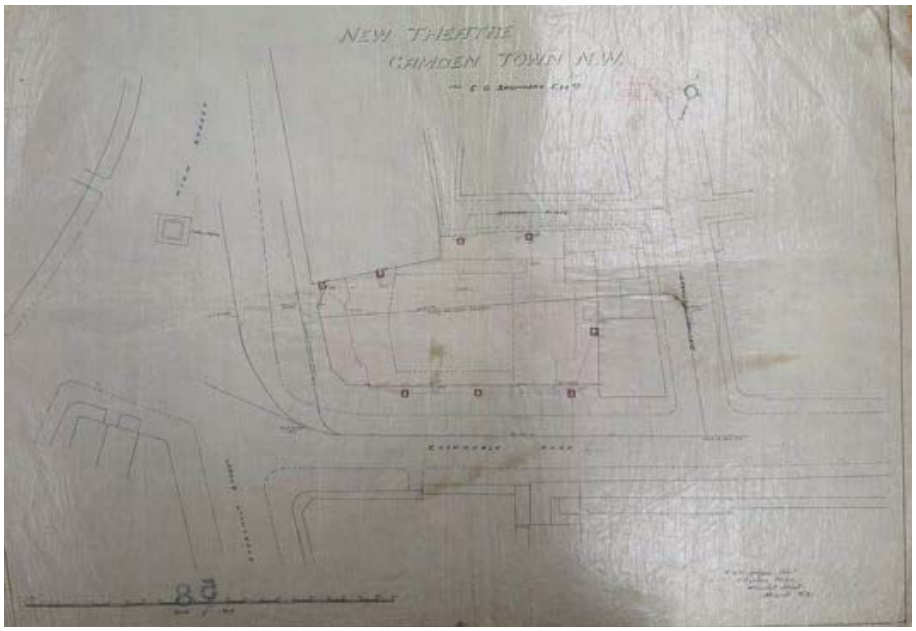
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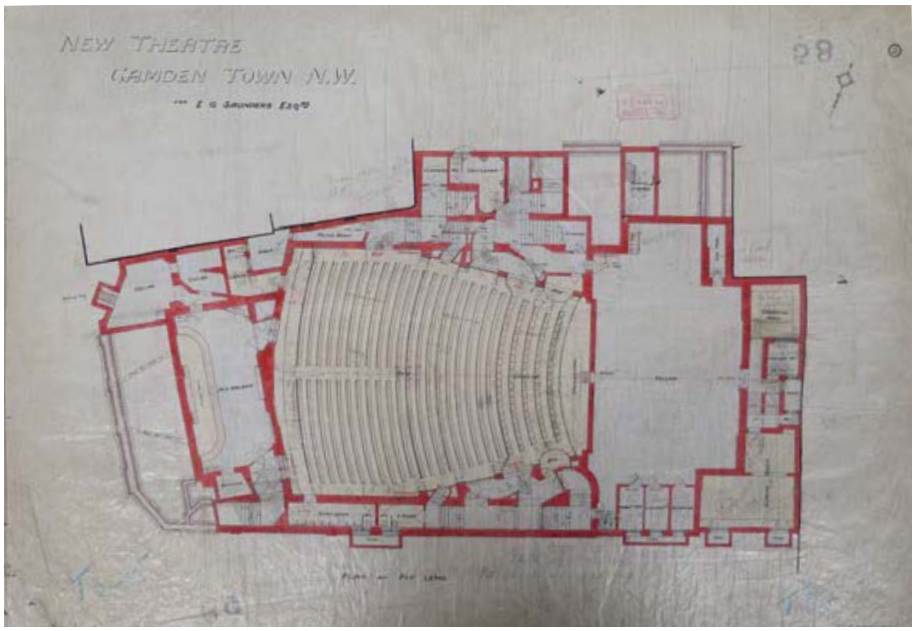
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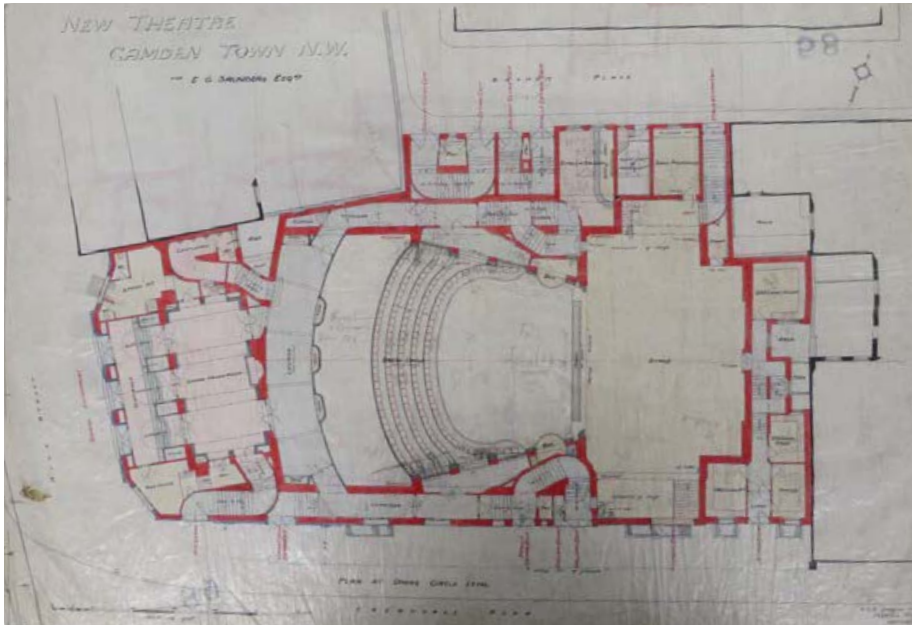
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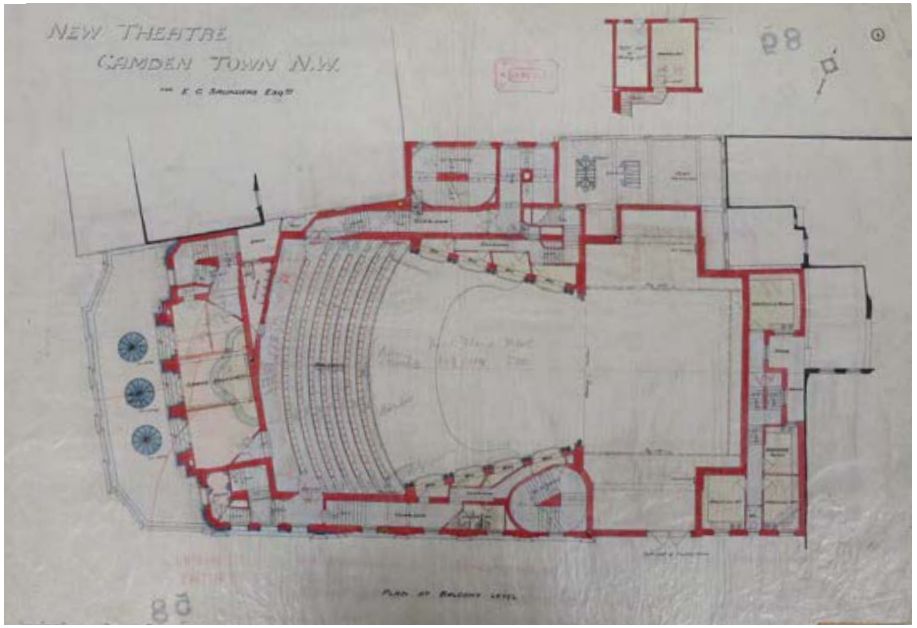
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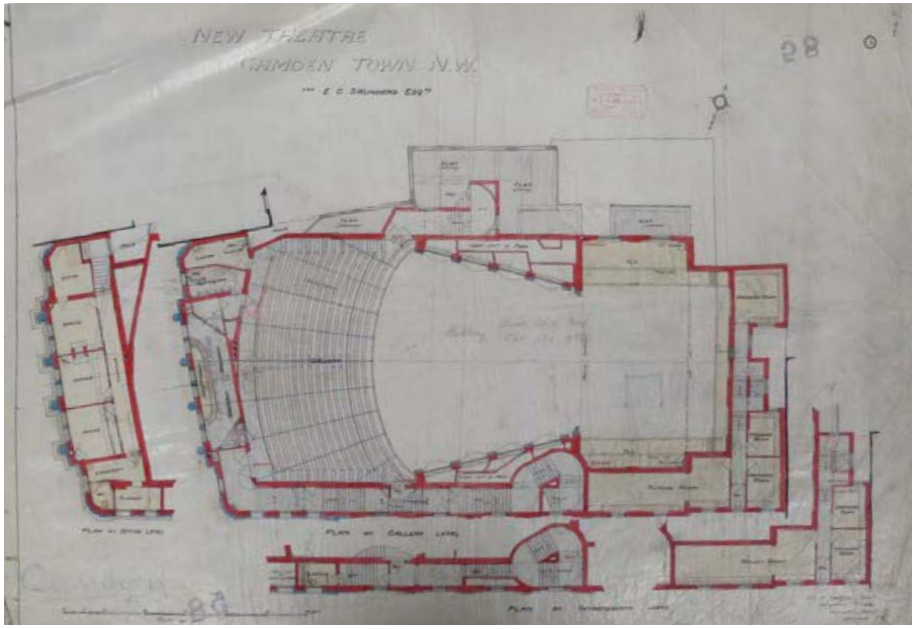
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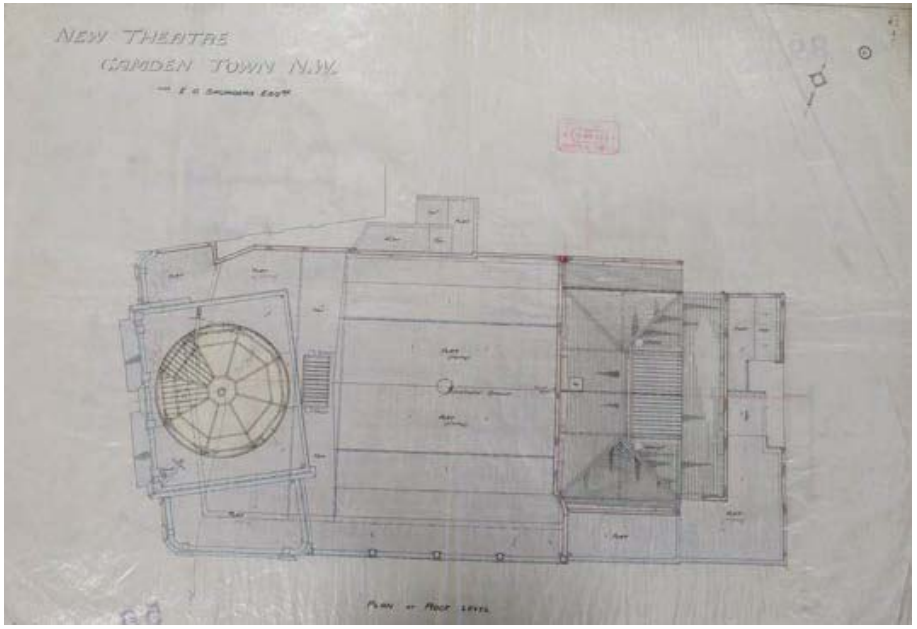
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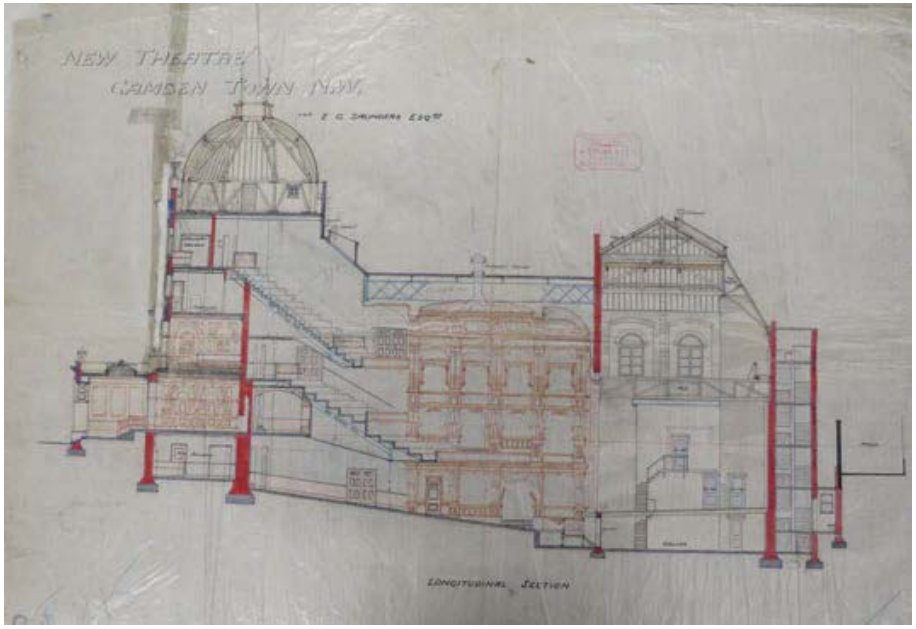
NEW THEATRE
CAMDEN TOWN N.W.
LONGITUDINAL SECTION


NEW THEATRE
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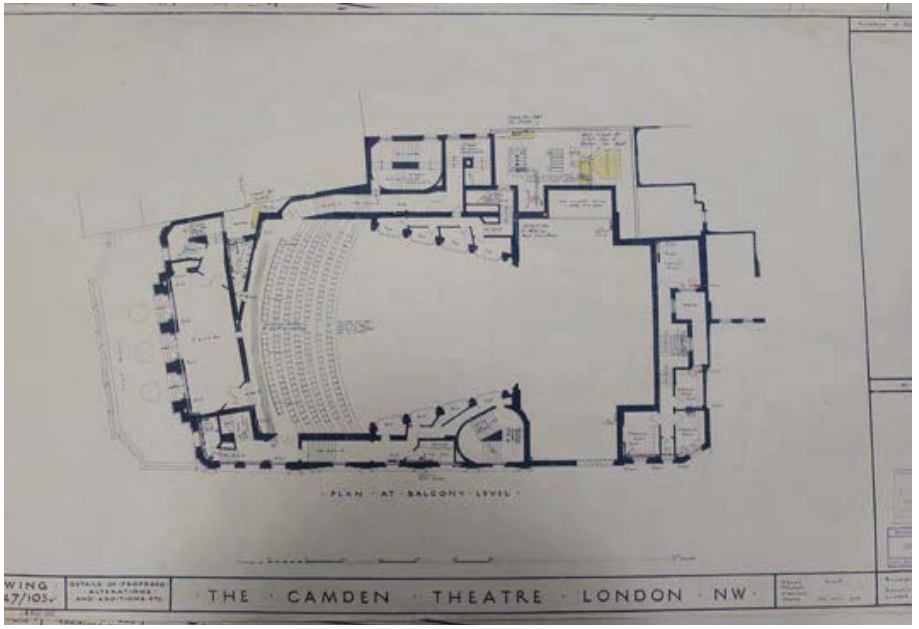
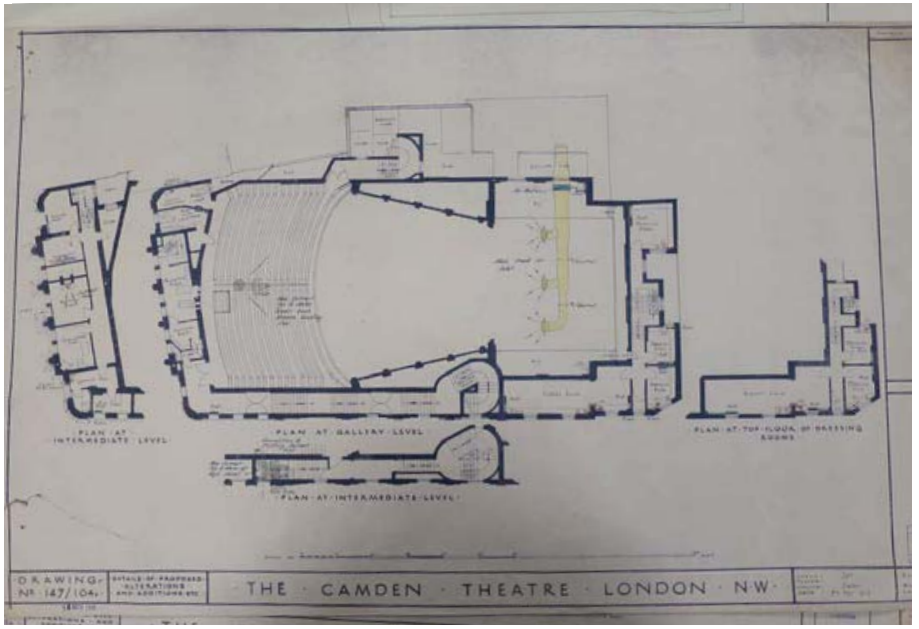
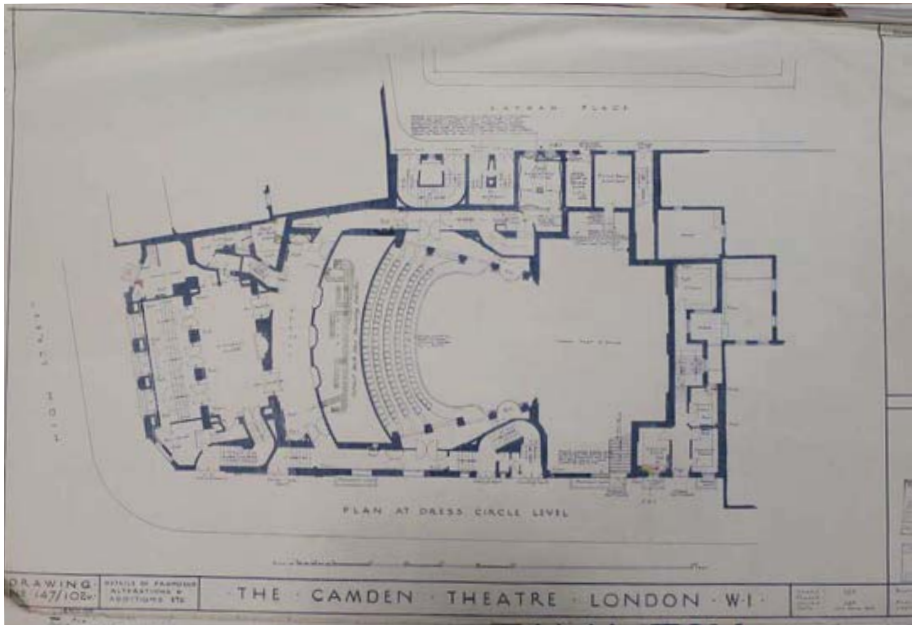




HEYNE TILLETT STEEL


PLAN AT DRESS CIRCLE LEVEL
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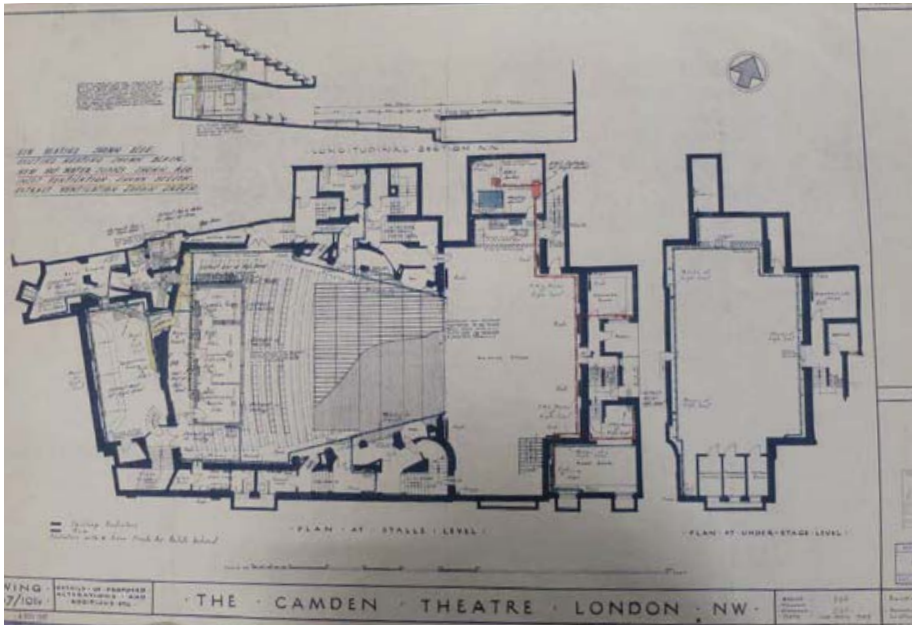
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4 Pear Tree Court, London EC1R 0DS +44 (0) 20 7870 8050

HEYNE TILLETT STEEL

Mechanical, Electrical & Plumbing (MEP) Report

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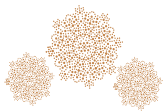
ARCHER HUMPHRYES ARCHITECTS



KOKO + Hope & Anchor+ Bayham Place:
Building Services Proposals: Pre-Planning Application Statement:
Revised 14th July 2017

Introduction

The purpose of this document is to outline in principle the building services proposals for the proposed development to support the Pre-Planning Application.

Mechanical Services.

It is proposed to relocate the existing air supply plant & chiller serving the existing Auditorium from its current position on Bayham Place at 1st floor level to a screened plant enclosure on Bayham Place elevation at third floor level thus improving the current aesthetics. The existing extract plant on the auditorium roof will be removed and replaced by two similar but physically smaller units located strategically between the dome and new roof terrace thereby being visually less intrusive.

The Dome will be ventilated via a heat recovery plant located in the re configured Cupola to maintain the ethos of the original design.

The new accommodation ground to third floor will be mechanically ventilated with heat recovery plant located in the ceiling voids of the respective areas.

The new accommodation will be heated and cooled via an energy efficient VRF system with the external condenser plant located adjacent to the Dome screened by the existing building parapet.

New energy efficient condensing boilers will be located in the roof plant enclosure serving the Auditorium AHU and providing domestic hot water from a combination of water storage cylinders and plate heat exchangers.

The new Roof Terrace area will be provided with mechanical ventilation with heat recovery and trim cooling via the VRF system to satisfy the overheating criteria of the Building Regulations. The space will have background heating via an underfloor heating system fed from the main boiler system.

The various kitchen extract hoods will be provided with grease filters as a minimum and where required ESP and UV filtration units. The main kitchen exhaust discharges (ground floor, 1st floor and roof Terrace kitchens) will be above the level of the Roof terrace and be provided with an efflux velocity of 15m/s. Pantry extracts with no food preparation shall discharge locally.

Electrical Services

The existing electrical infrastructure for the Auditorium will remain as currently configured and new supplies will be arranged for the new development.

Energy efficient lighting and a comprehensive metering and controls strategy will be incorporated. Fire alarms, fire detection, security and comm's systems will be installed as required by legislation and operator's requirements.

Energy & Sustainability

It is believed that the new development element will be assessed under building Regulations part L2B for assessment of energy. The new plant and equipment will comply with the stated efficiencies. Presence detection and energy efficient lighting and lighting controls systems shall be included.

Where new mechanical supply and extract plant are installed it shall include heat recovery otherwise natural ventilation principles will be applied where practical.

Uniflow kitchen supply plants shall not include heat recovery.

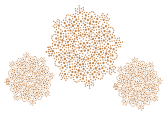
Limited areas of roof exist that are suitable for Photovoltaic panels but where practical and viable consideration will be given to installing panels.

The principles of sustainable urban drainage (SUDs) will be applied to the new elements of the building.

Noise Breakout Report

Scotch Partners LLP

ARCHER HUMPHRYES ARCHITECTS



THE HOPE PROJECT

NOISE IMPACT ASSESSMENT

THE HOPE LEASE LIMITED

JULY 2017

REVISION 01

CONTENTS

Revision History		Date	Prepared by	Checked by
R00	Initial issue	June 2017	Jacob Perry BMus AMIOA	Jason Clouston BEng MSc MIOA
R01	Update for planning	July 2017	Jacob Perry BMus AMIOA	Jason Clouston BEng MSc MIOA

1 INTRODUCTION

1.1 Proposals are in place for the redevelopment of the Hope and Anchor pub, to the rear of KOKO nightclub.

1.2 In order to assess the noise impact associated with the proposed development, an external noise survey has been undertaken. The measurement data from the survey have been used to check the level of external noise intrusion into a new bedroom, and to assess the level of noise emission from proposed building services plant. Chapter 2 of this report describes the external noise survey, and assessments of noise intrusion and noise emission are presented in Chapters 3 and 4 respectively.

1.3 A selection of data from the external noise survey is presented in Appendix A, and a glossary of terminology used in this report is included in Appendix B.

2 EXTERNAL NOISE SURVEY

2.1 SITE DESCRIPTION

2.1.1 KOKO and the adjoining Hope & Anchor are located on Crowndale Road, Camden, near to Mornington Crescent Underground station. A satellite image of the site is presented as Figure 2.1.

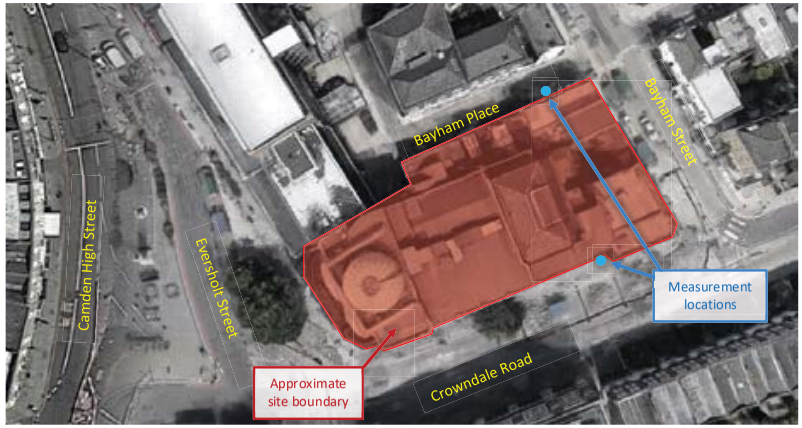


Figure 2.1 Satellite image of the site (courtesy of Google) with measurement locations highlighted

2.1.2 The primary noise source in both measurement locations was traffic along Camden High Street, Eversholt Street, and Crowndale Road. This traffic was observed to include heavy goods vehicles and regular emergency vehicles. Traffic was also fairly regular along Bayham Street and occasional delivery lorries are understood to use Bayham Place.

2.2 MEASUREMENT METHODOLOGY

2.2.1 Continuous unattended noise level measurements were conducted at two locations at the site boundary:

1. Out of a first floor window overlooking Bayham Place. Measurements made at this location are believed to be representative of the maximum noise levels that would be experienced at the façade of the proposed building facing into Bayham Place, as well as the lowest background noise levels experienced at the new residential building opposite Bayham Place.

2. Out of a first floor windows overlooking the Koko box office on Crowndale road. Measurements made at this location are believed to be representative of the maximum noise levels that would be experienced at the façade of the proposed building facing Crowndale Road and Bayham Street.

2.2.2 The measurement locations are shown in Figure 2.1.

2.2.3 Statistical and spectral data were recorded continuously between 17/03/2017 (Friday) and 22/03/2017 (Wednesday), in 10-minute samples.

2.2.4 The following equipment was used for the noise survey:

Equipment	Type	Serial No.	Location
Norsonic 131	Precision sound analyser	1313605	Crowndale Road
Norsonic 1207	Associated preamplifier	20032	
Norsonic 1227	Associated microphone	170634	
Norsonic 1218	Microphone protection kit	12182517	
Norsonic 131	Precision sound analyser	1312766	Bayham Place
Norsonic 1207	Associated preamplifier	12160	
Norsonic 1227	Associated microphone	170606	
Norsonic 1218	Microphone protection kit	12182559	
Brüel & Kjær 4231	Portable calibrator	2291098	Both

Table 2.1 Noise measurement equipment

2.2.5 The calibration of the sound level meter and associated microphone were checked prior to and on completion of both measurement periods in accordance with recommended practice. No significant drift in calibration occurred during the measurement period. The accuracy of the calibrator can be traced to National Physical Laboratory Standards.

2.2.6 The weather conditions were generally dry with wind not in excess of 5 ms^{-1}, and are not expected to have affected the findings of the assessment.

2.2.7 Construction work was being undertaken on the residences opposite Bayham Place during the weekdays; this has been taken into account in the assessments.

2.3 MEASUREMENT RESULTS

2.3.1 The full measurement data are available upon request. Level-history graphs from both sets of measurements are presented in Figure 2.2 and 2.3.

2.4 COMMENTARY ON RESULTS

2.4.1 Evening and overnight noise levels measured in Bayham place were influenced by the existing KOKO plant. This is evident in the increased L_{A90} measurements when this plant was in operation. The noise emission assessment presented in this report has therefore assumed a *background sound level* outside of these times.

2.4.2 Noise levels in both locations generally followed a consistent diurnal pattern, reaching a maximum during the daytime and a minimum overnight. The exception was on the Friday and Saturday nights, where measurements above the KOKO box office were influenced by KOKO patrons.

Figure 2.2 Measurement results overlooking Bayham Place 17/03/2017 – 22/03/2017

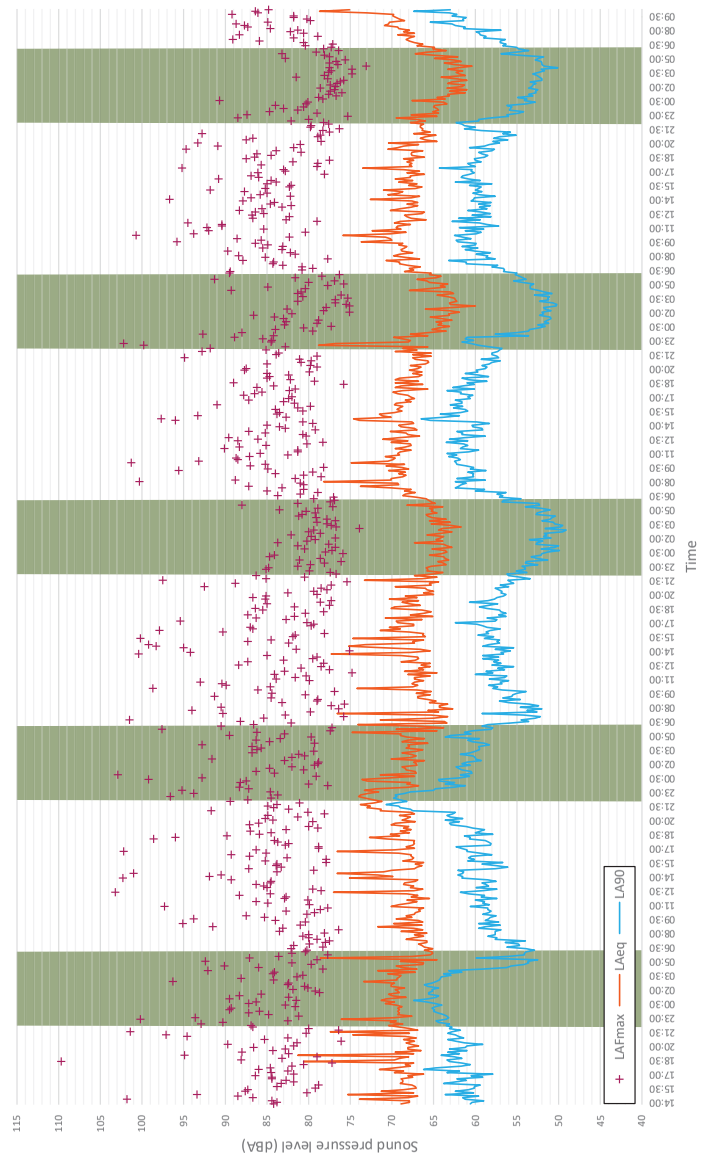


Figure 2.3 Measurement results overlooking KOKO box office 17/03/2017 – 22/03/2017

3 INTERNAL AMBIENT NOISE LEVEL ASSESSMENT

3.1 CRITERIA

3.1.1 The objective is to attenuate noise from external sources (traffic along the adjacent roads, pedestrian noise etc.) and building services noise (ventilation, cooling) to ensure a suitably comfortable noise environment within internal spaces.

