Construction Management Plan

13 Belsize Crescent, London NW3 5QY

Rev 03 – 30 March 2023



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Revisions & additional material

Please list all iterations here:

Date	Version	Produced by
30 March 2023	03	KWS Associates Ltd & D M Specialist Itd

Additional sheets

Please note – the review process will be quicker if these are submitted as Word documents or searchable PDFs.

Date	Version	Produced by
Site Location Plan - GA 100	А	Undercover Architecture
Noise Survey Report rev C dated 23/03/2023		EMTEC ref. QF10856/PF7342/RP2C dated 17/03/2023



Introduction

The purpose of the **Construction Management Plan (CMP)** is to help developers to minimise construction impacts, and relates to all construction activity both on and off site that impacts on the wider environment.

It is intended to be a live document whereby different stages will be completed and submitted for application as the development progresses.

The completed and signed CMP must address the way in which any impacts associated with the proposed works, and any cumulative impacts of other nearby construction sites, will be mitigated and managed. The level of detail required in a CMP will depend on the scale and nature of development. Further policy guidance is set out in Camden Planning Guidance (CPG) 6: Amenity and (CPG) 8: Planning Obligations.

This CMP follows the best practice guidelines as described in the <u>Construction Logistics and</u> <u>Community Safety</u> (**CLOCS**) Standard and the <u>Guide for Contractors Working in Camden</u>.

Camden charges a <u>fee</u> for the review and ongoing monitoring of CMPs. This is calculated on an individual basis according to the predicted officer time required to manage this process for a given site.

CMP development sites will be inspected by Camden's Site Planning Inspectors or nominated officers to assess compliance with the CMP. These inspections will be planned and unplanned site visits for the duration of the works. Developers/contractors are required to provide access to sites for inspection and cooperate fully throughout the inspection process ensuring compliance with the CMP.

The approved contents of this CMP must be complied with unless otherwise agreed with the Council in writing. The project manager shall work with the Council to review this CMP if problems arise during construction. Any future revised plan must also be approved by the Council and complied with thereafter.

It should be noted that any agreed CMP does not prejudice or override the need to obtain any separate consents or approvals such as road closures or hoarding licences.

If your scheme involves any demolition, you need to make an application to the Council's Building Control Service. Please complete the "<u>Demolition Notice.</u>"



Please complete the questions below with additional sheets, drawings and plans as required. The boxes will expand to accommodate the information provided, so please provide as much information as is necessary. It is preferable if this document, and all additional documents, are completed electronically and submitted as Word files to allow comments to be easily documented. These should be clearly referenced/linked to from the CMP. Please only provide the information requested that is relevant to a particular section.

(Note the term 'vehicles' used in this document refers to all vehicles associated with the implementation of the development, e.g. demolition, site clearance, delivery of plant & materials, construction etc.)

Revisions to this document may take place periodically.

IMPORTANT NOTICE: If your site falls within a Cumulative Impact Area (CIA) you are required to complete the CIA Checklist and circulate as an appendix to the CMP and included as part of any public consultation – a CMP submission will not be accepted until evidence of this has been supplied.

The CIA Checklist (editable pdf) can be found at https://www.camden.gov.uk/about-construction-management-plans





Timeframe

COUNCIL ACTIONS

DEVELOPER ACTIONS



Contact

1. Please provide the full postal address of the site and the planning reference relating to the construction works.

Address: 13 Belsize Crescent, Hampstead, London NW3 5QAY

Planning reference number to which the CMP applies: TBC

2. Please provide contact details for the person responsible for submitting the CMP.

Name: Daniel Middleton

Address: DM Specialist Ltd, 2-3 Pegasus Mews, Stratton Business Park, Biggleswade SG18 8QA

Email: midddan@aol.com

Phone: Office: 01767 317 773 Mobile: 07702 158 678

3. Please provide full contact details of the site project manager responsible for day-to-day management of the works and dealing with any complaints from local residents and businesses.

Name: Daniel Middleton

Address: DM Specialist Ltd, 2-3 Pegasus Mews, Stratton Business Park, Biggleswade SG18 8QA

Email: midddan@aol.com

Phone: Office: 01767 317 773 Mobile: 07702 158 678



4. Please provide full contact details of the person responsible for community liaison and dealing with any complaints from local residents and businesses if different from question 3. In the case of the Community Investment Programme (CIP), please provide the contact details of the Camden officer responsible.

Name: - all as question 3	
Address:	
Email:	
Phone:	

5. Please provide full contact details including the address where the main contractor accepts receipt of legal documents for the person responsible for the implementation of the CMP.

Name: Daniel Middleton	
Address: DM Specialist Ltd, 2-3 8QA	Pegasus Mews, Stratton Business Park, Biggleswade SG18
Email: midddan@aol.com	
Phone: Office: 01767 317 773	Mobile: 07702 158 678



Site

6. Please provide a site location plan and a brief description of the site, surrounding area and development proposals for which the CMP applies. Please fill up <u>Cumulative Impact</u> <u>Area (CIA) checklist form</u> if site fall within the CIA zone (Central London)

See enclosed Site Location Plan (ref. GA 100 rev A). Mid-terrace private residential property over 5 floors. Proposed scheme includes internal refurbishment and a new basement level. All surrounding properties are terraced residential properties of similar size and character.

7. Please provide a very brief description of the construction works including the size and nature of the development and details of the main issues and challenges (e.g. narrow streets, close proximity to residential dwellings etc).

The existing 5 storey mid-terrace residential property is to be extended & refurbished include a new basement level. The basement works together with deliveries & removal of waste will be the most challenging tasks.

All risks associated with the new basement will be mitigate by the design of the safe & considered design of construction sequences and temporary & permanent works by an experienced & insured structural engineer. Furthermore, additional insurance & movement monitoring will be in place to protect neighbouring properties.

Time to unload & load materials will be ne minimized, in order to mitigate any congestion on the public highway.

8. Please provide the proposed start and end dates for each phase of construction as well as an overall programme timescale.



Indicative construction durations are shown below. Please note the anticipated desire is to overlap the basement work with the structural works above ground level, thus minimising the disruption the neighbours and local community. This programme is subject to confirmation following the formal appointment of a Principal Contractor.

start date – Aug 2023

completion dated - May 2025

PHASE 1 - site set up, soft strip & facilitating works – Aug 23 to Oct 23

PHASE 2 – basement works – Oct 23 to Apr 24

PHASE 3 – superstructure works - Jan 24 to Jun 24

PHASE 4 – fitting out works – May 24 to May 25

9. Please confirm the standard working hours for the site, noting that the standard working hours for construction sites in Camden are as follows:

- 8.00am to 6pm on Monday to Friday
- 8.00am to 1.00pm on Saturdays
- No working on Sundays or Public Holidays

This is Camden's standard times. However, the times operated should be specific to the site and related to the type of work being carried out, and the proposed working hours will be considered on a case-by-case basis.

If the site is within the Cumulative Impact Area (CIA), then Saturday working is not permitted, unless agreed with Camden.

To comply with Camden's standard times



Community Liaison

A neighbourhood consultation process must have been undertaken <u>prior to submission of</u> <u>the CMP first draft</u>.

This consultation must relate to construction impacts, and should take place following the granting of planning permission in the lead up to the submission of the CMP. A consultation process <u>specifically relating to construction impacts</u> must take place regardless of any prior consultations relating to planning matters. This consultation must include all of those individuals that stand to be affected by the proposed construction works. These individuals should be provided with a copy of the draft CMP, or a link to an online document. They should be given adequate time with which to respond to the draft CMP, and any subsequent amended drafts. Contact details which include a phone number and email address of the site manager should also be provided.

Significant time savings can be made by running an effective neighbourhood consultation process. This must be undertaken in the spirit of cooperation rather than one that is dictatorial and unsympathetic to the wellbeing of local residents and businesses.

These are most effective when initiated as early as possible and conducted in a manner that involves the local community. Involving locals in the discussion and decision making process helps with their understanding of what is being proposed in terms of the development process. The consultation and discussion process should have already started, with the results incorporated into the CMP first draft submitted to the Council for discussion and any community liaison groups being regularly updated with programmed works and any changes that may occur due to unforeseen circumstances through newsletters, emails and meetings.

Please note that for larger sites, details of a construction working group may be required as a separate S106 obligation. If this is necessary, it will be set out in the S106 Agreement as a separate requirement on the developer.

Cumulative impact

Sites located within high concentrations of construction activity that will attract large numbers of vehicle movements and/or generate significant sustained noise levels should consider establishing contact with other sites in the vicinity in order to manage these impacts.

