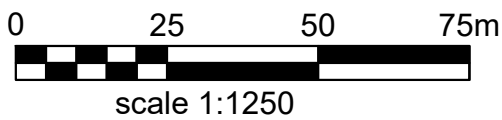
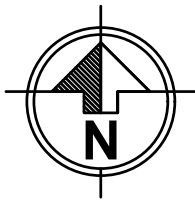
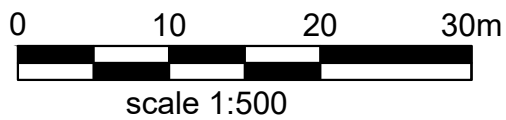


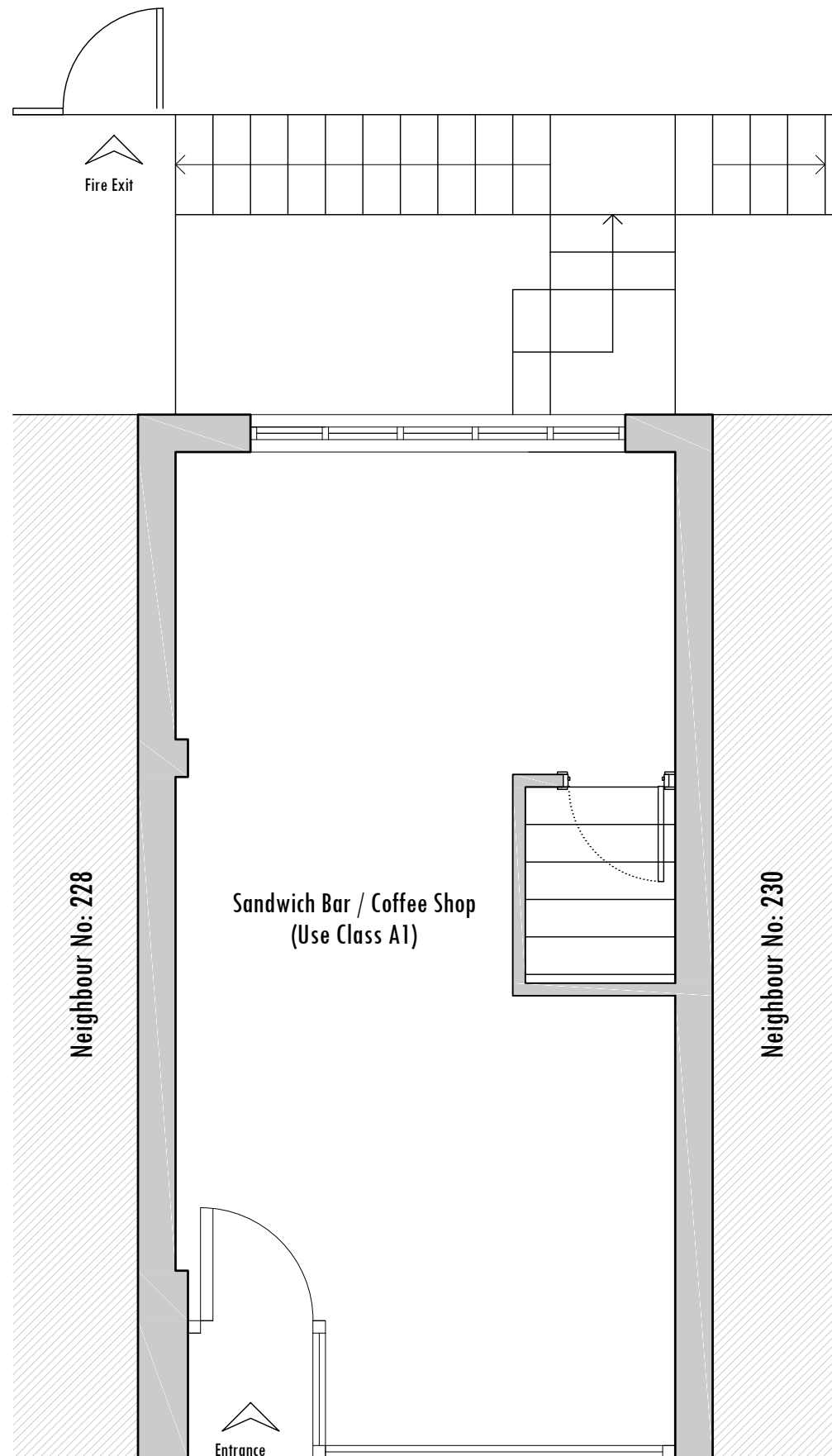
Location Plan, Scale 1/1250



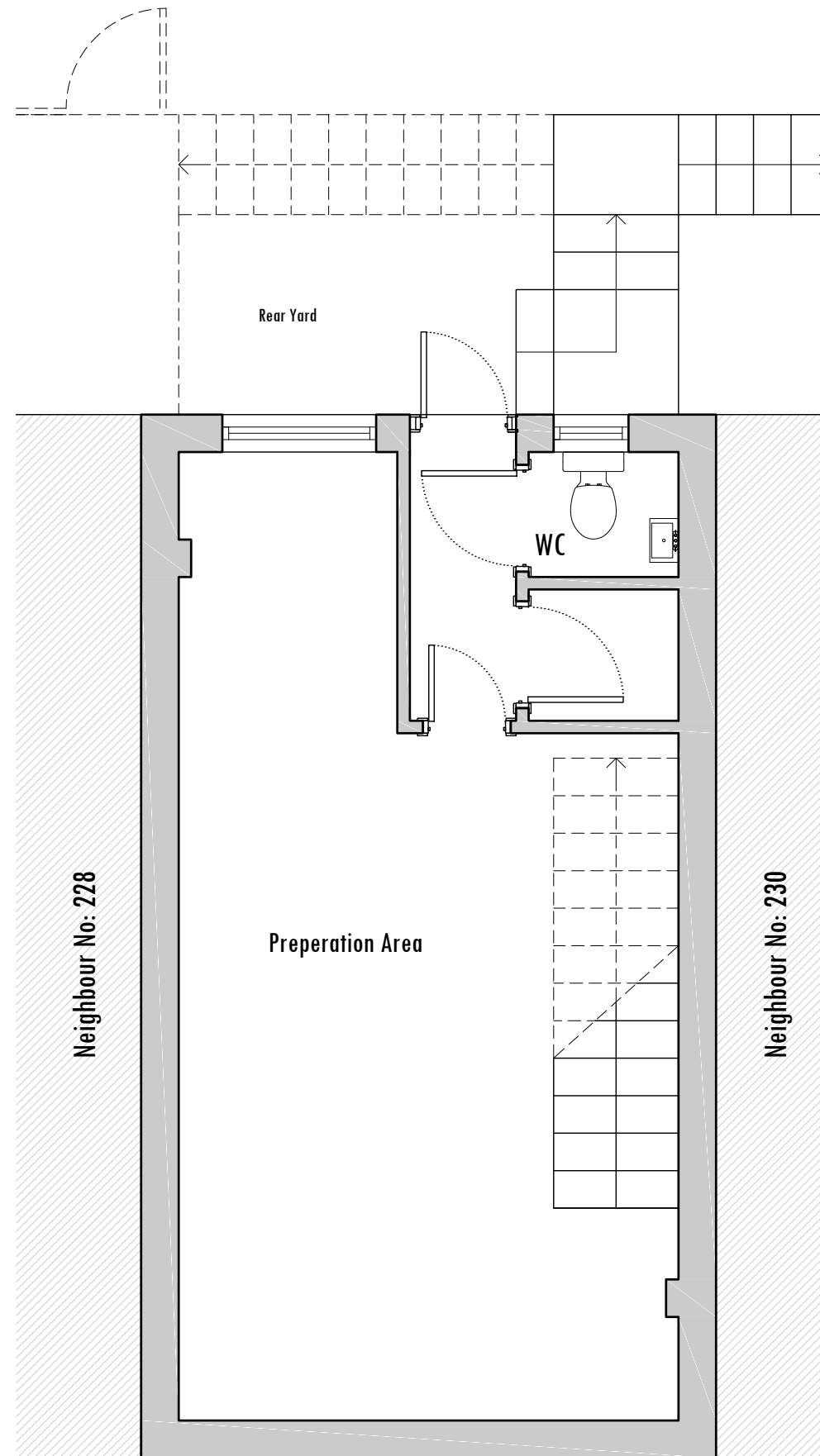
Site plan, Scale 1/500



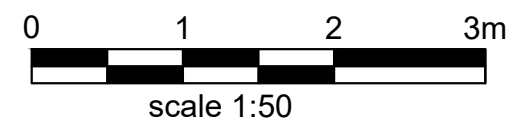
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Project	229 Grays Inn RdKings Cross London WC1X 8RH	
