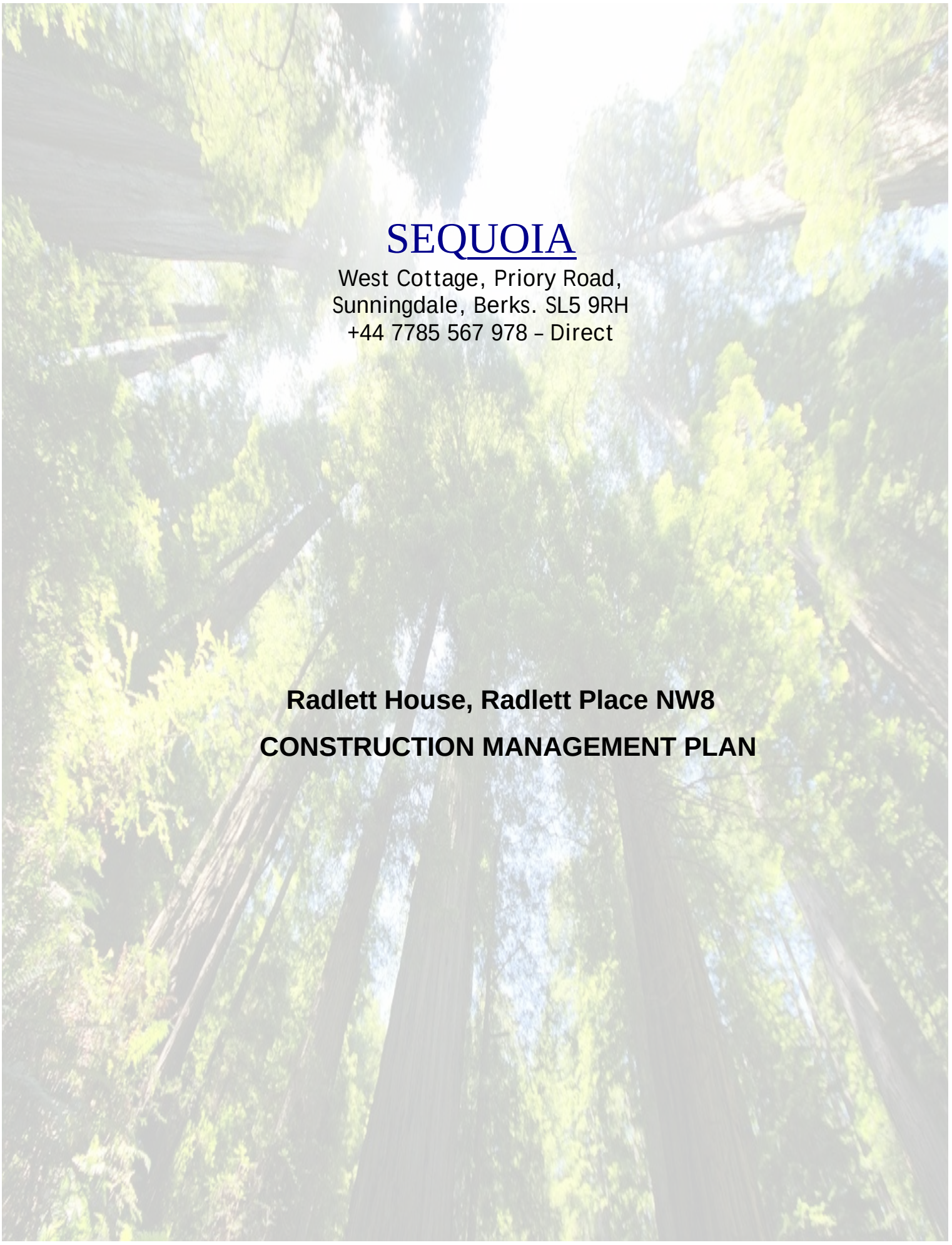


SEQUOIA

West Cottage, Priory Road,
Sunningdale, Berks. SL5 9RH
+44 7785 567 978 – Direct

Radlett House, Radlett Place NW8

CONSTRUCTION MANAGEMENT PLAN

Construction Management Plan

pro forma v2.3

Camden

Contents

Revisions & additional material

Please list all iterations here:

Date	Version	Produced by
24th April 2024	1	Sequoia Consulting Ltd

Additional sheets

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

Date	Version	Produced by
TBA		

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 Transport for London's (TfL's Standard for Construction Logistics and Community Safety (**CLOCS**) scheme) and Camden's Minimum Requirements for Building Construction **(CMRBC)**.

Camden charges a fee 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.

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 "**Demolition Notice.**"

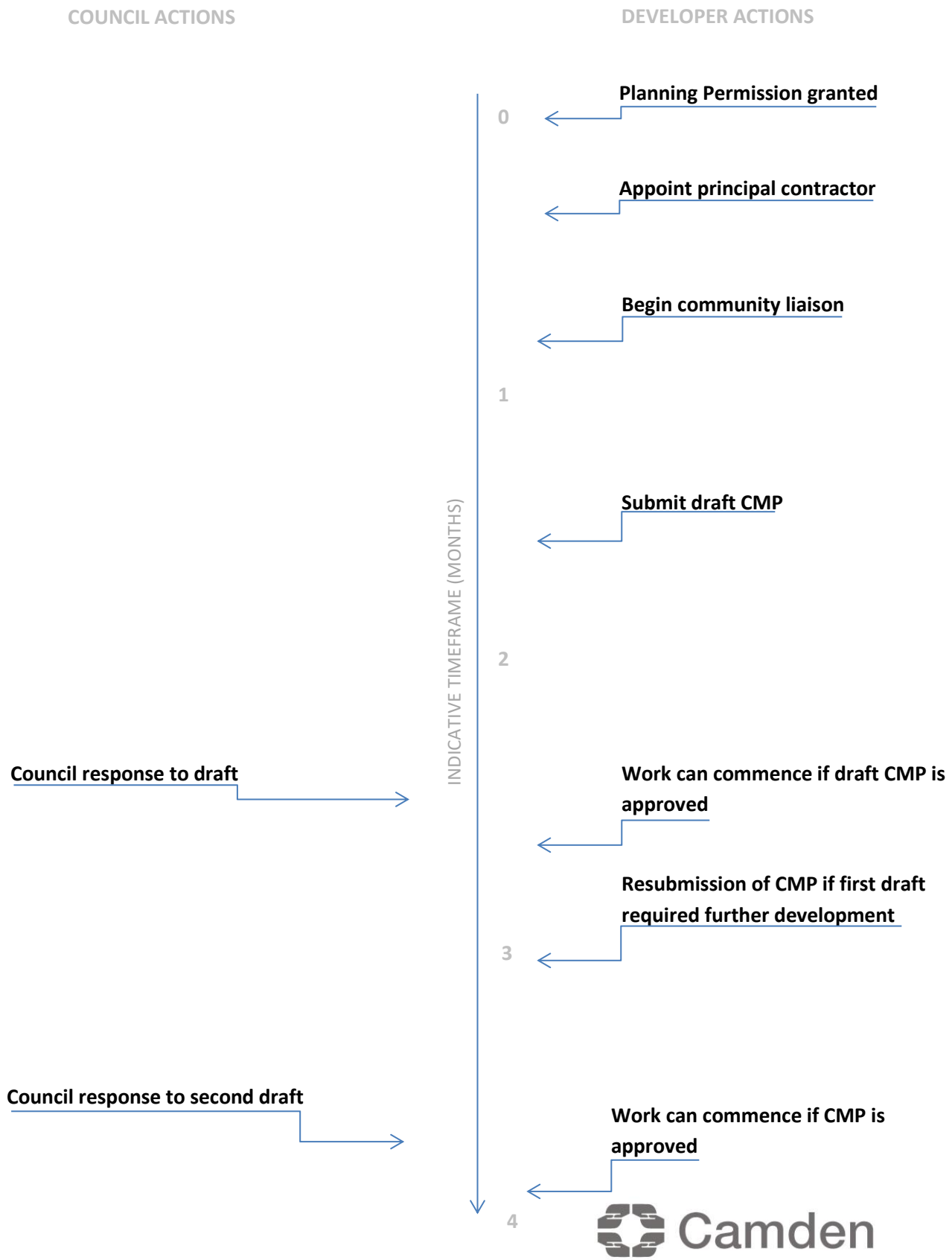
Please complete the questions below with additional sheets, drawings and plans as required. The boxes will expand to accommodate the information provided, so please provide as much information as is necessary. It is preferable if this document, and all additional documents, are completed electronically 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.