The Council can advise on this if necessary.



10. Sensitive/affected receptors

Please identify the nearest potential receptors (dwellings, business, etc.) likely to be affected by the activities on site (i.e. noise, vibration, dust, fumes, lighting etc.).

This property shares a party wall with No. 11 Belsize Crescent on one side, and No. 15 Belsize Crescent on the other side.

11. Consultation

The Council expects meaningful consultation. For large sites, this may mean two or more meetings with local residents **prior to submission of the first draft CMP**. Please ensure that any changes to parking and loading on the public highway are reflected in the consultation. Please agree highways set up plans in advance with Camden if there is any uncertainty with this.

Evidence of who was consulted, how the consultation was conducted and a summary of the comments received in response to the consultation should be included. Details of meetings including minutes, lists of attendees etc. should be appended.

In response to the comments received, the CMP should then be amended where appropriate and, where not appropriate, a reason given. The revised CMP should also include a list of all the comments received. Developers are advised to check proposed approaches to consultation with the Council before carrying them out. If your site is on the boundary between boroughs then we would recommend contacting the relevant neighbouring planning authority.

Please provide details of consultation of the draft CMP with local residents, businesses, local groups (e.g. residents/tenants and business associations) and Ward Councillors.



The owner has already made contact with No.11 & 15 Belsize Crescent and the properties at the back of the garden in Belsize Park Mews. We are in the process of planning how best to engage with the local community during the works. A tentative plan is shown below.

The owner will hold an open day, and be involved in regular consultation sessions / zoom calls with the neighbours to keep abreast of what is going on and provide a forum for them to talk to either the owner and / or Principal Contractor and / or the owners professional consultants. Potentially, this forum could be held every eight weeks during the project, that the contractor, project manager, architect, property owner would attend, and that we would take notes and report on follow up actions, which could be provided to the council. We would also set up an email box which residents can use to communicate their concerns in the meantime, and which can be auto forwarded to all those who would normally attend the meeting.

Under the Party Wall Act, the owner's Party Wall Surveyor will also serve notice & provide details to all relevant neighbours.

12. Construction Working Group

For particularly sensitive/contentious sites, or sites located in areas where there are high levels of construction activity, it may be necessary to set up a construction working group.

If so, please provide details of the group that will be set up, the contact details of the person responsible for community liaison and how this will be advertised to the local community, and how the community will be updated on the upcoming works i.e. in the form of a newsletter/letter drop, or weekly drop in sessions for residents.

The Main Contractor, DM Specialist Ltd, will appoint the Site Manager as the community liaison officer, whose contact details will be clearly noted on a notice board fixed to the hoarding at the front of the site.

13. Schemes

Please provide details of your Considerate Constructors Scheme (CCS) registration. Please note that Camden requires <u>CCS site registration</u> for the full duration of your project including additional <u>CLOCS visits</u> for the full duration of your project. Please provide the CCS site ID number that is specific to the above site. A company registration will not be accepted, the site must be registered with CCS.



Be advised that Camden is a Client Partner with the Considerate Constructors Scheme and has access to all CCS inspection and CLOCS monitoring reports undertaken by CCS.

Contractors will also be required to follow the <u>Guide for Contractors Working in Camden</u>. Please confirm that you have read and understood this, and that you agree to abide by it.

The Main Contractor, DM Specialist Ltd, will register under this scheme for the full duration of the project.

14. Neighbouring sites

Please provide a plan of existing or anticipated construction sites in the local area and please state how your CMP takes into consideration and mitigates the cumulative impacts of construction in the vicinity of the site. The council can advise on this if necessary.

There are no anticipated construction sites, either side of this property during the planned programme period.

Transport

This section must be completed in conjunction with your principal contractor. If one is not yet assigned, please leave the relevant sections blank until such time when one has been appointed.

Camden is a CLOCS Champion, and is committed to maximising road safety for Vulnerable Road Users (VRUs) as well as minimising negative environmental impacts created by motorised road traffic. As such, all vehicles and their drivers servicing construction sites within the borough are bound by the conditions laid out in the CLOCS Standard.

This section requires details of the way in which you intend to manage traffic servicing your site, including your road safety obligations with regard to VRU safety. It is your responsibility to ensure that your principal contractor is fully compliant with the terms laid out in the CLOCS



Standard. It is your principal contractor's responsibility to ensure that all contractors and subcontractors attending site are compliant with the terms laid out in the CLOCS Standard.

Checks of the proposed measures will be carried out by CCS monitors as part of your CLOCS monitoring visits through CCS and possibly council officers, to ensure compliance. Please refer to the CLOCS Standard when completing this section.

Please contact <u>CLOCS@camden.gov.uk</u> for further advice or guidance on any aspect of this section.

Please note that this section may also be referred to as a Construction Logistics Plan in the context of the CLOCS Standard.



CLOCS Contractual Considerations

15. Name of Principal contractor:

DM Specialist Limited

16. Please submit the proposed method for checking operational, vehicle and driver compliance with the CLOCS Standard throughout the duration of the contract.

The Main Contractor (MC) will ensure that ALL delivery companies and ALL muck away contractors etc all comply with CLOCS Standards (see below) and achieve a minimum of "Silver" rating under FORS Standards. Furthermore, the MC will ensure competent & trained traffic marshalls are available to oversee traffic movements connected with site works.

17. Please confirm that you as the client/developer and your principal contractor have read and understood the CLOCS Standard and included it in your contracts.

I confirm that I have included the requirement to abide by the CLOCS Standard in my contracts to my contractors and suppliers:

The CLOCS Standard will be incorporated to the preliminary requirements of the JCT Building Contract between the Employer and main Contractor. These same requirements will be also be included in all direct & domestic subcontract agreements. This requirement will be facilitated by the project quantity surveyor, KWS Associates Limited

Please contact <u>CLOCS@camden.gov.uk</u> for further advice or guidance on any aspect of this section.



Site Traffic

Sections below shown in blue directly reference the CLOCS Standard requirements. The CLOCS Standard should be read in conjunction with this section.

18. Traffic routing: "Clients shall ensure that a suitable, risk assessed vehicle route to the site is specified and that the route is communicated to all contractors and drivers. Clients shall make contractors and any other service suppliers aware that they are to use these routes at all times unless unavoidable diversions occur." (P19, 3.4.5)

Routes should be carefully considered and risk assessed, taking into account the need to avoid where possible any major cycle routes and trip generators such as schools, offices, stations, public buildings, museums etc.

Consideration should also be given to weight restrictions, low bridges and cumulative impacts of construction (including neighbouring construction sites) on the public highway network. The route(s) to and from the site should be suitable for the size of vehicles that are to be used.

a. Please show vehicle approach and departure routes between the site and the Transport for London Road Network (TLRN). Please note that routes may differ for articulated and rigid HGVs.

Routes should be shown clearly on a map, with approach and departure routes clearly marked. If this is attached, use the following space to reference its location in the appendices.

The site will be accessed by both ends, of Belsize Crescent, as required, to maintain flexibility and mitigate congestion.

b. Please confirm how contractors and delivery companies will be made aware of the route (to and from the site) and of any on-site restrictions, prior to undertaking journeys.

A site plan showing the location of the site will be issued to all relevant contractors.



19. Control of site traffic, particularly at peak hours: "Clients shall consider other options to plan and control vehicles and reduce peak hour deliveries" (P20, 3.4.6)

Construction vehicle movements should be restricted to the hours of 9.30am to 4.30pm on weekdays and between 8.00am and 1.00pm on Saturdays. If there is a school in the vicinity of the site or on the proposed access and/or egress routes, then deliveries must be restricted to the hours of 9.30am and 3pm on weekdays during term time.

Vehicles may be permitted to arrive at site at 8.00am if they can be accommodated on site. Where this is the case they must then wait with their engines switched off.

A delivery plan should ensure that deliveries arrive at the correct part of site at the correct time. Instructions explaining such a plan should be sent to all suppliers and contractors.

a. Please provide details of the types of vehicles required to service the site and the approximate number of deliveries per day for each vehicle type during the various phases of the project.

For Example: 32t Tipper: 10 deliveries/day during first 4 weeks Skip loader: 2 deliveries/week during first 10 weeks Artic: plant and tower crane delivery at start of project, 1 delivery/day during main construction phase project 18t flatbed: 2 deliveries/week for duration of project 3.5t van: 2 deliveries/day for duration of project

3t Sprinter Van; 1 delivery per week
18t Flatbed wagon; 1 delivery per week
8m3 Concrete wagon; 3 deliveries per week in the middle phase of the project
Grab loader; 3 wagons per week in the middle phase of the project

b. Please specify the permitted delivery times.



