) to communicate initial logistic considerations related to the construction works for a proposed assisted living project in Hampstead, North London for Pegasus Life.

The proposed new development, currently being designed by Duggan Morris Architects, is a specialist accommodation for older people, incorporating living accommodation, a health and well-being facility; communal facilities including a restaurant/ cafe, activity room and a library, gardens and terraces; staff and concierge facilities; storage facilities and basement car parking.

This report has been commissioned due to the logistic challenges anticipated during the major construction works, primarily due to the access road being used by the neighbouring Royal Free hospital and potentially by another new construction project.

Our assessment has been based on a site visit and limited design information, however, the key points will be relevant to any implemented scheme.

It has been recognised that there are many stakeholders that will need to be involved with the successful and safe delivery of the new scheme – each of these would need to have full input into a final construction logistic strategy agreed prior to any site start.

Health & Safety are always treated as the critical consideration, for the public and construction teams. This report will assist with proactive assessments through the design process. Logistic reviews are prepared through the various stages of the lifecycle of
new construction projects.

The reviews can be summarised as;

Logistics Reviews

- Stage 1 – Initial Assessment
- Stage 2 – Preplanning Review
- Stage 3 – Preconstruction Strategy
- Stage 4 – Procurement of Main Contractor
- Stage 5 – Construction Works

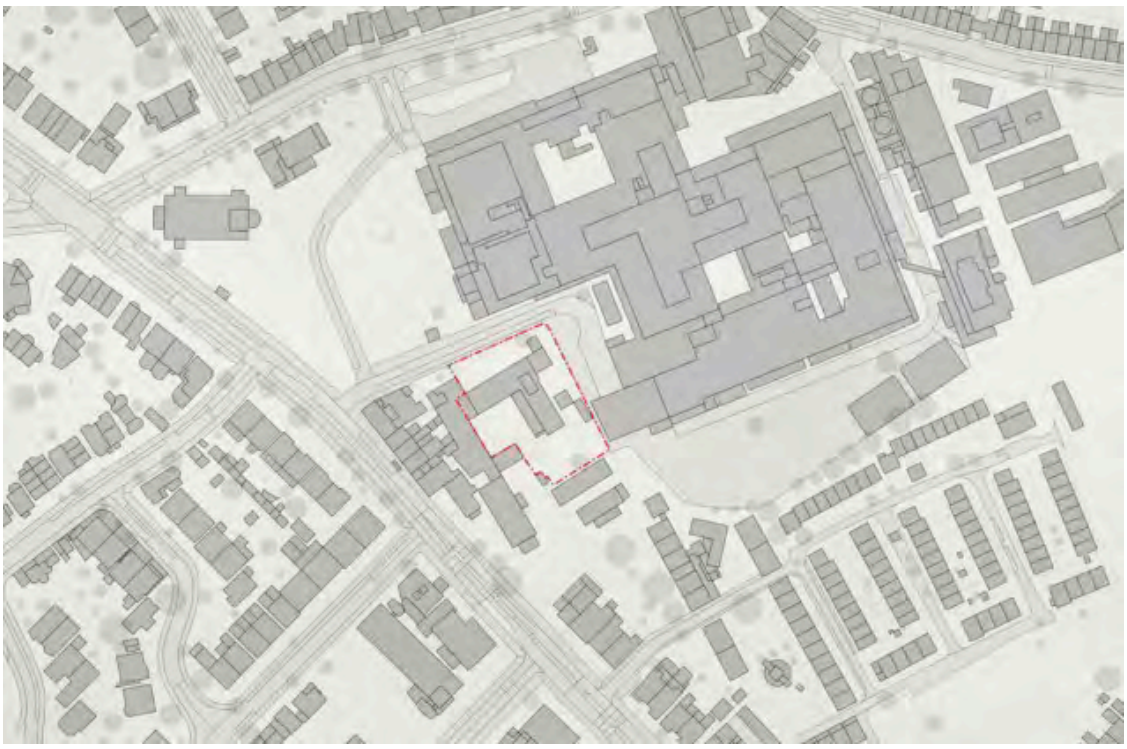
2.0 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site is located within the London Borough of Camden on Rowland Hill Street, Rosslyn Hill, Hampstead, NW3 2AB, four miles from central London. It has an overall site area of approximately 0.75 acres and currently has an existing four storey property that provides 2,700m2 of gross internal area.