3.1.2 Noise from occupants of the proposed scheme has not been considered as part of this assessment, and will be controlled by following the guidance within Approved Document E.

3.1.3 A draft condition relating to noise intrusion has been provided by Camden Council:

> *Condition 7: Noise level in hotel rooms at the development hereby approved shall meet the noise standard specified in BS8233:2014 for internal rooms and external amenity areas.*

The relevant noise standards specified in BS 8233: 2014 are as follows:

Period	Noise level
Daytime (07:00 – 23:00)	30 – 40 dB $L_{Aeq,1hour}$
Night-time (23:00 – 07:00)	25 – 35 dB $L_{Aeq,1hour}$
	45 – 55 dB L_{Amax}

Table 3.1 Recommended internal noise levels from external sources (from BS 8233:2014 annex H)

		Noise level
Bedroom	Comfort cooling (duty must be operable by occupant)	NR 25 L_{eq}
	Background ventilation	NR 20 L_{eq}
En-suite bathroom	All sources	NR 35 – NR 45 $L_{eq,1hour}$

Table 3.2 Recommended background noise levels from internal sources (from BS 8233:2014 annex H)

3.1.4 It is believed that the bedroom of the Private Members Suite on the third floor is the only space that could be considered a *hotel room*, as such this assessment only pertains to this space.

3.1.5 The intention is for the bedroom of the Private Members Suite to be offered to patrons of KOKO, and therefore this space would not be used for sleeping while KOKO is in operation. This assessment has therefore not considered the impact of noise intrusion from KOKO.

3.2 ASSESSMENT METHODOLOGY

3.2.1 The level of external noise intrusion into the spaces is calculated using the calculations presented in Annexes A – E of BS 12354-3:2000.

3.2.2 Reference external noise levels at a point immediately external to the façade of the spaces to be assessed have been established using the measurement data from the external noise survey. Table 3.3 contains the data used for this assessment, based on measurements made in the Bayham Place location at times when KOKO was not in operation.

	Frequency (Hz)							A-weighted
	63	125	250	500	1000	2000	4000	
Daytime (07:00 – 23:00) $L_{eq,1hour}$ (dB)	75	69	69	69	68	67	62	73
Night-time (23:00 – 07:00) $L_{eq,1hour}$ (dB)	69	64	62	59	64	56	45	66
Night-time (23:00 – 07:00) L_{Fmax} (dB)	83	76	79	96	102	65	75	102

Table 3.3 Reference external noise levels used in external noise intrusion calculations

3.2.3 The maxima in Table 3.3 is considered typical of a passby from an emergency vehicle with sirens switched on. This was found to be relatively frequent at the site.

3.2.4 The level of external noise intrusion into the bedroom is a function of the volume and surface finishes of the room, and the sound insulation performance provided by the building envelope. The latter is dependent upon the combined sound insulation performance of the glazing and solid elements and, where relevant, ventilation openings and the roof.

3.3 RECOMMENDATIONS

3.3.1 The use of high specification double glazing for a glazed wall, with a laboratory sound insulation rating of at least 40 dB $R_{w,}$ can be expected to reduce external noise to a level that would result in compliance with the criteria in Table 3.1.

3.3.2 It is recommended that simply complying with the values in Table 3.1 is unlikely to provide an acoustic performance that is competitive even with budget hotels, and would be expected to result in some guest disturbance.

3.3.3 A cheaper and more efficient solution would be to form the glazed wall of two separate panes (6mm and 4mm), separated by a void of around 100mm. Although this will have spatial and visual implications, it is advised that this solution will provide an acoustic performance that is more in line with typical hotel operators.

3.3.4 Ventilation and comfort cooling units for the Bedroom will be selected/attenuated to comply with the criteria in Table 3.2. As the room is to be mechanically ventilated, openable windows will not be necessary for ventilation.

4 BUILDING SERVICES NOISE EMISSION ASSESSMENT

4.1 CRITERIA

4.1.1 The objective is to control noise emission from proposed building services plant to the nearest noise-sensitive receivers. The local authority have provided guidance on what they expect in this regard, but it must also be considered that there is always the potential that neighbours may take direct noise nuisance action under the provisions of the Environmental Protection Act 1990 if they believe they have been subjected to noise nuisance. It is therefore in Koko's best interest to ensure that they do not subject neighbours to unacceptable levels of noise emission.

4.1.2 Table C of Camden Council's Local Plan Submission Draft (2016) contains noise limits for a *low observed adverse effect level* (LOAEL) and *significant observed adverse effect level* (SOAEL). The criteria relevant to building services noise from industrial and commercial developments are reproduced below:

	LOAEL (Green)	LOEAL to SOEAL (Amber)	SOEAL (Red)
BS 4142:2014 "Rating level"	At least 10 dB below background noise level	- 9 dB to + 5 dB relative to background noise level	More than 5 dB above the background noise level
L_{Amax} at noise-sensitive receivers	Less than 57 dB	Between 57 and 88 dB	Greater than 88 dB

Table 4.1 Camden Council draft noise thresholds for industrial/commercial development

4.1.3 All of the proposed plant will operate at a steady noise level, as such the L_{Amax} are not expected to be significantly greater than the L_{Aeq}. The criteria regarding the L_{Amax} has therefore not been considered further in this assessment.

4.1.4 The local authority (via email from David Peres da Costa to Scotch Partners dated 31st March 2017) confirmed that the following approach would be considered acceptable:

- Plant that is to be replaced like-for-like should be designed to be no noisier than the current plant in operation
- New items of plant shall be assessed according to the methodology in BS 4142:2014. A **low impact**, after the addition of *character corrections* as defined within the standard, is targeted. This represents an **amber** impact according to the Camden Council draft noise thresholds

4.1.5 It is believed that designing to the above points will ensure the noise impact as experienced by the nearest noise-sensitive receivers does not reach unacceptable levels, and will also satisfy Camden Council that the amenity of these neighbours (regarding noise climate) will be protected.

4.2 BS 4142 ASSESSMENT METHODOLOGY

4.2.1 BS 4142: 2014 *Method for rating and assessing industrial and commercial sound* provides guidance on the assessment of the impact of a noise source. The standard presents a methodology for comparing the noise level of the new source (the *specific sound level*) with that of the existing background noise level in the area in the absence of the new source (the *background sound level*).

4.2.2 The methodology requires consideration to be given to all aspects of the assessment process and also accounts for unusual acoustic features such as tonal, impulsive, or intermittency characteristics of the noise by the addition of various decibel corrections to the *specific sound level*. The corrected *specific sound level* is known as the *rating level*.

4.2.3 The *rating level* is then arithmetically subtracted from the *background sound level*. The greater the positive difference between the *rating level* and the *background sound level*, the greater the magnitude of the impact.

- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending upon the context.
- A difference of around +5 dB or more is likely to be an indication of an adverse impact, depending upon the context.
- Where the *rating level* does not exceed the *background sound level*, this is an indication of a low impact, depending upon the context.

4.3 PLANT PROPOSALS

4.3.1 The following items of existing plant servicing Koko are to be retained, but relocated. This is not expected to alter the noise emission level of these items:

- Auditorium supply AHU to be located in the third floor open air plant area.
- The existing KOKO chiller to be located in the third floor open air plant area

4.3.2 The auditorium extract fans will be replaced and relocated. Selections will be made to ensure the noise emission of the new equipment does not exceed the noise emission of the existing equipment.

4.3.3 The following items are new plant servicing the development, with no existing analogue. As such they are to be designed to meet the standard for a **low impact** according to BS 4142:2014. The noise levels used in the assessment have also been provided as sound pressure levels at a distance of 1m in the worst-case direction.

Equipment	dB L_{pA} at 1m (per unit)
4 No. AC condensers to be located behind the parapet surrounding the dome	66
1 No. DX cooling unit to be located atop on the roof above the recording studio	64
1 No. intake termination for internally located kitchen ventilation unit, at second floor level	52
1 No. exhaust termination for internally located kitchen ventilation unit, at fourth floor level	52
1 No. ventilation unit located atop the existing dome above KOKO	60
1 No. smaller condenser behind the parapet surrounding the dome	65

Table 4.2 Proposed building services plant

4.3.4 There are other items of proposed plant associated with this development, but these are significantly quieter than the units presented above and are either well-screened to the nearest noise-sensitive receivers or internally located. As such they have not been given further consideration within this assessment, but will be designed to not alter the findings.

4.3.5 The 4 new AC condensers will be arranged around the dome, behind the parapet (the height of which exceeds the top of the units). An additional, imperforate screen with a surface density of at least 10 kgm^{-2} will be installed to extend the parapet around the rear of the dome; this will ensure acoustic screening to the neighbours.

4.3.6 The approximate locations of the plant proposals listed above are highlighted in Figure 4.1. These will be finalised as the design develops, and care will be taken to ensure that the results of this noise emission assessment does not change.

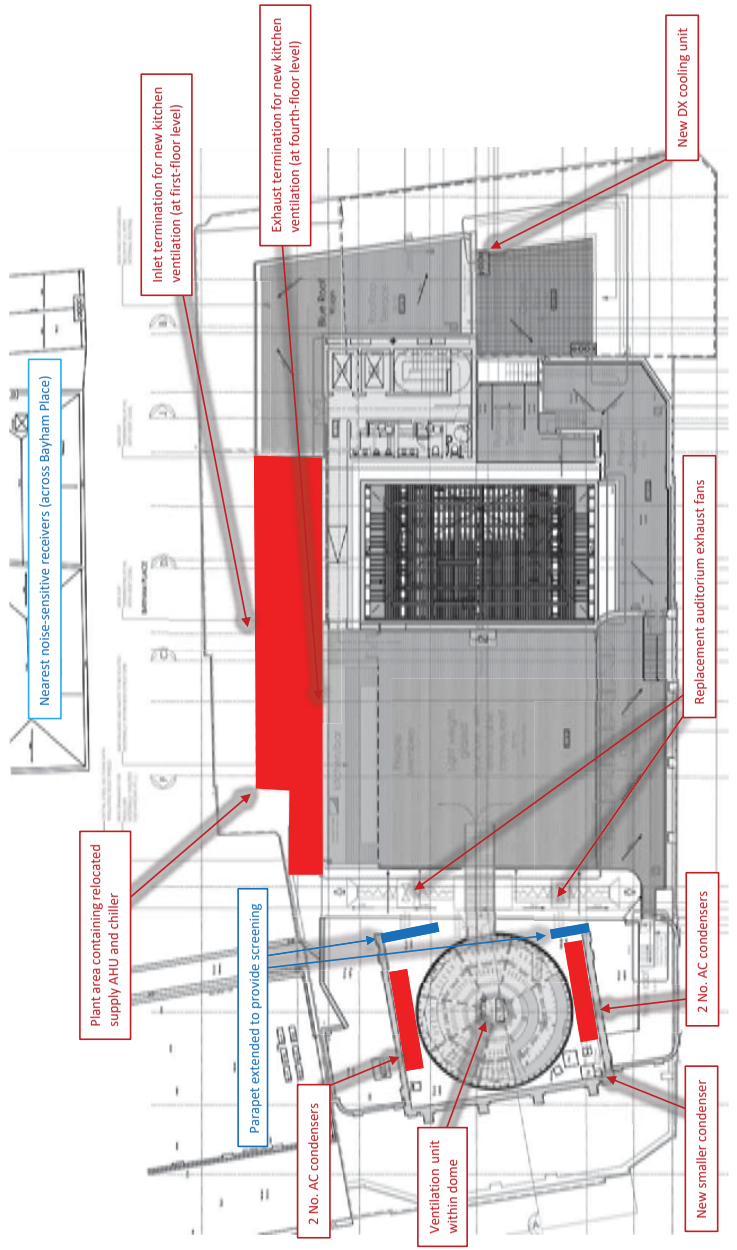
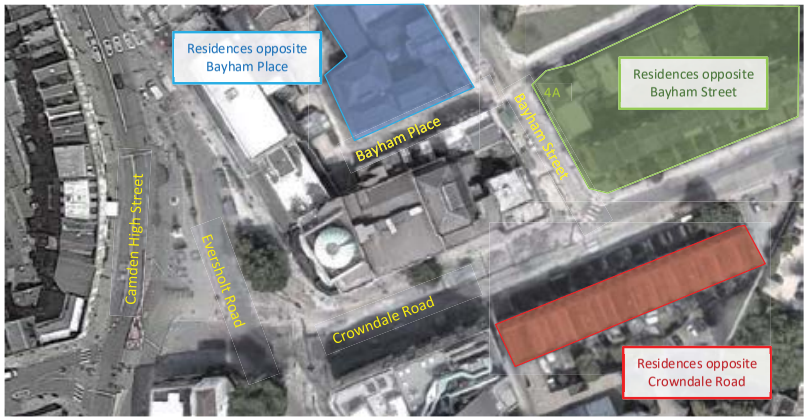


Figure 4.1 Approximate proposed locations of assessed plant items

4.4 NEAREST NOISE-SENSITIVE RECEIVERS

4.4.1 Figure 4.2 shows the locations of the nearest noise-sensitive receivers that have been considered in this assessment. They are as follows:

- The *Residences opposite Bayham Place* are formed of a three storey structure, with windows facing onto Bayham Place. These are the nearest noise-sensitive receivers to many of the plant proposals.
- The *Residences opposite Bayham Street* consist of a number of terraced houses. 4A Bayham Street is on the corner of Bayham Street and Bayham Place, and is a two-storey house with windows facing Bayham Street
- The *Residences opposite Crowndale Road* consist of a line of three-storey terraced houses with windows facing onto Crowndale Road



Satellite image courtesy of Google

Figure 4.2 Locations of nearest noise sensitive receivers

4.4.2 Other noise-sensitive receivers further away than those presented in Figure 4.2 are expected to benefit from greater noise propagation loss and increased screening, as such the level of noise from the proposed plant at these more distant receivers can be expected to be lower.

4.5 BACKGROUND SOUND LEVELS

4.5.1 *Background sound levels* for each noise-sensitive receiver have been evaluated for when existing KOKO plant is not operational, in order to establish a suitable limit for the new plant. A correction of -3 dB has been applied to the measured *background sound levels* to account for the influence of façade reflections.

Receiver	Assumed *background sound level* when existing KOKO plant is not in operation
Opposite Bayham Place	43 dB L_{A90}
Opposite Bayham Street	
Opposite Crowndale Road	46 dB L_{A90}

Table 4.4 Assumed background noise levels for use in the noise emission assessments

4.6 NOISE EMISSION ASSESSMENT OF NEW PLANT

4.6.1 The noise level as it would be measured at the nearest noise-sensitive receiver (*specific sound level)* has been calculated in accordance with the methodology presented in ISO 9613-2. This methodology has been used to predict the various attenuation effects that will apply to each noise source, which can be combined with the noise levels specified in Section 4.3 to give the noise contribution from that source at the receiver. The noise contribution from each source is then summed for each receiver to give a *specific sound level*.

4.6.2 The attenuation due to geometrical divergence is calculated using the Euclidean distance between the source (item of plant being assessed) and the receiver. Table 4.5 shows the distances used for this assessment:

Plant item	Opposite Bayham Place	Opposite Bayham Street	Opposite Crowndale Road
4 No. AC condensers surrounding the dome	25 – 35 m	*	39 – 51 m
DX cooler above the recording studio	*	15 m	30 m
Intake of internal kitchen ventilation	8 m	*	*
Exhaust of internal kitchen ventilation	8 m	35 m	*
Ventilation unit atop KOKO dome	30 m	64 m	30 m
Condenser next to KOKO dome	*	64 m	28 m

*transmission path not included in assessment, as it is expected to provide attenuation far in excess of other paths

Table 4.5 Assumed source to receiver distances used in assessment

4.6.3 Attenuation due to atmospheric absorption and ground effect would not provide meaningful attenuation over such short distances, and have therefore not been calculated in this assessment.

4.6.4 Attenuation due to screening has been calculated individually for each of the 4 No. AC condensers screened by the dome parapet, using the calculation methodology presented in ISO 9613-2. The calculated values vary between 6 and 20 dB, depending on frequency.

4.6.5 As noted in section 4.2, corrections should be applied to the *specific sound level* to give a *rating level*.

- **Tonality**: A + 2dB correction has been applied to noise from the condensers and coolers, based on previous experience these units may provide a *just perceptible* hum in certain modes of operation
- **Impulsivity**: No corrections have been applied. Properly maintained ventilation and heating/cooling equipment should never exhibit banging or other impulsive qualities in their noise emission
- **Intermittency**: All condensers/coolers are expected to operate in some capacity 24 hours a day. When changing between capacities they are expected to slowly ramp up/down in duty, in order to avoid an intermittent characteristic being readily audible. However, a precautionary + 3 dB correction has been applied to cover the possibility of an intermittent characteristic being distinguishable. The same correction has also been applied to the kitchen extract plant to allow for the possibility of a short term boost mode.
- **Other**: The site is not considered to be particularly tranquil, and building services noise is not considered to be out of character for the area. Therefore, no other corrections have been applied.

4.6.6 Assuming all plant is operating at full duty, and the attenuation effects detailed above, the worst-case *specific sound levels* as would be experienced at the nearest noise-sensitive receivers have been calculated and presented with the *rating level* in Table 4.6.

Receiver	*Specific sound level*	BS 4142: 2014 *rating level*	Relationship to *background sound level*
Opposite Bayham Place	39 dB $L_{Aeq,T}$	43 dB L_{ArTr}	Equal
Opposite Bayham Street	41 dB $L_{Aeq,T}$	46 dB L_{ArTr}	Equal
Opposite Crowndale Road	41 dB $L_{Aeq,T}$	46 dB L_{ArTr}	Equal

Table 4.6 Results of noise emission assessment for new plant

4.6.7 The noise levels emitted from the assessed plant are based on the load requirements of the building. It is believed to be unlikely full load will be required during the quietest period of night, but as this is a possibility it has been assumed for the assessment. This should therefore be considered as a *worst-case scenario*.

4.7 NOISE EMISSION ASSESSMENT OF RELOCATED PLANT

4.7.1 The existing KOKO plant is currently thought to be the main contributor to the *background sound levels* in Bayham Place. The intention is to ensure that *background sound levels* within Bayham Place are not increased.

4.7.2 The existing KOKO plant will not be moved closer to the nearest noise-sensitive receivers (those across Bayham Place), as such attenuation due to geometric divergence is expected to remain the same

4.7.3 The existing KOKO plant is presently screened from the neighbours using a lightweight board with gaps around the edges. It is proposed that either a solid screen or louvred (+lidded) enclosure is installed around the existing plant, which would be expected to meet or exceed the performance offered by the existing board.

4.7.4 Care will be taken to ensure that the relocation does not damage the equipment, which might affect the character of the sound.

4.7.5 It is proposed that the plant will be operated at approximately the same duty as it is at present, as such noise emission from these units is not expected to change.

4.7.6 The replacement auditorium exhaust fans will be attenuated and enclosed so that noise levels during their operation do not exceed the noise levels measured at the nearest noise-sensitive receiver during the operation of the current KOKO plant.

4.7.7 If, as the design develops, the decision is made to replace other items of the existing KOKO plant, selections will be made that do not exceed the noise emission levels of the current plant.

4.8 CONCLUSIONS

4.8.1 The new building services plant has been designed so that, even with the plant operating at maximum duty at the quietest period of night, the BS 4142 *rating level* will not exceed the *background sound level*. The guidance in BS 4142:2014 states that where the *rating level* does not exceed the *background sound level*, this is an indication of a **low impact**, depending upon the context.

4.8.2 The relocation of the existing plant will be undertaken in such a way as to not increase the noise emission from this equipment as experienced by the residences opposite Bayham Place. New items replacing existing plant will be like-for-like, and selected to not be any noisier than the current equipment.

4.8.3 It is therefore expected that this assessment demonstrates the capability for compliance with the established criteria presented in Section 4.1

APPENDIX A – MEASUREMENT DATA

A selection of the measured noise level data are presented in the tables in this appendix. The full set of data are available in electronic form on request.

All values are sound pressure levels in dB re: $2x10^{-5}$Pa

Table A1: Statistical noise level data measured in Bayham Place between 17/03/2017 and 18/03/2017

Date	Time	L_{AFmax}	L_{A10}	L_{Aeq}	L_{A90}	L_{AFMin}	Date	Time	L_{AFmax}	L_{A10}	L_{Aeq}	L_{A90}	L_{AFMin}
17/03/2017	17:00	87.1	67.0	65.3	58.2	55.6	18/03/2017	05:20	83.3	60.1	58.3	46.2	44.8
17/03/2017	17:10	80.3	65.4	62.7	57.1	54.7	18/03/2017	05:30	73.2	64.6	61.2	48.8	46.9
17/03/2017	17:20	82.4	65.3	62.7	57.1	54.9	18/03/2017	05:40	75.5	63.7	60.5	48.8	46.6
17/03/2017	17:30	78.8	64.4	61.8	56.5	55.0	18/03/2017	05:50	73.4	62.0	59.1	47.9	46.3
17/03/2017	17:40	80.5	67.4	64.4	58.2	55.4	18/03/2017	06:00	73.5	62.6	59.4	48.9	46.7
17/03/2017	17:50	78.5	66.3	63.4	58.2	55.9	18/03/2017	06:10	72.7	61.4	58.6	48.2	46.6
17/03/2017	18:00	80.7	64.0	62.3	57.8	55.8	18/03/2017	06:20	72.4	62.7	59.0	47.6	45.5
17/03/2017	18:10	86.6	63.6	61.4	57.2	54.9	18/03/2017	06:30	73.8	62.1	59.1	49.5	46.4
17/03/2017	18:20	92.6	65.3	64.2	57.4	55.4	18/03/2017	06:40	74.4	64.1	60.1	49.3	46.8
17/03/2017	18:30	100.2	66.5	73.7	57.8	55.5	18/03/2017	06:50	76.6	63.0	59.5	48.5	46.8
17/03/2017	18:40	78.8	70.1	66.5	59.3	56.3	18/03/2017	07:00	77.1	64.3	60.7	49.3	47.6
17/03/2017	18:50	81.7	67.3	63.9	58.2	56.1	18/03/2017	07:10	77.3	63.5	60.2	49.2	47.0
17/03/2017	19:00	77.4	64.8	62.4	57.4	55.8	18/03/2017	07:20	73.4	62.9	59.4	48.9	47.2
17/03/2017	19:10	97.4	66.5	69.7	57.9	55.4	18/03/2017	07:30	76.6	64.4	61.1	49.7	48.0
17/03/2017	19:20	71.0	63.3	60.8	57.2	55.6	18/03/2017	07:40	81.4	64.8	62.1	49.8	47.5
17/03/2017	19:30	76.2	64.9	62.3	58.0	56.5	18/03/2017	07:50	77.9	63.1	59.4	49.7	48.0
17/03/2017	19:40	73.6	63.5	61.0	57.3	55.7	18/03/2017	08:00	74.0	63.6	60.2	49.0	47.4
17/03/2017	19:50	76.2	64.0	61.4	57.0	55.3	18/03/2017	08:10	73.2	64.2	60.3	50.7	48.2
17/03/2017	20:00	81.0	63.5	61.5	57.0	55.5	18/03/2017	08:20	83.0	64.9	61.4	50.1	47.6
17/03/2017	20:10	77.3	64.9	62.0	57.3	55.6	18/03/2017	08:30	74.4	64.2	60.1	49.8	47.9
17/03/2017	20:20	83.8	64.0	62.3	56.9	54.9	18/03/2017	08:40	85.8	70.6	67.0	53.2	49.7
17/03/2017	20:30	75.7	64.2	61.5	57.9	56.5	18/03/2017	08:50	88.4	73.7	69.5	56.3	49.7
17/03/2017	20:40	84.9	62.9	60.7	57.0	55.5	18/03/2017	09:00	81.6	76.4	71.9	56.5	52.5
17/03/2017	20:50	76.7	64.8	62.2	57.1	55.6	18/03/2017	09:10	90.5	70.9	69.3	55.5	52.5
17/03/2017	21:00	72.6	62.9	60.5	57.3	55.6	18/03/2017	09:20	80.0	67.9	63.8	55.0	52.7
17/03/2017	21:10	73.5	63.6	61.2	57.6	55.8	18/03/2017	09:30	94.1	68.2	68.2	55.8	52.1
17/03/2017	21:20	93.2	64.3	68.3	57.6	55.8	18/03/2017	09:40	86.0	69.1	66.0	56.0	52.4
17/03/2017	21:30	73.9	62.4	60.3	57.1	55.3	18/03/2017	09:50	79.5	64.7	61.7	54.0	52.2
17/03/2017	21:40	99.4	64.3	72.2	57.6	56.2	18/03/2017	10:00	78.7	65.3	61.5	53.9	51.7
17/03/2017	21:50	75.3	63.0	60.8	57.8	55.7	18/03/2017	10:10	92.4	71.9	71.0	54.2	51.9
17/03/2017	22:00	70.7	62.7	60.4	57.0	55.4	18/03/2017	10:20	91.2	72.8	69.6	57.5	53.3
17/03/2017	22:10	77.0	62.9	61.0	57.4	55.5	18/03/2017	10:30	93.4	73.0	70.4	57.4	53.3
17/03/2017	22:20	76.7	64.3	61.9	57.9	56.1	18/03/2017	10:40	91.4	75.6	73.1	67.3	65.7
17/03/2017	22:30	79.3	64.1	61.6	57.6	56.3	18/03/2017	10:50	99.7	74.3	72.9	61.6	55.4
17/03/2017	22:40	72.1	63.8	61.3	58.1	55.7	18/03/2017	11:00	88.9	72.1	68.3	54.1	51.9
17/03/2017	22:50	76.7	63.2	61.2	58.0	55.9	18/03/2017	11:10	89.5	71.4	70.8	53.8	51.6
17/03/2017	23:00	82.8	63.6	62.3	57.0	55.1	18/03/2017	11:20	78.9	64.1	61.3	53.9	51.8
17/03/2017	23:10	70.3	63.0	60.4	56.9	55.3	18/03/2017	11:30	73.9	63.4	59.9	51.8	48.2
17/03/2017	23:20	79.6	63.8	61.6	57.6	56.3	18/03/2017	11:40	78.7	71.8	66.6	55.6	53.1
17/03/2017	23:30	73.1	62.6	60.3	57.4	55.9	18/03/2017	11:50	84.9	72.1	68.1	56.6	51.1
17/03/2017	23:40	79.2	62.4	60.2	57.0	55.4	18/03/2017	12:00	84.9	69.4	65.8	56.5	52.7
17/03/2017	23:50	77.3	64.3	61.4	57.5	56.1	18/03/2017	12:10	83.8	73.3	67.9	57.6	51.4
18/03/2017	00:00	81.3	64.8	62.3	57.9	55.8	18/03/2017	12:20	82.5	71.1	65.8	55.6	51.2
18/03/2017	00:10	71.4	62.8	60.5	57.6	55.6	18/03/2017	12:30	84.7	66.8	65.2	55.4	52.0
18/03/2017	00:20	78.6	63.5	61.0	57.5	55.5	18/03/2017	12:40	95.3	67.5	67.2	55.8	50.1
18/03/2017	00:30	77.4	63.2	61.0	57.2	55.4	18/03/2017	12:50	85.6	65.7	63.7	54.0	49.0
18/03/2017	00:40	81.6	66.3	64.1	56.9	55.3	18/03/2017	13:00	72.7	64.5	60.8	53.6	48.6
18/03/2017	00:50	86.9	65.2	63.5	57.6	55.9	18/03/2017	13:10	92.3	65.0	64.0	53.3	50.4
18/03/2017	01:00	71.5	63.5	60.8	57.4	55.8	18/03/2017	13:20	86.8	65.9	64.2	53.6	50.3
18/03/2017	01:10	81.1	67.2	64.2	58.2	56.5	18/03/2017	13:30	73.5	62.7	59.1	51.5	49.9
18/03/2017	01:20	71.2	62.8	60.5	57.2	55.2	18/03/2017	13:40	78.2	63.3	60.4	51.7	49.8
18/03/2017	01:30	77.6	64.3	61.7	57.3	55.5	18/03/2017	13:50	80.3	64.0	60.9	52.3	49.5
18/03/2017	01:40	74.0	62.9	60.7	57.4	55.6	18/03/2017	14:00	94.6	65.5	67.6	55.7	51.8
18/03/2017	01:50	70.8	62.8	60.4	57.3	55.6	18/03/2017	14:10	77.4	65.3	62.4	55.6	51.3
18/03/2017	02:00	76.3	63.1	61.0	57.5	55.9	18/03/2017	14:20	72.7	64.2	61.3	56.3	51.5
18/03/2017	02:10	78.1	63.7	61.7	57.5	55.4	18/03/2017	14:30	81.8	66.1	63.0	54.3	50.9
18/03/2017	02:20	73.4	64.3	61.6	57.5	55.7	18/03/2017	14:40	80.7	63.9	61.0	55.3	51.9
18/03/2017	02:30	72.1	64.4	61.6	57.0	55.4	18/03/2017	14:50	78.3	67.0	64.6	58.1	52.7
18/03/2017	02:40	72.4	64.3	62.0	58.1	56.2	18/03/2017	15:00	71.2	64.2	60.7	54.2	50.7
18/03/2017	02:50	73.4	64.1	61.7	57.8	56.1	18/03/2017	15:10	71.7	63.5	60.2	55.2	51.9
18/03/2017	03:00	91.5	65.6	66.2	57.4	55.9	18/03/2017	15:20	70.3	63.0	59.9	55.4	51.9
18/03/2017	03:10	80.3	63.9	62.1	57.4	55.8	18/03/2017	15:30	77.7	63.2	60.3	54.3	49.8
18/03/2017	03:20	73.4	65.0	62.3	57.6	55.8	18/03/2017	15:40	72.9	63.2	59.9	53.5	50.7
18/03/2017	03:30	80.9	66.0	62.9	57.4	55.6	18/03/2017	15:50	74.2	65.0	61.6	55.5	51.6
18/03/2017	03:40	74.6	65.1	61.8	56.7	55.4	18/03/2017	16:00	77.2	63.8	61.3	55.8	51.8
18/03/2017	03:50	79.8	65.4	62.3	57.0	55.3	18/03/2017	16:10	69.9	63.7	60.7	56.1	51.7
18/03/2017	04:00	74.0	63.5	61.2	56.3	54.8	18/03/2017	16:20	73.7	63.2	60.2	54.8	51.0
18/03/2017	04:10	77.0	65.8	62.6	57.0	54.7	18/03/2017	16:30	76.6	63.6	60.3	53.7	50.7
18/03/2017	04:20	75.6	64.6	61.8	56.7	55.3	18/03/2017	16:40	73.7	64.5	60.8	54.1	51.3
18/03/2017	04:30	77.4	65.2	61.9	53.1	48.3	18/03/2017	16:50	83.1	64.3	62.6	54.7	51.4
18/03/2017	04:40	76.4	64.8	60.9	47.7	46.1	18/03/2017	17:00	74.8	64.7	61.3	52.7	50.0
18/03/2017	04:50	77.3	63.5	60.3	47.7	45.3	18/03/2017	17:10	71.0	63.3	59.6	52.8	49.4
18/03/2017	05:00	79.2	64.1	60.2	47.7	46.0	18/03/2017	17:20	79.5	63.7	60.5	52.7	49.5
18/03/2017	05:10	73.5	63.4	59.7	47.5	45.4	18/03/2017	17:30	80.3	63.3	60.1	52.6	50.3

