



FORMER NESTLE FACTORY, HAYES

VENTILATION AND EXTRACTION STATEMENTS

MAY 2017

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— LONDON —

SEGRO



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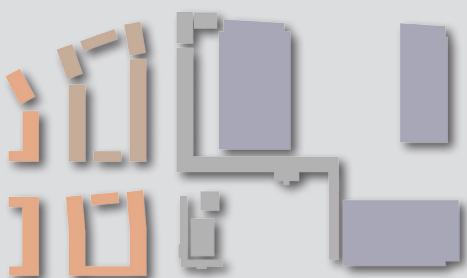
This covering report has been prepared for the joint Applicants, SEGRO plc and Barratt London Ltd, by Watkins Payne. It has been prepared to accompany a detailed planning application for the redevelopment of the former Nestlé factory site in Hayes in the London Borough of Hillingdon.

The proposals for the whole site comprise full planning permission for the part-demolition of existing factory buildings, associated structures and redevelopment to provide 1,381 dwellings (Use Class C3), office, retail, community and leisure uses (Use Classes A1/A3/A4/B1/B8/D1/D2) 22,663 sqm (GEA) of commercial floorspace (Use Classes B1c/B2/B8 and Data Centre (sui generis)), amenity and playspace, allotments, landscaping, access, service yards, associated car parking and other engineering works.

The joint applicants are leading developers in their respective fields, which are very different, and each employ Design Teams which are composed of architects and consultants who specialise in their development fields. So, while there will be a single planning application based on a single masterplan, there have been two contributing teams, and the Ventilation Extraction Statement for the site necessarily comprises two parts. This brief covering report brings together the two sets of proposals.

Both of the separate commercial and residential Ventilation Extraction Statement reports outline the ventilation and extraction strategies to be provided to the development site known as the former Nestlé Factory, Hayes.

Reference should be made to the individual sections within the following report for further details of the Ventilation & Extraction Statement for the two parts of the development.



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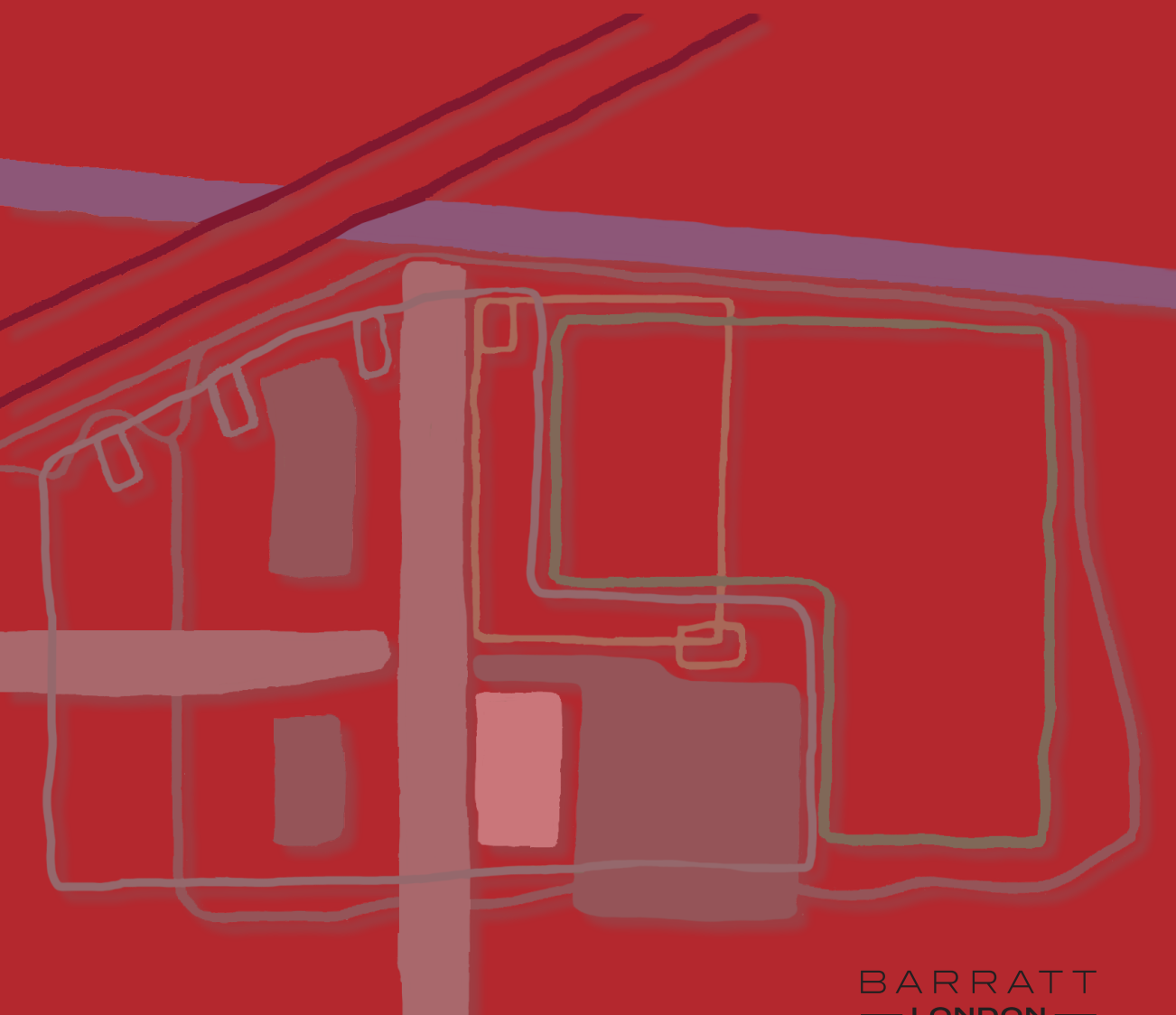
WATKINS PAYNE PARTNERSHIP
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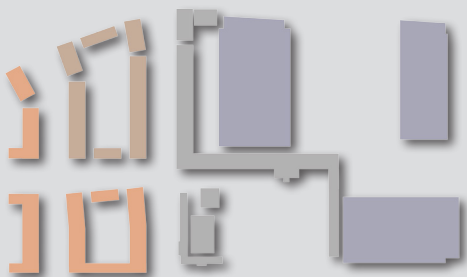
VENTILATION AND EXTRACTION STATEMENT