Generally, construction vehicle movements will be restricted to the hours of 9.30am to 4.30pm on weekdays and between 8.00am and 1.00pm on Saturdays.

However, unexpected weather events or road traffic congestion may impact on these hours on the odd occasion.

c. Cumulative affects of construction traffic servicing multiple sites should be minimised where possible. Please provide details of other developments in the local area or on the route that might require deliveries coordination between two or more sites. This is particularly relevant for sites in very constrained locations.

No significant issues noted in this respect.

d. Please provide swept path analyses for constrained manoeuvres along the proposed route.

Not applicable

e. Consideration should be given to the location of any necessary holding areas/waiting points for sites that can only accommodate one vehicle at a time/sites that are expected to receive large numbers of deliveries. Vehicles must not queue or circulate on the public highway. Whilst deliveries should be given set times to arrive, dwell and depart, no undue time pressures should be placed upon the driver at any time.

Please identify the locations of any off-site holding areas or waiting points. This can be a section of single yellow line that will allow the vehicle to wait to phone the site to check that the delivery can be accommodated.

Please refer to question 24 if any parking bay suspensions will be required to provide a holding area.



Car bay suspensions will be arranged when larger deliveries are planned, otherwise all other vehicle movements will be a short dwell period of circa 20 minutes to facilitate unloading & loading

f. Delivery numbers should be minimised where possible. Please investigate the use of construction material consolidation centres, and/or delivery by water/rail if appropriate.

All deliveries to site will be by road & managed effectively to maximize the quantum of materials whilst minimizing the number of deliveries.

g. Emissions from engine idling should be minimised where possible. Please provide details of measures that will be taken to reduce delivery vehicle engine idling, both on and off site (this does not apply to concrete mixers).

All contractors will be notified that they need to turn off their engines, whilst they are dwelling outside the site - unless they are using their own crane.

20. Site entry/exit: "Clients shall ensure that access to and egress from the site is appropriately managed, clearly marked, understood and clear of obstacles." (P18, 3.4.3)

This section is only relevant where vehicles will be entering the site. Where vehicles are to load from the highway, please leave this section blank and refer to Q21. Where loading is to take place from a dedicated pit lane located on the public highway, please use this section to describe how vehicle entry/departure will be managed.

Vehicles entering and leaving the site should be carefully managed, using gates that are clearly marked and free from obstacles. Traffic marshals must ensure the safe passage of all traffic on the public highway, in particular pedestrians and cyclists, when vehicles are entering and leaving site, particularly if reversing.

Traffic marshals, or site staff acting as traffic marshals, should hold the relevant qualifications required for directing large vehicles when reversing. Marshals should be equipped with 'STOP



- WORKS' signs (<u>not</u> STOP/GO signs) if control of traffic on the public highway is required. Marshals should have radio contact with one another where necessary.

a. Please detail the proposed site entry and exit points on a map or diagram. If this is attached, use the following space to reference its location in the appendices.

This mid-terrace property can only be accessed from the public pavement next to a public highway.

b. Please describe how the entry and exit arrangements for construction vehicles in and out of the site will be managed, including the number and location of traffic marshals where applicable. If this is shown in an attached drawing, use the following space to reference its location in the appendices.

All construction vehicles will either need to dwell outside the site for 20 minutes or park in a pre-arranged Car Bay Suspension

c. Please provide tracking/swept path drawings for vehicles entering/exiting the site if necessary. If these are attached, use the following space to reference their location in the appendices.

Not applicable

d. Provision of wheel washing facilities should be considered if necessary. If so, please provide details of how this will be managed and any run-off controlled. Please note that wheel washing should only be used where strictly necessary, and that a clean, stable surface for loading should be used where possible.



Not applicable

21. Vehicle loading and unloading: *"Clients shall ensure that vehicles are loaded and unloaded on-site as far as is practicable."* (P19, 3.4.4)

This section is only relevant if loading/unloading is due to take on the public highway and it has been agreed with Camden that a dedicated pit lane is not viable/necessary. If loading is taking place on site, or in a dedicated pit lane, please skip this section.

a. Please provide the location where vehicles will stop to unload. If this is attached, use the following space to reference its location in the appendices. Please outline in question 24 if any parking bay suspensions will be required.

Directly outside the site address.

b. Where necessary, Traffic Marshalls must ensure the safe passage of pedestrians, cyclists and motor traffic in the street when vehicles are being loaded or unloaded. Please provide detail of the way in which marshals will assist with this process. Please note that deliveries should pause where possible to allow passage to pedestrians.

Traffic marshalls will be on hand during loading & unloading periods. Chapter 8 barriers & signage will be used, as required, to notify traffic that a delivery is taking place and / or divert pedestrians onto the other foot path.



Site set up

Full justification must be provided for proposed use of the public highway to facilitate works. Camden expects all options to minimise the impact on the public highway to have been fully considered prior to the submission of any proposal to occupy the highway for vehicle pit lanes, materials unloading/crane pick points, site welfare etc.

Please note that Temporary Traffic Restrictions (TTRs) and hoarding/scaffolding licenses may be applied for prior to CMP submission but <u>won't</u> be granted until the CMP is signed-off.

Please note that there is a four week period required for the application processing and statutory consultation as part of the TTR process. This is <u>in addition</u> to the CMP review period.

If the site is on or adjacent to the TLRN (red route), please provide details of preliminary discussions with Transport for London (TfL) in the relevant sections below. Please note that TfL are the highways authority for such routes and all permits will be issued by them.

Consultation with TfL will be necessary if the site requires the use of temporary signals on the Strategic Road Network (SRN), or impacts on bus movement, then TfL will need to be consulted.

Consultation with TfL will be necessary if the site directly conflicts with a bus lane or bus stop.

22. Site set-up and occupation of the public highway

Please provide detail drawings of the site up on the public highway. This should be presented as a scaled plan detailing the local highway network layout in the vicinity of the site. This should include details of on-street parking bay locations, cycle lanes, footway extents, relevant street furniture, and all relevant key dimensions. Please note that lighting column removal/relocation may be subject to UKPN lead times and is outside of our control. Any gantries will require a structural assessment and separate agreement with the structures team.

a. Please provide details of any measures and/or structures that need to be placed on the highway. This includes dedicated pit lanes, temporary vehicle access points/temporary enlargement of existing crossovers, occupied parking bays, hoarding lines, gantries, crane locations, crane oversail, scaffolding, scaffolding oversail, ramps, barriers etc. Please use this space to justify the use of the highway, and to state how the impacts have been minimised.



Please provide drawings separately in the appendices and reference their location below. Please provide further details of any changes to parking and loading in section 23.

All as previously stated.

b. Please provide details and associated drawings/diagrams showing any temporary traffic management measures needed as part of the above site set up. Alternatively this can be shown as part of the above drawings if preferred. Please note that this must conform to the <u>Safety at Street Works and Road Works Code of Practice.</u>

All temporary traffic management will comply with Safety at Street Works and Road Works Code of Practice.

23. Parking bay suspensions and temporary traffic orders

Parking bay suspensions should only be requested where absolutely necessary and these are allowed for a maximum period of 6 months only. Information regarding parking suspensions can be found <u>here</u>. For periods greater than 6 months, or for any other changes to the parking/loading/restrictions on the highway, a <u>Temporary Traffic Restriction (TTR)</u> will be required for which there is a separate cost. Please note that any temporary changes to parking and loading to be delivered using a TTR need to be consulted upon as part of our legal obligations as a highways authority. Camden may require separate consultation to take place specifically around such changes if these have not been adequately reflected in any prior consultation as part of the CMP process.

A space cannot be suspended for convenience parking, a <u>trade permit</u> is available for trade vehicle parking. Building materials and equipment must not cause obstructions on the highway. Building materials may only be stored on the public highway if permitted by the Street Works team.

Please provide details of any proposed such changes on the public highway which are necessary to facilitate the construction works. Where these changes apply to parking bays, please specify the type of bays that are to be impacted and the anticipated timeframes.



Details to be provided following further design development.cipal Contractor.

24. Motor vehicle/cyclist diversions/pedestrian diversions

Pedestrians safety must be maintained if diversions are put in place. Vulnerable footway users must be considered as part of this. These include wheelchair users, the elderly, those with walking difficulties, young children, those with prams, the blind/partially sighted. Appropriate ramps must be used if cables, hoses, etc. are run across the footway.

