

Cranwood

Demolition

**Environmental
Management Plan**

April 2023

DOCUMENT CONTROL SHEET

Report Ref.	CBE2050/C/DEMP/202304-EC
Rev.	D
Issue Purpose	Planning Condition 19
Assessor	Edward Coate
Signature	
Approved By	Ryan Thrower
Date of Issue	18 th October 2022
Date of Revision	24 th April 2023

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CONTENTS

1. INTRODUCTION.....	5
2. SITE DETAILS & INFORMATION	9
2.1 The Site	9
2.2 Existing Site Description	9
2.3 Working Hours.....	9
2.4 Plant and Machinery.....	10
2.5 Oversight of Vehicles	10
2.6 Demolition Method and Protocol	11
2.7 Unexploded Ordnance Survey	12
2.8 Waste Management Strategy.....	12
2.9 Considerate Constructor's Scheme	14
2.10 Community Engagement Arrangements	14
2.11 Noise and Incident Complaints	14
2.12 Hoarding.....	15
2.13 Drainage on Site	16
3. EXTERNAL LIGHTING	17
4. ENVIRONMENTAL MANAGEMENT PRACTICES & CONTROL MEASURES.....	18
5. CLP INTRODUCTION	20
5.1 Development Proposal	21
5.2 CLP Structure	21
6. VEHICLE ROUTING AND ACCESS	22
6.1 Regional Routes.....	22
6.2 Site Layout	25
7. SWEPT PATH ANALYSIS (DEMOLITION)	26
7.1 Local Access Including Highway, Public Transport, Cycling, Walking and Waterways	29
7.1.1 Highways, Carriageways and Footways	29
7.1.2 Railway/Underground.....	29
7.1.3 Bus Routes.....	29
7.1.4 Cycling.....	30
7.2 Community Considerations	30
7.2.1 Local Policy	30
7.2.2 Nearby Notable Locations.....	30
8. AIR QUALITY AND DUST RISK.....	31
9. POLLUTION AND DUST CONTROL MEASURES	32
9.1 General Activities	32
9.2 Mitigation Measures and Management Controls	32
10. NRMM AND NRMM REGISTRATION.....	35

11. DUST RISK ASSESSMENT	36
11.1 Dust Soiling	36
11.2 Human Health	37
11.3 Ecological Effects	37
11.4 Other Factors	38
11.5 PM10 Compliant Site Monitoring Procedures and Protocols	39

1. INTRODUCTION

NRG Consulting have been commissioned by Formation Design & Build (otherwise referred to as Formation) to undertake a Demolition and Environmental Management Plan (DEMP). This document is for the proposed development located at Cranwood, 100 Woodside Avenue, N10.

The development is described as:

“Demolition of existing building and redevelopment of site to provide 41 new homes (Use Class C3) within 3 buildings ranging from 3 to 6 storeys in height, with associated vehicular access from Woodside Avenue, wheelchair parking, landscaping, refuse/recycling, and cycle storage facilities. New stepped access to Parkland Walk from Woodside Avenue.”

This report is written in three key parts, being:

- 1) Demolition and Environmental Management Plan;
- 2) Construction Logistics Plan;
- 3) Air Quality and dust Management Plan.

For the purpose of this report in relation to the condition below, this concerns Demolition only.

19) Demolition works shall not commence within the development until:

(a) a Demolition Environmental Management Plan (DEMP) has been submitted to and approved in writing by the Local Planning Authority. Development shall not commence (other than demolition)

Until:

(b) a Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Local Planning Authority. The DEMP/CEMP shall include a Construction Logistics Plan (CLP), Air Quality and Dust Management Plan (AQDMP) and details of how demolition/construction works are to be undertaken, as appropriate.

These documents shall also include:

- (i) A construction method statement which identifies the stages and details how works will be undertaken;*
- (ii) Details of working hours, which unless otherwise agreed with the Local Planning Authority shall be limited to 08.00 to 18.00 Monday to Friday and 08.00 to 13.00 on Saturdays;*
- (iii) Details of plant and machinery to be used during demolition/construction works;*
- (iv) Details of an Unexploded Ordnance Survey;*
- (v) Details of the waste management strategy;*
- (vi) Details of community engagement arrangements;*
- (vii) Details of any acoustic hoarding;*
- (viii) A temporary drainage strategy and performance specification to control surface water runoff and Pollution Prevention Plan (in accordance with Environment Agency guidance);*
- (ix) Details of external lighting; and,*
- (x) Details of any other standard environmental management and control measures to be implemented.*

The CLP will be in accordance with Transport for London's Construction Logistics Plan Guidance (July 2017) and shall provide details on:

- (i) Monitoring and joint working arrangements, where appropriate;
- (ii) Site access and car parking arrangements;
- (iii) Delivery booking systems;
- (iv) Agreed routes to/from the Plot;
- (v) Timing of deliveries to and removals from the Plot (to avoid peak times, as agreed with Highways Authority, 07.00 to 9.00 and 16.00 to 18.00, where possible);
- (vi) Travel plans for staff/personnel involved in demolition/construction works to detail the measures to encourage sustainable travel to the Plot during the demolition/construction phase; and
- (vii) Joint arrangements with neighbouring developers for staff parking, Lorry Parking and consolidation of facilities such as concrete batching.

The AQDMP will be in accordance with the Greater London Authority SPG Dust and Emissions Control (2014) and shall include:

- (i) Mitigation measures to manage and minimise demolition/construction dust emissions during works;
- (ii) Details confirming the Plot has been registered at <http://nrmm.london>;
- (iii) Evidence of Non-Road Mobile Machinery (NRMM) and plant (of net power between 37kW and 560 kW) registration shall be available on site in the event of Local Authority Inspection;
- (iv) An inventory of NRMM currently on site and continually updated as necessary (machinery should be regularly serviced, and service logs kept on site, which includes proof of emission limits for equipment for inspection, all plant and machinery to be used during the demolition and construction phases of the development shall meet Stage IIIA of EU Directive 97/68/ EC for both NOx and PM emissions);
- (v) A Dust Risk Assessment for the works; and
- (vi) Lorry Parking, in joint arrangement where appropriate.

The development shall be carried out in accordance with the approved details. Additionally, the site or Contractor Company must be registered with the Considerate Constructors Scheme. Proof of registration must be sent to the Local Planning Authority prior to any works being carried out.

The development shall be carried out in accordance with the approved details.

Reason: To protect local air quality and to provide the framework for understanding and managing construction vehicle activity into and out of the proposed development, encouraging modal shift and reducing overall vehicle numbers. To give the Local Planning Authority and TfL an overview of the expected logistics activity during the construction programme. To protect of the amenity of neighbour properties and to maintain traffic safety. In accordance with Policy DM21 of the Development Management DPD 2017.

Haringey Council have reviewed the initial issue of the DEMP and provided comments (see below). The sections relevant to these comments are also as below:

Transportation Comment	Section / Response
With respect to the arrival and departures of construction related vehicles, there is reference to avoidance of the peak hours (0700 – 0900 and 1600 – 1800) on page 6. It is however very strongly suggested that the period within which vehicles arrivals and departures are restricted to should be changed to between 0930 and 1500, as movements by pedestrians, parents and the like with the adjacent school are likely to happen beyond 0900 and before 1600.	Section 2.3
In addition to the above, there should be a detailed commentary on how vehicles will be overseen and managed when making manoeuvres into and out of the site to and from the public highway, to ensure a safe approach is taken. This commentary should detail how many accredited and qualified banksmen are utilised and describe how movements will be managed for the different sized vehicles, including management of both vehicles and pedestrians/cyclists using the public highway.	Section 2.3 and Section 2.5.
There is an indicative list of plant to be used on page 7 of the DEMP. A fuller list detailing all vehicles and plant should be provided, including details of vehicle sizes with respect to site access from the highway and manoeuvring. There is reference to use of Low Loaders to bring plant to and from the site, and there should be commentary on how their arrivals and routing etc. will be agreed with and notifications made to the Highway Authority.	Section 2.4
The swept path for Tipper attending site section 7 shows forward manoeuvres into and out of the site, however the details are confusing as the text refers to a reversing movement inbound.	Section 7
There appears to be no reference to acoustic hoarding. The applicant/contractor will need to arrange and obtain hoarding licences from the highway authority for the site perimeter hoarding	Section 2.12
Whilst this is not a transportation consideration, there is a drainage survey included in the submission, and reference to all run off will go to existing mains. It is assumed that the contractor/applicant would need to make arrangements with the relevant drainage authority.	Section 2.13
Again, not a transportation issue but there are details of the lighting arrangements proposed for this part of the construction works.	Section 3
There is no reference within the DEMP or the demolition logistics plan as to the location of the wheel wash arrangements. This should be clarified and confirmed.	Section 4. Figure 6.2

Haringey Transportation Team have provided comments on the revised DEMP and these are seen below:

Transportation Comment	Section / Response
There is reference to a wheel wash, which is shown diagrammatically at the site vehicle entrance. More information is needed to detail what the exact arrangements will be (a fixed wheel wash that is mechanised and driven over, or a jetwash type arrangement).	Section 4 now clarifies the wheel wash facilities to be used on site.
The swept path plots for the tipper and bulk loader are poor quality and not clear. we need sufficiently clear plots to demonstrate the manoeuvres envisaged. We also need the physical width detailed of the existing vehicle access (kerbface to kerbface at the opening and narrowest points) to reconcile the swept path and vehicle dimensions against the available width.	Section 7.0 now displays updated Swept Path Plots for the vehicles based on the required information. This includes the physical width between the existing vehicle access.
There are no swept paths or details of access for the larger mobile crane and low loader - both of which according to the text of the document will be entering the site. if they are not to be entering the site, we still need to know arrangements and whether any temporary Highway arrangements to facilitate off loading and loading are to be required and agreed with the Highway Authority.	Section 7.0 now includes for the manoeuvres undertaken by both mobile crane and low-loader at this stage of development. These have been modelled using an articulated lorry to demonstrate compliance.
At what point will the existing access be broken out and the new access formed during the build ? and will the revised/new access service the build at all ? if so, do we require details of the access arrangements for that highway access bearing in mind the internal space available ?	Section 2.1.

Further comments were made by Haringey Council and these have also been addressed as below:

Haringey Comment	Section / Response
Evidence of CCS registration	Addressed in Section 2.9 and Appendix 4.
An explanation of how any complaints relating to noise/other incidents would be dealt with if they occur	Addressed in Section 2.11 and Appendix 5.
Confirmation that the Council's Building Control team is supportive of the works, as appropriate	Addressed in Section 2.1 and Appendix 6.

Furthermore, NRMM have confirmed receipt of registration, and this registration can also be found in the Appendices of this report.

2. SITE DETAILS & INFORMATION

2.1 The Site

The existing hardstanding and parking area will be constructed over, with the existing entrance removed, and a new entrance created, slightly east, of the original entrance. Furthermore, works will include:

- Installation of paving, lighting, and landscaping work
- Addition of on street parking spaces
- Cycle storage facilities
- Public gardens and landscaping areas
- New stepped access to Parkland Walk from Woodside Avenue
- Relocation of existing bins into enclosed refuse stores

The intention with the existing and proposed access points for the work is the use the existing access for the works. The new access point for the development will be arranged via an application to create a crossover through the local authority and will not commence until it is agreed.

This new access is forecasted to be started by 24/03/2023 subject to the above submission to Haringey.

The site team have been in communication with Haringey Building Control and this correspondence can be found in Appendix 6.

2.2 Existing Site Description

The site is located at the junction of Muswell Hill Road and Woodside Avenue and is adjacent to St James C of E Primary school. The site is a brick façade care home, and a singular structure, ranging from 6-8m in height, along with adjacent parking and a hardstanding area. Furthermore, the site also services 8 properties behind the site (to the south).

2.3 Working Hours

Haringey permitted construction noise and working hours are as below:

- Monday to Friday 8:00am – 6:00pm;
- Saturday 8:00am – 1:00pm;
- No work on Sundays or Bank Holidays.

Due to the presence of the nearby school, timing of deliveries to and removals from the Plot (to avoid peak times), as agreed with Highways Authority, will be further restricted to **avoid** the times below:

Activities such as waste collection, spoil removal, delivery of materials and concrete delivery will be restricted to the following hours:

- 9.30am to 3pm Monday to Friday
- 8.00am to 1.00pm Saturday

Any alterations to these working hours, or requests to work outside of these hours above, will be made to and agreed upon by appropriate officials at Haringey Council prior to any of these works taking place

2.4 Plant and Machinery

Various plant and machinery will be utilised on site throughout demolition, many pieces of plant and equipment are already on site or will be transported to the site via the vehicles on the second list below. These plant and machinery either on, or to be transported to, site are:

- Forklifts
- Skid Steer Loader
- Scissor Lift
- Cherry Picker
- Excavators

Further vehicles that will drive directly into site will be:

- Small Low-Loader (weekends only) (width: 2.9m bed length: 5.5m height: 4.4m)
- Mobile Crane (width: 2.55m length: 10m height: 3.35m)
- Muck Away Tipper / Dump Truck (width: 2.6m length: 7.8m height: 3.7m)
- Bulk Lorries (width: 2.4m length 10m height 3.75m)

The Muck Away Tipper is the vehicle used for the Swept Path Analysis (SPA) present in Section 7 as it is the most common vehicle to be used on site during peak periods of demolition and during the weekdays. An LRIGID (Bulk Lorry – 10m in length) has also been modelled to demonstrate the longest vehicle to be seen on site.

Other onsite demolition equipment won't require special highway measures to deliver or retrieve to or from the site.

2.5 Oversight of Vehicles

In managing any conflict that might occur between pedestrian and construction vehicles it is relevant to note that construction vehicle activity at the site will benefit from the direction of dedicated (suitably qualified) members of staff who will act as banksmen. The banksmen will ensure that any pedestrians and cyclists making use of the street are aware of the construction activity and associated vehicles at the site and will direct vehicles and pedestrians/cyclists as necessary. Two banksmen will be present near the existing entrance to site, and a third banksmen will be present inside the site during the 3-point manoeuvre seen on Figures 7.1 and 7.2. These banksmen will be most useful when larger and most consistently-seen vehicles, such as muck-away tippers, will be present on site.

These banksmen will ensure that when vehicles are accessing or egressing from or to the public highway, that sufficient consideration is made to nearby pedestrians, cyclists, and motorists. These banksmen will be trained in coordinating vehicle egress and access with respect to nearby pedestrians, cyclists, and motorists.

Banksmen will also be present inside site for the supervision of vehicular movements respective of the loading / delivery area seen on Figure 6.2, via the movements seen on Figures 7.1 and 7.2.

2.6 Demolition Method and Protocol

The demolition programme is expected to take 11 weeks to complete, this will increase to 20 weeks pending enabling works. In total, demolition and enabling works are expected to take 20 weeks to complete. This programme includes:

- Site setup and hoarding – 2 weeks
- Asbestos survey report – 1 week and 3 days
- Asbestos removal notice – 1 week
- Asbestos removal – 1 week and 3 days
- Disconnect all live services – 3 weeks
- Demolition 4 -weeks
- Crush demolition waste – 2 days
- Create new access onto site – 3 days

The existing buildings are masonry, at maximum height of 7m (two storey).

