GENERAL SPECIFICATIONS

1. GENERAL:

A. WORK INDICATED: Drawings are diagrammatic – do not scale for precise locations. Verify all existing site conditions; make adjustments as needed.
B. FURNISHING WORK: Provide all labour, materials, tools, plant, equipment, and services necessary for complete execution in accordance with the Contract at no additional cost to the Employer. Includes all incidental items for a compliant, complete installation.
C. COMPLETION & TESTING: All equipment shall be commissioned, tested, and handed over operational to the Employer's satisfaction. "Provide" means supply, install, commission, and make ready for use.
D. MATERIALS & EQUIPMENT: All materials/equipment shall be new, CE/UKCA marked (as required), and compliant with UKCA Regulations 2023. Compatible with existing interfaces. Install per manufacturer's instructions and BSI/PAS standards.
E. EXISTING OBSTRUCTIONS: Remove/relocate conflicting existing services to the Contract Administrator's satisfaction at no cost to the Employer.
F. PENETRATIONS & MAKING GOOD: Written Employer approval required before cutting structural elements or fire compartments. Make good all disturbed areas to match existing. Fire compartment penetrations must use certified systems (tested to BS 476-20/22 or BS EN 1366) and maintain fire resistance (Approved Document B, 2023 amendments).
G. SITE CLEANLINESS: Daily clearance of waste/debris. At Practical Completion, remove all plant/materials, leave site clean and ready for occupation (CDM 2015, Regulation 36).

2. COORDINATION AND SCHEDULING (CDM 2015 COMPLIANT):

A. COORDINATION: Principal Contractor shall coordinate all trades, verify site conditions, and prevent spatial/scheduling conflicts.
B. STAKEHOLDER COORDINATION: Coordinate with Subcontractors, suppliers, Statutory Undertakers, Building Safety Regulator (BSR) / Approved Inspector, Clerk of Works, Principal Designer, Contract Administrator, and Employer.
C. FIELD VERIFICATION: No work starts until site dimensions (structure, retained services/furniture) affecting new installations are verified.
D. MINIMISING DISTURBANCE: Phase work to minimise disruption in occupied areas. Submit Construction Phase Plan (CPP) and Programme for approval. Provide dust/impact protection (e.g., polythene, Heras screens) between zones.
E. UTILITY SHUTDOWNS: Notify Employer in writing 14 days prior. Written approval required before shutdown.
F. SITE EXAMINATION: Thoroughly examine site conditions. No claims for errors/omissions in site verification.

3. COMPLIANCE, PERMITS AND INSPECTIONS (BUILDING SAFETY ACT 2022):

A. COMPLIANCE: Comply with:
* Building Regulations 2010 (as amended, inc. 2023 Part B, L, F)
* British Standards (BS, BS EN)
* Construction Products Regulation (UKCA/CE)
* Water Supply (Water Fittings) Regulations 1999
* Gas Safety (Installation & Use) Regulations 1998
* Electricity at Work Regulations 1989
* CIBSE/BSRIA Codes of Practice

Obtain/pay for all Building Control applications, permits, and inspections (BSR/Approved Inspector).

B. CERTIFICATION: Provide:
* Building Regulations Completion Certificate
* Commissioning Certificates (BSRIA BG 8/2021)
* Electrical Installation Certificate (BS 7671:2022)
* Gas Safe Certificates
* Final Inspection Sign-off

Deliver to Employer at Practical Completion.

C. CURRENT STANDARDS: Use latest editions of standards applicable in the Local Authority/BSR jurisdiction.
D. PRECEDENCE: Contract Documents > Referenced Standards. Notify Contract Administrator immediately of conflicts.
E. HEALTH, SAFETY & ENVIRONMENT: Comply with:
* CDM 2015 (Principal Contractor duties)
* Health and Safety at Work Act 1974
* COSHH 2002
* Environmental Permitting (England & Wales) Regulations 2016
* Site Waste Management Plans Regulations 2008

F. UTILITIES: Comply with DNO (electric), GDNO (gas), and water supplier regulations.

4. DEFECTS LIABILITY PERIOD (JCT STANDARD):

A. DEFECTS: Rectify defects in workmanship/materials arising within 12 months of Practical Completion at no cost to the Employer. Includes commissioning issues. Notify Contract Administrator within 7 days of discovery.

5. PRE-CONSTRUCTION INFORMATION (CDM 2015):

A. SUBMISSIONS: Submit electronic Technical Submissions (shop drawings, calculations, O&M data, BIM LOD 300+ if applicable) for Contract Administrator/Principal Designer approval before ordering/installation. Include:
* Declarations of Performance (UKCA)
* Fire performance data (BS EN 13501)
* Efficiency data (ErP/Energy Labelling)

6. HEALTH AND SAFETY FILE & AS-BUILTS (CDM 2015):

A. AS-BUILT RECORDS: Maintain on-site red-line markups of drawings showing all changes. Deliver digital + hard copy including:
* Final 'As-Built' drawings (PDF & CAD)
* Operation & Maintenance (O&M) Manuals
* Commissioning records
* Warranties/certifications
* Asset Information (Uniclass 2015)

Form Part G of the Health and Safety File to Employer at Practical Completion.

BRANCH CIRCUITRY AND FEEDER

CABLE TYPES
ALL conductors: Copper to BS EN 13601:2024 (100% recycled content)
Above ground:
Twin & Earth (T&E) to BS 6004:2024 (Class Dca-s1b,d1 fire rating)
Steel-Wire Armoured (SWA): Only for external feeds (BS 5467)
Non-metallic sheathed cables prohibited (Reg 522.8.10)

CONDUIT REQUIREMENTS

Location	Permitted System	Minimum Size
Internal walls	PVC-U conduit (BS EN 61386-21)	20mm (¾")
Kitchens/bath	Galvanised steel (BS 4568:2024)	25mm (1")
External	Heavy-wall galvanised steel	25mm (1")
Underground	PVC-U (BS EN 61386-24)	32mm (1¼")

CIRCUIT PROTECTION

ALL final circuits: 30mA Type A RCD (Reg 411.3.3)
Critical circuits (bedrooms, living rooms):
AFDDs to BS EN 62606 (Reg 531.3.3)
EV Chargers: Dedicated RCBO (40A min) + Type B RCD

INSTALLATION RULES
Concealed wiring only in finished areas (No surface runs)
Min. depths:
Walls: ≥50mm from surface (Reg 522.6.204)
Floors: Under screed/joists (No contact with insulation)
Cable avoidance zones: ±150mm around ceilings/corners (Reg 522.6.202)

ELECTRICAL CODE NOTES

UK ELECTRICAL REGULATIONS COMPLIANCE NOTES
(BS 7671:2022 Amd 2, Building Regulations Part P, and British Standards)

SOCKET-OUTLETS (RECEPTACLES):

All new socket-outlets shall be shuttered type complying with BS 1363-2 (Regulation 553.1.7).

ARC FAULT PROTECTION:

Final circuits supplying 230V AC socket-outlets (≤ 32A) in habitable rooms (living rooms, bedrooms, dining rooms, studies, hallways, kitchens) shall be protected by:

AFDDs (Arc Fault Detection Devices) to BS EN 62606

Installed per Regulation 531.3.3 for high-risk locations.

EXTERIOR SOCKET-OUTLET ENCLOSURES:

Outdoor socket-outlets shall be housed in IP66-rated enclosures complying with BS EN 60670-22.

EXTERIOR SOCKET-OUTLETS:

All outdoor socket-outlets shall be:

Weatherproof (IP66) per BS EN 60529

Compliant with BS EN 60309-2 or BS 1363-2 with integral covers.

RCD PROTECTION:

Socket-outlets for:

Laundry/utility rooms

Fixed appliances (dishwashers, waste disposers)
Shall be protected by 30mA Type A RCDs (Regulation 411.3.3).

CUPBOARD LUMINAIRES:

Luminaires in storage cupboards shall be:

Totally enclosed (IP4X minimum)

Installed with ≥ 500mm clearance from storage areas (Regulation 559.5.1).

BATHROOM LUMINAIRES:

Luminaires above baths/showers shall be:

Rated for Zone 1/2 locations (IPX4 minimum)

Compliant with Section 701.55.2.

EARTHING ARRANGEMENT:

The installation shall utilise a foundation earth electrode (concrete-encased) per Regulation 542.2.1.4, supplemented by:

Main protective bonding to BS 951

Earth fault loop impedance compliant with Chapter 41.

MANDATORY CERTIFICATION & VERIFICATION
Initial Verification: Regulation 643.7 tests (insulation resistance, polarity, earth fault loop impedance).

Certification: Provide Electrical Installation Certificate (EIC) per Part 6.

Building Regulations: Part P Compliance Certificate for England/Wales.

MISCELLANEOUS ELECTRICAL

1. EARTHING & BONDING
(BS 7671:2022 Amd 2 Chapter 54, BS EN 62305-3:2024)

1.1 Equipment Bonding Conductors:
Size per Table 54.7 (e.g., 10mm² for ≤32A circuits)
Comply with Regulation 411.3.1.2 (automatic disconnection)
1.2 Device Earthing:
All accessories/switches to have CPC (Circuit Protective Conductor)
Regulation 411.3.1.1 compliance for exposed-conductive-parts
1.3 Main Earthing:
16mm² minimum for TN-C-S systems (Regulation 542.3.1)
Foundation electrode required per Regulation 542.2.1.4

2. FIRE PENETRATION SEALING
(Building Regs Part B 2023, BS EN 1366-4:2024, BS 7671 527.2)
2.1 Fire Compartment Seals:
Use BS EN 1366-4 certified systems (EI 60/90/120 rating)
Submit manufacturer's Third-Party Certification (UKCA/UKAS)
2.2 Temperature Transition Seals:
Apply non-setting compound (BS EN 60423-1:2024) for:
Cold storage penetrations
Internal-external transitions
Hygroscopic sealing putty for condensation control (e.g., Roxtec CMS)

3. VERIFICATION & TESTING
(BS 7671:2022 Amd 2 Part 6, BS EN 60364-6:2024)
3.1 Final Certification:
Complete Schedule of Inspections (Reg 641.1)
Pass mandatory tests:
≥100MΩ insulation resistance (Reg 643.3)
RCD trip ≤25ms (Reg 643.8)
Ze ≤0.35Ω for TN-C-S (Reg 643.7)

4. CONTAINMENT LABELING
(BS 7671:514.9, BS 1710:2024, Building Safety Act 2022)
4.1 Feeder Identification:
Laser-etched labels with:
Source DB
Load designation
Fault current rating
15mm letter height (was 3/4")
4.2 Junction Box Marking:
Machine-readable QR codes containing:
Circuit origin (e.g., "DB3/C5")
Installation date
Test certificate reference

SPECIFICATIONS

G. FUSES & PROTECTIVE DEVICES
(BS 7671:2022 Amd 2:2023 | BS 88-3:2024 | BS EN IEC 60269-1:2024)

Install fuses with BS 88-3:2024 compliance (enhanced DC fault ratings for solar/wind systems).

Labels must include:

Arc flash hazard warning (ISO 3864-2 symbols)

Carbon reduction data (per Building Regs Part Z consultation draft)

H. ISOLATION & CIRCUIT PROTECTION
(BS EN IEC 60947-3:2024 | BS EN 50618:2024 (DC systems))

Isolators:

1,500V DC rating required if PV/battery systems present

Padlock hasps: Must accommodate BS EN 1677-2:2024 safety locks

Interlocks: Dual mechanical/electronic where accessible to public

Circuit Breakers:

Minimum breaking capacity: 16kA (up from 10kA for commercial sites per Reg 434.5.1)

Type F (Selective) breakers for critical circuits (hospitals/data centers)

Enclosures:

Location	New Standard (2024)
Outdoor	IP66 + IK10 impact rating
Kitchens	Stainless 316L (BS EN 10088-3)
EV Charger Zones	IP67 + UV stability certification

I. LIGHTING
(BS 7671:2022 Amd 2 §559 | BS EN IEC 60598-1:2024 | Part L 2023)

Recessed Fixtures:

Fire rating: EI 60 minimum where penetrating ceilings (BS EN 1365-2:2024)

Thermal management: Built-in temperature cut-offs (BS EN 62386-306)

Lamps:

Smart-ready drivers (BS EN IEC 62386-105:2024)

Circular economy compliance: Lamps must be field-replaceable (Part L 2023)

J. EQUIPMENT LOCATION
(Building Safety Act 2022 Schedule 3)

Fire compartment boundaries:

No panels within 1.5m of compartment walls (BS 9999:2024)

Digital twin coordinates required for high-risk buildings

K. DEMOLITION
(BS 6187:2024 | CDM 2015 Reg 20 (2023 amendment))

Circuit Removal:

Salvage audit: 95% non-ferrous metal recycling (EA Waste Directive)

Asbestos screening: Mandatory before cutting old conduits

Temporary supplies:

Hydrotreated Vegetable Oil (HVO) generators only (Net Zero compliance)

Real-time earth monitoring (BS EN 50522:2024)

WIRE & CABLE

FEEDERS:
Copper conductors only. Insulation: 90°C thermosetting (e.g., BS EN 50525-2-21 H07Z-R) or equivalent meeting BS 7671 Table 5.1. Minimum rating: 90°C.

COLOUR CODE:
All wiring: UK harmonised colours (BS 7671 Table 51 / Fig 51B):

Single-Phase: Brown (L), Blue (N), Green/Yellow (CPC).

Three-Phase: Brown (L1), Black (L2), Grey (L3), Blue (N), Green/Yellow (CPC).
Pre-2004 colours (e.g., Red/Black) prohibited.

CONDUCTORS:
All conductors: Copper. Minimum size:

1.5 mm² (lighting circuits),

2.5 mm² (general socket/radial circuits).
(Note: 1.0 mm² permitted for lighting per BS 7671, but 1.5 mm² specified for robustness/voltage drop).

CIRCUIT PROTECTIVE CONDUCTORS (CPC / EARTHING):
All final circuits: Include separate CPC. Minimum size:

1.5 mm² (if mechanically protected) / 2.5 mm² (standard practice) for circuits ≤ 32A with 2.5 mm² phase conductors (per BS 7671 Table 54.7).

CIRCUIT DISTRIBUTION & NEUTRAL SIZING:

For IT equipment/circuits with high harmonic currents:
Neutral conductor ≥ 200% capacity of phase conductors.
(Oversizing required per BS 7671 Appendix 11 to mitigate harmonic overheating).

VOLTAGE DROP MANAGEMENT:
230V circuits > 30 metres run length:
Size conductors to ensure ≤ 3% drop (lighting) / ≤ 5% drop (other) (BS 7671 Appendix 4). Typically requires ≥ 4.0 mm² for longer runs/higher loads.

SPECIFICATIONS

A. TRUNKING, BOXES AND CONDUITS:
1. OUTDOOR WIRING METHODS – INSTALLATION TO BE IN ACCORDANCE WITH BS 7671 AND BS EN STANDARDS:
a. Exposed installations: Use galvanised steel conduit to BS EN 61386.
b. Concealed installations: Use heavy-gauge steel conduit in compliance with BS EN 61386.
c. Underground installations: Use heavy-duty PVC-U ducting conforming to BS EN 61386-24 unless otherwise stated.
d. Connection to vibrating equipment: Use liquid-tight flexible metallic conduit or steel-wire armoured flexible cable.
e. Boxes and enclosures: Minimum IPX4 or IP65-rated enclosures for outdoor use.

2. INDOOR WIRING METHODS:
a. Connection to vibrating equipment: Use flexible metallic conduit or SY cable. In wet/damp areas, use liquid-tight conduit or equivalent rated cabling.
b. Damp or wet locations: Use galvanised steel conduit or SWA cable rated for the environment.
c. Exposed locations: Use galvanised steel conduit or surface-mounted trunking systems.
d. Concealed installations: Use steel conduit or LSZH (Low Smoke Zero Halogen) twin & earth cable in trunking or chased into walls.
e. Boxes and enclosures: Use IP20-rated boxes for dry indoor locations, IP66 stainless steel or GRP for wet/damp areas.

3. All final circuits in finished areas shall be installed concealed wherever practical.
4. Minimum conduit/trunking size shall be 20 mm diameter (or equivalent cross-sectional area).
5. All conduit fittings shall be of metallic compression type, with nylon grommets or insulated bushings at entry points.
6. All wiring shall be installed neatly, clipped or supported as high as practical and routed parallel/perpendicular to walls or ceiling lines.
7. Exposed extra-low voltage wiring (e.g. data, fire, security) shall be installed within suitable trunking or conduit unless otherwise indicated.
8. Install 100 mm square boxes (minimum) with appropriate surface or flush front plates as required.
9. Where walls are to be dry-lined or faced, and existing accessories are retained, provide approved back box extensions or relocate to align with new surface finishes.

B. CABLES AND CONDUCTORS
1. All fixed wiring shall be copper conductors, with LSZH insulation complying with BS EN 50525 or BS 6004. Minimum size: 1.5 mm² for lighting, 2.5 mm² for sockets.
2. All cable sizes and current ratings shall comply with BS 7671 and the IET On-Site Guide.
3. Armoured or flexible metallic cables shall include an internal green/yellow CPC (Circuit Protective Conductor) unless otherwise specified.
4. For radial or ring final circuits over 30 metres, increase conductor size to reduce voltage drop in accordance with BS 7671, typically to 4 mm².

C. WIRING ACCESSORIES AND COMMUNICATION OUTLETS
1. Verify exact location of all outlets, accessories and communication points with the Contract Administrator or Architect prior to installation. Minor relocations (within 1.5 m) shall be made without additional cost to the Employer.
2. Accessory faceplates shall be selected for finish and colour by the Architect (e.g., stainless steel, white moulded, etc.).
3. Data and communications outlet locations to be confirmed with Architect. Structured cabling and telephone wiring by specialist installer (others).
4. All fixings and supports shall meet BS 7671 regulations and relevant building standards. Provide robust, non-corrosive support systems.

D. ELECTRICAL IDENTIFICATION
1. All distribution boards, isolators, and major electrical equipment shall be fitted with engraved traffolyte or equivalent labels, with minimum 25 mm high characters where visible to the public, 10 mm for plant room usage.
2. Label access panels and doors concealing electrical apparatus with appropriate safety and identification signage in accordance with BS 7671 and Health & Safety regulations.

E. EARTHING & BONDING
1. All installations shall be earthed and bonded to comply with BS 7671 (latest edition). Equipotential bonding shall be provided as required.
2. All final circuits shall include a CPC. All socket circuits shall include a minimum 2.5 mm² CPC for 2.5 mm² ring final circuits or 1.5 mm² CPC for 1.5 mm² radial circuits.
3. Where a separately derived system (e.g., transformer or generator) is installed, provide a TT, TN-S, or TN-C-S earthing arrangement in accordance with design and local DNO approval.

F. DISTRIBUTION BOARDS
1. 'Space' in a distribution board shall include provision for future circuit protection devices, neutral and earth bars, and proper labelling.
2. Final circuit layout and board schedules must match the design drawings. Any changes must be authorised by the project engineer.
3. Distribution board busbars shall be copper. All final circuit breakers shall be Type B or C MCBs or RCBOs as appropriate.
4. Confirm characteristics of motor protection devices (curve types, trip ratings) with the mechanical services provider prior to ordering.
5. Surface-mounted boards shall be installed with Unistrut-type steel framing or equivalent to provide structural support and clearances from the wall.
6. For recessed boards, provide a 20 mm conduit stub for every 3 spare ways to allow future additions.
7. Distribution boards to be from reputable manufacturers such as Schneider (Acti9), Hager, Eaton, ABB, or equivalent with UKCA/CE marking.
8. Provide neatly typed and framed circuit schedules at each board showing clearly the load served by each circuit. All existing schedules impacted by new works shall be updated accordingly.

ABBREVIATIONS

A Ampere
AFF Above Finished Floor
AIC Amps Interrupting Capacity (Minimum)
BCP Bonding Conductor Protective
CB Circuit Breaker
C Conduit
CCT Circuit
CPC Circuit Protective Conductor
EC Empty Conduit
(E) Existing to remain, continue in service
FA Fire Alarm
FLA Full Load Current (Amps)
G Earth (Ground – UK uses "Earth")
HP Horsepower
Ics/IcuShort-Circuit Breaking Capacity (BS EN 60947-2)
IP Ingress Protection Rating
kVA Kilovolt-Amps
kW Kilowatt
L Live
LSZH Low Smoke Zero Halogen
LTG Lighting
MCB Miniature Circuit Breaker
MH Mounting Height
MLO Main Lug Only (not common in UK – state "main terminals only")
N Neutral
(N) New item
NIC Not in Contract
OEM Original Equipment Manufacturer
OFCI Owner Furnished Contractor Installed
P Pole (e.g., 1P, 3P)
PNL Panel (Distribution Board / Consumer Unit)
PH / Ø Phase
(R) Remove existing and relocate
(RE) Relocated equipment
RECPT Receptacle (UK: Socket Outlet)
RCD Residual Current Device
SPD Surge Protective Device
SWA Steel Wire Armoured Cable
TBD To Be Determined
UON Unless Otherwise Noted
V Volt
W Wire
W/ With
WP Weatherproof (IP rated)
XFMRTransformer
(X) Remove with all associated wiring

SYMBOLS/LEGENDS

- WALL LIGHT 10W
- ADJUSTABLE FRAME RECESSED DOWLIGHT 40W
- 30W CEILING MOUNT SANDAL LIGHT
- 10W CEILING MOUNT SANDAL LIGHT
- 40W CEILING MOUNT SANDAL LIGHT
- IP RATED RECESSED DOWLIGHT 20W
- 3-GANG ROCKERY SWITCH
- 2-GANG ROCKERY SWITCH
- SINGLE GANG ROCKERY SWITCH
- SD SMOKE DETECTOR
- EXTRACT FAN 40W
- LINEAR LED STRIP

- DOUBLE SOCKET OUTLET 230V
- Single Socket
- COOKER/HOB
- HOOD
- FRIDGE/FREEZER
- 5 AMP SOCKET FOR LIGHTING 230V
- Microwave
- Wine Cooler
- MID LEVEL DOUBLE SOCKET OUTLET 230V
- HIGH LEVEL DOUBLE SOCKET OUTLET 230V
- LOW LEVEL DOUBLE SOCKET OUTLET 230V
- HIGH LEVEL SINGLE SOCKET OUTLET 230V
- UFH UNDER FLOOR HEATING
- AC COMFORT COOLING CONTROL
- VE VIDEO ENTRY SYSTEM
- INTRUDER ALARM MOTION SENSOR
- CCTV CAMERA
- PIR MOTION SENSOR FOR LIGHTING
- CT CAT6 TO THE COMMUNAL DISTRIBUTION BOX (BT)
- D CAT6 INTERNAL ETHERNET
- SD SMOKE DETECTOR
- S+CO SMOKE & CARBON MONOXIDE DETECTOR WITH SOUNDER
- EXTRACT FAN
- FUSE BOX
- 3-GANG ROCKERY SWITCH
- 2-GANG ROCKERY SWITCH
- SINGLE GANG ROCKERY SWITCH
- SPUR FUSED SPUR SWITCH
- SS SHAVER SOCKET
- HD HEAT DETECTOR WITH SOUNDER
- CS CEILING RECESSED SPEAKER
- DC DOOR CONTACT SENSOR FOR LIGHTING
- K INTRUDER ALARM KEYPAD
- USB HIGH USB SOCKET OULTET
- WCS INTRUDER ALARM WINDOW CONTACT SWITCH
- DCS INTRUDER ALARM DOOR CONTACT SWITCH

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CONFIDENTIALITY STATEMENT:
ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:
1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REFERENCE:
0146-ETE-110CS-GF-R-MEP-000,
0146-ETE-110CS-GF-DR-E-40802 (Rev00)

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
03	Fix HVAC system and add new system	07/21/26	AA
04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: GENERAL NOTE FOR ELECTRICAL PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 0	6

Engineer's Team LTD

Electrical Layout Plan

Scope & Compliance
This Electrical Layout Plan has been prepared for 110 Cannon Street, London, EC4N 6EU, United Kingdom. The design and documentation of all electrical distribution systems, circuits, protective devices, earthing and bonding arrangements, panelboards, cabling, lighting, power outlets, and associated components are provided in accordance with all applicable updated codes, statutory rules, guidelines, and product approval requirements enforced by the relevant UK regulatory authorities and the Authority Having Jurisdiction (AHJ) in London.