Timeframe


COUNCIL ACTIONS
DEVELOPER ACTIONS
Planning Permission granted
0
Appoint principal contractor
Begin community liaison
1
Submit draft CMP
INDICATIVE TIMEFRAME (MONTHS)
2
Council response to draft
Work can commence if draft CMP is approved
Resubmission of CMP if first draft required further development
3
Council response to second draft
Work can commence if CMP is approved
4

Contact

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

Address: Radlett House, Radlett Place, London, NW8 6BT

Planning reference number to which the CMP applies:

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

Name: Alan Everett

Address: Sequoia Consulting Ltd

Email: alan@sequoiaconsulting.co.uk

Phone: 07785 567 978

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: David Hilton

Position: Director

Address: Abtech (UK) Ltd, Fairway House, Armstrong Way, Farnborough, Hampshire GU14 0LP

Tel: 01252 - 515168

Email: sales@abtechbasements.co.uk

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 **Community Investment Programme (CIP)**, please provide contact details of the Camden officer responsible.

Name: As per Q3 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: As per Q3 Address: Email: Phone:

Site

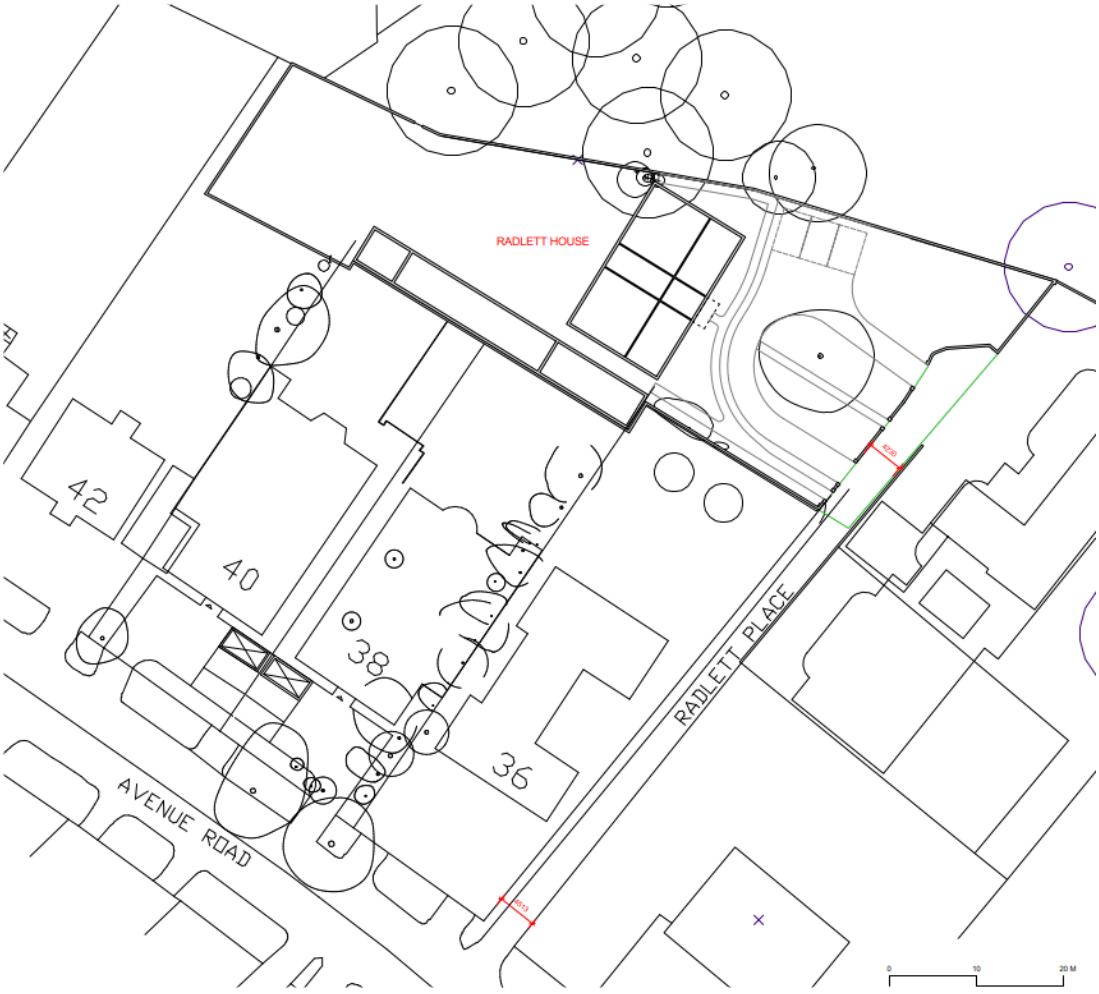
6. Please provide a site location plan and a brief description of the site, surrounding area and development proposals for which the CMP applies.

Demolition of the existing property and the creation of a large basement, a two-story main house and second two storey coach house/garage.

Radlett House is accessed via Radlett Place, a private street leading off the B525 Avenue Road

Refer to appendices for scaled site plan

At this stage a great deal of the works have been completed and the remainder is covered in this CMP



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).

Demolition of existing building, excavation of basement, constriction as described above. Main challenge in terms of construction traffic is the relative narrowness of Radlett Place; however, this is ample for the construction vehicles, being a minimum of 4.2m in width

8. Please provide the proposed start and end dates for each phase of construction as well as an overall programme timescale. (A Gantt chart with key tasks, durations and milestones would be ideal).

Please refer to Appendix 1 for the Gantt chart

All phases will overlap (refer to GANTT chart)		APPROXIMATE VEHICLE NUMBERS PER WEEK							TOTAL PER WEEK
SITE ACTIVITY	DURATION (WEEKS)	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	
Site setup & Enabling works	3			1	15	3	3	1	23
Excavation	2	25		3	15				43
Substructure & Drainage	24	3	10	3	2			3	21
Main Slab & Waterproofing	9		25	2	10	3	3		43
Timber Structure, Roofing, Cladding & 1st Fix	29		3	15			5	5	28
Internal Works, Mechanical & 2nd Fix	23		3		5		5	5	18
Services	20				10	10		1	21
External Works & Landscaping	8				15	15	10	2	42
Snagging & Completion					10		1		11
Total Project Length	85								197

VEHICLE TYPES	Vehicle Description	Length (m)	Width (m)	Height (m)	Dwell time (max)
Type 1	Tipper / Grab Lorry	9	2.5	3.7	20 mins
Type 2	Standard Concrete vehicle	8.7	2.4	3.5	2 hours
Type 3	Delivery lorry (rigid)	8	2.4	(varies)	up to 1 hr
Type 4	Van (e.g. LWB Transit)	6	2.1	(varies)	up to 1 hr
Type 5	Narrow-bodied Tipper (Cabstar, etc.)	6	1.9	(varies)	up to 1 hr
Type 6	Skip Vehicle	7	2.5	3.7	15 mins
Type 7	18t Hi-Ab delivery vehicle	6.8	2.5	2.8	30 mins

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

Standard Working hours as stated above

Community Liaison

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

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 specifically relating to construction impacts 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 sign off.** This communication should then be ongoing during the works, with neighbours 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.).

Swiss Cottage School is on Avenue Road; however, this is a busy classified road and the expected impact from this particular site is considered negligible, given all vehicles will enter the site and not wait on the highway

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**.

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 draft CMP with local residents, businesses, local groups (e.g. residents/tenants and business associations) and Ward Councillors.

Consultation was carried out under the previous permission and the basement and other works are simply a continuance of this

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 project manager will be responsible for community liaison and details will be prominently displayed at the entrance to Radlett Place. QR codes will be in place for people to scan for updated information. If it is considered there will be a greater impact from a certain delivery, neighbours will be informed in advance by letter drop.

13. Schemes

Please provide details of your Considerate Constructors Scheme (CCS) registration. Please note that Camden requires enhanced CCS registration that includes CLOCS monitoring.

Contractors will also be required to follow the "Guide for Contractors Working in Camden" also referred to as "Camden's Considerate Contractors Manual".

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.

None noted at this stage

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 sub-contractors 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 enhanced CCS site registration, and possibly council officers, to ensure compliance. Please refer to the CLOCS Standard when completing this section. Guidance material which details CLOCS requirements can be accessed here, details of the monitoring process are available here.

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

Please refer to the CLOCS Overview and Monitoring Overview documents referenced above which give a breakdown of requirements.

CLOCS Contractual Considerations

15. Name of Principal contractor:

Name: David Hilton Position: Director

Address: Abtech (UK) Ltd, Fairway House, Armstrong Way, Farnborough, Hampshire GU14 0LP

Tel: 01252 - 515168

16. Please submit the proposed method for checking operational, vehicle and driver compliance with the CLOCS Standard throughout the duration of the contract (please refer to our CLOCS Overview document and Q18 example response).