Please note that footway closures are not permitted unless there is no alternative. Footway access must be maintained using a gantry or temporary walkway in the carriageway unless this is not possible. Where this is not possible, safe crossing points must be provided to ensure that pedestrian access is maintained. Where formal or controlled crossing points are to be suspended, similar temporary facilities must be provided. Camden reserves the right to require temporary controlled crossing points in the event of any footway closures.

Please provide details of any diversion, disruption or other anticipated use of the public highway during the construction period. Please show locations of diversion signs on drawings or diagrams and provide these in the appendices. Please use the following space to outline these changes to and to reference the location of any associated drawings in the appendices. Please show diversions and associated signage separately for pedestrians/cyclists/motor traffic.

Footway access will be maintained at all times, and also kept clear & clean at all times. Traffic marshalls will safely divert pedestrians towards the pavement on the other side of the road, during material deliveries and waste away activities.

Keeping pedestrians safe and the public highway clean at all times, is a high priority for the Main Contractor. This will also be a contract obligation instigated by the owner of the site.

25. Services

Please indicate if any changes to services are proposed to be carried out that would be linked to the site during the works (i.e. connections to public utilities and/or statutory undertakers' plant). Larger developments may require new utility services. If so, a strategy and programme for coordinating the connection of services will be required. If new utility



services are required, please confirm which utility companies have been contacted (e.g. Thames Water, National Grid, EDF Energy, BT etc.) You must explore options for the utility companies to share the same excavations and traffic management proposals. Please supply details of your discussions.

Parking bay suspensions will be confirmed when a detailed project programme has been developed. In general, suspensions will only be requested where absolutely necessary – for example, for a concrete mixer and a concrete pump, or for longer & heavier steel beams & columns or for collection of muck.



Environment

To answer these sections please refer to the relevant sections of **Camden's Minimum Requirements for Building Construction (<u>CMRBC</u>).**

28. Please list all noisy operation_ and the construction methods used, and provide details of the times that each of these are due to be carried out.

Intermittent tent noisy activities will occur for the full duration of the project.

The early stages will include noise from:

pneumatic drills, demolition jack hammers, piling rig, excavators, conveyor belt, concrete pumps and mechanical saws, material deliveries, waste away collections

The latter stages will include noise from:

Manual hammering, saw cutting equipment, connection points of steelwork, material deliveries, waste away collections

29. Please confirm when the most recent pre-construction noise survey was carried out and provide a copy. If a noise survey has not taken place, and it has been requested by the local authority, please indicate the date (before any works are being carried out) that the noise survey will be taking place, and agree to provide a copy.

See enclosed Noise Survey reported prepared by EMTEC PRODUCTS ref. QF10856/PF7342/RP2C dated 23/03/2023



30. Please provide predictions for noise levels throughout the proposed works.

The noisiest levels will come from demolition jack hammers of around 130dB, at the front end of the project.

As the project progresses, and the substructures & superstructure works are completed, noise levels will diminish significantly.

The external works – towards the back end of the project will attract saw cutting of metalwork & railings, together with intermittent hammering associated with hard landscaping.

31. Please provide details describing mitigation measures to be incorporated during the construction/<u>demolition</u> works to prevent noise and vibration disturbances from the activities on the site, including the actions to be taken in cases where these exceed the predicted levels.

The loudest construction noise here will be from jackhammering (as detailed above). Muffled pneumatic tools will be used, with consideration of switching to electric tools if needed. A decibel meter will be available on site to assist in recording and checking sound levels at work faces, but also at site boundaries.

Other noise mitigation measures will be considered – including but not limited to alternative building materials or methods of construction. These details (if applicable) will be provided following the appointment of the Principal Contractor.

32. Please provide evidence that staff have been trained on BS 5228:2009

Site Foreman is trained to SMSTS standards, which includes a section on noise on construction sites (BS %228:2009) with respect to noise control, mitigation, reduction etc

33. Please provide specific details on how air pollution and dust nuisance arising from dusty activities on site will be prevented. This should be relevant and proportionate to activities due to take place, with a focus on both preventative and reactive mitigation measures.

Site Foreman will ensure dust is controlled at source, by using techniques that generate less dust, extraction at source, damping down, screens etc and site management to ensure work is stopped & replanned if dust becomes excessive. Fumes from machinery will also be controlled (eg electric machinery where possible, well maintained engines etc. otherwise)



34. Please provide details describing how any significant amounts of dirt or dust that may be spread onto the public highway will be prevented and/or cleaned.

Site Foreman to manage dirt & dust escape beyond site boundaries; use of wheel cleaning & washing methods, labour to keep paths & roads clean (brushes & hoses etc)

35. For medium or high impact risk level sites, please provide details describing arrangements for monitoring of noise, vibration and dust levels, including instrumentation, locations of monitors and trigger levels where appropriate.

N/A

36. Please confirm that an Air Quality Assessment and/or Dust Risk Assessment has been undertaken at planning application stage in line with the GLA policy <u>The Control of Dust and Emissions During Demolition and Construction 2014 (SPG)</u> (document access at bottom of webpage), and that the summary dust impact risk level (without mitigation) has been identified. The risk assessment must take account of proximity to all human receptors and sensitive receptors (e.g. schools, care homes etc.), as detailed in the <u>SPG</u>. <u>Please attach the risk assessment and mitigation checklist as an appendix</u>.

N/A

37. Please confirm that all of the GLA's 'highly recommended' measures from the SPG document relative to the level of dust impact risk identified in question 36 have been addressed by completing the GLA mitigation measures checklist. (See Appendix 7 of the SPG document.)



N/A			

9 38. Please confirm the number of real-time dust monitors to be used on-site.

Note: <u>real-time dust (PM₁₀) monitoring with MCERTS 'Indicative' monitoring equipment will</u> <u>be required for all sites with a high OR medium dust impact risk level</u>. If the site is a 'high impact' site, 4 real time dust monitors will be required. If the site is a 'medium impact' site', 2 real time dust monitors will be required.

The dust monitoring must be in accordance with the SPG and IAQM guidance, and <u>the</u> <u>proposed dust monitoring regime (including number of monitors, locations, equipment</u> <u>specification, and trigger levels) must be submitted to the Council for approval</u>. Dust monitoring is required for the entire duration of the development and must be in place and operational <u>at least three months prior to the commencement of works on-site</u>. Monthly dust monitoring reports must be provided to the Council detailing activities during each monthly period, dust mitigation measures in place, monitoring data coverage, graphs of measured dust (PM₁₀) concentrations, any exceedances of the trigger levels, and an explanation on the causes of any and all exceedances in addition to additional mitigation measures implemented to rectify these.

In accordance with Camden's Clean Air Action Plan, the monthly dust monitoring reports must also be made readily available and accessible online to members of the public soon after publication. Information on how to access the monthly dust monitoring reports should be advertised to the local community (e.g. presented on the site boundaries in full public view).

Inadequate dust monitoring or reporting, or failure to limit trigger level exceedances, will be indicative of poor air quality and dust management and will lead to enforcement action.

N/A

39. Please provide details about how rodents, including rats, will be prevented from spreading out from the site. You are required to provide information about site inspections carried out and present copies of receipts (if work undertaken).



Site Foreman will have access to a rodent control company if required

40. Please confirm when an asbestos survey was carried out at the site and include the key findings.

An asbestos survey has been arranged to take place in April 2023. Any asbestos discovered will be removed by a licensed contractor before the works commence. The asbestos survey report together with the evidence of any removed asbestos - will be available for distribution to the relevant parties.

41. Complaints often arise from the conduct of builders in an area. Please confirm steps being taken to minimise this e.g. provision of a suitable smoking area, tackling bad language and unnecessary shouting.