Table A2: Statistical noise level data measured on Crowndale Road between 17/03/2017 and 18/03/2017

Date	Time	L_{AFmax}	L_{A10}	L_{Aeq}	L_{A90}	L_{AFMin}	Date	Time	L_{AFmax}	L_{A10}	L_{Aeq}	L_{A90}	L_{AFMin}
17/03/2017	17:00	86.4	70.7	68.1	60.5	55.0	18/03/2017	05:20	79.0	69.0	64.6	52.5	49.1
17/03/2017	17:10	81.8	68.7	66.2	57.9	54.7	18/03/2017	05:30	87.1	83.6	78.6	59.9	55.0
17/03/2017	17:20	84.5	72.3	69.7	63.4	57.1	18/03/2017	05:40	83.6	70.8	67.6	56.1	54.2
17/03/2017	17:30	82.5	71.4	68.6	61.9	57.7	18/03/2017	05:50	77.7	69.6	65.4	54.1	51.4
17/03/2017	17:40	86.0	73.9	71.5	66.2	59.7	18/03/2017	06:00	82.0	69.2	65.1	54.1	51.1
17/03/2017	17:50	84.6	72.0	69.7	64.8	59.9	18/03/2017	06:10	80.4	69.8	65.2	53.9	49.3
17/03/2017	18:00	82.0	71.4	67.8	61.7	58.0	18/03/2017	06:20	80.2	70.4	66.1	52.9	49.9
17/03/2017	18:10	80.6	72.0	68.4	60.6	56.9	18/03/2017	06:30	82.1	69.4	65.1	53.9	50.3
17/03/2017	18:20	77.2	70.5	67.4	61.6	56.5	18/03/2017	06:40	78.3	70.5	66.1	56.2	51.5
17/03/2017	18:30	109.7	72.9	80.6	63.1	57.6	18/03/2017	06:50	81.8	70.9	66.4	54.7	50.3
17/03/2017	18:40	88.1	72.1	69.7	63.4	60.1	18/03/2017	07:00	79.9	71.2	66.8	54.8	51.4
17/03/2017	18:50	83.2	71.9	69.1	61.6	56.9	18/03/2017	07:10	78.0	69.2	65.8	56.4	51.9
17/03/2017	19:00	79.0	70.6	68.0	62.5	58.8	18/03/2017	07:20	77.5	69.8	65.8	54.0	50.7
17/03/2017	19:10	94.9	86.6	81.3	64.1	59.5	18/03/2017	07:30	79.0	72.2	68.3	57.6	54.4
17/03/2017	19:20	82.4	70.3	67.4	61.9	58.4	18/03/2017	07:40	80.0	71.1	67.4	57.4	54.4
17/03/2017	19:30	88.0	71.8	69.6	63.3	57.8	18/03/2017	07:50	80.7	70.1	66.2	58.5	53.0
17/03/2017	19:40	84.3	69.1	66.5	61.0	57.1	18/03/2017	08:00	80.0	70.8	67.3	57.6	51.7
17/03/2017	19:50	82.8	70.6	68.1	63.1	58.0	18/03/2017	08:10	78.1	69.3	65.8	57.6	54.5
17/03/2017	20:00	86.6	70.5	68.1	61.2	56.3	18/03/2017	08:20	83.5	72.1	68.9	57.6	52.9
17/03/2017	20:10	81.8	69.7	66.8	61.0	54.4	18/03/2017	08:30	76.4	70.1	66.3	56.9	51.2
17/03/2017	20:20	89.7	70.2	67.7	59.1	54.0	18/03/2017	08:40	83.1	70.3	67.4	59.6	53.4
17/03/2017	20:30	81.4	71.6	68.3	61.3	56.9	18/03/2017	08:50	91.5	72.4	71.7	58.8	53.7
17/03/2017	20:40	76.1	70.8	67.3	62.3	58.1	18/03/2017	09:00	81.0	70.4	66.4	57.0	53.7
17/03/2017	20:50	85.3	71.3	68.6	63.3	58.4	18/03/2017	09:10	95.1	70.8	69.8	59.6	55.2
17/03/2017	21:00	82.5	69.9	67.1	61.4	57.3	18/03/2017	09:20	80.4	69.7	66.3	57.2	52.4
17/03/2017	21:10	94.6	70.6	68.4	62.0	57.2	18/03/2017	09:30	84.0	70.7	66.8	58.8	55.1
17/03/2017	21:20	97.1	71.7	74.7	62.4	56.4	18/03/2017	09:40	93.8	72.1	69.5	58.4	54.2
17/03/2017	21:30	80.3	70.5	67.9	63.3	55.9	18/03/2017	09:50	85.3	69.8	67.6	58.2	53.7
17/03/2017	21:40	101.4	72.0	77.4	62.8	58.7	18/03/2017	10:00	87.5	70.9	68.3	57.5	53.7
17/03/2017	21:50	76.4	69.7	66.9	61.8	56.0	18/03/2017	10:10	80.2	70.4	67.3	59.1	53.6
17/03/2017	22:00	80.0	70.5	67.8	63.1	56.8	18/03/2017	10:20	79.3	71.0	67.2	58.4	53.6
17/03/2017	22:10	86.7	71.2	69.1	62.8	59.3	18/03/2017	10:30	82.7	69.8	66.6	58.1	54.4
17/03/2017	22:20	86.9	73.5	70.4	63.5	60.1	18/03/2017	10:40	78.6	70.1	66.8	58.5	53.3
17/03/2017	22:30	92.9	70.9	68.7	63.1	59.2	18/03/2017	10:50	77.7	69.6	66.2	58.5	53.0
17/03/2017	22:40	90.3	71.8	70.2	64.4	60.6	18/03/2017	11:00	97.3	71.9	70.1	60.6	56.6
17/03/2017	22:50	82.5	72.2	69.5	64.7	59.6	18/03/2017	11:10	79.9	73.4	69.2	58.3	52.4
17/03/2017	23:00	100.2	72.3	76.1	63.5	59.9	18/03/2017	11:20	84.9	70.6	67.9	59.1	53.6
17/03/2017	23:10	93.6	71.1	69.8	63.2	59.6	18/03/2017	11:30	86.3	70.1	67.0	58.9	52.9
17/03/2017	23:20	81.2	70.0	67.6	63.4	59.2	18/03/2017	11:40	80.1	71.6	68.2	60.0	56.1
17/03/2017	23:30	84.8	72.2	69.3	63.8	60.3	18/03/2017	11:50	82.9	69.1	65.5	57.4	54.1
17/03/2017	23:40	87.2	71.4	69.1	64.5	61.2	18/03/2017	12:00	82.7	71.3	67.7	59.3	54.9
17/03/2017	23:50	85.9	71.6	69.3	65.0	59.5	18/03/2017	12:10	88.3	70.1	66.9	58.9	54.7
18/03/2017	00:00	89.5	71.3	69.1	64.9	61.1	18/03/2017	12:20	84.6	71.5	68.2	60.8	55.5
18/03/2017	00:10	89.3	71.4	69.3	65.2	60.4	18/03/2017	12:30	103.2	71.9	77.0	61.8	56.6
18/03/2017	00:20	81.6	71.2	68.8	64.8	61.9	18/03/2017	12:40	78.5	70.9	67.4	59.2	55.5
18/03/2017	00:30	82.8	72.2	69.5	64.0	60.5	18/03/2017	12:50	79.5	70.0	66.3	57.4	51.7
18/03/2017	00:40	87.2	73.0	70.8	64.8	61.5	18/03/2017	13:00	85.0	70.7	67.8	59.9	54.1
18/03/2017	00:50	86.3	71.8	69.7	65.8	61.8	18/03/2017	13:10	85.4	70.3	67.4	58.4	52.2
18/03/2017	01:00	81.5	73.9	71.3	67.4	63.5	18/03/2017	13:20	86.3	71.3	68.6	58.7	53.2
18/03/2017	01:10	89.5	73.2	70.7	65.7	61.8	18/03/2017	13:30	84.6	70.8	68.5	59.2	53.5
18/03/2017	01:20	82.4	70.5	68.3	64.7	61.2	18/03/2017	13:40	84.5	70.5	67.2	57.5	52.3
18/03/2017	01:30	88.3	72.1	70.0	64.4	60.8	18/03/2017	13:50	89.3	69.4	66.9	58.5	54.5
18/03/2017	01:40	85.7	72.3	70.4	65.6	60.5	18/03/2017	14:00	102.3	71.4	75.1	61.6	58.0
18/03/2017	01:50	78.7	71.5	69.1	65.6	61.1	18/03/2017	14:10	91.9	71.6	69.9	61.5	56.3
18/03/2017	02:00	79.2	71.9	69.3	65.1	60.9	18/03/2017	14:20	90.5	73.1	71.7	62.1	58.8
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18/03/2017	02:40	82.5	72.5	70.1	66.1	63.0	18/03/2017	15:00	87.2	70.0	67.3	57.6	52.9
18/03/2017	02:50	82.4	72.6	69.7	65.2	60.9	18/03/2017	15:10	83.3	70.2	67.0	56.1	52.2
18/03/2017	03:00	96.3	73.9	73.4	64.7	60.6	18/03/2017	15:20	83.9	70.1	66.4	57.5	52.0
18/03/2017	03:10	84.2	72.1	69.4	64.3	59.4	18/03/2017	15:30	83.8	70.3	67.2	59.2	52.7
18/03/2017	03:20	88.1	71.9	69.4	64.2	59.8	18/03/2017	15:40	77.9	69.9	66.2	56.7	53.8
18/03/2017	03:30	81.4	72.1	69.1	64.1	60.4	18/03/2017	15:50	85.2	72.1	68.7	60.9	57.7
18/03/2017	03:40	80.7	72.1	68.9	62.9	59.5	18/03/2017	16:00	77.9	70.9	67.6	60.1	56.6
18/03/2017	03:50	84.3	73.7	70.5	63.8	59.9	18/03/2017	16:10	82.6	70.7	67.4	60.8	55.0
18/03/2017	04:00	84.1	70.7	67.2	61.6	56.4	18/03/2017	16:20	87.1	70.6	67.7	60.5	54.2
18/03/2017	04:10	92.1	73.6	71.7	63.2	59.2	18/03/2017	16:30	89.3	69.9	67.7	58.0	55.4
18/03/2017	04:20	78.3	70.1	67.0	59.2	55.3	18/03/2017	16:40	85.1	71.8	69.2	59.4	53.6
18/03/2017	04:30	86.0	71.5	68.8	56.2	53.2	18/03/2017	16:50	102.2	72.3	76.6	61.0	53.8
18/03/2017	04:40	90.1	71.9	69.5	55.7	51.3	18/03/2017	17:00	86.3	72.5	69.7	61.0	56.1
18/03/2017	04:50	79.7	70.3	66.3	54.1	49.4	18/03/2017	17:10	78.8	70.4	67.3	61.7	57.6
18/03/2017	05:00	82.0	70.3	66.2	53.6	50.0	18/03/2017	17:20	78.8	71.2	68.3	62.3	54.9
18/03/2017	05:10	92.4	70.5	69.0	53.7	50.9	18/03/2017	17:30	82.8	70.6	67.5	58.2	52.9

APPENDIX B - TERMINOLOGY

This appendix provides an explanation of some of the acoustics terms used in this report.

	The human ear does not sense all frequencies of sound equally. Our sensitivity is at a maximum at around 2 kHz and steadily decreases above and below. Below 20 Hz and above about 20 kHz we can't hear at all.
A-weighting L_A or L_{pA}, L_{WA},	Within its operating limits a precision measurement microphone measures all frequencies the same so the output it produces does not reflect what we would actually hear. The A-weighting is an electronic filter that matches the response of a sound level meter to that of the human ear. When A-weighted the Sound Pressure Level L_p becomes L_{pA} (or L_A) and the Sound Power Level L_W becomes L_{WA}.
L_p	*The instantaneous sound pressure level* (L_p)
L_{pA} (or L_A)	*The A-weighted instantaneous sound pressure level* (L_{pA} or L_A)
	This is the root mean square size of the pressure fluctuations in the air. This level can fluctuate wildly even for seemingly steady sounds. To make sound level meters easier to read the values on the display are smoothed or damped out. This is effectively done by taking a rolling average of the previous 0.125 s (FAST time constant) or the previous 1 s (SLOW time constant).
L_{AF}, L_{AS}	The letters F or S are added to the subscripts in the notation to indicate when the FAST or SLOW time constant has been used. These are often omitted but it is good practice to include them.
L_{max}	*The maximum instantaneous sound pressure level* (L_{max}),
L_{Amax}	*The A-weighted maximum instantaneous sound pressure level* (L_{Amax})
L_{AFmax}	*The A-weighted maximum instantaneous sound pressure level with a FAST time constant* (L_{AFmax}).
L_{min} , L_{Fmin}	The opposite of the L_{max} is the *minimum instantaneous sound pressure level* or L_{min} etc. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
$L_{N,T}$	*The percentage exceedence sound pressure level* ($L_{N,T}$),
$L_{AN,T}$ $L_{AFN,T}$ $_N$ = %age value, 0-100 $_T$ = measurement time eg. L_{A90}, L_{A10}, $L_{AF90,\ 5\ min}$	*The A-weighted percentage exceedence sound pressure level* ($L_{AN,T}$), *the A-weighted percentage exceedence sound pressure level with a FAST time constant* ($L_{AFN,T}$). This is the sound pressure level exceeded for *N*% of time period *T*. eg. If an A-weighted level of x dB is exceeded for a total of 6 minutes within one hour, the level will have been above x dB for 10% of the measurement period. This is written as $L_{A10,1hr}$ = x dB.
	L_{A0} (the level exceeded for 0 % of the time) is equivalent to the L_{Amax} and L_{A100} (the level exceeded for 100 % of the time) is equivalent to the L_{Amin}.
	It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
$L_{eq,T}$	The *equivalent continuous sound pressure level over period T* ($L_{eq,T}$),
$L_{Aeq,T}$ $_T$ = measurement time eg. $L_{Aeq,5min}$	*The A-weighted equivalent continuous sound pressure level over period T* ($L_{Aeq,T}$). This is effectively the average sound pressure level over a given period. As the decibel is a logarithmic quantity the L_{eq} is not a simple arithmetic mean value. The L_{eq} is calculated from the raw sound pressure data. It is not appropriate to include a reference to the FAST and SLOW time constants in the notation

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Sustainability Report
Eight Associates

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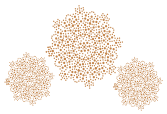

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Pre-Application Statement
Sustainability & Energy
KOKO Option B

Document information	**Prepared for:** Jasmeer Patti Tower Eight	**Our reference:** 2233
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Pre-Application Statement
Sustainability & Energy
KOKO Option B

Introduction

In accordance with Camden's Core Strategy policy CS13 the development must demonstrate a reduction in carbon emissions over Building Regulations Approved Document Part L2B. This reduction must be made in by implementing all elements of the energy hierarchy.

Furthermore, in accordance with Development Policy DP22 the development must achieve a BREEAM 'Excellent' rating.

The London Plan Policy 5.9 requires all major new build developments to submit an overheating report as part of the planning application demonstrating how potential overheating risk has been reduced in accordance with the cooling strategy. Consequently, an overheating report will be produced for the new build areas of the scheme.

The Option B proposal consists of the refurbishment of the Hope and Anchor Public House and a new extension to house a members' club. Under BREEAM guidelines these spaces will be classified as follows:

- Hope and Anchor Pub: Retail
- Private Members' Club: Assembly and Leisure

Due to the proportions of refurbishment and new build that are proposed the following versions of BREEAM are applicable and will be used to assess the scheme:

- Hope and Anchor Pub: BREEAM Non-Domestic Refurbishment and Fit-Out 2014
- Private Members' Club: BREEAM New Construction 2014

Sustainability assessments

KOKO venue space
Not possible to assess – as approved by Camden for Option A.

Hope and Anchor Public House
All areas associated with the Hope and Anchor Public House will be assessed under BREEAM Refurbishment and Fit-Out 2014 (retail), using parts 2 (core services), 3 (local services) and 4 (interior decoration). Limited upgrades to the existing building fabric or glazing mean part 1 (fabric and structure) is not applicable to this project.

Eight Associates has reviewed this element of the scheme and can confirm that the proposed scope of works will achieve a 'Very Good' rating. Furthermore, all of the following minimum standards for an 'Excellent' rating will be targeted:

- At least one credit for considerate construction (Man 03)
- Production of a Building User Guide (Man 04)
- One credit for seasonal commissioning (Man 05)
- At least one credit for sub-metering (Ene 02)
- At least one credit for water consumption (Wat 01)
- Installation of a water meter (Wat 02)
- All timber to meet the UK Government's definition of 'legally harvested and traded' (Mat 03)
- One credit for operational waste (Wst 03)

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Pre-Application Statement
Sustainability & Energy
KOKO Option B

Sustainability assessments	A BREEAM Preliminary Assessment, confirming the above, will be included in the Sustainability Statement, which will be submitted as part of the planning application. The refurbished part of the development is unable to achieve a BREEAM 'Excellent' rating for the following main reasons, which are outside of the developer's control: - As there are limited proposed improvements to the existing building fabric (due to the building's listed status), it will be difficult for this part of the project to achieve a sufficient number of credits under the Energy section of BREEAM (Ene 01). - There is limited opportunity to improve the daylighting to this part of the development as additional windows or skylights cannot be added (Hea 01). - The building's configuration and location makes it impossible to ensure air intakes are at least 10m from exhausts and 20m from sources of external pollution (Hea 02). - Credits for passive design analysis and free cooling are unachievable due to limited upgrades to the building fabric and glazing (Ene 04). - The credits for NO_x emissions are unachievable due to the use of mains electricity for heating and hot water (Pol 02). **Members' Club** These areas will be assessed under BREEAM New Construction 2014 (other building types: assembly and leisure) and will target an 'Excellent' rating. This will be confirmed via a BREEAM Preliminary Assessment, which will be included in the Sustainability Statement submitted as part of the planning application.
Energy strategy	In accordance with Camden's Core Strategy policy CS13 the proposed scheme (existing venue, Hope and Anchor Pub and Members' Club) will demonstrate a reduction in carbon emissions over Building Regulations Approved Document Part L2B in line with the energy hierarchy. This will be demonstrated in a formal Energy Assessment, which will be submitted as part of the planning application. Furthermore, to ensure compliance with the two BREEAM assessments the refurbished Hope and Anchor pub will demonstrate a reduction in energy use and carbon emissions over the existing building and the Members' Club will demonstrate a reduction over Building Regulations Approved Document Part L2A. As per Camden's Core Strategy Policy CS13, paragraph 13.9; at least 10% of the project cost will be spent on environmental improvements. The scheme will comply with 2013 Building Regulations Part L2B minimum energy efficiency targets.

Traffic Statement

ADL Traffic and Highways Engineering Ltd

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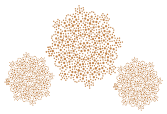

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PRE-APPLICATION TRANSPORT STATEMENT
PROPOSED REFURBISHMENT AND EXTENSION OF THE KOKO MUSIC VENUE
BAYHAM PLACE
CAMDEN

Vevil International Ltd

ADL/AJM/3126/27A

June 2017

REPORT CONTROL

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Project:	Bayham Place, Camden
Client:	Vevil International Ltd
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2	27.06.2017	Pre-App Submission	AP

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Purpose of Report

1.1.1 This Pre-Application Transport Statement (Pre-App TS) has been prepared on behalf of Vevil International Ltd in support of a planning application for:

> ***"Demolition of 65 Bayham Place, 1 Bayham Street (retention of façade) and rebuilding with extension to the rear to provide a live music venue, recording studio, private members function rooms, retention and refurbishment of the Hope & Anchor Public House (Use Class A4) to provide restaurant and bar with first floor dining rooms, minor reconfiguration to circulation space within KOKO. Installation of fourth floor extension over the existing Camden Palace to provide amenity space for guests with terrace restaurant and bar, the restoration of the KOKO dome, reinstatement of cupola and general refurbishment and restoration to the building."***

1.1.2 The site is currently occupied by a five-storey concert venue called KOKO, a three-storey public house called The Hope and Anchor and a three and four storey office building at Bayham Place, on the corner of Bayham Street Junction with Bayham Place. KOKO and the public house also have a basement floor level.

1.1.3 This document has been based upon the policies within London Plan 2015 and Camden Planning Guidance CPG7 – Transport.

1.2 Planning History of the site

2016/6959/F

1.2.1 Planning application 2016/6959/F was submitted in December 2016 to support the following proposal:

> ***"Redevelopment involving change of use from offices (Class B1) and erection of 5 storey building with basement to provide 32 bedroom hotel (Class C1) following demolition of 65 Bayham Place and 1 Bayham Street (retention of façade) including change of use at 1st and 2nd floor of 74 Crowndale Road from pub (Class A4) to hotel (Class C1), mansard roof extension to 74 Crowndale Road, retention of ground floor of Hope & Anchor PH, conversion of flytower to ancillary recording studio and hotel (C1), creation of terraces at 3rd and 4th floor level and erection of 4th floor glazed extension above roof of KOKO to provide restaurant and bar to hotel (C1)".***

1.2.2 The primary pedestrian access to the hotel was proposed to be at the junction of Bayham Place with Bayham Street. The primary pedestrian access to the ground floor restaurant was proposed to be from Crowndale Road. The footways opposite each access were proposed to be dropped.

1.2.3 The servicing was proposed to take place from Bayham Place, on the Council Officer's pre-application advice. The delivery and refuse collection vehicle would reverse from Bayham Street to Bayham Place.

1.2.4 It was proposed to provide four Sheffield cycle stands internally. It was also proposed to offer a highway contribution towards an additional four cycle stands near the entrance on Crowndale Road.

1.2.5 The proposal was car free.

1.2.6 Additional financial contribution was proposed to cover the damages to the footway and vehicular crossover directly outside the site as a direct result of the proposed works.

1.2.7 The planning application was granted permission on May 11th 2017. The transport principles relating to the cycle parking, servicing and highway contribution have been adopted within the current planning application for consistency purposes.

2.0 BACKGROUND TRANSPORT INFORMATION

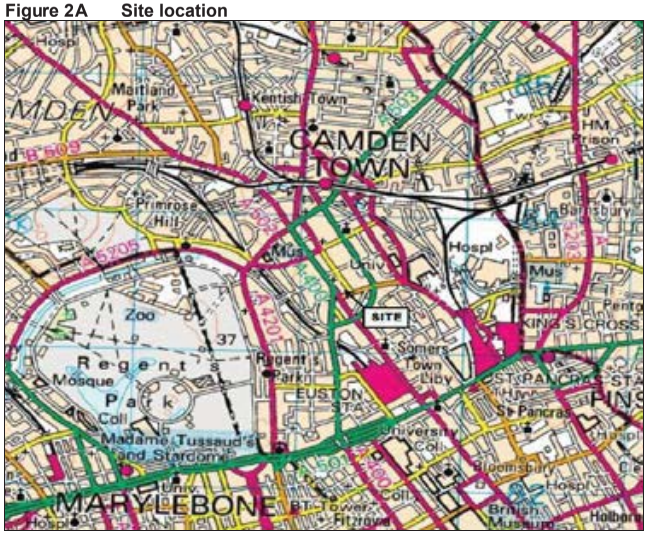
2.1 Site Location

2.1.1 The site comprises of the following:

- A concert venue called KOKO with its frontage at the junction of Crowndale Road with Camden High Street which includes bars on the upper floors;
- A disused public house with its frontage at the junction of Crowndale Road with Bayham Street with a total gross external area of 521sqm; and,
- Part 3/4 storey office building at № 1 Bayham Place at the corner of the junction of Bayham Street with Bayham Place with a total gross external area of 451sqm.

2.1.2 The site is located opposite Mornington Crescent Underground 600m south of Camden Town and within 650m walking distance from Camden Town Underground Railway Station and Euston Railway Station. The site location is shown in Figure 2A.

Figure 2A Site location



2.2 Surrounding Area

2.2.1 The site is bound by Crowndale Road to the south, Bayham Street to the east, Bayham Place to the north and Eversholt Street to the west. Bayham Street is one-way southbound and Crowndale Road (fronting the site) is one-way westbound.

2.2.2 There are three car parks within easy walking distance of 1km from the site. They are as follows:

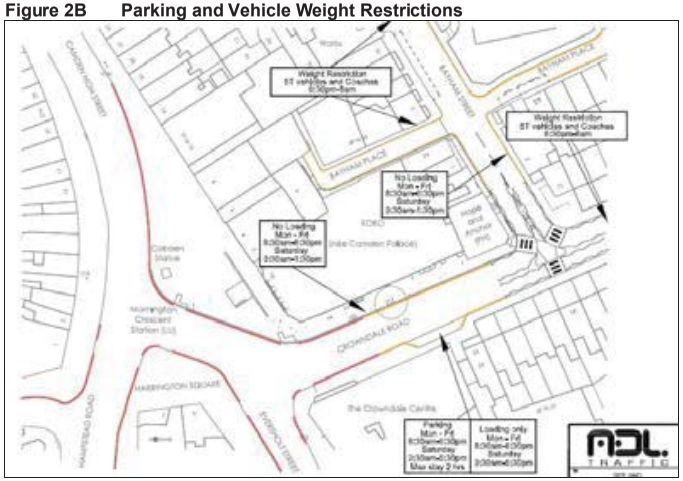
- Lomax Car Park Corporation Ltd – 150 spaces
- NCP on Jamestown Road – 75 spaces
- St Pancras Car Park – 315 spaces

2.2.3 The site is located within the London Borough of Camden's Controlled Parking Zone (CPZ) with the following controlled times:

- Mon – Fri 8:30am – 6:30pm
- Saturday 9:30am – 5:30pm

2.2.4 The parking and vehicle weight restrictions surrounding the site are shown in Figure 2B which demonstrate that vehicles over 5 tonnes and coaches are not permitted on Crowndale Road and Bayham Street from 18:30 to 08:00 hours.

Figure 2B Parking and Vehicle Weight Restrictions



2.2.5 The area surrounding the site is predominantly residential with retail frontage along A400 Camden High Street. The streets surrounding the site are subject to a speed limit of 20mph.

2.2.6 The section of Crowndale Road (between Camden High Street and Bayham Street) has double yellow line restrictions on both sides where no loading is permitted on the north side from Monday to Friday between 08:30 and 18:30 hours and on Saturday between 09:30 and 13:30 hours.

2.2.7 Bayham Place is a single carriageway with a width of 4.7m which allows two cars to pass each other. Bayham Place is mainly used for rear access to properties and access to the private car parking spaces and refuse bin stores associated with № 2, 4, 6 and 8 Camden High Street. Hence, Bayham Place is mainly used for access and servicing purposes.

2.2.8 Bayham Street is a 20mph borough distributor road and runs broadly in north – south direction. Bayham Street is one-way southbound and in the vicinity of the site, it is up to 9.5m wide. There are on-street car parking bays on the western side of Bayham Street (to the immediate north of Bayham Place).

2.2.9 Bayham Street connects to B512 Crowndale Road to the south. To the east of this junction Crowndale Road is a two-way road while to the west, it is one-way westbound.

2.2.10 Crowndale Road continues westwards and connects to A4200 Eversholt Street and A400 Camden High Street at a signalled junction which provides an extensive public realm space.

2.3 Permitted Use of the Site

Permitted Development

2.3.1 The site is currently occupied by a disused two-storey public house with a total area of 521sqm and an office building with a total area of 451sqm. The traffic generated by these permitted land uses is calculated in the following sections for typical weekday AM and PM peak hours. Throughout this report, the typical weekday AM and PM peak hours are assumed to be:

- AM peak hour 08:00-09:00 hours
- PM peak hour 17:00-18:00 hours

2.3.2 In order to calculate the permitted traffic generated by a public house, TRAVL database has been used. Three relevant sites within TRAVL database were chosen as shown in Table 2A (same as previous planning application 2016/6959/F).

Table 2A TRAVL Sites Chosen: Public House

	Site 1	Site 2	Site 3
Name	Barringtons	The Putney Bridge	The Tramshed Bar
Borough	Wandsworth	Wandsworth	Islington
Area	Inner London	Inner London	Inner London
PTAL	6	5	6
GFA	370sqm	330sqm	970sqm
№ of on-site car parking	0	0	0

2.3.3 Site 2 (The Putney Bridge public house) exhibit very high car trips and hence this site has been excluded from the calculation for a robust assessment. The calculated trip rates are provided in Appendix 1.1 and the results for typical weekday AM and PM peak hours are provided in Table 2B.

Table 2B Network Peak Hour Trip Rates per 100sqm (Public House)

	AM Peak Hour (Two-way)	PM Peak Hour (Two-way)	Daily (Two-way)
Car Drivers	0.000	0.052	5.613
Car Passengers	0.000	0.103	8.014
Motorcycle	0.000	0.000	0.850
Pedal Cycle	0.000	0.000	0.811
Taxi	0.000	0.000	1.082
Taxi Occupants	0.000	0.000	1.907
Walk/Public Transport	0.000	3.814	65.822
Total	**0.000**	**3.969**	**84.097**

2.3.4 The trip rates from Table 2B have been applied to the total existing public house area of 521sqm to obtain the permitted public house traffic levels as shown in Table 2C.

Table 2C Permitted Public House Traffic Levels

	AM Peak Hour (Two-way)	PM Peak Hour (Two-way)	Daily (Two-way)
Car Drivers	0	0	29
Car Passengers	0	1	42
Motorcycle	0	0	4
Pedal Cycle	0	0	4
Taxi	0	0	6
Taxi Occupants	0	0	10
Walk/Public Transport	0	20	343
Total	**0**	**21**	**438**

2.3.5 The public house was served by vehicles parking on Bayham Street as this is where the doors to the cellar are located.

Office Building

2.3.6 In order to calculate the permitted traffic generated by an office building, TRAVL database has been used. Five relevant sites within TRICS database were chosen as shown in Table 2D (same as previous planning application 2016/6959/F).