The project manager will ensure with suppliers, that all driver licences and endorsements will be verified through a service that directly accesses current Driver and Vehicle Licensing Agency (DVLA) data. Frequency of licence checks will be against an approved risk scale and licences shall be checked as a minimum every six months.

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. Please sign-up to join the CLOCS Community to receive up to date information on the standard by expressing an interest online.

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

Confirmed

Please contact CLOCS@camden.gov.uk 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.

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.

Avenue Road is the B525 a classified road, vehicles will approach and depart via the A5205 Prince Albert Road or the A41 Adelaide Road junction, there is no need for construction vehicles to utilise residential or smaller side roads

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.

Suppliers will be informed during the procurement process as well as the use of a 24hr advance ordering schedule. There will be a minimum 30-minute call up procedure for drivers (in practice this time window will be greater)

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. (Refer to the *Guide for Contractors Working in Camden*).

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**.**

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

All phases will overlap (refer to GANTT chart)		APPROXIMATE VEHICLE NUMBERS PER WEEK							TOTAL PER WEEK
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Excavation	2	15			15				30
Substructure & Drainage	24	3	10	3	2			3	21
Main Slab & Waterproofing	9		20	2	10	3	3		38
Timber Structure, Roofing, Cladding & 1st Fix	29		3	15			5	5	28
Internal Works, Mechanical & 2nd Fix	23		3		5		5	5	18
Services	20				10	10		1	21
External Works & Landscaping	8				15	15	10	2	42
Snagging & Completion					10		1		11
Total Project Length	85								179

VEHICLE TYPES	Vehicle Description	Length (m)	Width (m)	Height (m)	Dwell time (max)				
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Type 3	Delivery lorry (rigid)	8	2.4	(varies)	up to 1 hr				
Type 4	Van (e.g. LWB Transit)	6	2.1	(varies)	up to 1 hr				
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Type 6	Skip Vehicle	7	2.5	3.7	15 mins				
Type 7	18t Hi-Ab delivery vehicle	6.8	2.5	2.8	30 mins				

b. 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.

None identified at this stage

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

Please refer to appendix 2

d. 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.

There is no requirement for off-site holding areas, the site is capable of accommodating a number of vehicles simultaneously

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

N/A

f. 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 drivers will be instructed to switch off engines when on stand on the site at any time. There will be no waiting on the highway permitted

20. Site access and egress: *"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 skip this section and refer to Q23.

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 (not 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 access and egress points on a map or diagram. If this is attached, use the following space to reference its location in the appendices.

Please refer to Appendix 2. There is only one point of access/egress

b. Please describe how the access and egress 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 traffic marshals will possess the Site Access Traffic Marshal qualification as a minimum, there will be a minimum of two in place at the junction with the public highway to control entry and exit to the site

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

Refer to appendix 2

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.

The site itself will utilise a jet wash and brush with water draining into an appropriate sump. No site arisings will be permitted to discharge into the public drainage system, or across the highway

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 place off-site on the public highway. If loading is taking place on site, please skip this section.

a. please provide details of the parking and loading arrangements for construction vehicles with regard to servicing and deliveries associated with the site (e.g. delivery of materials and plant, removal of excavated material). This is required as a scaled site plan, showing all points of access and where materials, skips and plant will be stored, and how vehicles will access and egress the site. 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.

Refer to Appendices

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, if this differs from detail provided in Q20 b.

Please refer to Q20b above

Street Works

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 Orders (TTOs) and hoarding/scaffolding licenses may be applied for prior to CMP submission but won't be granted until the CMP is signed-off.

Please note that there is a two week period required for the statutory consultation process to take place as part of a TTO.

If the site is on or adjacent to the TLRN, please provide details of preliminary discussions with Transport for London in the relevant sections below.

If the site conflicts with a bus lane or bus stop, please provide details of preliminary discussions with Transport for London in the relevant sections below.

22. Site set-up

Please provide 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 proposed site access locations. If these are attached, use the following space to reference their location in the appendices.

Refer to appendix 2

23. Parking bay suspensions and temporary traffic orders

Parking bay suspensions should only be requested where absolutely necessary and these are permitted for a maximum of 6 months only. For exclusive access longer than 6 months, you will be required to obtain a Temporary Traffic Order (TTO) for which there is a separate cost.

Please provide details of any proposed parking bay suspensions and/or TTO's which would be required to facilitate the construction - include details of the expected duration in

months/weeks. Building materials and equipment must not cause obstructions on the highway as per your CCS obligations unless the requisite permissions are secured.

Information regarding parking suspensions can be found here.

N/A

24. Occupation of the public highway

Please note that use of the public highway for storage, site accommodation or welfare facilities is at the discretion of the Council and is generally not permitted. If you propose such use you must supply full justification, setting out why it is impossible to allocate space on-site. We prefer not to close footways but if this is unavoidable, you should submit a scaled plan of the proposed diversion route showing key dimensions.

a. Please provide justification of proposed occupation of the public highway.

N/A

b. Please provide accurate scaled drawings of any highway works necessary to enable construction to take place (e.g. construction of temporary vehicular accesses, removal of street furniture etc). If these are attached, use the following space to reference their location in the appendices.

N/A

25. Motor vehicle and/or cyclist diversions

Where applicable, please supply 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. If these are attached, use the following space to reference their location in the appendices.

N/A

26. Scaffolding, hoarding, and associated pedestrian diversions

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

Any work above ground floor level may require a covered walkway adjacent to the site. A licence must be obtained for scaffolding and gantries. The adjoining public highway must be kept clean and free from obstructions, and hoarding should not restrict access to adjoining properties, including fire escape routes. Lighting and signage should be used on temporary structures/skips/hoardings etc.

A secure hoarding will generally be required at the site boundary with a lockable access.

a. Where applicable, please provide details of any hoarding and/or scaffolding that intrudes onto the public highway, describing how pedestrian safety will be maintained through the diversion, including any proposed alternative routes. Please provide detailed, scale drawings that show hoarding lines, gantries, crane locations, scaffolding, pedestrian routes, parking bay suspensions, remaining road width for vehicle movements, temporary vehicular accesses, ramps, barriers, signage, lighting etc. If these are attached, use the following space to reference their location in the appendices.

N/A

b. Please provide details of any other temporary structures which would overhang/oversail the public highway (e.g. scaffolding, gantries, cranes etc.) If these are attached, use the following space to reference their location in the appendices.

N/A

27. 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.

Utility plant may require installation and upgrading. All utility companies have been contacted. The main contractor will supply a programme and coordination plan once dates are arranged

Environment

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

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

Please refer to Venta's report in Appendix 3

29. Please confirm when the most recent noise survey was carried out (before any works were carried out) and provide a copy. If a noise survey has not taken place 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.

Please refer to Venta's report in Appendix 3

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

Please refer to Venta's report in Appendix 3

31. Please provide details describing mitigation measures to be incorporated during the construction/demolition 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.

Dust, Noise and Vibration

All works on site will follow Best Practice detailed within BS 5228-1:2009+A1:2014, Code of Practice for Noise and Vibration Control on Construction & Open Sites; as well as for dust control: COSHH 2002 (as amended 2020), The London Plan 2021 Policy SI-1-D and HSE Construction Information Sheet CIS36"

1.1 Plant insulation and use of the most modern and efficient technology (such as mufflers and exhaust filters) will be employed to mitigate any excessive anticipated vibration
1.2 Concrete and steel cutting is to be managed off-site wherever possible
1.3 Where concrete beams abut or are adjacent to neighbouring properties and excessive vibration likely, the contractor will be obliged to notify said neighbour under the Party Wall Act and arrange convenient timing
1.4 The main contractor will endeavour to use suppliers and contractors that use electrically powered vehicles where possible
1.5 Vibration from hand-held tools will be managed in accordance with HSE regulations and guidance

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

33. Please provide details on how dust nuisance arising from dusty activities, on site, will be prevented.

1.6 Spoil and waste are covered and any passage via conveyor of excavated material is dampened as it heads to the container or vehicle before despatch. If necessary, vehicles carrying waste/ spoil will be dampened and covered during dry and windy conditions

1.7 Hoardings bordering the property will help contain any dust. Where required, scaffolding and sheeting can be erected to further contain dust

1.8 Scaffolding is to be wrapped with a suitable polythene cover, both to reduce dust, but also to an extent, noise

1.9 Water dampening measures will be considered where necessary

1.10 During the works dusty operations are likely to occur as follows:

1.10.1 Enabling works and set-up; Minimal
1.10.2 Demolition; Medium to high risk - mitigation measures taken
1.10.3 Temporary works; Minimal
1.10.4 Concrete pouring; Minimal
1.10.5 Construction above ground; Medium risk on dry and windy days – mitigation measures taken

1.11 Other measures to be taken

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.