Governing Codes & Standards
All electrical design, installation, verification, and safety requirements referenced in this plan are based on the following current UK standards and regulatory frameworks:
a. British Standard BS 7671:2018 + Amendment 3 (18th Edition) — "Requirements for Electrical Installations (IET Wiring Regulations)" — the national standard governing the design, installation, inspection, testing and maintenance of electrical installations in the UK, covering circuits up to and including 1000 V AC and 1500 V DC across domestic, commercial, and industrial premises. The current consolidated edition and its latest amendments form the basis of design criteria, protective measures, and safety compliance.
b. Electricity at Work Regulations 1989 — requiring that all electrical systems are designed and maintained to prevent danger and risk of injury or fire. Compliance with BS 7671 is recognised as demonstrating adherence to these statutory safety obligations.
c. UK Building Regulations (including Part P where applicable) — binding requirements that electrical installations in buildings must meet minimum safety standards, and for certain work may require notification or approval from Building Control or a Competent Person Scheme.
d. Statutory and Local Authority Requirements — including any London-specific electrical safety ordinances, inspection and certification regimes, and coordination with utility supply standards for connection and metering interfaces.

Product & Equipment Approval — "110 Cannon Street, London, EC4N 6EU, United Kingdom" Product Approval Codes
a. All electrical materials, devices, components, and equipment indicated on this plan—including cables, conduits, consumer units, switchgear, protective devices (MCBs, RCDs, AFDDs), socket outlets, lighting fixtures, earthing systems, and control devices—shall be third-party listed, certified, or approved for UK use with appropriate marking (e.g., UKCA or CE where accepted under transitional arrangements).
b. Products shall comply with relevant British Standards, harmonised European standards, or recognised international standards applicable for the intended application, environment and voltage rating.
c. Manufacturer technical data sheets, certification, performance ratings and installation instructions for major electrical components shall be submitted for review and approval prior to procurement and installation.
d. Any proposed substitution of materials or equipment not explicitly specified on this plan shall be submitted in writing for review and written approval by the design professional and the AHJ prior to implementation.
e. Products not meeting the mandated approval criteria shall not be installed; the AHJ reserves the right to reject any equipment or assembly that does not conform to the applicable regulatory framework.

Permitting, Inspection & Certification
a. All electrical works shall be carried out under a valid electrical installation notification or permit, as required by the relevant Building Regulations, Competent Persons Scheme, or local authority inspection regime.
b. Staged inspections (e.g., initial, intermediate/rough-in, and final testing) shall be arranged with the AHJ or approved scheme body. Certification documents, including Electrical Installation Certificates and schedules of test results, shall be completed in accordance with BS 7671 model forms or equivalent approved formats.
c. Only qualified and competent persons (registered electricians and installers recognised under the applicable UK schemes) shall perform electrical installation, testing and certification tasks.

Design & Installation Criteria / Field Coordination
a. The electrical system has been designed with correct conductor sizing, breaker coordination, earth fault loop impedance values, voltage drop limits, segregation of circuits, protective device selection, and compliance with BS 7671's requirements for safety, performance and durability.
b. Earthing and bonding arrangements, protective conductor sizes and installation practices are designed to mitigate shock and fire hazards, in accordance with BS 7671 protective provisions and relevant statutory requirements.
c. Special locations (e.g., wet areas, external circuits, EV charging points) are provided with additional protection measures as required by BS 7671 and recognised best practice guidance.
d. Product placement, access for maintenance, clearances around switchgear, and coordination with other building services (mechanical, plumbing, fire protection, telecommunications) shall be verified on site by the installing contractor.

Testing, Commissioning & Documentation
a. Prior to energisation, all circuits shall be tested (continuity, insulation resistance, polarity, loop impedance, RCD operation, functional checks) in accordance with BS 7671 requirements and recorded on appropriate test schedules.
b. Any deviations discovered during testing shall be rectified and re-tested before final certification.
c. Final documentation—including as-built drawings, test results, installation certificates, and product submittals—shall be compiled and provided to the owner and AHJ as part of the project completion package.

Deviations, Clarifications & Field Changes
Any proposed deviation from this approved layout plan or from the referenced codes and standards shall be documented and submitted in writing for review and written approval from both the design professional and the AHJ before any modification is carried out in the field.

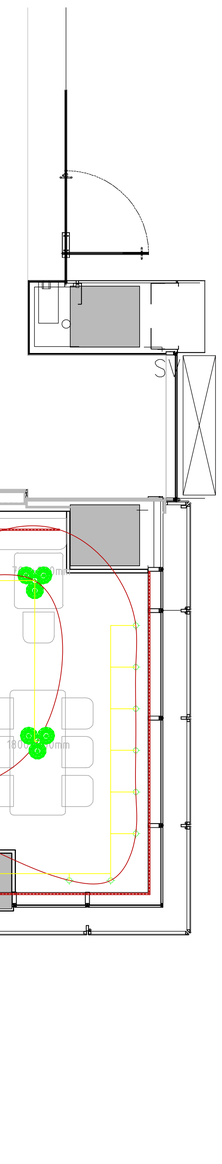
Contractor Responsibility & Limitation of Design Liability
This Electrical Layout Plan and accompanying notes constitute design and permit documentation only. The contractor is responsible for ensuring that all electrical installations, field connections, means and methods, safety practices, and coordination with other trades meet the requirements of applicable codes, regulations and manufacturer instructions. The design professional's liability is limited to the design scope; final compliance is subject to inspection, certification and acceptance by the AHJ.

Important Note:

1. The consumer unit is currently located where there used to be a leak. It is now being proposed to move to another wall on the side.

RCP's Legend

WALL LIGHT 10W	3-GANG ROCKERY SWITCH
ADJUSTABLE FRAME RECESSED DOWLIGHT 10W	2-GANG ROCKERY SWITCH
30W CEILING MOUNT SANDAL LIGHT	SINGLE GANG ROCKERY SWITCH
10W CEILING MOUNT SANDAL LIGHT	SMOKE DETECTOR
40W CEILING MOUNT FLOWER SANDAL LIGHT	EXTRACT FAN 40W
IP RATED RECESSED DOWLIGHT 20W	LINEAR LED STRIP
CCTV CONTROL PANEL	AV BOX
FIRE PROTECTION CONTROL PANEL	ELECTRICAL WIRE
MAIN PANEL	10W SPOT LIGHT
IAQ PCD SUPERVISOR	PCD1 PLANT CONTROLLER
SBC CONTROLER	MODBUS



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REFERENCE:
0146-ETE-110CS-GF-R-MEP-001,
0146-ETE-110CS-GF-DR-E-40802 (Rev00)

REV. NO.	DESCRIPTION	DATE	BY
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04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

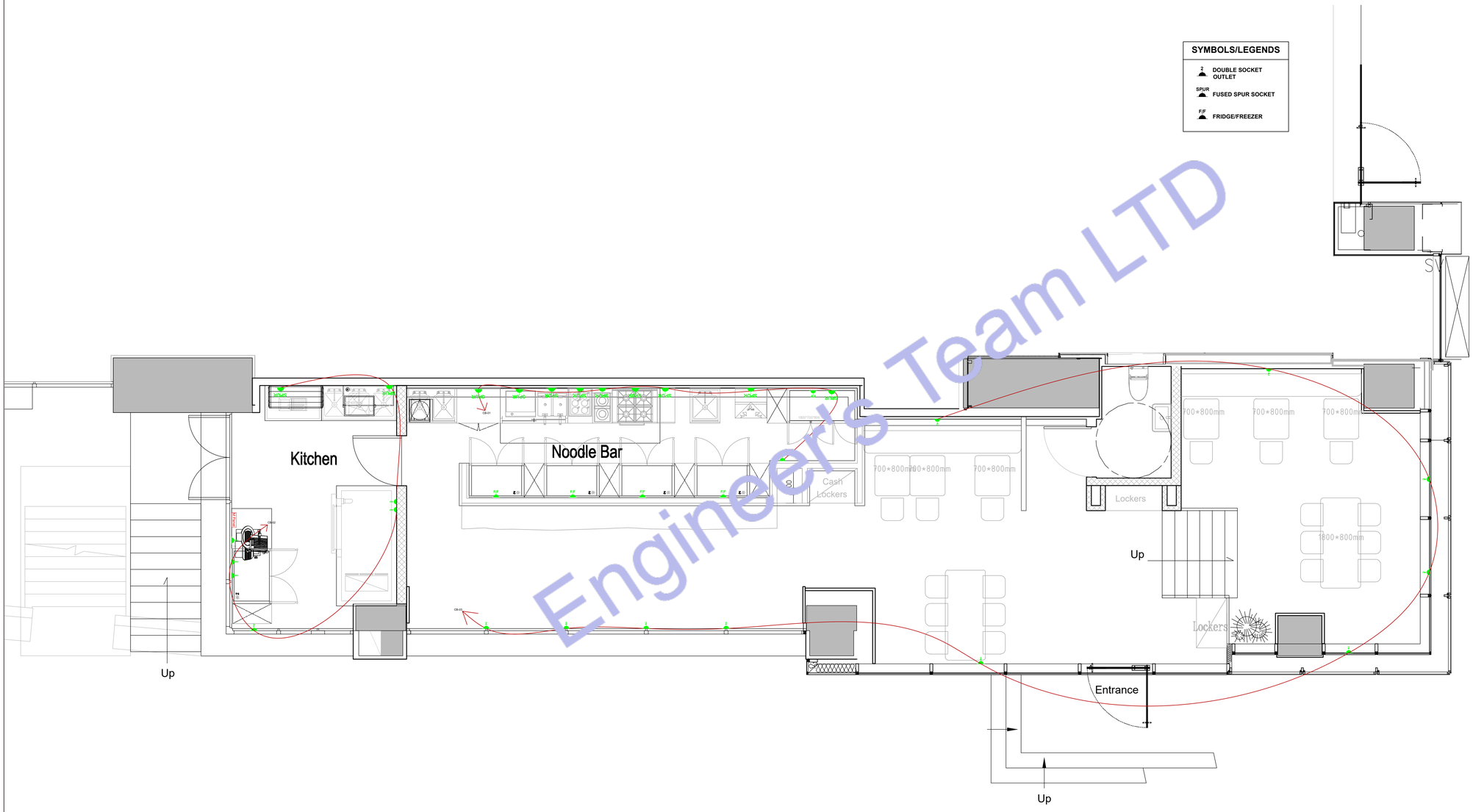
PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED ELECTRICAL LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 1	6



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REFERENCE:
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0146-ETE-110CS-GF-DR-E-40802 (Rev00)

REV. NO.	DESCRIPTION	DATE	BY
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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED POWER LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 2	6

MAIN PANEL

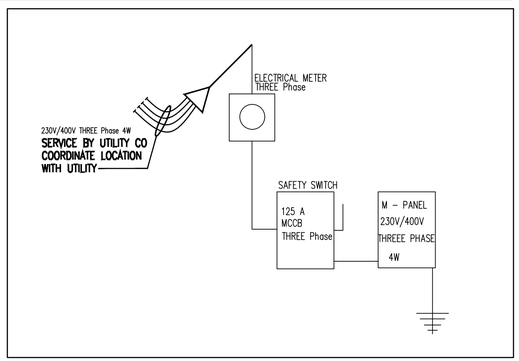
Panel Location-					
Voltage (Phase-Ground/Phase-Phase)	230	400	Source of Supply-From Service Disconnect/Meter		
Phase-	1		Wire-	3	
Rated Amps-	125		AIC-	10k	
MCCB	125 Amps MCCB		Mounting-	Wall Surface	

Circuit	Description	New/ Existing	Load Type	Breaker Size	Poles	Wire Size	A		B		C		Wire Size	Poles	Breaker Size	Load Type	New/ Existing	Description	Circuit
1						50	20945	20945					50						2
3	All Loads	N	SPD	125	3	50			36181	36181			50	3	125	RCD	N	All Loads	4
5						50					25855	25855	50						6
7	LIGHTNING LOADS	N	MCB, Type-B	10	1	1.5	830	5167					6						8
9	GLASS WASHER	N	MCB, Type-B	20	1	2.5			2500	5167			6	3	25	MCB, Type-B	N	HVAC VRF	10
11	STABLETOP DOUBLE TANK FRYER	N	MCB, Type-B	25	1	2.5					5000	5167	6						12
13						2.5	2335	3335					2.5						14
15	DOUBLE HEAD INDUCTION CLAYPOT STOVE	N	MCB, Type-B	20	3	2.5			2335	3335			2.5	3	20	MCB, Type-B	N	FOUR BURNER COOKING RANGE WITH OVEN	16
17						2.5					2335	3335	2.5						18
19						2.5	2000	2000					2.5						20
21	TABLE TOP ELECTRIC GRIDDLE	N	MCB, Type-B	20	3	2.5			2000	2000			2.5	3	20	MCB, Type-B	N	SIX-BASKET FL FCTRIC NOODEF COOKER	22
23						2.5					2000	2000	[illegible]						24
25						2.5	2000	300					2.5	1	20	MCB, Type-B	N	SUCER	26
27	WATER HEATER	N	MCB, Type-B	20	3	2.5			2000	1000			[illegible]	1	20	MCB, Type-B	N	REFRIGERATOR 2	28
29						2.5					[illegible]	[illegible]	2.5	1	20	MCB, Type-B	N	REFRIGERATOR 4	30
31	REFRIGERATOR 1	N	MCB, Type-B	20	1	2.5	1000	1000					2.5	1	20	MCB, Type-B	N	REFRIGERATOR 6	32
33	REFRIGERATOR 3	N	MCB, Type-B	20	1	2.5			1000	750			2.5	1	20	MCB, Type-B	N	CB-01	34
35	REFRIGERATOR 5	N	MCB, Type-B	20	1	2.5					[illegible]	750	2.5	1	20	MCB, Type-B	N	CB-02	36
37						2.5	68	442					2.5	1	20	MCB, Type-B	N	HVAC MVHR	38
39	HOOD EXHAUST	N	MCB, Type-B	20	4	2.5			[illegible]	[illegible]			2.5	1	20	MCB, Type-B	N	FRONT DINING AREA EXTRACTOR FAN	40
41						2.5					68	1200	2.5	1	20	MCB, Type-B	N	CB-03	42
43						2.5	68	400					2.5	1	20	MCB, Type-B	N	EXTRACT FANS, ALL LV SYSTEMS	44
45	CASSETTE INDOOR UNIT-1	N	MCB, Type-B	35	1	6			[illegible]	7000			6	1	35	MCB, Type-B	N	CASSETTE INDOOR UNIT-2	46

	A	B	C	Total
Connected Load (W)	[illegible]	36181	25855	82981
Connected Amps	119.78			
Main Type and Amp Rating	125 Amps MCCB			

Demand Load Calcultion

Load Classification	Connected Load	Demand Factor	Estimated Demand
Lighting - Commercial Unit	830	125%	1037.5
Water Heater - Commercial Unit	6000	100%	6000
Receptacle	46250	65%	30062.5
Cooling	15501	100%	15501
Pump	0	125%	0
Other	0	100%	0
Demand Load	68581		52601
Demand Amps			76.23333333



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0146-ETE-110CS-GF-DR-E-40802 (Rev00)

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
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PROJECT: 25 WILBURY AVENUE

TITLE: ELECTRICAL SCHEDULE

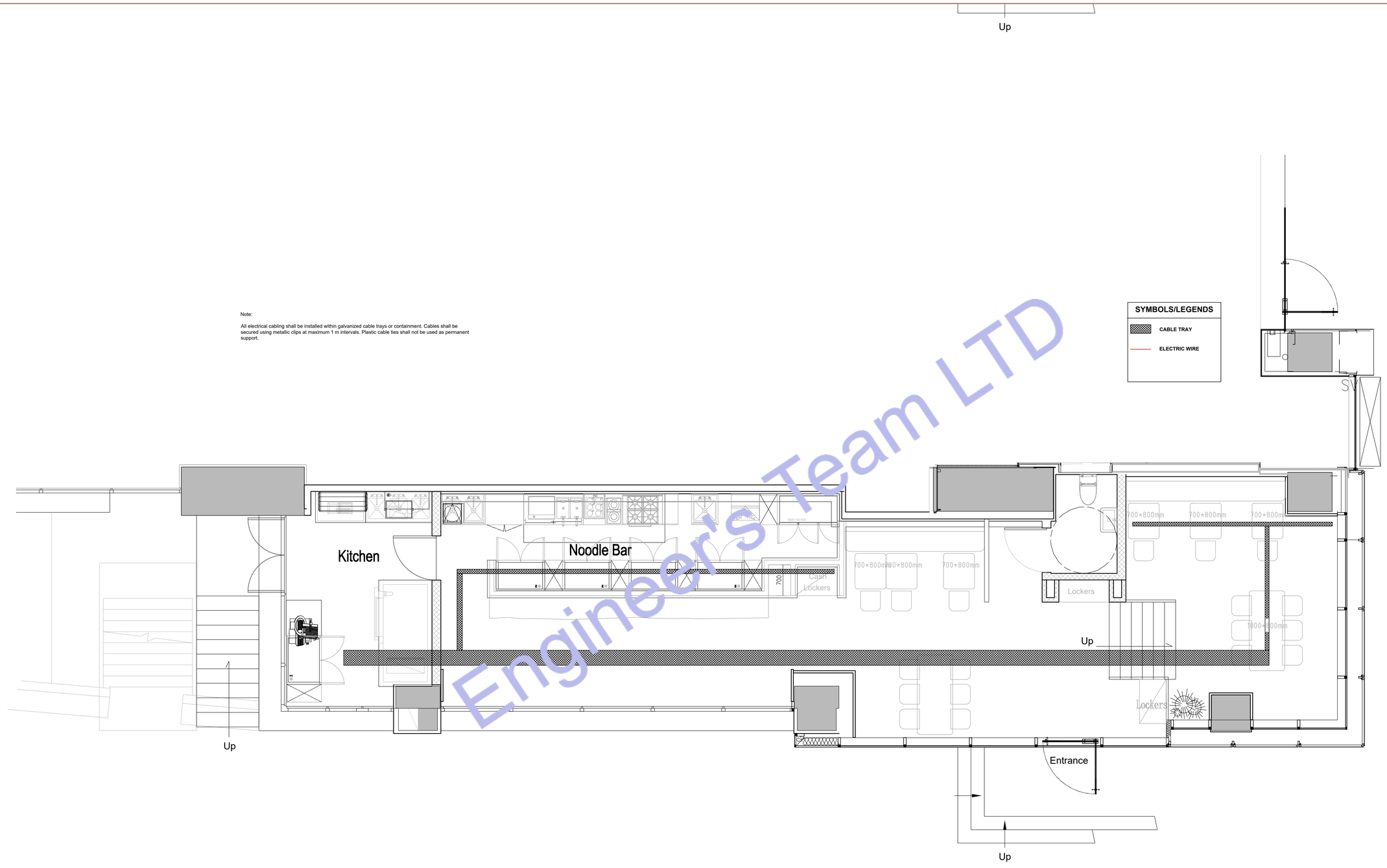
PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 3	6

Note:

All electrical cabling shall be installed within galvanized cable trays or containment. Cables shall be secured using metallic clips at maximum 1 m intervals. Plastic cable ties shall not be used as permanent support.



SYMBOLS/LEGENDS

	CABLE TRAY
	ELECTRIC WIRE

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PROJECT: 25 WILBURY AVENUE

TITLE: ELECTRICAL CABLE TRAY PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 4	6

GENERAL NOTES:

1. A LISTED INTERSYSTEM BONDING TERMINATION PROVIDING THE REQUIRED NUMBER OF TERMINALS (MINIMUM OF THREE) FOR CONNECTING OTHER BUILDING SYSTEMS TO THE GROUNDING SYSTEM OF THE ELECTRICAL POWER SUPPLY (NEC250.94).

KEY NOTES: (#)

1. ALL METAL CONDUITS ENCLOSING ANY SERVICE SHALL BE FITTED WITH A "BONDING BUSHING".
2. ALL METAL CONDUITS ENCLOSING ANY GROUNDING ELECTRODE CONDUCTOR SHALL BE FITTED WITH A "BONDING BUSHING" AT EACH END.
3. PROVIDE GROUNDING ELECTRODE PER NEC. ELECTRODE SHALL BE IN THE FORM OF A 20'-0" x 1/2" COPPER CLAD GROUND ROD LAID AT LEAST 2" OFF THE BOTTOM OF A CONCRETE FOOTING. SECURE THE GROUND ROD TO THE REBAR WITH STEEL TIE WRAPS. IF THE REBAR BEING USED IN THE FOOTING IS SMALLER THAN 1/2" (#4), THEN USE 20' OF BARE SOLID #4 COPPER WIRE IN PLACE OF THE GROUND ROD. IN REMODEL PROJECTS THAT WILL NOT HAVE NEW FOOTINGS INSTALLED, THIS SUPPLEMENTAL ELECTRODE SHALL BE PER NOTE #4 BELOW OR OTHER ELECTRODE PER NEC 250.52.
4. FOR CONNECTION TO COLD WATER MAIN. CONNECT WITHIN 5 FT. OF CONTACT OF EARTH.
5. IF STRUCTURAL STEEL MEMBER OR REBARS ARE AVAILABLE, BOND IT TO THE SERVICE USING A UL LISTED IRREVERSIBLE CLAMP OR WELDING LUG.
6. PROVIDE A INTERSYSTEM BONDING TERMINATION PER NEC 250.94.