Site Rules will cover all the above and will be published on site (and enforced by Site Management)

42. If you will be using non-road mobile machinery (NRMM) on site with net power between 37kW and 560kW it will be required to meet the standards set out below. The standards are applicable to both variable and constant speed engines and apply for both PM and NOx emissions. See the Mayor of London webpage 'Non-Road Mobile Machinery (NRMM)' for more information, a map of the Central Activity Zone, and for links to the NRMM Register and the NRMM Practical guide (V4):

https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/nrmm

Direct link to NRMM Practical Guide (V4):

https://www.london.gov.uk/sites/default/files/nrmm practical guide v4 sept20.pdf

From 1st September 2015

(i) Major Development Sites – NRMM used on the site of any major development will be required to meet Stage IIIA of EU Directive 97/68/EC

(ii) Any development site within the Central Activity Zone - NRMM used on any site within the Central Activity Zone will be required to meet Stage IIIB of EU Directive 97/68/EC



From 1st September 2020

(iii) Any development site - NRMM used on any site within Greater London will be required to meet Stage IIIB of EU Directive 97/68/EC

(iv) Any development site within the Central Activity Zone - NRMM used on any site within the Central Activity Zone will be required to meet Stage IV of EU Directive 97/68/EC

Please provide evidence demonstrating the above requirements will be met by answering the following questions:

- a) Construction time period (mm/yy mm/yy): To Be Confirmed
- b) Is the development within the CAZ? (Y/N):
- c) Will the NRMM with net power between 37kW and 560kW meet the standards outlined above? (Y/N):
- d) Please confirm that all relevant machinery will be registered on the NRMM Register, including the site name under which it has been registered:
- e) Please confirm that an inventory of all NRMM will be kept on site and that all machinery will be regularly serviced and service logs kept on site for inspection:
- f) Please confirm that records will be kept on site which details proof of emission limits, including legible photographs of individual engine plates for all equipment, and that this documentation will be made available to local authority officers as required:

43. Vehicle engine idling (leaving engines running whilst parked or not in traffic) produces avoidable air pollution and can damage the health of drivers and local communities. Camden Council and the City of London Corporation lead the London **Idling Action Project** to educate drivers about the health impacts of air pollution and the importance of switching off engines as a simple action to help protect the health of all Londoners.

Idling Action calls for businesses and fleet operators to take the **Engines Off pledge** to reduce emissions and improve air quality by asking fleet drivers, employees and subcontractors to avoid idling their engines wherever possible. Free driver training materials are available from the website: <u>https://idlingaction.london/business/</u>



Please provide details about how you will reduce avoidable air pollution from engine idling, including whether your organisation has committed to the Engines Off pledge and the number of staff or subcontractors who have been provided with free training materials.

The Principal Contractor will be committed to the Engines-Off pledge and this important requirement will also be highlighted in the building contract between the Employer and Principal Contractor.



Mental Health Training

44. Poor mental health is inextricably linked to physical health, which in turn impacts performance and quality, and ultimately affects productivity, creativity and morale. Workers in the construction industry are <u>six times more likely to take their own life than be killed in a fall from height</u>.

We strongly recommend signing up to the "<u>Building Mental Health</u>" charter, an industry-wide framework and charter to tackle the poor mental health in the construction industry, or joining <u>Mates In Mind</u>, which providing the skills, clarity and confidence to construction industry employers on how to raise awareness, improve understanding and address the stigma that surrounds mental health.

The Council can support by providing free Mental Health First Aid training, publicity resources and signposting to local support services.

Please state whether you are or will be signed up to the Building Mental Health charter (or similar scheme), and that and appropriate number of trained Mental Health First Aiders will be available on site.

We have not formally signed up to the Charter, however all levels of management are encouraged to support staff and elevate any concerns that are not resolved, right up to senior management level. The Company is a family run concern with the welfare of people at its core.

SYMBOL IS FOR INTERNAL USE



Agreement

The agreed contents of this Construction Management Plan must be complied with unless otherwise agreed in writing by the Council. This may require the CMP to be revised by the Developer and reapproved by the Council. The project manager shall work with the Council to review this Construction Management Plan if problems arise in relation to the construction of the development. Any future revised plan must be approved by the Council in writing and complied with thereafter.

It should be noted that any agreed Construction Management Plan does not prejudice further agreements that may be required such as road closures or hoarding licences.

Signed:

Date:

Print Name:

Position:

Please submit to: planningobligations@camden.gov.uk

End of form.

V2.9







N	

Project	Sheet Number	GA 100	
13 Belsize Crescent, NW3 5QY		GA 100	
Client	Revision		
Ms Nguyen & Mr Lehmann		A	
Sheet Title	DWG By:	Control By:	
Site Location Plan	LW		ХΧ
Date	Scale		
23/08/22	1:100@A3		



RESULTS OF A 48 HOUR NOISE LEVEL SURVEY CARRIED OUT ON THE

ROOF OF THE RESIDENTIAL PROPERTY LOCATED AT

13 BELSIZE CRESCENT, LONDON NW3

AND A REPORT ON THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT

Test Engineer : M G Roberts

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Report Author : M G Roberts

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Authorised for Release by : I J Marchant

Client:Studio NineProject:13 Belsize Crescent, London NW3Emtec Ref.:QF10856/PF7342/RP2COriginal Issue Date:9th March 2023Revision C Issue Date:23rd March 2023

 Emtec Products Ltd
 Unit L, Turnpike

 T: +44(0)20 8848 3031
 High Wycombe

 E: sales@emtecproducts.co.uk
 Buckinghamshii
 W: emtecproducts.co.uk

Unit L, Turnpike Way Buckinghamshire HP12 3TF



RESULTS OF A 48 HOUR NOISE LEVEL SURVEY CARRIED OUT ON THE

ROOF OF THE RESIDENTIAL PROPERTY LOCATED AT

13 BELSIZE CRESCENT, LONDON NW3

AND A REPORT ON THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT

1.0. INTRODUCTION

This report details the results of a 48-hour noise survey carried out on the roof of the residential property at 13 Belsize Crescent, London NW3.

The objectives of the survey were as follows:

- To assess the proposal to install new air source heat pump units on the roof of the building.
- To identify the nearest residential properties that might be affected by noise from the new plant.
- To establish the existing background noise level outside the nearest affected properties.
- To recommend noise limits and any necessary mitigating measures to ensure that the operation of the new plant does not disturb the occupants of the nearest affected properties and meets the planning directives of the local authority with regard to noise.

This report has been divided into the following sections for ease of analysis:

- 1.0. INTRODUCTION
- 2.0. SITE DESCRIPTION
- 3.0. TEST INSTRUMENTATION
- 4.0. TEST PROCEDURE
- 5.0. RESULTS AND EVALUATION OF NOISE CRITERIA
- 6.0. DISCUSSION OF RESULTS

2.0. <u>SITE DESCRIPTION</u>

The house located at 13 Belsize Crescent is a five storey, mid terrace property with neighbours, on either side, having very similar properties. The house is located in a residential street in a quiet part of Hampstead.

The front of the property can be seen in Photo A with the neighbouring houses on each side.

The property has a flat roof that can be seen on the attached Photos B and C and the adjacent houses have similar flat roof areas. The roof of No 11 Belsize Crescent has been recently converted to a roof terrace and has three air cooled condensers located on the boundary between their terrace and the roof of No 13. These units can be seen on the attached Photo C.

The roof of No 15 Belsize Crescent is a flat roof with no terrace and a single sealed plastic domed roof light. This roof can be seen in the attached Photo B.

3.0. TEST INSTRUMENTATION

All measurement equipment used during the survey complied with the requirements of BS4142:2014 "Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas". Details of the equipment are as follows:

Integrating Sound Level Meter: Rion type NL-52 class 1 Sound Level Meter fitted with a Rior UC-59 ½ inch condenser microphone. Serial No 01121378			
Statistical Analysis Modules:	Built in module capable of computing the percentile levels LA ₁ , LA ₁₀ , LA ₅₀ , LA ₉₀ and LA ₉₉ and also the LA _{eq} level.		
Acoustic Calibrator:	Bruel & Kjaer type 4231 electronic calibrator. Serial No 1934160		

Calibration was performed before and after the survey and was +/- 0.1 dB from the reference source.

3.1. Existing Noise Climate

Road traffic travelling on surrounding roads could be heard at the start and end of the survey, so the noise levels measured will include contributions from road vehicles.

Commercial jet aircraft were observed at medium and high altitude during the manned periods at the start and the end of the survey, so it is possible that the noise levels measured could include contributions from medium altitude jet aircraft.

There are no overland railways nearby, so the noise levels measured will not include contributions from rail noise.

Construction works were not observed being carried out in the vicinity during the manned periods at the start and end of the survey so the sound levels recorded should be typical of normal daytime background noise levels.

4.0. <u>TEST PROCEDURE</u>

The survey was conducted during a continuous 48-hour period from 8:13 am on Tuesday the 28th of February 2023 to 8:13 am on Thursday the 2nd of March 2023.