The site will utilise a jet wash and brush with water draining into an appropriate sump. No site arisings will be permitted to discharge into the public drainage system, or across the highway. The gulley adjacent to the access will be covered. Any mud or site detritus inadvertently deposited on the highway will be cleared immediately by gate staff and/or banksmen

35. Please provide details describing arrangements for monitoring of noise, vibration and dust levels.

All works on site will follow Best Practice detailed within BS 5228-1:2009+A1:2014, Code of Practice for Noise and Vibration Control on Construction & Open Sites; as well as for dust control: COSHH 2002 (as amended 2020), The London Plan 2021 Policy SI-1-D and HSE Construction Information Sheet CIS36"

Monitoring will be the responsibility of the site manager and appropriate equipment will be installed and records kept

36. Please confirm that a Risk Assessment has been undertaken at planning application stage in line with the GLA policy. The Control of Dust and Emissions During Demolition and Construction 2104 (SPG), that the risk level that has been identified, and that the appropriate measures within the GLA mitigation measures checklist have been applied. Please attach the risk assessment and mitigation checklist as an appendix.

Please refer to Venta's report in Appendix 3

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

Confirmed (Link above does not work)

38. If the site is a 'High Risk Site', 4 real time dust monitors will be required. If the site is a 'Medium Risk Site', 2 real time dust monitors will be required. The risk assessment must take account of proximity to sensitive receptors (e.g. schools, care homes etc), as detailed in the SPG. Please confirm the location, number and specification of the monitors in line with the SPG and confirm that these will be installed 3 months prior to the commencement of works, and that real time data and quarterly reports will be provided to the Council detailing any exceedances of the threshold and measures that were implemented to address these.

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).

A suitable pest control company will be engaged prior to onsite commencement and a methodology will be supplied once this is in place

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

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.

The site manager will be responsible for the conduct of operatives and all complaints dealt with in a swift and appropriate manner. Persistent offenders will be removed from site.

A smoking area may be designated, alternatively the site may be designated as a “non-smoking” site

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.

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):

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 provide evidence to demonstrate 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:

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: ……

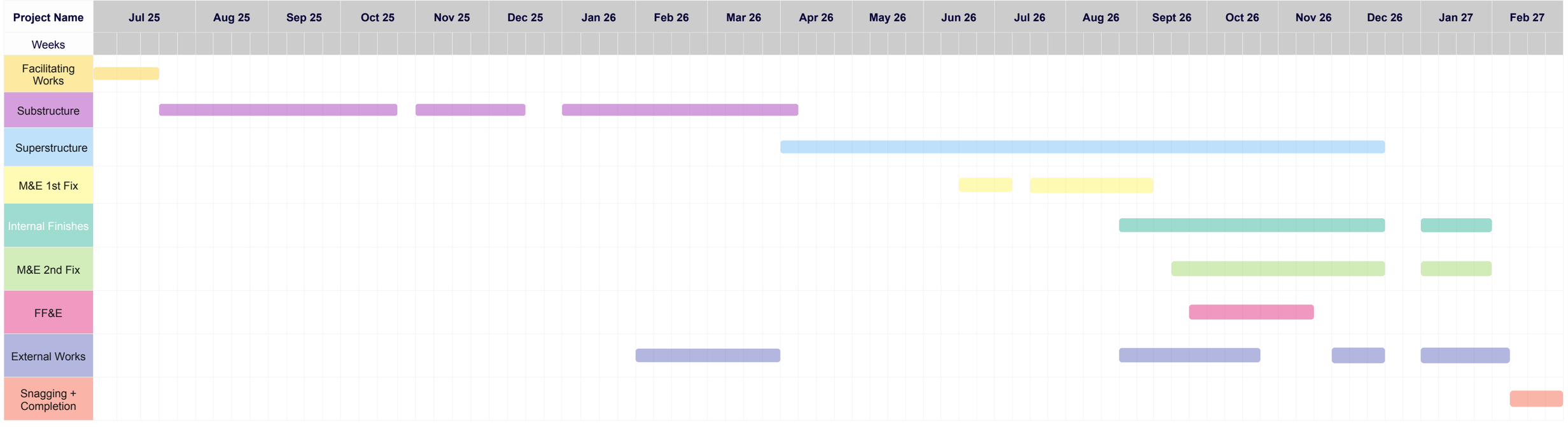
Please submit to: planningobligations@camden.gov.uk

End of form.