The building will be stripped of all items i.e. doors and frames, roof beams, and roof coverings using hand demolition techniques, using 16V powered tools, mattocks, sledgehammers, crow / nail-bars. Work at height for this activity is generally limited to underside of slab above usually requiring access to less than 4 meters. Access is achieved from small scaffold towers, tagged, and erected by a competent person, or from “Podium” steps effectively a cross between a ladder and a scaffold, having the ease of use of a ladder but with the stability of a tower.

All employees prior to commencement of work on site will have undergone manual handling training as part of the induction. Mechanical lifting aids will be provided, where reasonably practicable and training of the lifting aids will be documented as previously described.

Using 360-degree excavator fitted with demolition attachments the ground floor slab will be broken out and the footings removed, the materials will be stockpiled ready for crushing. All excavations will be backfilled with site spoil.

Site housekeeping’ will receive high priority, with emphasis placed on maintaining good access to and egress from the workplace. Daily site inspections will be carried out by Site Supervisor in accordance with our health and safety procedures ensuring walkways are kept clear at the end of each shift. All vehicles leaving the site with demolition arising’s will be adequately sheeted to prevent dust being emitted from the load. Entry / exit gates will be always kept clean and maned by a qualified Traffic Marshall.

2.7 Unexploded Ordnance Survey

MACC International LTD have undertaken an Unexploded Ordnance Survey (UXO) for Formation. This UXO states:

“The future intention for the land is the construction of new facilities for the school; it has been assumed that Geoenvironmental and Geotechnical investigations will be undertaken prior to general excavations including foundation construction which may include piling.”

It continues to state:

“The desk study has identified a credible UXO threat to intrusive works being undertaken on the site. When viewed from likelihood versus consequence standpoint, the risk levels for the most part are considered to be significant. Consequently, it is considered appropriate to recommend a suitable degree of UXO mitigation to permit the work to proceed in the safest “acceptable” manner.”

The UXO then states the following mitigation recommendations.

General Mitigation Requirements

It is recommended that the following mitigation measures are carried out prior to any work taking place.

Risk Communication & Safety Planning: Stakeholders should be made aware that the risk of encounter is considered to be significant and the possible impact it may have on the project. Additionally, a UXO site safety and emergency procedures plan should be produced.

Safety Training: UXO Safety Induction Training should be provided to everyone working or visiting the site. The training should be commensurate with the individual's responsibilities and duties on site. The training should be provided by a competent individual and delivered as separate module of the Site Safety Induction Course.

Drilling, Pitting & Excavation Mitigation

UXO Safety supervision and monitoring; this should be conducted by a qualified EOD Engineer using a specialist magnetometer to clear the ground ahead of the excavator bucket or drilling bit.

Piling Mitigation

Pre-testing and clearance certification of the pile positions from the surface to the pile depth (3-4m) using a specialist magnetometer system.

2.8 Waste Management Strategy

The Project team will manage the waste on site and record the waste details. Waste Reports will be provided by the Waste Carriers on a monthly basis which will include:

- European Waste Code (EWC)
- Waste description
- Weight in tonnes
- Percentage of waste recycled

The details of waste carrier hired to transport non-hazardous waste and hazardous waste will be included and presented in this document once known. Their associated Waste Management License number and/or Pollution Prevention and Control Permit Number will also be presented here.

Details of the project waste management performance will be reported to the client at project meetings, where required. The SWMP will include targets for re-use, recycling and disposal of waste expressed as percentage. The client waste monthly report will include as a minimum:

- Comparison of waste management targets and actual performance.
- Analysis of waste produced on site per month.

The Project Manager is fully responsible for ensuring compliance with the current waste management legislation. All documents are to be retained for a minimum of 3 years.

In order to comply with current legislation, the Project Manager will:

- Identify the types and quantities of waste that the project will produce.
- Ensure that the recording of waste is updated as necessary, as a minimum monthly, to reference all waste that has been produced at site and removed from site.
- Nominate a member of the team on site as a “waste champion”, e.g. site manager, site supervisor.
- Ensure that the waste management strategy is communicated to everyone working on site.
- Ensure that waste management companies responsible for removing the waste provide copies of their carrier licences and environmental permits.
- Ensure that copies of all relevant hazardous waste consignments notes, and duty of care waste transfer notes are readily available on site for reference and review.

The Waste Hierarchy

Formation recognises that sustainable waste management starts with resource efficiency, using the raw goods purchased wisely. Their waste management incorporates *The Waste Hierarchy* and prioritises all such measures to:

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

In order to manage waste effectively on-site, Formation will also:

- Implement just in time delivery
- Ensure that materials delivered to site are not damaged or unusable.
- Reduce the amount of packaging, wherever possible.
- Ensure that waste is handled and stored correctly.

Segregation on site

Where possible, the Project team will segregate non-hazardous waste material into separate waste streams.

When segregating waste, the Project Team will

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

2.9 Considerate Constructor's Scheme

The site and Formation are registered with the CCS. Reference: SR029212. Proof of this registration can be found in Appendix 4.

2.10 Community Engagement Arrangements

Prior to the demolition phase, Formation will undertake a letter drop to nearby residents. This letter drop will contain primarily demolition information. Furthermore, this will include Formation details (contact, phone number, email, titles, and names), and any other information pertaining to the relevant scope of the works including hours of work.

2.11 Noise and Incident Complaints

Formation's statement for Noise and Incident Complaints can be found below. Their CSR policy can also be found in Appendix 5.

"Our Project Manager will be responsible for project liaison and will be supported by dedicated Community Liaison Officer, Ruth Robinson. Ruth will be the first point of contact for local stakeholders. We will hold local 'surgeries' once a month in a predefined location and invite local resident to come along and discuss the scheme and any concerns they may have. Date, time and location of the event will be posted on the site noticeboard and outlined in the monthly newsletter."

We will visit all our project neighbours prior to commencing work on site. This provides them with the opportunity to meet our Project Team and voice any concerns. Should complaints be received from local stakeholders, they will be logged, and assessed by the Liaison Officer and Project Manager who will meet with the affected party as soon as possible and take appropriate action to redress the issue. We will actively seek liaison with all project stakeholders throughout the pre-construction and construction periods. It is critical to the success of the project that key issues are properly addressed from the outset to create a good working relationship and an integrated team approach to resolving potential issues before they arise.

*A dedicated email will also be made available for all correspondence;
CommsCranwood@formationgroupplc.com.*

We are committed to ensuring life carries on as normally as possible for the surrounding neighbours whilst we carry out the works”.

2.12 Hoarding

The following will be completed prior to the commencement of works on site:

- Obtain appropriate hoarding licences.
- Site will be setup and hoarding erected.
- All relevant services will be disconnected.
- Site to arrange mains power connection in advance of site works with no diesel generator use on site
- Materials will be stockpiled for processing and removed from site.

Hoarding will be constructed in accordance with the terms of the Temporary Structure License to be obtained by Formation. Hoarding will be erected and dismantled in a safe manner in conjunction with the current legislation (Section 172 of the Highways Act 1980 and Chapter 8 of the Traffic Signs Manual under the New Roads and Street Works Act 1991) and Health and Safety Executive guidelines.

The hoarding used on site will be acoustic hoarding, the contractor will ensure that the above licenses are arranged with the highway authority.

All site boundaries will be totally enclosed by clean, safe, and well-maintained hoardings. These hoardings will be designed to allow the displaying of relevant signage and notice boards to ensure good communication with the neighbouring residents and local businesses. 110v bulkhead lights will be installed as part of the hoardings to ensure footpaths, signage and notice boards are well lit. A 2.4m high solid painted timber hoarding and gates will be erected around the site as appropriate. The hoardings will, on completion of the works to an appropriate degree, be dismantled.

A Site Safety Notice Board will be located in a prominent position and will be regularly updated. Hoarding and H&S notice boards will be clearly erected with the relevant information displayed.

2.13 Drainage on Site

There is limited water present on site. Furthermore, there is limited water expected to be on site, or as a result from demolition operations. Any excess water will drain to mains. The principal contractor will make arrangements with the relative drainage authority on this basis.

Wheel wash facilities will be used on site and can be seen on Figure 6.2. Formation will ensure that there will be no run off of arisings/water back to Highway drainage.

With respect to the drainage assets to be retained/protected during the demolition and construction works, protection and abandoning of existing assets is being addressed by a separate Thames Water application which is currently in progress as of the issue of this report. The drainage layouts for the lower ground and below ground levels can be found in the appendices of this report. These layouts display the retained and protected drainage assets.

The site is underlain by the London Clay formation and as such the requirement for significant dewatering is unlikely. Because of these ground conditions an event of a fuel/hydraulic fluid spillage poses a minimal risk of vertical or lateral migration of contaminants. As the London Clay formation is an unproductive aquifer the risks to controlled ground waters are unlikely to be significant. This is, however, subject to standard controls (GPP 22 – Dealing with Spills – although not formal English guidance, it is used as best practice from Scotland, Wales, and Northern Ireland) seen below:

- Follow refuelling protocol at all times
- Use suitable containers to store fuel/oil and store these away from sensitive receptors
- Create a dedicated area for any solvents, chemicals in accordance with COSHH data sheets
- Bulk fuel storage should be integrally bunded or kept within a bunded area
- Use drip trays/plant nappies for plant/machinery
- Implement and follow procedures for storage, use, delivery, inspection and monitoring of pollution substances.

As noted above, the London Clays geology of the site will mean there is unlikely to be any significant requirement for groundwater control. Drainage inlets and points of connection into the public sewer through the site will be identified and protection measures will be put in place to ensure no uncontrolled or untreated discharges will enter the public sewer system. These inlets have been identified based on the CCTV survey. These will be sealed off to avoid uncontrolled entry.

Thames Water will be contacted to arrange the trade effluent license, and to agree on the treatment system required (if any). This will include agreeing to determinants such as Ph, TSS, PAH.

Formation will be conscious of drainage layouts with respect to Parkland Walk to ensure no run-off in this area will occur. Runoff into Parkland Walk will be avoided by having temporary levels fall away from this area and control any excess water with pumping. Thames Water will be consulted on works around their sewer. Currently this is not foreseen as an issue as the sewer is deep.

3. EXTERNAL LIGHTING

Lighting

Lighting will be sited to minimise visual intrusion and light spillage / pollution at nearby residential units, in so far as is consistent with the site safety requirements.

Formation will comply with the Institute of Lighting Engineers document 'Guidance notes on reduction of light pollution' (2000) to a degree that is practicable.

Adequate security shall be implemented to prevent unauthorised entry or exit from the site. Site gates will be closed and locked when there is no site activity, whilst accesses will be manned during work periods.

Hoarding Lighting

Lighting will be present on this hoarding line. Lighting will be spaced out along the hoarding line to ensure that it is visible to nearby pedestrians, cyclists, and any other nearby residents. The specification of this lighting can be seen below.

Outdoor space (hoarding) (Light scene 1)

Summary

Results

	Symbol	Calculated	Target	Check	Index
Working plane	$E_{\text{perpendicular}}$	5.01 lx	≥ 5.00 lx	✓	WP2
	g_1	0.00	-	-	WP2
Consumption values	Consumption	2800 kWh/a	max. 22700 kWh/a	✓	
Room	Lighting power density	0.50 W/m ²	-	-	
		9.92 W/m ² /100 lx	-	-	

Utilisation profile: General circulation areas at outdoor workplaces, Walkways exclusively for pedestrians

Luminaire list

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
28	SG	70219864 15445	Tanto 1100 White Twilight 430lm 3000K Ra>80 On/Off	11.5 W	430 lm	37.4 lm/W

Figure 3.1: External Lighting Specification

4. ENVIRONMENTAL MANAGEMENT PRACTICES & CONTROL MEASURES

Formation will undertake the following monitoring activities to ensure the environmental issues and related standards noted above are followed on site:

- Carry out monitoring in order to demonstrate compliance with occupational exposure standards for their employees as detailed in the COSHH Regulations 2002, as amended. Copies of the monitoring results will be made available to the LBH the Health and Safety Executive (HSE) upon request.
- Formation will undertake Asbestos R&D and UXO surveys before demolition can take place.
- Formation will also engage with Thames Water to discuss and agree build over agreements and working within their assets, this will be agreed upon before any piling and foundation works on site, however demolition works can continue during this time.
- Formation will establish the site perimeter and prepare the grubbing out of all existing hardstanding, including the demolition of the existing Cranwood House. An R&D asbestos survey will be undertaken by Formation prior to demolition work commencing. Should asbestos be found, a licenced removal contractor will be arranged by Formation to allow demolition to progress.
- Time for the above works (including if further works will be required) have been allotted into the existing construction programme.

Dust and Debris

- Carry out visual & recorded dust monitoring daily at pre-determined air quality monitoring locations, to manage the generation of dust. If elevated levels of dust are measured during demolition, site activity will be halted, and any issue resolved or sufficiently mitigated
- A committed wheel washing area will be established near the site entrance and can be seen on Figure 6.2.

This wheel washing system will be the Glanaco 2-Metre Wheelwash System (<https://www.glanaco.com/2-metre-wheel-washer/>). This unit is compact and will cater for the volume of vehicles egressing from the site. The unit recycles water and is commonly used by construction companies within the UK.

- Any mud or debris that finds its way onto the public highway will be removed by a member of the contractor's staff.

Vibration

- No vibration issues are anticipated during the demolition phase due to the short demolition period and lightweight nature of the existing building.

Water

- Control limits will be set in accordance with discharge consents to foul sewers or controlled waters. Contractors discharging liquids will ensure that appropriate monitoring is undertaken to demonstrate compliance with all applicable consent limits.

Site Inspection

- Site manager will undertake routine monitoring of storage and working areas to ensure safety measures are in place and the correct safety procedures are maintained.
- The provisions and requirements will be subject to regular inspection and recording by the site manager in a manner and at a frequency to be agreed with the LBH and/or the Contractor.

Furthermore, Formation's Environmental Policy is read as below.

"Formation Design & Build Ltd recognizes that their operational activities have environmental implications and as such, respects our duty to conduct operational activities in the best possible environmental manner. Our goal is to protect the environment during a project and to provide a building that will keep protecting it long after the project is complete.

Formation Design & Build Ltd applies the waste management hierarchy when producing waste, making all such arrangements on our premises to:

- *Minimise the generation of waste and achieve Zero Waste to Landfill.*
- *Increasing the use of recycled and recovered materials.*
- *Promote reusing, recycling, and recovering of materials.*
- *Ensure waste carriers selected manage waste correctly to enable recovery or disposal without harming the environment.*

Our management system is maintained in accordance with the requirements of ISO 14001.

Our commitment is to:

- *Prevent environmental pollution.*
- *Comply with applicable legal and other requirements that relate to our business.*
- *Identify opportunities to improve our environmental performance and guarantee continuous improvement.*
- *Set a framework for establishing and monitoring our environmental objectives.*
- *Assess the environmental impacts of our operational activities.*
- *Select construction methods to minimise the use of natural resources and promote the procurement of sustainable materials.*
- *Work with clients, suppliers, subcontractors, regulators, professional bodies and the community at large to raise the environmental standards of the projects in which we play a part.*
- *Communicate and display this policy to all members of staff and our stakeholders.*
- *Periodically review our policies, processes and working practices to determine their suitability and effectiveness.*

The implementation and monitoring of this policy, together with raising general awareness to our employees is the responsibility of Company Directors and management. The success of this policy rests with the commitment of all employees to ensure our environmental management procedures are effectively carried out."