Data was continuously acquired throughout the measurement period with the individual averaging time for statistical noise data set to 15 minutes. The following 'A' weighted statistical measurements were recorded concurrently: -

- LA₁ The Sound Pressure Level exceeded for 1% of the measurement period.
- LA₁₀ The Sound Pressure Level exceeded for 10% of the measurement period.
- LA₅₀ The Sound Pressure Level exceeded for 50% of the measurement period.
- LA₉₀ The Sound Pressure Level exceeded for 90% of the measurement period. LA₉₀ is considered to represent the "background noise level" during the measurement period and is used for the assessment of noise to determine the likelihood of complaints (See BS 4142:2014).
- LA₉₉ The Sound Pressure Level exceeded for 99% of the measurement period.
- LA_{eq} The continuous steady state Sound Pressure Level that has the same acoustic energy as the real fluctuating level.

4.1. Measurement Positions

The microphone was mounted on a tripod and positioned approximately in the centre of the roof area. The microphone was oriented vertically and was approximately 1.5 metres above the flat roof. The location of the microphone can be seen on the attached Photos B and C.

The microphone was connected by a low impedance cable to the associated instrumentation which was contained within a weatherproof housing.

4.2 Weather Conditions

The weather conditions prevailing during the measurement period were in line with those recommended in BS 4142:2014: -

Weather daytime: -	Clear	Weather night time: -	Clear
Wind daytime: -	Calm	Wind night time: -	Calm

The microphone was protected during the survey by an acoustically transparent wind balloon.

5.0. RESULTS AND EVALUATION OF NOISE CRITERIA

The raw test data, gathered during the noise survey, is given in Appendix 'A 'of this report.

The 'A' Weighted L_{eq} levels measured over each 15 minute interval throughout the 48-hour period, denoted by LA_{eq} , (15 mins), are displayed as a bar graph on the attached Sketch No QF/10856/T1 at the back of this report.

The 'A' Weighted percentile levels measured over each 15 minute interval throughout the 48-hour period, denoted by LA_{10} (15 mins), LA_{50} (15 mins) and LA_{90} (15 mins) are displayed as line graphs on the attached Sketch No QF/10856/T2 at the back of this report.

5.1. Summary of Results

The table QF/10856/D1 below summarises the noise levels taken over the 48-hour period in terms of the maximum and minimum Sound Pressure Levels recorded.

	LA_{eq}	LA ₁	LA ₁₀	LA ₅₀	LA ₉₀	LA ₉₉
Minimum	38dBA	41dBA	39dBA	37dBA	33dBA	32dBA
Maximum	77dBA	74dBA	57dBA	54dBA	52dBA	52dBA

Table QF/10856/D1 – Summary of Maximum and Minimum Noise Levels

The table QF/10856/D2 below states the minimum LA₉₀ noise levels recorded during the time periods of 7.00am to 23.00pm (Daytime / Evening) and 23.00pm and 7.00am (Night time)

Table QF/10856/D2 – Minimum LA ₉₀ Noise Levels – Da	ytime/Evening	and Nic	ht time

	Minimum LA ₉₀
Daytime/Evening (7am to 11pm)	39dBA
Night Time (11pm to 7am)	33dBA

5.2. <u>Summary of the Local Authority's planning requirements regarding noise for noise</u> <u>sensitive properties</u>

The local planning authority is the London Borough of Camden.

The Camden Local Plan sets out the Council's planning policies and replaces the Core Strategy and Development Policy planning documents (adopted in 2010). It ensures that Camden continues to have robust, effective and up-to-date planning policies that respond to changing circumstances and the borough's unique characteristics and contribute to delivering the Camden Plan and other local priorities.

The Local Plan will cover the period from 2016-2031. Policy A4 of The Local Plan is entitled Noise and Vibration and states:

The Council will seek to ensure that noise and vibration is controlled and managed. Development should have regard to Camden's Noise and Vibration thresholds (Appendix 3). We will not grant planning permission for a) a development likely to generate unacceptable noise and vibration impacts or b) a development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses. We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity. We will also seek to minimise the impact on local amenity from deliveries and from the demolition and construction phases of development.

The parts of Appendix 3 that we have identified as relevant to this application are as follows:

Appendix 3: Noise thresholds

The significance of noise impact varies dependent on the different noise sources, receptors and times of operation presented for consideration within a planning application. Therefore, Camden's thresholds for noise and vibration evaluate noise impact in terms of various 'effect levels' described in the National Planning Policy Framework and Planning Practice Guidance:

- NOEL No Observed Effect Level
- LOAEL Lowest Observed Adverse Effect Level
- · SOAEL Significant Observed Adverse Effect Level

Three basic design criteria have been set for proposed developments, these being aimed at guiding applicants as to the degree of detailed consideration needed to be given to noise in any planning application. The design criteria outlined below are defined in the corresponding noise tables. The values will vary depending on the context, type of noise and sensitivity of the receptor:

- Green where noise is considered to be at an acceptable level.
- Amber where noise is observed to have an adverse effect level, but which may be considered acceptable when assessed in the context of other merits of the development.
- Red where noise is observed to have a significant adverse effect.

Existing Noise sensitive receptor	Assessment Location	Design Period	LOAEL (Green)	LOAEL to SOAEL (Amber)	SOAL (Red)
Dwellings**	Garden used for main amenity (free field) and Outside living or dining or bedroom window (façade)	Day	'Rating level' 10dB* below background	'Rating level' between 9dB below and 5dB above background	'Rating level' greater than 5dB above background
Dwellings**	Outside bedroom window (façade)	Night	'Rating level' 10dB* below background and no events exceeding 57dBL _{Amax}	'Rating level' between 9dB below and 5dB above background or noise events between 57dB and 88dB L _{Amax}	'Rating level' greater than 5dB above background and/or events exceeding 88dB L _{Amax}

Table C: Noise levels applicable to proposed industrial and commercial developments (including plant and machinery)

*10dB should be increased to 15dB if the noise contains audible tonal elements (day and night). However, if it can be demonstrated that there is no significant difference in the character of the residual background noise and the specific noise from the proposed development then this reduction may not be required. In addition, a frequency analysis (to include, the use of Noise Rating (NR) curves or other criteria curves) for the assessment of tonal or low frequency noise may be required.

**levels given are for dwellings, however, levels are use specific and different levels will apply dependent on the use of the premises.

The periods in Table C correspond to 0700 hours to 2300 hours for the day and 2300 hours to 0700 hours for the night. The Council will take into account the likely times of occupation for types of development and will be amended according to the times of operation of the establishment under consideration.

There are certain smaller pieces of equipment on commercial premises, such as extract ventilation, air conditioning units and condensers, where achievement of the rating levels (ordinarily determined by a BS:4142 assessment) may not afford the necessary protection. In these cases, the Council will generally also require an NR curve specification of NR35 or below, dependant on the room (based upon measured or predicted L_{eq} (5mins) noise levels in octave bands, 1 metre from the façade of affected premises, where the noise sensitive premise is located in a quiet background area.

5.3. Determination of noise sensitive property design criteria

We believe that the sound produced by the new plant will not be intermittent or contain tones. To comply with a green rating from the table above the new plant should therefore have a Sound Pressure Level 10dB below the lowest LA_{90} background noise level at 1 metre from the nearest noise sensitive window.

The lowest recorded LA_{90} background noise levels measured during the 48 hour survey period are given in Table QF/10856/D2 above.

Applying the above criteria gives limiting rating levels as listed in the table QF/10856/D3:

Existing Noise sensitive receptor	Design Period	Lowest measured background level	Proposed rating level	Proposed Local Authority criteria
Dwellings	Day	39dBA	29dBA	Green
	Night	33dBA	23dBA	Green

Table QF/10856/D3 – Proposed Design Rating Levels (LAeq)

5.4. Summary of external noise criteria

Based upon the lowest measured LA_{90} background noise levels during the survey and the Council's requirements outlined above we summarise the design rating levels to be adopted for this project in table QF/10856/D4: -

Table QF/10856/D4 – recommended design rating levels Lar, T

Type of premises	L _{Ar,T} (7am - 11pm)	L _{Ar,T} (11pm - 7am)				
Noise sensitive	29dBA	23dBA				

6.0. DISCUSSION OF RESULTS

It is proposed to locate three off Samsung AE160RXYDEG air source heat pump units on the roof of the house and the Table QF/10856/D5 below lists the noise level of the proposed units and the natural and required attenuation to a point 1 metre from the adjacent property's windows at the front of 15 Belsize Crescent.