Scale	1/1250, 1/500 @A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	19110	Revision -
Drawing No.	PA001	
Drawing title	Location and Block Plans	



Existing Ground Floor
Scale:1/50



Existing Basement
Scale: 1/50

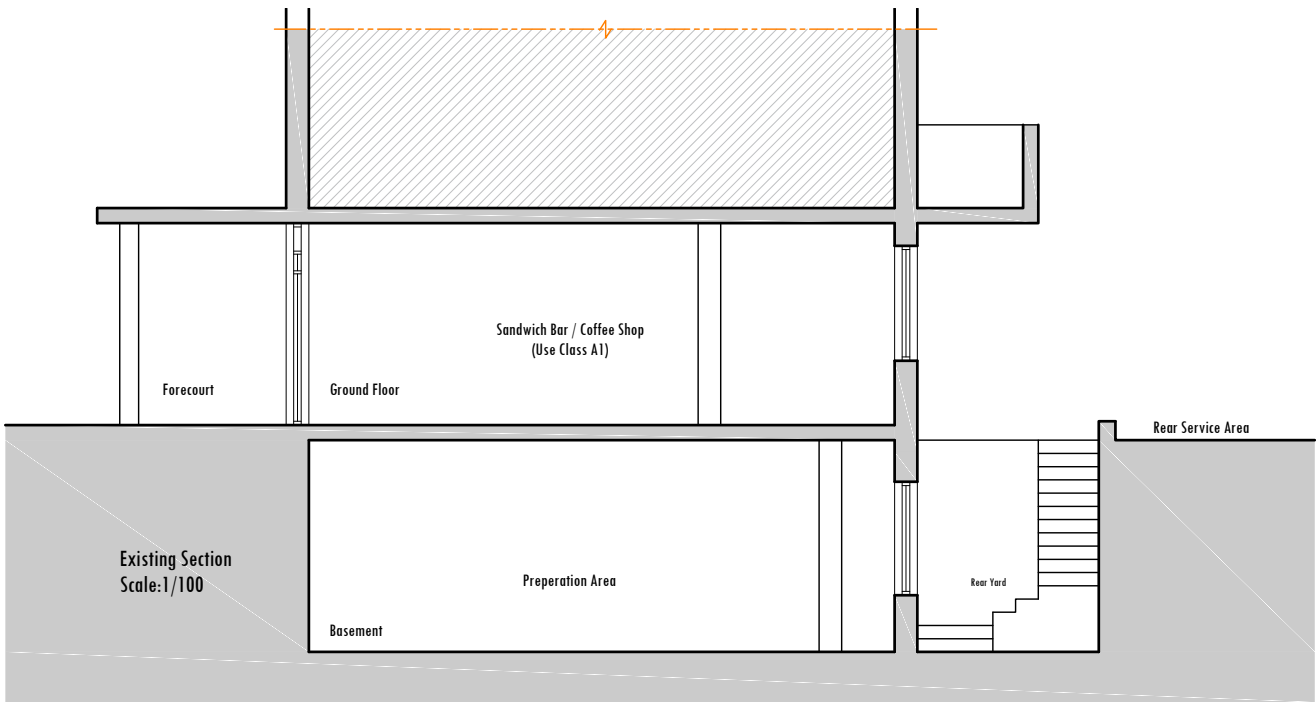
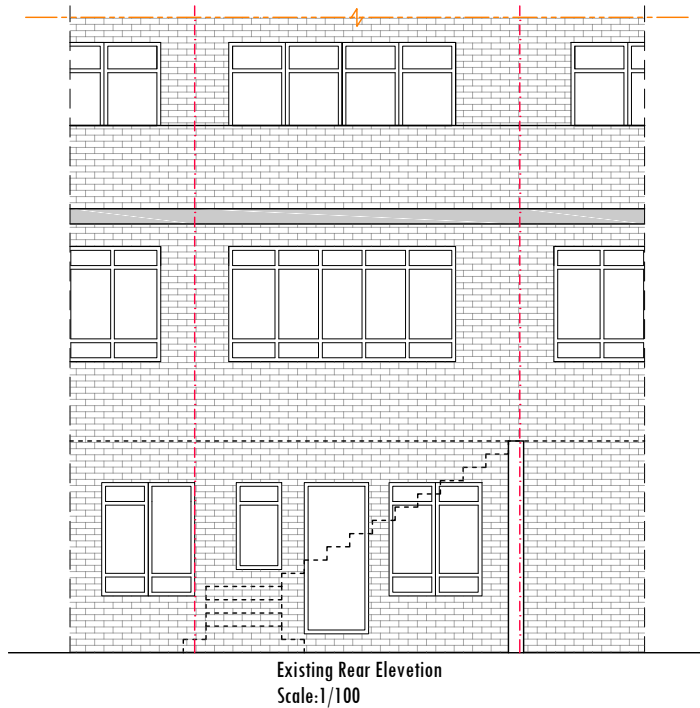