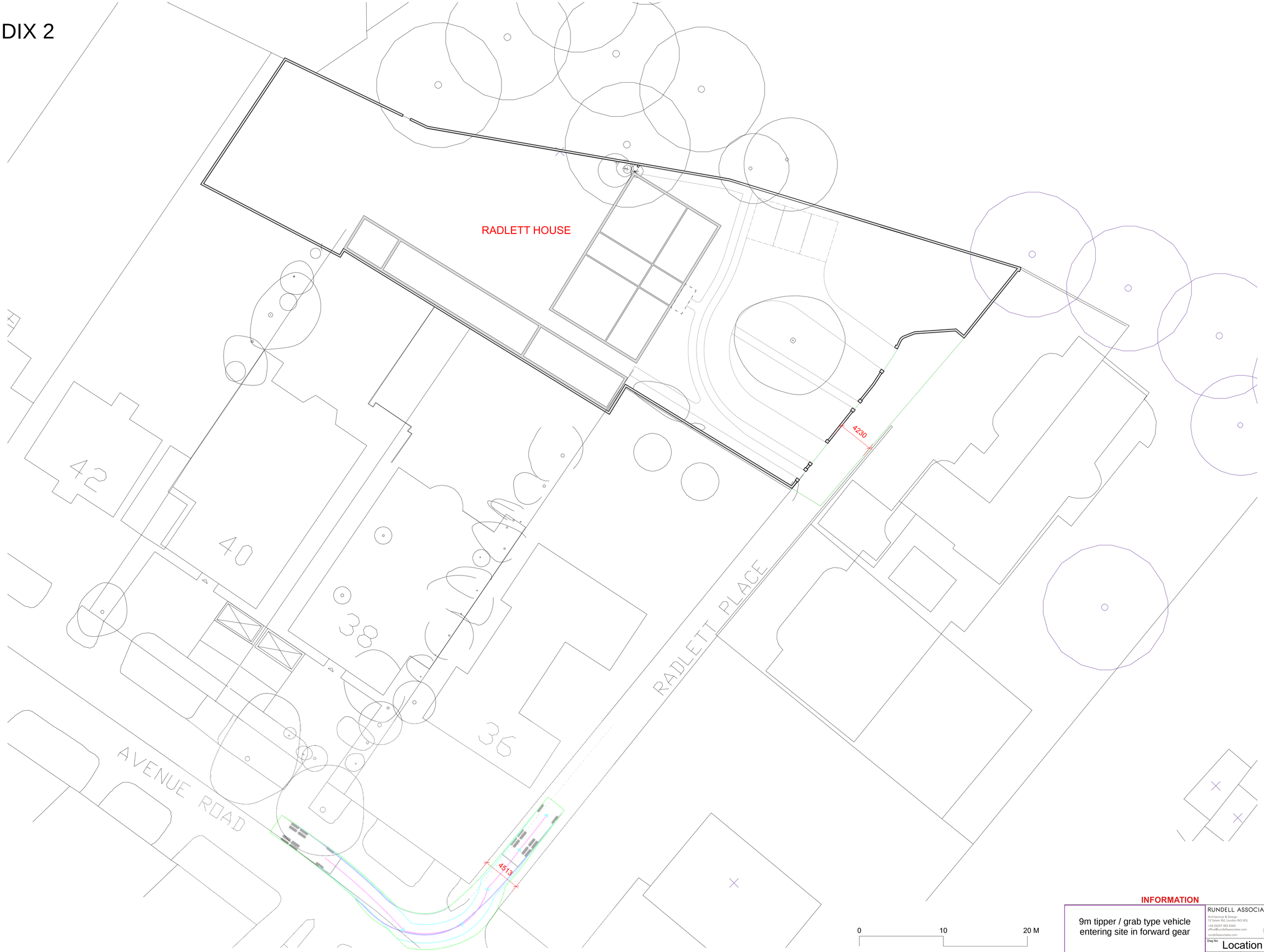
APPENDICES

APPENDIX 1

DRAFT PROGRAMME OF WORKS



APPENDIX 2



INFORMATION

9m tipper / grab type vehicle entering site in forward gear

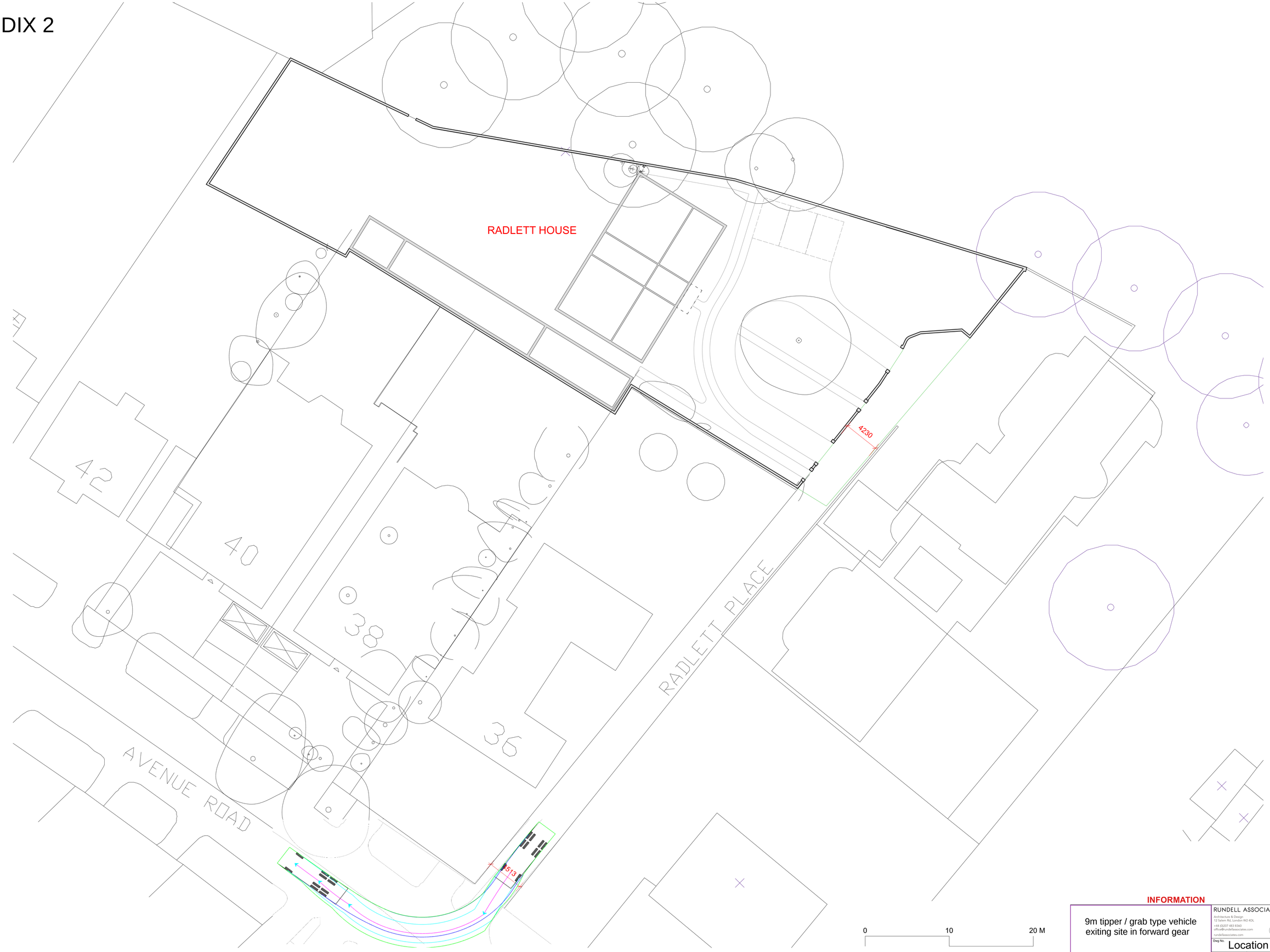
RUNDELL ASSOCIATES
Architecture & Design
12 Salem Rd, London W2 4DL
+44 (0)207 483 8360
office@rundellassociates.com
rundellassociates.com

Dwg No.

Location Plan

Drawn | Checked

APPENDIX 2



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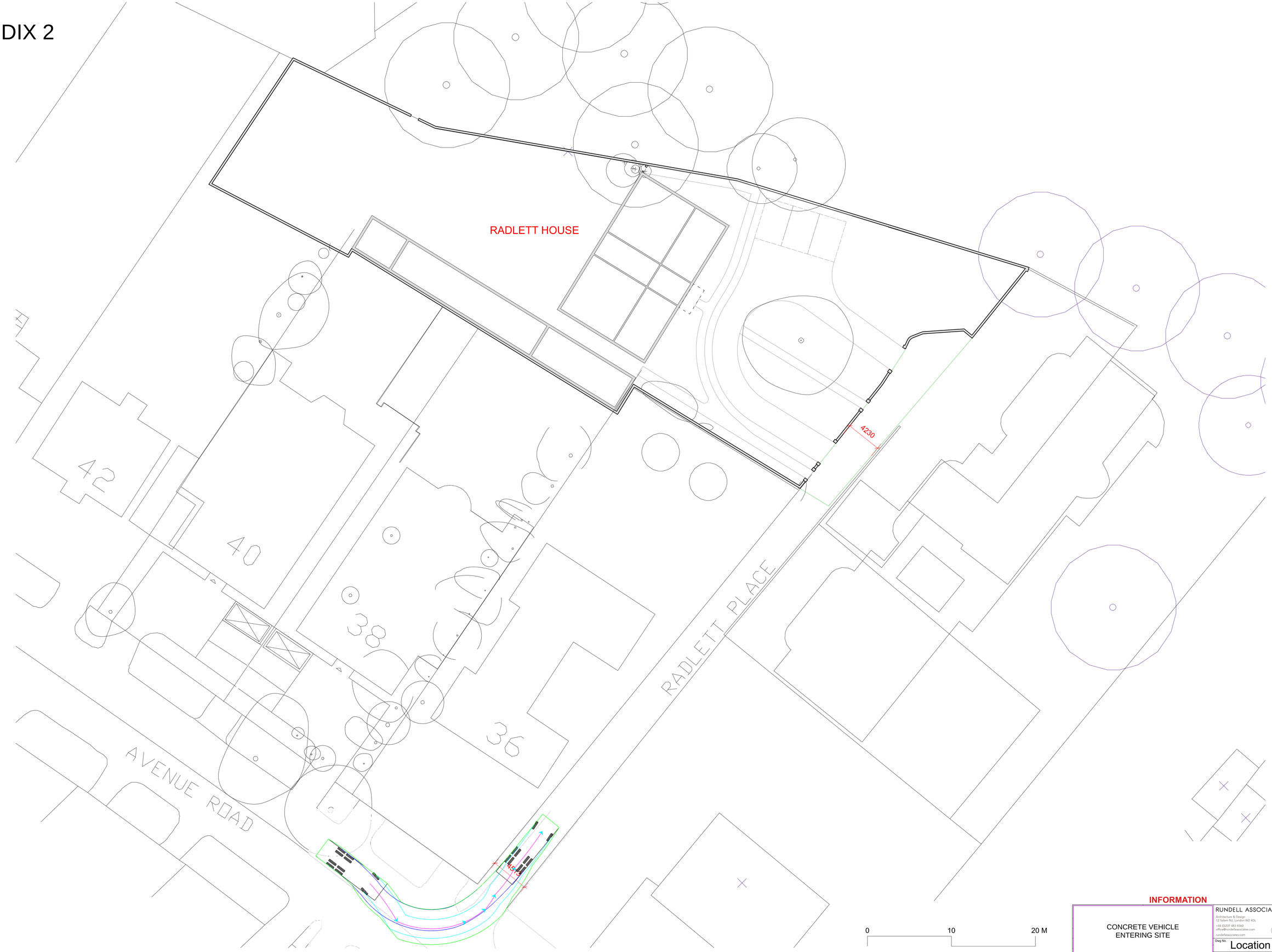

INFORMATION

CONCRETE VEHICLE ENTERING SITE

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office@rundellassociates.com
rundellassociates.com

Dwg No.