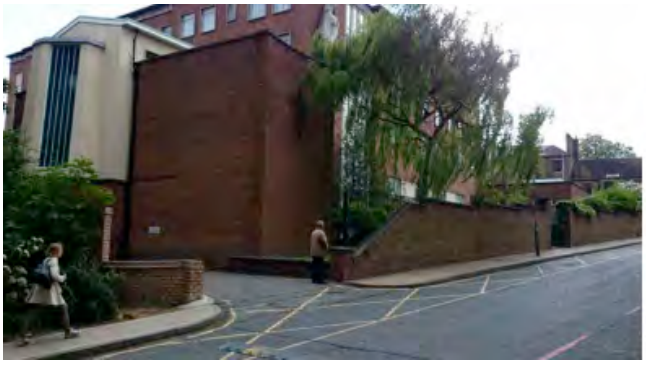
Excellent transport links, including Belsize Park underground station and wide ranging bus routes, are all in the immediate vicinity. The locality is a very popular residential area with many excellent amenities on the adjacent Haverstock Hill high street. The large Royal Free hospital is adjacent the development site.

A primary school and public house is adjacent the site boundary and will need to have specific considerations when the detailed plans are being finalised.

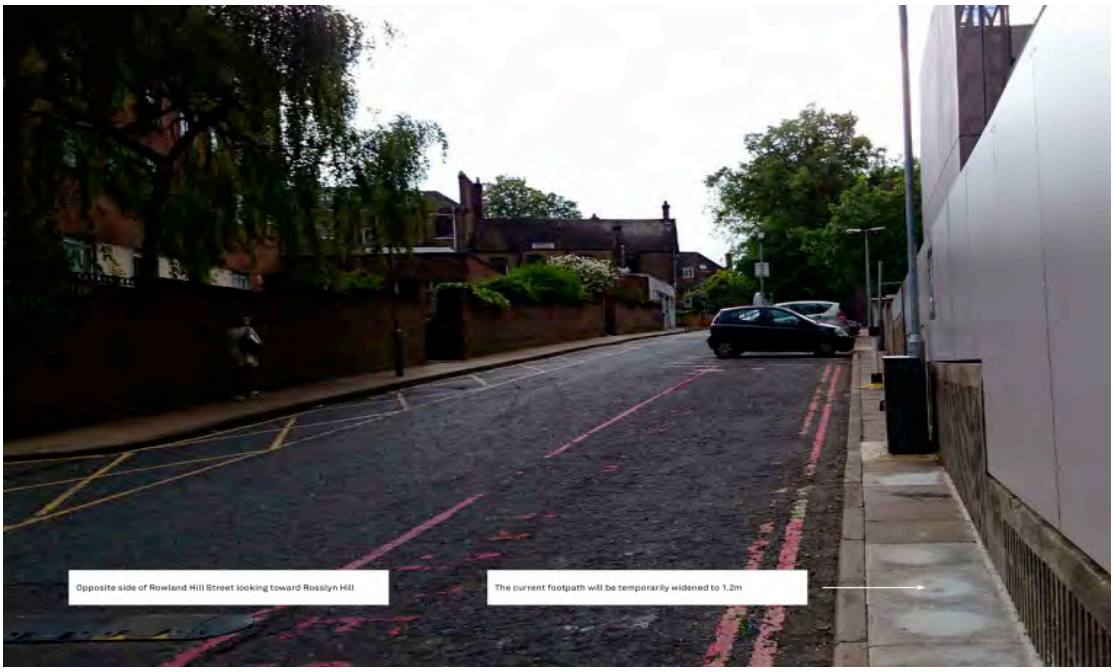
The map shows the existing locality of the site.



Bartram's Convent viewed from Rowland Hill St.



This photograph shows the location of the proposed site entrance. To ease vehicle access and egress to the site and to segregate pedestians, a crossing would be made to the right of this picture allowing pedestrians to cross Rowland Hill St before reaching the site entrance.