Table 2D TRAVL Sites Chosen: Office

	Site 1	Site 2	Site 3	Site 4	Site 5
Name	Adshel Centre	Highbury House Communications	Putney Wharf	Fuji Film House	Islington NMO
Borough	Kensington & Chelsea	Islington	Wandsworth	Camden	Islington
Area	Inner London	Inner London	Inner London	Inner London	Inner London
PTAL	6	6	6	5	5
GFA	498sqm	1,000sqm	1,021sqm	1,989sqm	10,068sqm

2.3.7 The calculated trip rates are provided in Appendix 2.2 and the results for typical AM and PM peak hours are provided in Table 2E.

Table 2E Network Peak Hour Trip Rates per 100sqm (Office Use)

	AM Peak (Two-way)	PM Peak (Two-way)	Daily (Two-way)
Car Driver	0.289	0.487	3.318
Car Passenger	0.024	0.038	0.600
Motorcyclist	0.085	0.046	0.335
Pedal Cycle	0.022	0.022	0.325
Taxi	0.024	0.022	0.172
Taxi Occupants	0.026	0.024	0.194
Walk/Public Transport	2.583	2.888	25.487
Total	**3.063**	**3.536**	**30.452**

2.3.8 The trip rates from Table 2E have been applied to the permitted office building on site of 451sqm to obtain the permitted office traffic levels as shown in Table 2F.

Table 2F Permitted Office Traffic Levels

	AM Peak (Two-way)	PM Peak (Two-way)	Daily (Two-way)
Car Driver	1	2	15
Car Passenger	0	0	3
Motorcyclist	0	0	2
Pedal Cycle	0	0	1
Taxi	0	0	1
Taxi Occupants	0	0	1
Walk/Public Transport	12	13	115
Total	**13**	**15**	**138**

Total Permitted Traffic

2.3.9 Table 2G provides the total two-way permitted traffic.

Table 2G Total Permitted Traffic

	Public House			Office			Total		
	AM Peak Hour (2-way)	PM Peak Hour (2-way)	Daily (2-way)	AM Peak Hour (2-way)	PM Peak Hour (2-way)	Daily (2-way)	AM Peak Hour (2-way)	PM Peak Hour (2-way)	Daily (2-way)
Car drivers	0	0	29	1	2	15	1	2	44
Car passengers	0	1	42	0	0	3	0	1	45
Motorcycle	0	0	4	0	0	2	0	0	6
Pedal Cycle	0	0	4	0	0	1	0	0	5
Taxi	0	0	6	0	0	1	0	0	7
Taxi Occupants	0	0	10	0	0	1	0	0	11
Walk/Public Transport	0	20	343	12	13	115	12	33	458
Total	0	21	438	13	15	138	13	36	576

2.3.10 Table 2G shows that the permitted public house and office have a potential to generate a total of 13 person trips (two-way) and 36 person trips (two-way) during AM and PM peak hours and up to 576 person trips two-way on a daily basis.

2.3.11 The table also shows that the permitted public house and office could generate up to two car trips (two-way) during the typical AM and PM peak hours. Given that the site is car free, it is assumed that these cars would be parked in the car parks within the walking distance of the site. There are three car parks within an easy walking distance from the site as mentioned in paragraph 2.2.2.

2.3.12 The occupants of these cars would then walk to the site and therefore these trips are classified as pedestrian trips in the immediate vicinity of the site. Table 2H shows the adjusted permitted traffic based on this principle.

2.3.13 The same principle has been used further in this report with regard to the proposed development traffic.

Table 2H Adjusted Total Permitted Traffic

	AM Peak Hour (Two-way)	PM Peak Hour (Two-Way)	Daily (Two-way)
Car drivers	0	0	0
Car passengers	0	0	0
Motorcycle	0	0	0
Pedal Cycle	0	0	5
Taxi (incl. occupants)	0	0	18
Walk/Public transport	13	36	553
Total	13	36	576

3.0 ACCESSIBILITY

3.1 Pedestrians and Cyclists

3.1.1 The streets in the vicinity of the site are subject to a speed limit of 20mph and are considered to be designed to enhance safety for pedestrians and cyclists. Bayham Street and Crowndale Road in the vicinity of the site are provided with footways of 2m to 3m width and benefit from street lighting. The Crowndale Road/Bayham Street junction is provided with zebra crossings along with dropped kerbs with tactile paving to assist pedestrians crossing.

3.1.2 The footway along Bayham Place is between 800mm to 900mm wide. There are dropped kerbs with tactile paving on Bayham Place approach to the junction with Bayham Street. It is noted that the width of the footways on both sides of Bayham Place are limited.

3.1.3 The signalled junction of Crowndale Road with Eversholt Street has demand controlled pedestrian crossing facilities with dropped kerbs and tactile paving. This junction also provides an extensive public realm space which is designed to provide a wide traffic-free pedestrianised area.

3.1.4 Royal College Street to the east of the site provides segregated cycle lanes. There is a Santander cycle docking station on this street which provides 57 bikes. Such facility is also provided on Eversholt Street (16 spaces) and Hampstead Road (65 spaces) within 350m walking distance from the site. A bike could you hired from any of these docking stations.

3.1.5 A plan illustrating the cycle routes is shown in Figure 3A.

Figure 3A Cycle Routes

3.2 Public Transport

Buses

3.2.1 There are bus stops located on:

- Crowndale Road – 36m east of the site;
- Bayham Street – 100m north of the site;
- Eversholt Street – 150m southwest of the site;
- Hampstead Road – 240m southwest of the site;
- Camden High Street – 350m northwest of the site; and
- Pratt Street – 400m north of the site.

3.2.2 The location of these bus stops is shown in Figure 3B and bus routes are shown in Figure 3C. These bus services are summarised in Table 3A.

Figure 3B Bus Stop Locations

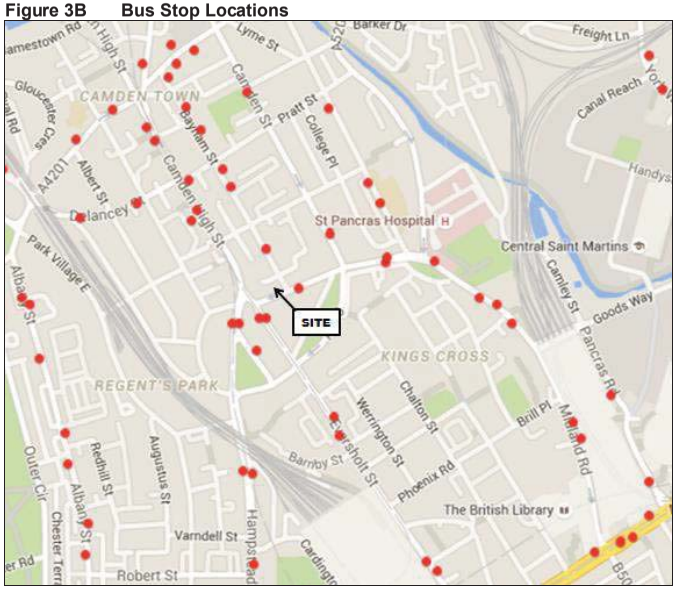


Figure 3C Bus Routes

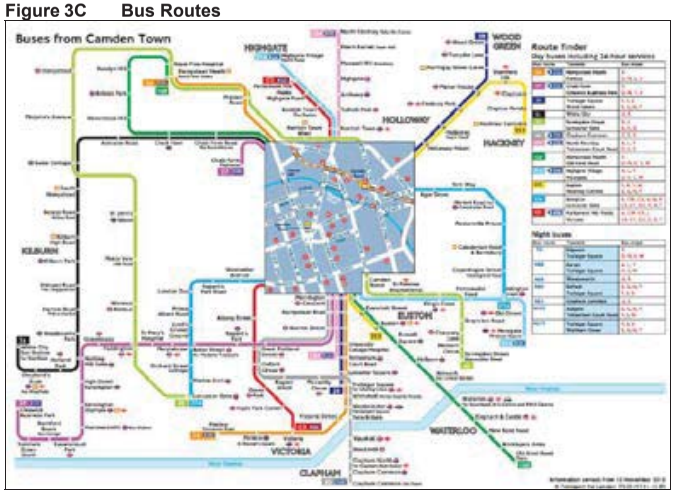


Table 3A Bus Services (Daytime)

Service №	Route	Frequency		
		Mon-Fri	Sat	Sun
24	Grosvenor Road–Royal Free Hospital	6 mins	7 mins	8 mins
27	Camden Town Station–Chiswick Business Park	8 mins	9 mins	12 mins
29	Lordship Lane–Trafalgar Square/Charing Cross Station	5 mins	6 mins	6 mins
88	Camden Gardens-Clapham Common Old Town	6 mins	8 mins	11 mins
134	North Finchley Bus Station-New Oxford St	5 mins	8 mins	8 mins
214	Highgate School-Finsbury Square	8 mins	8 mins	11 mins
46	Lancaster Gate Station-St Bartholomew's Hospital	11 mins	12 mins	20 mins
31	White City Bus Station-Camden Town Centre	6 mins	7 mins	8 mins
168	Royal Free Hospital-Dunton Road	7 mins	10 mins	11 mins
253	Hackney Central Station-Euston Bus Station	6 mins	6 mins	8 mins
274	Angel Islington-Lancaster Gate Station	8 mins	9 mins	10 mins
C2	Parliament-Hill Fields-Victoria Station	8 mins	8 mins	10 mins

Source: TfL (2016)

3.2.3 Table 3A demonstrates that there are 12 day-time services with 108 buses per hour, per direction stopping at the bus stops within a walking distance of 350m from the site. These bus routes provide services to the locations including Highgate Village, Farringdon Street, Hackney, Hampstead Heath, Pimlico, Trafalgar Square and Edgware.

London Underground

3.2.4 Mornington Crescent Underground Station is located at the southern end of Camden High Street where it meets Hampstead Road and Eversholt Street at a walking distance of 170m west of the site.

3.2.5 Mornington Crescent Station is located on the Charing Cross branch of the Northern line, between Euston and Camden Town.

3.2.6 The typical services from this station are:

- One train every 3 minutes to Edgware Underground Station.
- One train every 30 minutes to Morden Underground Station
- One train every 8 minutes to Kennington Underground Station

3.2.7 Mornington Crescent Underground Station (located on Northern Line) is easily accessible to those arriving to London via National Rail (Euston Railway Station and Kings Cross Railway Station) because both Euston and Kings Cross St Pancras Underground Stations are also located on the Northern Line and therefore provide easy connection between network rail and London underground.

3.3 PTAL

3.3.1 The Public Transport Accessibility Level (PTAL) is a method used to assess the accessibility level of a given location, where 0 is least accessible and 6b is most accessible.

3.3.2 The PTAL rating of the site is 6b i.e. excellent. Therefore it is expected that most guests would travel using public transport and/or foot.

4.0 PROPOSED DEVELOPMENT

4.1 Development Details

4.1.1 The proposal if for the reconfiguration of the existing № 1 Bayham Place building and extension to the existing KOKO venue and The Hope and Anchor public house. The proposal will comprise a public house, dining/drinking areas, function room and private members area associated with the adjacent KOKO venue.

4.1.2 The gross floor areas (GFA) are as follows:

- Public house + dining/drinking + bar/catering = 561sqm
- Function rooms (ancillary to KOKO) = 117sqm
- Private members area (ancillary to KOKO) = 340sqm
- Gallery bar (ancillary to KOKO) = 68sqm
- Recording studio (ancillary to KOKO) = 371sqm
- Office (ancillary to KOKO) = 33sqm
- Bedroom (ancillary to KOKO) = 1 bedroom
- Outdoor terrace + sky lobby + dome (ancillary to KOKO) = 629sqm

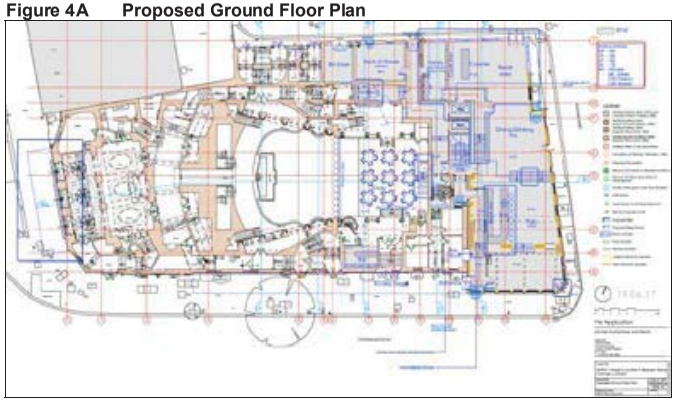
4.1.3 The pedestrian accesses to the public house will be from Crowndale Road and at the corner of Crowndale Road junction with Bayham Street. There will be a new pedestrian access to the Box Office from Crowndale Road. The same entrance will be used to access the upper floors. The pedestrian access to the dining/drinking area on the ground floor will be from Bayham Street.

4.1.4 The service entrance will be provided on Bayham Place approximately 15m west of the junction with Bayham Street. This entrance will be used to receive deliveries and also to access the proposed office unit which will be associated with the KOKO venue.

4.1.5 The bin store is also proposed on the ground floor level and will be accessed from Bayham Place. The bin store opening will be located approximately 25m west of the junction with Bayham Street.

4.1.6 The footways across every pedestrian access on Crowndale Road, Bayham Street and Bayham Place will be dropped. The pedestrian accesses will be step-free.

Figure 4A Proposed Ground Floor Plan



4.2 Car Parking

4.2.1 The site is situated in a very highly sustainable location with the highest possible PTAL rating of 6b (excellent) and hence the development is proposed to be car free. The car-free approach to the development is considered to be appropriate and is in line with Camden Development Policy DP18.

4.3 Cycle Parking

4.3.1 Cycle parking will be provided in line with London Plan 2015 standards i.e.

Public House and Dining/Drinking (A3/A4)

- Long-stay 1 space per 175sqm
- Short-stay 1 space per 40sqm

Function Room (D2)

- Long-stay 1 space per 30 seats
- Short-stay 1 space per 8 staff

4.3.2 Based on these standards, the A3/A4 uses with a total GFA of 561sqm will require three long-stay cycle parking spaces and 14 short-stay cycle parking spaces.

4.3.3 The proposed function rooms and private member areas are ancillary to the KOKO venue i.e. the patrons using these facilities will be already visiting the KOKO venue and hence there is further requirement to provide long stay cycle spaces for the patrons. However, these proposed uses may result in an increase in staff numbers. Based on an assumption that there will be an addition of 30 staff associated with these uses, there will be a requirement of four long stay cycle parking spaces.

Cycle Parking Provision

4.3.4 Therefore, a total of seven internal cycle parking spaces, i.e. four cycle stands, will be provided, within the building in the sub-basement level. There will be lifts to provide access from the ground floor to the cycle store. This is in line with London Plan Standards as well as Camden Development Policy DP17.

4.3.5 A total of 14 short stay cycle parking spaces, i.e. seven cycle stands, are required. These are for customers and visitors. A S106 contribution will be offered to the Council for implementation of these cycle spaces on Crowndale Road nearby the entrance in line with the previous planning application P2016/6959/F.

4.4 Refuse Storage

4.4.1 The refuse store will be located on the ground floor level. The service entrance is located on Bayham Place. The refuse and waste collections and servicing will take place from Bayham Place. An experienced member of staff will assist the delivery drivers to ensure the servicing is undertaken safely. This servicing arrangement has been accepted by the Council as part of the previous planning application 2016/6959/F.

4.4.2 The member of staff will be available during collection days to trolley the bins out of the bin store.

4.4.3 The areas required for the refuse/waste bins will be in keeping with the Building Regulations.

5.0 TRAFFIC GENERATION

5.1 Trip Generation

A3/A4 Uses

5.1.1 It is proposed to provide a public house, dining/drinking areas and catering/bar areas with a total GFA of 561sqm (A3/A4 uses).

5.1.2 The TRAVL database has been used to estimate the likely trip generation associated with the proposed A3/A4 uses. Only inner London sites within TRAVL with a PTAL rating of 5 or more and limited parking have been chosen. The information regarding the chosen TRAVL sites is provided in Appendix 2.1.

5.1.3 TRAVL suggests that a restaurant in an inner London location with high PTAL rating could generate 242.4 two-way person trips per 100m^2 GFA. This trip rate has been agreed by the Council as part of the previous planning application 2016/6959/F. TRAVL data is provided in Appendix 2.2. Therefore, with a total GFA of 561m^2 could generate:

- 242.4 x 5.61 = 1360 person trips (two-way)
  Or 680 person arrivals
  680 person departures

5.1.4 The mode split is provided in Appendix 2 and is summarised in Table 5A.

Table 5A Mode Split (A3/A4 use: 561m^2)

	Mode Split (%)	Trips (Two-Way)
Car driver	7.3%	99
Car passenger	10.7%	146
Coach	0.0%	0
Motorcycle	0.0%	0
Taxi (incl. occupants)	0.3%	4
Walk/PT	77.2%	1050
Pedal cycle	4.5%	61
Total	**100%**	**1360**

5.1.5 Table 5A demonstrates that the majority of trips would be associated with pedestrian and public transport users. The table also shows that the A3/A4 uses could generate up to 99 two-way car trips which equate to up to 8 two-way car trips per hour (on a 12-hour basis) or only one car trip every eight minutes. The development is proposed to be car-free, therefore it is assumed that these cars would be parked in the car parks within an easy walking distance from the site. The occupants of these cars would then walk to the site and therefore these trips are classified as pedestrian trips in the immediate vicinity of the site. Table 5B shows the adjusted trip mode based on this principle.

Table 5B Daily adjusted mode split (A3/A4: 561sqm)

	Mode Split (%)	Trips (Two-Way)
Taxi (incl. occupants)	0.3%	4
Walk/PT	95.2%	1295
Pedal cycle	4.5%	61
Total	**100%**	**1360**

5.1.6 The person trips generated by the typical network peak hours (i.e. AM 08:00-09:00, PM 17:00-18:00) are provided in Table 5C.

Table 5C Restaurant Trips During Network Peak Hours

		Arrivals		Departures		Two-way
		Trip rate/100m²	Trips	Trip rate/100m²	Trips	
AM peak hour	Car driver	0.402	2	0.000	0	2
	Car passenger	0.000	0	0.000	0	0
	Coach	0.000	0	0.000	0	0
	Motorcycle	0.000	0	0.000	0	0
	Taxi	0.000	0	0.000	0	0
	Walk/PT	1.205	7	0.000	0	7
	Pedal cycle	0.000	0	0.000	0	0
	Total	**1.607**	**9**	**0.000**	**0**	**9**
PM peak hour	Car driver	0.201	1	0.385	2	3
	Car passenger	0.000	0	0.769	4	4
	Coach	0.000	0	0.000	0	0
	Motorcycle	0.000	0	0.000	0	0
	Taxi	0.000	0	0.000	0	0
	Walk/PT	4.149	23	1.406	8	31
	Pedal cycle	0.000	0	0.000	0	0
	Total	**4.350**	**24**	**2.560**	**14**	**38**

5.1.7 Table 5C represents a worst case scenario as there will be some shared trips between the proposed, A3/A4 uses and adjacent KOKO. Table 5C has been adjusted to reflect that the development is car-free, by assuming that the car trips (including car passenger trips) would be walk/public transport trips instead. Table 5D demonstrates the adjusted restaurant trip generation.

Table 5D Adjusted Restaurant Trips During Network Peak Hours

		Arrivals	Departures	Two-way
AM peak hour	Car driver	0	0	0
	Car passenger	0	0	0
	Coach	0	0	0
	Motorcycle	0	0	0
	Taxi	0	0	0
	Walk/PT	9	0	9
	Pedal cycle	0	0	0
	Total	**9**	**0**	**9**
PM peak hour	Car driver	0	0	0
	Car passenger	0	0	0
	Coach	0	0	0
	Motorcycle	0	0	0
	Taxi	0	0	0
	Walk/PT	24	14	38
	Pedal cycle	0	0	0
	Total	**24**	**141**	**38**

5.1.8 Table 5D demonstrates that the proposed restaurant could generate 9 and 38 two-way pedestrian/public transport trips during the typical network AM and PM peak hour.

Other elements of the development

5.1.9 The proposed function room, private member areas, KOKO office and recording studio are ancillary to the KOKO venue and hence their facilities will not result in any additional traffic.

5.2 Deliveries

5.2.1 The site falls within a controlled zone which restricts any vehicle above 5 tonne weight or coach from entering Crowndale Road and Bayham Street between the hours of 18:30 and 08:00. Therefore deliveries by vehicles more than 5 tonne weight will be subject to this restriction.

5.2.2 As suggested in section 4.2 the waste collection and servicing including deliveries, would take place from Bayham Place. This arrangement has been accepted by the Council as part of the previous planning application 2016/6959/F.

Restaurants/bars

5.2.3 The total GFA of the A3/A4 proposed is 561sqm. The estimation of the total servicing trips generated by the proposed restaurants is based upon the mixed use development application (P2013/1667/FUL) which includes A3/A4 restaurant use on 207 – 211 Old Street in Islington.

5.2.4 This application was granted permission in December 2013 and a TA was prepared in support of this application which stated that a restaurant could generate 1.2 service vehicle trips per 100m^2.

5.2.5 Therefore, the proposed restaurant uses with GFA of 561sqm generate:

- 1.2 x 5.61 = 7 service vehicle trips on a daily basis

Waste Collection

5.2.6 In addition to the above, three refuse collections each week are anticipated, all of which would be undertaken by a private contract firm using a standard vehicle of 10m length. The KOKO will work with the waste contract firms to co-ordinate refuse collection trips associated with the existing and proposed uses on the site to coincide.

6.0 TRAFFIC IMPACT

6.1 Comparison Between Permitted and Proposed Development Traffic

6.1.1 The comparison of permitted and proposed development traffic (two-way) during the typical network AM and PM peak hours is provided in Table 6A.

Table 6A Comparison between Permitted and Proposed Development Traffic (Two-Way)

		Permitted (Table 2H)	Proposed (Table 5D)	Difference
AM Peak Hour	Taxi	0	0	0
	Walk/PT	13	9	-4
	Pedal Cycle	0	0	0
	Total	13	9	-4
PM Peak Hour	Taxi	0	0	0
	Walk/PT	36	38	+2
	Pedal Cycle	0	0	0
	Total	36	38	+2

6.1.2 Table 6A demonstrates that the proposed development could result in a reduction in pedestrian/public transport trips by four trips (two-way) during AM peak hour and increase in pedestrian/public transport trips by only two trips (two-way) during PM peak hour when compared to the permitted development.

6.1.3 This increase is not considered to be severe in traffic engineering terms. As such, the pedestrian and public transport trips resulting from the proposal could be accommodated by the existing facilities and therefore, there will be no severe traffic impact.

7.0 CONCLUSIONS

7.1 This Pre-Application Transport Statement concludes that:

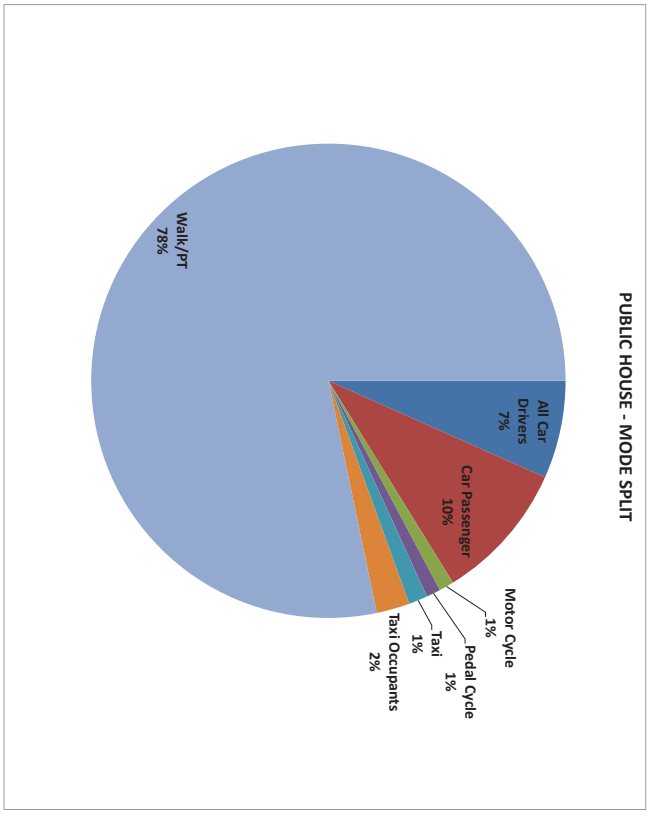
- The proposed development is car free and hence will not generate any private car trips in the vicinity of the site;
- The proposed development could result in a reduction in pedestrian/public transport trips by four trips (two-way) in AM peak hour and increase by only two trips (two-way) in PM peak hour, when compared to the permitted uses on site;
- Majority of the trips would be either by foot or public transport;
- The streets in the vicinity of the site benefit from wide footways and given that the PTAL rating of the site is 6B, there is enough spare capacity on the footway and public transport network to accommodate the demand;
- Up to seven deliveries per day are estimated;
- The number of deliveries could be reduced if the deliveries associated with the existing facilities within KOKO are consolidated;
- The delivery and waste collection vehicles would use Bayham Place to collect waste and deliveries. The service entrance is located on Bayham Place approximately 15m from the junction with Bayham Street;
- Internal cycle storage for seven cycles will be provided in the form of four cycle stands;
- A S106 contribution towards implementation of 14 visitor/customer cycle parking spaces on Crowndale Road nearby the entrance will be offered to the Council.

7.2 The Transport Statement which will be submitted as part of the planning application will be based up on this Pre-Application Transport Statement and will also take into account any comments received from the highways department of London Borough of Camden.

TRAVL INFORMATION: PUBLIC HOUSE

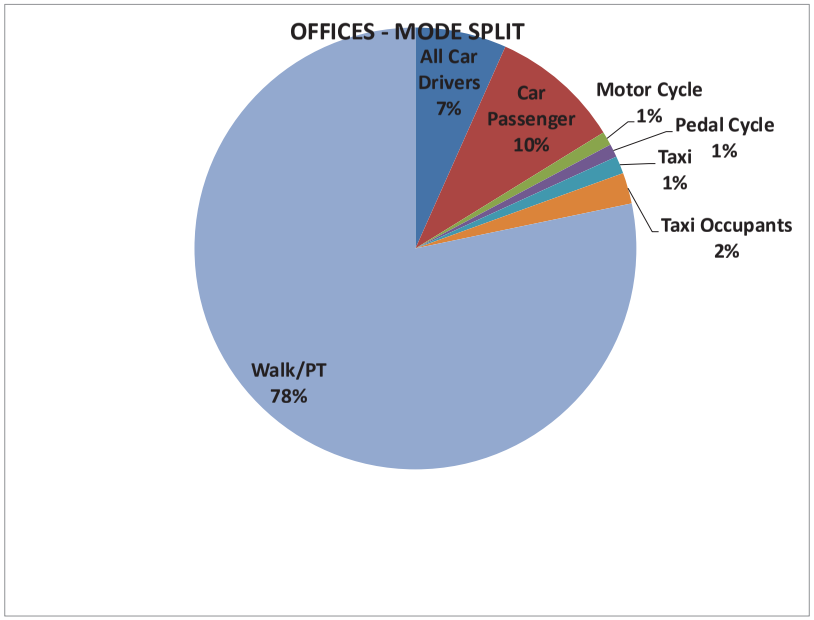
	ARRIVAL TRIP RATE PER 100 SQM										DEPARTURES TRIP RATE PER 100 SQM									
	All Car Drivers	Car Passenger	Coach	Motor Cycle	Other	Pedal Cycle	Taxi	Taxi Occupants	Walk/PT	TOTAL	All Car Drivers	Car Passenger	Coach	Motor Cycle	Other	Pedal Cycle	Taxi	Taxi Occupants	Walk/PT	TOTAL
00:00-01:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
01:00-02:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
02:00-03:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
03:00-04:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
04:00-05:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
05:00-06:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
06:00-07:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
07:00-08:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
08:00-09:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
09:00-10:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
10:00-11:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
11:00-12:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.341	**0.341**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.103	**0.103**
12:00-13:00	0.155	0.052	0.000	0.000	0.000	0.000	0.000	0.000	2.061	**2.267**	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.309	**0.412**
13:00-14:00	0.000	0.000	0.000	0.103	0.000	0.000	0.000	0.000	2.938	**3.041**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.164	**2.164**
14:00-15:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.928	**0.928**	0.052	0.052	0.000	0.103	0.000	0.000	0.000	0.000	2.409	**2.615**
15:00-16:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.155	**0.155**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.619	**0.619**
16:00-17:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.825	**0.825**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.516	**0.516**
17:00-18:00	0.052	0.103	0.000	0.000	0.000	0.000	0.000	0.000	2.784	**2.938**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.031	**1.031**
18:00-19:00	0.592	1.184	0.000	0.000	0.000	0.000	0.000	0.000	4.601	**6.377**	0.187	0.238	0.000	0.000	0.000	0.000	0.103	0.155	1.920	**2.602**
19:00-20:00	0.509	0.882	0.000	0.000	0.000	0.000	0.000	0.000	4.665	**6.055**	0.425	0.560	0.000	0.000	0.000	0.000	0.103	0.155	4.259	**5.501**
20:00-21:00	0.322	0.135	0.000	0.052	0.000	0.000	0.155	0.258	5.165	**6.085**	0.541	0.946	0.000	0.000	0.000	0.000	0.000	0.000	4.844	**6.331**
21:00-22:00	0.580	1.056	0.000	0.271	0.000	0.271	0.000	0.000	5.120	**7.296**	0.560	1.069	0.000	0.000	0.000	0.000	0.103	0.206	4.439	**6.376**
22:00-23:00	0.683	1.056	0.000	0.000	0.000	0.135	0.206	0.413	4.045	**6.537**	0.361	0.361	0.000	0.052	0.000	0.271	0.206	0.361	4.759	**6.369**
23:00-00:00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.496	0.322	0.000	0.271	0.000	0.135	0.206	0.361	4.830	**6.621**
TOTAL	**2.890**	**4.467**	**0.000**	**0.425**	**0.000**	**0.406**	**0.361**	**0.670**	**33.623**	**42.841**	**2.723**	**3.547**	**0.000**	**0.425**	**0.000**	**0.406**	**0.721**	**1.237**	**32.199**	**41.256**