INTERSYSTEM BONDING TERMINATION SHALL:

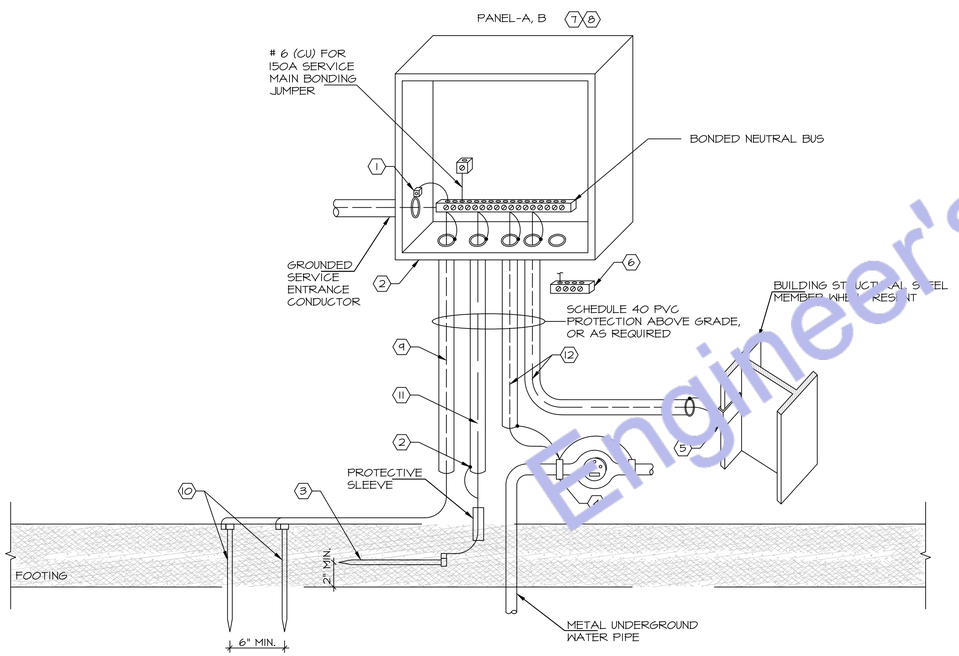
6.1. BE ACCESSIBLE FOR CONNECTION AND INSPECTION.

6.2. CONSIST OF A SET OF TERMINALS (LISTED AS GROUNDING AND BONDING EQUIPMENT) WITH THE CAPACITY OF NOT LESS THAN THREE INTERSYSTEM BONDING CONDUCTORS.

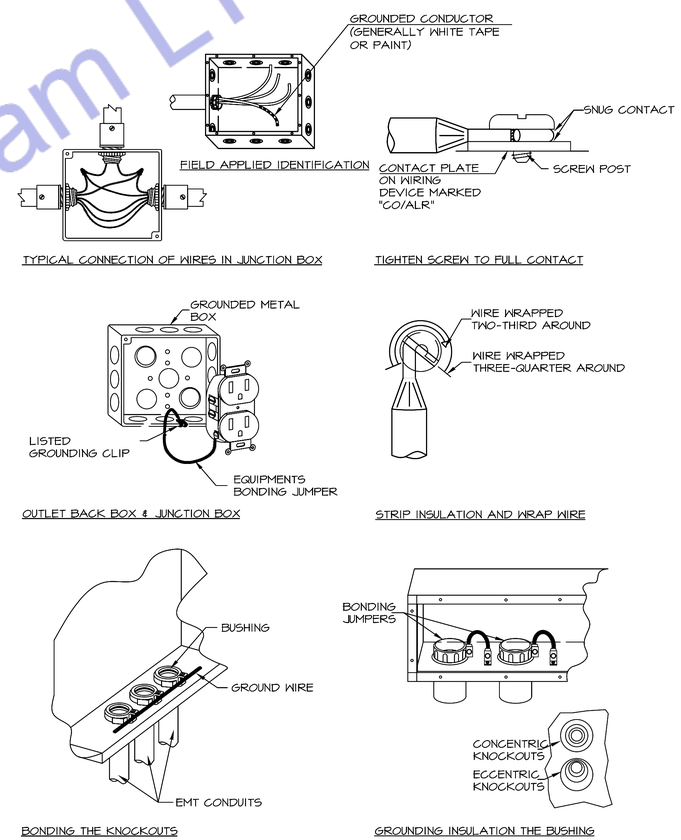
6.3. BE SECURELY MOUNTED AND ELECTRICALLY CONNECTED TO SERVICE EQUIPMENT, METER ENCLOSURE, OR EXPOSED NON METALLIC SERVICE RACEWAY, OR BE MOUNTED ON ONE OF THESE ENCLOSURES AND BE CONNECTED TO THE ENCLOSURE OR GROUNDING ELECTRODE CONDUCTOR WITH A MINIMUM #6 CU CONDUCTOR.

6.4. BE SECURELY MOUNTED TO THE BUILDING'S DISCONNECTING MEANS, OR BE MOUNTED AT THE DISCONNECTING MEANS AND BE CONNECTED TO THE METALLIC ENCLOSURE OR GROUNDING ELECTRODE CONDUCTOR WITH A MINIMUM #6 CU CONDUCTOR.

7. ALL BRANCH CIRCUIT AND FEEDER CONDUITS ARE TO HAVE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR REGARDLESS OF THE CONDUIT MATERIAL.
8. WHEN THE SERVICE CONSISTS OF MULTIPLE DISCONNECTING MEANS IN SEPARATE ENCLOSURES, CONNECT A TAP CONDUCTOR FROM THE MAIN GROUNDING ELECTRODE CONDUCTOR TO EACH DISCONNECTING MEANS. SIZE THIS TAP BASED ON THE LARGEST SERVICE CONDUCTOR IN THAT SERVICE DISCONNECT ENCLOSURE.
9. #6 COPPER GROUNDING ELECTRODE CONDUCTOR.
10. INSTALL #6 CU TO TWO 5/8"x 8' MIN. GROUND RODS AS SHOWN.
11. #4 COPPER GROUNDING ELECTRODE CONDUCTOR.
12. COPPER GROUNDING ELECTRODE CONDUCTOR. PROVIDE #6 COPPER.



1 E500 GROUNDING ELECTRODE SYSTEM DIAGRAM
SCALE: NOT TO SCALE



2 E500 BOUNDING DETAILS
SCALE: NOT TO SCALE

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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

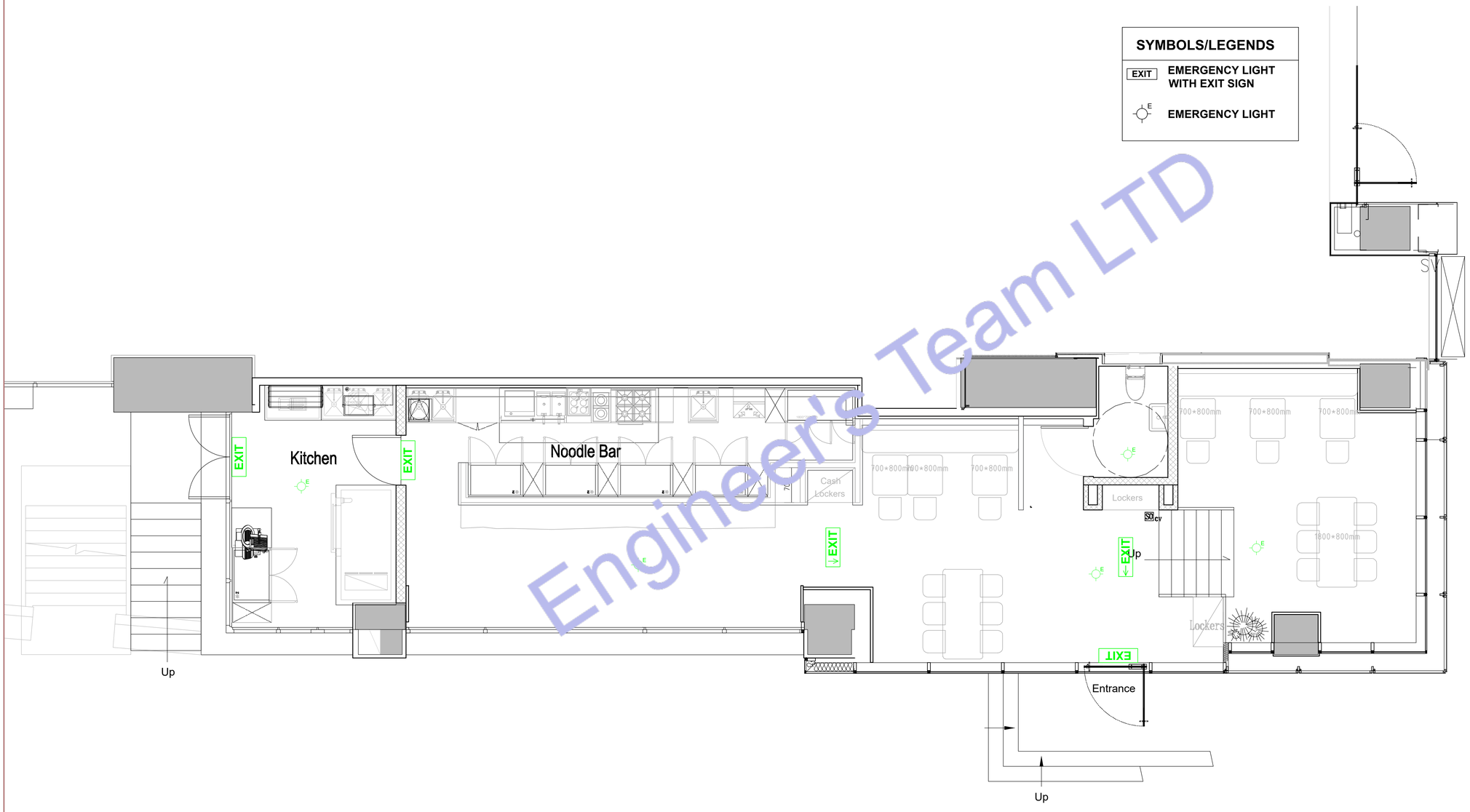
PROJECT: 25 WILBURY AVENUE

TITLE: ELECTRICAL INSTALLATION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
E - 5	6



SYMBOLS/LEGENDS

EXIT	EMERGENCY LIGHT WITH EXIT SIGN
E	EMERGENCY LIGHT

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PROJECT: 25 WILBURY AVENUE

TITLE: **PROPOSED EMERGENCY LIGHTING LAYOUT PLAN**

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
L S - 1	6

FIRE ALARM NOTE:

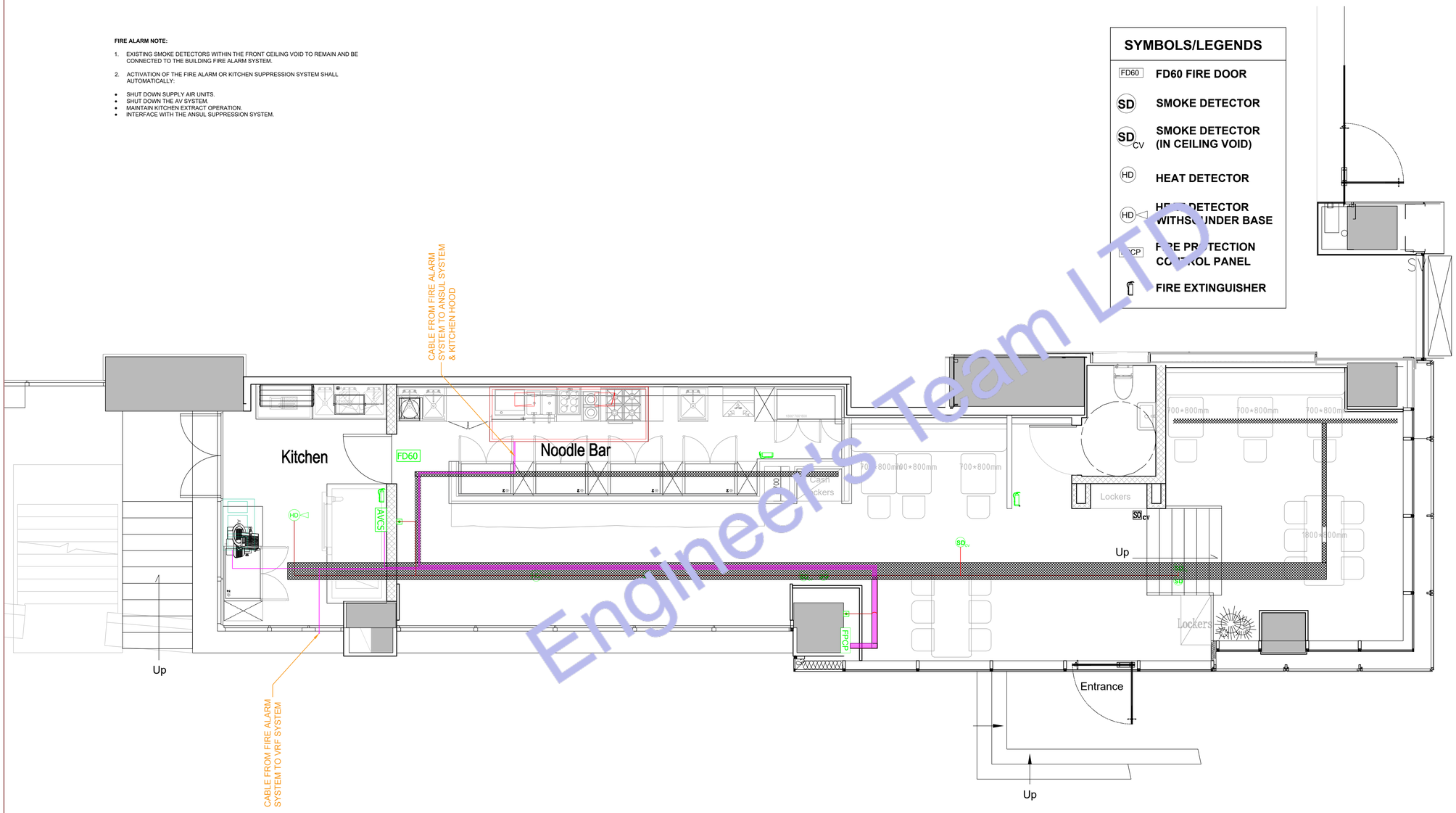
1. EXISTING SMOKE DETECTORS WITHIN THE FRONT CEILING VOID TO REMAIN AND BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.

2. ACTIVATION OF THE FIRE ALARM OR KITCHEN SUPPRESSION SYSTEM SHALL AUTOMATICALLY:

- SHUT DOWN SUPPLY AIR UNITS.
- SHUT DOWN THE AV SYSTEM.
- MAINTAIN KITCHEN EXTRACT OPERATION.
- INTERFACE WITH THE ANSUL SUPPRESSION SYSTEM.

SYMBOLS/LEGENDS

FD60	FD60 FIRE DOOR
SD	SMOKE DETECTOR
SD CV	SMOKE DETECTOR (IN CEILING VOID)
HD	HEAT DETECTOR
HD	HEAT DETECTOR WITHSOUNDER BASE
FPCP	FIRE PROTECTION CONTROL PANEL
	FIRE EXTINGUISHER



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REFERENCE: 0146-ETE-110CS-GF-DR-E-40801 (Rev00)

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PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED FIRE ALARM SYSTEM LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
L S - 2	6

Means of Escape Strategy
Location: 110 Cannon Street, London, EC4N 6EU, United Kingdom

The proposed Means of Escape Strategy for the above restaurant premises has been developed in accordance with the requirements of the Building Regulations 2010 (as amended) and relevant UK fire safety guidance. The strategy ensures that occupants are provided with a safe, clear, and effective means of escape in the event of fire.

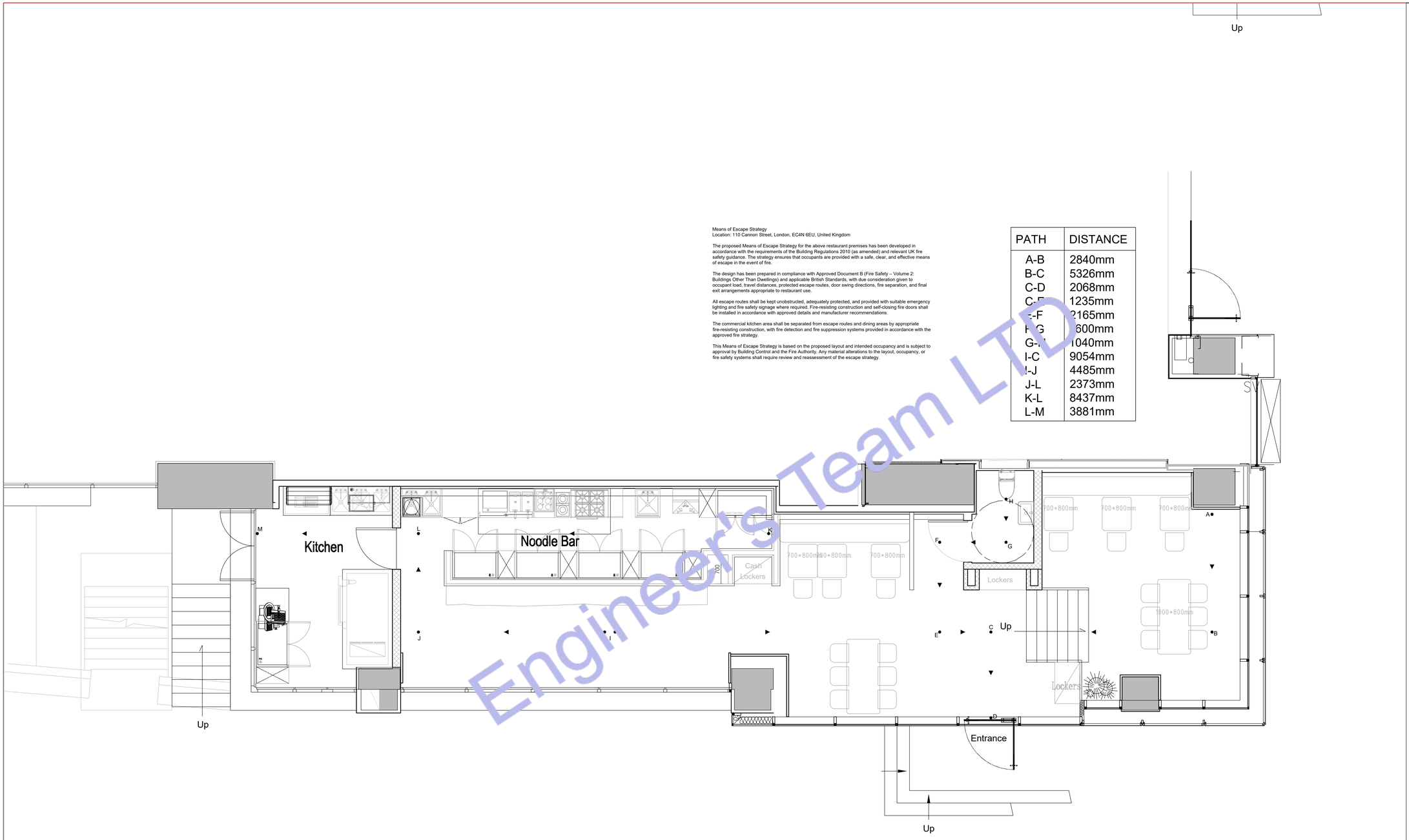
The design has been prepared in compliance with Approved Document B (Fire Safety – Volume 2: Buildings Other Than Dwellings) and applicable British Standards, with due consideration given to occupant load, travel distances, protected escape routes, door swing directions, fire separation, and final exit arrangements appropriate to restaurant use.

All escape routes shall be kept unobstructed, adequately protected, and provided with suitable emergency lighting and fire safety signage where required. Fire-resisting construction and self-closing fire doors shall be installed in accordance with approved details and manufacturer recommendations.

The commercial kitchen area shall be separated from escape routes and dining areas by appropriate fire-resisting construction, with fire detection and fire suppression systems provided in accordance with the approved fire strategy.

This Means of Escape Strategy is based on the proposed layout and intended occupancy and is subject to approval by Building Control and the Fire Authority. Any material alterations to the layout, occupancy, or fire safety systems shall require review and reassessment of the escape strategy.