Opposite side of Rowland Hill Street looking toward Rosslyn Hill
The current footpath will be temporarily widened to 1.2m

3.0 Existing Site Constraints

REFERENCE	ITEM	CONSTRAINT	IMPACT	COMMENT
1	ROYAL FREE HOSPITAL	Major Community Facility With High Levels Of Staff, Public And Traffic Arriving At Varied Times Throughout Every Day, All Year.	Emergency vehicles require immediate access to the hospital. Staff and vehicular deliveries are ongoing through all days. access to the hospital. Staff and vehicular deliveries are ongoing, through all days.	Establish communication strategy. Agree and implement co-ordinated logistic plans with weekly meetings and delivery management systems.
2	AMBULANCE AREA	Important parking area that needs uninterrupted access at all times.	Emergency vehicles require immediate access to the hospital.	Implement traffic measures that ensure priority to emergency vehicles and hospital staff. Establish communication strategy.
3	TWO WAY ACCESS ROAD	9m wide, two way road that is the main access route for the critical hospital vehicles.	Ensure 6.8m width is maintained at all times. This will need to be considered for the construction logistic plans.	Agree and implement co-ordinated logistic plans with weekly meetings and delivery management systems. Full time traffic marshals road cleaning.
4	RETAIL DELIVERY AREA	Delivery vehicles need regular access to the parking and offloading zones.	Co-ordination of delivery times to ensure no stacking or disruption.	Agree and implement co-ordinated logistic plans with weekly meetings and delivery management systems. Full time traffic marshals road cleaning.
5	SUB STATION	Main sub station needs 24/7 access and regular maintenance.	Liaise with relevant utility providers. Establish any emergency protocols related to the hospital requirements.	Agree and implement co-ordinated logistic plans. Implement traffic measures that allow parking area for electrical provider.
6	PARTY WALLS	Boundary conditions at neighbouring properties to be co-ordinated with new design and construction.	Stability and interface details need assessing to ensure minimal risk for new works and existing conditions.	As built information to be reviewed. Prepare suitable methodologies and logistic plans to minimise interface with existing, retained third party properties.
7	ROSSLYN HILL, MAIN ROAD	Busy, congested two way road. Heavily trafficked and with significant pedestrian flows.	Main access route to the construction site and the hospital. Also school route, main bus routes and underground station.	Liaise with stakeholders, including council, school and TfL to understand priorities and align strategy. Produce co-ordinated logistic plans and communicate to relevant parties.
8	SCHOOL	Immediate neighbour with children, staff and associated requirements.	Safety considerations and security measures, especially at boundary interface line, especially at boundary interface line.	Ongoing liaison. Suitable measures to be implemented through construction works. Establish communication strategy. Involve children with hoarding design.
9	CAR PARK (& adjacent development site)	Traffic flow at junction and potential considerations if new development begins construction.	Ensure minimal disruption to both construction projects by co-ordinating access routes and offloading areas.	Agree and implement co-ordinated logistic plans with weekly meetings and delivery management systems. Full time traffic marshals road cleaning.
10	PEDESTRIAN FOOTPATHS	Pedestrians footway needs to be maintained and minimum width to suit wheelchair users and prams (1.2m).	Protection measures along site boundary hoarding. Signage and cleaning measures. Temporary widening of opposite side. Temporary closure of area adjacent site access.	Co-ordinate protected walkways with site access requirements. Traffic marshals and security personnel. Temporary measures required to maintain safe access and road access.

4.0 INITIAL LOGISTIC INFORMATION

a. Traffic routes

All routes to the site will be agreed with Camden. Additional input will be sought from relevant stakeholders including:

- Royal Free Hospital
- Primary School
- Utility Companies
- Adjacent Development
- Transport for London

This will inform the co-ordinated approach that must be collated in the later logistic reports.

Generally, construction traffic will use the designated arterial roads until joining the main access road to the site boundary.Restrictions and offloading bays will be clearly communicated and implemented when relevant approvals have been granted.

The site manager and project logistics teams will co-ordinate all traffic arrangements, including weekly liaison meetings and delivery scheduling. The majority of vehicles are anticipated to be on a just-in-time basis that would be co-ordinated via a weekly delivery schedule issued the previous week. Time slots would be allocated and scheduled to miss peak traffic hours and school runs.

Larger deliveries would be offloaded either from the road or within the site boundary using the tower cranes. These vehicles would need to turn around/reversed using the traffic marshalls.

Movements of any larger or abnormal loads would be addressed in advance with relevant highways authorities, stakeholders and the police. The design will be developed to suit the

constraints, notably to reduce deliveries. Ongoing reviews should be continued to align buildability, design and constraints.