5. CLP INTRODUCTION

Development name:	Cranwood
Landowner:	Haringey Council
Site address:	Cranwood, 100 Woodside Avenue
Site postcode:	N10 3JA
Existing site use:	Residential
Summary of works:	<i>"Demolition of existing building and redevelopment of site to provide 41 new homes (Use Class C3) within 3 buildings ranging from 3 to 6 storeys in height, with associated vehicular access from Woodside Avenue, wheelchair parking, landscaping, refuse/recycling and cycle storage facilities. New stepped access to Parkland Walk from Woodside Avenue."</i>

Construction Logistics Manager:	Aidan McHugh
Phone number:	07445214592
Email:	Aidan.mchugh@formationgroupplc.com

CLP Produced by:

Name	Signature	Date
Ed Coate		12/10/2022
CLP Accreditation Number:		00385
CLP Accreditation date:		10/12/2020

CLP reviewed by:

Name	Signature	Date
Carl Thrower		12/10/2022
CLP Accreditation Number:		00384
CLP Accreditation date:		10/12/2020

5.1 Development Proposal

The outline of the proposed development consists of:

- Demolition of existing care home
- Site Clearance and Site Set-up
- Removal of existing entrance
- Creation of new entrance
- Erection of 41 new homes
- Creation of amenity spaces
- Provision of car parking spaces
- Provision of secure cycle parking and facilities
- Establishment of refuse and recycling storage
- Associated works, including hard and soft landscaping boundary treatment

5.2 CLP Structure

CONTENTS

5. CLP INTRODUCTION	20
6. VEHICLE ROUTING AND ACCESS	22
7. SWEPT PATH ANALYSIS (DEMOLITION)	26

6. VEHICLE ROUTING AND ACCESS

The expected volume and type of demolition traffic will not lead to the requirement for diversion or restrictions of traffic on the public highway. Vehicle routes have been chosen to:

- Maximise lengths along dual carriageways and motorways
- Avoid roads with width/height restrictions
- Avoid nearby community considerations (schools, hospitals, town centres)
- Avoid popular bus routes
- Avoid popular cycle routes

6.1 Regional Routes

Regional routes are concerned with vehicles that would originate from outside of London. All vehicles from outside of London will use the M25 onto other major junctions to approach the local area to site. Vehicles from Northern / Western origins will:

- Connect to the A10 or A406 by major national routes.
- Continue on the A406.
- Turn left onto the A1.
- Turn left onto Great North Road.
- Take right onto Woodside Avenue.
- Arrive at site.

Vehicles from Southern / Eastern origins will approach the site by the following:

- Connect to the A406 and/or A1 via the M25 or M1,
- Connect to the A10 or A406 by major national routes (above).
- Continue on the A406.
- Turn left onto the A1.
- Turn left onto Great North Road.
- Take right onto Woodside Avenue.
- Arrive at site.

When egressing, it is advised that vehicles turn left to utilise nearby A-Roads. This road will lead vehicles back onto Great North Road, which connects to the A1.

The site will not have private car parking for operatives.

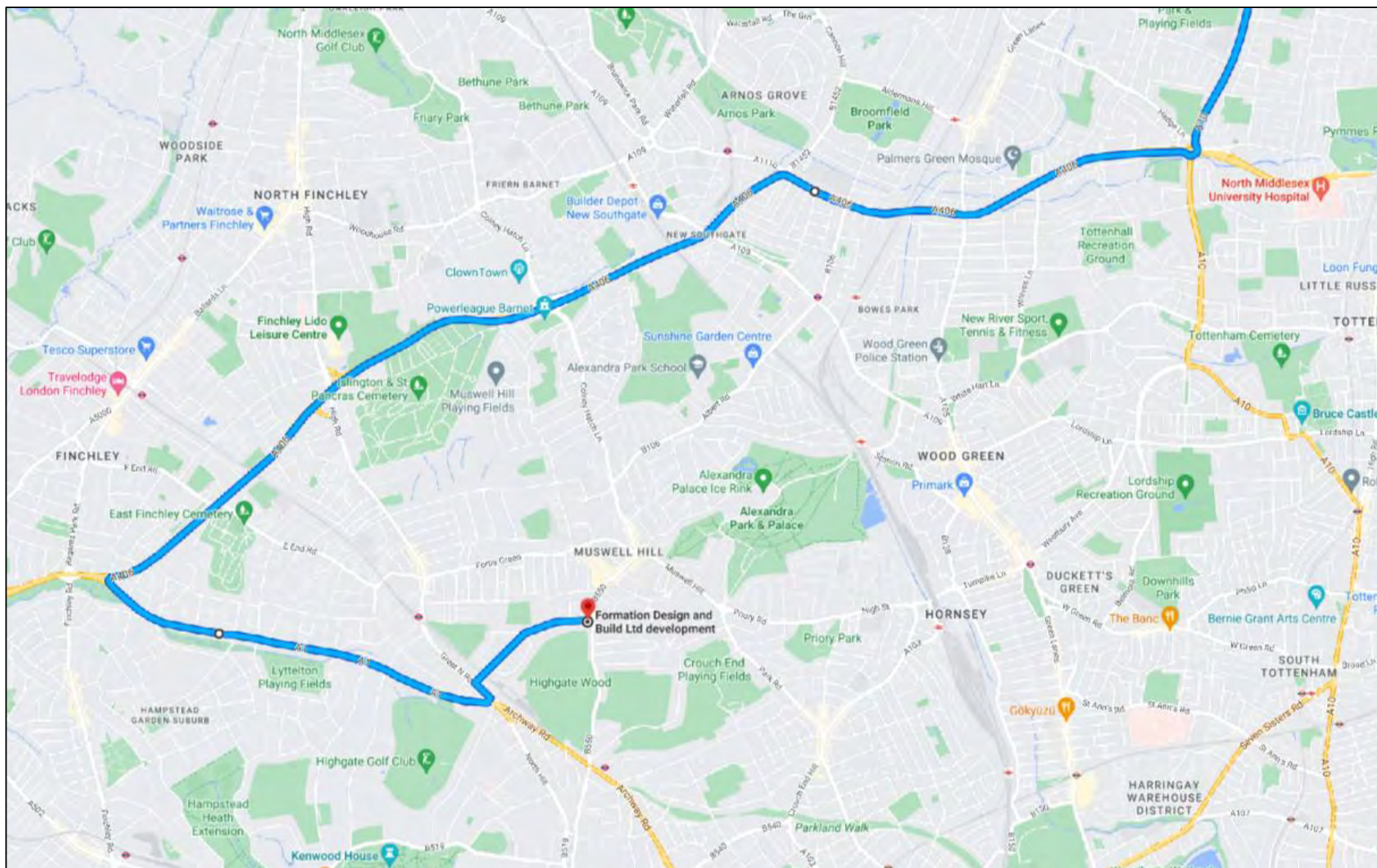


Figure 6.1(a): Regional Route (North and East)

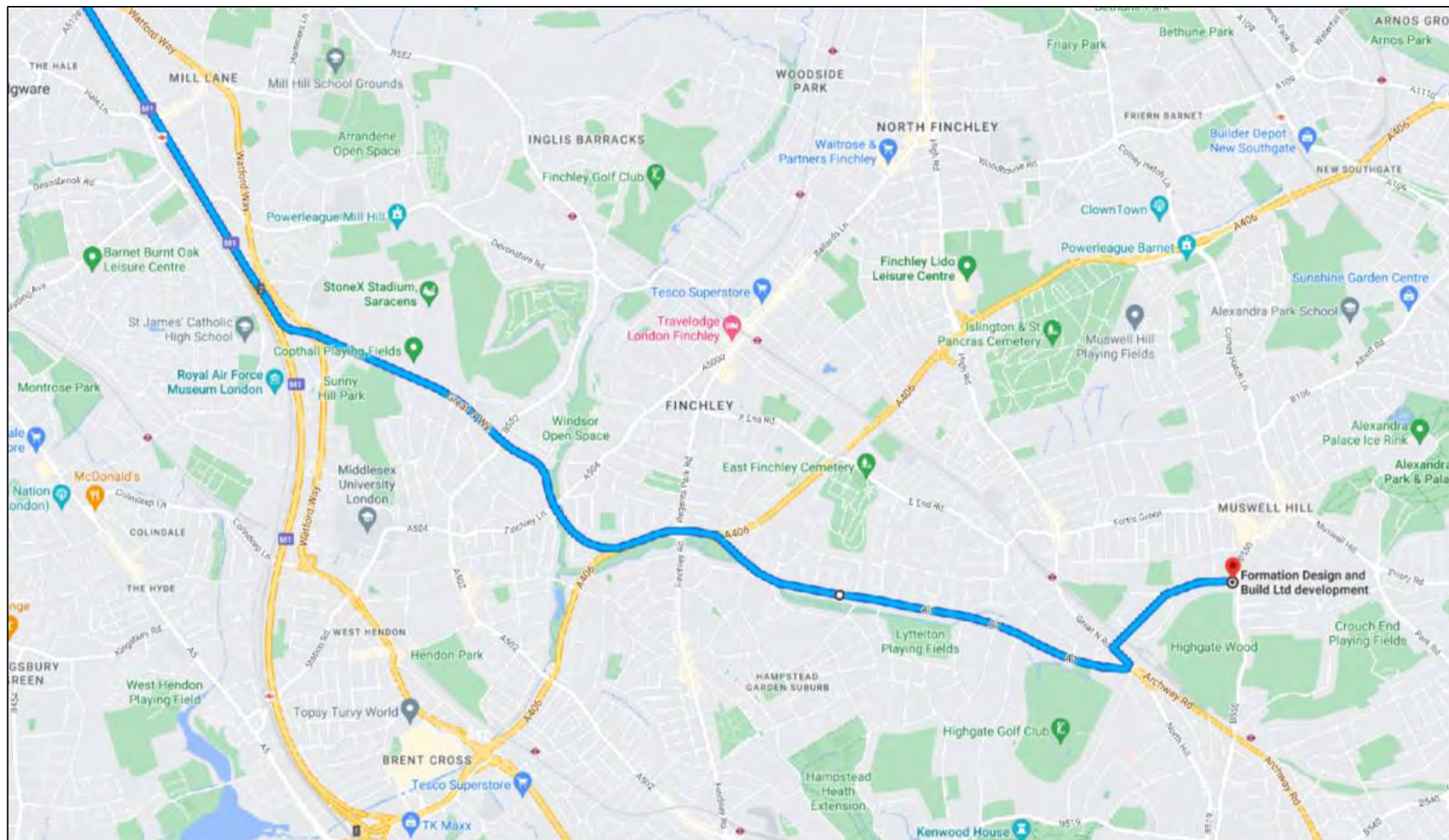


Figure 6.1(b): Regional Route (South and West)

6.2 Site Layout

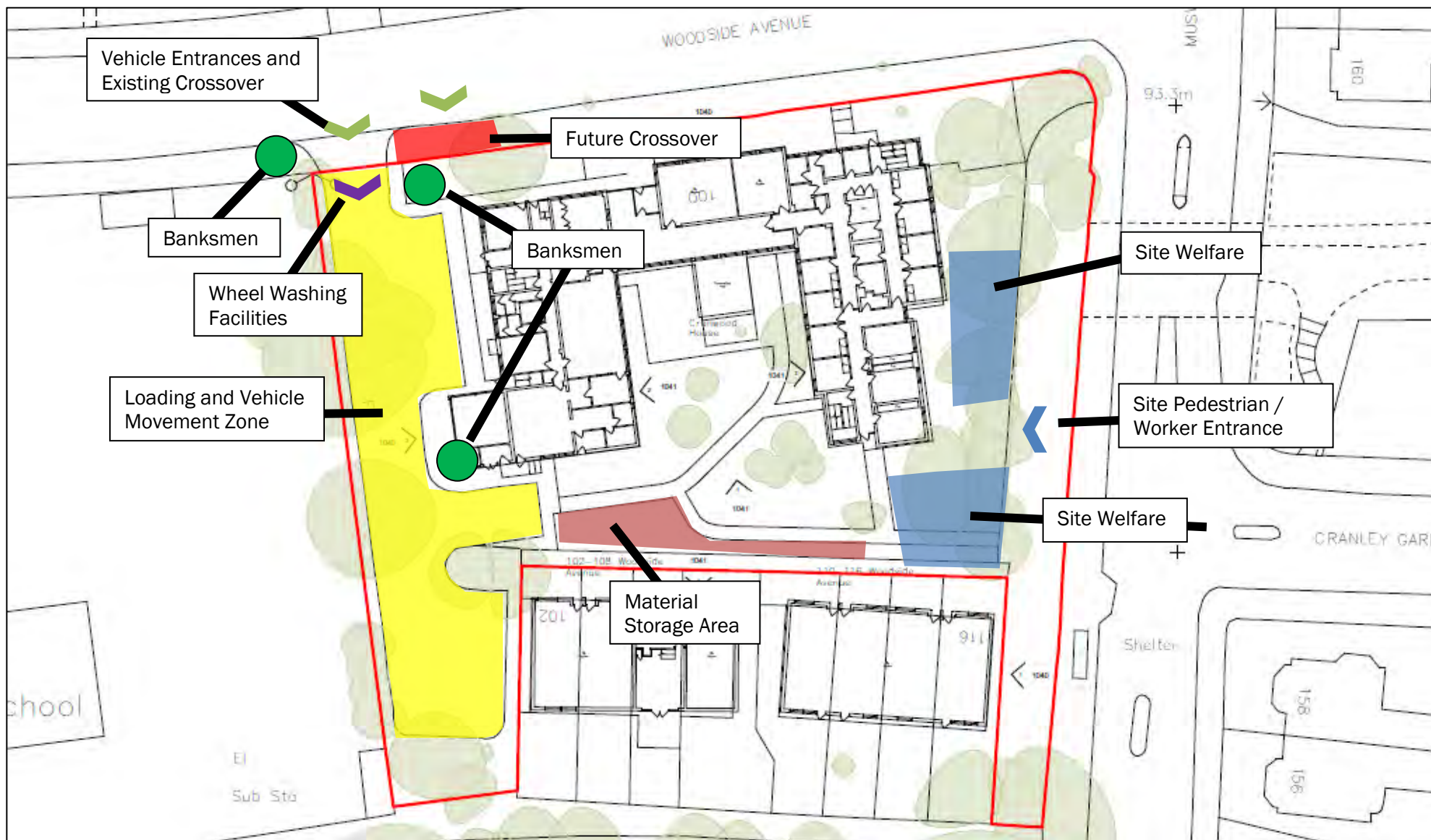


Figure 6.2: Site Map with Access Points (Demolition)

7. SWEPT PATH ANALYSIS (DEMOLITION)

For the purposes of demolition, a 3AXLE tipper (Muck Away vehicle) has been projected on the local road layout (Figure 7.1) as well as an LRIGID (Bulk Lorry Vehicle) on the local road layout (Figure 7.2). The SPAs below demonstrate that this vehicle can enter the site in forward gear, perform a 3-point turn inside the site's area, and then leave in forward gear heading left. Any reversing inside site will be overseen by banksmen to ensure the safety of nearby workers. The positions of these banksmen can be seen on Figure 6.2. A further SPA has been produced to demonstrate larger, more rare, vehicle movements, such as low-loaders and mobile cranes. These are demonstrated by the movement of an articulated lorry reversing into site, as seen on Figure 7.3. The same banksmen available for the previous movements under Figures 7.1 and 7.2 will also be present for this reverse manoeuvre via Figure 7.3. All vehicles will leave site in forward gear. These SPAs can be seen in full in Appendix 7 of this report. The width of the current access can also be seen below.