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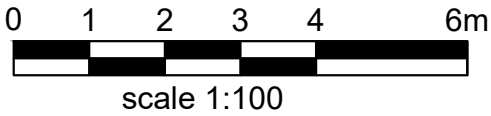
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Drawing No.	PA001	
Drawing title	Existing Plans	

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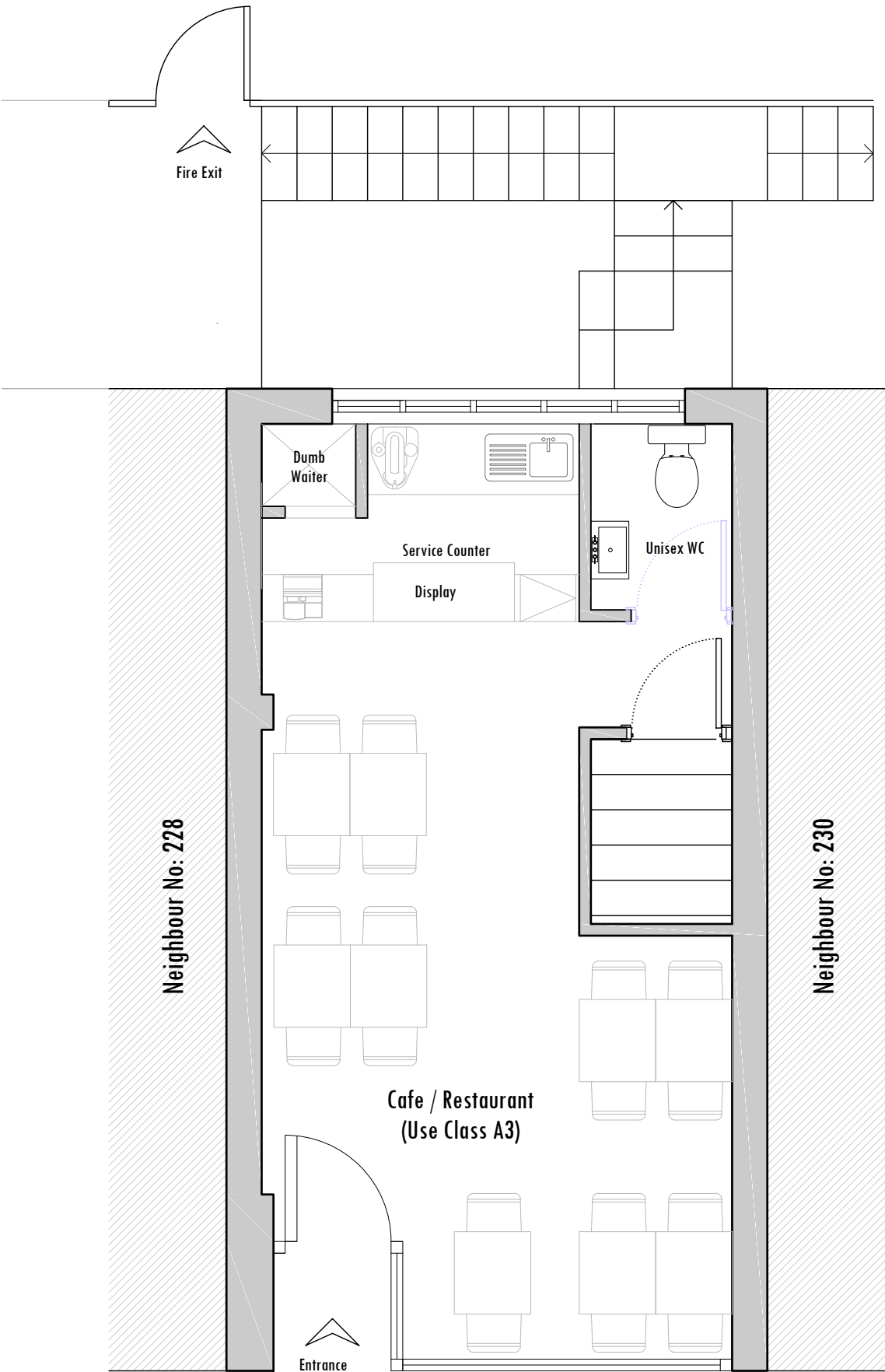


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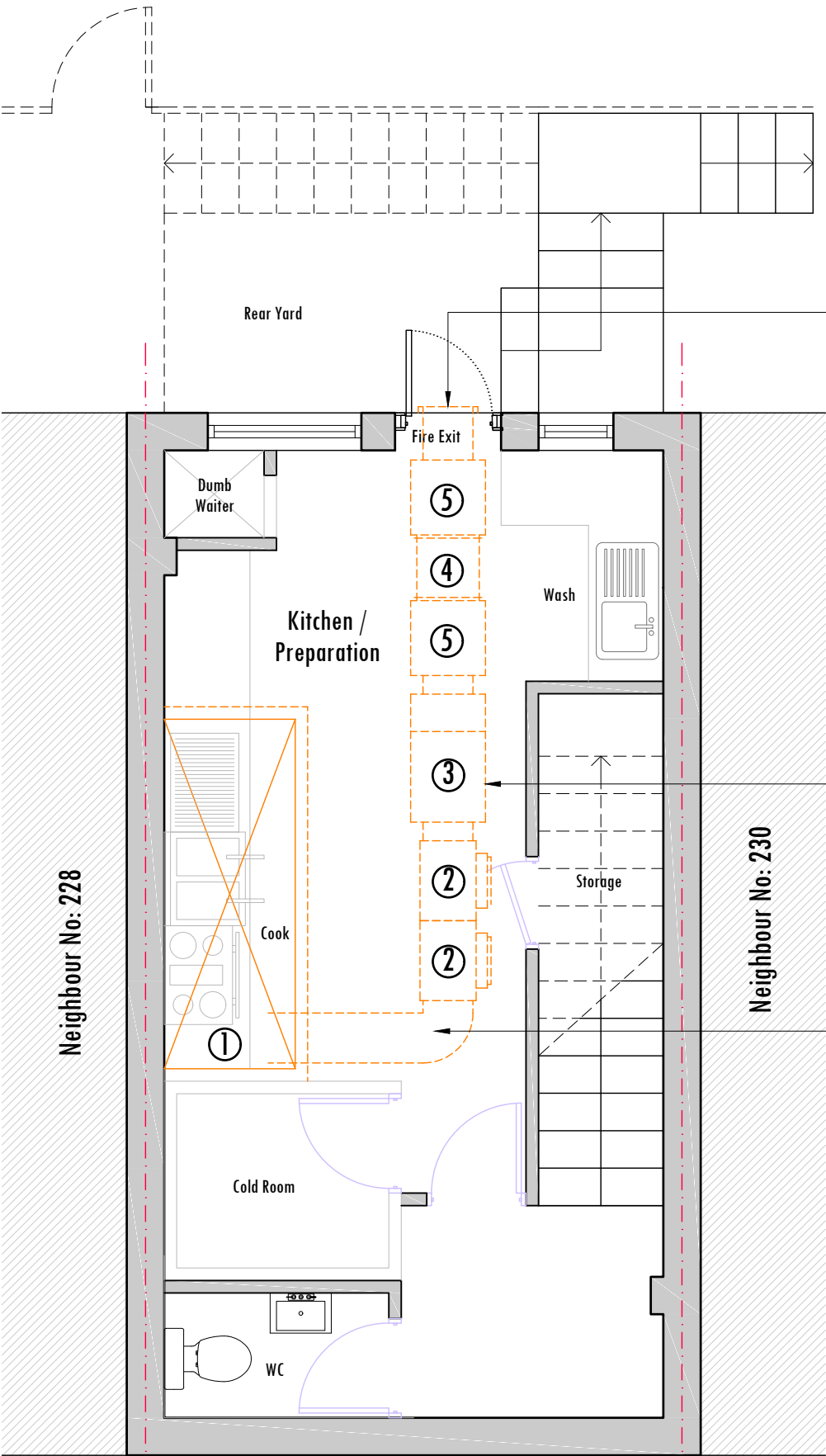