PATH	DISTANCE
A-B	2840mm
B-C	5326mm
C-D	2068mm
C-E	1235mm
E-F	2165mm
F-G	600mm
G-H	1040mm
I-C	9054mm
I-J	4485mm
J-L	2373mm
K-L	8437mm
L-M	3881mm



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REFERENCE: 0146-ETE-110CS-GF-DR-E-40801 (Rev00)

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
03	Fix HVAC system and add new system	07/21/26	AA
04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

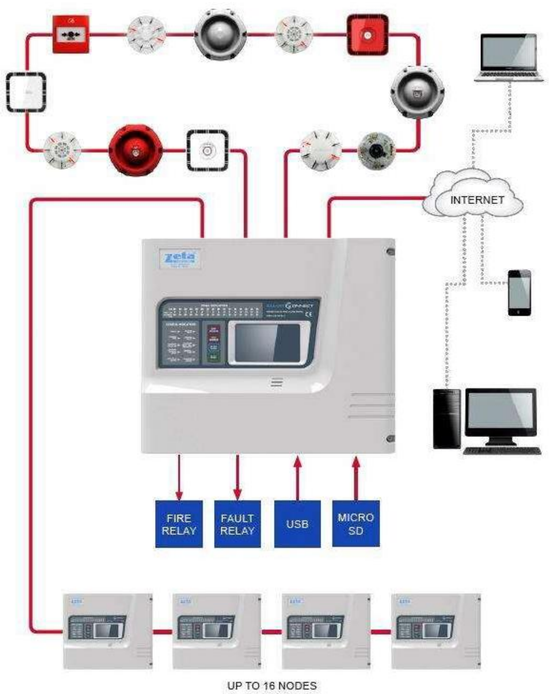
TITLE: PROPOSED MEANS OF ESCAPE STRATEGY PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

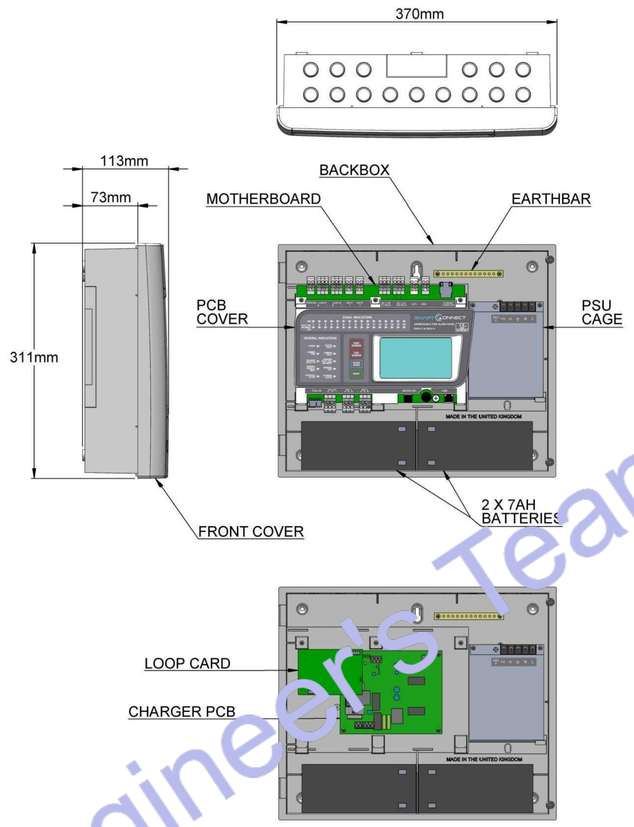
DATE : September 14, 2026

DRAWING NO.	REV.
L S - 3	6

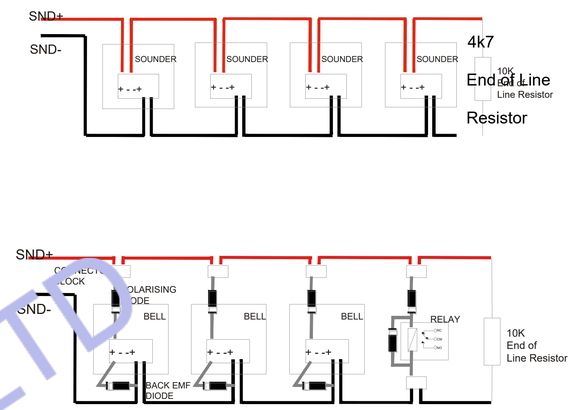
1. ABOUT THE SMART CONNECT FIRE ALARM PANEL



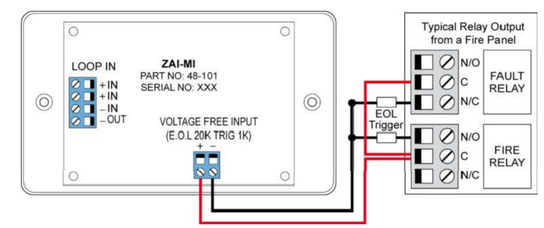
2. PANEL INTERNAL LAYOUT



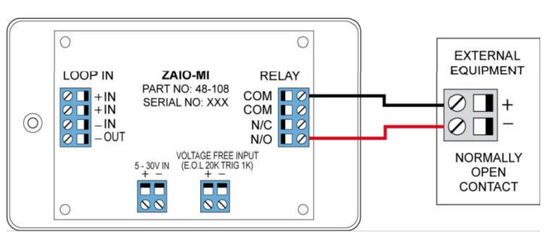
3. PCB CONVENTIONAL SOUNDER CIRCUITS



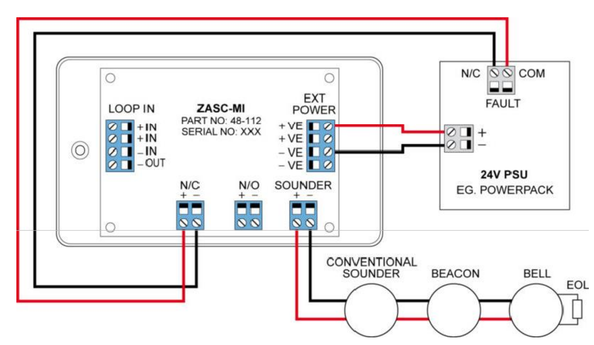
4. ZAI - MI Input Module



5. ZAIO – MI Input/output Module



6. ZASC – MI Sounder Control Module



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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: SMART CONNECTION INSTALLATION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
L S - 4	6

GENERAL SPECIFICATIONS

1. GENERAL (All specifications on this sheet as applicable)

A. Work indicated on these drawings is diagrammatic and shall not be scaled. The drawings are intended to convey the scope of works and indicate the general arrangement of engineered systems. The Contractor shall verify all existing site conditions, dimensions, and services and make all necessary adjustments to complete the works in accordance with the Contract Documents.

B. Provide all labour, materials, plant, tools, equipment, and services required to execute the works in accordance with the Contract Documents. All supplementary or incidental items necessary for a complete, safe, and fully operational installation shall be deemed included, whether or not specifically shown, at no additional cost to the Client.

C. All equipment under this contract shall be fully installed, tested, commissioned, and left operational to the satisfaction of the Client and Engineer. These drawings are intended to represent finished works, tested and ready for use. Wherever the word "provide" is used, it shall mean supply, install, test, and commission complete.

D. All materials and equipment shall be new, of first quality, UKCA/CE marked where applicable, and compatible with existing systems. Installation shall be carried out strictly in accordance with manufacturers' recommendations, relevant British Standards, and recognised good engineering practice.

E. Where existing pipework, ductwork, containment, cabling, or other obstructions are encountered, the Contractor shall remove, reroute, rearrange, or relocate such items as necessary, subject to approval, at no additional cost.

F. The Contractor shall obtain written approval prior to cutting or forming penetrations through slabs, walls, ceilings, roofs, or shafts for services. All disturbed areas shall be made good using matching materials and finishes. All penetrations through fire-resisting elements shall be sealed with approved fire-stopping systems to maintain fire integrity in accordance with Building Regulations Approved Document B.

G. The Contractor shall maintain a clean and safe site at all times. Waste and debris shall be removed regularly. Upon completion, all tools, surplus materials, and temporary works shall be removed and the site left clean and ready for occupation.

2. COORDINATION AND PROGRAMMING

A. The Contractor shall fully coordinate and programme the works of all trades. All existing site conditions shall be verified to avoid conflicts in routing, sequencing, and installation.

B. The Contractor shall be responsible for full coordination between all subcontractors, suppliers, statutory authorities, utility providers, Building Control, the Architect/Engineer, building management, and the Client.

C. No work shall commence until accurate site measurements and verification of existing structures, ceilings, services, and retained installations have been completed, where these may affect the installation of new systems or equipment.

D. Works shall be phased and programmed to minimise disruption to occupied areas. A detailed programme shall be submitted for approval. Temporary partitions, dust control, and protective barriers shall be provided where necessary.

E. The Contractor shall provide a minimum of fourteen (14) days' written notice prior to any required shutdown of utilities and shall obtain written approval before proceeding.

F. The Contractor shall be deemed to have examined the premises and understood all conditions under which the works are to be carried out. No allowance shall be made for errors or omissions arising from failure to inspect the site.

3. CODES, PERMITS, AND INSPECTIONS (UK)

A. All works shall be carried out in accordance with the latest applicable UK legislation, regulations, and standards. The Contractor shall obtain and pay for all required permits and approvals and arrange all inspections by the relevant Authorities Having Jurisdiction.

B. Final approval and sign-off by Building Control and all relevant authorities shall be obtained at project completion. All completion certificates shall be issued and provided to the Client.

C. Works shall comply with the current editions of all applicable British Standards, Building Regulations, and statutory requirements enforced at the project location.

D. Codes and standards referenced represent minimum requirements. Where Contract Documents require a higher standard, the Contract Documents shall take precedence. Any conflicts shall be reported in writing prior to commencement.

E. The Contractor shall comply with all Health and Safety Executive (HSE) requirements, including the Health and Safety at Work Act 1974 and CDM Regulations 2015.

F. The Contractor shall comply with all requirements of statutory utility providers and local authorities.

4. WARRANTY

A. All works shall be free from defects in workmanship and materials for a period of twelve (12) months from the date of Practical Completion. Any defects arising within this period shall be rectified by the Contractor at no additional cost.

5. SHOP DRAWINGS

A. Shop drawings and product data shall be submitted electronically to the Engineer, Architect, and Client for approval. Submittals shall include manufacturers' technical data and certified performance information for all new equipment.

6. RECORD DRAWINGS / AS-BUILTS

A. The Contractor shall maintain a complete and up-to-date set of marked-up drawings on site, recording all changes made during construction. Final as-built drawings and associated documentation shall be submitted to the Client upon completion of the works.

PLUMBING GENERAL NOTES & SPECIFICATIONS

A. All water supply and vent pipework shall be routed as high as practicable and concealed above ceilings unless noted otherwise. All soil and waste pipework shall be routed as high as practicable below floor slab or floor structure unless noted otherwise.

B. All soil and waste pipework shall be installed at gradients appropriate to pipe size and in accordance with BS EN 12056 and Approved Document H. All gradients and invert levels shall be verified prior to installation to ensure correct falls are maintained. The Contractor shall confirm that pipe routes and connections are feasible before commencing works.

C. Provide complete and proper soil, waste, vent, hot water, and cold water connections to all fixtures and equipment, whether or not all branches, fittings, or connections are shown on the drawings. Refer to sanitary waste and water riser diagrams for pipe sizes and system configuration.

D. The potable water system shall be flushed, cleaned, and disinfected in accordance with BS EN 806, Water Supply (Water Fittings) Regulations 1999, and local water authority requirements.

E. The Plumbing Contractor shall coordinate with relevant subcontractors regarding the quantity and locations of access panels required for valves and fittings within walls and ceilings. Access panels shall be provided by the appropriate trade.

F. Where horizontal water pipework conflicts with vent pipework within wall cavities, the Contractor shall provide additional water pipe drops or alternative routing to maintain compliance and accessibility.

G. All pipe penetrations below sinks shall be sealed. All pipe penetrations through floor slabs or fire-resisting elements shall be sealed with approved fire-stopping materials in accordance with Approved Document B.

H. Provide individual isolation valves to all plumbing fixtures and appliances. Valves shall be full-bore WRAS-approved ball valves suitable for potable water systems, with threaded, compression, or soldered connections as appropriate.

I. The Contractor shall verify on site the exact location, depth, and direction of flow of all existing drainage and sewer pipework within the building and below ground prior to commencement of works.

J. All pipework shall be adequately supported from existing or new structure using suitable proprietary pipe hangers and supports. Design, selection, spacing, and installation shall comply with relevant British Standards, manufacturers' recommendations, and good engineering practice.

K. Slab Penetrations: Prior to any cutting or coring of slabs, suitable detection methods (such as ground-penetrating radar or equivalent) shall be used to identify reinforcement, post-tensioning cables, services, or conduits. Written approval from the Structural Engineer shall be obtained before proceeding.

L. The Contractor shall make good all existing finishes, surfaces, and elements damaged during construction to match existing, unless otherwise noted.

M. Provide and install dielectric or insulating unions where connections are made between dissimilar metals, as required to prevent galvanic corrosion.

N. No new pipework shall be installed above new or existing electrical switchboards, distribution boards, panelboards, or motor control centres.

O. Provide escutcheon plates at all locations where pipework passes through walls, floors, or ceilings. Plates shall fully cover penetration openings or sleeves. Finishes shall be chrome or nickel plated in exposed areas and primed/painted finish in concealed areas.

PLUMBING PIPING & INSULATION

DOMESTIC WATER PIPING

1. Above ground domestic water pipework shall be copper tube manufactured in accordance with BS EN 1057, hard-drawn (R250) temper, complete with wrought copper fittings. Joints shall be made using lead-free solder and non-corrosive flux suitable for potable water systems, installed in accordance with Water Supply (Water Fittings) Regulations 1999.

2. Provide full-bore isolation ball valves of dezincification-resistant brass or bronze construction, WRAS-approved for potable water use, with threaded, compression, or soldered ends as appropriate. Valves shall be suitable for the system operating pressure and temperature.

WASTE AND VENT PIPING

1. Soil, waste, and vent pipework shall be installed in accordance with BS EN 12056 and Approved Document H, using one of the following approved materials:

Cast iron soil pipe systems to BS EN 877

Copper waste and vent pipework to BS EN 1057

Galvanised steel pipework where permitted
All fittings shall be compatible with the selected pipe material and system.

2. Plastic pipework (PVC-U, HDPE, or other approved materials) may be used for cold water, hot water, soil, waste, and vent systems where permitted by Building Regulations and the local authority. Vent terminals shall be installed in accordance with Approved Document H. Where roofs are accessible or used by occupants, vent pipes shall terminate at a safe height above roof level in accordance with regulations.

INSULATION

1. Provide thermal insulation to all pipework and equipment in accordance with BS 5422 and Building Regulations Approved Document L. Insulation materials shall have appropriate fire performance classifications in accordance with BS EN 13501-1. Installation shall comply strictly with the insulation manufacturer's instructions. All cold water pipework shall be provided with a continuous vapour barrier to prevent condensation. External pipework insulation shall be protected with a suitable weather-resistant jacket.

1.1. Domestic cold water pipework: minimum 13 mm thickness
1.2. Domestic hot water pipework: minimum 25 mm thickness
1.3. Domestic circulating hot water pipework: minimum 25 mm thickness

PLUMBING CODE NOTES

1. Condensate Drainage
Condensate drains shall not be connected to the sanitary sewer system and shall not discharge into mop sinks or similar plumbing fixtures. Condensate shall be disposed of in accordance with applicable plumbing codes and local AHJ requirements.

2. Water Hammer Arrestors
Provide water hammer arrestors at all quick-closing valves and fixtures, including but not limited to:
Water closets
Dishwashers
Clothes washers
Other solenoid- or fast-acting valve equipment, as applicable
Water hammer arrestors shall conform to ASSE 1010 and be installed in accordance with manufacturer's recommendations.

3. Trap Seal Protection
Provide trap primers or approved barrier-type trap seal protection devices for all floor drains subject to evaporation or infrequent use.
Trap seal protection devices shall comply with ASSE 1072 and shall be installed per the manufacturer's installation instructions.

NATURAL GAS PIPING

1. GENERAL
Gas installation shall conform to the requirements of the Gas Safety (Installation and Use) Regulations (GSIUR), BS 6891, IGEM/UP/2, IGEM/UP/1, and all applicable UK standards and Local Authority / Gas Transporter requirements.

2. PIPING
A. Steel Pipe – 50 mm (2") and Smaller
Carbon steel pipework shall comply with BS EN 10255 (Medium Grade), black steel, threaded ends.
Threaded joints shall be in accordance with BS 21.
Malleable iron threaded fittings shall comply with BS EN 10242, Class A or B.

B. Steel Pipe – 65 mm (2½") and Larger
Carbon steel pipework shall comply with BS EN 10255 (Medium or Heavy Grade), welded joints.
Steel butt-weld fittings shall comply with BS EN 10253.

3. VALVE LOCATIONS
Gas isolation valves shall not be installed within ceiling voids or air plenums and shall remain readily accessible for operation and maintenance in accordance with BS 6891.

4. CONCEALED PIPING
A. Concealed Locations
Gas pipework installed in concealed locations shall use approved permanent jointing methods only.
The following fittings and joint types are not permitted in concealed locations:
Unions
Compression fittings
Gasketed joints
Mechanical couplings
Bushings
Swing joints
Running threads
All concealed joints shall be welded, brazed, or threaded as permitted by UK standards.

B. Piping in Partitions
Gas pipework shall not be embedded in solid walls, concrete, or masonry.
Pipework routed within partitions shall be sleeved or otherwise protected against mechanical damage.
Pipework passing through walls or partitions shall be sleeved and sealed in accordance with BS 6891.

5. UNIONS
Where permitted, unions shall comply with BS EN 10242, malleable iron, ground-joint type, suitable for gas service, and installed only in accessible locations.

6. DIELECTRIC JOINTS
Where dissimilar metals are connected, provide approved insulating joints to prevent galvanic corrosion in accordance with IGEM standards and manufacturer recommendations.

7. CORROSION PROTECTION
Where gas pipework is exposed to corrosive environments or installed externally, pipe and fittings shall be protected using:
Factory-applied protective coating or
Site-applied corrosion protection system suitable for gas installations
Protection systems shall comply with BS EN ISO 12944 and manufacturer requirements.

8. PLUG VALVES (65 mm and Larger)
Plug valves shall comply with BS EN 331 or BS EN 13774, suitable for gas service, with a minimum pressure rating appropriate to the system design.
Gas valves shall not be installed above ceilings.

9. GAS COCKS (50 mm and Smaller)
Gas cocks shall be:
CE-marked and approved for gas service
Bronze or brass body
Suitable for operating pressure of the system
Provided with lever or square head handle
Threaded connections complying with BS 21

10. BALL VALVES
Ball valves shall be:
Full-bore type
CE-marked and approved for gas service
Brass or bronze body with appropriate seals
Rated for the system design pressure
Installed in accessible locations only

11. GAS PRESSURE REGULATORS
Gas pressure regulators shall be:
CE-marked and approved for gas service
Sized for the inlet pressure, outlet pressure, and gas flow rate indicated
Installed in well-ventilated, accessible locations
Regulators shall be vented to atmosphere where required by:
The Gas Transporter
The regulator manufacturer
Vent piping shall:
Be of the same material as the gas pipework
Discharge externally to a safe, non-hazardous location
Terminate with a downward-facing outlet fitted with corrosion-resistant insect screening

12. TESTING AND COMMISSIONING
Gas pipework shall be pressure tested, purged, and commissioned in accordance with:
BS 6891
IGEM/UP/1 or IGEM/UP/2
Gas Transporter requirements
Local Authority and Building Control regulations
Test certificates shall be submitted prior to system energisation.

PLUMBING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
		EXISTING PIPING OR EQUIPMENT TO REMAIN
		EXISTING PIPING OR EQUIPMENT TO BE REMOVED
	CW	DOMESTIC COLD WATER
	HW	DOMESTIC HOT WATER
	HWC	DOMESTIC HOT WATER RECIRCULATION
	WP	SANITARY SOIL AND WASTE
	VP	SANITARY VENT
D	D	DRAIN LINE
PD	PD	PUMPED DISCHARGE
G	G	NATURAL GAS
ST	ST	STORM WATER
		PIPE TURNING UP
		PIPE TURNING DOWN
		VALVE IN VERTICAL
		PIPE BRANCH BOTTOM TAKEOFF
		PIPE BRANCH TOP TAKEOFF
		CAPPED PIPE
		BALL VALVE
		CHECK VALVE
		UNION
		GATE VALVE
	PRV	PRESSURE REDUCING VALVE
		GAS COCK
M		GAS METER
		COMBINATION BALANCING AND SHUT-OFF VALVE
	FDC	FIRE DEPARTMENT CONNECTION
		PIPE DIRECTION OF FLOW
	FD	FLOOR DRAIN
		POINT OF REMOVAL
		POINT OF CONNECTION TO EXISTING
1		KEYED NOTE, DEMOLITION
1		KEYED NOTE, NEW WORK

ABBREVIATIONS

(E)	EXISTING TO REMAIN	KW	KILOWATTS
(R)	EXISTING TO BE REMOVED AND RELOCATED	L	LAVATORY
(RE)	RELOCATED EQUIPMENT	LBS	POUNDS
(X)	DEMOLISHED EQUIPMENT	MAX	MAXIMUM
ABV	ABOVE	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	MBH	THOUSANDS OF BTU'S PER HOUR
BFP	BACKFLOW PREVENTER	MIN	MINIMUM
BTU	BRITISH THERMAL UNITS	MS	MOP SINK
CISPI	CAST IRON SOIL PIPE INSTITUTE	NSF	NATIONAL SANITARY FOUNDATION
CLG	CEILING	OD	OVERFLOW DRAIN
CO	CLEANOUT	OSD	OPEN SITE DRAIN
CONT	CONTINUATION	PH	PHASE
CM	COFFEE MAKER	PSI	POUNDS PER SQUARE INCH
DF	DRINKING FOUNTAIN	RD	ROOF DRAIN
DFU	DRAINAGE FIXTURE UNITS	REF	REFRIGERATOR
DN	DOWN	RL	RAIN LEADER
DW	DISHWASHER	SH	SHOWER
DWG	DRAWING	SK	SINK
EA	EACH	SQ FT	SQUARE FOOT, FEET
ELEC	ELECTRIC, ELECTRICAL	SS	SERVICE SINK
ELEV	ELEVATION	TPV	TRAP PRIMER VALVE
EWC	ELECTRIC WATER COOLER	TS	TAMPER SWITCH
°F	DEGREES FAHRENHEIT	TYP	TYPICAL
FCO	FLOOR CLEANOUT	U	URINAL
FD	FLOOR DRAIN	V	VOLT, VOLTS
GAL	GALLON, GALLONS	VS	VENT STACK
GD	GARBAGE DISPOSAL	VTR	VENT THROUGH ROOF
GPH	GALLONS PER HOUR	W/	WITH
GPM	GALLONS PER MINUTE	WC	WATER CLOSET
HB	HOSE BIB	WH	WATER HEATER
HD	HUB DRAIN	WHA	WATER HAMMER ARRESTOR
IM	ICE MAKER	WS	WASTE STACK
INV	INVERT ELEVATION		

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REFERENCE: 0146-ETE-110CS-GF-DR-P-40502

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PROJECT: 25 WILBURY AVENUE

TITLE: GENERAL NOTE FOR PLUMBING PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 0	6

Engineer's Team LTD

PLUMBING LAYOUT PLAN

Scope & Regulatory Compliance
This Plumbing Layout Plan has been prepared for 110 Cannon Street, London, EC4N 6EU, United Kingdom.
All plumbing systems—including potable cold water supply, hot water generation and distribution, sanitary drainage, venting, stormwater systems, plumbing fixtures, backflow prevention, and associated materials—have been designed and documented to comply with all applicable statutory building regulations, water supply regulations, public health requirements, and water hygiene obligations applicable in England and enforced by the local authority and statutory undertakers.
The design also incorporates measures to control the risk of Legionella bacteria in accordance with current health and safety legislation and guidance.
Applicable Codes, Standards & Regulatory Framework
The plumbing design and installation are based on the following current UK regulations, guidance documents, and standards, as adopted and enforced in England:
a. The Building Regulations 2010 (as amended) – statutory framework governing building works, including plumbing installations, sanitation, drainage, water supply, hygiene, safety, and water efficiency.
b. Approved Document G – Sanitation, Hot Water Safety and Water Efficiency – guidance on the provision of wholesome water, prevention of scalding, water efficiency, and sanitary facilities.
c. Approved Document H – Drainage and Waste Disposal – requirements for foul water drainage, surface water disposal, ventilation, and protection against contamination.
d. The Water Supply (Water Fittings) Regulations 1999 – legal requirements controlling the design, installation, and maintenance of water fittings to prevent contamination, waste, misuse, undue consumption, and incorrect connection of water supplies.
e. HSE Approved Code of Practice (ACoP) L8 – "Legionnaires' disease: The control of legionella bacteria in water systems" – mandatory guidance for the assessment and control of legionella risk in hot and cold water systems.
f. Relevant British Standards (BS / BS EN) applicable to plumbing materials, fittings, pipework, testing, commissioning, and workmanship, as referenced by the above regulations and accepted professional practice.
g. Local Authority and Water Undertaker Requirements (including Thames Water or relevant statutory undertaker) for notification, inspection, approval, and commissioning of plumbing installations.