Figure 7.1: Demolition Vehicle Access and Egress (LRIGID)





Figure 7.3: Demolition Vehicle Access and Egress (Low-Loader, Mobile Crane – Articulated Lorry)

7.1 Local Access Including Highway, Public Transport, Cycling, Walking and Waterways

7.1.1 Highways, Carriageways and Footways

Within the Borough of Haringey, there are multiple red routes, these are:

- Seven Sisters Road N4 (A503)
- Archway Road N6 (A1)
- Great Cambridge Road N18 (A10)
- Roundway N17 (A10)
- Bruce Grove N17 (A10)
- Tottenham High Road N17/N15 (A10)
- Tottenham Hale Gyratory
- Monument Way & Broad Lane N15

Red routes will be used for vehicles travelling to and from site, operatives will be made aware of the significance of red routes. Signs and road markings along all red routes within London provide operatives with the information they need to ensure they follow red route rules.

Operatives will be made aware of the fact that there are multiple parking restrictions that apply to vehicles on the roads nearby to the site. These include:

- Controlled Parking Zone (St Luke's – Mon – Fri – 11:00 – 13:00)
- Controlled Parking Zone (Fortis Green – Mon – Fri – 11:00 – 13:00)

7.1.2 Railway/Underground

No railway or underground lines will be impacted by the development.

The nearest station to the new development is Highgate Underground station. This is 0.8 miles south-east (16-minute walk) of the development and is serviced by the Northern Line.

7.1.3 Bus Routes

The Table below displays the bus routes that are within 400m of the site.

Bus Stop	Service	Destination	Distance from Site (metres)
Woodside Avenue	43	London Bridge	<100 metres
	134	Warren Street	
Cranley Gardens	43	London Bridge	<100 metres
	134	Warren Street	

Where possible, the routes for operatives and vehicles identified within this report have been chosen to avoid major bus local routes.

There are no bus stops immediately local (along Woodside Avenue) to the site's area and therefore no further consideration to bus stops (such as relocation or temporary stops) will be required because of development.

7.1.4 Cycling

The nearest cycle route to the site is route LCN (as well as a local route at the Grove that connects to this). Local routes (found at <https://www.opencyclemap.org/>) are not very prevalent around the site as these are largely ubiquitous east of the site by South Tottenham and Stamford Hill with local roads and not largely within the site's area. National Cycle Network 1 will be avoided by construction traffic routing. Local routes will be avoided where feasible but due to their extent this will not always be possible.

7.2 Community Considerations

7.2.1 Local Policy

There is no specific *Code of Construction Practice* document published by Haringey Council.

7.2.2 Nearby Notable Locations

The nearest community considerations to the development is the adjacent school.

The Construction Logistics Manager will share information about the construction programme and any disruptive activities with the local community and will collate and report any issues or concerns.

8. AIR QUALITY AND DUST RISK

The following sections have been written to address the final element of Condition 19 for the associated development. This section of this report will otherwise be known as an Air Quality and Dust Risk Assessment (AQDRA) and/or Dust Management Plan (DMP). This section of this report has been written specifically to address the control measures and outcomes (dust and air quality) focusing on demolition.

Demolition activities have the potential to cause dust nuisance and health impacts if appropriate mitigation measures are not applied. The GLA has released Supplementary Planning Guidance on the Control of Dust and Emissions from Construction and Demolition (GLA, 2014). The SPG outlines a risk assessment approach for demolition dust assessments and helps determine the mitigation measures that will need to be applied. This report describes the potential risk of dust impacts associated with demolition activities required as part of the proposed development.

To ensure that this document remains relevant, adequate and effective as the works progress, the Dust Management Plan will be reviewed and updated as necessary:

- Every 3 months (minimum).
- As instructed by Project Manager.
- Following any changes to the scope of the works that have had an impact on environmental requirements.

9. POLLUTION AND DUST CONTROL MEASURES

An inventory and timetable of all dust and PM₁₀ generating activities are described in Table 9.1 below:

Table 9.1: Dust and Emissions Generating Activities

Phase of Works	Activities Generating Dust	Level of Risk
Demolition	<u>Demolition</u>	<u>Demolition</u>
	Structural demolition (4-week duration)	Small Risk
	Soft-strip of structure.	<u>Trackout</u>
	Breaking of hardstanding surface at ground level.	Low Risk
	<u>Trackout</u> Removal of potentially dusty material (demolished building material, demolished hardstanding material) from site to the main road and away from local area (<50m trackout length).	

9.1 General Activities

There are numerous activities on development projects that if unmitigated can give rise to elevated levels of dust. This can be the movement and placing of granular materials and the excavation of foundations, poor stockpile management, site traffic movements, etc.

Dusty emissions escaping the work area may cause nuisance through, for example, surface soiling, loss of visibility due to deposition and effects on local people. Since it is difficult to suppress dust once it is airborne it is preferable, where possible, to prevent dust from being generated in the first place.

9.2 Mitigation Measures and Management Controls

The GLA SPG Dust and Emissions Control, and Institute of Air Quality Management (IAQM) guidance, will be adhered to throughout the works on-site. The measures adopted will be consistent with this Guidance and proportionate to the risk of dust nuisance in individual cases and will therefore, be more stringent where activities are closer to sensitive receptors.

Contractors will implement all necessary management and Best Practicable Means (BPM) to reduce levels of dust emissions from the Site both internally (*in situ*) and externally (off-site). Site specific control measures extend beyond those required for a negligible dusty site but will be implemented as a minimum in order to reduce the likelihood of dust nuisance from dusty operations from demolition and these will include the measures outlined below in Table 9.2.

Table 9.2: Site specific control measures

	Mitigation measure – Throughout Development	Implemented on site
Site Management		
1	A stakeholder communications plan, including community engagement, will be developed and implemented prior to work beginning on site	✓
2	This AQDMP will be implemented and adhered to on-site	✓
3	The name and contact details of the individual accountable for air quality emissions and dust generated from the site will be displayed on the site boundary, along with the head or regional office contact information.	✓
4	This display will also include the head or regional office contact information.	
5	A site log will be maintained to record complaints and outcomes of the site inspections in the forms in Appendix 1, 2, 3 will be issued to the council upon request	✓
6	Record and respond to all dust and air quality pollutant emissions complaints	✓
7	A complaints log will be created and will be made available to the LBH Environmental Team if requested (Appendix 1)	✓
8	Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and create an inspection log available to the local authority when asked (Appendix 2 and 3).	✓
9	Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions and dust are being carried out, and during prolonged dry or windy conditions.	✓
10	Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation is recorded in the logbook (Appendix 1)	✓
Preparing and maintaining the site		
11	The site layout will be planned so that NRMM plant and dust-causing activities are located away as remote as practically possible from the off-site residential receptors around the development's area.	✓
12	Erect solid screens or barriers around dust generating activities, at least, as high as any stockpiles on site	✓
13	Keep site fencing, barriers and scaffolding clean using wet methods.	✓
14	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.	✓
15	Prevent site runoff of water or mud.	✓
16	Carry out regular dust soiling checks of buildings within 100m of site boundary and cleaning to be provided if necessary.	✓
17	Remove materials from site as soon as possible.	✓
18	Cover, seed, or fence stockpiles to prevent wind whipping.	
19	Agree dust gauge monitoring locations with the LBH Environmental Team	✓
Operating vehicle/machinery and sustainable travel		
20	Ensure all non-road mobile machinery (NRMM) comply with the standards set within this guidance.	✓
21	Ensure all vehicles switch off engines when stationary – no idling vehicles	✓
22	Impose and signpost a maximum-speed-limit of 10mph on site and any adjacent hardstanding areas to or inside the site.	✓

	Operations	
23	Ensure an adequate water supply on the site for effective dust/particulate matter mitigation (using recycled water where possible).	✓
	Waste Management	
24	Prohibit bonfires and burning of waste materials.	✓
25	Reuse and recycle waste to reduce dust from waste materials	✓

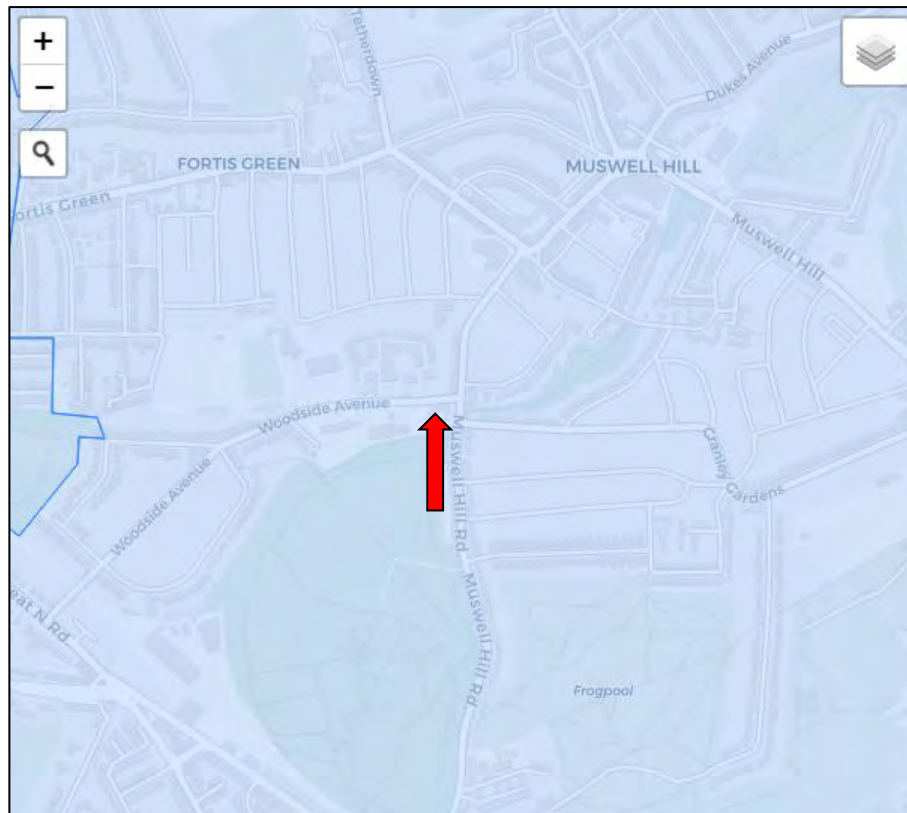
	Mitigation measure – Specific to Demolition	Implemented on site
1	Ensure water suppression is used during demolition operations	✓
2	Avoid explosive blasting, using appropriate manual or mechanical alternatives.	✓
3	Bag and remove any biological debris or damp down such material before demolition.	✓

	Mitigation measure – Specific to Trackout	Implemented on site
1	Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site.	✓
2	Avoid dry sweeping of large areas.	✓
3	Ensure vehicles entering and leaving the site are securely covered to prevent escape of materials during transport.	✓
4	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	✓
5	Ensure that the hard surfaced road between the wheel wash facility and the site exit is maintained, wherever site size and layout permits.	✓
6	Access gates to be located at least 10m from receptors where possible.	✓
7	Apply dust suppressants to locations where a large volume of vehicles enter and exit the site	✓
8	Ensure all non-road mobile machinery (NRMM) comply with the standards set within this guidance.	✓
9	Ensure all vehicles switch off engines when stationary – no idling vehicles	✓
10	Record all inspections of haul routes and any subsequent action in a site log book.	✓

10. NRMM AND NRMM REGISTRATION

Formation will ensure all on-road vehicles will comply with the requirements of the London Low Emission Zone. The use of Ultra-Low Emission Vehicles (ULEV) (e.g. Euro VI (HGV), Electric, Hybrid (Electric-Petrol)) will be prioritised and Formation will work with suppliers that can provide Euro VI vehicles, and preferably electric or hybrid vehicles.

Due to the location of the site, highlighted below, emissions from non-road mobile machinery (NRMM) with net power between 37kW and 560kW used on site will meet the Stage IIIB of the EU Directive 97/68/EC and its subsequent amendments as a minimum. This will apply to both variable and constant speed engines for both NOx and PM.



All eligible NRMM will meet the standards above unless it can be demonstrated that the machinery is not available or that a comprehensive retrofit to meet both PM and NOx emission standards is not feasible. The full exemption and retrofit procedure document for NRMM can be found here -

https://www.london.gov.uk/sites/default/files/nrmm_lez_exemption_and_retrofit_policy_-_covid-19_update_final_0.pdf

The details of all proposed NRMM to be used on the site for the demolition phases of the development has been registered on the NRMM register (<https://nrmm.london/user/register>). Formation will keep an inventory of NRMM currently on site and upload this to the NRMM platform.

A NRMM compliance log (including inventory) will be created, updated, and maintained by Formation. This will be issued to Haringey Council on request (Local Authority Inspection) via e-mail and will be also online utilising the NRMM portal found at: <http://nrmm.london> as mentioned above.

Formation will engage with their supply chain and subcontractors to identify areas where emissions could be reduced for on-site machinery or vehicles entering site. **NRMM have confirmed receipt of registration, and this registration can also be found in the Appendices of this report.**

11. DUST RISK ASSESSMENT

The following Dust Risk Assessment has been carried out in accordance with the Mayor of London SPG 'The Control of Dust and Emissions during Construction and Demolition' July 2014 and the Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition (January 2014), to allow for the classification of the risk of dust impacts from the site. This will then allow mitigation measures appropriate with that risk to be identified and implemented on site.

This Dust Risk Assessment focuses on Demolition and Trackout only.

The dust risk assessment considers the potential for dust soiling (nuisance) and PM₁₀ (human health) impacts within 350 m of the site boundary; or within 50 m of roads used by vehicles. Receptors that may be affected by the generation of dust and vehicle emissions because of the demolition works can include but are not limited to:

- Local residents in the immediate surrounding area
- Workers;
- Visual amenity; and
- External surfaces and materials (through surface soiling).

Worksites are classified into one of three tiers according to dust risk and are assessed based on site activities and the sensitivity of nearby receptors. The Dust Emission Magnitude (DEM) is based on the scale of the anticipated works and the site will be classified as defined by the IAQM and the London SPG.

The sensitivity of the area considers several factors. These sensitivities are determined using GLA Tables. These are defined by:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM₁₀, the local background concentration
- Site specific factors, i.e. whether there are natural shelters such as trees, to reduce the risk of wind-blown dust.

11.1 Dust Soiling

Descriptors	Result
Density	10-100
Distance from Source	< 20 m
Receptor Sensitivity	High
Overall Risk Classification	High

Site specific factors:

- Users can reasonably expect an enjoyment of a high level of amenity (primarily residential units around Woodside Avenue, and the adjacent primary school);
- the appearance, aesthetics or value of their property would be diminished by soiling;
- The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods as part of the normal pattern of use of the land (dwellings primarily).