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Scale	1/100 @A3	Date 10/01/2020
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Project No.	19110	Revision -
Drawing title.	Existing Elevations - Section	
Drawing No.	PA002	

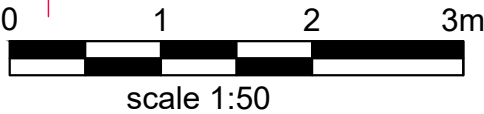
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Proposed Ground Floor
Scale:1/50



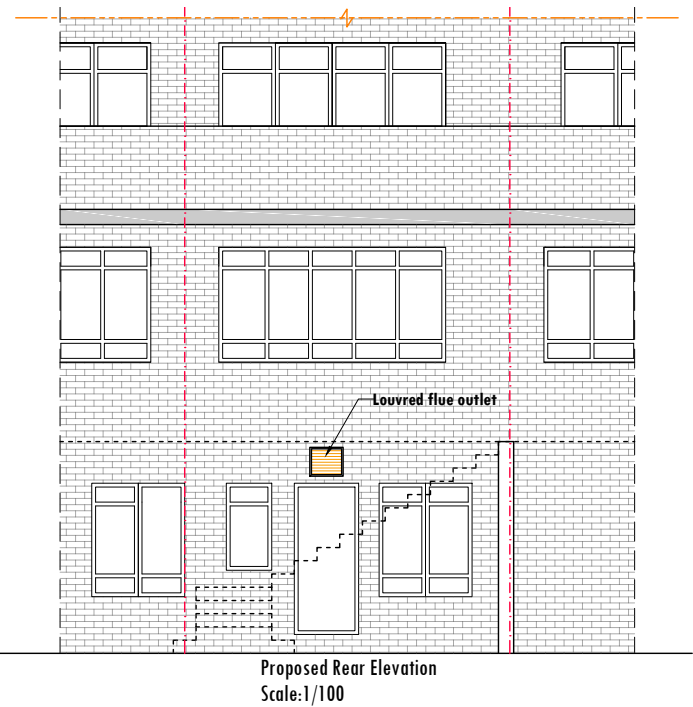
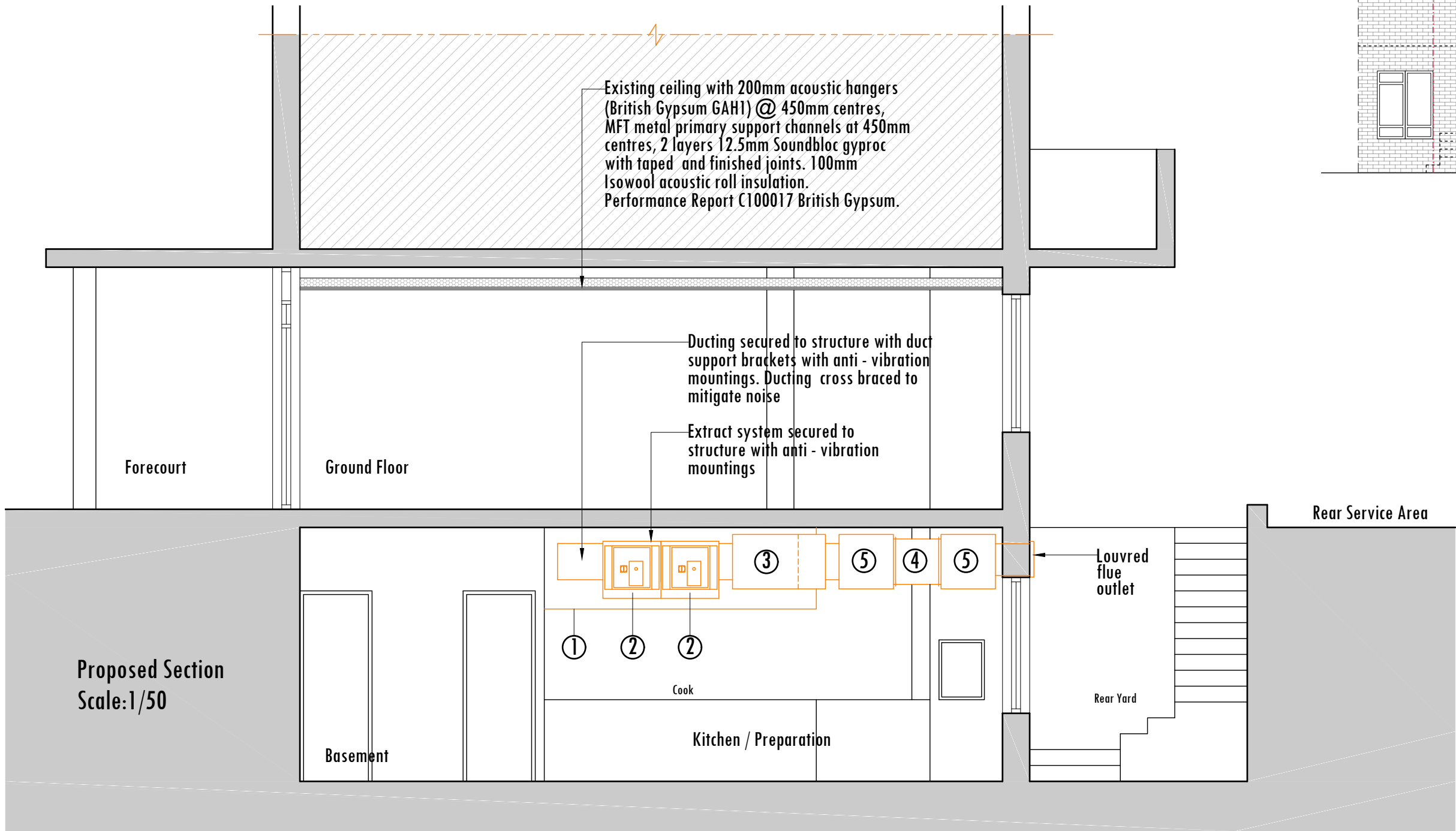
Proposed Basement
Scale: 1/50



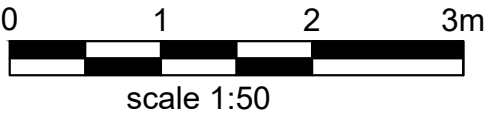
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Project No.	19110	Drawing No. PA003
Drawing title	Proposed Plans	

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Scale	1/50 @A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	19110	Drawing No. PA004
		Revision -
Drawing title Proposed Elevations - Section		

EXTRACT SYSTEM DETAILS - INC. MAINTENANCE

1. EXTRACT CANOPY

S/S (304 grade) canopy 3000x1200mm above cooking units with 5 no. removable and washable grease filters 495x495x50mm.
(FILTERS MUST BE WASHED 2 - 3 TIMES A WEEK).