Elemental considerations;

- Precast frame
- Modular units
- Kitchen & bathroom pods
- Prefabricated risers
- Reduced excavation/muckaway

No parking will be allowed for construction operatives.
Public transport would be used.

Pre cast frame could be a good option, although daily large deliveries would be needed, offloaded from the bay on Rowlands High Street.

Alternatively in situ deliveries could be used through each day but would increase traffic flow.

b. Pedestrian routes

Operatives would use the existing footways to access a segregated access gate/route at the site hoarding.

Public use of the footways will be fully maintained to allow uninterrupted access to the hospital and other properties.

It should be noted however that the footway route immediately adjacent the site boundary will be diverted to the opposite side of the road to avoid interface with the main construction access point and to maintain a suitable two way road width.

c. Traffic estimates

The construction works would be serviced by various types of vehicles.
The initial phases would require:

- Rigid trucks
- Excavators
- Piling rigs
- Concrete trucks & pumps
- Tower cranes
- Articulated trucks
- Small vans

The later phases would require:

- Rigid trucks
- Small vans
- Skips & skip removal trucks

Excavation would be kept to a minimum but would still require various rigid trucks to remove spoil from site. This would be co-ordinated through the logistic team with stakeholders.

Insitu and precast concrete deliveries will be extensive when the structural works are progressed. Insitu deliveries will be within the site hoarding and placed using an on-site static pump.

Precast elements will be delivered to the site boundary and offloaded via tower cranes. The units will be located in position and traffic marshalls would be in attendance at all times. No public interface will be allowed – pedestrians will be diverted to the opposite side of the road, away from the pick-up points. Timings of theses deliveries would also be co-ordinated through the logistic team.

Vehicle sizes will comply with standard UK road regulations for widths, lengths and weights. Specific details would be finalised through the next stages but we anticipate no abnormal loads being required.

The following histogram shows the anticipated number of small, rigid and articulated deliveries through the main construction work. Further validation would be ongoing through the design stages.

This current assessment indicates a medium peak profile now.

This will be managed with:

- Co-ordination
- Traffic marshals
- Delivery slots
- Modern methods of design and manufacture

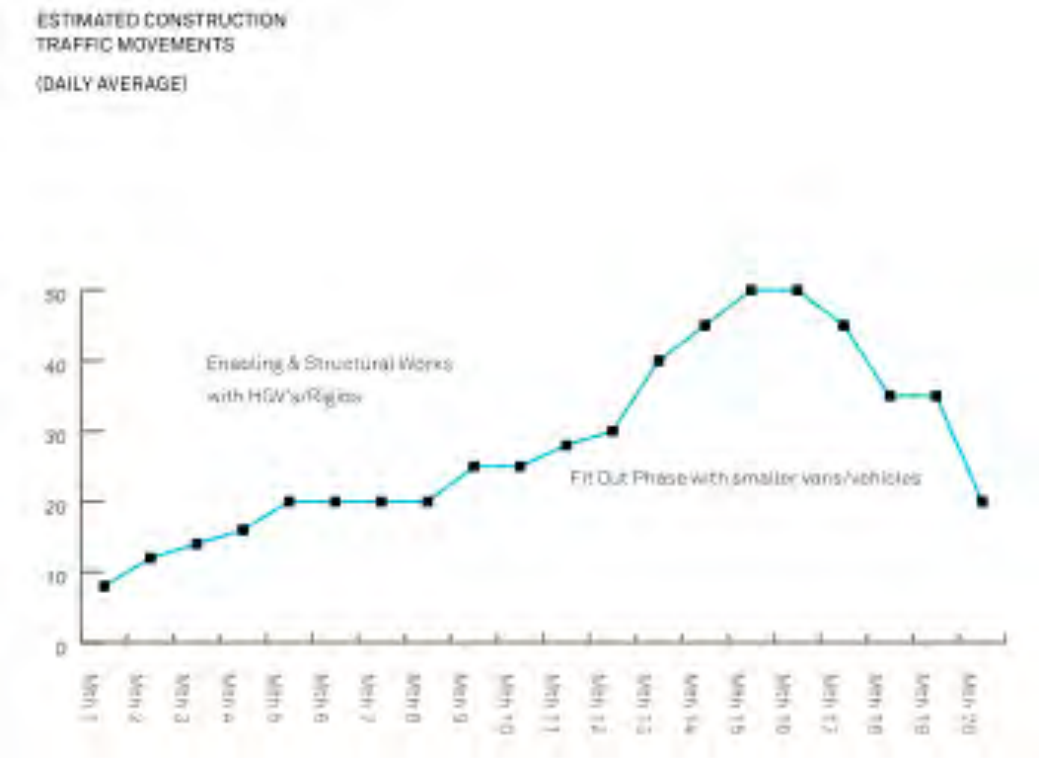
d. Operative estimates

We have analysed the project scope and completed an initial construction resource analysis. This would assist with the sizing of project accommodation and programme targets.