11.2 Human Health

Descriptors	Result
Density	10-100
Distance from Source	< 20 m
Receptor Sensitivity	High
PM10 Annual Average	Less than 24
Overall Risk Classification	Low

PM10 annual classification:

In the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day (e.g., residential properties, Schools)

The predicted baseline 2020 PM₁₀ annual mean concentration for the 1km grid square that covers the site at Cranwood is 16.98 µg/m³ (DEFRA UK-AIR GIS Tool). This gives an indication of the annual mean concentrations at receptors in the vicinity of the development site. Therefore, using GLA guidance, the area surrounding the onsite works is of 'Low' sensitivity to human health effects.

11.3 Ecological Effects

Descriptors	Result
Distance from Source	<50 m
Receptor Sensitivity	High
Overall Risk Classification	Medium

The SPG's guidance to assess the impacts of demolition on ecological receptors has been followed. The guidance suggests that where a receptor is located within 350m of a site boundary it should be considered. If a receptor is within 50m then it should be assessed for risk impact.

There are two designations within 350m of the site boundary, and one within 50m. These considerations are Parkland Walk (LNR) which is within 50m of the site, and Queen's Wood (LNR) which is within 350m of the site. Both of these designations are seen to the east/south-east of the development.

Therefore, risk classification of the ecological considerations has taken place. This can be seen categorised above as medium. This categorisation, and the subsequent risk table (9.1) has been produced using the GLA's SPG on Dust Emissions.

This risk has been categorised as medium as the receptor sensitivity can be considered high due to its designation as an LNR, but it is not within 20m of the site.

Access and egress routes, as well as general construction routes, have been selected to not interfere or be within 20m of these ecological considerations.

11.4 Other Factors

The following additional factors have been considered when determining the sensitivity of the area.

- Any history of dust generating activities in the area;
- The likelihood of concurrent dust generating activities on nearby sites;
- The season during which the work will take place;
- Duration of the potential impact, as a receptor, may become more sensitive over time.
- Locations with a local designation where features may be affected by dust deposition.

Activity	Dust Emission Magnitude
Demolition	SMALL
Trackout	SMALL

Dust Soiling Sensitivity	Human Health Sensitivity	Ecological Sensitivity
High	Low	Medium

Therefore, the following section outlines these combined sensitivities and magnitudes.

Table 9.1: Summary of Risk of Impacts Without Mitigation

Potential Impact	Dust Risk	
	Demolition	Track-out
Dust Soiling	Medium Risk	Low Risk
Human Health	Negligible	Low Risk
Ecological	Low Risk	Negligible

The site manager will ensure that site personnel always follow best practice to control and limit emissions of gaseous and particulate pollutants into the atmosphere from demolition activities, including from vehicles and plant.

These measures as seen above (The relevant dust-controlled measures for maximum medium risk contained within Appendix 7 of the Mayors SPG) are allocated according to the demolition stage and site risk.

The measures will be implemented on site in full and will result in the impact of dust emissions during demolition of the development being negligible. Both desirable and highly recommended control measures as part of Appendix 7 of the Mayors SPG are highlighted below and will be adhered to by the site.

11.5 PM10 Compliant Site Monitoring Procedures and Protocols

PM10 and Dust Emissions will be monitored throughout the 6-week demolition period, using real time automatic monitors. Two *Airly* PM10 monitors will be installed in accordance with IAQM Guidance. They will be installed at a minimum of 1m above the site hoarding on the site boundaries at the proposed locations indicated by the red marks on Figure 9.1.

The PM10 monitors will be located along the transect of the prevailing wind (south – south westerly) and close to sensitive receptors. One of these PM10 monitoring locations shall also have an anemometer (wind speed and direction sensor) to monitor the on-site wind conditions.

Within 7 days of the installation of the two PM10 monitors on site the internet-based log-in details to enable access to the real-time PM10 monitoring data shall be issued to Haringey Council by e-mail. These log-in details, and the platform used by the *Airly* monitors to store and present the data, will be available to the pollution team for on-going assessment where it is required for both the demolition and construction phases.

Real-time PM10 monitoring locations may also be subject to change due to mitigating circumstances such as changes to sensitive receptors and access issues. Any amended particulate (PM10) monitoring locations will be submitted to Haringey Council for written agreement prior to this change.



Figure 9.1: Dust Monitoring Locations

APPENDIX 1: Pro-Forma Complaint and PM10 trigger alert Notification Form

Reference Number:		Date:		Time:	
Monitoring Location					
Level of dust emission					

Complaint Notification (Yes/No)					
Date:		Time:		Received by :	
Complainants Name:					
Telephone Number:					
Address:					
Weather Details :					
Description of complaint / incident:					
Investigative action taken:					

Details of best practice mitigation in place:			
Remedial action taken:			
Preventative measures implemented to prevent further complaints/incidents/exceedance:			
Is the complaint considered	Justified	Unsubstantiated	Unfounded
Signed:			
Print name:			
Position:			
Date:			

[illegible]

APPENDIX 3: Weekly Inspection Checklist

Week Commencing:								
Inspected Items	Frequency	Mon	Tue	Wed	Thu	Fri	Sat	Sun
<i>Person completing the checklist</i>	<i>Initials</i>							
Dust being controlled correctly by personnel	Daily							
Visual inspection of mud/debris on haul routes	Daily							
Visual inspection of dust soiling on local streets, cars and window sills	Daily							
Visual observation of dust generation from demolition	Daily							
Wind direction	Daily							
Wind speed	Daily							
Weather forecast	Daily							

Appendix 4



CONSIDERATE CONSTRUCTORS SCHEME

PO BOX 75, WARE SG12 0YX

E ENQUIRIES@CCSCHEME.ORG.UK

T 01920 485 959

**CONSIDERATE
CONSTRUCTORS
SCHEME**Our Ref Order ID: **SRO29212**

VAT No. : 807 1629 35

Your Ref / PO number :

Your VAT REG. No.:

Tax point date: 03 January 2023

Formation Design & Build Ltd
Oakwood House
414-422 Hackney Road
London
E2 7SY

Proforma Invoice - SRO29212

QTY.	Product	Price	Totals
Unknown			
2	A3 Spotlight on... Illegal workers awareness poster	£5.00	£10.00
1	A3 Spotlight on... mental health poster	£5.00	£5.00
1	A3 Spotlight on... cycle safety poster	£5.00	£5.00
1	Final Site Registration fee (Apr-2024-Aug-2024) including signage	£830.00	£830.00
1	Site Registration fee (Apr-2023-Apr-2024) including signage	£1,111.00	£1,111.00
1	Construction Industry Helpline – PackConstruction Industry Helpline – Pack 5	£100.00	£100.00
1	A3 Spotlight on... diversity and inclusion	£5.00	£5.00
1	Small Banner Classic	£66.00	£66.00
		NETT	£2,132.00
		VAT	£426.40
		TOTAL	£2,558.40

Your order will not be processed until payment has been received**BACS payments to:**

HSBC BANK plc

Sort code: 40-23-10

A/c no: 51599267

A/c name: Considerate Constructors Scheme

IBAN: GB03 HBUK 4023 1051 5992 67

BIC: HBUKGB4104N

BACS Reference: SRO29212

Cheques should be made payable to:

'Considerate Constructors Scheme'

Please write 'SRO29212' on the back of your cheque to help us to identify your payment

**To make a credit/debit card payment, please call the CCS office on 0800 783 1423
quoting reference 'Online Order SRO29212'**

Registered Office:

Considerate Constructors Scheme Limited
26 Store Street, London, WC1E 7BT

Company Registration Number: 3465121 England

Appendix 5





CORPORATE SOCIAL RESPONSIBILITY POLICY STATEMENT

Formation Design & Build Ltd are committed to being of positive benefit in the communities in which we operate. Our approach to CSR focuses on the following areas:

- (1) Legal conformance - adherence to every aspect of legislation in the various jurisdictions in which the Company operates and exceeding legislative requirements where possible.
- (2) Corporate governance - achieving the highest standards of corporate governance and ethical business conduct.
- (3) Economic - making a profit in order to continue to operate, to employ people and to create attractive and healthy environments in which people can live and work.
- (4) Environment - assessing and managing the environmental impacts of every aspect of the Company's operations. It also involves continually seeking to develop our environmental stewardship towards industry best practice.
- (5) Health and Safety - in accordance with our Health & Safety Management system, we strive to manage our activities in a safe manner and to protect the health of employees, contractors and others who may be affected by them.
- (6) Social - seeking to encourage social inclusion in the communities in which the Company undertakes activities and to operate in an ethical manner with all of its stakeholders.

The Board will also continually review its performance against its core CSR principles by setting objectives and targets together with establishing relevant and appropriate monitoring arrangements.

Signed:

Sean O'Brien
Construction Director

Policy Statement: Rev 1
Issue Date: January 2021
Last reviewed & approved: January 2023

Formation Design & Build Limited
Oakwood House,
414-422 Hackney Road,
London E2 7SY

Appendix 6



Proposal for the provision of Building Control Services, in relation to:

Development at: Cranwood House, 100 Woodside Road, N10 3JA

Description: Redevelopment of site to provide 41 new homes within 3 buildings ranging from 3 to 6 storeys in height

For: Formation Design and Build

From: London Borough of Haringey Building Control

Dated: 12 January 2023

LABC - Local Authority Building Control
A quality national Building Control service - delivered locally

Haringey Building Control
40 Cumberland
London N22 7SG

0208 489 5504
building.control@haringey.gov.uk
www.haringey.gov.uk/buildingcontrol/

The Project

Redevelopment of site to provide 41 new homes within 3 buildings ranging from 3 to 6 storeys in height

Introduction to Haringey Building Control

Haringey Building Control takes pride in the service it offers its customers, working in partnership with other Local Authorities to provide a truly National Service, delivered locally. We apply the performance criteria prescribed by the Building Control Performance standards, set centrally by Government. We carry out regular customer surveys to ensure we meet customer expectations and continually strive to improve and develop our service.

Local Authority Building Control is the largest provider of Building Control services to the property and construction industry, with a network of 300 offices and over 3,000 professionally qualified surveyors. Within London we have over 500 technical staff and 400 Building Control Surveyors. We are the preferred Building Control services provider on the most technically complex projects and developments. We have the expert knowledge to advise on any Building Regulation issue, whatever the sector, whatever the building type, which we have gained from our input on countless developments across England and Wales.

To best service this project we would propose to use a team of expert surveyors and engineers, from the London Borough of Haringey. Cross boundary partnership working enables us to engage the best qualified and most experienced personnel together with site specific knowledge and established local connections of the Local Authority Building Control team. Our proposed team have a long and successful track record of working with developers.

Haringey Building Control has intimate knowledge of the local area and detailed site information on ground conditions, drainage issues, contaminated land etc. We have a very close relationship with colleagues in London Fire Brigade and hold regular meetings to review major applications and fire strategy, ensuring early “buy in” and avoiding surprises - thus reducing your commercial risk. We will also help liaison with colleagues in other Local Authority departments, such as Highways, Environmental Health etc., to ease and streamline the development process.

Our team offer a prompt, proactive, commercially aware service. We understand the commercial and contractual pressure involved in delivering construction projects of this scale and complexity and are familiar with the programming issues of major builds. It is standard practice for us to offer a same day inspection service during normal office hours. However, out of hours inspections can be arranged and will do our utmost to accommodate any reasonable request.

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40 Cumberland
London N22 7SG

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building.control@haringey.gov.uk
www.haringey.gov.uk/buildingcontrol/

Technical Approach

It is imperative everyone understands and agrees key elements of the construction strategy and the technical framework, if it is to be utilised on this development. To achieve consistency of approach and an understanding of the overarching strategies in relations to fire engineering, basement design, Part L and M&E, Part M, all relevant members of the LABC team will attend the early design meetings, to ensure comprehensive agreement on core issues.

Resources

The proposed core team is made up of talented, level 6A experienced surveyors with expertise in this type of development, who will be supported by colleagues with a range of specialist skills. However, this represents only a small proportion of LABC London's overall technical resource, which is detailed below. No other Building Control provider has anything close to our scale of resource.

	Building Control Surveyors	Structural Engineers	Fire Engineers	M&E Engineers	Technical Support
LB Haringey	7	4.6	0	0	4.4
LABC London	401	54	34	15	107

The project may be divided up between the Building Control team, but you will be provided with a 'project' surveyor as your main contact.

Scope of Service

Haringey are very keen to be part of your project team and be involved at the earliest possible opportunity; enabling us to provide you with the most comprehensive service and add value to this strategically important local and national development. Our comprehensive scope of service, detailed below, will help ensure the smooth progress of your project through design and construction and help reduce your commercial risk.

Design Appraisal Stage

- Provide pre application advice as required;
- Attend relevant design team meetings, contributing to the design process and highlighting any Building Regulation issues which need to be addressed, presenting alternative options and design solutions;
- Consider all proposed technical solutions, not just those contained within the Approved Documents;
- Advise on any area where the design appears over engineered or where cost savings could be achieved either in terms of construction or life cycle costs;
- Start consultation process with London Fire Brigade where possible, advising them of the proposed fire strategy and advise design team of any issues or comments;
- Consult with Thames Water if required and advise design team of any issues;
- Provide written confirmation of decisions via email report or letter.

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Our involvement at this stage helps ensure the smooth transition through the next phase and enables us to provide support and advice to your design team.

Design Approval Stage

- Once plans are finalised, we will review them for compliance, however it is usual for detailed information on discreet packages to be submitted over a period of time. We will liaise closely with your design team to ensure only relevant information is provided in a speedy and effective format;
- Progress consultation with London Fire Brigade – subject to third party review where required;
- Issue a formal Building Regulation Plan Approval or Building Regulation Conditional Approval, containing any comments or further information required;
- Issue further letters of approval as detailed design information becomes available;
- Maintain records of information submitted and comments made via a construction tracker in conjunction with the applicant.

Construction Stage – Site Inspections and Design Support

- Agree an inspection regime and notification protocol dependent on the complexity and duration of the scheme. More frequent inspections are likely at key stages of constructions such as Foundations, Drainage, Structural Framing and Fire Safety Provisions etc. Thereafter, we will maintain regular routine inspections to pre-empt problems working alongside the construction team. We will be in attendance during commissioning and testing, witnessing the results and verifying the cause and effect schedule;
- We offer same day inspections for requests made before 10am;
- If we identify any potentially non compliant work, we will verbally advise the site management team of any rectification measure required and proactively work with you to ensure overall compliance;
- We will keep a record of all site visits;
- If required, carry out a final inspection with London Fire Brigade (where possible), reaffirming the fire strategy;
- Carry out final inspections and issue Building Regulation Completion Certificates for each phase and building.