2. ESP 1500EI

2 x Electrostatic Precipitator 1500EI - to separate particulate phase - separating small grease and smoke particles That penetrate the main grease filters in the canopy - with an efficiency of up to 98%, secured to structure sitting on stands.
(FILTERS TO BE REMOVED AND CLEANED WITH CHEMICALS AND WARM WATER EVERY 3-4 WEEK).

3. CARBON FILTER UNIT WITH PRE-FILTERS

KATERCARB (Emcel Filters) 2KXB2 ACD extra duty 207C activated carbon filter unit 660x610x1025mm with 8 disposable chemically bonded carbon panels permanently sealed with a galvanised steel casing. Minimum Carbon Weight loading of 80kg /1.0m³/s with resistance to air flow of 175Pa (excluding prefilter and grease filter),and a dwell time of 0.3 seconds - secured to structure sitting on anti-vibration mountings.
(FILTER ELEMENTS TO BE REPLACED EVERY 4 WEEKS AND CARBON PANELS TO BE REPLACED EVERY 9-12 MONTHS)

4. FAN UNIT

A high pressure 500mm Ø Elta axial fan unit SCPP500/4-1 with sound level of 62 dB (A) @ 3 meters without attenuation. Speed regulator rating is at 1350 rpm with 2.01m³/s air flow rate @ 250 Static Pressure Pa giving efflux velocity at the flue terminal of 10.25m/s - secured to the structure sitting on the stand with anti-vibration mountings and insulated - connected directly to the silencers.

(to give 35 + air changes in the kitchen)

The fan to be wrapped in an Acoustic Fan Jacket type AFJ (see manufacturer's details)

Flexible canvas connectors

5. SILENCERS/ATTENUATORS

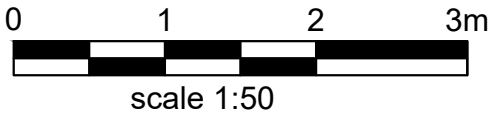
2 No. 653mm Ø x 600mm high performance silencer (with 1DEP - cylindrical centrebody for enhanced attenuation) connected directly to fan casing on the outlet and inlet side and connected to ducting with flexible canvas connectors, giving a sound reduction level of 14dB (A) for the unit @ 3 meters - secured to structure sitting on the stand with anti-vibration mountings.

6. DUCTING

Galvanised steel ducting - flue riser (18swg) 400mm x 400mm of nominal cross sectional area with adequate stiffening and cross bracing discharging horizontally and terminating at rear through louvered outlet over the rear yard.
Ducting to be secured to the structure with duct support brackets with anti-vibration mountings.

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Scale	NTS@A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	Drawing No.	Revision
19110	PA005	-
Drawing title Extract System Details		

MINIMUM VENTILATION RATES:

- AN INTERNAL AMBIENT AIR TEMPERATURE OF 28 MAX.
- MAX. HUMIDITY LEVELS OF 70%
- DEDICATED MAKE UP AIR SYSTEM TO BE APPROXIMATELY 85% OF THE EXTRACT FLOW RATE
- MIN. AIR CHARGE RATE OF 40 PER HOUR

MINIMUM REQUIREMENTS FOR CANOPY

Velocity Requirements

- LIGHT LOADING - 0.25m/s (APPLIES TO STEAMING OVENS, BOILING PANS, BAINS MARIE AND STOCK-POT SERVERS).
- MEDIUM LOADING - 0.35 m/s (APPLIES TO DEEP FAT FRYERS, BRATT PANS SOLID AND OPEN TOP RANGES AND GRIDDLES).
- HEAVY LOADING - 0.5 m/s (APPLIES TO CHARGRILLS, MESQUITE AND SPECIALIST BROILER UNITS)

Material of Construction

- A MATERIAL THAT WOULD COMPLY WITH THE FOOD HYGIENE REQUIREMENT IS STAINLESS STEEL.

Grease Filtration

- HAVE A MIN. PERFORMANCE THE SAME AS A BAFFLE FILTER
- BE EASY TO CLEAN

MINIMUM REQUIREMENTS FOR DUCT WORK

- ALL DUCTWORK SHOULD BE LOW PRESSURE CLASS A AND CONSTRUCTED IN ACCORDANCE WITH HVCA SPECIFICATION DW/144 WITH A MIN. THICKNESS OF 0.8mm
- DUCT VELOCITIES SHOULD BE AS FOLLOWS:

SUPPLY (m/s)	EXTRACT (m/s)	
MAIN RUNS	6-8	6-9
BRANCH RUNS	4-6	5-7
SPIGOTS	3-5	5-7

- ALL INTERNAL SURFACES OF THE DUCTWORK SHOULD BE ACCESSIBLE FOR CLEANING AND INSPECTION. ACCESS PANELS SHOULD BE INSTALLED AT 3.0m CENTERS AND SHOULD BE GREASE TIGHT USING A HEAT PROOF GASKET OR SEALANT.
- DUCT WORK SHOULD NOR PASS THROUGH FIRE BARRIERS.
- WHERE IT IS NOT POSSIBLE TO IMMEDIATELY DISCHARGE THE CAPTURED AIR, FIRE RATED DUCTWORK MAY BE REQUIRED.

MINIMUM REQUIREMENTS FOR ODOUR CONTROL

OBJECTIVES

- FOR NEW PREMISES OR PREMISES COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF ODOUR THE SYSTEM SHALL BE DESIGN ED TO PREVENT HARM TO AMENITY.
- FOR EXISTING PREMISES NOT COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF ODOUR, THE SYSTEM SHALL BE DESIGNED TO AVOID STATUTORY NUISANCE AND SHALL COMPLY WITH THE PRINCIPLES OF BEST PRACTICAL MEANS.

TO ACHIEVE THESE OBJECTIVE THE ODOUR CONTROL SYSTEM SHALL INCLUDE AN ADEQUATE LEVEL OF:

- 1.ODOUR CONTROL; AND
- 2.STACK DISPERSION.