The histogram on the following page shows the estimated numbers throughout the main construction duration.

Generally, the accommodation will be small modular units located within the site area. This would be developed through the next stages of logistic reviews.

There could also be the opportunity to utilise areas of the new building in the sub or ground levels.



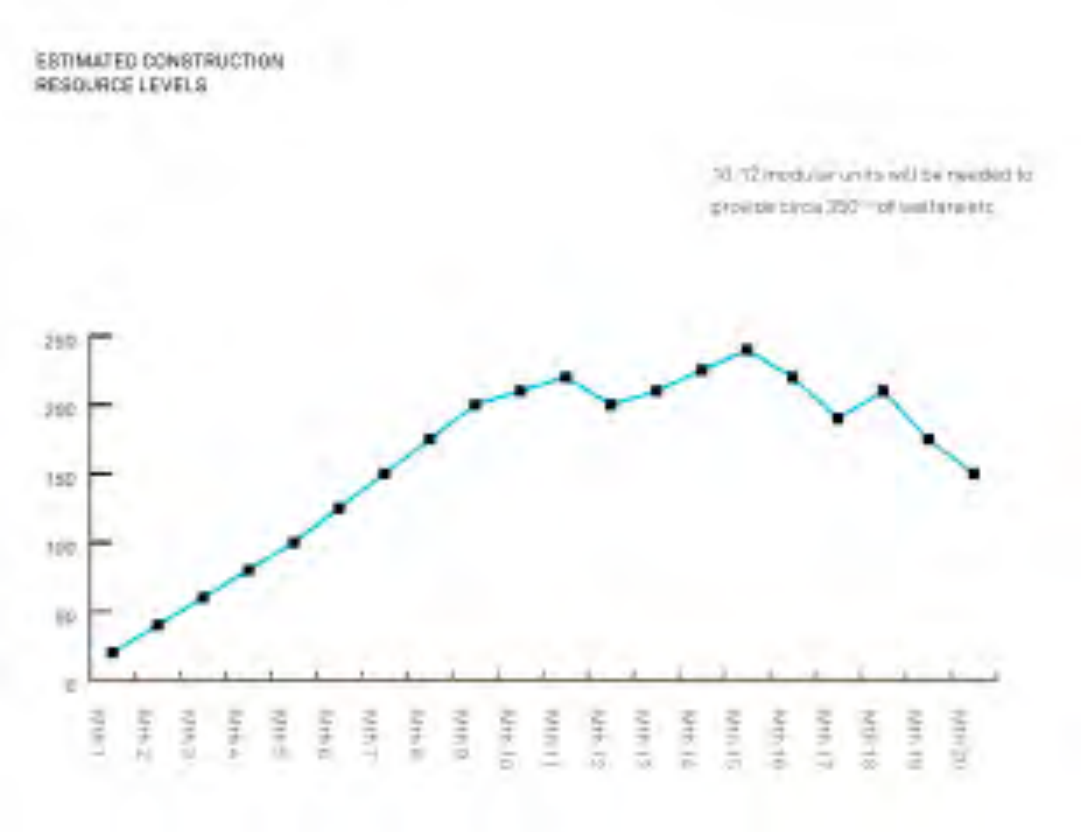
e. Security & Protection Measures

Access onto site will be controlled in accordance with project protocols. All operatives, staff and visitors will be required to comply with minimum safety standards before being allowed onto site.

The site will be enclosed with a 2.4m timber hoarding. This will be positioned around all the site perimeter and decorated in accordance with Pegasus and Camden requirements.

The hoarding lines will be finalised with Camden prior to erection. We envisage gates at the main crossover location. Suitable signage will be erected and a short stretch of the footway may be closed with pedestrians using the alternate routes on the opposite side.