Haringey Building Control
40 Cumberland
London N22 7SG

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building.control@haringey.gov.uk
www.haringey.gov.uk/buildingcontrol/

Key Features of Our Service

- Unparalleled resource of experienced surveyors, providing expert technical advice
- Comprehensive pre-application advice
- Commercially aware, proactive service
- Speedy resolution of queries
- Consistency of interpretation
- Reduced risk and cost
- Value – Service charged at cost
- Local site knowledge and engagement
- Established relationship with local fire service, highways etc.
- Local employment
- Sustainable method of delivery
- Nationally resourced organisation – locally delivered service

Contact details - Haringey Building Control

Bob McIver (Head of Building Control) – 0208 489 5500 bob.mciver@haringey.gov.uk

Marco Maserati (Principal Building Surveyor) – 0208 489 5140 marco.maserati@haringey.gov.uk

Pierre Chenier (Principal Building Surveyor) – 0208 489 5136 pierre.chenier@haringey.gov.uk

Denis Ioannou (Principal Building Surveyor) – 0208 489 5138 denis.ioannou@haringey.gov.uk

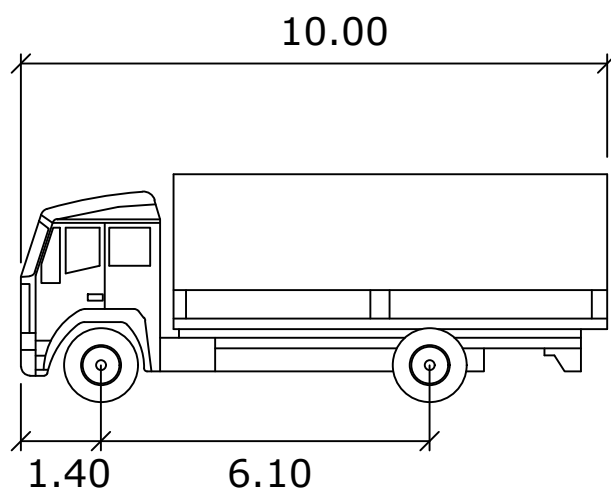
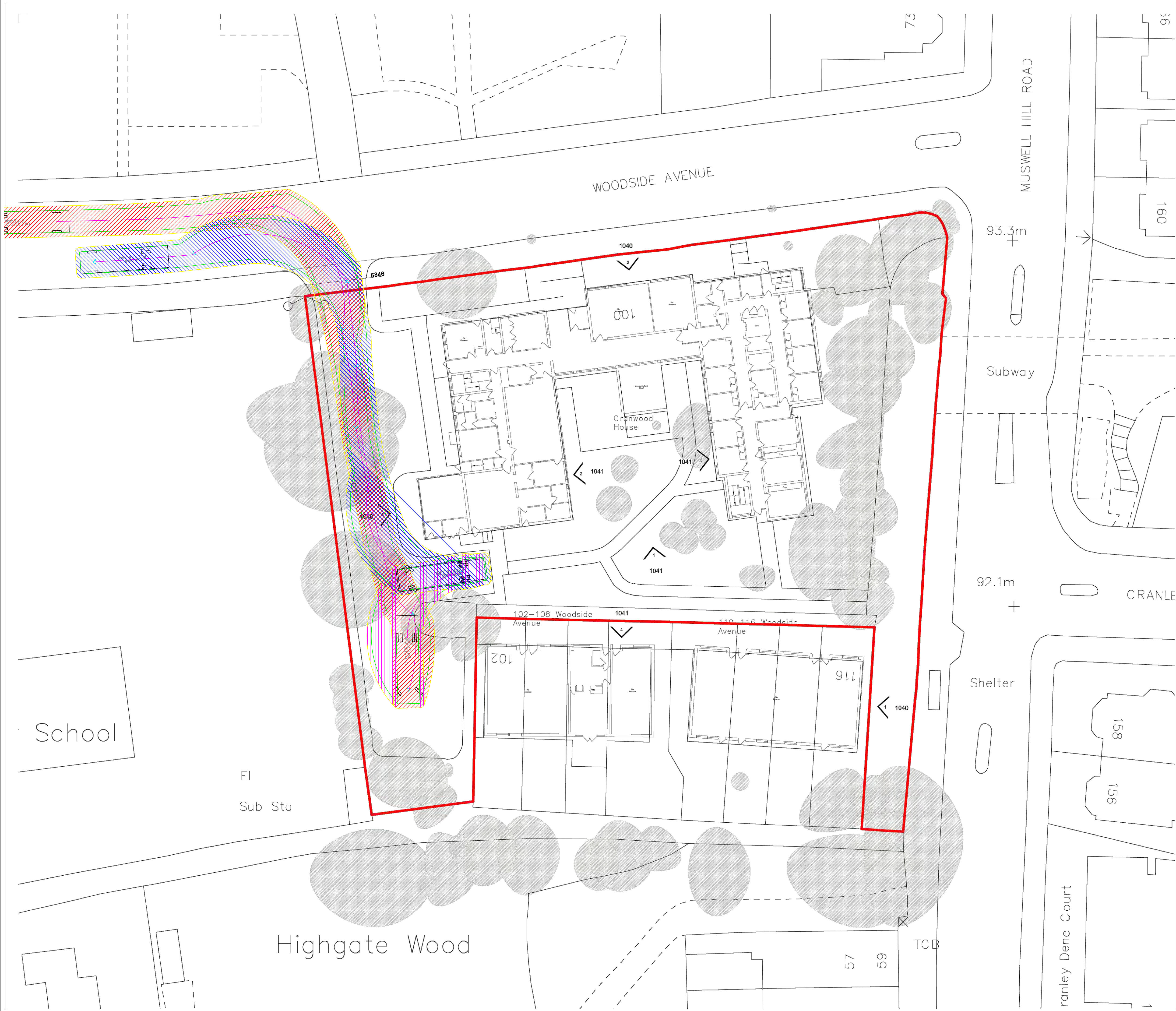
Building Control Technical Support – 0208 489 1476 building.control@haringey.gov.uk

Haringey Building Control
40 Cumberland
London N22 7SG

0208 489 5504
building.control@haringey.gov.uk
www.haringey.gov.uk/buildingcontrol/

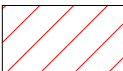
Appendix 7





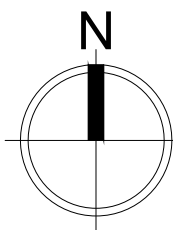
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Steering Angle	: 37.7 deg

 Vehicle entering to the site

 Vehicle leaving the site

Scale 1:200 @ A1



Rev.	Date	Revision	Drawn	Checked
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NRG Consulting
Unit 219, PillBox 115, Coventry Road, London E2 6GG
T: +44 (0)203 735 8169
E: admin@nrgconsulting.org

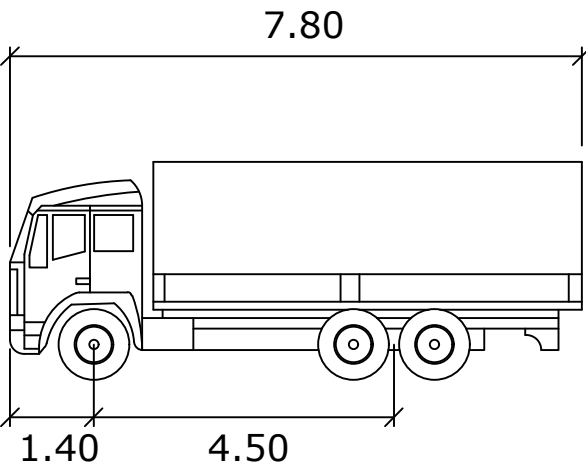
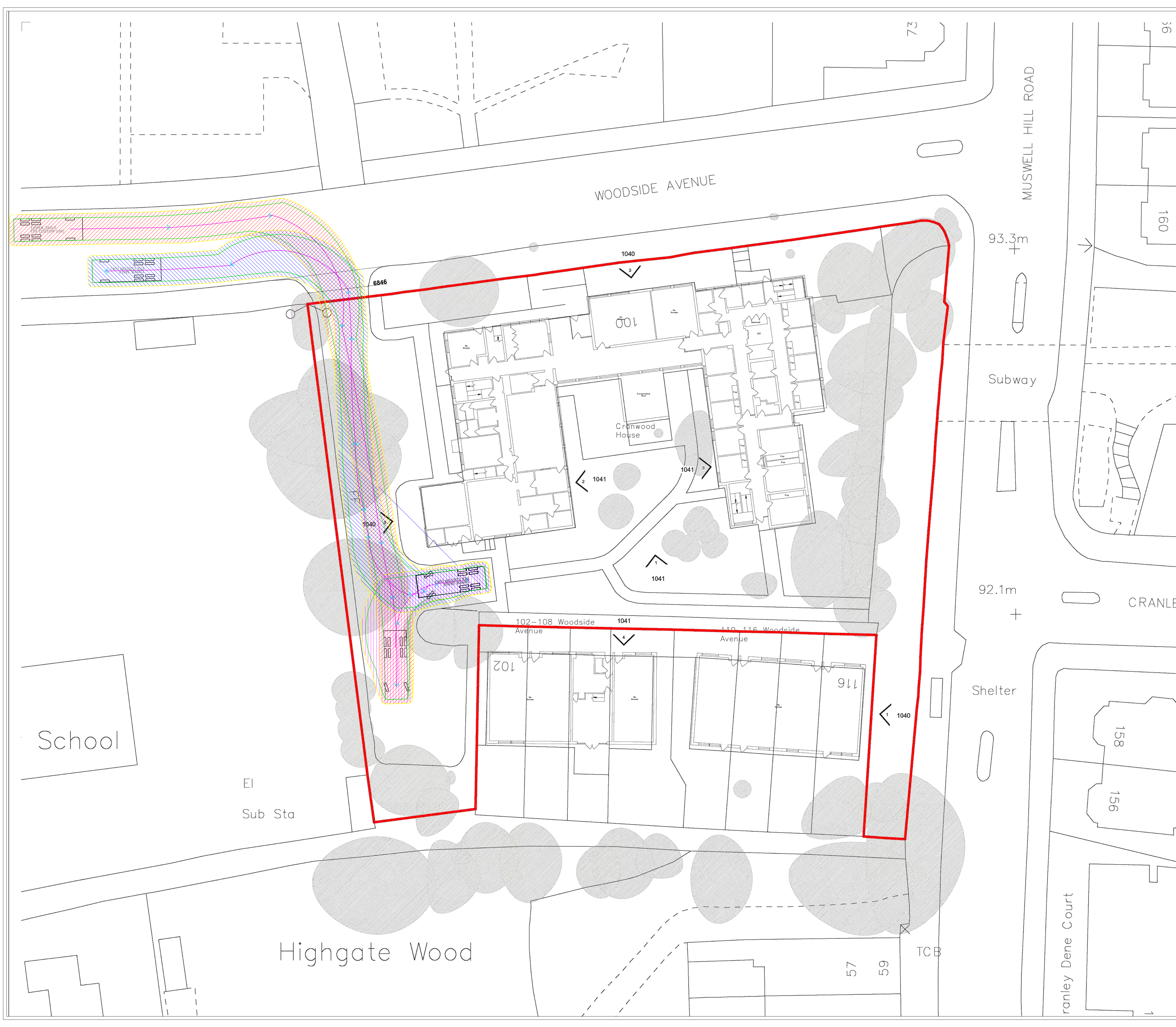
Job:
CRANWOOD HOUSE

Drawing Title:
SWEPT PATH ANALYSIS

Drawing Number:
02

Scale:
1:200

Date:
Jnauary 2023



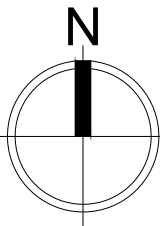
TIPPER 3AXLE

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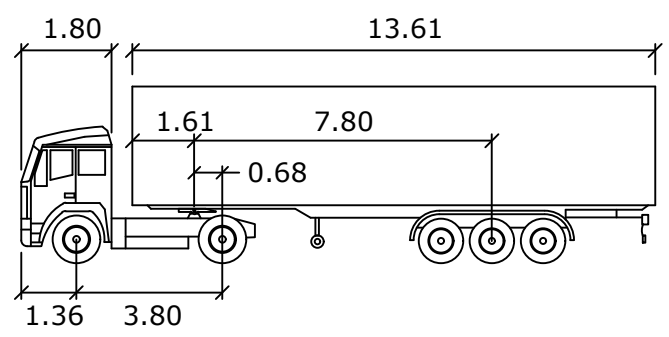
Vehicle entering to the site

Vehicle leaving the site

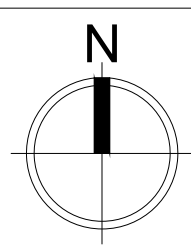
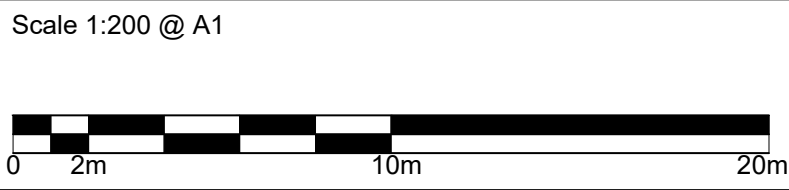
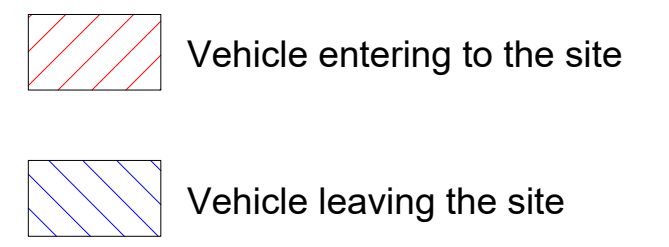
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Rev.	Date	Revision	Drawn	Checked
NRG NRG Consulting Unit 219, PillBox 115, Coventry Road, London E2 6GG T: +44 (0)203 735 8169 E: admin@nrgconsulting.org				
Job: CRANWOOD HOUSE				
Drawing Title: SWEPT PATH ANALYSIS				
Drawing Number: 01		Scale: 1:200		Date: Jnauary 2023



Artic			
Tractor Width	Meters	Lock to Lock Time	: 6.0 s
Trailer Width	: 2.55	Steering Angle	: 42.7 deg
Tractor Track	: 2.55	Articulating Angle	: 70.0 deg
Trailer Track	: 2.55		



Rev.	Date	Revision	Drawn	Checked
03				

NRG Consulting
Unit 219, PillBox 115, Coventry Road, London E2 6GG
T: +44 (0)203 735 8169
E: admin@nrgconsulting.org

Job: **CRANWOOD HOUSE**

Drawing Title: **SWEPT PATH ANALYSIS**

Drawing Number: 03 Scale: 1:200 Date: Jnauary 2023

Appendix 8



Cranwood

Haringey, N10 3JA, Greater London

Planning app. #: HGY/2021/2727

Start/End: 17 Oct 2022 - 21 Oct 2024

Registered: 17 Oct 2022



Contacts

Direct Site Contact

Aidan McHugh

Aidan.McHugh@formationgroupplc.com

Site Administrator



Ian Wheeler ian@formationgroupplc.com

Invitations

[+ Invite a user](#)

Machinery

[+ Add](#)

Kind Regards,

Ian Wheeler
Design Manager



Mobile : +44(0) 7908024854

Email : ian@formationgroupplc.com

From: nrmm@london.gov.uk <nrmm@london.gov.uk>

Sent: 17 October 2022 17:15

To: Ian Wheeler | Formation Design & Build <ian@formationgroupplc.com>

Subject: NRMM - Registration of site - \$Site.name

***** Security notice: This message originated from outside the organisation using the email address nrmm@london.gov.uk *****

Dear Ian

Thank you for registering Cranwood. The site is within Greater London

The current emissions requirement on your site is:

All machinery on your site must meet EU Emission Stage IIIB. Because EU Emissions Stages IIIB and IV have not been defined for constant speed engines, this means that all constant speed machinery will effectively be required to meet EU Emission Stage V.