Product & Equipment Approval
"110 Cannon Street, London, EC4N 6EU, United Kingdom" – Product Approval Requirements
a. All plumbing products, fixtures, valves, fittings, water heaters, storage vessels, backflow prevention devices, traps, wastes, and flexible connectors shall be approved, certified, or listed by recognised third-party schemes acceptable to the Authority Having Jurisdiction (AHJ).
b. All materials and fittings in contact with potable water shall comply with Regulation 4 of the Water Supply (Water Fittings) Regulations 1999, confirming suitability for use with wholesome water.
c. Products shall be WRAS approved, or otherwise demonstrated to meet equivalent regulatory acceptance where WRAS approval is not available.
d. Manufacturer's technical data sheets, installation instructions, performance data, hygiene classifications, and test certificates shall be submitted for review where required.
e. Any proposed alternative or non-standard product shall be submitted for written approval by the design professional and AHJ prior to installation.
f. Non-compliant or unapproved products shall not be installed and shall be replaced at the contractor's cost.

Water Hygiene & Legionella Control (L8 Compliance)
a. The plumbing system design incorporates measures to minimise the risk of Legionella growth, in accordance with HSE ACoP L8 and HSG274 guidance.
b. Hot water systems shall be designed to:
Store hot water at ≥60°C
Distribute hot water such that ≥50°C is achieved at outlets within one minute (or as otherwise justified)
Provide thermostatic mixing valves (TMVs) where required for scald protection
c. Cold water systems shall be designed to maintain water temperatures below 20°C under normal operating conditions.
d. Pipework layouts shall minimise:
Dead legs and redundant pipework
Oversized storage or distribution volumes
Stagnation and low-use outlets
e. Suitable access shall be provided for inspection, flushing, disinfection, temperature monitoring, and maintenance of water systems.
f. The contractor shall support the client's dutyholder obligations by providing installation information necessary for the Legionella risk assessment and ongoing management.

Permitting, Inspection & Statutory Compliance
a. All plumbing work shall be carried out under valid Building Control approval and, where required, notification to the relevant water undertaker in accordance with the Water Supply Regulations.
b. Plumbing installations shall be subject to staged inspections, including:
Rough-in pipework inspection
Pre-concealment testing
Final inspection and commissioning
c. All plumbing works shall be carried out or supervised by competent persons holding appropriate UK-recognised qualifications or scheme registrations, as required by regulation or Building Control.

Design & Installation Criteria / Field Coordination
a. Cold and hot water pipework shall be sized and routed to deliver adequate pressure, flow, temperature stability, and regulatory performance.
b. Drainage and vent systems shall prevent foul air ingress, trap seal loss, blockage, and contamination, and shall connect to approved foul and surface water systems.
c. Hot water systems shall incorporate temperature control, scald protection, and hygiene safeguards in accordance with Approved Document G and L8.
d. Fixture locations, maintenance clearances, and access requirements shall be coordinated with architectural, structural, fire, and MEP systems.
e. Penetrations through fire-rated elements shall be sealed with approved fire-stopping systems to maintain compartmentation integrity.

Testing, Commissioning & Documentation
a. All plumbing systems shall be tested prior to concealment for:
Leak tightness
Pressure performance
Drainage gradients
Venting integrity
b. Commissioning shall include:
Hot and cold water temperature verification
TMV operation testing
Backflow prevention verification
Flushing and disinfection where required
c. Upon completion, submit:
As-built drawings
Test and commissioning records
Manufacturer manuals
Water hygiene and compliance documentation
Deviations & Site Changes
Any deviation from the approved plumbing layout, referenced regulations, Water Supply Regulations, or L8 requirements shall be documented and submitted for written approval by the design professional and AHJ prior to implementation.
Contractor Responsibility & Design Limitation
These drawings and notes form part of the design and regulatory submission.
The contractor is responsible for:
Verification of site conditions
Safe execution and workmanship
Full compliance with Building Regulations, Water Supply Regulations, and L8
Coordination with other trades and authorities
The design professional's responsibility is limited to the defined design scope. Final installation compliance and statutory acceptance remain the contractor's obligation.

WATER DEMAND CALCULATION

Design Standards
BS EN 806
CIBSE Guide G
UK Water Supply (Water Fittings) Regulations
Diversity applied for simultaneous use

FIXTURE & EQUIPMENT FLOW RATES			
FIXTURE / EQUIPMENT	QTY	UNIT FLOW RATE	TOTAL
Tilting filtering food waste sink	1	12 L/min	12
Six-basket electric noodle cooke	1	10 L/min	10
Kitchen sink	6	8 L/min	48
Glass washer	1	6 L/min	6
WC (toilet)	1	6 L/flush (equiv.)	6
Wash hand basin	1	6 L/min	6
TOTAL CONNECTED LOAD		88 L/min	

Diversity Factor
For restaurant and commercial kitchen use:
Diversity factor applied: 0.5
Peak Water Demand:
88 × 0.5 = 44 L/min
Peak Demand = 44 L/min ≈ 0.73 L/s

Water Demand Summary
Total Connected Load: 88 L/min
Design Peak Demand: 44 L/min (0.73 L/s)
Adequate for incoming mains supply and internal pipe sizing
No abnormal increase to base building water demand

WATER DEMAND DESIGN NOTE

Water demand for the restaurant has been calculated in accor[illegible] with BS EN 80[illegible] [illegible]BSE Guide G, and the UK Water Supply (Water Fittings) Regulati[illegible]s.

The calculation is based on the installed catering e[illegible] [illegible]ment a[illegible] sanitar[illegible] fixtures, including food waste sink, noodle cooker, kitchen sinks, glass wash[illegible] WC, an[illegible] wash hand basin.

The total connected water load is appro[illegible]mately [illegible] L/mi[illegible] A diversity factor of 0.5 has been applied to reflect realistic simultaneous [illegible]age, [illegible]s[illegible]ng in [illegible] peak design water demand of approximately 44 L/m[illegible]n (0.73 [illegible]).

The propose[illegible] [illegible]ter dema[illegible] can [illegible] accom[illegible]ted by the existing building water supply without adverse i[illegible]act.

PLUMBING LEGEND

	BALL VALVE (BV)
	GATE VALVE (GV)
	MIXING VALVE (MV)
	FLOOR CLEAN OUT (FCO)
FD	FLOOR DRAIN (FD)
	HUB DRAIN (HD)
	FLOOR SINK (FS)
	PIPE TURNING UP
	PIPE TURNING DOWN
WH	INSTANT WATER HEATER
	SPRINKLER
SUB WATER METER	SUB WATER METER
WATER METER	WATER METER
PRV	PRESSURE REDUCING VALVE
	TRACE HEATING COMPONENTS

LINES TYPE LEGEND

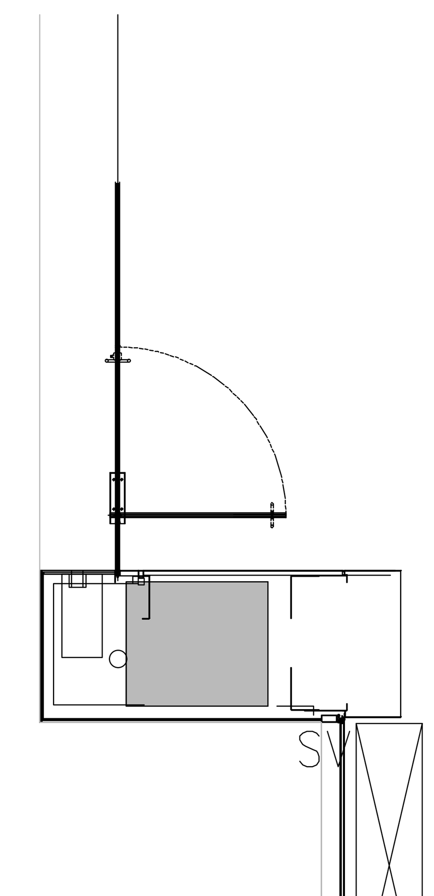
	COLD WATER LINE (CW)
	HOT WATER LINE (HW)
	SEWER LINE (S)
	GAS LINE (G)

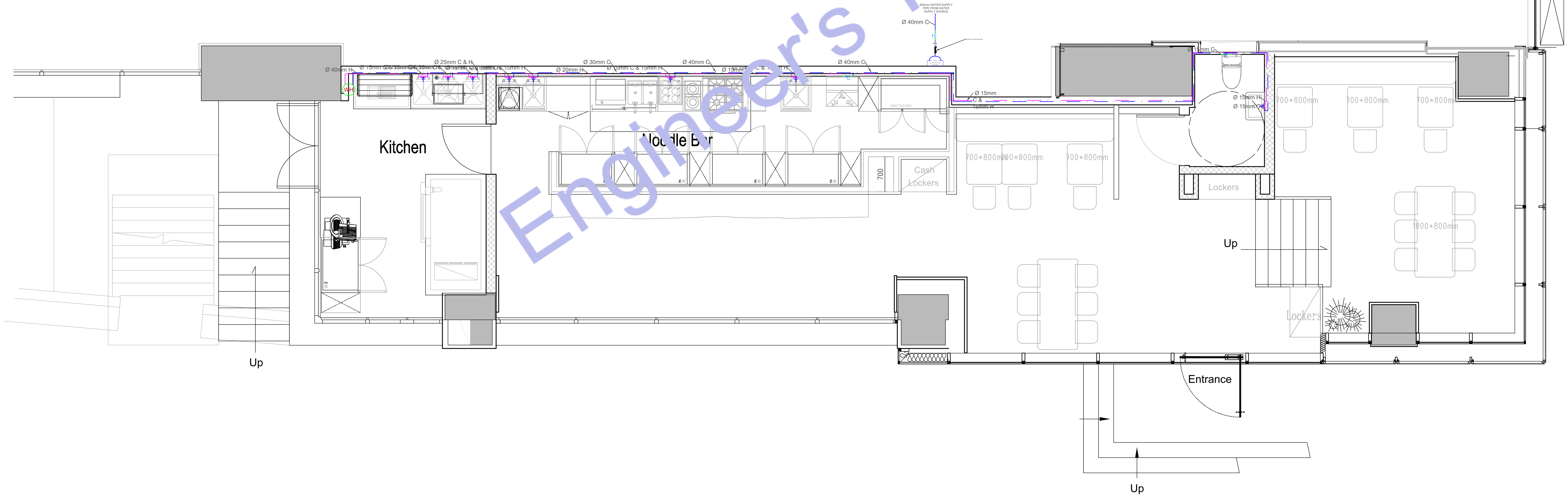
Important Note:

1. There was a rusted pipe visible from the basement ceiling, under the kitchen area, right above the existing fuse box. The pipe was suggested to be replaced.
2. The drainage pipe in the basement storage room under the ceiling was requested to make sure it doesn't have any leak.

Cold Water Supply Note:
Tenant to provide and install a water sub-meter and pressure reducing valve on the extended cold water supply serving the demised premises.

Hot Water Distribution Note:
All hot water pipework lengths exceeding 3 m shall be provided with electric trace heating and insulated in accordance with manufacturer recommendations and CIBSE guidance.





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REFERENCE: 0146-ETE-110CS-GF-DR-P-40502

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
03	Fix HVAC system and add new system	07/21/26	AA
04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED PLUMBING LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 1	6

Drainage Installation Note:
All drainage and waste pipework shall be installed to appropriate falls in accordance with BS EN 12056 and Building Regulations to ensure effective gravity drainage.

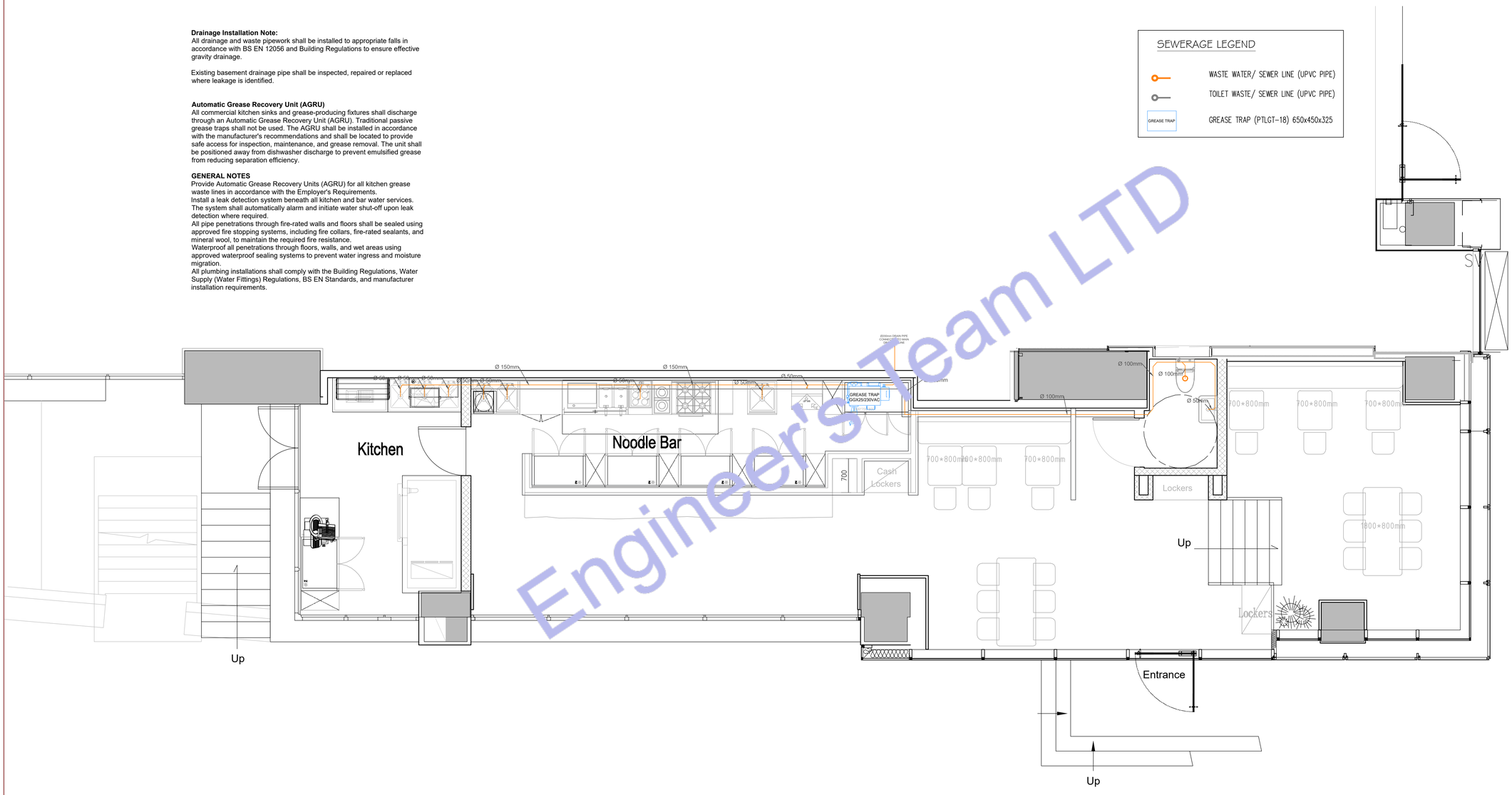
Existing basement drainage pipe shall be inspected, repaired or replaced where leakage is identified.

Automatic Grease Recovery Unit (AGRU)
All commercial kitchen sinks and grease-producing fixtures shall discharge through an Automatic Grease Recovery Unit (AGRU). Traditional passive grease traps shall not be used. The AGRU shall be installed in accordance with the manufacturer's recommendations and shall be located to provide safe access for inspection, maintenance, and grease removal. The unit shall be positioned away from dishwasher discharge to prevent emulsified grease from reducing separation efficiency.

GENERAL NOTES
Provide Automatic Grease Recovery Units (AGRU) for all kitchen grease waste lines in accordance with the Employer's Requirements.
Install a leak detection system beneath all kitchen and bar water services. The system shall automatically alarm and initiate water shut-off upon leak detection where required.
All pipe penetrations through fire-rated walls and floors shall be sealed using approved fire stopping systems, including fire collars, fire-rated sealants, and mineral wool, to maintain the required fire resistance.
Waterproof all penetrations through floors, walls, and wet areas using approved waterproof sealing systems to prevent water ingress and moisture migration.
All plumbing installations shall comply with the Building Regulations, Water Supply (Water Fittings) Regulations, BS EN Standards, and manufacturer installation requirements.

SEWERAGE LEGEND

	WASTE WATER/ SEWER LINE (UPVC PIPE)
	TOILET WASTE/ SEWER LINE (UPVC PIPE)
GREASE TRAP	GREASE TRAP (PTLGT-18) 650x450x325



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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED SEWER LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

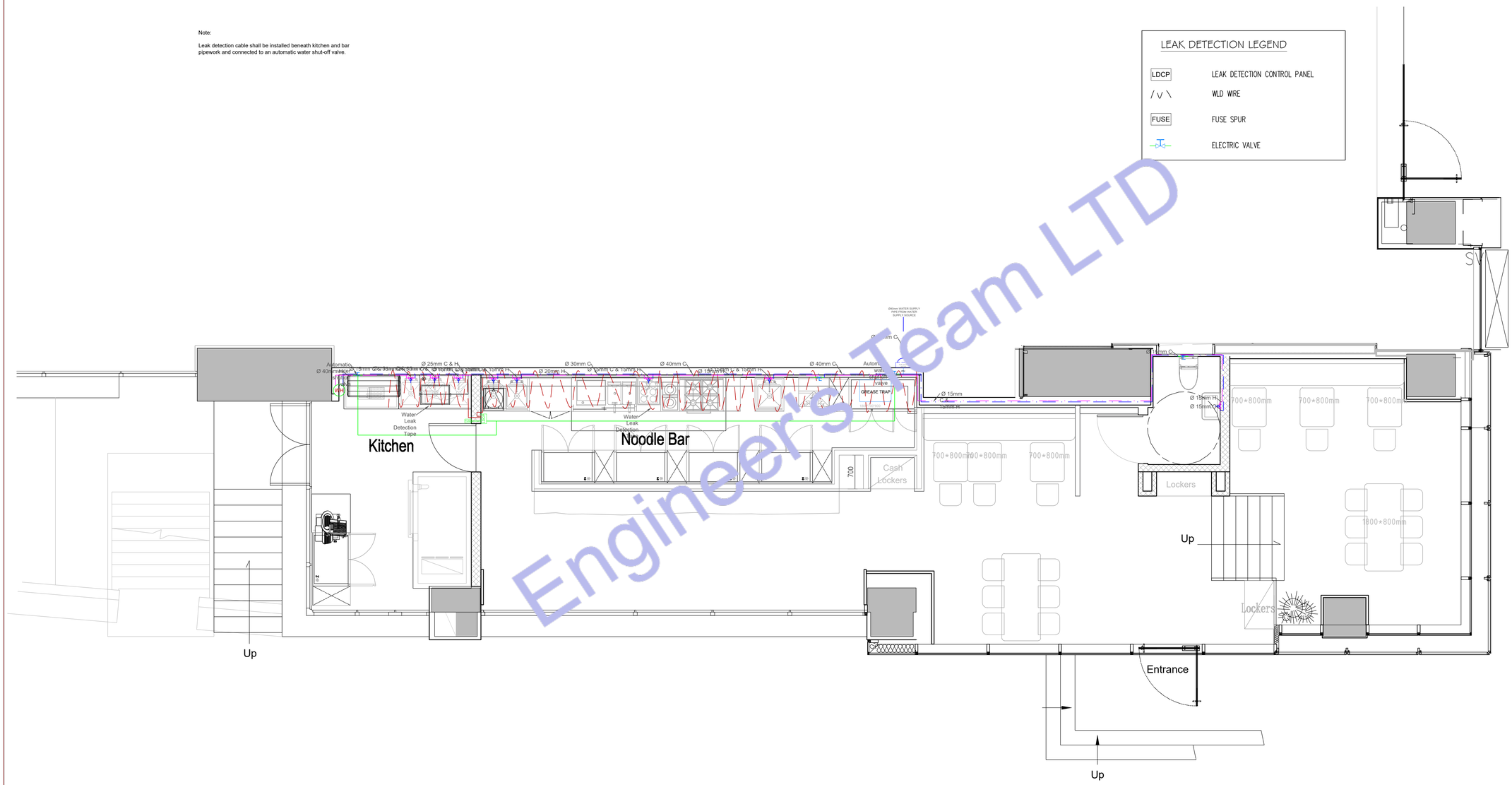
DRAWING NO.	REV.
M - 2	6

Note:

Leak detection cable shall be installed beneath kitchen and bar pipework and connected to an automatic water shut-off valve.