APPENDIX 1.0
TRAVL INFORMATION:
PUBLIC HOUSE



	ARRIVALS TRIP RATE PER 100 SQM												DEPARTURES TRIP RATE PER 100 SQM										
	All Car Drivers	Car Passenger	Cyclists	Motor Cycle	Pedal Cycle	Other	Taxi	Taxi Occupants	Walk/PT	TOTAL	All Car Drivers	Car Passenger	Cyclists	Motor Cycle	Pedal Cycle	Other	Taxi	Taxi Occupants	Walk/PT	TOTAL
00-00-01-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
01-00-02-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
02-00-03-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
03-00-04-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
04-00-05-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
05-00-06-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
06-00-07-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
07-00-08-00	0.214	0.020	0.000	0.041	0.000	0.000	0.000	0.000	0.000	**0.065**	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.006**
08-00-09-00	0.240	0.024	0.010	0.085	0.000	0.000	0.000	0.000	0.000	**0.299**	0.030	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.039**
09-00-10-00	0.233	0.046	0.000	0.004	0.000	0.000	0.000	0.020	0.000	**0.434**	0.084	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.501**
10-00-11-00	0.221	0.002	0.000	0.000	0.002	0.000	0.000	0.012	0.052	**0.426**	0.256	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.554**
11-00-12-00	0.151	0.020	0.000	0.000	0.006	0.000	0.000	0.026	0.052	**0.790**	0.058	0.006	0.000	0.000	0.002	0.000	0.000	0.008	0.000	**0.074**
12-00-13-00	0.080	0.082	0.000	0.004	0.000	0.000	0.000	0.012	0.012	**2.575**	0.126	0.006	0.000	0.000	0.041	0.000	0.000	0.018	0.000	**2.184**
13-00-14-00	0.044	0.002	0.000	0.002	0.002	0.000	0.000	0.012	0.004	**1.761**	0.102	0.008	0.000	0.000	0.004	0.000	0.000	0.008	0.002	**1.633**
14-00-15-00	0.281	0.106	0.000	0.000	0.002	0.000	0.000	0.014	0.004	**1.361**	0.070	0.018	0.000	0.000	0.004	0.000	0.000	0.011	0.002	**0.672**
15-00-16-00	0.090	0.014	0.000	0.000	0.000	0.000	0.000	0.008	0.000	**0.820**	0.369	0.088	0.000	0.000	0.006	0.000	0.000	0.024	0.002	**1.555**
16-00-17-00	0.076	0.012	0.000	0.000	0.000	0.000	0.000	0.024	0.000	**0.527**	0.136	0.020	0.000	0.000	0.045	0.000	0.000	0.020	0.002	**0.886**
17-00-18-00	0.024	0.002	0.000	0.000	0.000	0.000	0.000	0.004	0.000	**0.185**	0.463	0.236	0.010	0.046	0.000	0.000	0.000	0.018	0.022	**2.732**
18-00-19-00	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.044**	0.134	0.026	0.000	0.042	0.000	0.000	0.000	0.008	0.022	**0.886**
19-00-20-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.078**
20-00-21-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**
21-00-22-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.019**
22-00-23-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
23-00-00-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
TOTAL	**1.686**	**0.322**	**0.010**	**0.146**	**0.000**	**0.182**	**0.120**	**0.196**	**0.000**	**15.653**	**13.040**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**15.653**

	DEPARTURES TRIP RATE PER 100 SQM												ARRIVALS TRIP RATE PER 100 SQM										
	All Car Drivers	Car Passenger	Cyclists	Motor Cycle	Pedal Cycle	Other	Taxi	Taxi Occupants	Walk/PT	TOTAL	All Car Drivers	Car Passenger	Cyclists	Motor Cycle	Pedal Cycle	Other	Taxi	Taxi Occupants	Walk/PT	TOTAL
00-00-01-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
01-00-02-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
02-00-03-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
03-00-04-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
04-00-05-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
05-00-06-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
06-00-07-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
07-00-08-00	0.214	0.020	0.000	0.041	0.000	0.000	0.000	0.000	0.000	**0.065**	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.006**
08-00-09-00	0.240	0.024	0.010	0.085	0.000	0.000	0.000	0.000	0.000	**0.299**	0.030	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.039**
09-00-10-00	0.233	0.046	0.000	0.004	0.000	0.000	0.000	0.020	0.000	**0.434**	0.084	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.501**
10-00-11-00	0.221	0.002	0.000	0.000	0.002	0.000	0.000	0.012	0.052	**0.426**	0.256	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.554**
11-00-12-00	0.151	0.020	0.000	0.000	0.006	0.000	0.000	0.026	0.052	**0.790**	0.058	0.006	0.000	0.000	0.002	0.000	0.000	0.008	0.000	**0.074**
12-00-13-00	0.080	0.082	0.000	0.004	0.000	0.000	0.000	0.012	0.012	**2.575**	0.126	0.006	0.000	0.000	0.041	0.000	0.000	0.018	0.000	**2.184**
13-00-14-00	0.044	0.002	0.000	0.002	0.002	0.000	0.000	0.012	0.004	**1.761**	0.102	0.008	0.000	0.000	0.004	0.000	0.000	0.008	0.002	**1.633**
14-00-15-00	0.281	0.106	0.000	0.000	0.002	0.000	0.000	0.014	0.004	**1.361**	0.070	0.018	0.000	0.000	0.004	0.000	0.000	0.011	0.002	**0.672**
15-00-16-00	0.090	0.014	0.000	0.000	0.000	0.000	0.000	0.008	0.000	**0.820**	0.369	0.088	0.000	0.000	0.006	0.000	0.000	0.024	0.002	**1.555**
16-00-17-00	0.076	0.012	0.000	0.000	0.000	0.000	0.000	0.024	0.000	**0.527**	0.136	0.020	0.000	0.000	0.045	0.000	0.000	0.020	0.002	**0.886**
17-00-18-00	0.024	0.002	0.000	0.000	0.000	0.000	0.000	0.004	0.000	**0.185**	0.463	0.236	0.010	0.046	0.000	0.000	0.000	0.018	0.022	**2.732**
18-00-19-00	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.044**	0.134	0.026	0.000	0.042	0.000	0.000	0.000	0.008	0.022	**0.886**
19-00-20-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.078**
20-00-21-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**
21-00-22-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.020**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.019**
22-00-23-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
23-00-00-00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
TOTAL	**1.686**	**0.322**	**0.010**	**0.146**	**0.000**	**0.182**	**0.120**	**0.196**	**0.000**	**15.653**	**13.040**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**15.653**


OFFICES - MODE SPLIT
All Car Drivers 7%
Car Passenger 10%
Motor Cycle 1%
Pedal Cycle 1%
Taxi 1%
Taxi Occupants 2%
Walk/PT 78%

Survey Code	421	426
Land Use	A3 - Restaurant	A3 - Restaurant
Name	Carluccio's	ChilliChutney
Borough	WANDSWORTH	LAMBETH
Survey Date	08/09/2005	23/04/2005
PTAL	6	6
Area	Inner	Inner
Total Parking	0	0
Survey Hrs1	07:00-22:00	11:30-23:30
GFA	249	130
Seats	230	120

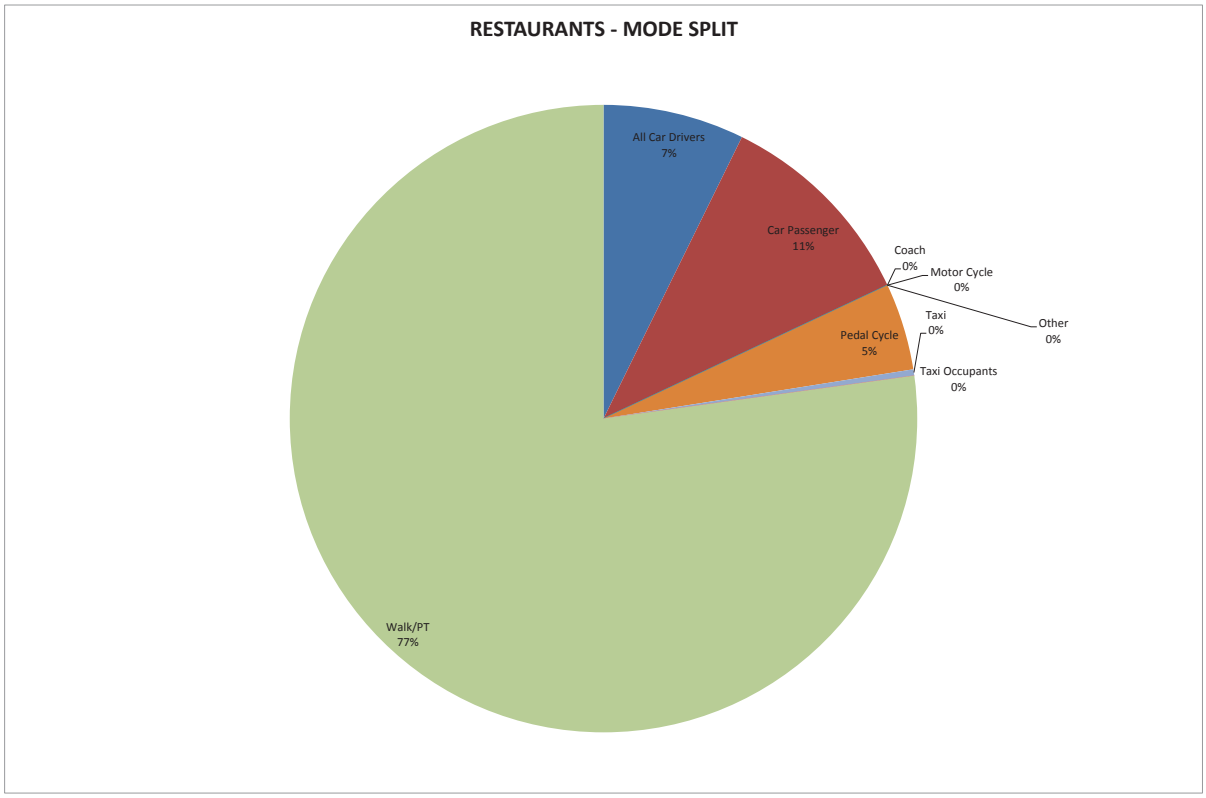
APPENDIX 3.0
TRAVL INFORMATION:
RESTAURANT

ARRIVAL TRIP RATE PER 100 SQM

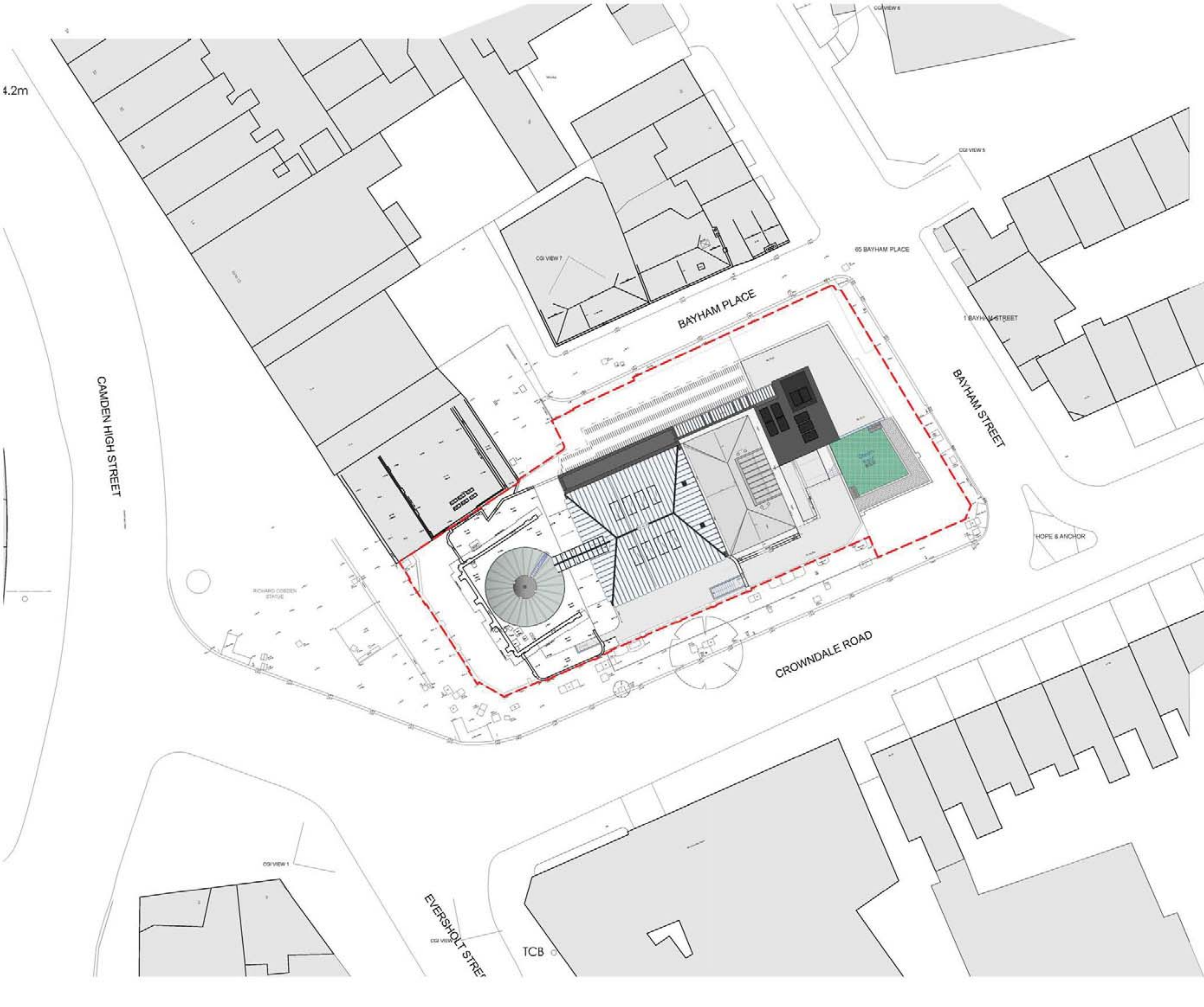
	All Car Drivers	Car Passenger	Coach	Motor Cycle	Other	Pedal Cycle	Taxi	Taxi Occupant	Walk/PT
00:00-00:30	0	0	0	0	0	0	0	0	0
00:30-01:00	0	0	0	0	0	0	0	0	0
01:00-01:30	0	0	0	0	0	0	0	0	0
01:30-02:00	0	0	0	0	0	0	0	0	0
02:00-02:30	0	0	0	0	0	0	0	0	0
02:30-03:00	0	0	0	0	0	0	0	0	0
03:00-03:30	0	0	0	0	0	0	0	0	0
03:30-04:00	0	0	0	0	0	0	0	0	0
04:00-04:30	0	0	0	0	0	0	0	0	0
04:30-05:00	0	0	0	0	0	0	0	0	0
05:00-05:30	0	0	0	0	0	0	0	0	0
05:30-06:00	0	0	0	0	0	0	0	0	0
06:00-06:30	0	0	0	0	0	0	0	0	0
06:30-07:00	0	0	0	0	0	0	0	0	0
07:00-07:30	0	0	0	0	0	0.201	0	0	0.803
07:30-08:00	0	0	0	0	0	0	0	0	0.803
08:00-08:30	0	0	0	0	0	0	0	0	0.803
08:30-09:00	0.402	0	0	0	0	0	0	0	0.402
09:00-09:30	0	0	0	0	0	0	0	0	1.606
09:30-10:00	0	0	0	0	0	1.205	0	0	1.606
10:00-10:30	0.402	0	0	0	0	0.402	0	0	0.803
10:30-11:00	0	0	0	0	0	0	0	0	3.213
11:00-11:30	0	0	0	0	0	0	0	0	3.815
11:30-12:00	0.201	0	0	0	0	0.201	0	0	2.525
12:00-12:30	0.402	0	0	0	0	0	0	0	2.576
12:30-13:00	1.004	2.209	0	0	0	0	0	0	2.542
13:00-13:30	0.201	0	0	0	0	0	0	0	2.944
13:30-14:00	0.402	0	0	0	0	0	0	0	3.781
14:00-14:30	1.372	1.154	0	0	0	0	0	0	2.376
14:30-15:00	0	0	0	0	0	0	0	0	2.995
15:00-15:30	0.201	0.201	0	0	0	0	0	0	2.777
15:30-16:00	0	0	0	0	0	0.803	0	0	2.393
16:00-16:30	0	0	0	0	0	0.402	0	0	3.982
16:30-17:00	0.385	1.154	0	0	0	0.201	0	0	5.286
17:00-17:30	0	0	0	0	0	0	0	0	2.393
17:30-18:00	0.201	0	0	0	0	0	0	0	1.756
18:00-18:30	0.402	0.602	0	0	0	0.201	0	0	0.987
18:30-19:00	0.385	0.769	0	0	0	0	0	0	1.957
19:00-19:30	0.385	1.538	0	0	0	0.201	0.201	0	2.542
19:30-20:00	0.786	1.572	0	0	0	0.803	0	0	6.007
20:00-20:30	0.769	1.923	0	0	0	0.201	0	0	10.758
20:30-21:00	1.154	1.923	0	0	0	0.201	0	0	8.784
21:00-21:30	0.769	1.538	0	0	0	0.602	0	0	9.438
21:30-22:00	0	0	0	0	0	0.402	0	0	5.789
22:00-22:30	0	0	0	0	0	0	0	0	1.538
22:30-23:00	0	0	0	0	0	0	0	0	0
23:00-23:30	0	0	0	0	0	0	0	0	0
23:30-24:00	0	0	0	0	0	0	0	0	0

DEPARTURE TRIP RATE PER 100 SQM

	All Car Drivers	Car Passenger	Coach	Motor Cycle	Other	Pedal Cycle	Taxi	Taxi Occupant	Walk/PT
00:00-00:30	0	0	0	0	0	0	0	0	0
00:30-01:00	0	0	0	0	0	0	0	0	0
01:00-01:30	0	0	0	0	0	0	0	0	0
01:30-02:00	0	0	0	0	0	0	0	0	0
02:00-02:30	0	0	0	0	0	0	0	0	0
02:30-03:00	0	0	0	0	0	0	0	0	0
03:00-03:30	0	0	0	0	0	0	0	0	0
03:30-04:00	0	0	0	0	0	0	0	0	0
04:00-04:30	0	0	0	0	0	0	0	0	0
04:30-05:00	0	0	0	0	0	0	0	0	0
05:00-05:30	0	0	0	0	0	0	0	0	0
05:30-06:00	0	0	0	0	0	0	0	0	0
06:00-06:30	0	0	0	0	0	0	0	0	0
06:30-07:00	0	0	0	0	0	0	0	0	0
07:00-07:30	0	0	0	0	0	0	0	0	0
07:30-08:00	0	0	0	0	0	0	0	0	0
08:00-08:30	0	0	0	0	0	0	0	0	0
08:30-09:00	0	0	0	0	0	0	0	0	0
09:00-09:30	0	0	0	0	0	0.803	0	0	0.803
09:30-10:00	0	0	0	0	0	0	0	0	1.004
10:00-10:30	0	0	0	0	0	0	0	0	2.008
10:30-11:00	0	0	0	0	0	1.004	0	0	1.004
11:00-11:30	0.402	0	0	0	0	0.402	0	0	1.205
11:30-12:00	0	0	0	0	0	0	0	0	1.807
12:00-12:30	0	0	0	0	0	0	0	0	2.995
12:30-13:00	0	0	0	0	0	0	0	0	2.209
13:00-13:30	0	0	0	0	0	0	0	0	5.973
13:30-14:00	0	0	0	0	0	0	0	0	4.183
14:00-14:30	0.385	0.769	0	0	0	0	0	0	8.097
14:30-15:00	0.201	0.201	0	0	0	0.201	0	0	1.79
15:00-15:30	0	0	0	0	0	0	0	0	4.717
15:30-16:00	0	0	0	0	0	0	0	0	4.768
16:00-16:30	0.201	0	0	0	0	0.201	0	0	2.811
16:30-17:00	0	0	0	0	0	0	0	0	1.991
17:00-17:30	0.385	0.769	0	0	0	0	0	0	0
17:30-18:00	0	0	0	0	0	0	0	0	1.406
18:00-18:30	0.385	0.385	0	0	0	0	0	0	4.265
18:30-19:00	0	0	0	0	0	0	0	0	0.201
19:00-19:30	0.402	0.201	0	0	0	0	0	0	1.974
19:30-20:00	0.201	0.402	0	0	0	0.402	0	0	2.41
20:00-20:30	0.803	0.803	0	0	0	0	0	0	2.376
20:30-21:00	1.171	2.124	0	0	0	0.201	0.402	0	6.123
21:00-21:30	0.97	1.555	0	0	0	0.402	0.201	0	8.4
21:30-22:00	0.385	1.538	0	0	0	1.205	0	0	6.776
22:00-22:30	1.154	1.923	0	0	0	0	0	0	2.308
22:30-23:00	0.769	0.769	0	0	0	0	0	0	2.308
23:00-23:30	0	0	0	0	0	0	0	0	1.154
23:30-24:00	0	0	0	0	0	0	0	0	0


RESTAURANTS - MODE SPLIT
All Car Drivers
7%
Car Passenger
11%
Coach
0%
Motor Cycle
0%
Other
0%
Taxi
0%
Pedal Cycle
5%
Taxi Occupants
0%
Walk/PT
77%

Appendix
Stage 3 Work in Progress



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This drawing is to be read in conjunction with the Architect's specification, bills of quantities / schedules, structural, mechanical & electrical drawings and all discrepancies are to be reported to the architect.

Do not scale from this drawing. Dimensions are in millimetres unless otherwise stated.

revision / date / amendments

11.08.17

STAGE 3

Archer Humphryes Architects

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Site Plan

drawing number
AHA / KKC /GA /001

Only the original drawing should be relied upon. Contractors, subcontractors and suppliers must verify all dimensions on site before commencing any work or making any shop drawings.

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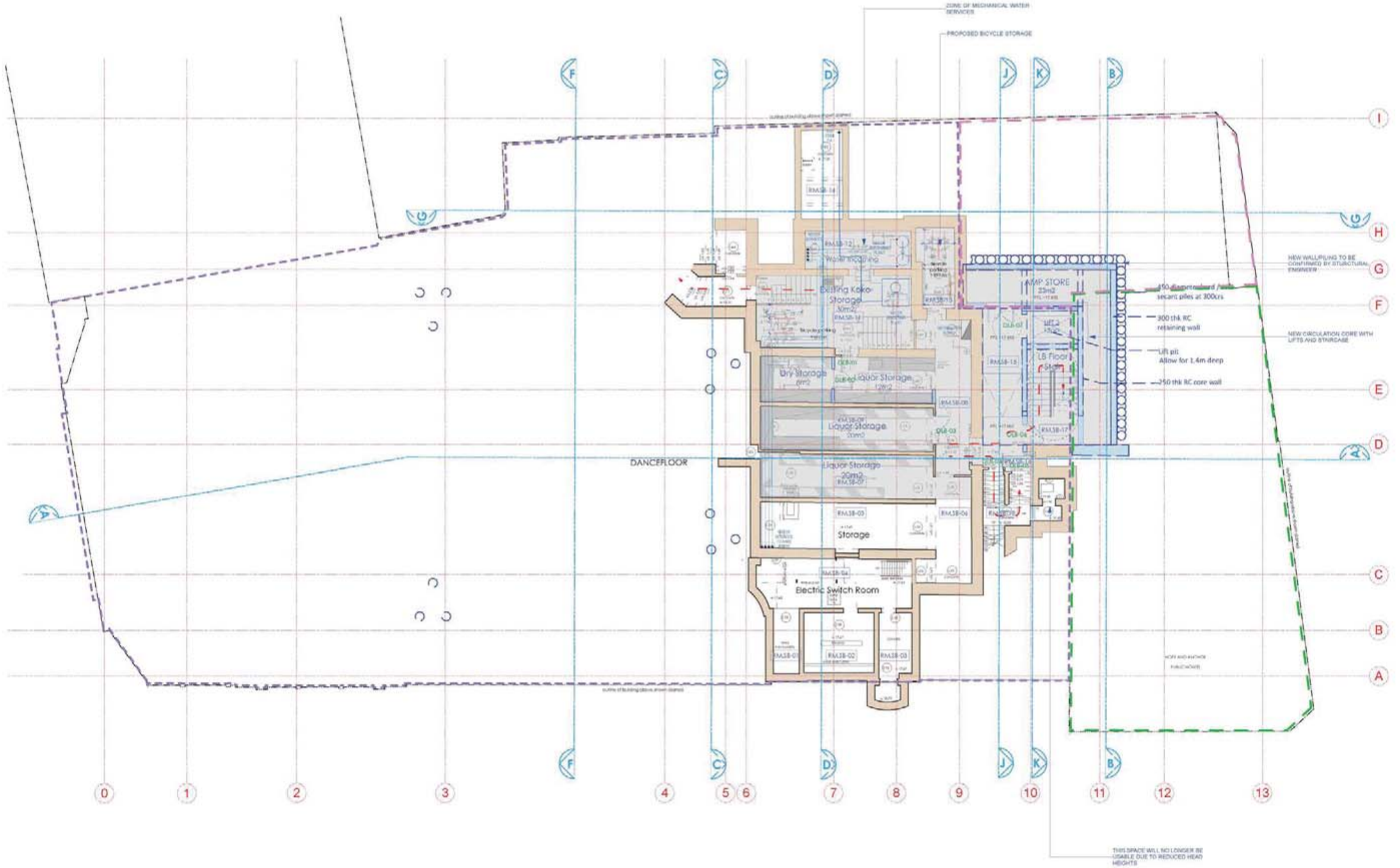
This drawing is to be read in conjunction with the Architect's specification, bills of quantities / schedules, structural, mechanical & electrical drawings and all discrepancies are to be reported to the architect.

Do not scale from this drawing. Dimensions are in millimetres unless otherwise stated.

revision / date / amendments		
A	04/08/2017	Amp Store relocated to Sub-basement
B	11/08/2017	Stage 3 Submission



AREA

188m2

POPULATIONS
GF - 150
1F - 130
2F - 180
3F - 70
4F - 310 total
(60 Dome)
(150 Pavilion)
(100 Terrace)

LEGEND

- Existing Building Fabric KOKO nee Camden Palace Theatre (1900)
- Existing Building Fabric Hope & Anchor (approx. 1850)
- Existing Building Fabric Bayham Place (from 1875)
- Existing Modern Building Fabric Bayham Place (from 2006)
- Building Fabric to be demolished
- Demolition of Flooring / Elevation / Wall
- Proposed Excavation
- Remove and retain in alternate location
- Remove (Protect) and retain for reinstatement
- Retain, make good, ease and adjusted
- Artist Route
- Guest Route to Rooftop Restaurant
- Means of escape route
- Proposed Riser
- Proposed Risers Above
- RM.4-06 Room Number
- D4-02 Door Number
- W4-05 Window Number
- Hope & Anchor Demise
- Koko Demise
- 1 Bayham Street & 65 Bayham Place Demise
- Blue Roof

11.08.17

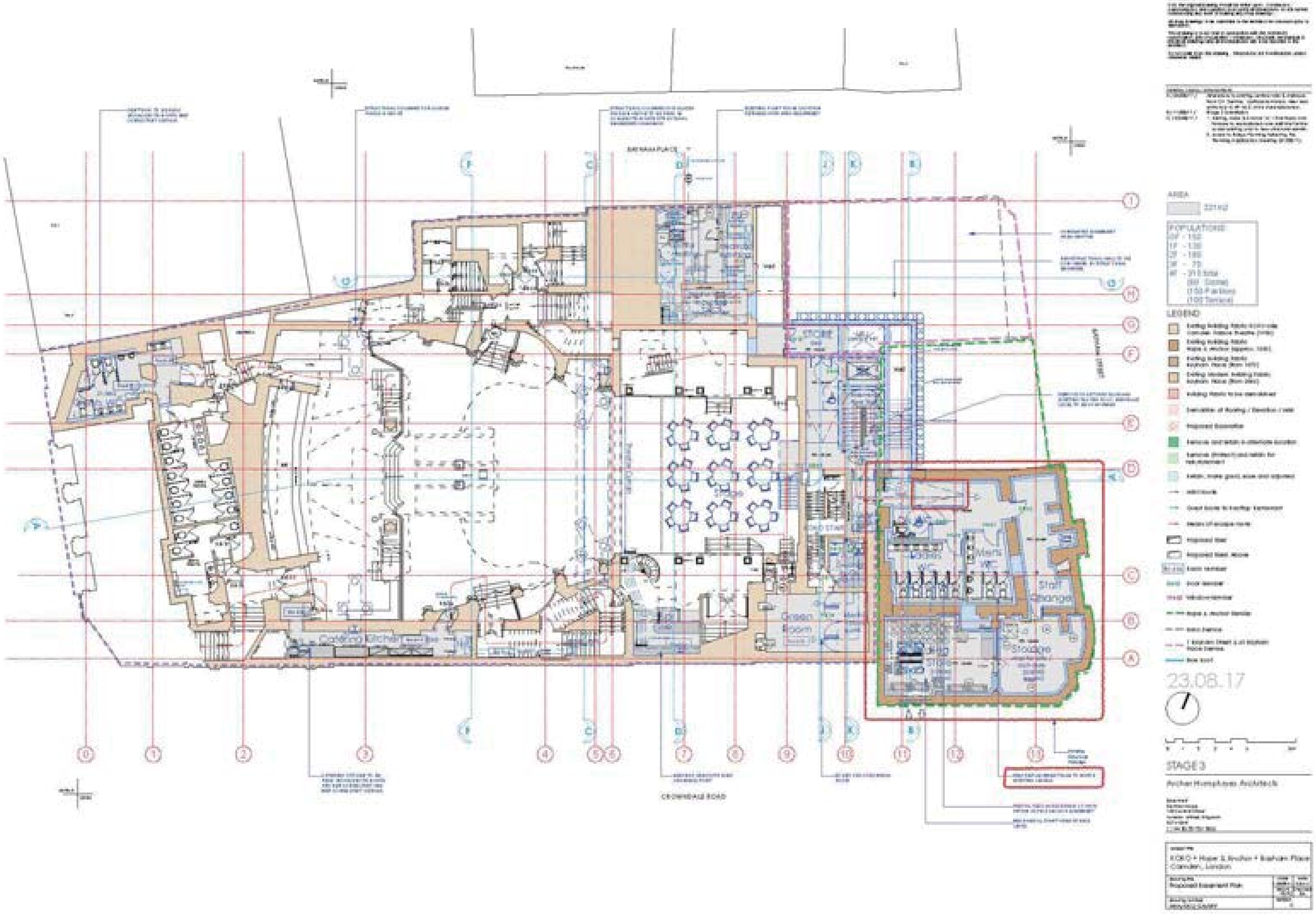
0 1 2 3 4 5 8m

STAGE 3

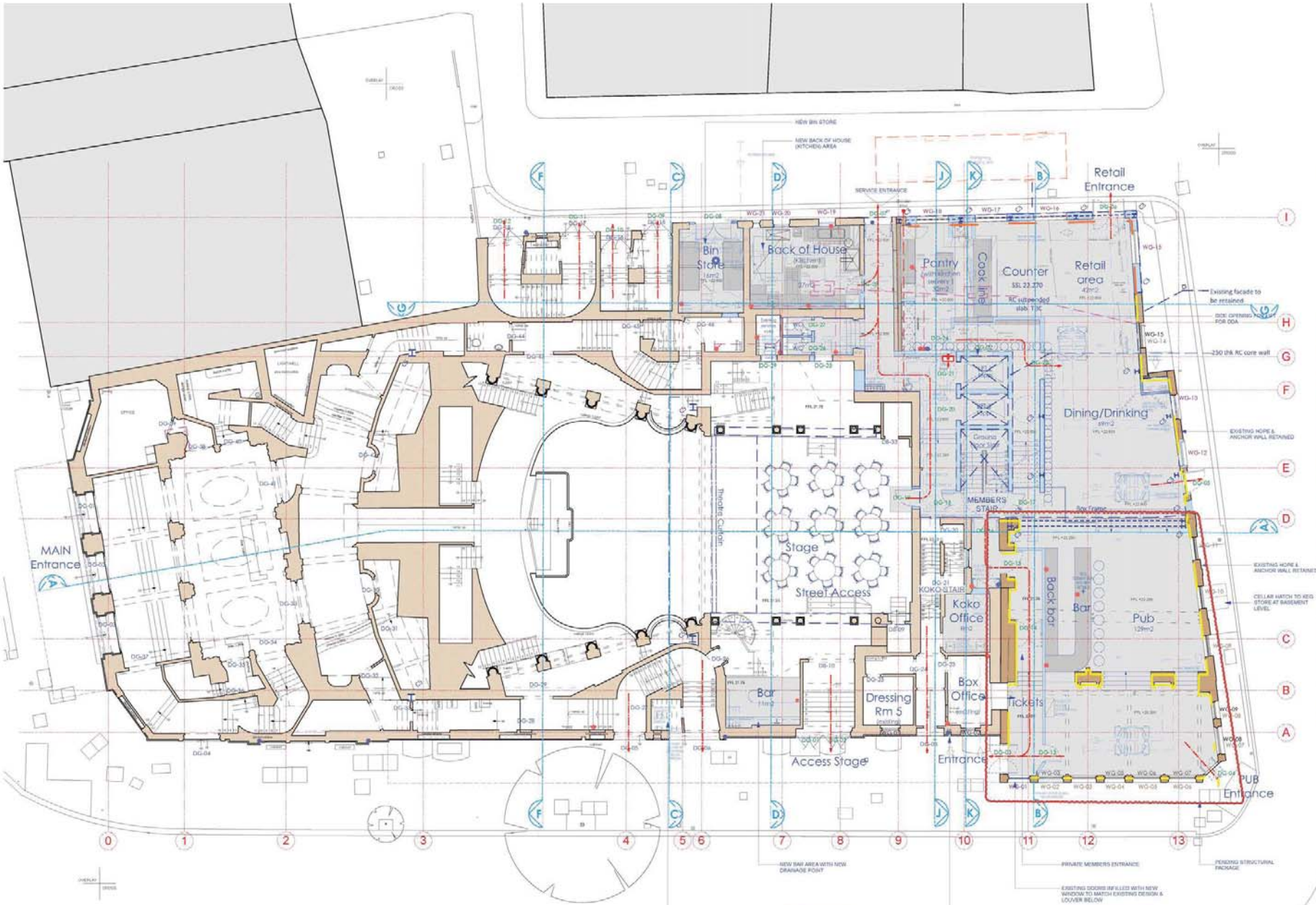
Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T : +44 (0) 20 7251 8555

project title	
KOKO + Hope & Anchor + Bayham Place Camden, London	
drawing title: Proposed Sub Basement Plan	scale 1:100 @ A1 / date 13.04.17 / drawn [illegible] / checked DA
drawing number: AHA/KKC/GA/098	revision [illegible]