The emissions standards apply to all machinery with an engine power between 37 kW and 560 kW. Please add all in-scope NRMM to the site record as it arrives on your site. You can also use the site to record equipment that does not fall within these power bands. This will assist the enforcement officers to identify machines that they do not need to inspect in detail when they visit the site.

As the site administrator you are expected to ensure that all machinery used over the course of the development is correctly logged, including any retro-fits or other machinery that requires an exemption to operate. You are also expected to ensure that non-compliant machinery, or machinery that has been refused an exemption, is removed promptly. Failure to comply with the NRMM Low Emission Zone can result in formal enforcement action against the site.

Please login to:

Add machinery

Invite machinery administrators to your site

Invite sub-contractors to your site Invite a new site administrator to your site (You should only normally do this if you are handing the site over to a new manager, or to a new company who are taking over a later stage of the development. Please note that if you invite a new site administrator to the site, they will be able to view all existing and previous machinery records for the site.

Machinery administrators can add machinery to the site and view/edit all machinery at that site but will not be able to edit the site details or manage other site users.

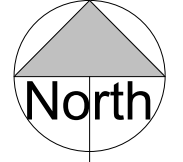
Sub-contractors can add machinery to the site and view/edit their own machinery at that site but will not be able to view/edit machinery added by other site users, edit the site details or manage other site users.

Kind Regards

The NRMM Team

Appendix 9





DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS IN ALL CASES. VERIFY DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE DESIGNERS IMMEDIATELY. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE DESIGNER'S SPECIFICATION.

© THIS DRAWING IS COPYRIGHTED AND MAY ONLY BE REPRODUCED WITH THE DESIGNER'S PERMISSION.

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL SERVICES AND ENGINEERING DRAWINGS.
2. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE. TBC ON SITE.
4. ALL LEVELS ARE IN METRES RELATED TO ORDNANCE DATUM. TBC ON SITE.
5. DRAWINGS ARE NOT TO BE SCALED.
6. ALL TEMPORARY WORKS TO CONTRACTORS DETAILS.
7. CONTRACTOR TO APPROVE ALL SET OUT INFORMATION PRIOR TO CONSTRUCTION.

- GENERAL DRAINAGE NOTES:**
1. ALL NEW DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH BS EN 12201.
 2. INLET LIDS OF EXISTING DRAINAGE (WHERE APPLICABLE) TO BE CONFIRMED BEFORE WORKS COMMENCE.
 3. ALLOW FOR CARRYING OUT CCTV SURVEY AFTER WORKS ARE COMPLETE TO VERIFY DRAINAGE SYSTEM CARRY OUT AND TEST ON ALL RAINWATER ACCESS CHAMBERS/MANHOLES.
 4. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 5. REFER TO DRAWING D&S-201 FOR TYPICAL MANHOLE DETAILS.
 6. ALL FOUL WATER PIPES TO BE 150mm DIA. AT ALL FALLS UNO.
 7. ALL SURFACE WATER PIPES TO BE 100mm DIA. AT ALL FALLS UNO.
 8. ALL PIPES TO HAVE RODDING EYES AND INFORMATION WATER TANK/ PIPES MINIMUM COVER TO TOP OF ALL PIPESWORK IS 600mm.
 9. FOR FORTHWARD DRAINAGE LAYOUTS AND INFORMATION WATER TANK/ CONSULTANTS DRAWINGS.
 10. INTERNAL DRAINAGE TO BE 100mm DIA. INTERNAL PIPES AND FITTINGS.
 11. ALL MANHOLES TO BE 1000mm DIA. INTERNAL, PRECAST BRICK UNO. CONCRETE SURROUND.
 12. ALL INSPECTION CHAMBERS TO BE 800mm DIA. INTERNAL WITH 200mm CONCRETE SURROUND.
 13. ALL DRAINAGE TO BE UP TO ACCEPTABLE STANDARDS.
 14. EXTERNAL ACCORDING TO ARCHITECT'S LANDSCAPE ARCHITECT DETAILS.
 15. ALL GULLIES TO BE TRAPPED.
 16. ALL PIPES THAT CROSS OVER ROAD OR OTHER ROADS AT GRADE, AND PIPES TO BE ELEVATED WITH CAPS ALTERNATIVELY STEEL PIPES CAN BE USED IN ROAD CROSSINGS.
 17. ALL SWAMP LOCATIONS TO BE DETERMINED BY THE ARCHITECT.
 18. ALL EXISTING MANHOLES TO BE REMOVED AND REPLACED WITH NEW MANHOLES.
 19. MULTIPLE CULVERTS FROM ROAD TO REDUCE RISK OF LOCALISED FLOODING ACCESS TOTAL TOWARDS OUTLET.

DRAINAGE LEGEND

- BOUNDARY LINE
- EXISTING FOUL WATER SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED SURFACE WATER PIPE
- PROPOSED FOUL WATER PIPE
- PROPOSED PERFORATED PIPE
- PROPOSED FILTER DRAIN
- PROPOSED PUMPED SURFACE WATER SEWER
- EXISTING SEWER TO BE ABANDONED & REMOVED & DIVERTED
- EXISTING SEWER TO BE ABANDONED & REMOVED & DIVERTED
- THAMES WATER SURFACE/FOUL WATER SEWER MANHOLES
- PROPOSED 1200mm DIA. FOUL SURFACE WATER MANHOLES ACCESS COVER TO BE IDENTICAL WITH DOUBLE SEALED RECESSED MANHOLE COVER
- PROPOSED 1200mm DIA. FOUL SURFACE INSPECTION CHAMBERS ACCESS COVER TO BE IDENTICAL WITH DOUBLE SEALED RECESSED MANHOLE COVER
- FOUL SURFACE WATER PUMPING STATIONS
- ACO CHANNEL TO LANDSCAPE ARCHITECT'S DETAILS
- PROPOSED DETENTION BASIN FOR EMERGENCY STORAGE (90m³ WITH DEPTH 0.4m)
- PROPOSED BIOTRENT AREA
- PROPOSED PERVIOUS PAVEMENT WITH SUB-BASE ATTENUATION OF 280m³ WITH DEPTH 0.3m (VOLUME 280m³)
- AREA TO DRAIN AS IS, ASSUMED TO BE TO HIGHWAY (LAND PARADISE HILL)
- PROPOSED NON RETURN VALVE
- RG --- PROPOSED ROAD GULLY
- RWP --- RAIN WATER PIPE
- SVP --- SOIL VENT PIPE
- RE --- RODDING EYE
- BD --- BACKDROPPING MANHOLE
- AJ --- ARMSTRONGS JOINT

- DRAINAGE NOTES:**
1. ALL SWMPs AND SVPs TO ARCHITECT'S/ENGINEER LAYOUT.
 2. REFER TO ARCHITECT'S/ENGINEER DRAWINGS FOR LOCATIONS.
 3. ALL COVER & INVERT LEVELS TO BE CONFIRMED ON SITE.
 4. ALL BELOW GROUND DRAINAGE IS SUBJECT TO CONFIRMATION OF INTERNAL SVP AND RWP LOCATIONS BY MICE CONSULTANT.
 5. ALL EXISTING DRAINAGE THAT IS TO REMAIN IS TO BE CCTV SURVEYED TO ENSURE IT IS FIT FOR PURPOSE.
 6. ANY PIPES PASSING THROUGH FOUNDATIONS TO HAVE RODDING JOINTS.
 7. ALL EXTERNAL DRAINAGE AND GULLIES TO LANDSCAPE ARCHITECT'S DETAILS AND SPECIFICATION.
 8. ALL ARMSTRONGS JOINT CONNECTIONS TO MAIN SEWER TO HAVE BACKDROPS AS REQUIRED.

- MANHOLE NOTES:**
1. RODDING PIPES: NOMINAL LENGTH 600mm.
 2. BE USED AT ENTRY POINT TO MANHOLES.
 3. ALL MANHOLES AND ACCESS POINTS ON SEWERS TO BE IN ACCORDANCE WITH BS EN 12201.
 4. ALL BENCHING TO BE CONSTRUCTED IN ACCORDANCE WITH BS EN 12201.
 5. ALL MANHOLE COVERS AND FRAMES TO COMPLY WITH BS EN 124-2015 AND HAVE THIRD PARTY CERTIFICATIONS AVAILABLE ON REQUEST.
 6. ALL MANHOLE COVERS AND FRAMES TO BE CLASS A AND ON ALL TRAFFIC AREAS UNLESS OTHERWISE STATED.
 7. ALL MANHOLE COVERS AND FRAMES SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
 8. WALL THICKNESS Varies WITH MANHOLE DEPTH. CONFIRM WITH ENGINEER FOR WALL THICKNESS.
 9. CHAMBER WALLS COVER LAB. INLAND SLAB FOR P.C.C. CHAMBERS WHERE REQUESTED SHALL BE CONSTRUCTED IN PRECAST CONCRETE TO BS 911:2014.
 10. MANHOLES CONSTRUCTED FROM ENGINEERING BRICK WILL BE CONSIDERED AS AN ACCEPTABLE ALTERNATIVE SUBJECT TO APPROVAL. MANHOLES AND INSPECTION CHAMBERS TO COMPLY WITH MINIMUM DIMENSIONAL REQUIREMENTS OF TABLE M&T & TABLE M&T BS EN 12201 AND APPROVED DOCUMENT H OF THE BUILDING REGULATIONS.

NO.	DATE	DESCRIPTION	BY	APP.
1	24.04.23	Preliminary Layout For Design Team Review	VH	RS
2	10.02.23	Preliminary Layout For Design Team Review	VH	RS
3	10.02.23	Preliminary Layout For Design Team Review	VH	RS
4	10.02.23	Preliminary Layout For Design Team Review	VH	RS
5	10.02.23	Preliminary Layout For Design Team Review	VH	RS
6	10.02.23	Preliminary Layout For Design Team Review	VH	RS
7	10.02.23	Preliminary Layout For Design Team Review	VH	RS
8	10.02.23	Preliminary Layout For Design Team Review	VH	RS
9	10.02.23	Preliminary Layout For Design Team Review	VH	RS
10	10.02.23	Preliminary Layout For Design Team Review	VH	RS

Cranwood House

Below Ground Drainage Layout

Formation D&S Ltd

MWP

ENGINEERING AND ENVIRONMENTAL CONSULTANTS

CRA MWP-ZZ-00-DR-S-2101

FOR INFORMATION

STATUS: S2

REVISIONS:

NO.	DATE	DESCRIPTION	BY	APP.
1	24.04.23	Preliminary Layout For Design Team Review	VH	RS
2	10.02.23	Preliminary Layout For Design Team Review	VH	RS
3	10.02.23	Preliminary Layout For Design Team Review	VH	RS
4	10.02.23	Preliminary Layout For Design Team Review	VH	RS
5	10.02.23	Preliminary Layout For Design Team Review	VH	RS
6	10.02.23	Preliminary Layout For Design Team Review	VH	RS
7	10.02.23	Preliminary Layout For Design Team Review	VH	RS
8	10.02.23	Preliminary Layout For Design Team Review	VH	RS
9	10.02.23	Preliminary Layout For Design Team Review	VH	RS
10	10.02.23	Preliminary Layout For Design Team Review	VH	RS

- DESIGN NOTES**
1. SUBS DESIGN BASED ON 1 IN 100 YR STORM + 30%.
 2. DRAIN POINTS AND LOCATIONS TO BE CONFIRMED BY ARCHITECT.
 3. CONTRACTOR TO ESTABLISH LOCATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING.
 4. EXISTING TREES TO BE PROTECTED WHERE EXCAVATIONS RUN CLOSE.
 5. APPROVAL TO BE GAINED FROM TWO FOR CONNECTIONS TO SEWERS AND DISCHARGE RATES.

NOTE:
ALL FOUL AND SURFACE WATER CONNECTIONS SUBJECT TO APPROVALS FROM THAMES WATER

STORM WATER MANHOLE SCHEDULE									
MH REF	Cover Ld. (m)	Invert Ld. (m)	Load Class	Manhole Depth (m)	Internal MH DIA (m)	Easting (To Centre)(m)	Northing (To Centre)(m)		
SW01	92.400	91.950	A15	0.450	0.450	528432.314	189176.813		
SW02	92.400	91.774	A15	0.626	0.450	528420.867	189172.440		
SW03	92.400	90.763	A15	1.637	0.600	528412.713	189171.447		
SW04	91.300	90.700	D400	0.600	0.450	528406.908	189168.532		
SW05	91.300	89.684	D400	1.616	1.000	528410.085	189144.124		
SW06	91.300	90.800	D400	0.500	0.450	528392.870	189168.601		
SW07	91.300	90.697	C250	0.603	0.450	528403.172	189169.507		
SW08	91.300	90.637	D400	0.663	0.450	528406.662	189145.772		
SW09	91.350	90.600	B125	0.750	0.450	528396.275	189120.210		
SW10	91.350	90.476	B125	0.874	0.450	528401.382	189132.165		
SW11	91.350	90.600	B125	0.750	0.450	528407.403	189120.034		
SW12	91.350	90.478	B125	0.872	0.450	528407.542	189132.161		
SW13	91.300	89.400	C250	0.900	0.450	528406.476	189135.662		
SW14	90.335	89.635	B125	0.700	0.450	528415.715	189143.524		
SW15	90.634	89.684	B125	0.950	0.450	528454.302	189143.648		
SW16	90.731	87.616	B125	3.116	1.000	528442.026	189144.553		
SW17	88.850	87.525	B125	1.325	0.600	528435.238	189150.472		
SW18	88.850	87.450	B125	1.400	0.600	528434.385	189156.716		
SW19	88.100	87.560	B125	1.540	0.600	528438.057	189162.747		
SW20	88.850	87.405	B125	1.445	0.600	528417.632	189154.415		
SW21	88.100	87.833	B125	0.867	0.450	528432.117	189153.525		
SW22	88.700	87.790	B125	0.910	0.450	528419.665	189152.225		
SW23	91.300	89.900	D400	1.400	0.600	528408.226	189153.136		
SW24	91.370	89.703	D400	1.667	0.600	528405.711	189170.455		
SW A	91.300	87.480	C250	3.820	1.200	528394.161	189151.484		
SW B	91.300	87.436	C250	3.864	1.200	528392.914	189160.203		
SW C	91.300	87.393	C250	3.907	1.200	528391.537	189168.548		
SW D	91.300	83.675	C250	7.625	1.200	528394.497	189170.492		
SWP1	89.100	87.100	C250	---	---	528415.127	189154.088		