<u>Table QF/10856/D5 – Noise Level of Samsung Heat Pump units on the roof of the house, operating at full duty, and the natural and required attenuation to 1 metre from the nearest neighbour's window</u>

Equipment/Attenuation		Sound Pressure Level (dB ref 2 x 10^{-5} N/m ²)									
Equipment/Attenuation	63	125	250	500	1k	2k	4k	8k	ива		
Samsung AE160RXYDEG 1m free field	60	52	50	49	45	40	33	20	50		
3 Units	+5	+5	+5	+5	+5	+5	+5	+5			
Distance loss 6 metres 10logA ₅ /A ₁	-11	-11	-11	-11	-11	-11	-11	-11			
Barrier effect of roof edge (300mm)	-7	-9	-11	-13	-16	-19	-21	-21			
SPL at 1 metre from nearest window	47	37	33	30	23	15	6	-	31		
Barrier effect of Jackson Jacoustic fence 200mm higher than condensers	-2	-4	-6	-8	-10	-12	-14	-16			
Attenuated resultant SPL at 1 metre from nearest window	45	33	27	22	13	3	-	-	25		

The calculation shown in Table QF/10856/D5 shows that by placing the Samsung AM160RXYDEG heat pump units inside of a peripheral barrier on the proposed roof layout, as shown in the roof detail drawing by Undercover Architecture GA306(A), with a Jackson Jacoustic fence around the units then the noise level at 1 metre from the nearest neighbour's window, in the front top floor of No 15 Belsize Crescent, will be below the limiting LAeq noise level of 29dBA and will allow the unit to be run during the daytime/evening period of 7am to 11pm, on full duty, without exceeding the planning requirements of the local authority.

Should the units be run at night they could either be controlled to run on a low noise setting or only two out of the three units could be operated. This would reduce the noise level by a further 2dB and would again satisfy the limiting LAeq level, for night time operation, of 23dBA and therefore meet the planning requirements of the local council.

The acoustic fencing around the condensers should be at least 200mm higher than the top of the units and be continuous and homogenous all around the units.

The Samsung heat pump units should also be mounted onto Emtec/VMC RD1-Green anti-vibration mountings, having a minimum static deflection of 6mm, in order to separate vibration and noise from the chassis of the units from the structure of the building.

There is a sealed plastic domed roof light on the roof of No 15 Belsize Crescent. This roof light allows access to the roof of No 15 from the top of the internal staircase. The Table QF/10856/D6 below lists the noise level of the proposed units and the natural and required attenuation to a point inside of the roof light of 15 Belsize Crescent.

<u>Table QF/10856/D6 – Noise Level of Samsung Heat Pump units on the roof of the house, operating at</u> <u>full duty, and the natural and required attenuation to a position inside the roof light of 15 Belsize</u>

Equipment/Attenuation	Sound Pressure Level (dB ref 2 x 10^{-5} N/m ²)								
	63	125	250	500	1k	2k	4k	8k	
Samsung AE160RXYDEG 1m free field	60	52	50	49	45	40	33	20	50
3 Units	+5	+5	+5	+5	+5	+5	+5	+5	
Distance loss 3 metres 10logA ₃ /A ₁	-7	-7	-7	-7	-7	-7	-7	-7	
Directivity of source to receiver (90°)	-1	-2	-3	-5	-5	=5	-5		
Barrier effect of Jackson Jacoustic fence 200mm higher than condensers	-2	-4	-6	-8	-10	-12	-14	-16	
SPL at roof light	55	44	39	34	28	21	12	-	37
Minimum attenuation of sealed roof light	-5	-10	-15	-18	-20	-23	-25	-28	
Attenuated resultant SPL at 1 metre from nearest window	50	34	24	16	8	-	-	-	26

Crescent

The internal noise level, below the plastic roof light of No 15 Belsize Crescent, will be 26dBA which is 9dB less than the recommended internal noise level of 35dBA for residential spaces and 4dB less than the recommended noise level of 30dBA for a residential bedroom. These recommendations are contained in BS8233:2014 and are in line with the requirements of the World Health Organisation.

If the control options above are adopted at night the noise levels inside No 15' roof light will fall to 24dBA.

If the recommendations made above are followed the installation of the new Samsung AM160RXYDEG heat pump units should not exceed the limiting LAeq at 1 metre from the neighbour's nearest openable window and thereby meet the planning requirements of the local authority.

Emtec Products Ltd 23rd March 2023

60 58 56 54 52 50 48 LAeq 46 44 42 40 38 36 08:13 08:58 09:58 09:58 11:15 TITLE: ISSUE DATE: DRAWN BY: LAeg Levels MGR С Ε F G Н EMTEC 5th March 2023 Α В D CLIENT: Studio Nine PF No: 7342 APPROVED BY: REVISION Unit L, Turnpike Way, High Wycombe, MGR Buckinghamshire, HP12 3TF PROJECT: 13 Belsize Crescent, London NW3 DESIGN AUTH: SKETCH No. QF/10856/T1 Q Α М Telephone: 020 8848 3031 MGR www.emtecproducts.co.uk



QF10856/PF7342/RP2C EMTEC PRODUCTS LTD.

<u>APPENDIX 'A'</u>

Raw Data – Noise Survey

28th of February 2023 to 2nd of March 2023

Project:	13 Belsize Crescent, London NW3
Client:	Studio Nine
Date:	28th February to 2nd March 2023
Serial No:	01121378

Address	Start Time	LA _{eq}	LE	Lmax	Lmin	LA ₁	LA ₁₀	LA ₅₀	LA ₉₀	LA ₉₉
1	08:13	55	85	82	47	62	56	51	49	48
2	08:28	54	84	74	46	63	57	51	48	46
3	08:43	50	80	63	46	54	52	50	48	48
4	08:58	48	77	56	45	52	49	47	46	46
5	09:13	49	78	64	45	56	51	47	46	46
6	09:28	50	80	64	45	59	53	48	46	46
7	09:43	51	80	75	43	58	53	48	46	45
8	09:58	47	77	68	44	51	49	46	45	45
9	10:13	49	78	71	41	55	51	47	45	43
10	10:28	48	78	62	42	56	51	47	45	43
11	10:43	50	80	63	45	57	52	49	47	46
12	10:58	49	78	60	45	55	51	48	46	45
13	11:13	49	79	64	45	54	51	48	47	46
14	11:28	52	81	69	44	62	54	48	46	45
15	11:43	51	81	66	43	58	54	50	46	44
16	11:58	50	80	64	44	56	53	49	46	45
17	12:13	52	81	80	41	60	54	47	43	42
18	12:28	50	80	62	45	57	53	48	47	46
19	12:43	77	107	115	45	55	52	49	47	46
20	12:58	49	79	61	46	53	50	49	47	47
21	13:13	51	80	74	45	58	51	48	47	46
22	13:28	55	84	73	46	67	55	52	47	47
23	13:43	52	82	71	44	59	55	51	47	46
24	13:58	51	80	67	43	56	53	50	48	44
25	14:13	55	85	79	47	68	54	50	49	48
26	14:28	50	80	61	46	55	52	49	48	47
27	14:43	51	80	62	46	55	52	50	49	47
28	14:58	49	79	64	45	55	51	48	47	46
29	15:13	48	78	63	45	55	50	47	46	46
30	15:28	50	79	67	45	56	52	48	47	46
31	15:43	48	78	63	42	54	50	47	46	43
32	15:58	48	77	64	44	53	50	47	46	45
33	16:13	47	77	58	41	53	49	46	44	42
34	16:28	50	80	67	47	55	52	50	49	48
35	16:43	51	81	68	46	62	53	49	47	47
36	16:58	49	79	65	45	56	52	48	46	46
37	17:13	47	76	56	44	50	48	46	46	45
38	17:28	46	76	57	44	51	47	46	45	45
39	17:43	47	76	62	40	51	48	46	43	41
40	17:58	47	76	58	44	51	48	46	45	45
41	18:13	49	79	64	41	57	52	47	44	42
42	18:28	49	79	62	45	54	50	49	46	46
43	18:43	50	80	60	48	52	51	50	49	49
44	18:58	50	80	57	45	53	52	50	46	46
45	19:13	49	78	55	45	51	50	48	48	46
46	19:28	48	78	66	45	56	50	47	46	45
47	19:43	49	79	62	41	55	51	49	46	42
48	19:58	50	79	63	46	54	51	50	49	47
49	20:13	48	78	62	40	54	50	48	43	41