LEAK DETECTION LEGEND

LDCP	LEAK DETECTION CONTROL PANEL
/ V \	WLD WIRE
FUSE	FUSE SPUR
	ELECTRIC VALVE



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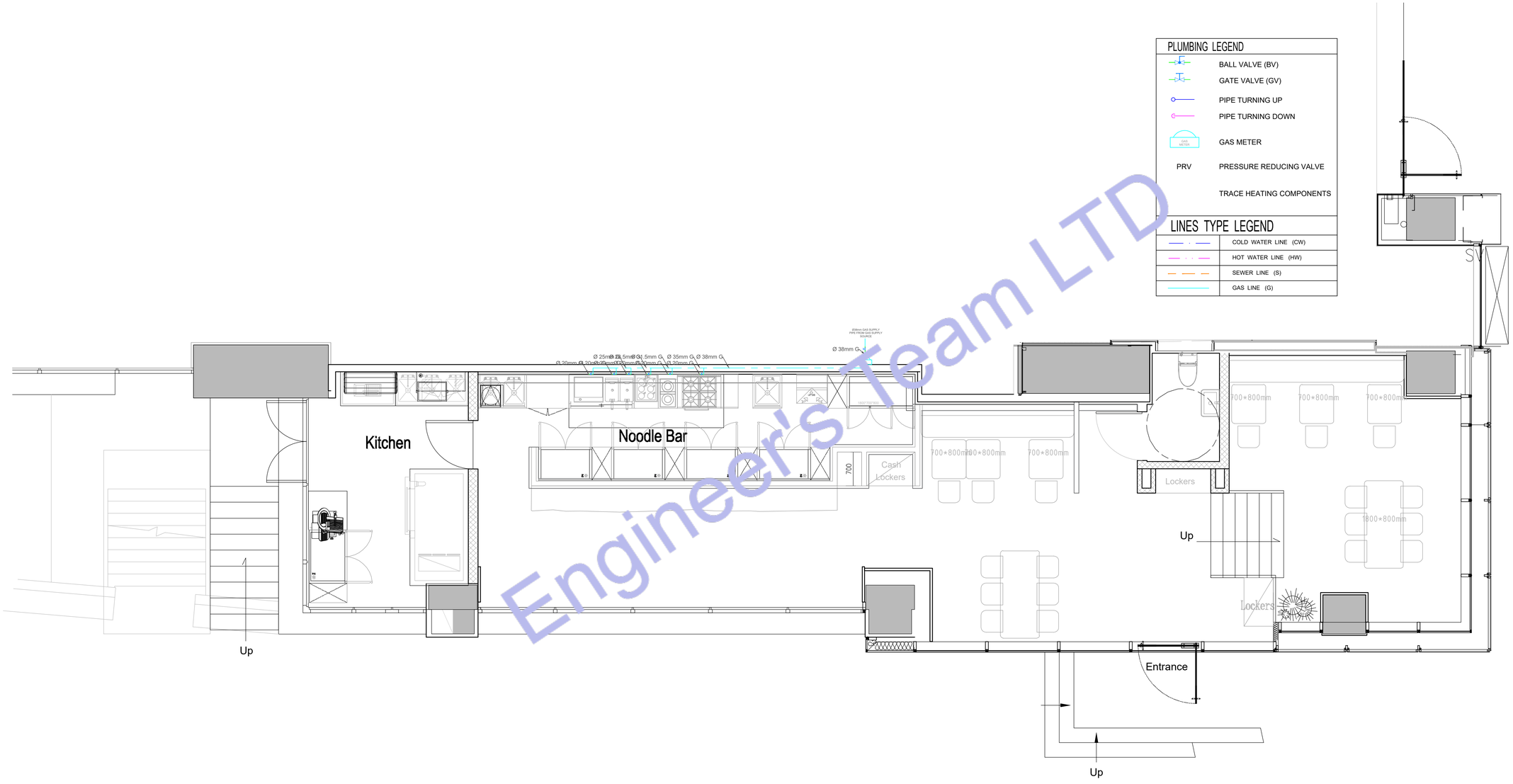
PROJECT: 25 WILBURY AVENUE

TITLE: **PROPOSED WATER LEAK DETECTION SYSTEM**

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 3	6



PLUMBING LEGEND

	BALL VALVE (BV)
	GATE VALVE (GV)
	PIPE TURNING UP
	PIPE TURNING DOWN
GAS METER	GAS METER
PRV	PRESSURE REDUCING VALVE
	TRACE HEATING COMPONENTS

LINES TYPE LEGEND

	COLD WATER LINE (CW)
	HOT WATER LINE (HW)
	SEWER LINE (S)
	GAS LINE (G)

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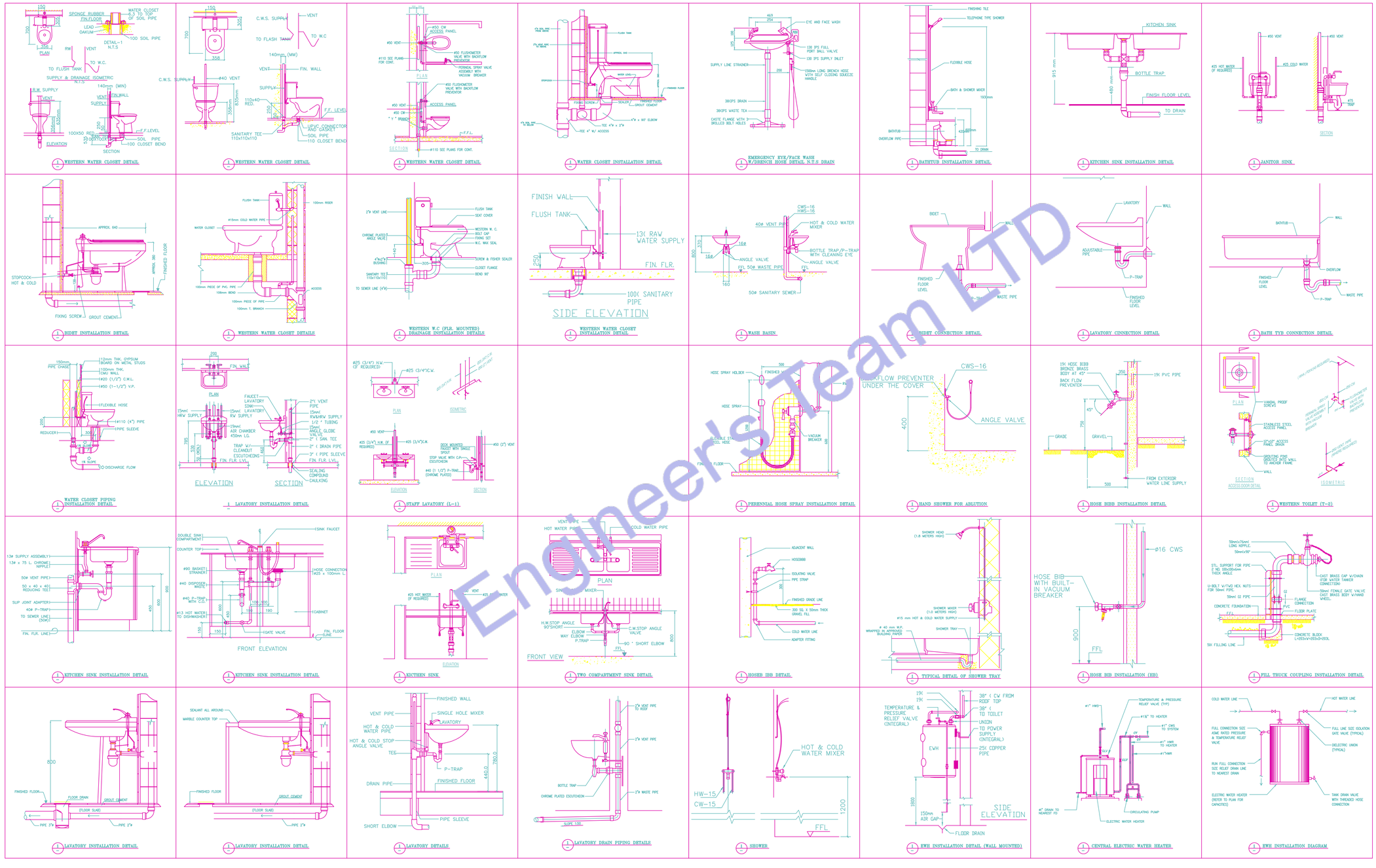
PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED GAS SUPPLY PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 4	6



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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT:
25 WILBURY AVENUE

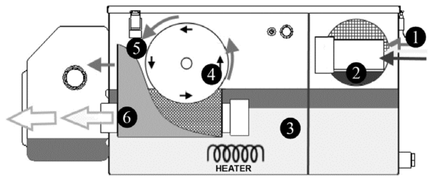
TITLE:
PLUMBING INSTALLATION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		N/A

DATE :
September 14, 2026

DRAWING NO.	REV.
M - 5	6

How it Works



Rear view cutaway

1. Grease, solids and wastewater from the kitchen enters the Grease Guardian.
2. Solid food waste is caught in a removable cylindrical strainer.
3. A skimming cycle is set. The grease passes into the middle chamber through slots in the baffle wall where it remains trapped. With the assistance of a heater the grease rises to the surface forming a separated layer.
4. The liquefied grease adheres to the rotating skimming drum.
5. The grease passes down a scraper blade into a collection container where it can be removed and disposed hygienically.
6. The treated water exits under a baffle wall and through the outlet to drain.

PLUMBING And MECHANICAL INSTALLATION

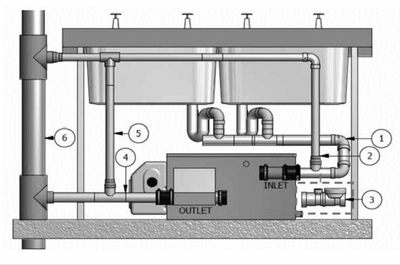
lifting/Handling:

This product is classed as a heavy item that should not be handled alone. There is a requirement for 2 people to manually lift all models described in this manual. Steel tipped toe capped shoes and handling gloves should also be worn.

install these product models only at ambient room temperature, either under or adjacent to the fixtures being served. Do not repurpose the system or add to the number of fixtures specified for connection at time of sale.

Undersink example

ReAR view



Check all required clearances in reference to the "Product Dimensions and Specification" page in this manual.

plumbing sequence

1. Inlet pipe-work. Install 2 inch (50mm) diametre wide pipes. Ensure a slight fall is provided in all pipe-work entering unit. The Grease Guardian includes quick connect rubber couplings and blanking caps. Note that the fixtures pipe can enter the Grease Guardian inlet from left or right. (above rear view shows from right) If multiple pipes are being plumbed from opposite directions, under normal plumbing codes these must all combine to enter via one pipe via one direction only and should not be plumbed from both directions.

2. Ventilation Tee and branch pipe. (Recommended) to prevent odours escaping from the Grease Guardian into kitchen area. Ventilation should be terminated at the building's stack vent. If ventilation is not provided at inlet, the pump/clean out frequency of the system may have to be increased to reduce potential waste odours.

3. **UsA. flow control with Air intake. For those installations requiring** Plumbing Drainage Institute of America compliance, a certified flow control (with air intake) must replace the inlet ventilation Tee. The relevant control required from www.canplas.com is listed:
   - GGX7, part reference: Canplas 3922107A
   - GGX15, part reference: Canplas 3922115A
   - GGX20, part reference: Canplas 3922120A
   - GGX25, part reference: Canplas 3922125A
   - GGX35, part reference: Canplas 3933135A

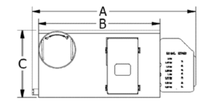
   (The air intake riser of the flow control is to be connected to the inlet side ventilation pipe as described in point (2))

4. Wastewater pipework. WARNING To avoid reduced flow or backflows issues, the site outlet pipework must be connected as detailed below for all GGX systems.
   - pipe diameter must be minimally of 2 inch diametre (50mm)
   - pipe must be installed at a gravity fall of 1:10 minimally, but preferably 1:40.
   - pipe must contain no more than 2 x 90 degree pipe bends between Grease Guardian outlet and final waste point in floor.

5. Outlet vent pipe. Required to:
   a. prevent sewer back odours entering Grease Guardian
   b. to prevent any siphonage of the system under peak flows. The pipework should be terminated at final stack vent.

6. Final vent stack to atmosphere. Failure to connect ventilation points of Grease Guardian to the final stack can result in odour issues internally.

Product Dimensions & Specifications (230v AC)

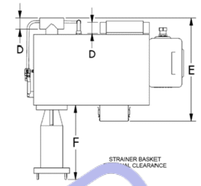


front view

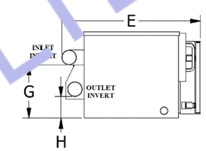
G & H are heights to pipe base

(mm)

Model	A	B	C	D	E	F	G	H
X7s	662	443	444	48	516	405	321	251
X7c	662	443	390	48	539	405	221	151
X15/15c	842	623	346	60	557	405	215	87
X25	870	657	423	60	570	405	298	170
X35	1092	873	422	89	577	405	281	170



top view



side view outlet end

Model	X7s	X7c	X15 X15c	X25	X35
Hydraulic Flow *l/second*	0.5	0.5	1	1.58	2.21
Skim Rate l/hr	5	5	5	5	5
Strainer Basket vol, kg	2.99	2.99	2.99	2.99	2.99
Grease Collector vol, litres	7	7	7	7	7

Motor (all units)	25 Watt, 230VAC, 50 Hz
Heater X7 - X15	600 Watt, 230VAC, Thermal cut-out inc.
Heater x25 - x35	1000 Watt, 230VAC, Thermal cut-out inc.
controller (all units)	Logic Controller: Backlit display Inputs 230VAC Outputs 230VAC Battery back up

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REFERENCE:

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
03	Fix HVAC system and add new system	07/21/26	AA
04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: GREASE TRAP INSTALLATION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		N/A

DATE : September 14, 2026

DRAWING NO.	REV.
M - 6	6

GENERAL SPECIFICATIONS

1. GENERAL (ALL SPECIFICATIONS ON THIS SHEET AS APPLICABLE)

A. Work indicated on these drawings is diagrammatic and shall not be scaled. The drawings are intended to convey the scope of work and general arrangement of services. The Contractor shall verify all existing site conditions prior to installation and make all necessary adjustments to complete the works in accordance with the Contract Documents and UK statutory requirements.

B. Provide all labour, materials, plant, tools, equipment, and services necessary for the complete execution of the works in accordance with the Contract Documents. All incidental or supplementary items required for a complete, safe, and operational installation shall be deemed included, whether or not specifically shown or described, at no additional cost to the Employer.

C. All systems and equipment shall be fully installed, tested, commissioned, and left in a complete operational condition to the satisfaction of the Employer. The term "Provide" shall be interpreted as supply, install, test, and commission.

D. All materials and equipment shall be new, of good quality, fit for purpose, and compatible with existing systems where interfaces occur. Installation shall be in accordance with manufacturers' instructions, relevant British Standards, CIBSE guidance, and recognised good engineering practice.

E. Where existing services or building elements obstruct new works, the Contractor shall coordinate and rearrange such items as required, subject to approval by the Contract Administrator, and without additional cost.

F. Written approval shall be obtained prior to cutting or forming penetrations through slabs, walls, ceilings, roofs, or fire compartments. All disturbed finishes shall be reinstated to match existing. All fire-resisting elements shall be reinstated to maintain required fire resistance in accordance with Approved Document B.

G. Maintain the site in a clean and safe condition at all times in accordance with CDM Regulations 2015. Remove waste daily. Upon completion, clear the site of all tools, materials, and debris and leave areas clean and ready for occupation.

2. COORDINATION AND PROGRAMMING

A. The Contractor shall fully coordinate all trades and verify existing conditions to prevent clashes in routing, access, or programme.

B. The Contractor is responsible for coordination between subcontractors, suppliers, statutory authorities, utility providers, the Client, and the Design Team.

C. No installation shall commence until all site dimensions, structural constraints, existing services, and retained fixtures have been verified.

D. Works shall be programmed and phased to minimise disruption to occupied areas. A detailed programme shall be submitted for approval. Temporary partitions or protection shall be provided where required.

E. Provide a minimum of fourteen (14) days' written notice prior to any planned shutdown of utilities. Written approval shall be obtained before shutdown.

F. The Contractor shall be deemed to have inspected the site and fully understood all conditions affecting the works. No claims shall be entertained for failure to do so.

3. STATUTORY COMPLIANCE, PERMITS AND INSPECTIONS (UK)

A. All works shall comply with the latest editions of applicable UK legislation and standards, including but not limited to:

Building Regulations (England/Wales)

Approved Documents A, B, F, G, L, M

BS and EN Standards

CIBSE Guides

Health and Safety at Work Act 1974

CDM Regulations 2015

B. The Contractor shall obtain all required approvals, inspections, and completion certificates from Building Control and relevant Authorities Having Jurisdiction.

C. All works shall comply with statutory utility provider requirements and local authority regulations.

D. Where Contract Documents exceed statutory minimum requirements, the Contract Documents shall take precedence. Any conflict shall be reported in writing prior to installation.

E.The Contractor shall comply with all UK health, safety, and environmental legislation, including COSHH and waste management regulations.

F. All works shall comply with the requirements of relevant utility companies and network operators.

4. WARRANTY

A. All workmanship and materials shall be warranted for a minimum period of twelve (12) months from the date of Practical Completion. Defects arising during this period shall be remedied at no cost to the Employer.

5. SHOP DRAWINGS

A. Submit electronic shop drawings, manufacturers' data sheets, and performance information for all equipment for review and approval prior to installation.

6. RECORD DRAWINGS / AS-BUILT INFORMATION

A. Maintain a complete set of marked-up drawings on site recording all changes. Upon completion, provide electronic and hard-copy as-built drawings and manuals in accordance with CIBSE TM31 / Soft Landings principles, if applicable.

DUCTWORK & INSULATION

SHEET METAL DUCTWORK

A. All ductwork shall be galvanised steel fabricated and installed in accordance with DW/144 and BS EN 1507 / BS EN 12237.

B. All ductwork routes shall be site-verified prior to fabrication.

C. Duct leakage classes shall comply with DW/143. Testing shall be carried out where required.

D. Turning vanes shall be installed in elbows as recommended by DW/144.

E. Flexible duct connections shall be limited in length and installed in accordance with BS EN 13180.

F. Exposed ductwork shall be single-skin galvanised steel with approved seams.

DUCT INSULATION & ACOUSTIC LINING

Thermal Insulation
Insulation thickness shall comply with Approved Document L and CIBSE Guide A.

Insulation Materials
Insulation shall achieve appropriate fire performance in accordance with BS EN 13501-1.

Acoustic Lining
Acoustic lining shall comply with BS EN ISO 11654 and be mould-resistant.

PIPING & INSULATION

REFRIGERANT & CONDENSATE PIPEWORK

1. Refrigerant pipework shall comply with BS EN 378 and manufacturer requirements.

1. Pipe identification shall comply with BS 1710.

3. Pipe routing shall not obstruct equipment servicing.

4. Condensate pipework shall be PVC-U or equivalent and installed to falls per Approved Document H.

5. Traps shall be provided where required.

6. Dissimilar metals shall be isolated to prevent corrosion.

PIPE INSULATION

1. Pipe insulation shall comply with Approved Document L.

2. External insulation shall be weather-protected.

3. Fire stopping shall comply with Approved Document B and BS 476 / BS EN 1366.

MECHANICAL CODE NOTES

1. No ductwork or pipework shall be installed above electrical switchgear, distribution boards, or control panels in accordance with BS 7671 and good engineering practice.

2. Materials within air plenums shall be non-combustible or achieve Class 0 / Class A2-1,d0 reaction to fire in accordance with Approved Document B and BS EN 13501-1.

3. Verify roof warranty status prior to works. All roof penetrations shall be carried out by approved contractors.

4. Ductwork and horizontal pipework shall be installed as high as practicable and coordinated to avoid clashes.

5. Provide adequate access for maintenance, filter replacement, valves, and electrical isolation in accordance with CIBSE Guide M.

6. Structural approval shall be obtained for equipment loads exceeding manufacturer or structural limits.

7. Motorised dampers shall be provided on all outdoor air and exhaust air ducts where required by Approved Document F.

8. Provide balancing dampers on all main and branch ducts.

9. Fire dampers shall be installed where ductwork penetrates fire compartments in accordance with BS 9999 and BS EN 1366.

10. Provide access panels for fire, smoke, and control dampers.

11. Access panels shall be provided for all concealed valves and dampers.

12. Provide remote volume control where dampers are inaccessible.

13. External vents shall be corrosion-resistant and suitable for UK environmental conditions.

CONTROLS

1. Controls installation and commissioning shall be undertaken by competent specialists.

2. Thermostats shall be insulated from cold bridging on external walls.

3. Thermostats shall be installed at appropriate heights and coordinated with the Design Team.

4. Provide all required interfaces for full system control.

5. Demonstrate and commission all systems prior to handover in accordance with CIBSE Commissioning Codes.

TESTING & BALANCING

1. Scope
Testing and balancing shall be carried out by competent commissioning specialists in accordance with CIBSE Commissioning Codes A, B, and M.

2. Pre-conditions
All systems shall be complete, clean, and operational prior to commissioning.

3. Documentation
Provide commissioning reports demonstrating compliance with design performance.

4. Recorded Data
Record airflow rates, temperatures, capacities, and electrical data.

5. Functional Testing
Demonstrate heating and cooling operation and record performance results.

ABBREVIATIONS

(E)	EXISTING TO REMAIN	IN WG	INCHES OF WATER GAUGE
(R)	EXISTING TO BE REMOVED AND RELOCATED	KW	KILOWATTS
(RE)	RELOCATED EQUIPMENT	LAT	LEAVING AIR TEMPERATURE
ACU	AIR CONDITIONING UNIT	LBS	POUNDS
AFF	ABOVE FINISHED FLOOR	LRA	LOCKED ROTOR AMPS
AHU	AIR HANDLING UNIT	LWT	LEAVING WATER TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
BTUH	BRITISH THERMAL UNITS PER HOUR	MCA	MINIMUM CIRCUIT AMPACITY
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CLG	CEILING	MOCP	MAX OVER-CURRENT PROTECTION
DB	DRY BULB TEMPERATURE	OA	OUTSIDE AIR
DN	DOWN	PD	PRESSURE DROP
EAT	ENTERING AIR TEMPERATURE	PH	PHASE
EF	EXHAUST FAN	PSI	POUNDS PER SQUARE INCH
EFF	EFFICIENCY	RA	RETURN AIR
ESP	EXTERNAL STATIC PRESSURE	RH	RELATIVE HUMIDITY
EWB	ENTERING WET BULB TEMPERATURE	RLA	RUNNING LOAD AMPS
EWT	ENTERING WATER TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
°F	DEGREES FAHRENHEIT	SA	SUPPLY AIR
FLA	FULL LOAD AMPS	SL	SOUND LINING
FPB	FAN POWERED BOX	TYP	TYPICAL
FT	FOOT, FEET	TF	TRANSFER FAN
GPM	GALLONS PER MINUTE	V	VOLT, VOLTS
HP	HORSEPOWER	VAV	VARIABLE AIR VOLUME
HZ	HERTZ (CYCLES PER SECOND)	W/	WITH
IN	INCH, INCHES	WB	WET BULB TEMPERATURE
		WG	WATER GAUGE

HVAC SYMBOLS

SYMBOL	DESCRIPTION
12x6(E)	EXISTING DUCTWORK, EQUIPMENT OR PIPING TO REMAIN
12x6	EXISTING DUCTWORK, EQUIPMENT OR PIPING TO BE REMOVED OR RELOCATED
12x6	NEW OR RELOCATED DUCTWORK, EQUIPMENT OR PIPING
	DUCTWORK WITH SOUNDLINING
	SUPPLY DUCT TURNING UP
	RETURN/EXHAUST DUCT TURNING UP
	SUPPLY DUCT TURNING DOWN
	RETURN/EXHAUST DUCT TURNING DOWN
	TRANSITION IN DUCT, SQUARE TO SQUARE
	TRANSITION IN DUCT, SQUARE TO ROUND
	SQUARE THROAT DUCT ELBOW WITHOUT TURNING VANES
	SQUARE THROAT DUCT ELBOW WITH TURNING VANES
	RADIUS ELBOW
	45 DEGREE TAP
	SPIN-IN RUNOUT FITTING WITH BALANCING DAMPER AND FLEXIBLE DUCT
	CONICAL TAP
	FLEXIBLE DUCT
	FLEXIBLE DUCT CONNECTION
	RECTANGULAR SUPPLY AIR DIFFUSER
	RETURN AIR GRILLE
H T C	HUMIDISTAT, THERMOSTAT, CO2 SENSOR
	EXHAUST FAN
	SIDE WALL/DUCT REGISTER
125	CFM DESIGNATION SYMBOL & QUANTITY
1	KEYED NOTE, DEMOLITION
1	KEYED NOTE, NEW WORK
	POINT OF REMOVAL
	POINT OF CONNECTION TO EXISTING
A	DIFFUSER OR GRILLE DESIGNATION SYMBOL
	ACCESS DOOR, SIZE ON FLOOR PLANS
	RECTANGULAR SUPPLY AIR DIFFUSER
VD	VOLUME DAMPER
XX	FD: FIRE DAMPER SD: SMOKE DAMPER MD: MOTORIZED DAMPER F/SD: COMBINATION FIRE/SMOKE DAMPER BDD: BACKDRAFT DAMPER
A-11 / 1600-10 — VAV TAG: TYPE, BOX NUMBER AIRFLOW AND KW	VAV BOX TYPE V-SHUT-OFF TYPE VAV BOX S-SERIES FAN POWERED BOX P-PARALLEL FAN POWERED BOX

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CONFIDENTIALITY STATEMENT:
ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:
1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

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PROJECT: 25 WILBURY AVENUE

TITLE: GENERAL NOTE FOR HVAC PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 1 0	6

Engineer's Team LTD

NOTE:

Scope & Compliance
This HVAC Layout Plan has been prepared for the property at 110 Cannon Street, London, EC4N 6EU, United Kingdom. All heating, ventilation, air-conditioning, ductwork, plant, controls, and associated mechanical systems shown on this plan are designed to comply with the applicable and currently adopted national and local building regulations, standards, guidance, performance requirements, and product approval criteria enforced by the UK Government (England) and relevant Authorities Having Jurisdiction.