Location Plan

Drawn | Checked

APPENDIX 3

Report VA4880.231030.CMP

Radlett House, Radlett Place, London

Construction Noise Management Plan

31 October 2023

Sequoia
West Cottage
Priory Road
Sunningdale
SL5 9RH

VENTA ACOUSTICS

01962 461016
0203 8650332
mail@ventaacoustics.com

registered company no. 10139494

Contents

Attachments

Report Version	Author	Approved	Changes	Date
CMP	Jamie Duncan	Steven Liddell	-	31/10/23

The interpretations and conclusions summarised in this report represent Venta Acoustics' best technical interpretation of the data available to us at the time of assessment. Any information provided by third parties and referred to in this report has not been checked or verified by Venta Acoustics, unless otherwise expressly stated in the document. Venta Acoustics cannot accept any liability for the correctness or validity of the information provided. Due to a degree of uncertainty inherent in the prediction of all parameters, we cannot, and do not guarantee the accuracy or correctness of any interpretation and we shall not, except in the case of gross or wilful negligence on our part, be liable for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretations, predictions of conclusions made by the company or employees. The findings and conclusions are relevant to the period of the site survey works, and should not be relied upon to represent site conditions at later dates. Where additional information becomes available which may affect the findings of our assessment, the author reserves the right to review the information, reassess the findings and modify the conclusions accordingly.

1. Introduction

It is proposed to demolish the existing dwelling at Radlett House, Radlett Place, London, and construct a new building over three levels, from basement to first floor level.

Venta Acoustics has been commissioned by Sequoia to undertake predictions of the potential noise and vibration impact of the proposed works.

This is to accompany the Construction Management Plan, as required by Camden Council.

2. Site Description

As illustrated on attached site plan VA4880/SP1, the site building is located to the west of the end of Radlett Place, a small private road to the north of Avenue Road.

The most affected noise sensitive receivers are expected to be the house opposite at 1 Radlett Place, and the rear of the houses at 38 and 40 Avenue Road.

3. BS5228:2009 – Construction Noise

Camden's Minimum Requirements document states that *'the Best Practicable Means (BPM), as defined in Section 72 of the Control of Pollution Act 1974, shall be employed at all times to reduce noise (including vibration) to a minimum, with reference to the general principles contained in British Standard BS5228: 2009 'Noise and Vibration Control on Construction and Open Sites'*.

Annex E of BS5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise* provide information and advice on reducing the impact of construction works on neighbouring properties.

Criteria for construction noise are recommended in the Department of the Environment Advisory Leaflet (AL) 72.

Department of the Environment Advisory Leaflet (AL) 72 states that construction noise levels at residential locations in rural, suburban and urban areas away from main road traffic and industrial noise should not exceed 70dB(A) during the daytime (defined as 7am – 7pm). The advice also recommends that noise levels during evening periods are at least 10dB lower. It is usually accepted that these limits apply to the average noise level over the working day. The numerical limits can therefore be exceeded for short periods, provided that these are balanced by periods of relative calm.

A further example, based on the likely change in ambient noise levels, is also provided. The ABC method places potential receptors in assessment categories based on the pre-existing ambient noise level. Where ambient noise levels are below L_{Aeq} 65dB during the day, this level should be considered a threshold value above which a potential significant effect is indicated.

Assessment category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A [A]	Category B [B]	Category C [C]
Night-time (23.00–07.00)	45	50	55
Evenings and weekends [D]	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE 1 A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.
NOTE 2 If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.
NOTE 3 Applied to residential receptors only.

[A] Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
[B] Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.
[C] Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.
[D] 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

Table 3.1 – ABC Method

Using the ABC method from Annex E of BS5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*, it is expected that the threshold at nearby receivers would be Category A.

Camden are understood to allow for a limit of ABC +5dB, equating to a working limit of 70dB(A) at the nearest receivers, the same as stated in Leaflet (AL)72.

4. Predicted Noise Impact

4.1 Proposed works

The proposed works include the demolition of the existing building on site, the excavation of a large basement that runs from the entrance of the site to underneath the new house to provide parking for five vehicles accessed via a car lift, as well as new living spaces.

The new building will be located to the east of the eastern façade of the existing building, and will space across the site from north to south, with the southern boundary being bordered by the new swimming pool and health and wellbeing elements of the house. At first floor level, the house will space across the site, but not extend over the swimming pool.

To the entrance of the site, in the north eastern corner, there will be a two-storey, ancillary domestic accommodation designed to function together with the main house as a single dwelling with a garage at ground floor level, providing access to the car lift to basement level, and living space at first floor level.

As per the requirements of Camden Council, it is proposed that all demolition, excavation and construction works will occur during Camden Council's standard hours of construction (08:00-18:00 hours, Monday – Friday and 08:00 – 13:00 hours Saturday). Furthermore, works identified as potentially having a high noise impact will be avoided on a Saturday.

Predictions of likely noise levels from the activities on site indicate that demolition works are those that are most likely to exceed the noise limits at the neighbouring properties. The process that

would be most likely to generate high noise levels would be the use of breakers, both hand and excavator mounted.

To minimise noise at the neighbouring properties, where possible, it is recommended that the existing concrete oversite and foundations are broken up using a hydraulic pulveriser or muncher. If this is not possible, the slabs could be cut up into sections using concrete saws, enclosed by localised acoustic screens, before being removed in sections, to be transported from site and broken up at another location.

4.2 Predicted noise levels

Calculations have been undertaken to determine the likely worst-case noise emissions at the most affected neighbours. As all works are to be undertaken during daytime hours, the assessment has been undertaken to ground floor rooms, which will benefit from screening from site hoarding. It is acknowledged that first and second floor windows will have a line of sight to the works and hence noise levels will be higher. These calculations are summarised in Appendix B of this report.

The 'on time' for activities has been assessed as between one hour and ten hours of continuous unbroken operation of plant at their noisiest condition depending on the typical plant usage

Source noise levels have been taken from manufacturers' data for indicative plant or listings in BS5228-Part 1: 2009 *Code of practice for noise and vibration control on construction and open sites: Noise*.

Table 4.1 summarises the predicted noise levels.

Works	Activity $L_{Aeq(10h)}$
Demolition - Excavator	78 dB
Demolition – Excavator (pulveriser not breaker)	68 dB
Demolition - Hand	73 dB
Piling Works	66 dB
Excavation of Basement/Groundworks	66 dB
Concrete pours	67 dB
Constructing formwork	59 dB
Skip/grab lorries	49 dB
Concrete/steel superstructure	67 dB
Envelope works	63 dB
Internal fitout	54 dB

Table 4.1 – Predicted sound pressure levels at most affected receptor

The greatest noise impact is expected during the use of either hand held hydraulic breakers, or excavator mounted breakers.

To mitigate noise, it is recommended that breaking out of the slab is undertaken as quickly as possible, at a time agreed with the immediate neighbours prior to the works. Consideration should be made of limiting these works to 'high noise hours' between 09:00-12:00 hours and 13:00-16:00

hours, although these can be amended through liaison with the neighbours to fit best with their lifestyles and schedules. When using hand breakers, localised screening should be utilised to mitigate noise as far as practicable to the nearby receivers. If possible, quieter demolition methods should be utilised such as hydraulic pulverisers or munchers.

For other activities, the greatest noise levels are expected to be generated by moving tools and materials around the site, hammering and use of saws.

Loading broken concrete into a completely empty skip will be avoided by providing a cushioning layer (sub-soil) before loading concrete. The use of radios outside the building will not be permitted.

Grinding or cutting of steel taking place outside of the building should be minimised and these works should be limited to the high impact noise hours and enclosed by barriers, where possible.

4.2.2 Traffic/delivery noise

Deliveries and waste removal will be by skip lorry, and delivery lorry on the public road into the site itself These will be arranged and controlled to limit waiting time to no more than a 30 minutes.

While the arrival and loading / off-loading of material on lorries is likely to be slightly higher than the typical traffic on Radlett Place, the infrequent and short duration nature of this is not expected to have a significant noise impact.

Drivers will be asked to turn off their engines where possible while loading / off-loading. Care will be taken during loading and off-loading to minimise dropping of material or other unnecessary noises.

Liaison with all nearby construction sites will be undertaken to avoid traffic congestion.

5. Vibration

Vibration levels are expected to be at their highest during the breaking-out of existing concrete. Based on past experience of vibration measurements from demolition works, heavy breakers typically generate vibration levels of 3mm/s to 5mm/s P.P.V. in structures situated within several metres of the working area. Handheld breakers are expected to generate lower levels. Although the vibration is likely to be perceptible in some areas of the neighbouring properties, the anticipated levels of ground-borne vibration are considered highly unlikely to cause cosmetic damage of structures. It is likely that the levels may give rise to re-radiated noise within the neighbouring residential premises during breaking out works. These works are expected to be relatively brief. Liaison with the neighbours prior to breaking out works is recommended to inform them of the possibility of tactile vibration.

6. Noise and Vibration Monitoring

Camden Council require the following regarding monitoring.

Noise monitoring shall be undertaken using a combination of semi-permanent (continuous) and attended monitoring methods. The locations of the semi-permanent (continuous) and attended monitoring and the frequency of the sampling have previously been agreed with London Borough of Camden in writing.