FOUL WATER SCHEDULE									
MH REF	Cover Ld. (m)	Invert Ld. (m)	Load Class	Manhole Depth (m)	Internal MH DIA (m)	Easting (To Centre)(m)	Northing (To Centre)(m)		
FW01	89.100	87.475	A15	1.625	0.600	528441.691	189149.901		
FW02	89.100	87.425	A15	1.675	0.600	528440.073	189155.082		
FW03	89.100	87.470	A15	1.630	0.600	528442.411	189159.451		
FW04	89.100	87.365	A15	1.735	0.600	528436.155	189155.082		
FW05	89.100	83.300	A15	5.800	1.200	528438.172	189160.474		
FW06	89.100	87.320	A15	1.780	0.600	528434.918	189159.518		
FW07	89.100	87.380	A15	1.720	0.600	528429.070	189158.715		
FW08	89.100	87.440	A15	1.660	0.600	528423.163	189157.913		
FW09	89.100	87.500	A15	1.600	0.600	528417.255	189157.110		
FW10	91.300	86.500	D400	2.800	1.000	528406.610	189155.665		
FW11	91.300	86.910	D400	4.390	1.300	528405.463	189163.833		
FW12	91.300	90.020	D400	1.280	0.600	528404.759	189166.641		
FW13	92.400	91.550	A15	0.850	0.450	528449.638	189176.819		
FW14	92.400	91.508	A15	0.892	0.450	528446.478	189176.255		
FW15	92.400	91.404	A15	0.996	0.450	528445.090	189176.841		
FW16	92.400	91.280	A15	1.120	0.450	528422.780	189173.169		
FW17	92.400	90.090	D400	2.310	1.000	528411.138	189171.803		
FW18	91.350	90.145	A15	1.205	0.450	528401.282	189132.384		
FW19	91.300	90.000	D400	1.300	1.000	528408.257	189144.117		
FW20	91.300	89.938	A15	1.362	0.600	528407.414	189150.318		
FW21	91.350	90.120	D400	1.230	0.450	528406.532	189132.161		

BELOW GROUND DRAINAGE LAYOUT
SCALE 1:100

DESIGN NOTES
1. SUDS DESIGN BASED ON 1 IN 100 YR STORM + 30%.
2. DRAIN POINTS AND LOCATIONS TO BE CONFIRMED BY ARCHITECT.
3. CONTRACTOR TO ESTABLISH LOCATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING.
4. EXISTING TREES TO BE PROTECTED WHERE EXCAVATIONS RUN CLOSE.
5. APPROVAL TO BE GAINED FROM TFW FOR CONNECTIONS TO SEWERS AND DISCHARGE RATES

NOTE:
ALL FOUL AND SURFACE WATER CONNECTIONS
SUBJECT TO APPROVALS FROM THAMES WATER

STORM WATER MANHOLE SCHEDULE									
MH REF	Cover LVL (m)	Invert LVL (m)	Load Class	Manhole Depth (m)	Internal MH DIA (m)	Easting (To Centre)(m)	Northing (To Centre)(m)		
SW01	92.400	91.960	A15	0.450	0.600	528436.314	189174.813		
SW02	92.400	91.774	A15	0.626	0.450	528420.867	189172.440		
SW03	92.400	90.763	A15	1.637	0.600	528412.713	189171.447		
SW04	91.300	90.700	D400	0.600	0.450	528406.908	189168.932		
SW05	91.300	89.664	D400	1.636	1.000	528410.095	189164.124		
SW06	91.300	90.800	D400	0.500	0.450	528392.810	189168.601		
SW07	91.300	90.697	C250	0.603	0.450	528403.172	189169.507		
SW08	91.300	90.637	D400	0.663	0.450	528406.662	189145.772		
SW09	91.350	90.600	B125	0.750	0.450	528396.275	189120.210		
SW10	91.350	90.476	B125	0.874	0.450	528401.382	189132.465		
SW11	91.350	90.600	B125	0.750	0.450	528407.403	189120.034		
SW12	91.350	90.478	B125	0.872	0.450	528407.542	189132.161		
SW13	91.300	90.400	C250	0.900	0.450	528406.476	189135.662		
SW14	90.325	89.635	B125	0.700	0.450	528416.715	189143.624		
SW15	90.634	89.684	B125	0.950	0.450	528454.302	189143.648		
SW16	90.731	87.616	B125	3.115	1.000	528442.006	189144.553		
SW17	88.850	87.525	B125	1.325	0.600	528435.238	189150.472		
SW18	88.850	87.490	B125	1.360	0.600	528434.385	189156.716		
SW19	89.100	87.560	B125	1.540	0.600	528438.057	189162.747		
SW20	88.850	87.405	B125	1.445	0.600	528417.632	189154.415		
SW21	88.700	87.833	B125	0.867	0.450	528432.117	189153.925		
SW22	88.700	87.799	B125	0.901	0.450	528416.665	189152.225		
SW23	91.300	89.900	D400	1.400	0.600	528408.226	189153.136		
SW24	91.370	89.703	D400	1.667	0.600	528406.711	189170.455		
SW A	91.300	87.480	C250	3.820	1.200	528394.161	189151.484		
SW B	91.300	87.435	C250	3.864	1.200	528392.914	189160.203		
SW C	91.300	87.393	C250	3.907	1.200	528391.537	189168.448		
SW D	91.300	83.675	C250	7.625	1.200	528394.497	189170.492		
SWP1	89.100	87.100	C250			528415.127	189154.088		

FOUL WATER SCHEDULE									
MH REF	Cover LVL (m)	Invert LVL (m)	Load Class	Manhole Depth (m)	Internal MH DIA (m)	Easting (To Centre)(m)	Northing (To Centre)(m)		
FW01	89.100	87.475	A15	1.625	0.600	528441.691	189149.901		
FW02	89.100	87.425	A15	1.675	0.600	528442.073	189155.082		
FW03	89.100	87.470	A15	1.630	0.600	528442.411	189159.451		
FW04	89.100	87.365	A15	1.735	0.600	528436.155	189155.082		
FW05	89.100	83.300	A15	5.800	1.200	528438.172	189160.474		
FW06	89.100	87.320	A15	1.780	0.600	528434.978	189159.518		
FW07	89.100	87.380	A15	1.720	0.600	528426.070	189158.715		
FW08	89.100	87.440	A15	1.660	0.600	528423.163	189157.913		
FW09	89.100	87.500	A15	1.600	0.600	528417.255	189157.110		
FW10	91.300	88.500	D400	2.800	1.000	528406.610	189155.665		
FW11	91.300	89.910	D400	1.300	0.600	528405.463	189163.833		
FW12	91.300	90.020	D400	1.280	0.600	528404.759	189166.641		
FW13	92.400	91.550	A15	0.850	0.450	528449.638	189176.819		
FW14	92.400	91.508	A15	0.892	0.450	528445.478	189176.255		
FW15	92.400	91.404	A15	0.996	0.450	528435.090	189174.841		
FW16	92.400	91.280	A15	1.120	0.450	528422.780	189173.169		
FW17	92.400	90.090	D400	2.310	1.000	528411.138	189171.803		
FW18	91.350	90.145	A15	1.205	0.450	528400.282	189132.384		
FW19	91.300	90.000	D400	1.300	1.000	528406.267	189144.117		
FW20	91.300	89.938	A15	1.362	0.600	528407.414	189150.318		
FW21	91.350	90.120	D400	1.230	0.450	528406.532	189132.161		

LOWER GROUND DRAINAGE LAYOUT
SCALE 1:100

DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS IN ALL CASES. VERIFY DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE DESIGNERS IMMEDIATELY. THIS DRAWING IS COPYRIGHTED AND MAY ONLY BE REPRODUCED WITH THE DESIGNERS PERMISSION.

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL SERVICES AND ENGINEERING DRAWINGS.
2. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE. TBC ON SITE.
4. ALL LEVELS ARE IN METRES RELATED TO ORDNANCE DATUM. TBC ON SITE.
5. DRAWINGS ARE NOT TO BE SCALED.
6. ALL TEMPORARY WORKS TO CONTRACTORS DETAILS.
7. CONTRACTOR TO APPROVE ALL SET OUT INFORMATION PRIOR TO CONSTRUCTION.

- GENERAL DRAINAGE NOTES:
1. ALL NEW DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH BS EN 12027.
 2. INVERT LEVELS OF EXISTING DRAINAGE (WHERE APPLICABLE) TO BE CONFIRMED BEFORE WORKS COMMENCE.
 3. ALLOW FOR CARRYING OUT CCTV SURVEY AFTER WORKS ARE COMPLETE TO VERIFY DRAINAGE SYSTEM CARRY OUT A TEST ON ALL NEW LINES.
 4. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 5. REFER TO DRAWING D402 - DET FOR TYPICAL MANHOLE DETAILS.
 6. ALL FOUL WATER PIPES TO BE 150mm DIAMETER AT ALL FALLS UNO.
 7. ALL SURFACE WATER PIPES TO BE 100mm DIAMETER AT ALL FALLS UNO.
 8. ALL PIPES TO HAVE RODDING EYES & BACKSOPS LOCATIONS.
 9. MINIMUM COVER TO TOP OF ALL PIPESWORK IS 600mm.
 10. FOR FURTHER DRAINAGE LAYOUTS AND INFORMATION WATER TOWER CONSULTANTS DRAWINGS.
 11. INTERNAL BELOW GROUND DRAINAGE TO BE PVC UPE PIPE AND FITTINGS.
 12. ALL MANHOLES TO BE 1000mm DIAMETER (INTERNAL) PRECAST BRICK UNO.
 13. ALL INSPECTION CHAMBERS TO BE 800mm DIAMETER (INTERNAL) WITH 200mm CONCRETE BASE.
 14. ALL DRAINAGE TO UP TO ACCEPTABLE STANDARDS.
 15. EXTERNAL ACCORDING TO LANDSCAPE ARCHITECT DETAILS.
 16. ALL GULLIES TO BE TYPICAL.
 17. ALL PIPES NOT TO CROSS OVER PIPES TO MAINTAIN ROOFS ABOVE AND PIPES TO BE ELEVATED WITHIN CAPS. ALTERNATIVELY STEEL PIPES CAN BE USED WITHIN ROOF DETAILS.
 18. ALL SWPPP LOCATIONS TO BE DETERMINED BY THE ARCHITECT.
 19. ALL EXISTING AND BACKSOPS IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT 11.
 20. MULTIPLE OUTLETS FROM ACD TO REDUCE RISK OF LOCALISED FLOODING ACCESS TO ALL TOWNERS OUTLETS.

DRAINAGE LEGEND

- BOUNDARY LINE
- EXISTING FOUL WATER SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED SURFACE WATER PIPE
- PROPOSED FOUL WATER PIPE
- PROPOSED PERFORATED PIPE
- PROPOSED FILTER DRAIN
- PROPOSED PUMPED SURFACE WATER SEWER
- EXISTING SEWER TO BE ABANDONED & REMOVED & DIVERTED
- EXISTING SEWER TO BE ABANDONED & REMOVED & DIVERTED
- THAMES WATER SURFACE/FOUL WATER
- PROPOSED 120mm DIA. FOUL SURFACE WATER MANHOLE ACCESS COVER TO BE IDENTIFIED WITH DOUBLE SEALED RECESSED MANHOLE COVER
- PROPOSED 120mm DIA. FOUL SURFACE INSPECTION CHAMBERS ACCESS COVER TO BE IDENTIFIED WITH DOUBLE SEALED RECESSED MANHOLE COVER
- FOUL SURFACE WATER PUMPING STATIONS
- ACD CHANNEL TO LANDSCAPE ARCHITECTS DETAILS
- PROPOSED DETENTION BASIN FOR EMERGENCY STORAGE (90m³ WITH DEPTH 0.4m)
- PROPOSED BIORETENTION AREA
- PROPOSED PERVIOUS PAVEMENT WITH SUB-BASE ATTENUATION OF 280m³ WITH DEPTH 0.35m (VOLUME 280m³)
- AREA TO DRAIN AS IS, ASSUMED TO BE TO HIGHWAY LAND (PAVED AND GRAVEL)
- PROPOSED NON RETURN VALVE
- RG --- PROPOSED ROAD GULLY
- RWP --- RAIN WATER PIPE
- SVP --- SOIL VENT PIPE
- RE --- RODDING EYE
- BD --- BACKSOP MANHOLE
- AJ --- ARMSTRONGS JOINT

- DRAINAGE NOTES:
1. ALL SWPPS AND SVPs TO ARCHITECTS/ENGINEER LAYOUT.
 2. REFER TO ARCHITECTS/ENGINEER DRAWINGS FOR LOCATIONS.
 3. ALL COVER & INVERT LEVELS TO BE CONFIRMED ON SITE.
 4. ALL BELOW GROUND DRAINAGE IS SUBJECT TO CONFIRMATION OF INTERNAL SVP AND RWP LOCATIONS BY MICE CONSULTANT.
 5. ALL EXISTING DRAINAGE THAT IS TO REMAIN IS TO BE CCTV SURVEYED TO ENSURE IT IS FIT FOR PURPOSE.
 6. ANY PIPES PASSING THROUGH FOUNDATIONS TO HAVE RODDING JOINTS.
 7. ALL EXTERNAL DRAINAGE AND GULLIES TO LANDSCAPE ARCHITECTS DETAILS AND SPECIFICATION.
 8. ALL ARMSTRONGS JOINT CONNECTIONS TO MAIN SEWER TO HAVE BACKSOPS AS REQUIRED.

- MANHOLE NOTES:
1. RODDING PIPES: NOMINAL LENGTH 600mm.
 2. ALL MANHOLES AND ACCESS POINTS ON SEWERS TO BE IN ACCORDANCE WITH BS EN 12027.
 3. ALL BENCHING TO BE CONSTRUCTED IN ACCORDANCE WITH BS EN 12027.
 4. ALL MANHOLE COVERS AND FRAMES TO COMPLY WITH BS EN 124-2015 AND HAVE THIRD PARTY CERTIFICATIONS AVAILABLE ON REQUEST.
 5. ALL MANHOLE COVERS AND FRAMES TO BE CLASS 4 AND ON ALL TRAFFIC AREAS UNLESS OTHERWISE STATED.
 6. ALL MANHOLE COVERS AND FRAMES SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
 7. WALL THICKNESS VARYING WITH MANHOLE DEPTH. CONFIRM WITH ENGINEER FOR WALL THICKNESS.
 8. CHAMBER WALLS CONCRETE ON MANHOLE SLAB FOR P.C.C. CHAMBERS WHERE REQUESTED SHALL BE CONSTRUCTED IN PRECAST CONCRETE TO BS 911:2014.
 9. MANHOLES CONSTRUCTED FROM ENGINEERING BRICK WILL BE CONSIDERED AS AN ACCEPTABLE ALTERNATIVE SUBJECT TO APPROVAL. MANHOLES AND INSPECTION CHAMBERS TO COMPLY WITH MINIMUM DIMENSIONAL REQUIREMENTS OF TABLE M41 & TABLE M42 BS EN 12027 AND APPROVED DOCUMENT 11 OF THE BUILDING REGULATIONS.

REV	DATE	DESCRIPTION	BY	APP
P02	24.04.23	Preliminary Layout For Design Team Review	VH	RS
P01	10.02.23	Preliminary Layout For Design Team Review	VH	RS

Cranwood House

Lower Ground Drainage Layout

CLIENT: Formation D&B Ltd

TITLE:

ENGINEERING AND ENVIRONMENTAL CONSULTANTS

CORE | TRAIL | LONDON | LINDSEY

DRAWN: VH CHECKED: DH APPROVED: RJ

PROJECT NUMBER: 23453 DATE: 02/02/23 SCALE B4 L: 1:100

STATUS: FOR INFORMATION S2

DRAWING NUMBER: CRA-MWP-ZZ-LG-DR-S-2100 REV: P02