Applicable Building Regulations & Approved Documents
The HVAC design has been developed in accordance with the Building Regulations 2010 (as amended) and relevant Approved Documents which form the statutory code for building design and construction in England. The principal regulatory provisions applicable to HVAC systems include:
a. Approved Document Part F – Ventilation (requirements for ventilation, indoor air quality, and mechanical systems including mechanical ventilation with heat recovery).
b. Approved Document Part L – Conservation of Fuel and Power (requirements for energy efficiency of fixed building services including heating and cooling plant, controls, and system efficiency, and alignment with national energy performance policy).
c. Building Regulations 2010 and subsequent amendments governing the design and installation of mechanical services to ensure safety, health, environmental quality and compliance.
d. Relevant statutory requirements under the Building Safety Act 2022 and associated regulatory framework for design, construction, commissioning, and handover processes where applicable.

Industry Standards, Guidance & Best Practice
To support compliance with the regulatory framework and best design practice, the following professional standards, codes of practice, design guides and commissioning procedures have been referenced:
a. CIBSE (Chartered Institution of Building Services Engineers) Guides — including guidance on ventilation, thermal comfort, energy use and indoor air quality as applicable to HVAC in commercial buildings.
b. CIBSE Commissioning Codes — for air distribution, controls, system commissioning, and balancing of HVAC systems.
c. British Standards (BS EN / BS) as applicable to HVAC products and system performance, duct testing, airflow measurement (e.g., BS EN 12599, BS EN 16211), smoke control, acoustics and other HVAC-related elements.
d. Recognised industry guidance for selection of plant, ductwork, controls, airflow, balancing, control strategies and integration with building systems in the UK context.

Mandatory Design Requirements
a. Ventilation systems (natural, mechanical extract, mechanical supply & extract, or mechanical ventilation with heat recovery) have been sized and configured to meet minimum fresh air supply rates, extraction rates and ventilation performance prescribed in Approved Document Part F.
b. Energy performance of heating and cooling services, controls and associated plant has been designed in accordance with the principles and minimum standards of Approved Document Part L.
c. All system design, sizing, control sequences and integration with building services consider occupant comfort, air quality, thermal performance, acoustic criteria, maintainability, and compatibility with other building systems and architectural constraints.

Product & Equipment Approval — "110 Cannon Street, London, EC4N 6EU, United Kingdom" Product Approval Codes
a. All HVAC equipment and components including but not limited to air handling units, fans, chillers, heat pumps, boilers, terminal devices, heat recovery units, dampers, controls, sensors, filters and accessories must be certified, tested and listed for use in the United Kingdom.
b. Products shall carry appropriate conformity markings such as UKCA, CE (where applicable), or recognised third-party certification demonstrating compliance with product performance, safety and environmental standards.
c. Manufacturer documentation including performance data, installation instructions, control sequences, service clearances and maintenance requirements must be submitted to the design professional and the Authority Having Jurisdiction as part of product approval and plan checking.
d. Any proposed alternate or non-standard product shall be submitted in writing and must be approved by the design professional and the AHJ prior to procurement and installation.
e. Products not meeting current UK regulatory or certification requirements shall not be installed.

Permitting, Inspection & Certification
a. Prior to commencing installation, the appropriate building control approval and permits must be obtained from the relevant local authority in London.
b. All stages of HVAC installation including ductwork, plant setup, controls, system integration, testing and commissioning shall be inspected, verified and certified as required by the Building Regulations framework and local inspection protocols.
c. System commissioning reports, balancing documentation and evidence of compliance with Part F and Part L provisions shall be provided to Building Control for final acceptance.

Installation & Coordination Requirements
a. HVAC components and systems must be installed in accordance with the design documents, manufacturer instructions, relevant standards and health & safety requirements.
b. Coordination with other services (electrical, fire protection, plumbing, structural) shall be undertaken to ensure proper clearances, penetration protection, insulation, access for maintenance, vibration isolation and interface with building control systems.
c. Penetrations through fire-rated elements and other protective barriers shall be sealed and reinstated in compliance with fire safety requirements.

Testing, Commissioning & Documentation
a. All HVAC systems shall be tested, adjusted and balanced (TAB) by qualified personnel and shall deliver the required airflow, heating/cooling capacity and control performance documented on the plan.
b. Commissioning shall include verification of control sequences, ventilation effectiveness, airflow measurements at terminals, pressure relationships, noise levels, energy performance and safety interlocks.
c. As-built drawings, test certificates, commissioning reports, operation & maintenance manuals and warranty documentation shall be provided to the owner and made available to the AHJ as part of project completion documentation.

Deviations & Field Changes
Any deviation from this approved layout plan or from applicable codes, standards or product approvals shall be documented and submitted as a formal revision or field change request for review and written approval by the design professional and the AHJ prior to implementation.

Contractor Responsibility & Limitation of Design Liability
This plan and note serve as a design document for permitting and construction coordination. The contractor is responsible for verifying field conditions, means & methods of installation, compliance with design and regulatory requirements, and for safe execution of all work. The design professional's responsibility is limited to the design scope; final installation must meet all regulatory and statutory requirements as enforced at the time of construction.

HVAC NOTE:

PROJECT: HADO RESTAURANT
SITE ADDRESS: 110 Cannon Street, London EC4N 6EU, United Kingdom

1. GENERAL COMPLIANCE
a. All HVAC works shall comply with the Building Regulations 2010 (as amended), including but not limited to Approved Document Part F (Ventilation), Approved Document Part L (Conservation of Fuel and Power), and all other applicable statutory requirements.
b. All works shall be carried out in accordance with the latest editions of relevant CIBSE Guides, CIBSE Commissioning Codes, British Standards, manufacturer's recommendations and recognised industry best practice.
c. All equipment shall be UKCA and/or CE marked where applicable and approved for installation within the United Kingdom.
d. Contractor shall verify all site dimensions, existing services and installation constraints prior to commencement of works.

2. VENTILATION SYSTEM REQUIREMENTS
a. Mechanical ventilation systems shall be designed, installed, tested and commissioned to achieve the ventilation rates required by Approved Document Part F and applicable CIBSE guidance.
b. Supply and extract air systems shall be provided as separate ductwork systems. Shared ductwork serving both supply and extract functions shall not be permitted.
c. Main ductwork runs shall be rigid spiral galvanised steel ductwork. Flexible ductwork shall be limited to final connections between rigid ductwork and terminal devices.
d. Flexible ductwork may be utilised within restricted ceiling voids beneath the mezzanine structure where rigid ductwork installation is not practical due to headroom limitations.
e. All ductwork shall be adequately supported, sealed and insulated in accordance with current standards and manufacturer's recommendations.

3. TOILET AND ANCILLARY AREA EXTRACT
a. Toilet extract systems shall be independent of any office, storage, staff or ancillary area ventilation systems.
b. Toilet extract ductwork shall discharge independently and shall not be interconnected with general room ventilation systems unless specifically indicated on the approved design drawings.
c. Any new wall penetrations required for separation of extract systems shall be coordinated with the architect and structural engineer prior to installation.

4. RESTAURANT GENERAL VENTILATION
a. Existing ventilation equipment serving the restaurant shall be upgraded or replaced as required to achieve the design ventilation rates and improve odour control performance.
b. Additional extract terminals and/or diffusers shall be installed where required to achieve uniform extraction coverage throughout the restaurant floor area.
c. Ventilation distribution shall be balanced to eliminate stagnant air zones and improve air movement within customer seating areas.
d. Final air quantities shall be verified through testing, adjusting and balancing (TAB) procedures.

5. KITCHEN EXTRACT SYSTEM
a. Existing kitchen canopy and Ansul fire suppression system shall be retained unless otherwise noted.
b. Existing kitchen extract fan and associated extract ductwork shall be replaced with a new system sized in accordance with the final kitchen extract calculations.
c. Kitchen extract systems shall be designed to minimise cooking odours and prevent migration of contaminants into adjacent tenant spaces.
d. Kitchen extract ductwork shall be installed and protected in accordance with applicable fire and ventilation regulations.

6. AIR CONDITIONING SYSTEM
a. New air conditioning equipment shall be installed in accordance with approved equipment schedules and manufacturer's requirements.
b. Proposed Mitsubishi Electric PUMY-P200YKM4.TH outdoor unit and associated indoor cassette units shall be installed subject to final load calculations and equipment selection verification.
c. Refrigerant pipework, condensate drainage and controls shall be installed in accordance with manufacturer's recommendations and applicable regulations.

7. FIRE AND COMPARTMENTATION REQUIREMENTS
a. All penetrations through fire-rated walls, floors and compartment boundaries shall be fire-stopped using approved fire-rated systems maintaining the required fire resistance rating.
b. Fire collars, fire dampers, fire-rated sealants and associated fire stopping products shall be installed where required by regulation and approved details.
c. All openings, service penetrations and voids identified during construction shall be sealed to maintain fire, smoke and acoustic compartmentation.

8. TESTING, COMMISSIONING AND DOCUMENTATION
a. All HVAC systems shall be tested, adjusted and balanced by competent personnel prior to handover.
b. Commissioning shall include airflow measurements, balancing reports, equipment performance verification, controls testing and operational demonstrations.
c. Copies of commissioning certificates, balancing reports, operation and maintenance manuals, equipment data sheets and warranties shall be provided upon completion.

9. CONTRACTOR RESPONSIBILITY
a. Contractor shall verify all existing site conditions prior to fabrication and installation.
b. Any discrepancies between site conditions and construction documents shall be reported to the design consultant before proceeding with installation.
c. No deviations from the approved design shall be made without written approval from the design consultant and relevant authorities having jurisdiction.

FIRE SAFETY & HVAC COORDINATION NOTES

All fire-rated ductwork shall be designed, constructed, tested, and installed in accordance with the requirements of BESA DW144, BESA DW172 (where applicable for kitchen extract systems), BS EN 1366, BS 9999, and the relevant provisions of the Building Regulations (Approved Document B). Where ductwork penetrates fire-resisting walls, floors, ceilings, or compartment lines, the fire resistance of the building element shall be fully maintained by the installation of approved fire-rated duct systems, fire dampers (where permitted), or tested penetration sealing systems as appropriate.

All service penetrations, including ductwork, pipework, cable trays, conduits, and associated supports passing through fire-rated construction, shall be sealed using approved fire-stopping systems, including fire collars, fire batts, intumescent sealants, or other tested products, to provide a fire resistance rating not less than that of the penetrated element.
Kitchen extract ductwork serving grease-producing cooking appliances shall be installed as an independent fire-rated grease extract system in accordance with BESA DW172, with continuous welded construction, suitable access panels for inspection and cleaning, and fire protection measures where required.

The kitchen hood fire suppression system (Ansul or approved equivalent) shall be fully coordinated with the kitchen extract system. Operation of the fire suppression system shall automatically isolate the kitchen gas supply (where applicable), stop the kitchen supply air system, and operate the extract system in accordance with the fire strategy and manufacturer's recommendations.

The mechanical ventilation and air conditioning systems shall be interfaced with the building fire alarm system. Upon activation of the fire alarm, HVAC equipment shall operate in accordance with the approved fire strategy, including shutdown of non-essential ventilation systems, operation of smoke control systems where applicable, closure of fire dampers (if installed), and shutdown of the AV system where required by the Employer's Requirements. Fire dampers, smoke dampers, motorised fire dampers, and associated controls shall be installed, commissioned, labelled, and tested in accordance with the manufacturer's instructions, BS 9999, and all applicable British Standards.

All fire safety systems, interlocks, control sequences, and fire-stopping installations shall be tested, commissioned, and certified before practical completion. Relevant test certificates, commissioning records, and product approvals shall be submitted to the Contract Administrator, Building Control, and the Authority Having Jurisdiction as part of the project handover documentation.

General
The HVAC system is designed as a single-zone constant air volume (SZCAV) split AHU system, fully coordinated with the architectural layout and intended occupancy. All equipment capacities, airflow rates, and system arrangements are subject to detailed coordination and final manufacturer selection at construction stage.

Fan Equipment Note:
Final fan selection shall be undertaken by the contractor.
Detailed fan schedules, including sound power levels, shall be submitted for approval to demonstrate compliance with applicable noise criteria and local authority requirements.

Fire Dampers (FD)
Provide 2-hour fire-rated fire dampers (FD) at every duct penetration through fire-rated walls, partitions, shafts, and compartment floors. Fire dampers shall be installed in accordance with BS 9999, BS EN 15650, DW/144, and the manufacturer's installation instructions. Fire stopping around damper penetrations shall maintain the full fire-resistance rating of the compartment. 2 Hr Fire Damper.

KITCHEN EXHAUST LOUVRE
Kitchen extract air shall discharge to atmosphere through a high-level weather louvre complete with bird screen and backdraft damper. The discharge location shall be positioned to prevent re-entrainment into fresh air intakes and shall comply with DW/172, CIBSE Guide B2 and the Employer's Requirements.

KITCHEN EXTRACT FILTRATION
Provide stainless-steel washable baffle grease filters within the kitchen canopy to remove grease and cooking particulates from the extract airstream.

Provide MFU Range (MFU 600) Filter on the kitchen extract duct for commercial kitchen extract odour control. MFU Range Filter shall be selected and rated for the design kitchen extract airflow of 6,000 m³/h (1,667 L/s) and shall be suitable for heavy-duty commercial kitchen operation.

Provide adequate access for inspection, cleaning and filter replacement. Filter pressure drop shall be included in the final kitchen extract fan duty calculation.

All filtration equipment shall be installed in accordance with the manufacturer's installation, access, maintenance and replacement requirements.

MVHR FILTRATION
MVHR outdoor-air intake: F7 55% minimum filtration in accordance with the selected manufacturer's filter specification.

MVHR extract/return air: G4 coarse filtration to protect the heat exchanger.

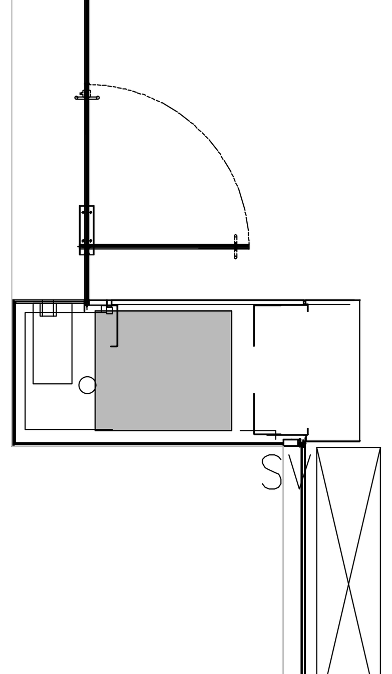
Filter pressure drop shall be included within the MVHR fan duty and system commissioning calculations. Filters shall be accessible for inspection and replacement.

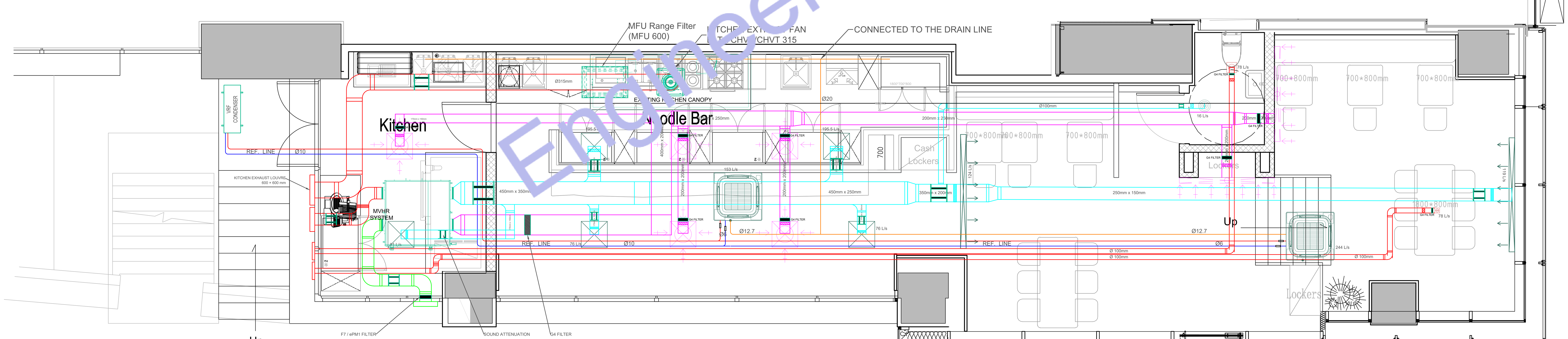
HVAC Attenuator Schedule

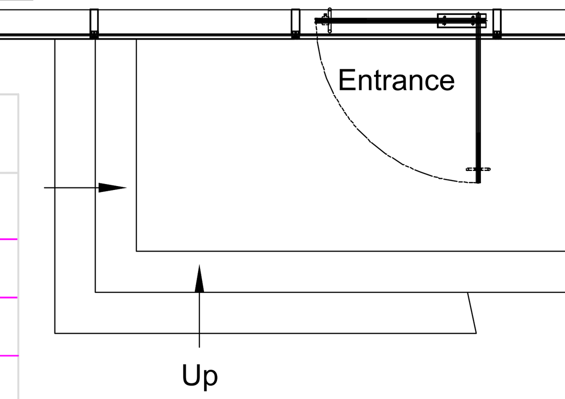
Tag	System / Application	Proposed Brand	Proposed Model	Size / Diameter (mm)	Design Airflow Rate (L/s)	Target Noise Criteria	Selection Criteria & Review Remarks / Design Duty
SD-SA	Supply Air Duct (Fresh Air Intake)	Lindab	SLBU 100	250	[illegible]	NR [illegible]	Main MVHR [illegible]: Sized for 262 L/s. Selection must feature a central pod (baffle) to attenuate fan motor noise down to NR 35 in dining zones. Max pressure drop across the pod must not exceed 25 Pa to maintain MVHR fan efficiency.
SD-KE	Kitchen Extract Ductwork (Grease Exhaust)	Lindab	SLXU 100	315	1667	NR 45 / NR 50	Heavy Grease Extract (DW/172 Compliant): Handles high-velocity flow of 1,667 L/s (6,000 m³/h) from KEF-1. Acoustic media must be completely encapsulated in unperforated Mylar film to prevent grease saturation. Max face velocity must stay below 9 m/s to prevent regenerated whistling.
SD-GE	General / Return Extract (Main Dining Room)	Lindab	SLU [illegible]		153	NR 35	Dining Extract Branches: Balanced for branch flows up to 153 L/s (e.g., Noodle Bar dining lines). Casing must provide a minimum insertion loss of 12 dB at the critical 250 Hz octave band to cancel ambient background rumble.
SD-TE	Toilet Extract Duct (Humid Exhaust)	[illegible]dab	DACKA	150	78	NR 40	Humid Utility Extract: Sized for the 78 L/s EF-1 utility fan. Selection requires fiber-free Acutec® polyester media. Standard mineral wool is prohibited here due to continuous high-humidity extract and moisture degradation risks.

Mechanical Legends

MVHR	MECHANICAL VENTILATION HEAT RECOVERY
	VRF OUTDOOR CONDENSER 950 × 1380 × 330 mm
	SUPPLY AIR DIFFUSER
	EXHAUST AIR DIFFUSER
	KITCHEN CHIMNEY
	EXHAUST FAN
	SUPPLY AIR DUCT
	FIRE STOP
	SOUND ATTENUATION
	AIR FILTRATION
	MFU Range Filter (MFU 600)







FIRE STOPPING & COMPARTMENTATION NOTE:

All service penetrations through fire-rated walls, floors and ceilings shall be fire stopped to maintain the required fire resistance and compartmentation. Install approved fire collars to combustible pipe penetrations where required. Seal all openings around ducts, pipes, conduits and cable trays using tested fire-rated sealant and/or Rockwool fire protection systems with QuelFire fire stopping products (or approved equivalent). All fire stopping works shall be installed in accordance with the manufacturer's instructions and the requirements of the Building Regulations and approved fire strategy.

1. Wall Lining & Fire Safety Compliance (Building Regulations Part B)
- Fire-Resistant Base Layer: To satisfy Building Regulations Part B (Fire Safety), the internal face of the rear louvred wall must incorporate an approved fire-rated lining. An A1-rated Cement Particle Board must be affixed as the primary (first) layer of the internal wall lining setup.
- Thermal Performance: The entire internal wall lining configuration must be designed and installed to fully comply with current statutory thermal performance standards.

2. Environmental, Acoustic & Air Tightness Sealing
- Junction Sealing: An EPDM membrane must be applied to create a robust, continuous air seal across the wall/ceiling junction, door frames, and the perimeter meeting the wall/ceiling soffit floor slab above.
- Ductwork Penetrations: A permanent airtight seal must be detailed and executed around all new mechanical ductwork penetrations and associated junctions.

3. Treatment of Redundant Louvred Sections
- Infill & Protection: Any area of the existing external louvred panel that is not actively utilised for mechanical duct vents must be blanked off.
- Performance Matching: These unutilised sections must be appropriately sealed, fire-protected, and insulated to meet the same structural fire and thermal performance levels as the surrounding upgraded wall asset.

Note: Restaurant dining area ventilation has been revised following site inspection and freeholder comments.

Additional extract terminals have been provided within the front customer seating area to improve air movement and odour control.

Supply and extract systems are arranged as separate duct systems.

Ventilation rates have been calculated in accordance with Approved Document F and CIBSE guidance.

New Kitchen Hood:
Existing hood retained.
Fan and extract duct upgraded.

Dining Area
Additional extract diffusers provided.
AHU upgraded.

Ductwork
Spiral rigid ductwork for accessible long runs.
Flexible duct limited to final connections only.