BAYHAM PLACE
CROWNDALE ROAD
Catering Kitchen
Green Room
STORE
Ladies
Mens
Staff Change
Storage
AREA
POPULATIONS
LEGEND
23.08.17
STAGE 3
Archer Humphryes Architects
KOKO + Hope & Anchor + Bayham Place
Camden, London
Proposed Basement Plan



revision / date / amendments	
A /04/08/17 /	Alterations to existing service wall next lift no.3 and staircase to LBF
B / 11/08/17 /	Stage 3 Submission

AREA

475m2

POPULATIONS
GF - 150
1F - 130
2F - 180
3F - 70
4F - 310 total
(60 Dome)
(150 Pavilion)
(100 Terrace)

LEGEND

- Proposed Works
- Existing Building Fabric KOKO née Camden Palace Theatre (1900)
- Existing Building Fabric Hope & Anchor (approx. 1850)
- Existing Building Fabric Bayham Place (from 1878)
- Existing Modern Building Fabric Bayham Place (from 2006)
- Building Fabric to be demolished
- Demolition of Flooring / Elevation / Wall
- Proposed Excavation
- Remove and retain in alternate location
- Remove (Protect) and retain for reinstatement
- Retain, make good, ease and adjusted
- Artist Route
- Guest Route to Rooftop Restaurant
- Means of escape route
- Proposed Riser
- Proposed Risers Above
- RM.4.05 Room Number
- D4.02 Door Number
- W4.05 Window Number
- Hope & Anchor Demise
- Koko Demise
- 1 Bayham Street & 65 Bayham Place Demise
- Original brickwork exposed
- New brickwork exposed

11.08.17

0 1 2 3 4 5 8m

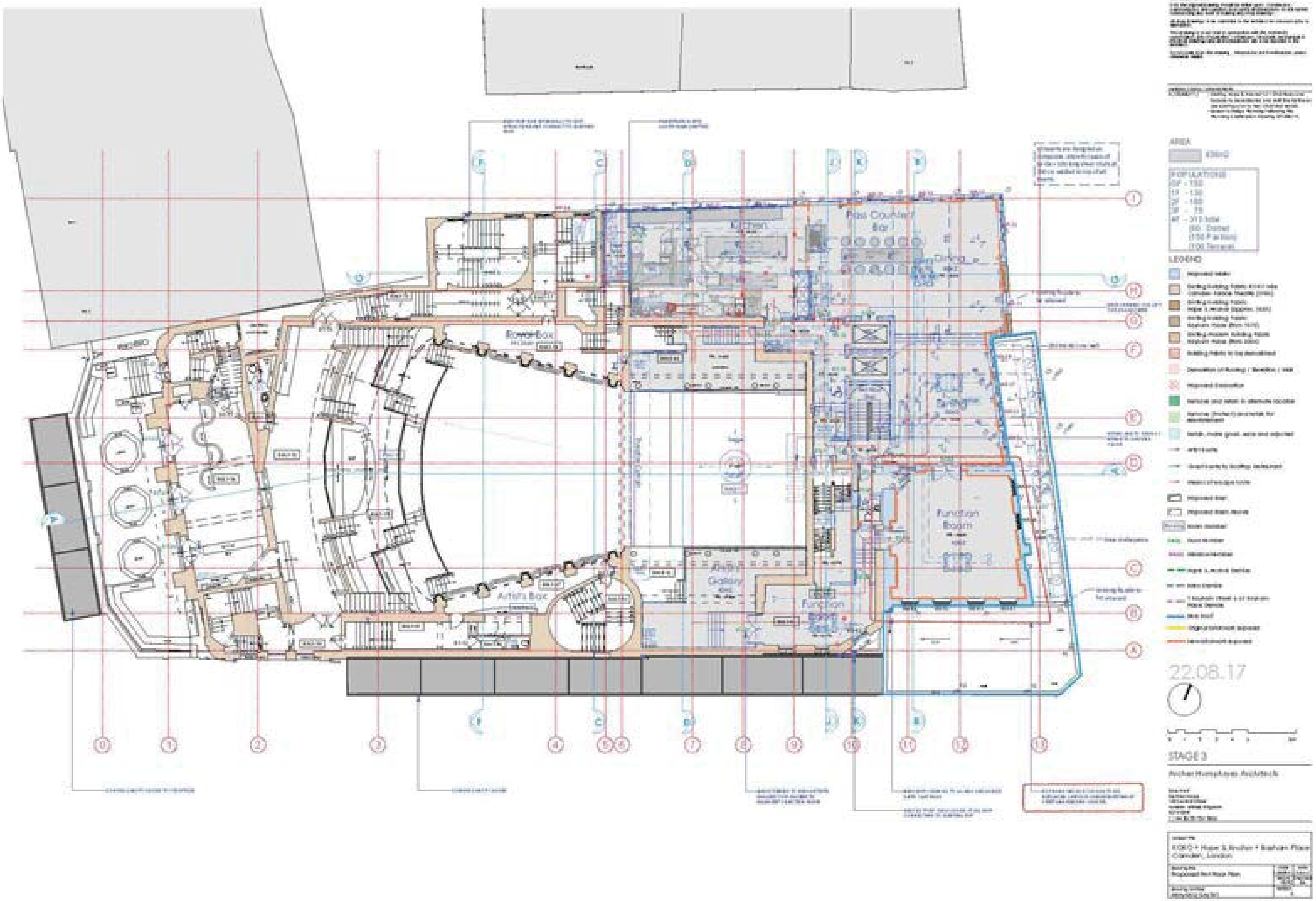
STAGE 3

Archer Humphryes Architects

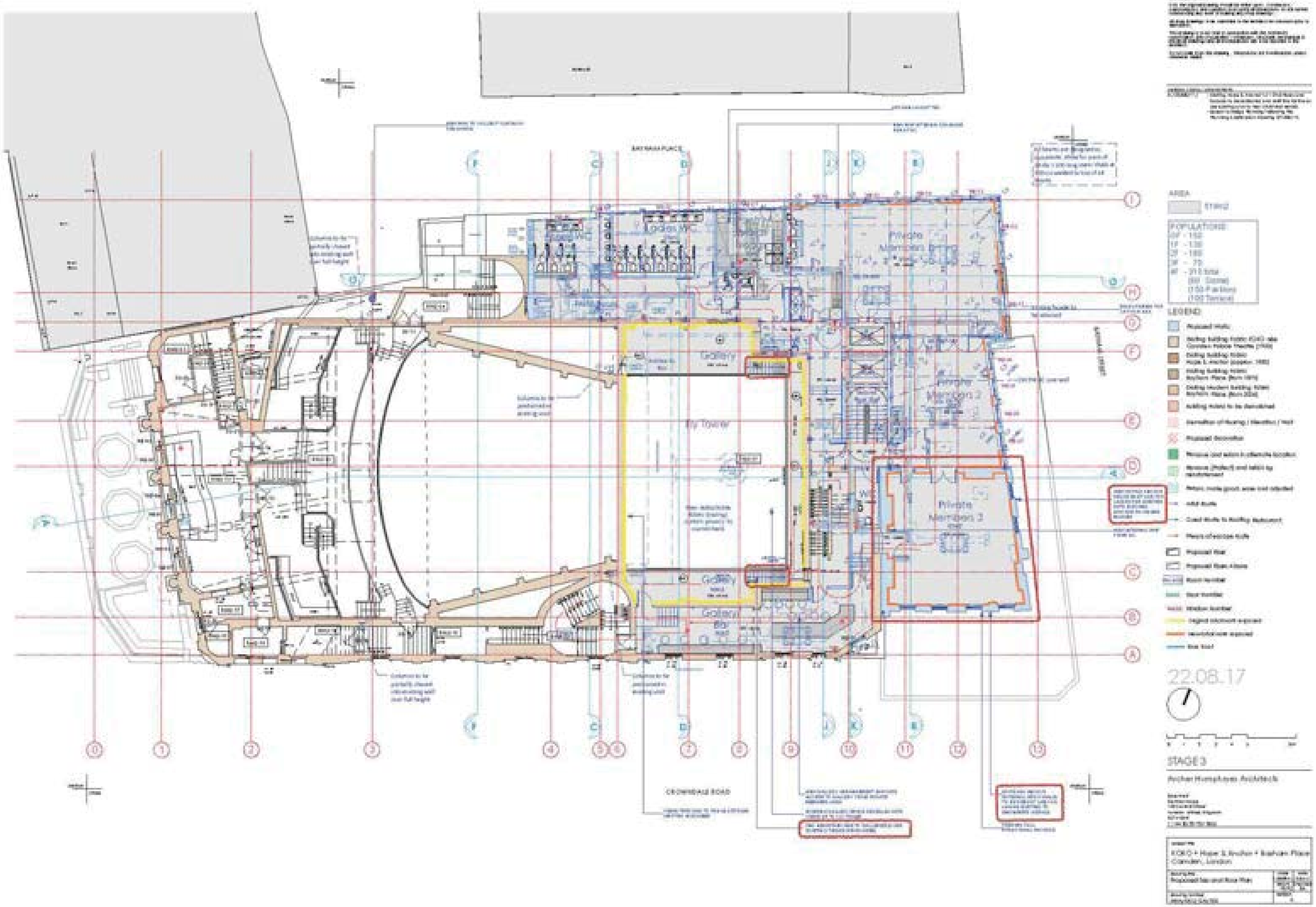
Basement
Cardinal House
149 Central Street
London, United Kingdom
EC1V 8AB
T: +44 (0) 20 7251 8555

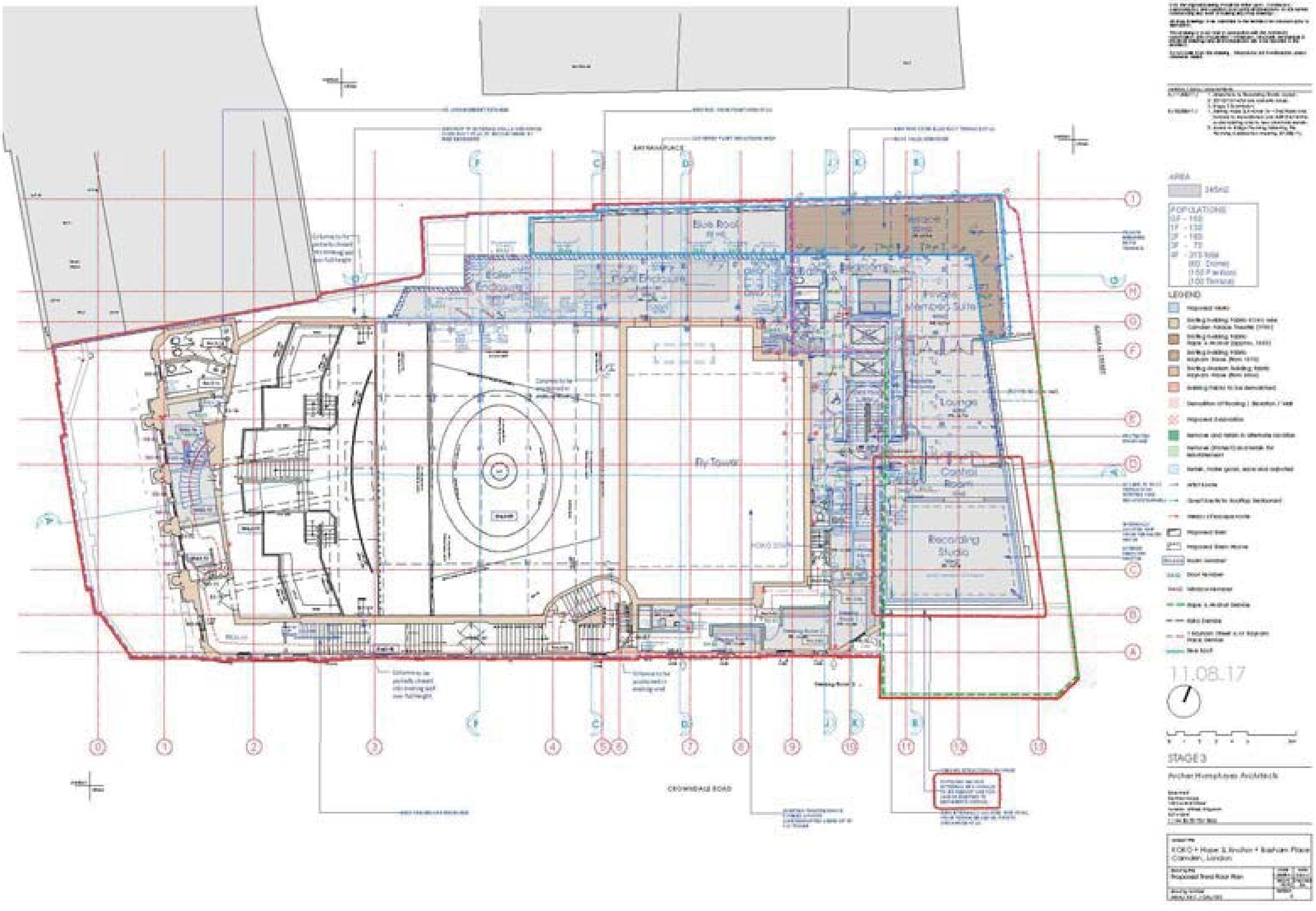
project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title	scale	date
Proposed Ground Floor Plan	1:100 @A1 / 1:200 @A3	11.08.17
drawing number	revision	
AHA/ KKC /GA /100	B	

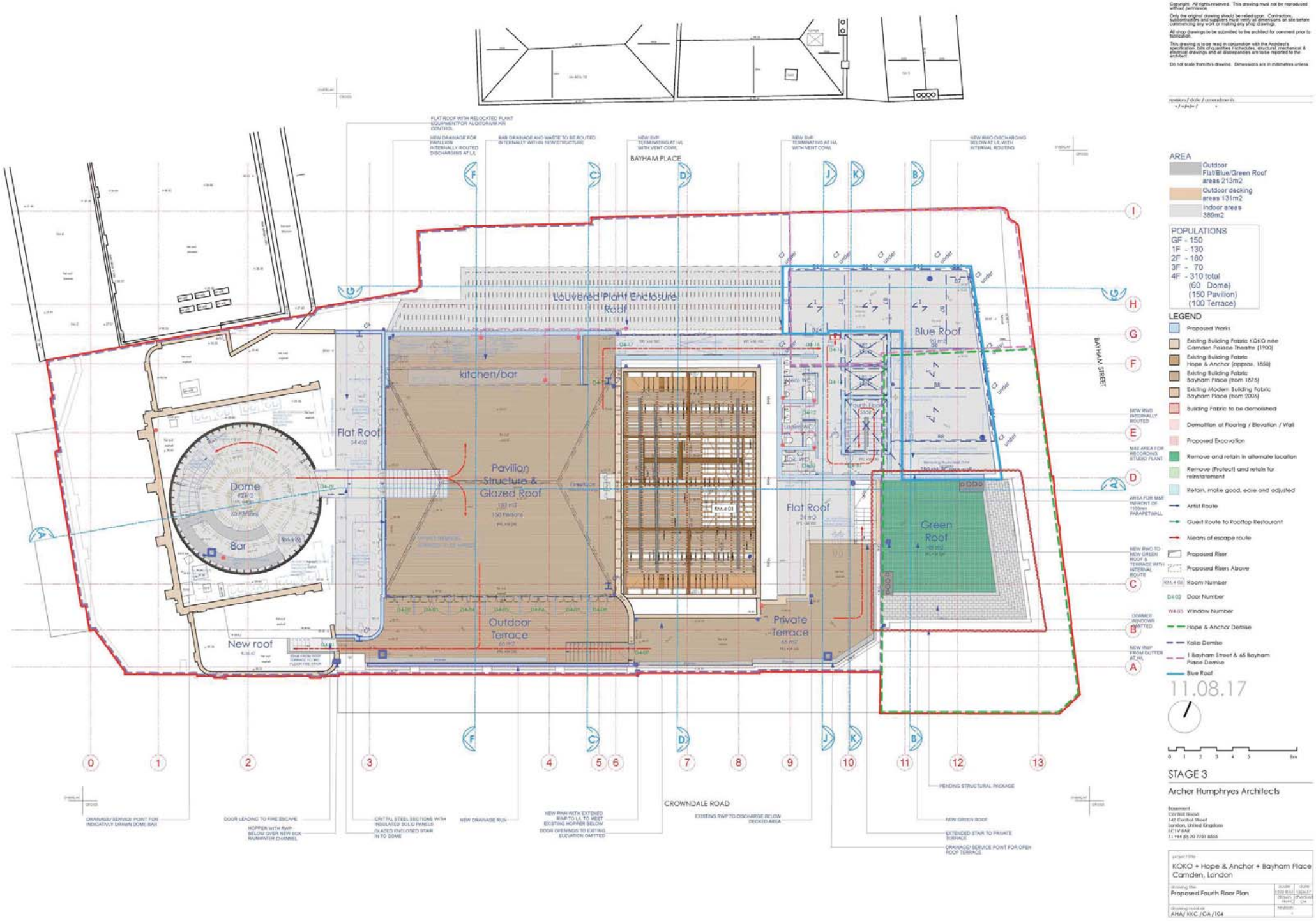


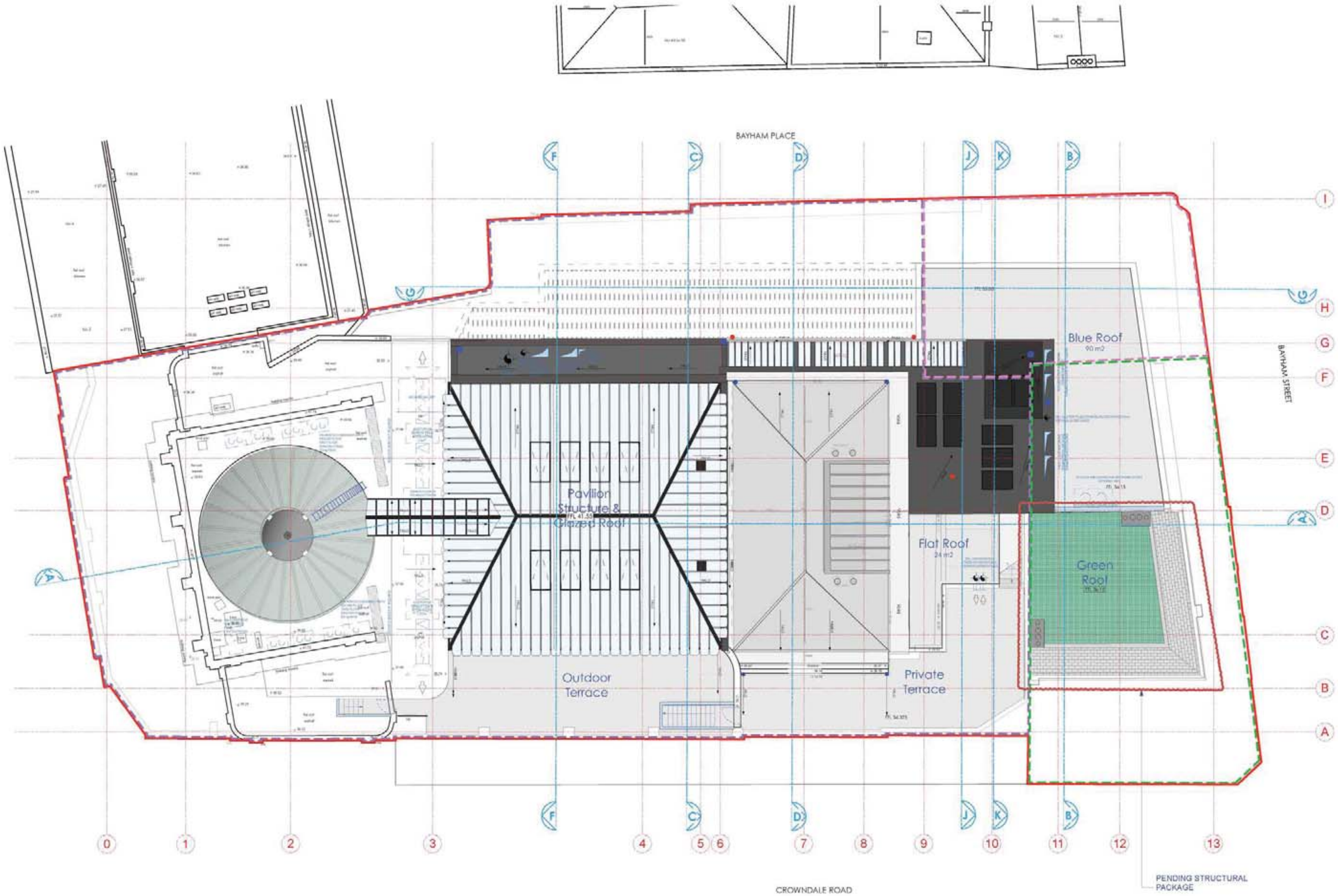
Kitchen
Pass Counter/ Bar
Dining
Function Room
Function Room
Artist's Gallery
Artist's Box
Royal Box
Proscenium Curtain
AREA
POPULATIONS
GF - 150
1F - 130
2F - 180
3F - 75
4F - 315 total
(150 Parlors)
(100 Terrace)
LEGEND
Proposed Walls
Mech. Roof
22.08.17
STAGE 3
Archer Humphryes Architects
KOKO + Hope & Anchor + Bayham Place
Camden, London


BAYHAM PLACE
CROWNDALE ROAD
Fly Tower
Gallery
Gallery Bar
Private Members 2
Private Members 3
AREA
POPULATIONS
LEGEND
22.08.17
STAGE 3
Archer Humphryes Architects
KOKO + Hope & Anchor + Bayham Place
Camden, London



Blue Roof
Boiler Enclosure
Plant Enclosure
Private Members Suite
Lounge
Fly Tower
Control Room
Recording Studio
BAYHAM PLACE
BAYHAM STREET
CROWNDALE ROAD
AREA
POPULATIONS
LEGEND
11.08.17
STAGE 3
Archer Humphryes Architects
KOKO + Hope & Anchor + Bayham Place
Camden, London
Proposed Third Floor Plan


BAYHAM PLACE
BAYHAM STREET
CROWNDALE ROAD
Louvered Plant Enclosure Roof
kitchen/bar
Flat Roof
Dome
Bar
Pavilion Structure & Glazed Roof
Outdoor Terrace
New roof
Blue Roof
Flat Roof
Green Roof
Private Terrace
AREA
Outdoor Flat/Blue/Green Roof areas 213m2
Outdoor decking areas 131m2
Indoor areas 380m2
POPULATIONS
GF - 150
1F - 130
2F - 160
3F - 70
4F - 310 total
(60 Dome)
(150 Pavilion)
(100 Terrace)
LEGEND
Proposed Works
Existing Building Fabric KOKO née Camden Palace Theatre (1900)
Existing Building Fabric Hope & Anchor (approx. 1850)
Existing Building Fabric Bayham Place (from 1875)
Existing Modern Building Fabric Bayham Place (from 2006)
Building Fabric to be demolished
Demolition of Flooring / Elevation / Wall
Proposed Excavation
Remove and retain in alternate location
Remove (Protect) and retain for reinstatement
Retain, make good, ease and adjusted
Artist Route
Guest Route to Rooftop Restaurant
Means of escape route
Proposed Riser
Proposed Risers Above
Room Number
Door Number
Window Number
Hope & Anchor Demise
Koko Demise
1 Bayham Street & 65 Bayham Place Demise
Blue Roof
11.08.17
STAGE 3
Archer Humphryes Architects
KOKO + Hope & Anchor + Bayham Place
Camden, London
Proposed Fourth Floor Plan
AHA/ KKC /GA /104



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revision / date / amendments

POPULATIONS
GF - 150
1F - 130
2F - 180
3F - 70
4F - 310 total
(60 Dome)
(150 Pavilion)
(100 Terrace)

LEGEND

- Proposed Works
- Existing Building Fabric KOKO née Camden Palace Theatre (1900)
- Existing Building Fabric Hope & Anchor (approx. 1850)
- Existing Building Fabric Bayham Place (from 1875)
- Existing Modern Building Fabric Bayham Place (from 2006)
- Building Fabric to be demolished
- Demolition of Flooring / Elevation / Wall
- Proposed Excavation
- Remove and retain in alternate location
- Retain and protect existing
- Retain, make good, ease and adjusted
- Artist Route
- Guest Route to Rooftop Restaurant
- Means of escape route
- Proposed Riser
- Proposed Risers Above
- RM.4.06 Room Number
- D4.02 Door Number
- W4.03 Window Number
- Hope & Anchor Demise
- Koko Demise
- 1 Bayham Street & 65 Bayham Place Demise
- Blue Roof

11.08.17

0 1 2 3 4 5 8m

STAGE 3

Archer Humphryes Architects

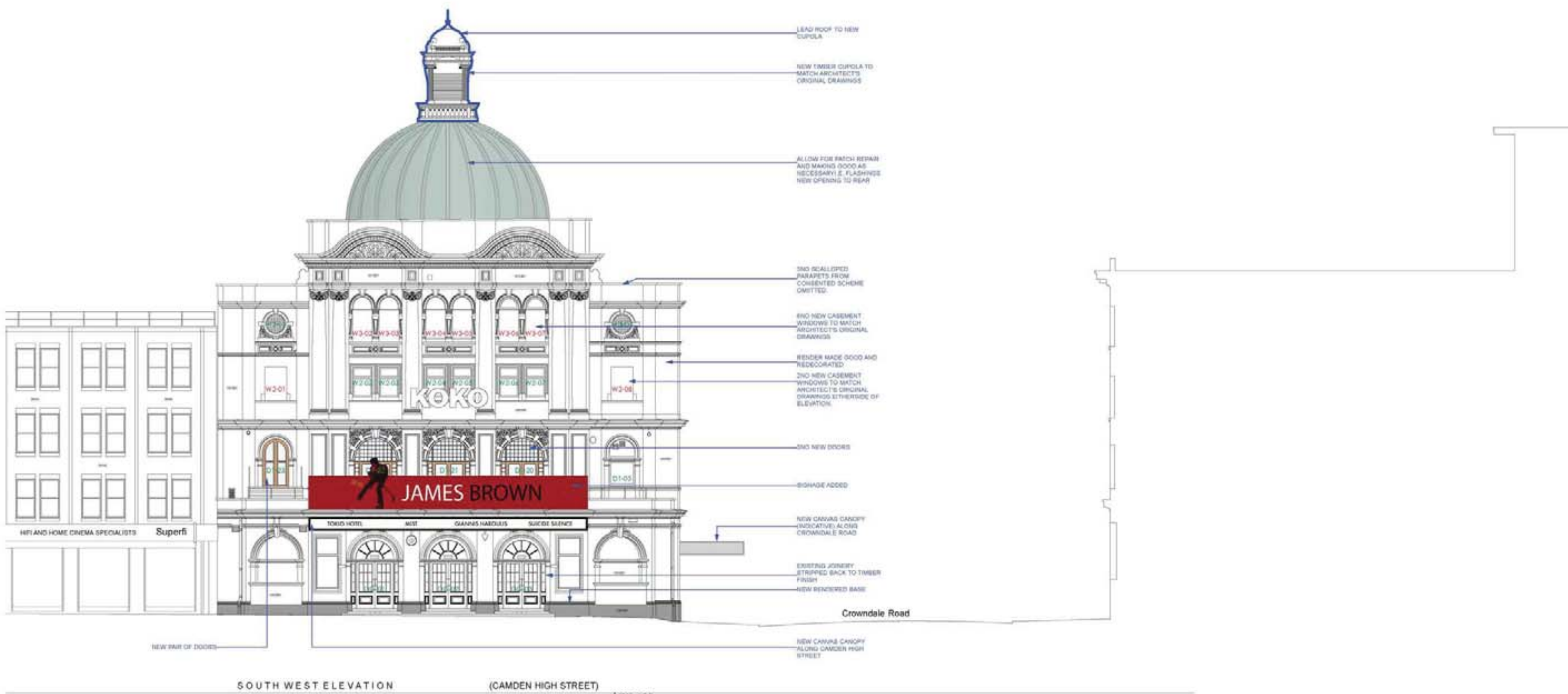
Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T : +44 (0) 20 7251 8555