Traffic marshalls will be positioned at the main access gate and will safely co-ordinate larger deliveries into & onto the site area. They will also liaise with third party vehicles to co-ordinate timings, priorities and safety considerations.
They will also manage the safety measures required to enable site deliveries to progress to the offloading zones. Weekly information sheets will be distributed to the adjacent neighbours to ensure the scheduled site works are communicated to all parties.



f. Working hours

Working hours will be finalised and agreed with Camden Council. We envisage standard working hours but with special recognition of the surrounding neighbourhood (hospital, school, residential etc).
We are also cognisant of the emergency routes needed. This has been co-ordinated in our current reviews and would be an ongoing priority through any subsequent reviews. The site logistic contractor who would liaise with the relevant stakeholders to agree timeslots and understand any priorities.

The working hours would be allocated as:
- 8.00am to 6pm Monday to Friday

Additional working hours will be implemented when the internal works are commenced. These hours will be:
- 8.00am to 1pm Saturday

No night time work is currently envisaged.

g. Wheel Washing

High pressure hoses will be used by the traffic marshalls at the main access/egress gate to clean vehicles prior to exit. This will be especially important through the early demolition and groundworks phases. The vehicles will be parked in a dedicated area within the site boundary adjacent the site gates. The material that is removed from the vehicle will be brushed into allocated areas prior to being bagged into heavy duty bags for removal from site.

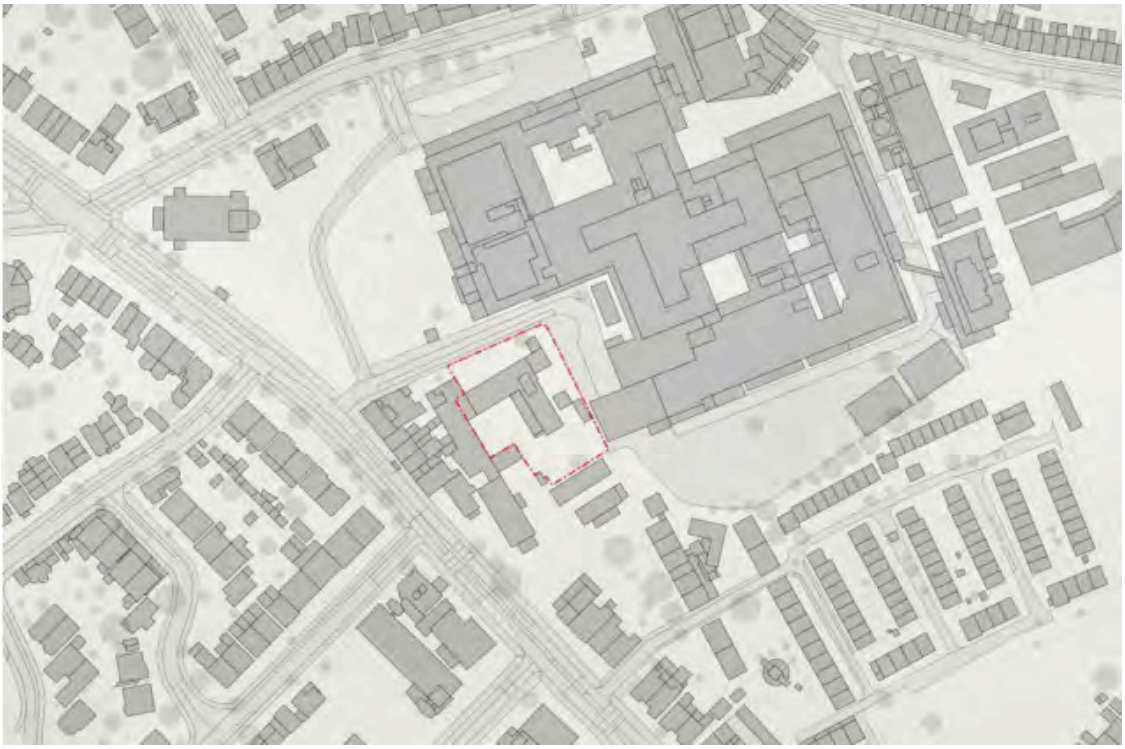
Cleaning of the adjacent highway will also be completed through the working day to ensure minimal disruption to other users.