EXHAUST FAN SCHEDULE

MARK	SERVING	AirFlow	SP	WATTS	RPM	VOLTAGE	MAKE MODEL	FAN TYPE
EF-1	BATHROOM	78 L/s	-	29	1700	230V	EnviroVent SIL150S	IN-LINE
KEF-1	KITCHEN	6,000 m³/h	-	270	1390	4P/230V	CHVB/CHVT 315	IN-LINE
DEF-1	FRONT DINING AREA	78 L/s	-	29	1700	230V	EnviroVent SIL150S	IN-LINE

NOTES
1. COMPLETE W/BACKDRAFT DAMPER.
2. PROVIDE THERMOSTATIC CONTROL DEVICES
3. INTERLOCK TO OPERATE WHENEVER RTU'S OPERATE.
4. MAINTAIN A MINIMUM CLEARANCE OF 10'-0" FROM ALL INTAKE AIR FANS AND ALL ROOF TOP UNITS OUTSIDE AIR INTAKE OPENINGS.

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02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
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04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: PROPOSED HVAC LAYOUT PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36: 1:100

DATE : September 14, 2026

DRAWING NO. M - 1 1 | REV. 6

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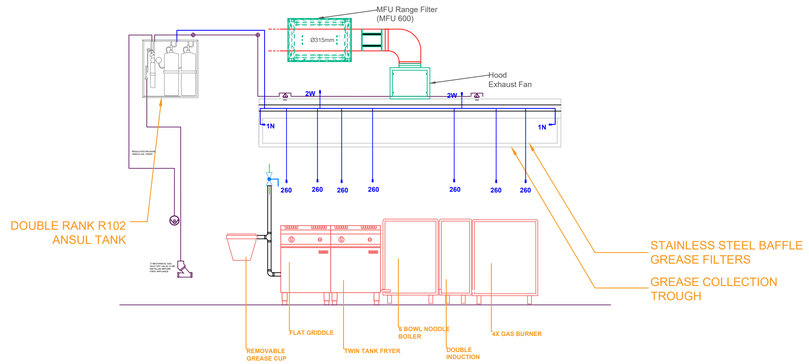

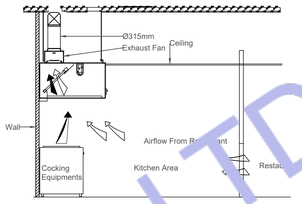

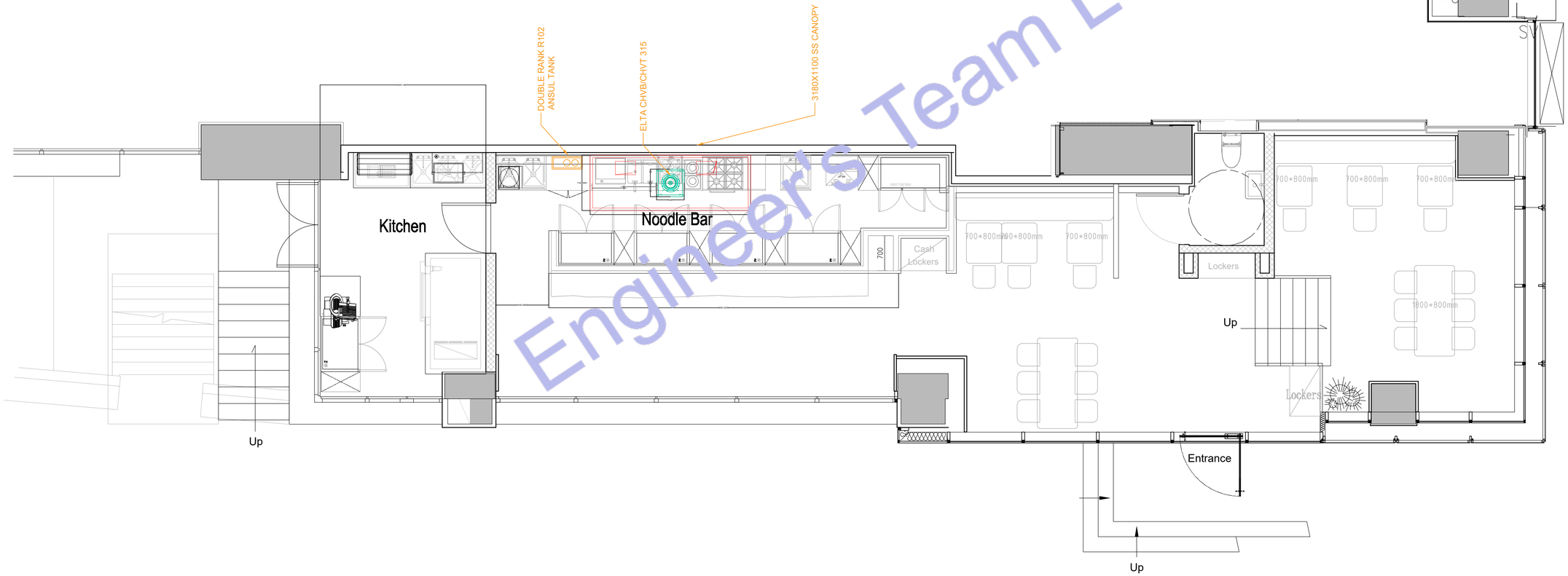

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REFERENCE: HAN-GOYA-00-XX-CO-5601

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05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: R-102 Restaurant
Fire Suppression Systems

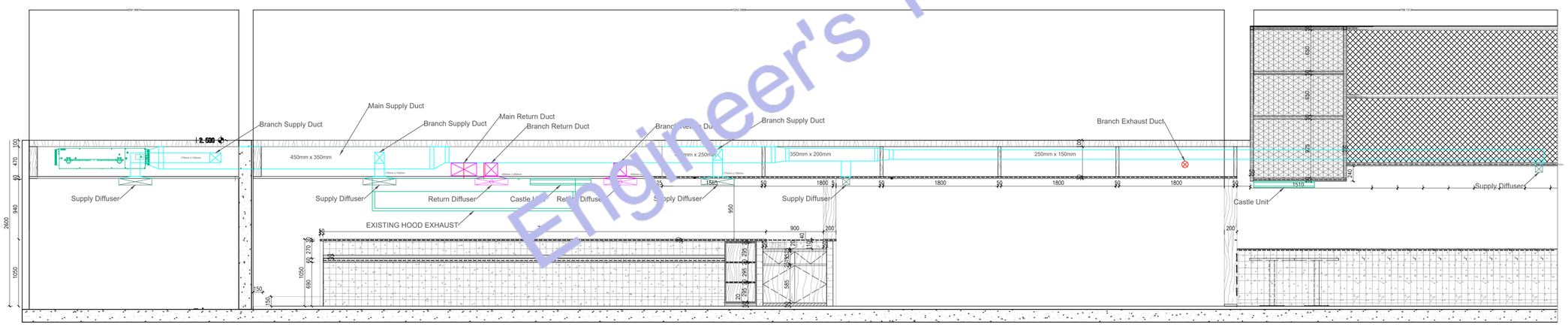
PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 1 2	6

Mechanical Legends

MVHR	MECHANICAL VENTILATION HEAT RECOVERY
	VRF OUTDOOR CONDENSER 950 × 1380 × 330 mm
	SUPPLY AIR DIFFUSER
	EXHAUST AIR DIFFUSER
	KITCHEN CHIMNEY
	EXHAUST FAN
	SUPPLY AIR DUCT
	FIRE STOP
	SOUND ATTENUATION
	AIR FILTRATION



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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: HVAC ELEVATION PLAN

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		1:100

DATE : September 14, 2026

DRAWING NO.	REV.
M - 1 3	6

Air System Sizing Summary for HVAC CASTLE SYSTEM

Project Name: 219 Project 07/16/2026
Prepared by: Engineer's Team LTD 03:52PM

Air System Information

Air System Name HVAC CASTLE SYSTEM
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 102.6 m²
Location London - Kew, United Kingdom

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load 14.6 kW
Sensible coil load 10.9 kW
Coil L/s at Aug 1700 787 L/s
Max block L/s 787 L/s
Sum of peak zone L/s 787 L/s
Sensible heat ratio 0.747
L/(s·kW) 53.9
m²/kW 7.0
W/m² 142.2
Water flow @ 5.6 K rise N/A

Load occurs at Aug 1700
OA DB / WB 27.8 / 19.9 °C
Entering DB / WB 25.5 / 18.8 °C
Leaving DB / WB 14.0 / 13.3 °C
Coil ADP 12.4 °C
Bypass Factor 0.120
Resulting RH 55 %
Design supply temp. 12.8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0.0 K

Central Heating Coil Sizing Data

Max coil load 10.0 kW
Coil L/s at Des Htg 787 L/s
Max coil L/s 787 L/s
Water flow @ 11.1 K drop N/A

Load occurs at Des Htg
W/m² 97.2
Ent. DB / Lvg DB 13.7 / 24.2 °C

Supply Fan Sizing Data

Actual max L/s 787 L/s
Standard L/s 786 L/s
Actual max L/(s·m²) 7.67 L/(s·m²)

Fan motor BHP 0.00 BHP
Fan motor kW 0.00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 230 L/s
L/(s·m²) 2.25 L/(s·m²)

L/s/person 6.07 L/s/person

Zone Sizing Summary for HVAC CASTLE SYSTEM

Project Name: 219 Project 07/16/2026
Prepared by: Engineer's Team LTD 03:52PM

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Air System Name HVAC CASTLE SYSTEM
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 102.6 m²
Location London - Kew, United Kingdom

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11.1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11.1 K	Mixing Box Fan Airflow (L/s)
Zone 1	787	787	7.67	0.0	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible Peak (kW)	Time of Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
Zone 1	10.5	Jul 2200	2.9	102.6

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
Zone 1							
Dining Area 1	1	1.7	Jul 2000	124	1.0	31.6	3.92
Dining Area 2	1	1.6	Jul 2200	119	0.8	28.1	4.24
Noodle bar Area	1	5.2	Jul 2200	391	0.5	20.9	18.71
Noodle bar dining	1	2.0	Jul 2200	152	0.6	22.0	[illegible]

Ventilation Sizing Summary for HVAC CASTLE SYSTEM

Project Name: 219 Project 07/16/2026
Prepared by: Engineer's Team LTD 03:52PM

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 230 L/s

2. Space Ventilation Analysis

Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s·m²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
Dining Area 1	1	31.6	9.0	123.9	3.80	0.90	0.0	0.0	62.6
Dining Area 2	1	28.1	9.0	119.2	3.80	0.90	0.0	0.0	59.5
Noodle bar Area	1	20.9	5.0	391.1	3.80	0.60	0.0	0.0	31.5
Noodle bar dining	1	22.0	15.0	152.3	3.80	0.90	0.0	0.0	76.8
Totals (incl. Space Multipliers)				786.5					230.5

Dedicated Outdoor Air System (DOAS) Sizing Summary for HVAC DEDICATED OUTDOOR AIR

Project Name: 219 Project 06/20/2026
Prepared by: Engineer's Team LTD 05:32PM

Air System Information

Air System Name HVAC DEDICATED OUTDOOR AIR
Equipment Class TERM
Air System Type PKG-FC

Number of zones 1
Floor Area 121.4 m²
Location London - Kew, United Kingdom

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Ventilation Fan Sizing Data

Actual max L/s 262 L/s
Standard L/s 262 L/s
Actual max L/(s·m²) 2.16 L/(s·m²)

Fan motor BHP 0.00 BHP
Fan motor kW 0.00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 262 L/s
L/(s·m²) 2.16 L/(s·m²)

L/s/person 6.09 L/s/person

Zone Sizing Summary for HVAC DEDICATED OUTDOOR AIR

Project Name: 219 Project 06/20/2026
Prepared by: Engineer's Team LTD 05:32PM

Air System Information

Air System Name HVAC DEDICATED OUTDOOR AIR
Equipment Class TERM
Air System Type PKG-FC

Number of zones 1
Floor Area 121.4 m²
Location London - Kew, United Kingdom

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (kW)	Sens Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB (°C)	Water Flow @5.6 K (L/s)	Time of Peak Coil Load	Zone L/(s·m²)
Zone 1	16.0	11.7	24.6 / 18.4	13.8 / 13.1	-	Jul 1900	7.38

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Heating Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @11.1 K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
Zone 1	5.1	19.6 / 24.3	-	895	0.000	0.000	262

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible Peak (kW)	Time of Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
Zone 1	12.0	Jul 2200	3.3	121.4

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
Zone 1							
Dining Area 1	1	1.7	Jul 2000	124	1.0	31.6	3.93
Dining Area 2	1	1.6	Jul 2200	119	0.8	28.1	4.25
Kitchen	1	1.2	Jul 2000	91	0.3	15.7	5.81
Noodle bar Area	1	5.2	Jul 2200	392	0.5	20.9	18.75
Noodle bar dining	1	2.0	Jul 2200	153	0.6	22.0	6.94
Washroom	1	0.2	Jul 1900	16	0.1	3.1	5.21

Ventilation Sizing Summary for HVAC DEDICATED OUTDOOR AIR

Project Name: 219 Project 06/20/2026
Prepared by: Engineer's Team LTD 05:32PM

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 262 L/s

2. Space Ventilation Analysis

2.1 Zone: Zone 1

Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s·m²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
Dining Area 1	1	31.6	9.0	124.1	10	0.90	90	0.0	62.6
Dining Area 2	1	28.1	9.0	119.5	10	0.90	90	0.0	59.5
Kitchen	1	15.7	4.0	91.2	10	0.60	40	0.0	24.6
Noodle bar Area	1	20.9	5.0	391.9	10	0.60	50	0.0	31.5
Noodle bar dining	1	22.0	15.0	152.6	10	0.90	150	0.0	76.8
Washroom	1	3.1	1.0	16.1	10	0.90	10	0.0	6.6
Totals (incl. Space Multipliers)			43	895.5			430		261.7

According to calculation:
Maximum occupants 43 person
Required outdoor air 10 L/s per person
Total required outdoor air 430 L/s
And the new system supply 430 L/s fresh outdoor air

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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: HVAC CALCULATION

PROJ. NO. | PROJ. ENGR. | SCALE @ 24X36: 1:100

DATE : September 14, 2026

DRAWING NO. M - 1 4

REV. 6

HVAC EQUIPMENT SCHEDULE

Tag	Equipment	Proposed Equipment	New / Existing	Qty	Design Duty	Airflow	Power Supply	Remarks
ODU-1	VRF Outdoor Unit	Fujitsu General AOEG54KRTA	N	1	Capacity: 13.5-15.5 kW	787 L/s	400V, 3Ph, 50Hz	R32 subject is final
IDU-1	4-Way Ceiling Cassette	Fujitsu General cassette AUXG24KVLA R32	N	1	7 kW Cooling	**243 L/s**	230V, 1Ph	Dining Area
IDU-2	4-Way Ceiling Cassette	Fujitsu General cassette AUXG24KVLA R33	N	1	7 kW Cooling	**152 L/s**	230V, 1Ph	Noodle Bar Dining
HRU-1	MVHR / DOAS Unit	Blauberg EcoSlim 900	N	1	Heat Recovery ≥88%	**232 L/s Outdoor Air**	230V, 1Ph	Fresh air supply to restaurant
KEF-1	Kitchen Extract Fan	Elta CHVB/CHVT 315	E	1	**6000 m³/h @ 343 Pa**	1667 L/s	230V, 1Ph	Heavy-duty grease extract (DW/172)
EF-1	Toilet Extract Fan	EnviroVent SIL150S	N	1	78 L/s	79 L/s	230V	Ground Floor WC
DEF-1	FRONT DINING AREA	EnviroVent SIL150S	N	1	78 L/s	79 L/s	230V	Ground Floor DINING AREA
FD	Fire Damper	CE/UKCA Certified Fire Damper	N	14	2 Hour Fire Rating	—	—	Installed at fire-rated penetrations
SD	Circular Silencer	Lindab / Waterloo	N	As Required	—	—	—	Kitchen extract ductwork
GF	Grease Filters	Stainless Steel Baffle Filters	N	6	DW/172 Compliant	—	—	Removable and washable
WL	Weather Louvres	Aluminium Drainable Weather Louvres	N	As Required	Low Leakage	—	—	Fresh air intake and exhaust discharge

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05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: HVAC EQUIPMENT SCHEDULE

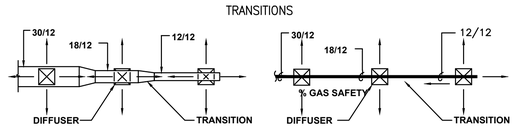
PROJ. NO. | PROJ. ENGR. | SCALE @ 24X36: N/A

DATE : September 14, 2026

DRAWING NO. M - 1 5 | REV. 6

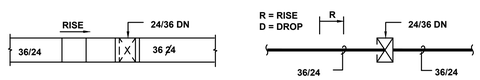
DUCTWORK SYMBOLS LEGEND

TRANSITIONS

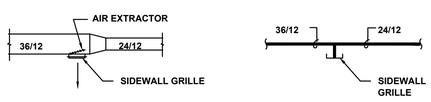


MAIN BRANCH TAKE-OFFS

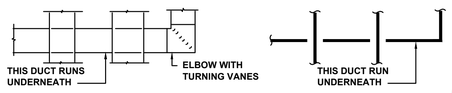
RISERS



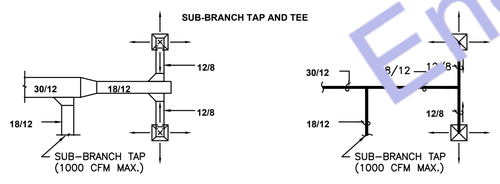
SIDEWALL REGISTERS

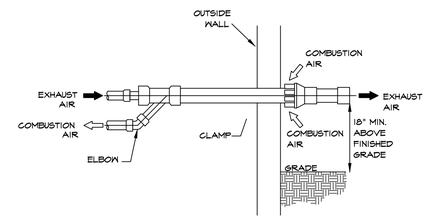


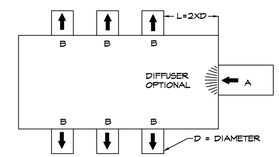
DUCT CROSSOVERS



SUB-BRANCH TAP AND TEE

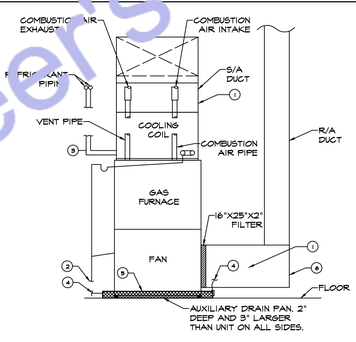






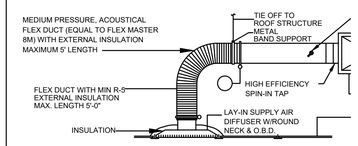
NOTES:

1. ENTRANCE (A) HAS A DIFFUSER FITTING THAT RECOVERS VELOCITY PRESSURES AND PREVENTS SWIRLS (OPTIONAL)
2. STRAIGHT APPROACH (A) AND STRAIGHT EXITS (B
3. EXITS OPENING ON SIDE (NO TOP OR BOTTOM EXITS)
4. EXIT OPENING AT LEAST TWO [illegible] ENTRANCE (L)
5. MAKE BOX AS SMALL A[illegible]SIBLE [illegible] L = 2 X D

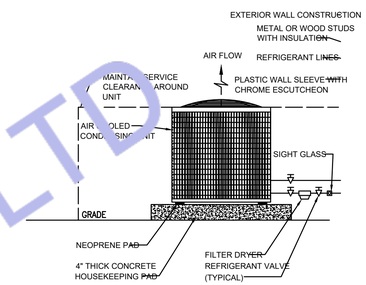


NOTES:

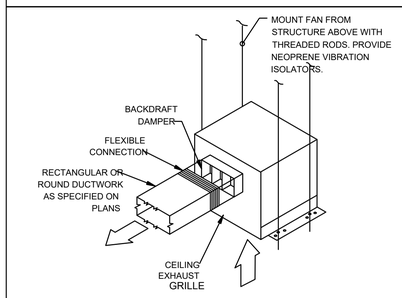
1. INTERNALLY LINED SUPPLY AND RETURN SHEET METAL PLENUMS THAT EXTENDS 10 FEET ON EITHER SIDE OF AHU, FULL SIZE OF UNIT OPENING.
2. 3/4" CONDENSATE DRAIN LINE, ROUTE BEHIND R.A. DUCT AND DOWN TO FLOOR DRAIN. TRAP FOR CONDENSATE IF UNIT HAS NO INTERNAL TRAP.
3. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS.
4. PROVIDE EMERGENCY DRAIN PAN WITH FLOAT SWITCH BELOW THE AHU TO DE-ENERGIZE THE AHU PRIOR TO OVERFLOW OF THE PAN. PROVIDE SECONDARY 3/4" CPVC CONDENSATE DRAIN LINE FOR THE EMERGENCY DRAIN PAN THAT DAYLIGHTS INTO ADJACENT HUB DRAIN.
5. EMERGENCY DRAIN PAN: A MINIMUM DEPTH OF 1.5" AND FOOTPRINT NOT LESS THAN 3" LARGER THAN THE UNIT IN WIDTH AND LENGTH. EMERGENCY DRAIN PAN SHALL BE MADE OF CORROSION-RESISTANT MATERIAL WITH MINIMUM THICKNESS AS DEFINED BY CODE REQUIREMENTS.
6. RETURN PLENUM BOX TO MATCH THE SIZE OF UNIT'S RETURN OPENING DUCT.



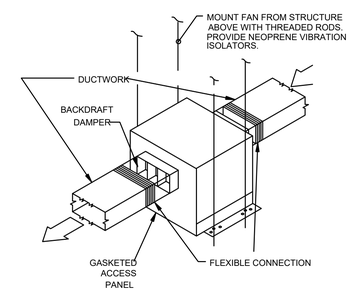
SUPPLY AIR DIFFUSER CONNECTION



OUTSIDE AIR CONDITIONER



CEILING EXHAUST FAN DETAIL



IN-LINE FAN DETAIL

Engineer's Team LTD

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Email: support@engrteam.com

CLIENT: MR AND MRS ANDERTON

ADDRESS: 25 WILBURY AVENUE, HOVE, BN3 6HS

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3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
01	Add Grease Trap & update the plumbing plans	03/02/26	AA
02	Create leak detection, Gas & Fire protection etc plans	06/27/26	AA
03	Fix HVAC system and add new system	07/21/26	AA
04	Change VRF system & Fix Ventilation	07/27/26	AA
05	Provide more information about the HVAC system	08/04/26	AA
05	HVAC Elevation Plan & Filtrations Specification.	08/16/26	AA

PROJECT: 25 WILBURY AVENUE

TITLE: HVAC INSTALLATION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
		N/A

DATE : September 14, 2026

DRAWING NO.	REV.
M - 1 6	6

Designed By Engr. Al Amin (MEP Engineer | Director - Engineer's Team LTD)

support@engrteam.com https://engrteam.com

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