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Roof Plan

drawing number
AHA/ KKC /GA /105

revision / date / amendments



SOUTH WEST ELEVATION (CAMDEN HIGH STREET)

11.08.17

Stage 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 8555

key
New Elevations Added

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Koko Front Elevation

drawing number
AHA/KKO/ PR /200

23.08.17

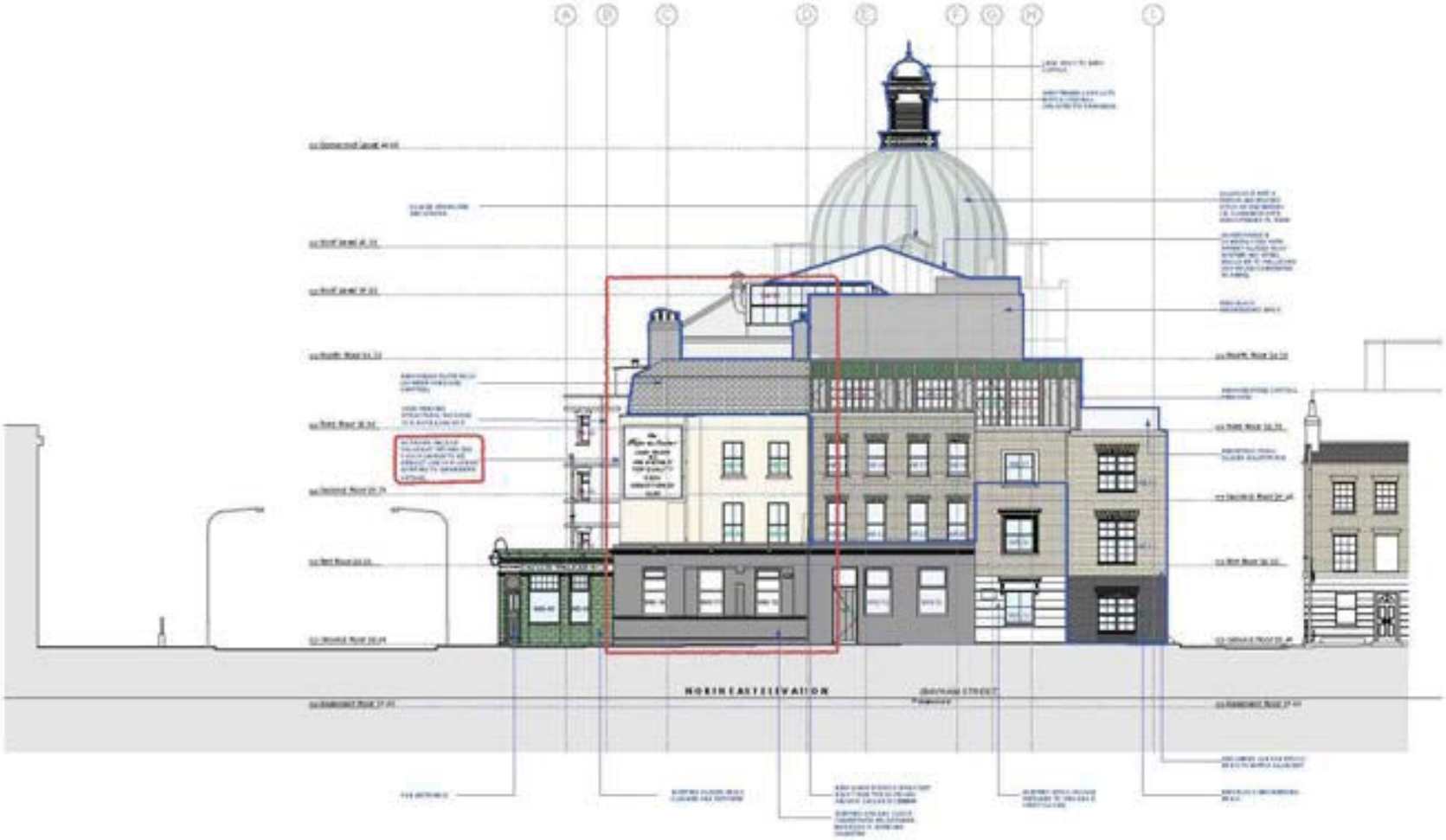
Stage 3

Archer Humphryes Architects

KOKO + Hope & Anchor + Bayham Place
Camden, London

New Elevations Added

NOTE : HOPE & ANCHOR STRUCTURAL PACKAGE PENDING



New Elevations Added

NOTE : HOPE & ANCHOR STRUCTURAL PACKAGE PENDING

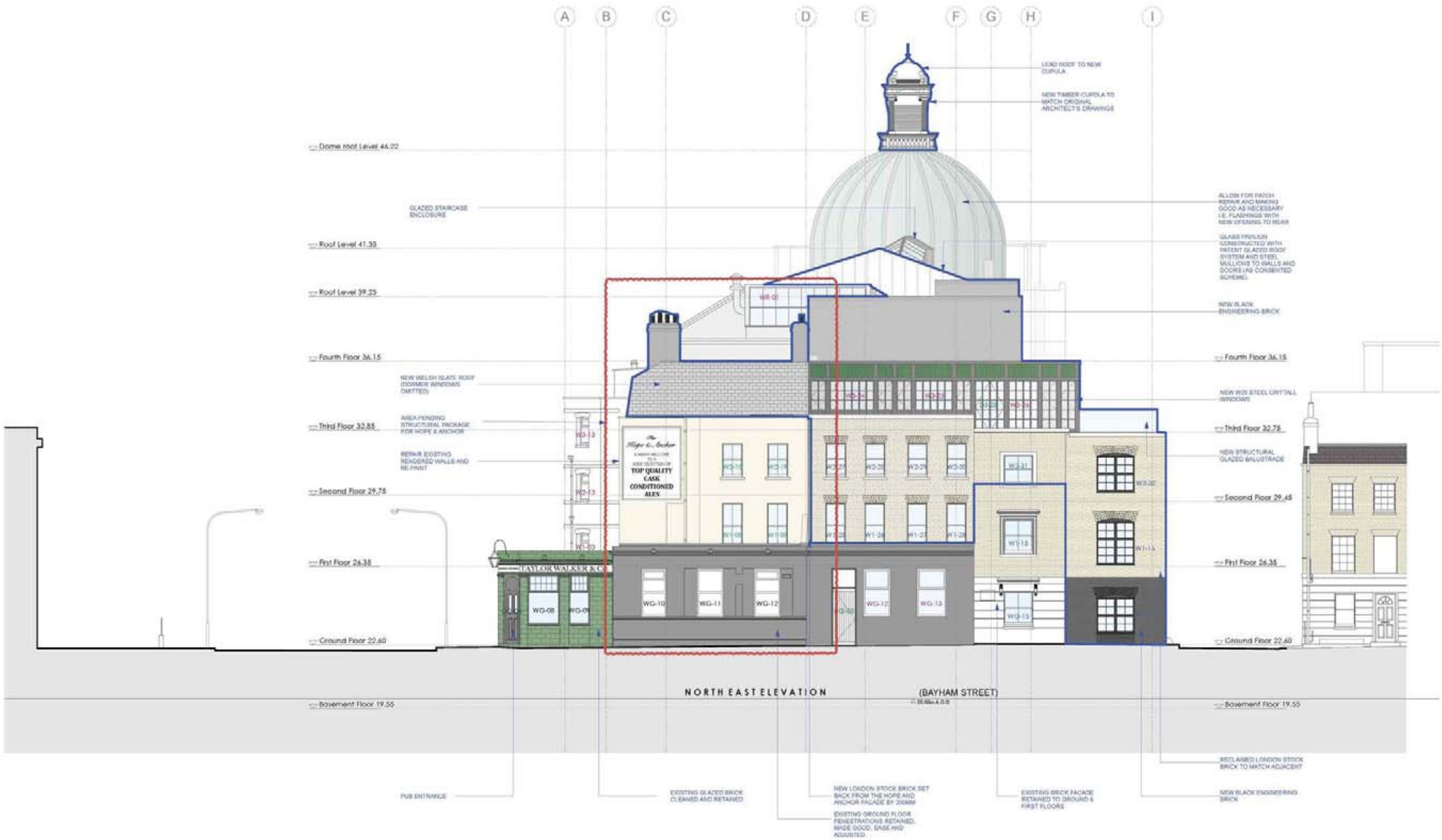
23.08.17

Stage 3

Archer Humphryes Architects

EOKO + Hope & Anchor + Bolphen Place
Camden, London

revision / date / amendments
- / --/--/-- / -



11.08.17

0 1 2 3 4 5 8m

Stage 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 5555

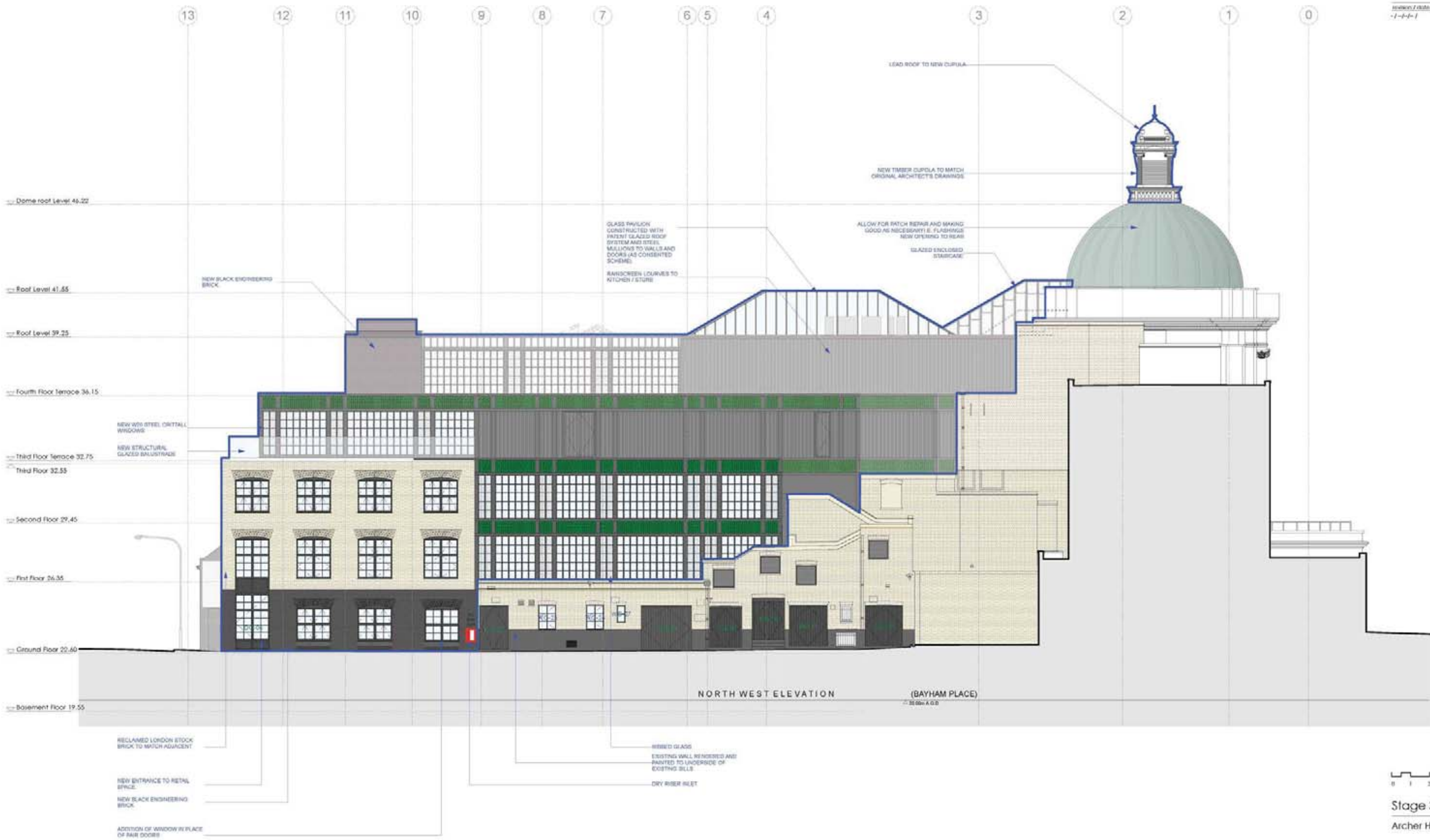
key
New Elevations Added

NOTE: - HOPE & ANCHOR STRUCTURAL PACKAGE PENDING

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Bayham Street Elevation

drawing number
AHA/KKC/GA/202



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revision / date / amendments

- / --/--/-- /

11.08.17

0 1 2 3 4 5 8m

Stage 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 5333

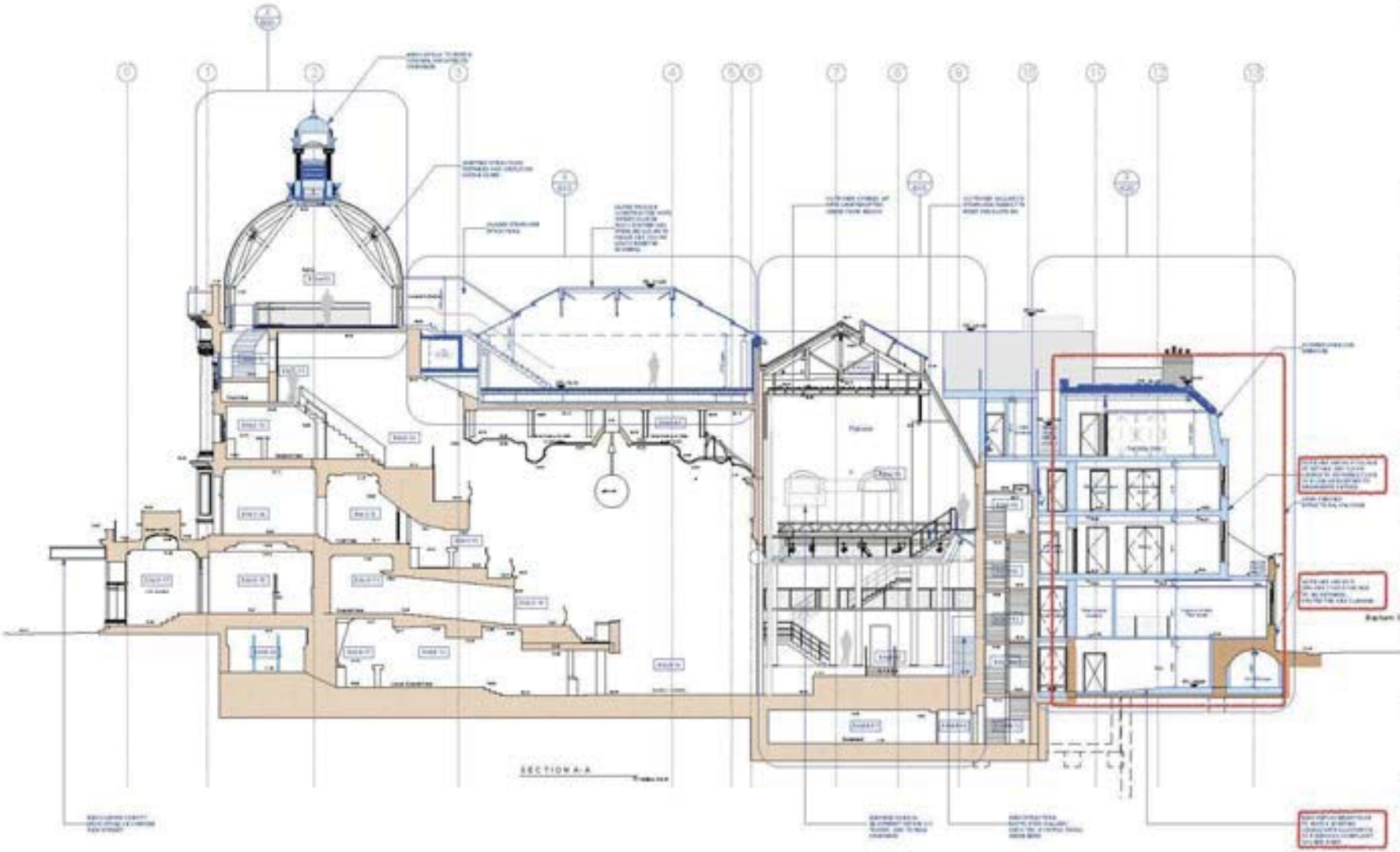
key

New Elevations Added

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Bayham Place Elevation

drawing number
AHA/KKC/GA/203



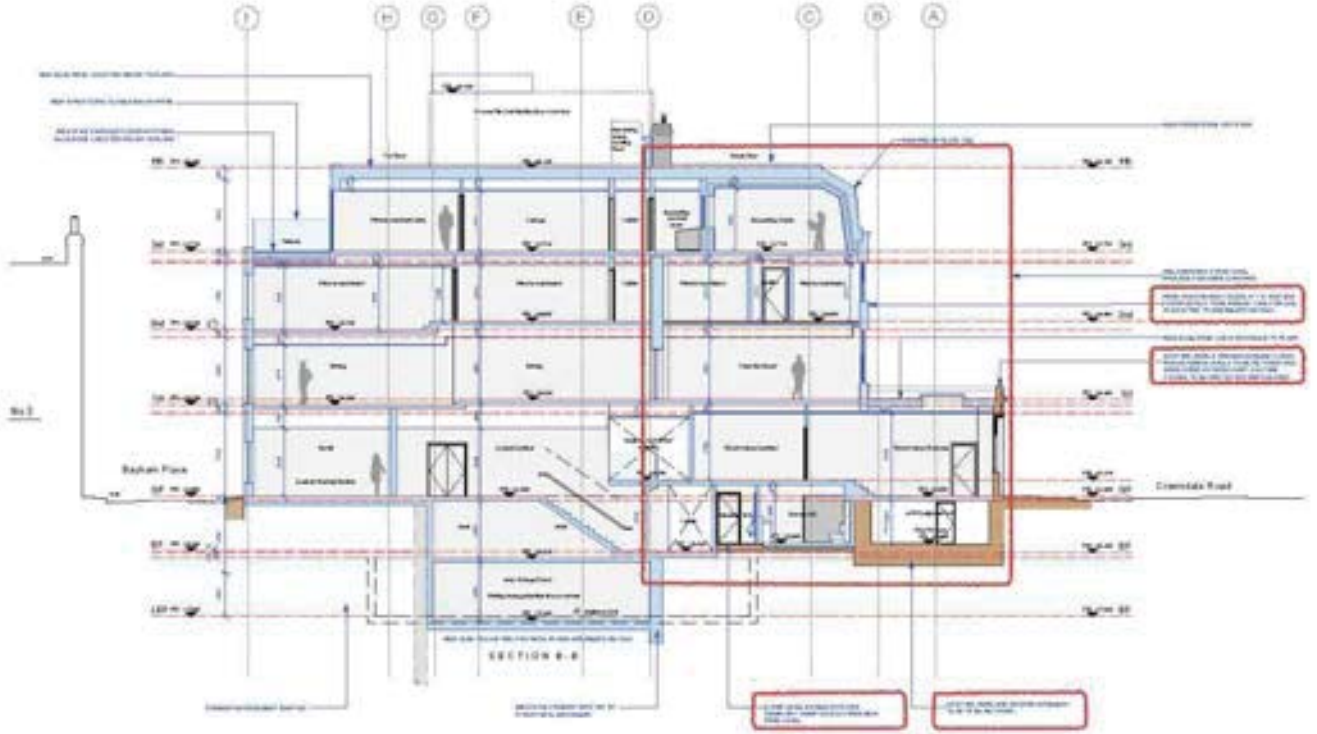
NOTE : HOPE & ANCHOR STRUCTURAL PACKAGE PENDING

23.08.17

Stage 3

Archer Humphryes Architects

KOKO + Hope & Anchor + Bigham Place
Camden, London



NOTE : HOPE & ANCHOR STRUCTURAL PACKAGE PENDING

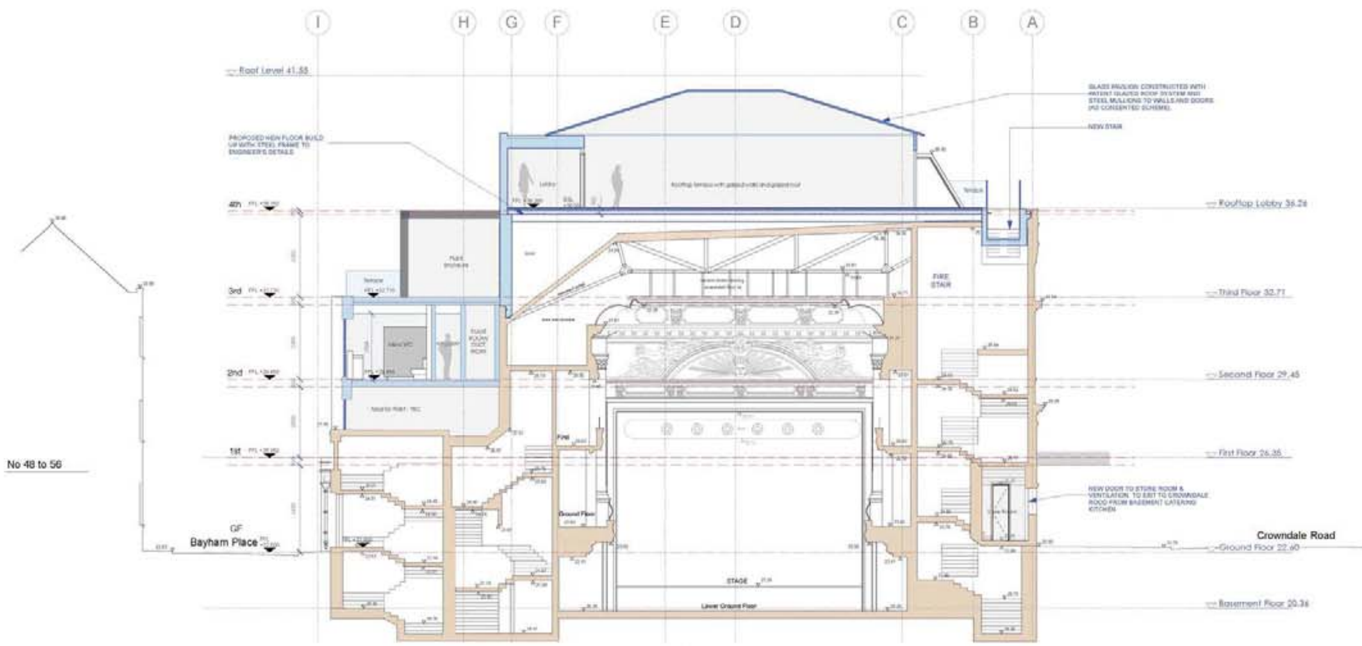
23.08.17

Stage 3

Archer Humphryes Architects

E.O.K.O + Hope & Anchor + Bayham Place
Camden, London

revision / date / amendments
- / -/-/- / -



SECTION C-C

11.08.17

0 1 2 3 4 5 8m

Stage 3

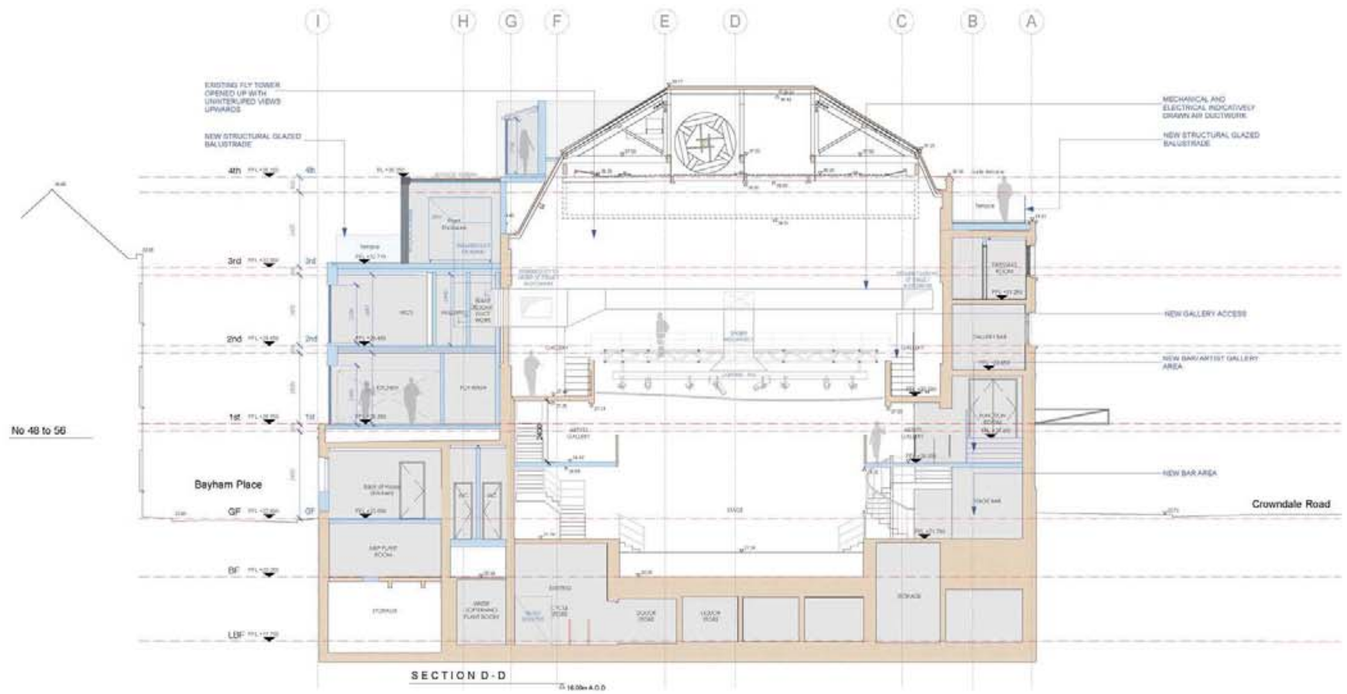
Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 5555

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Section CC

drawing number
AHA / KKC / PR /302



revision / date / amendments
- / --/--/-- /

11.08.17

0 1 2 3 4 5 8m

STAGE 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 5555

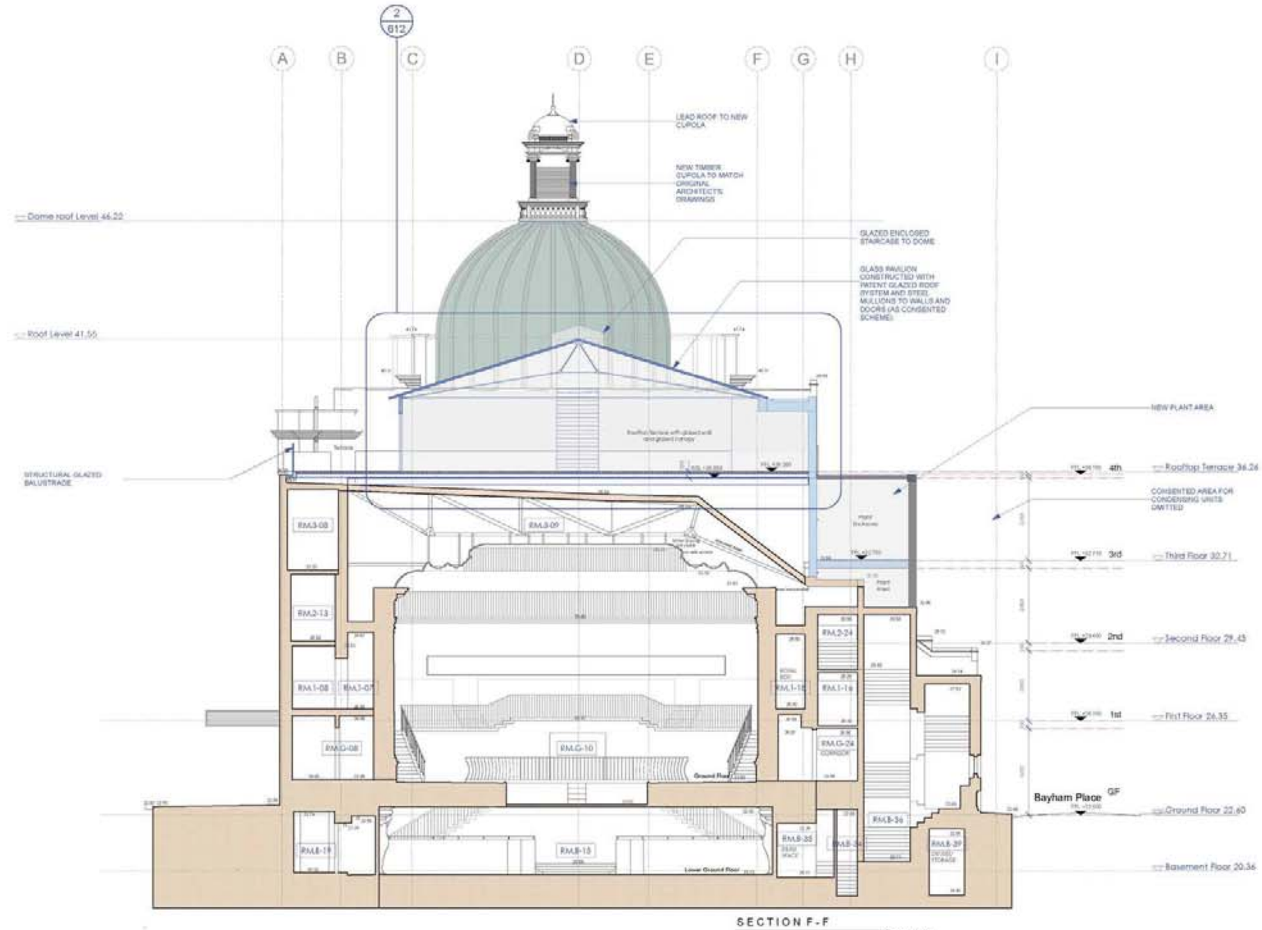
project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Section DD

drawing number
AHA / KKC / PR /303

revision
-

revision / date / amendments



11.08.17

0 1 2 3 4 5 8m

STAGE 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T | +44 (0) 20 7231 5555