h. Waste Removal

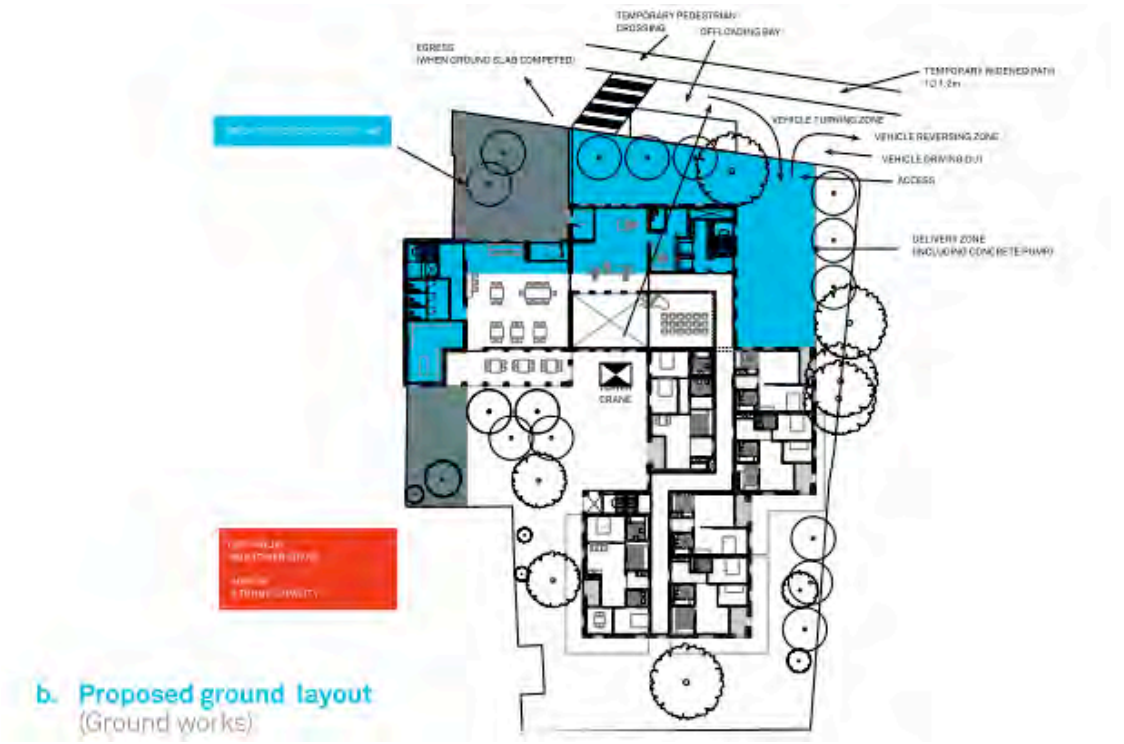
General construction waste removal will be completed by use of wheelie bins and skips that will be removed each day. These will be located within the site boundary and covered prior to site exit.

Specialist contractors, with relevant licences, will be used for all the works. This is especially relevant to the initial demolition and groundworks phases.