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50	20:28	48	78	60	45	54	50	48	46	45
51	20:43	47	77	56	44	51	48	47	46	45
52	20:58	47	77	60	44	53	49	46	45	44
53	21:13	46	76	56	43	51	48	46	45	44
54	21:28	47	76	68	43	54	49	45	44	44
55	21:43	53	83	77	39	65	50	45	43	40
56	21:58	46	75	57	43	51	47	45	44	44
57	22:13	45	74	51	38	48	46	45	41	39
58	22:28	44	73	56	37	49	46	41	39	38
59	22:43	47	76	55	44	52	48	46	45	44
60	22:58	46	75	56	43	50	47	45	44	44
61	23:13	46	76	65	43	55	46	44	44	43
62	23:28	44	74	49	43	46	45	44	44	43
63	23:43	44	74	63	36	48	45	44	40	38
64	23:58	44	74	51	37	48	46	44	43	38
65	00:13	38	67	47	34	41	39	37	36	35
66	00:28	41	71	64	34	53	40	37	35	34
67	00:43	58	88	80	34	74	50	46	38	35
68	00:58	47	77	59	44	52	48	47	46	45
69	01:13	45	74	51	33	48	47	44	35	34
70	01:28	45	75	52	34	50	48	45	36	34
71	01:43	44	74	52	31	50	48	40	33	32
72	01:58	43	72	50	31	47	46	43	33	32
73	02:13	45	74	62	32	49	48	44	35	33
74	02:28	46	76	53	42	49	48	46	44	43
75	02:43	44	74	48	33	47	45	44	41	34
76	02:58	45	74	51	32	50	48	44	35	33
77	03:13	44	74	50	32	49	48	44	35	33
78	03:28	45	75	54	32	49	48	45	36	33
79	03:43	43	73	51	33	48	46	40	35	34
80	03:58	46	75	52	33	50	48	46	36	34
81	04:13	45	75	53	41	49	47	45	42	41
82	04:28	44	74	47	43	45	45	44	44	44
83	04:43	44	74	63	35	47	46	45	38	36
84	04:58	47	77	58	44	51	50	46	44	44
85	05:13	51	80	56	4/	54	53	50	48	48
86	05:28	50	79	52	46	51	51	50	49	47
87	05:43	49	/9	52	45	51	50	49	4/	46
88	05:58	50	80	53	49	52	51	51	50	49
89	06:13	51	81	5/	49	53	52	51	50	50
90	06:28	49	79	56	48	51	50	49	49	48
91	06:43	49	/8	64	39	5/	50	49	41	40
92	06:58	50	80	66	46	54	51	50	49	46
93	07:13	49	/8	61	45	54	50	48	46	46
94	07:28	48	/8	60	46	53	50	48	47	46
95	07:43	50	/9	6/	48	53	51	49	49	48
96	01:58	51	80	59	48	53	51	50	49	49
97	08:13	51	81	6/	49	56	52	51	50	50
98	08:28	52	82	63	49	59	54	51	50	50
99	08:43	50	80	12	42	58	52	50	40	43
100	00:10		8U	02	40	56	52	50	50	4/
101	09:13	51	81	68	45	63 F7	51	48	40	40
102	09:28	49 E1	/9	64	41	5/	50	48	40	43
103	09:43	51	8U 70	00	42	55	54	49	4/	44
104	09:58	48	78	04	45	52	49	48	4/	46

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105	10:13	53	83	74	45	65	54	48	47	46
106	10:28	50	79	67	45	59	51	48	46	46
107	10:43	50	79	63	43	57	52	48	47	45
108	10:58	50	80	64	45	57	53	49	47	46
109	11:13	51	80	64	45	60	54	48	47	46
110	11:28	49	79	62	41	55	52	48	45	42
111	11:43	50	79	56	46	54	51	49	48	47
112	11:58	48	78	60	45	53	50	47	46	46
113	12:13	48	78	61	45	53	50	47	46	46
114	12:28	48	78	57	44	52	51	47	46	45
115	12:43	48	78	62	42	53	51	47	46	43
116	12:58	51	81	69	45	62	52	49	48	46
117	13:13	51	80	68	45	59	53	49	47	46
118	13:28	49	79	64	42	57	51	48	45	43
119	13:43	50	79	61	46	56	51	49	48	47
120	13:58	49	79	62	45	57	52	48	47	46
121	14:13	48	78	56	45	54	50	48	46	45
122	14:28	47	77	64	44	55	49	46	45	44
123	14:43	50	80	66	43	59	52	49	46	45
124	14:58	52	81	72	45	61	53	49	47	46
125	15:13	49	79	62	44	57	51	48	47	45
126	15:28	48	78	62	44	51	49	48	46	45
127	15:43	49	79	58	46	53	50	49	48	47
128	15:58	50	79	64	45	57	51	49	47	46
129	16:13	52	81	67	45	61	52	51	47	46
130	16:28	52	82	63	45	59	54	51	47	46
131	16:43	55	85	75	41	68	57	50	47	42
132	16:58	49	78	60	45	55	50	48	46	46
133	17:13	49	79	59	45	54	51	49	47	46
134	17:28	48	77	62	44	53	49	48	46	45
135	17:43	50	80	68	46	60	50	48	48	47
136	17:58	50	80	66	47	58	51	49	48	47
137	18:13	50	80	60	48	56	52	50	49	49
138	18:28	49	79	59	45	51	50	49	47	45
139	18:43	49	79	60	47	52	50	49	48	48
140	18:58	49	79	62	46	56	50	48	47	47
141	19:13	48	78	60	44	54	50	46	45	45
142	19:28	45	75	53	39	51	47	45	44	40
143	19:43	45	74	58	38	53	47	42	40	39
144	19:58	47	77	59	44	54	49	46	45	45
145	20:13	46	76	57	43	53	48	46	44	44
146	20:28	45	75	54	43	49	46	45	44	44
147	20:43	49	78	63	39	59	51	46	44	40
148	20:58	45	75	54	43	48	46	45	44	44
149	21:13	47	77	62	43	57	49	45	44	44
150	21:28	45	74	58	39	51	46	45	41	40
151	21:43	45	75	55	38	50	47	46	40	39
152	21:58	46	76	62	44	51	48	46	45	44
153	22:13	47	76	57	42	51	49	46	44	43
154	22:28	44	74	55	42	49	45	44	43	42
155	22:43	47	76	63	38	54	49	45	42	39
156	22:58	46	75	53	43	49	47	45	45	44
157	23:13	45	75	52	43	47	46	45	45	44
158	23:28	43	72	49	36	47	46	40	38	37
159	23:43	39	69	51	36	43	41	39	38	37

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160	23:58	38	68	44	36	43	40	38	37	36
161	00:13	39	68	45	36	42	40	38	37	37
162	00:28	40	70	53	35	47	45	38	37	36
163	00:43	47	77	52	38	50	49	47	45	39
164	00:58	48	77	51	43	50	49	48	47	45
165	01:13	47	76	64	36	51	49	45	43	39
166	01:28	47	77	53	44	50	49	48	46	45
167	01:43	47	77	50	44	49	48	47	45	45
168	01:58	46	75	63	35	49	48	46	38	36
169	02:13	46	75	52	35	49	48	46	37	36
170	02:28	42	72	48	34	47	46	39	36	35
171	02:43	39	69	47	35	45	41	38	36	36
172	02:58	44	74	52	35	48	47	45	37	36
173	03:13	43	73	51	35	49	47	38	36	36
174	03:28	51	81	72	35	66	43	37	36	36
175	03:43	39	69	46	35	45	41	38	37	36
176	03:58	48	78	65	36	59	51	43	38	37
177	04:13	43	73	50	36	47	46	41	38	37
178	04:28	41	71	48	36	46	45	39	38	37
179	04:43	55	85	77	37	70	50	46	39	38
180	04:58	46	75	52	37	51	50	45	39	38
181	05:13	50	79	63	44	53	51	50	47	45
182	05:28	50	80	61	47	52	51	50	49	48
183	05:43	51	81	55	47	54	53	51	48	48
184	05:58	52	81	55	50	53	53	52	51	51
185	06:13	53	82	60	51	54	53	53	52	52
186	06:28	53	83	56	50	55	55	54	52	51
187	06:43	51	80	60	46	54	53	51	48	47
188	06:58	51	81	55	50	53	52	51	51	50
189	07:13	50	80	59	47	53	52	50	48	47
190	07:28	52	81	58	49	53	52	52	51	50
191	07:43	52	82	68	47	60	53	51	48	48
192	07:58	49	79	58	47	54	51	49	48	47

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<u>APPENDIX 'B'</u>

Photos and Drawing

Roof of No 13 Belsize Crescent with location of condensers on right hand side centre of roof

Nearest neighbour's windows in No 15 Belsize Crescent



PHOTO A – Front of the property at 13 Belsize Crescent





PHOTO C – Location of microphone on the roof of 13 Belzize Crescent with flat roof patio of 11 Belsize Crescent behind