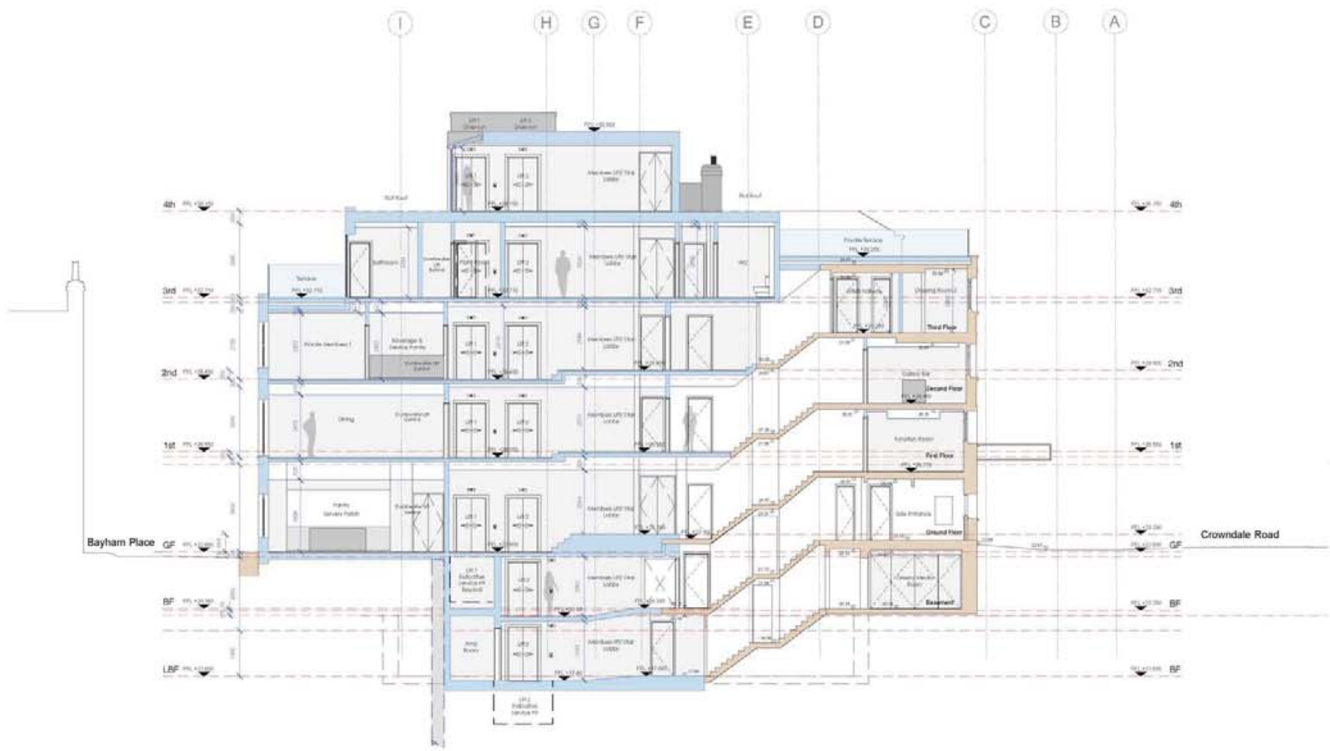
project title
KOKO + Hope & Anchor + Bayham Place Camden, London

drawing title
Section FF

drawing number
AHA / KKC / PR /306

revision / date / amendments

-/-/-/-/ -



LEGEND

- Proposed Works
- Existing Building Fabric KOKO née Camden Palace Theatre (1900)
- Existing Building Fabric Hope & Anchor (approx. 1880)
- Existing Building Fabric Bayham Place (from 1875)
- Existing Modern Building Fabric Bayham Place (from 2006)
- Building Fabric to be demolished
- Demolition of Flooring / Elevation / Wall
- Proposed Excavation
- Remove and retain in alternate location
- Remove (Protect) and retain for reinstatement
- Retain, make good, ease and adjusted
- Artist Route
- Guest Route to Rooftop Restaurant
- Means of escape route
- Proposed Riser
- Proposed Risers Above
- RM.4-05 Room Number
- D4-02 Door Number
- W4-05 Window Number

11.07.17

0 1 2 3 4 5 8m

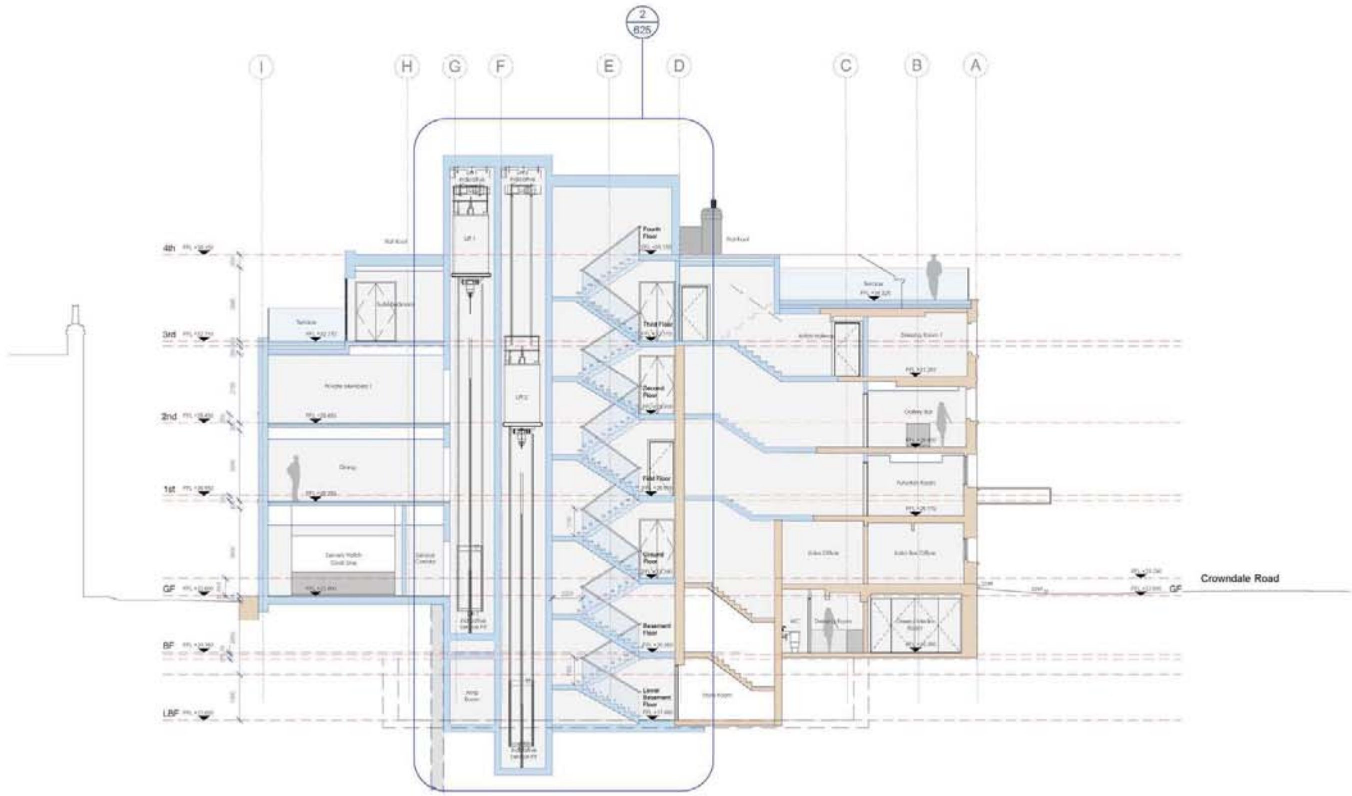
Stage 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 8555

project title KOKO + Hope & Anchor + Bayham Place Camden, London		
drawing title Proposed Section JJ	scale 1:100 @ A1 drawn PC	date 16.05.17 checked DA
drawing number AHA/KKO/ PR /309	revision -	

revision / date / amendments
- / -/-/- / -



LEGEND

- Guest Rooms
- Music related Space
- Proposed Works
- Existing Building Fabric KOKO née Camden Palace Theatre (1900)
- Existing Building Fabric Hope & Anchor (approx. 1880)
- Existing Building Fabric Bayham Place (from 1875)
- Existing Modern Building Fabric Bayham Place (from 2006)
- Building Fabric to be demolished
- Demolition of Flooring / Elevation / Wall
- Proposed Excavation
- Remove and retain in alternate location
- Remove (Protect) and retain for reinstatement
- Retain, make good, ease and adjusted
- Artist Route
- Guest Route to Rooftop Restaurant
- Means of escape route
- Proposed Riser
- Proposed Risers Above
- RM.4.00 Room Number
- D4.02 Door Number
- W4.05 Window Number
- Hope & Anchor Demise
- Koko Demise
- 1 Bayham Street & 65 Bayham Place Demise

11.08.17

0 1 2 3 4 5 8m

Stage 3

Archer Humphryes Architects

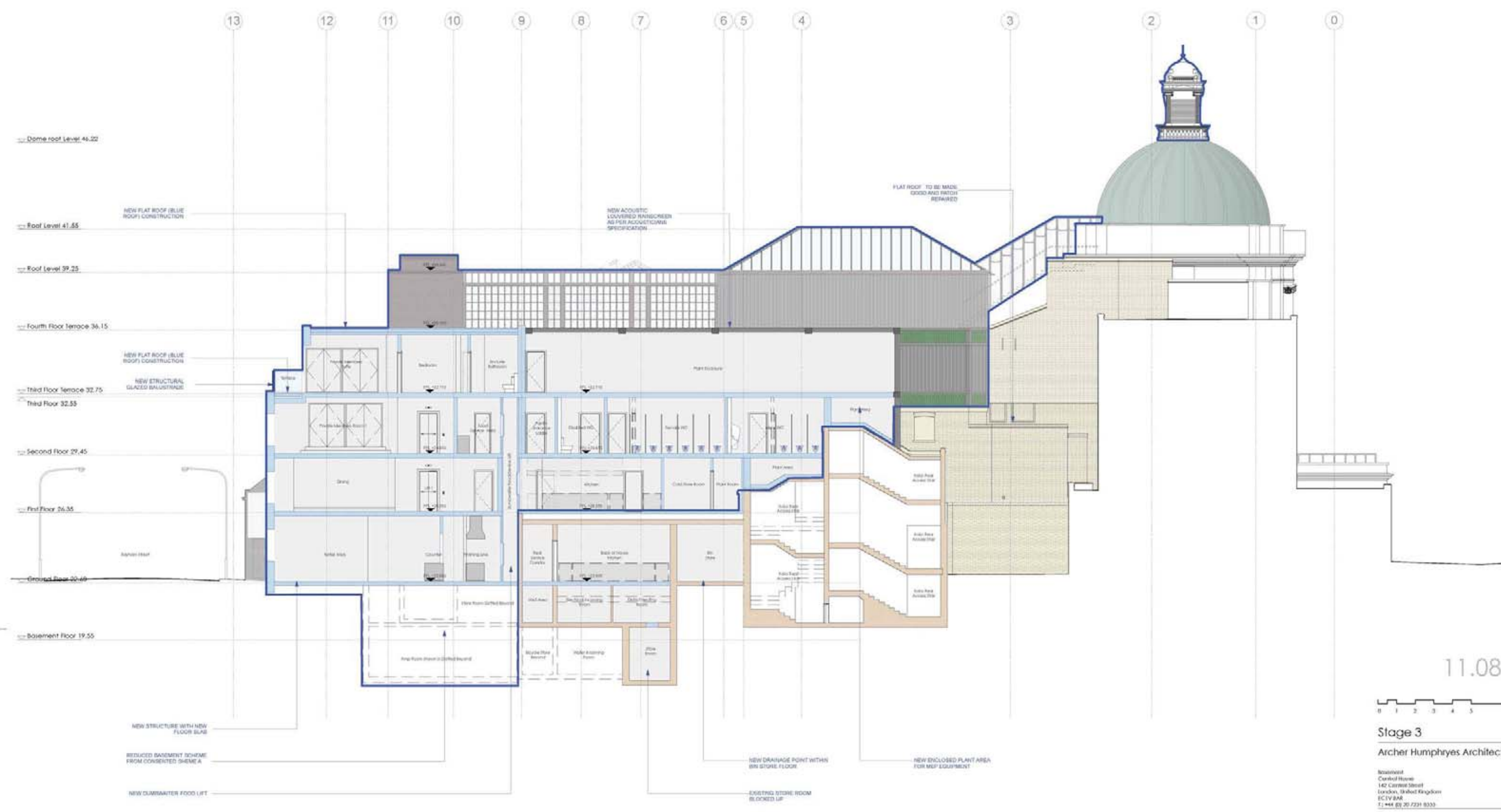
Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T | +44 (0) 20 7231 5333

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Section KK

drawing number
AHA/KKO/ PR /310

revision / date / amendments



11.08.17

0 1 2 3 4 5 8m

Stage 3

Archer Humphryes Architects

Basement
Central House
142 Central Street
London, United Kingdom
EC1V 8AR
T: +44 (0) 20 7231 8333

project title
KOKO + Hope & Anchor + Bayham Place
Camden, London

drawing title
Proposed Section GG

drawing number
AHA/KKC/GA/311

revision

Appendix 2B

Development Management
Regeneration and planning
London Borough of Camden
5 Pancras Square
London N1C 4AG

Tel: 020 7974 4444
Fax: 020 7974 1680
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www.camden.gov.uk/planning

Date: **5th October 2017**
Your ref:
Our ref: 2017/4506/PRE
Contact: David Peres da Costa
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Dear Mr Belsten,

Town and Country Planning Act 1990 (as amended)
Re: Koko 1A Camden High Street, Hope & Anchor PH 74 Crowndale Road, 1 Bayham Street and 65 Bayham Place, NW1 7JE

Thank you for your enquiry received on the 3rd August 2017, regarding the proposed revised scheme for the above site to provide private members club (Use Class Sui Generis), with associated restaurant, recording studio and private roof top terraces.

Site description

The site is bounded by Camden High Street to the east, Crowndale Road to the south, Bayham Street to the west, and Bayham Place to the north. It comprises Camden Palace "(KOKO)", the Hope and Anchor Public House (74 Crowndale Road), 1 Bayham Street and 65 Bayham Place.

The site falls within the Camden Town 'Town Centre' and the Camden Town Conservation Area. The Public House, 1 Bayham Street and 65 Bayham Place are all identified as positive contributors in the Camden Town Conservation Area Appraisal. The Camden Palace Theatre (Koko) is Grade II listed.

The Hope and Anchor PH has an A4 use, and 1 Bayham Street and 65 Bayham Place has a B1 office use but all have been unoccupied for some time. There is an article 4 direction covering the area which removes permitted development rights for the change of use of a building from offices Class B1a to dwellinghouses C3.

Background

Committee resolved to grant planning permission subject to s106 legal agreement 11/05/17 for 'redevelopment involving change of use from offices (Class B1) and erection of 5 storey building with basement to provide 32

bedroom hotel (Class C1) following demolition of 65 Bayham Place and 1 Bayham Street (retention of façade) including change of use at 1st and 2nd floor of 74 Crowndale Road from pub (Class A4) to hotel (Class C1), mansard roof extension to 74 Crowndale Road, retention of ground floor of Hope & Anchor PH, conversion of flytower to ancillary recording studio and hotel (C1), creation of terraces at 3rd and 4th floor level and erection of 4th floor glazed extension above roof of Koko to provide restaurant and bar to hotel (C1)'.

It is understood that the principle revision comprises the removal of the hotel element of the scheme and the provision of a private members club.

Summary of proposed revisions

The key changes relate to the mix of land uses, and internal configuration as well as an amended design for the fourth floor roof extension and terracing. The scheme would no longer provide for a boutique hotel (C1 Class). Rather the proposed upper floors would provide a private members club and associated ancillary uses.

Proposed Basement:

- Layout changes to basement to facilitate toilets and storage space to the Hope and Anchor operation.
- The existing basement to the Hope & Anchor is to be excavated down to utilise existing footings and provide clear ceiling heights of 2120mm.
- The existing lightwell to the rear of Bayham St is to be excavated to receive the new concrete lift and stair core.
- The basement level below Bayham Place has been removed from the scheme.

Proposed Ground Floor:
The ground floor slab is to be replaced across the Hope and Anchor, Bayham Street and Bayham Place floorplate.

- The internal layout within the Bayham Place, Bayham Street part of the site would be redesigned to create an open plan circulation space. A breakthrough between the back of the stage and Hope and Anchor would be created to improve permeability. This open plan space would be utilised for a range of uses to include reception desk and additional drinking/dining spaces for the Hope and Anchor Public House.

Proposed First Floor:

- The first floor would be fully utilised by the Hope and Anchor Public House. It would include a function room for private dining at the Hope and Anchor.
- The existing artist's gallery which overlooks the stage, would be refurbished to enable access for music artists and private members to overlook the stage.
- Two new openings between existing pub and KOKO back of house would be created to improve the circulation for artists.

Proposed Second Floor/Third Floors:

- The second and third floors would be utilised for private members in association with the KOKO operation. The space would be used in flexible ways with a variety of daytime and evening uses.
- The recording studio would be relocated to the third floor and enlarged to enable a better facility for the venue. The recording studio could also be utilised as a space for press and meet and greets at events. The recording studio would continue to be available to the local community.
- The scheme would include a single suite, located on the Bayham Place elevation with associated terrace. The suite serves the same function as the executive suite in the consented scheme allowing for members and artists plus entourage to stay at the venue.
- Terrace (49.7sqm) accessed from the private members suite at the corner of Bayham Street and Bayham Place
- Built mass is no longer proposed along the Bayham Place elevation, which would be utilised for plant intake and extract equipment.

Proposed Fourth Floor:

- The fourth floor has been simplified to remove additional mass along Bayham Place. The Green roof would be retained above the Hope and Anchor building.
- Terrace (106sqm) at the corner of Bayham Street and Bayham Place.
- Flytower terrace (28.93sqm)
- Private terrace (65sqm) and outdoor terrace (65sqm) on Crowndale Road elevation
- The consented skylobby has been redesigned to include additional openings within the glazed room. The skylobby would be used as a dining, drinking facility for private members. The proposal retains the link between the Dome, which will be refurbished as per the consented scheme.

Policies

The Local Plan was adopted by Council on 3 July 2017 and has replaced the Core Strategy and Camden Development Policies documents as the basis for planning decisions and future development in the borough.

Policy H2 Maximising the supply of self-contained housing from mixed-use schemes
Policy H4 Maximising the supply of affordable housing
Policy C1 Health and wellbeing
Policy C3 Cultural and leisure facilities
Policy C4 Public houses
Policy C5 Safety and security
Policy C6 Access for all
Policy E1 Economic development
Policy E2 Employment premises and sites

Policy A1 Managing the impact of development
Policy A2 Open space
Policy A3 Biodiversity
Policy A4 Noise and vibration
Policy A5 Basements
Policy D1 Design
Policy D2 Heritage
Policy D4 Advertisements
Policy CC1 Climate change mitigation
Policy CC2 Adapting to climate change
Policy CC3 Water and flooding
Policy CC4 Air quality
Policy TC2 Camden's centres and other shopping areas
Policy TC4 Town centres uses
Policy T1 Prioritising walking, cycling and public transport
Policy T2 Parking and car-free development
Policy T4 Sustainable movement of goods and materials

Camden Planning Guidance
CPG1 Design
CPG2 Housing
CPG3 Sustainability
CPG4 Basements and lightwells
CPG5 Town Centres, retail and employment
CPG6 Amenity
CPG7 Transport
CPG8 Planning Obligations

Camden Town Conservation Area Statement

Land use

Members club

The site falls within the Camden Town 'Town Centre' (TC). Local plan policy TC4 provides a broad range of main town centres uses including leisure and entertainment facilities. The provision of a private members club would be considered to fall within the type of uses found within the Town Centre and would be likely to contribute positively to the character, function, vitality and viability of the Camden Town TC. The principle of a private members club may be acceptable provided is would not cause harm to the amenity of neighbouring properties.

Your submission advises that:

"The private members club will be run as a separate entity, it will be closely linked with KOKO. As the private members club will not be self-contained, and have access into KOKO, we consider that it is recognised as an ancillary use to the music venue, although recognised as a sui generis use in its own right".

From the above statement it is unclear whether the private members club would be an extension of the existing music venue - Koko. If it is ancillary to the use of the music venue then it cannot also be a *Sui Generis* use in its own right as well. You should clarify exactly what use is being sought and how the proposed members club would operate in relation to the existing music venue. While it is evident that there would be positive synergies between the two uses, an extension of the music venue would raise concerns regarding the impact of the expanded music venue on neighbouring amenity. You would need to provide a clear response to this concern and to the potential cumulative impact from the proposed use on neighbouring amenity.

At application stage you would need to provide clear details of how the Members Club would operate in relation to Koko and how access from customers of the music venue to the members club (or the other way round) would be controlled. You would also need to provide further details of how the private members club would operate i.e. the proposed capacity of the private members club, details of any criteria for membership, the target demographic, the likely costs of membership, the membership process (how you would become a member) and whether this process would need to be completed in advance of a visit (or whether you could join on a first visit). You should also provide details of the likely benefits of membership (for example are you able to bring non-members as guests and if so would there be any restriction on this).

You should provide the most detailed account possible of the proposed members club to help officers and members understand the type of use proposed and how the impacts on neighbouring amenity would be managed. You should provide a management plan for the members club and the Council would seek to secure this by legal agreement.

The flexible use of the second and third floor members club for a range of activities is considered to be acceptable. However it is likely the Council would want to control the hours of use in order to protect neighbouring amenity.

The Council will seek to ensure that community safety issues associated with the proposed development are fully addressed.

Loss of B1 office floorspace at 65 Bayham Place and 1 Bayham Street

As you are aware economic development have previously advised that there is no evidence to suggest that the existing B1 floorspace is not suitable for continued use and they do not accept that there is a lack of demand for appropriately priced, sympathetically refurbished office space in Camden Town. The loss of the B1 office floorspace should be fully justified and you should fully explore the potential to re-provide the B1 floorspace as part of the proposed scheme.

Mixed use development

Policy H2 requires up to 50% of all additional floorspace to be housing and its inclusion within the site should be fully explored. You should investigate the possibility of a structural independent building on the back of the site to provide housing. Such a scheme would need to be supported by a noise report demonstrating acceptable internal noise levels and appropriate attenuation measures. The dwellings should meet DCLG nationally described space standards. If the provision of on-site housing would not be feasible you would need to robustly justify this. Where inclusion of housing is appropriate for the area and cannot practically be achieved on the site, the Council may accept a contribution to housing elsewhere in the area, or exceptionally a payment-in-lieu. Where a proposed development falls short of the Council's requirements in terms of the contribution to housing (whether on-site, off-site, or in the form of a payment-in-lieu), the Council will expect submission of a financial viability appraisal to justify the scale of the housing proposed.

Affordable Housing Contribution

The requirement to provide housing (Policy H2) combines with the affordable housing requirements of Policy H4 so that a proportion of the housing provided is affordable in accordance with the sliding scale. Targets are based on an assessment of development capacity whereby 100sqm (GIA) of housing floorspace is generally considered to create capacity for one home. A sliding scale target applies to developments that provide one or more additional homes and have capacity for fewer than 25 additional homes, starting at 2% for one home and increasing by 2% of for each home added to capacity. Where developments have capacity for fewer than 10 additional dwellings, the Council will accept a payment-in-lieu of affordable housing. The amount of the payment in lieu would be calculated on the basis of the on-site target for housing / affordable housing. As the uplift in floorspace is 1425sqm GIA, this would result in a housing requirement of 712.5sqm. Therefore, the affordable housing percentage using the slide scale would be 14%. The payment in lieu would be £2,650 per sqm. This figure is the payment level for affordable housing Policy H4 (full details can be found in CPG8 Planning Obligations paragraph 6.10-6.13). The payment in lieu for affordable housing would be 712.5 x 0.14 x 1.053 (to convert to GEA) x £2,650 = £278,347 (approx).

The Council seeks to negotiate deferred housing contributions for developments where the provision of housing / affordable housing falls significantly short of targets in Policy H2 and H4 due to financial viability, and there is a prospect of viability improving prior to completion. The deferred contribution is capped at the shortfall between the amount of additional housing proposed and the Council's policy targets.

Design and Conservation

<u>Former theatre and frontages</u>

The full range of restoration measures included in the extant permission was strongly supported by the Council, and the reduction of measures in these

proposals is regrettable. The reintroduction of scalloped parapets to the theatre's main frontage would have been of particular benefit to its architecture. Historic England's recommendations for colour and finishes to the historic theatre, as advised in their letter of 1 September 2016 still stands. The reduced restoration measures weaken the heritage benefits of the proposals which helped to justify instances of harm arising from demolitions and loss of historic fabric elsewhere.

Particularly regrettable is the abandonment of the extant permission's reinstatement of a double-height stage door on Crowndale Road, important for articulating the historic arrangement of the theatre within. The canopy should be reduced in length to fall short of the Hope & Anchor and allow reinstatement of the stage door. The scale of signage proposed for this part of the theatre's flank is inappropriate to the character of Koko's elevations to Crowndale Road and threatens to interfere visually with the refined decorative frontages of the Hope & Anchor in views. The proposed fabric canopy around the principal frontages should be detailed to complement the restoration-minded approach to the historic theatre elevations.

The double door proposed for the return from the Hope & Anchor's ground-floor facade beside the stage door would not be acceptable; such a reorganisation of the pub's historic entrance sequences could begin to deactivate its original principal frontages; it would be better located in the existing doorway to be fixed shut. It may be possible to wrap a separate discreet canopy around this back corner of the pub. It is not clear what advantage the new ticketing sequence (proposed for this entrance, through the edge of the Hope & Anchor) would provide, but it may compromise the internal arrangement of the pub. This is dealt with further in the section on the Hope & Anchor below.

Proposals for minor reorganisation within the theatre's back-of-house spaces look likely to be acceptable.

Flytower

Omission of the two levels of accommodation planned to occupy the fly tower and its retention in something closer to its original form is likely to be the greatest benefit of these revised proposals. The removal of the accompanying steel frame and concrete pile foundations, the glazed vision panels above the proscenium arch, and the retention of the flytower's perimeter masonry at second-, third- and fourth-floor levels on the east and south sides facilitated by removal of the suite and need for access to the roof from the bar formerly proposed, along with the existing access from back-of-house to flytower at second-floor level, are all very welcome. The resulting void which opens up between the new core and retained flytower structure and fourth-floor level does, though, raise the question of how far back from the street this core can be pushed to further reduce its visibility.

Addition of a new gallery within the interior of the flytower above the stage is welcome as a means of better revealing the original grid above, but should be

explained in detailed structural drawings, as should the physical and visual consequences for the introduction of new mechanical plant.

Hope & Anchor

The proposed retention of the existing change of levels within the ground-floor of the pub, and of some of the historic brickwork and structure within the ground floor, as shown in the proposed ground-floor plan, is a significant and welcome improvement on the extant permission. Similarly, reduced encroachment of the new central core on the upper storeys of the Hope & Anchor footprint is very welcome allowing greater distinction across its levels between the pub and the theatre's back of house – with potential benefits for the animation and appearance of the pub from the street. It seems that the proposals for more extensive demolition of the Hope & Anchor have emerged since submission of the July 2017 pre-application document, and would compromise much of this improvement.

The location of the proposed recording studio facilities in the new mansard accommodation over the Hope & Anchor is not justified by presentation of any testing of alternative locations nor studies of the impact of the substantial engineering required to construct a professional recording studio on the historic building beneath. The location of the recording studio in the mansard raises two significant issues which are not adequately treated in the pre-application submission and are unlikely to be acceptable:

- the mansard over the Hope & Anchor must lose the dormer windows it had in the approved scheme, which threatens to make the new mass overbearing of the simple pub building and in views along Crowndale Road;
- it is clear that much of the re-engineering required for the Hope & Anchor's main historic building is calculated with reference to the loads brought by the recording studio, and an alternative approach to repair and partial reconstruction of the pub to deal with past decay and already-failing materials and past re-engineering has therefore not been explored.

The extant permission allows for demolition of all of the block's perimeter facing Bayham Street except the Hope & Anchor, with some reconstruction in facsimile and some replacement buildings. Positive contributors and especially groups of positive contributor buildings can make a contribution to the character and appearance of conservation areas by patina and evidence of the adaptive reuse of buildings, and the evolved quality of a townscape. The proposed total demolition of the Bayham Street frontage would do harm to the Camden Town Conservation Area additional to that identified with the extant permission.

Notwithstanding the pub's structural problems regardless of the top-floor use, the substantial re-engineering claimed as a justification for the demolition and reconstruction of the Hope & Anchor is generated by an arrangement which is not tested against the capacities of the site's heritage assets to sustain such

uses. Alternative options and reduced engineering impacts on the Hope & Anchor should be explored.

Annotations on the proposed Bayham Street elevation (AHA/KKC/GA/202) state that the upper storeys of the pub will be repaired and repainted, which appears to be inaccurate. The ground-floor frontage of the pub on Bayham Street is noted variously to be retained as existing, or constructed as per the extant permission, but the proposed elevation does not match the consented drawing. Retention of the existing pattern of fenestration is preferred, as is the new irregular arrangement shown for the current toilet block.

Bayham Street views and upper storeys

The introduction of planters to the edge of fourth-floor terraces is noted but the plan should make clear that the glazed balustrades can be set on the inside of these to help reduce their visual prominence in views. The reduction in the number of lifts and the overall volume of the fourth-floor core structure above the Bayham Street/Place corner is welcome, and the loss of windows on the Bayham Street frontage seems likely to allow it to better recede as part of the cluster of rooftop structures above the centre of the block, wherever this is glimpsed.

The amount and extent of proposed glazed balustrading remains excessive, and will increase the sense of mass and homogeneity of the whole as viewed from Bayham Street.

Bayham Place

Accommodation of plant behind louvered screens on the third-floor level of the Bayham Place frontage would be acceptable in its visual impact, particularly given the removal of the consented condenser unit enclosures allowing retention of more of the theatre's existing back-of-house brick structures. The proposed arrangement will help to better maintain the character and limit the sense of enclosure on Bayham Place.

The increase in the Bayham Place frontage of the new corner building by one bay and the commensurate extension of its roof terrace threatens to pull this reimagined corner plot too far from the modest character of the existing positive contributor. As with the existing structure, (and noting the additional storey approved for the replacement building under the extant permission) either the fourth bay should vary its articulation to recede and reduce the total mass, or the proportions and detailing of the fenestration across the whole corner piece should be modified to reduce its formality and perceived scale.

Amenity

The submitted plans shows a number of proposed terraces at third and fourth floor level.

Third Floor

- Terrace (49.7sqm) accessed from the private members suite at the corner of Bayham Street and Bayham Place

Fourth Floor

- Terrace (106sqm) at the corner of Bayham Street and Bayham Place.
- Flytower terrace (28.93sqm)
- Private terrace (65sqm) and outdoor terrace (65sqm) on Crowndale Road elevation

You should provide further details with any application as to how the terraces would be managed, the capacity of each terrace, who would be able to access each of the terraces and an assessment of how the noise from the maximum capacity of each terrace would meet the 'green criteria' of Table D of Appendix 3 of the Local Plan. The Council will seek to control the hours of use of the terrace in order to protect neighbouring amenity. You should provide details of the hours of use required for each of the terraces so that the Council can assess whether these hours would be acceptable. The hours of use of the terraces will be secured by condition. The Council is particularly concerned with the proposed terraces on the corner of Bayham Street and Bayham Place as these are in close proximity to neighbouring properties. The details of the management of the terrace should be included in the building uses management plan and this would be secured by legal agreement.

The Council will require an acoustic report to accompany the application. In assessing applications, we will have regard to noise and vibration thresholds, set out in Appendix 3 of the Local Plan, and other relevant national and regional policy and guidance and British Standards. You should be aware that the Council's noise thresholds have been updated in the Local Plan and are in some instances more demanding that those provided by Policy DP28 of the previous Development Plan.

Camden noise thresholds reflect observed effect levels outlined in National 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.