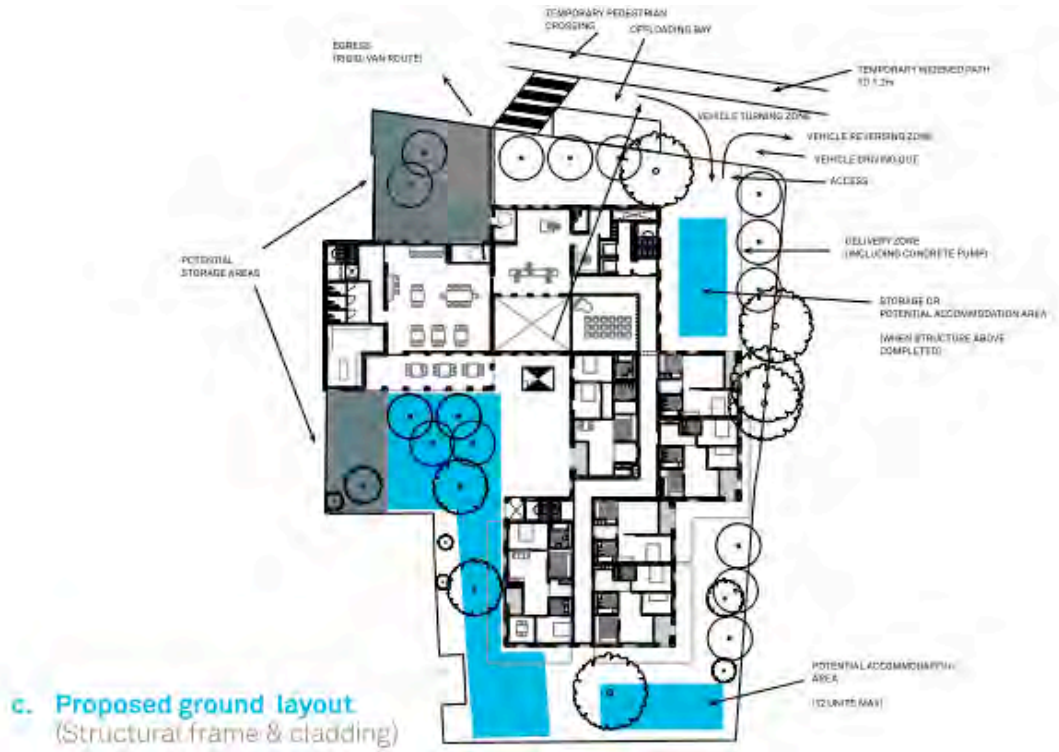
5.0 Logistic Plans



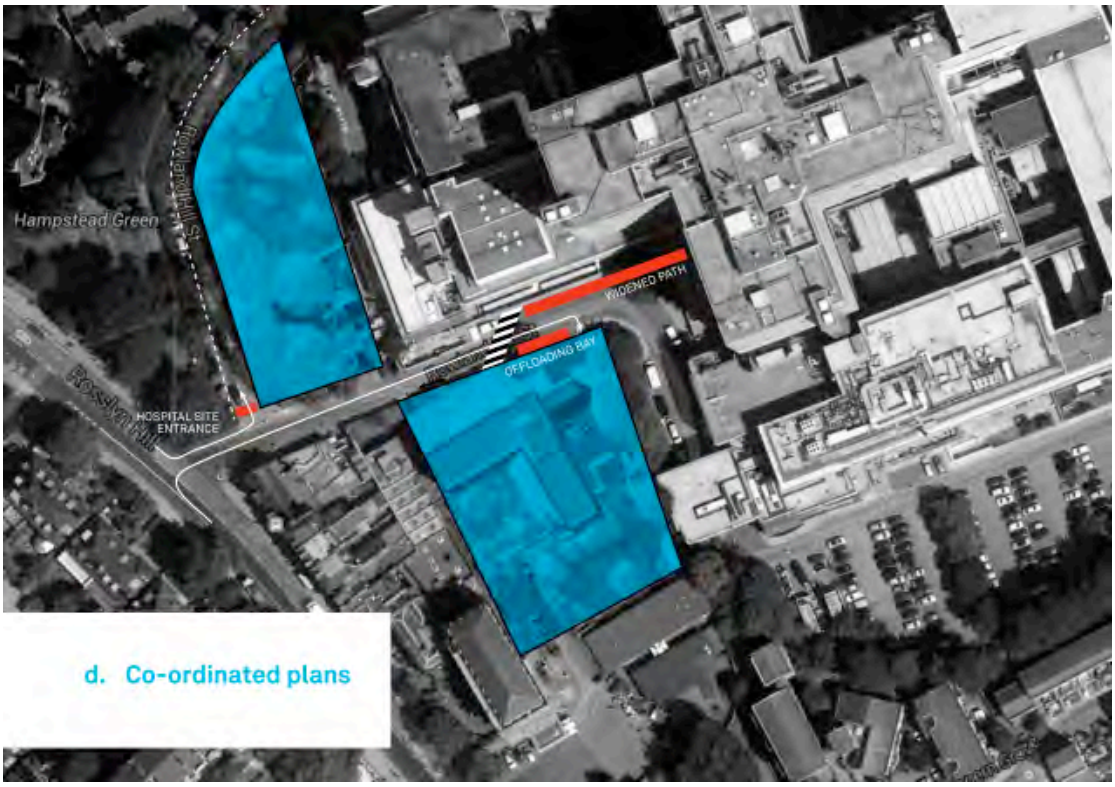
a. Existing ground layout (demolition works)



b. Proposed ground layout
(Ground works)



c. Proposed ground layout
(Structural frame & cladding)



d. Co-ordinated plans