THE OVERALL PERFORMANCE OF THE ODOUR ABATEMENT SYSTEM WILL REPRESENT A BALANCE OF 1 AND 2.

DISCHARGE STACK

- THE DISCHARGE STACK SHALL:
1. DISCHARGE THE EXTRACTED AIR NOT LESS THAN 1m ABOVE THE ROOF RIDGE OF ANY BUILDING WITHIN 20m OF THE BUILDING HOUSING THE COMMERCIAL KITCHEN.
 2. IF 1 CANNOT BE COMPLIED WITH FOR PLANNING REASONS, THEN THE EXTRACTED AIR SHALL BE DISCHARGE NOT LESS THAN 1m ABOVE THE ROOF EAVES OR DORMER WINDOW OF THE BUILDING HOUSING THE COMMERCIAL KITCHEN. ADDITIONAL ODOUR CONTROL MEASURES MAY BE REQUIRED.
 3. IF 1 OR 2 CANNOT BE COMPLIED WITH PLANNING REASONS, THEN AN EXCEPTIONALLY HIGH LEVEL ODOUR CONTROL WILL BE REQUIRED.

MINIMUM REQUIREMENTS FOR CANOPY

VELOCITY REQUIREMENTS

LIGHT LOADING – 0.25M/S (APPLIES TO STEAMING OVENS, BOILING PANS, BAINS MARIE AND STOCK-POT SERVERS)

MEDIUM LOADING – 0.35M/S (APPLIES TO DEEP FAT FRYERS, BRATT PANS, SOLID AND OPEN TOP RANGES AND GRIDDLES)

- SIZE : 2.6MT STAINLESS STEEL CANOPY.

- DIMENSIONS : 3500MM X 1000MM X 600MM

ODOUR ARRESTMENT PLANT PERFORMANCE

LOW TO MEDIUM LEVEL CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWING BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.1 SECOND RESIDENCE TIME).
- 2 FINE FILTRATION FOLLOWED BY COUNTERACTANT/ NEUTRALIZING SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.

HIGH LEVEL ODOUR CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.2-0.4 SECOND RESIDENCE TIME)
2. FINE FILTRATION OR ESP FOLLOWED BY UV OZONE SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROLS AS 1.

VERY HIGH LEVEL ODOUR CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.4-0.8 SECOND RESIDENCE TIME).
2. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION AND BY COUNTREACTANT/NEUTRALISING SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.
3. FINE FILTRATION OR ESP FOLLOWED BY UV OZONE SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.
4. FINE FILTRATION OR ESP FOLLOWED BY WET SCRUBBING TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.

MAINTENANCE MUST BE CARRIED OUT TO ENSURE THESE PERFORMANCE LEVELS ARE ALWAYS ACHIEVED.

MINIMUM REQUIREMENTS FOR FANS

FANS MUST BE CAPABLE OF DEALING WITH THE OPERATING STATIC PRESSURE WITHIN THE DUCT WORK SHOULD BE DESIGNED WITH A MIN. 10% PRESSURE MARGIN (NOTE OPERATING STATIC PRESSURE WILL INCREASE THROUGHOUT A MAINTENANCE CYCLE).

BACKWARD CURVED CENTRIFUGAL, MIXED FLOW OR AXIAL FLOW IMPELLERS ARE PREFERRED AS THEY ARE LESS PRONE TO IMBALANCE AND ARE MORE EASILY MAINTAINED/CLEANED DUE TO THEIR OPEN CONSTRUCTION. FIXED OR ADJUSTABLE METAL IMPELLERS WITH A ROBUST AND OPEN CONSTRUCTION SHOULD BE USED.

FAN MOTORS SHOULD BE RATED TO IP55 WITH NO NEED TO MOUNT THE MOTOR OUTSIDE OF THE AIR STREAM. FOR FANS THAT HAVE MOTORS WITHIN THE AIR STREAM AND ARE VENTILATING COOKING EQUIPMENT THAT PRODUCE HIGH LEVELS OF TEMPERATURE AND HUMIDITY THE SPECIFICATION FOR THE MOTOR SHOULD BE UPGRADE TO WITHSTAND MORE ONEROUS CONDITIONS

MINIMUM REQUIREMENTS FOR NOISE CONTROL

FOR NEW PREMISES OR PREMISES COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF NOISE THE SYSTEM SHALL BE DESIGNED TO PREVENT AN ACOUSTIC IMPACT ON EXTERNAL ENVIRONMENT AND THEREFORE HARM TO THE AMENITY, AS WELL AS ENSURING THAT NOISE EXPOSURE OF KITCHEN STAFF DOES NOT CONSTITUTE A HEARING HAZARD.

FOR EXISTING PREMISES NOT COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF NOISE THE SYSTEM SHALL BE DESIGNED TO AVOID STATUTORY NUISANCE AND SHALL BE COMPLY WITH THE PRINCIPLES OF 'BEST PRACTICABLE MEANS'.

TO ACHIEVE THESE OBJECTIVES THE NOISE CONTROL SYSTEM SHALL INCLUDE:

- CONTROL OF NOISE AT SOURCE TO THE GREATEST EXTENT POSSIBLE (WITH THE ADDED BENEFIT OF HEARING PROTECTION); AND
- CONTROL OF NOISE TO THE ENVIRONMENT BY TAKING ACOUSTIC CONSIDERATION INTO ACCOUNT WITHIN DUCT, GRILLE AND TERMINATION DESIGN.

THE CONTROL SYSTEM SHOULD MEET THE REQUIREMENTS LAID DOWN IN BS4142: 1997 "METHOD FOR RATING INDUSTRIAL NOISE AFFECTING MIXED RESIDENTIAL AND INDUSTRIAL AREAS"

MINIMUM REQUIREMENTS FOR FIRE SUPPRESSION

PROPRIETORS OF COMMERCIAL KITCHEN ARE UNDER A DUTY TO ENSURE THAT THE FIRE PRECAUTIONS MEET THE REQUIREMENTS OF THE 'FIRE PRECAUTIONS (WORKPLACE) REGULATIONS 1997'

MAINTENANCE

PROPRIETORS OF COMMERCIAL KITCHENS HAVE A DUTY TO ENSURE THAT THE VENTILATION SYSTEM SERVING THE RESPECTIVE PREMISES ARE MAINTAINED AND OPERATED EFFECTIVELY. GOOD MAINTENANCE IS A PREREQUISITE FOR ENSURING THAT A SYSTEM COMPLIES WITH BEST PRACTICABLE MEANS UNDER STATUTORY NUISANCE PROVISION AND WILL FORM A KEY ELEMENT OF ANY SCHEME DESIGNED TO MINIMIZE HARM TO THE AMENITY UNDER PLANNING REGULATION. GOOD MAINTENANCE IS REQUIRED BY THE FOOD HYGIENE REGULATIONS AND WILL ALSO MINIMIZE THE RISK OF FIRE. THE RECOMMENDED CLEANING PERIOD FOR EXTRACT DUCTWORK IS:

HEAVY USE	12-16 HOURS PER DAY	3 MONTHLY
MODERATE USE	6-12 HOURS PER DAY	6 MONTHLY
LIGHT USE	2-6 HOURS PER DAY	ANNUALLY


RECOMMENDATIONS FOR MAINTENANCE OF ODOUR CONTROL SYSTEM INCLUDE:


- SYSTEM EMPLOYING FINE FILTRATION AND CARBON FILTRATION CHANGE FINE FILTERS EVERY TWO WEEKS.
- CHANGE CARBON FILTERS EVERY 4 TO 6 MONTHS.
- USE A SYSTEM EMPLOYING ESP AND OTHER IN LINE ABATEMENT.