In the case of vibration, measured vibration levels shall be compared with the criteria in BS 5228: 2009 part 2 (i.e. 1mms^{-1} PPV for potential disturbance in residential and using a suggested trigger criteria of 2mms^{-1} for commercial).

6.1 Noise Monitoring

Class 1 integrating logging sound level meters will be installed with calibration verified (before and after) with a Class 1 acoustic calibrator. The instrumentation will have been fully calibrated by the manufacturer, or other approved body, as required by the relevant British Standard, with current calibration certificates available. The meters will be set to measure and store samples of various acoustic parameters such as L_{Aeq}, L_{A90}, L_{A10} and L_{Amax}. SMS alerts would be utilised and data would be downloaded remotely on a regular basis.

It is proposed that the meters are configured to log continuous 30-minute samples of noise throughout the working day, which will be used to calculate a 10-hour (daily) L_{Aeq}. Daily limits and short-term action levels will be agreed with the Council prior to the works.

6.2 Vibration Monitoring

Vibration monitoring will be undertaken with the use of a suitable seismograph, or similar, measuring the peak particle velocity [ppv] continuously over defined periods. The instrumentation will have been fully calibrated by the manufacturer, or other approved body, as required by the relevant British Standard, with current calibration certificates available. SMS alerts would be utilised and data would be downloaded remotely on a regular basis.

It is proposed that the meters are configured to log continuous 30-second samples of maximum ppv levels throughout the working day. Action levels will be confirmed with the Council prior to the works.

7. General Mitigation and Management

The following key factors have been identified as determining the degree and type of mitigation required.

7.1 Liaison with Residents

The importance of maintaining good relations and communication channels between the Client, contractor and neighbours is considered to be a critical issue. In conjunction with effective

communication of site activities and scheduling, liaison with local residents is essential in cultivating a positive attitude in the surrounding community.

Prior to, and throughout, the works, liaison with nearby residents will be one of the key elements for minimising potential impacts.

It is recommended that the Client/Contractor engages with representatives of occupants of the nearby properties at the planning stage to discuss the upcoming works and identify any mutually agreeable periods for 'noisy works', should the proposed working hours generally recommended by Camden be not suitable for their requirements.

The periods when high impact works are scheduled should have consideration for the neighbours' use of their properties, such as days when occupants work from home and scheduled special events such as parties, wakes, etc.

At the early stage, contact details should be provided, along with details of the works, likely durations of each stage of the works, and prior warning for any particularly noisy works anticipated.

During works, a dedicated telephone number and designated staff contact should be made available to respond to any complaints or queries, with a messaging service for 'out of hours' enquiries. Information on current and forthcoming activities should be made as freely available as possible.

7.2 Duration of Works

It is essential to cultivate an appropriate environment in which exposure to noise and/or vibration arising from the works can be best tolerated from the outset, minimising adverse community reaction.

Communication of information regarding the overall project duration is significant in controlling adverse community reaction.

7.3 Hours of Works

It is understood that the permitted hours for 'noisy works' are restricted to 8am to 6pm Monday to Friday and 8am to 1pm on Saturdays. In addition to the above permitted hours, it is proposed that further restrictions are placed on works deemed to be of 'high impact' in terms of the level of disturbance caused to neighbouring residents and businesses. This is to ensure that nearby occupiers have sufficient breaks from activities that have the potential to be particularly disruptive. The potential 'high impact' works have been identified in the attached calculations summary and are limited to the breakout of the ground floor slab. The permitted hours for 'high impact' works are 9am to 12pm and 2pm to 5:30pm Monday to Friday, although these could be amended with consent from the neighbours and the Council.

These hours should be rigorously observed for any operations which are likely to generate noise levels noticeable by neighbouring residents. In addition, it may be necessary to undertake noisy

works on an on/off basis, thereby providing neighbouring residents with some additional respite. Any exceptions deemed essential to the works which need to be authorised by Camden and must also be communicated with the residents.

It should be noted, however, that it is sometimes preferable to extend working hours for a limited period in order to quickly complete essential noisy operations rather than increase their duration, which might cause more annoyance. If this is to be the case, this would be agreed with the neighbours and the Council should be notified in advance.

7.4 Noise Characteristics

Some noisy activities are particularly intrusive due to tonal or impulsive characteristics which tend to draw more attention to their operation. A typical example of this is heavy duty percussive breakers. Awareness of these issues is important in liaison with local residents.

Keeping door and windows closed during the use of breakers would reduce the impact on the neighbours.

8. BS5228:2009

BS 5228: Part 1: 2009 *Code of practice for noise and vibration control on construction and open sites - Part 1: Noise* and BS 5228: Part 2: 2009 *Code of practice for noise and vibration control on construction and open sites - Part 2: Vibration* provide information and advice on reducing impact of construction works on neighbouring properties.

Operatives on site should be trained to employ appropriate techniques to keep site noise to a minimum and should be effectively supervised to ensure that best working practice in respect of noise reduction is followed. This is not only to minimise the impact on neighbouring properties but also to safeguard the hearing of site operatives.

All site personnel should:

- Be mindful of neighbours and the impact of noise on their amenity. A good relationship with neighbours from the beginning of a project often reduces the likelihood of complaints;
- Strictly comply with agreed working hours. This includes minimising noise when arriving at site and preparing for the day;
- Ensure the proper use and maintenance of tools and equipment;
- Always select the lowest noise tools available for the job;
- Turn off machinery when not in use;

- Position machinery and activities on site to reduce the emission of noise to the neighbourhood and to site personnel. Generally, tools should be positioned far from neighbours and in areas where they are hidden from neighbouring windows by walls or site hoarding;

- Avoid unnecessary noise when carrying out manual operations and when operating plant and equipment;

- Understand that sound with characters such as whining, clanging or screeching as well as sudden sounds such as from hammering have a greater impact on neighbours than continuous, un-identifiable sounds;

- Where equipment is likely to cause disturbance to neighbours, this should only be used during agreed "noisy working hours" and / or a temporary structure should be erected around the machine;

- Use hearing protection when working in noisy environments.

8.1 Contractor's Obligations

In addition to the above, the following general conduct should be adopted by the contractor, where practical, in order to minimise and manage noise and vibration impacts at neighbouring properties;

- Erect good quality imperforate hoarding or temporary mass barrier sheeting, such as Echo Barrier (or similar), fixed to Heras fencing, or similar, around any openings made in the facades to the maximum practicable height, allowing for stability, wind loading, etc.;

- At all times and subject to availability, select and use the quietest plant, machinery and vehicles appropriate for the task being undertaken. All vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers, maintained in good and efficient working order and operated in such a manner as to minimise noise emissions;

- Employ at all times the Best Practicable Means (BPM), as defined in Section 72 of the Control of Pollution Act 1974, to reduce noise (including vibration) to a minimum, with reference to the general principles contained in British Standard BS5228 (see above);

- Facilitate an early community involvement exercise with neighbours to establish and agree protected areas of their properties and then to continually update progress and forewarn of forthcoming scheduled noisy works. A member of onsite staff should be designated as community relations manager to maintain good communications with neighbours;

- Adopt and adhere to agreed 'on' and 'off' times for noisy works and/or vibration sources, if required to do so by the Council;

- If deemed necessary, undertake or employ an independent third party to undertake noise, vibration and dust monitoring at locations to be agreed with the Local Authority, with pre-set 'amber' and 'red' trigger levels and text message alerts to notify when and where they are exceeded. The Contractor should commit to stop work immediately if a 'red' alert is received and to investigate. Working procedures may then need to be reviewed and modified to prevent re-occurrence. Records of monitor data should be compiled and reported weekly to all relevant parties. The extent of monitoring required can be continually assessed and amended as found necessary or desirable;

- It may be appropriate to undertake some test works prior to the commencement of the project to demonstrate the likely levels of vibration in the neighbouring properties. Depending on the outcome of the exercise, alternative plant or adjustments to the working programme may need to be considered;

- Operate a 'considerate builder' type scheme in which a commitment is made, amongst others, to undertake proper maintenance of equipment and control use of radios on site, with due consideration to proximity of neighbours, and ensure that equipment is turned off when not in use.

9. Conclusion

Demolition, excavation and construction works are proposed at Radlett House, Radlett Place, London.

The proposed works have been reviewed and predicted noise emissions calculated. These indicate that noise levels will generally be below $L_{Aeq,10hr}$ 70dB except for some durations of the demolition works using breakers.

Outline mitigation and Best Practical Means measures have been provided for the site as well as an overview of the recommendations of BS5228:2009 to assist in the training of site personnel.