CLEAN EVERY 2-6 MONTHS.

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Scale	NTS @A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	Drawing No.	Revision
19110	PA006	-
Drawing title		
Extract Notes 1		

Typical problems encountered with commercial kitchen ventilation systems;
netcen, with the assistance of the cieh, contacted a number of local authorities to review the types of problems encountered by council officers when dealing with odour and noise situations. a summary of this information gathering exercise is given in annex a. responses were received from metropolitan and rural authorities. authorities from england, northern ireland, scotland and wales have been consulted

Ventilation systems are used;
linear extract method: each linear meter of active filter length is assigned a vent rate depending on the vent canopy type.
Recommended canopy type;

Source of Noise	How/Why Noise Arises
Extract/supply fan	Fan motor noise, Fan impeller turning

The dimensions of a canopy are dictated by the size of the catering equipment that it is serving. the two criteria that have the most influence on the amount of air required for effective ventilation are the plan dimensions and height.
unless restricted by walls etc., the plan dimensions of the canopy should always exceed the plan dimensions of the catering equipment by a minimum of 200mm on each free side and by 300mm at the front and rear. dimensions at the side may needto be increased where high output equipment is located at the end of the cooking line-up.

Where combination steamer and certain types of baking ovens are used, the overhang at the front should be 600mm to cope with steam or fumes that arise when the doors of the appliance are opened.

Canopy type	Light duty	Medium duty	Heavy duty	Extra heavy duty
Wall mounted	0.23-0.31 (m3/s)	0.31-0.46(m³/s)	0.31-0.62 (m³/s)	>0.54 (m³/s)

The height of the canopy is governed by the height of the ceiling and the underside of the canopy should be located between 2000 and 2100 mm above the finished floor level. the efficiency of canopies less than 400mm high are less than normal because the collection volume is reduced. in these situations, the face velocity may need to be increased to 0.5m/s to compensate. where the ideal flow rate cannot be achieved the size of the canopy may be increased to aid capture. the ideal distance between the lowest edge of the grease filter and the top of the cooking surface should be between 450mm to 1350mm. this is to avoid the risk of excessive temperatures or fire in the filter that could cause the extracted grease to vaporise and pass through to the ductwork. this dimension will vary with the type of cooking appliance and can be reduced where fire suppression equipment is installed, but should never be below 1350mm where mesh filters are installed.

types of system are available:
cassette system: is an integrated system incorporating partitioned or dedicated extract and partitioned or dedicated supply. the systems are modular and contain a number of cassettes of proprietary design, which filter and separate grease from the air prior to its exhaust. the grease is normally collected in a non-drip integral or perimeter trough for removal and cleaning.
materials of construction of canopy;
the food safety (general food hygiene) regulations[20] requires that in food preparation areas:
'ceilings and overhead fixtures must be designed, constructed and finished to prevent the accumulation of dirt and reduce condensation, the growth of undesirable moulds and the shedding of particles.' in relation to canopies, it is best practice to use stainless steel especially if the relevant surface comes directly into contact with food. typically canopies and other
overhead fixtures are fabricated using ultra fine-grained stainless steel (grade 304). higher grades of stainless steel may also be specified.

Other best practice guidelines include:
where air must be equalised within a supply plenum of a canopy 0.8 mm perforated stainless steel sheet should be used. in addition, care should be taken to ensure that the face velocity is about 0.7 m/s. noise generation increases when velocities of 0.9 m/s are exceeded.
• discharge grills on make-up air system should be fabricated with 1mm perforated stainless steel sheet.
• condensation should be avoided in canopies that are provided with supply plenum. where insulation is used it should:
• be a rigid foil faced non fibrous slab, with a class 1 spread of flame; and
• not be fibre based as this could contaminate food.
Fan;
kitchen ventilation systems often have relatively high resistance against which a fan has to operate. therefore, fans need to be sized to cope with a design pressure of a minimum additional 10% pressure margin. care must to be taken:
• to ensure operational changes e.g. build up of dirt on mesh filters are taken into account; and
• if changes are made to the ventilation system that may alter the operating pressure.
to overcome such changes variable speed control or balancing dampers may be used. a range of impeller designs is available as follows:
• backward curved centrifugal, mixed flow or axial flow impellers are preferred as they are less prone to imbalance and are easier to clean and maintain due to their open construction.
• fixed or adjustable metal impellers are recommended.
• lightweight multi-vane or plastic-type impellers can warp and are prone to collecting grease. although plastic bladed fans can be used in non-grease, low temperature situation.
the fan must be able to operate at between 40o and 60o at 95% relative humidity. motors should be rated to ip55. where fan motors sit within warm moist air streams, they should be upgraded to withstand more onerous conditions. to avoid excessive temperature build-up, temperature detectors should be fitted.
drain holes should be provided at the lowest point in the fan housing to remove condensation. care needs to be taken to ensure that the drain hole does not downgrade the index of protection (ip) of the motor.
dual or variable speed regulation are widely used. the fan must always operate at its design duty, especially when grease is being produced. a minimum extract level should be set within the speed regulator to ensure that, even at low speed, an adequate rate of ventilation is maintained. speed regulation should be applied to both make-up air and extraction air. speed regulation cannot be employed with water wash/cartridge systems as flow rates are fixed.
make-up and extract fan operation should be interlocked with gas supply, so that gas supply is switched off if the fans fail. fans should be isolated when fire a suppression system is activated.
the connection between ductwork and fan housing should be suitable for use in grease-laden atmospheres and at duct temperature. joints must be clamped or bonded to prevent air leakage. under fire conditions the material should have a minimum integrity of at least 15 minutes.

Cartridge filters
Installed horizontally, cartridge filters comprise a high velocity slot opening on to a series of baffles which cause air to change direction four times compared to only twice in a conventional baffle filter. The cartridge filters are installed over the full length of the extract plenum and should be sloped to allow trapped grease to fall through a drain to a grease drawer. These filters are intended for heavy grease loads. Having a higher velocity enables lower air volumes to be used. Air balancing is required to prevent carry over of grease.

Fine filtration;
A basic filtration system can be used to deal with a low intensity odour problem, but more usually will form a protective pre-treatment step before an activated carbon step.

Recommendations for maintenance of odour control system
For a system employing fine filtration and carbon filtration;
• Change fine filters every two weeks
• Change carbon filters every 4 to 6 months
For a system employing ESP and other in line abatement systems:
• Clean every 2-6 months

Noise reduction methods for various noise sources and transmission paths;
Reflected sound from walls, ceiling, and walls.Direct sound can be controlled only by selecting quiet equipment. Reflected sound is controlled by adding sound absorption to room and to location of equipment.

Description	Noise reduction method
Direct sound radiated from sound source to ear. Reflected sound from walls, ceiling, and walls.	Direct sound can be controlled only by selecting quiet equipment. Reflected sound is controlled by adding sound absorption to room and to location of equipment.

Fan type	Advantages	Disadvantages
Roof Extract Fans (Vertical Jet Discharge with Centrifugal Impellers)	Good temp range when motor is outside of air stream Easy removal for cleaning and maintenance No space restrictions Good external appearance No discharge ductwork required	Temperature limitations, but suitable for kitchen use. Requires good roof access for maintenance More expensive than inline/ axial models

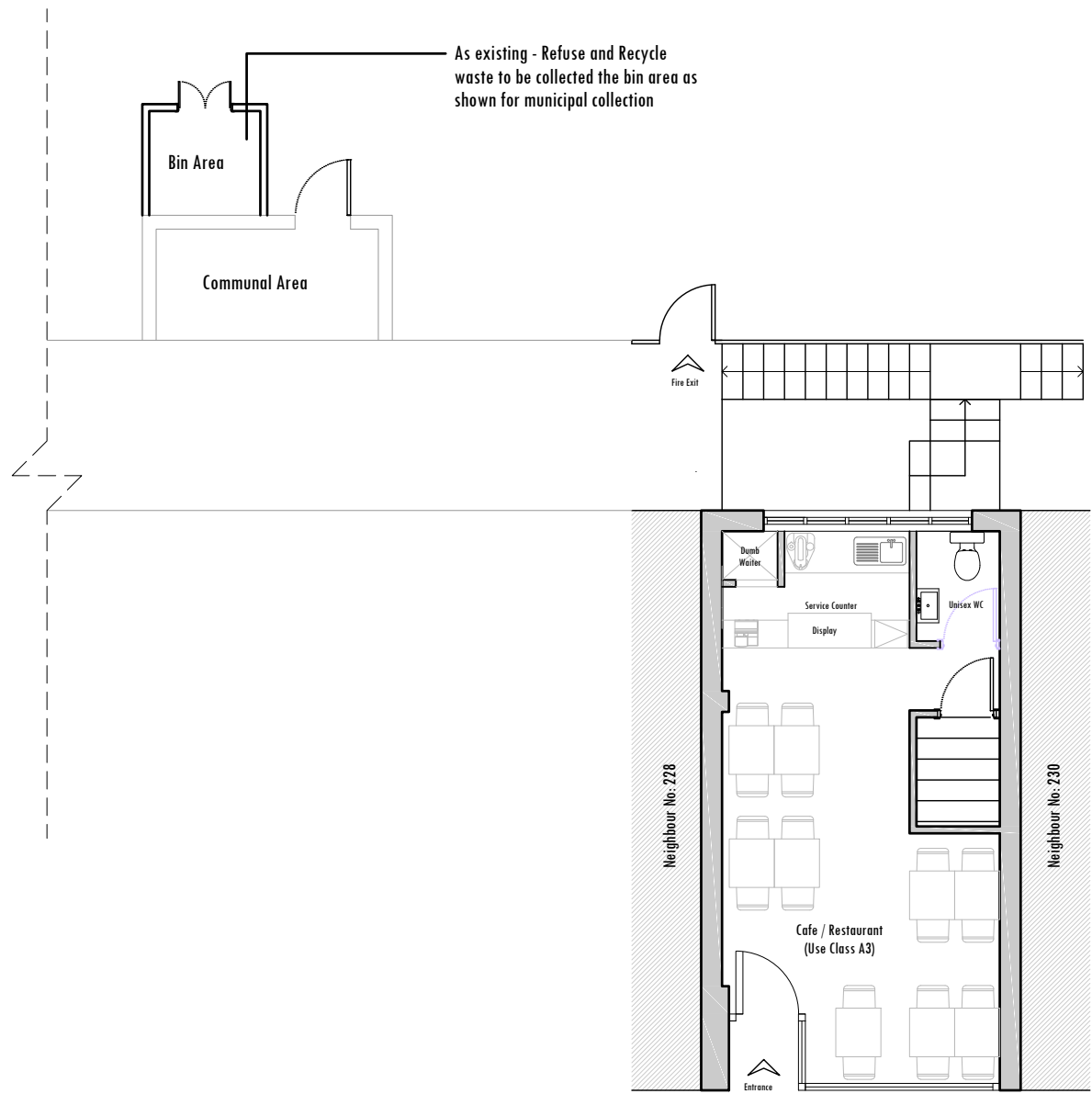
Coarse or Grease filtration				
Filter type	Recommended Face Velocity (m/s)	Typical Efficiency	Advantages	Disadvantages
Cartridge	4.5-5.5 (at entry)	90-95%	Higher efficiency Non-overloading pressure drop	High pressure drop Special plenum fabrication required

Notes
1- This drawing is not for construction
2- All Dimension are in millimeters
3- Dimensions are not to be scaled directly from drawings unless for planning purposes
4- All dimensions are to be checked on site and the Architect is to be inform of any discrepancies before construction commences
5- All references to drawings refer to current revision of that drawing
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Existing Wall
Boundary

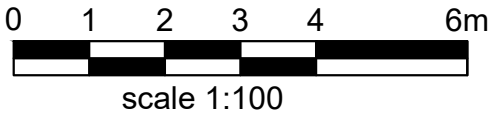
Rev.	Date	Revisions
PLANNING		
<div> ARCH ARCHITECTURAL DESIGN STUDIO 400 West Green Road London N15 3PX Tel: 0208 809 2320 - 0784241 0527 Web: www.archpl.co.uk</div>		
Client	Huseyin Carman	
Project	229 Grays Inn RdKings Cross London WC1X 8RH	
Scale	NTS @A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	19110	Revision -
Drawing title	Extract Notes 2	
Drawing No.	PA007	

- Notes
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Site Plan - Refuse Location
Scale:1/100

Existing Wall
Boundary



Rev.	Date	Revisions
PLANNING		
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Client	Huseyin Carman	
Project	229 Grays Inn RdKings Cross London WC1X 8RH	
Scale	1/100 @A3	Date 10/01/2020
Drawn By	RG	Checked By AEC
Project No.	19110	Drawing No. PA008
		Revision -
Drawing title Proposed Plans		