Jamie Duncan MIOA


Approximate site extents
Most Affected Receivers
Image Landsat / Copernicus
Google Earth

APPENDIX A

1.1 Acoustic Terminology

The human impact of sounds is dependent upon many complex interrelated factors such as 'loudness', its frequency (or pitch) and variation in level. In order to have some objective measure of the annoyance, scales have been derived to allow for these subjective factors.

Sound	Vibrations propagating through a medium (air, water, etc.) that are detectable by the auditory system.
Noise	Sound that is unwanted by or disturbing to the perceiver.
Frequency	The rate per second of vibration constituting a wave, measured in Hertz (Hz), where 1Hz = 1 vibration cycle per second. The human hearing can generally detect sound having frequencies in the range 20Hz to 20kHz. Frequency corresponds to the perception of 'pitch', with low frequencies producing low 'notes' and higher frequencies producing high 'notes'.
dB(A):	Human hearing is more susceptible to mid-frequency sounds than those at high and low frequencies. To take account of this in measurements and predictions, the 'A' weighting scale is used so that the level of sound corresponds roughly to the level as it is typically discerned by humans. The measured or calculated 'A' weighted sound level is designated as dB(A) or L_A.
L_{eq} :	A notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the actual, fluctuating sound measured over that period (e.g. 8 hour, 1 hour, etc). The concept of L_{eq} (equivalent continuous sound level) has primarily been used in assessing noise from industry, although its use is becoming more widespread in defining many other types of sounds, such as from amplified music and environmental sources such as aircraft and construction. Because L_{eq} is effectively a summation of a number of events, it does not in itself limit the magnitude of any individual event, and this is frequently used in conjunction with an absolute sound limit.
L_{10} & L_{90} :	Statistical L_n indices are used to describe the level and the degree of fluctuation of non-steady sound. The term refers to the level exceeded for n% of the time. Hence, L_{10} is the level exceeded for 10% of the time and as such can be regarded as a typical maximum level. Similarly, L_{90} is the typical minimum level and is often used to describe background noise. It is common practice to use the L_{10} index to describe noise from traffic as, being a high average, it takes into account the increased annoyance that results from the non-steady nature of traffic flow.
L_{max} :	The maximum sound pressure level recorded over a given period. L_{max} is sometimes used in assessing environmental noise, where occasional loud events occur which might not be adequately represented by a time-averaged L_{eq} value.

1.2 Octave Band Frequencies

In order to determine the way in which the energy of sound is distributed across the frequency range, the International Standards Organisation has agreed on "preferred" bands of frequency for sound measurement and analysis. The widest and most commonly used band for frequency measurement and analysis is the Octave Band. In these bands, the upper frequency limit is twice the lower frequency limit, with the band being described by its "centre frequency" which is the average (geometric mean) of the upper and lower limits, e.g. 250 Hz octave band extends from 176 Hz to 353 Hz. The most commonly used octave bands are:

Octave Band Centre Frequency Hz	63	125	250	500	1000	2000	4000	8000

APPENDIX A

1.3 Human Perception of Broadband Noise

Because of the logarithmic nature of the decibel scale, it should be borne in mind that sound levels in dB(A) do not have a simple linear relationship. For example, 100dB(A) sound level is not twice as loud as 50dB(A). It has been found experimentally that changes in the average level of fluctuating sound, such as from traffic, need to be of the order of 3dB before becoming definitely perceptible to the human ear. Data from other experiments have indicated that a change in sound level of 10dB is perceived by the average listener as a doubling or halving of loudness. Using this information, a guide to the subjective interpretation of changes in environmental sound level can be given.

Change in Sound Level dB	Subjective Impression	Human Response
0 to 2	Imperceptible change in loudness	Marginal
3 to 5	Perceptible change in loudness	Noticeable
6 to 10	Up to a doubling or halving of loudness	Significant
11 to 15	More than a doubling or halving of loudness	Substantial
16 to 20	Up to a quadrupling or quartering of loudness	Substantial
21 or more	More than a quadrupling or quartering of loudness	Very Substantial

APPENDIX B

VA4880 - Radlett House, Radlett Place, London

Assessment to neighbouring properties

Plant type	Sound Pressure Level $L_{Aeq,T}$ dB	Adjustments: Distance to Receptor m	Screening dB	Reflection dB	% on time (Ref 10h) %	Number of plant	Noise Level at Receptor $L_{Aeq,T}$ dB	Activity $L_{Aeq(10h)}$ dB	High Impact?
Demolition - Excavator									
Pulverizer Mounted on Excavator	80dB @10m	30	0	0	50	1	70	67	
Breaker Mounted on Excavator	90dB @10m	30	0	0	50	1	80	77	YES
Dumper Turck	63dB @10m	30	-5	0	25	1	48	42	
						Cumulative $L_{Aeq(10h)}$ Level		**78**	YES
Demolition - Hand									
Electric Saw	78dB @10m	30	-5	0	10	1	63	53	
Lump Hammer	81dB @10m	30	-5	0	10	2	69	59	
Dumper Turck	63dB @10m	30	-5	0	25	1	48	42	
Hand-held Hydraulic Breaker	93dB @10m	30	-5	0	25	1	78	72	YES
						Ground Floor Works Cumulative $L_{Aeq(10h)}$ Level		**73**	YES
Piling Works/Excavation of Basement/Groundworks									
Continuous flight auger injected piling	77dB @10m	20	-5	0	75	1	66	65	
Power Pack	70dB @10m	20	-5	0	75	1	59	58	
						Cumulative $L_{Aeq(10h)}$ Level		**66**	
Tracked Excavator	77dB @10m	30	0	0	75	1	67	66	
Dumper Turck	63dB @10m	30	-5	0	25	1	48	42	
						Cumulative $L_{Aeq(10h)}$ Level		**66**	
Poker vibrator	78dB @16m	20	-5	0	25	1	71	65	
Concrete Mixer Truck (Discharging) & Concrete Pump (Pumping)	75dB @10m	30	0	0	50	1	65	62	
						Cumulative $L_{Aeq(10h)}$ Level		**67**	
Foundation Concrete Works/Slab Pour									
Tracked Excavator	77dB @10m	30	0	0	75	1	67	66	
Dumper Turck	63dB @10m	30	-5	0	25	1	48	42	
						Cumulative $L_{Aeq(10h)}$ Level		**66**	
Cordless Drill/Screwdriver	67dB @10m	30	-5	0	10	2	55	45	
Electric wood saw (cutting formwork)	76dB @16m	30	-5	0	10	1	66	56	
Hammering	69dB @10m	30	-5	0	5	2	57	44	
Angle Grinder (Grinding Steel)	80dB @10m	30	-5	0	10	1	65	55	
						Cumulative $L_{Aeq(10h)}$ Level		**59**	
Poker vibrator	78dB @16m	20	-5	0	25	1	71	65	
Concrete Mixer Truck (Discharging) & Concrete Pump (Pumping)	75dB @10m	30	0	0	50	1	65	62	
						Cumulative $L_{Aeq(10h)}$ Level		**67**	
Skip/grab lorry	68dB @10m	30	0	0	10	1	58	48	
						Cumulative $L_{Aeq(10h)}$ Level		**49**	
Concrete/Steel Superstructure									
Angle Grinder (Grinding Steel)	80dB @10m	30	0	0	15	2	73	65	
Hammer Drill	70dB @10m	30	0	0	25	2	63	57	
Electric Welder	73dB @10m	30	0	0	25	1	63	57	
Hammering	69dB @10m	30	0	0	10	2	62	52	
Cordless Drill/Screwdriver	67dB @10m	30	0	0	25	2	60	54	
						Cumulative $L_{Aeq(10h)}$ Level		**67**	
Envelope Works									
Paslode Nail Gun	73dB @10m	30	0	0	2	2	66	49	
Hammering	69dB @10m	30	0	0	5	2	62	49	
Electric wood saw	81dB @10m	30	0	0	5	1	71	58	
Cordless Drill/Screwdriver	67dB @10m	30	0	0	10	2	60	50	
Angle Grinder (Grinding Steel)	80dB @10m	30	0	0	5	1	70	57	
Hammer Drill	70dB @10m	30	0	0	20	1	60	53	
						Cumulative $L_{Aeq(10h)}$ Level		**63**	
Internal Fitout									
Paslode Nail Gun	73dB @10m	30	-10	0	10	2	56	46	
Hammering	69dB @10m	30	-10	0	20	2	52	45	
Electric wood saw	81dB @10m	30	-10	0	10	1	61	51	
Hilti Cordless Drill/Screwdriver	67dB @10m	30	-10	0	20	3	52	45	
						Cumulative $L_{Aeq(10h)}$ Level		**54**	