(Residential Scheme)

MAY 2017



The purpose of this document is to explain the ventilation and extraction strategy that will be implemented on The Former Nestle Factory project. This report will cover the 1,382 dwellings as well as the non-residential spaces and the two mechanically ventilated car parks.



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1.0 Executive Summary

The purpose of this document is to explain the ventilation and extraction strategy that will be implemented on The Former Nestle Factory project. This report will cover the 1,381 dwellings as well as the non-residential spaces and the two mechanically ventilated car parks.

This document has been prepared on behalf of Barratt London in respect of its residential redevelopment of part of the former Nestlé factory, Hayes.

A separate report has been prepared on behalf of Segro for the commercial part of the scheme.



2.0 Description of development

Full planning permission for the part-Demolition of existing factory buildings, associated structures, and redevelopment to provide 1,381 dwellings (Use Class C3), office, retail, community and leisure uses (Use Classes A1/A3/A4/B1/B8/D1/D2), 22,663sqm (GEA) of commercial floor space (Use Classes B1c/B2/B8 and Data Centre (sui generis)), amenity and play space, allotments, landscaping, access, service yards, associated car parking and other engineering works.



3.0 Ventilated Areas

3.1 Dwellings

Mechanical ventilation with heat recovery (MVHR) will be provided, which will supply the dwellings with continuous fresh air from external. MVHR removes the warm stale air from wet areas, such as shower rooms and kitchens, creating a permanent air path through the apartments. The air drawn into the apartments is routed through a high efficiency heat exchanger where the warmth from the extracted air is transferred to the incoming fresh air before being supplied to habitable rooms. This lowers the space heating requirements, reducing the demand from the main space heating system.

The efficiency of MVHR relies on a low level of air permeability to the external envelope. Therefore, the target air permeability rates will be set low and construction will be of the highest possible standard.

3.2 Common Corridors

The common corridors will generally be provided with a mechanical smoke extract system engineered to achieve the objectives set out in Approved Document B (Volume 1 & 2 – Fire Safety).

Environmental extract ventilation will be provided to the residential common corridor using the same shafts as the smoke extract. Attenuated environmental extract fans will be located on the roofs of the blocks. The rate of extract will be controlled by temperature sensors located in the corridors. This will help to prevent over heating in the common areas.

Blocks B4, B8 and C3 will be naturally ventilated for smoke control and environmental temperature via automatically opening windows.

Detailed overheating analysis will be carried out to each communal area during detailed design, the analysis will be used to determine the effectiveness of the proposed environmental ventilation systems and adjustments may be made to ensure that overheating of common areas does not occur.

3.3 Car Parks

Mechanical ventilation will be provided at the two car parks in blocks B (podium and basement level) and C (podium level). A mechanical solution was chosen due to the lack of adequate free area openings to use a natural or hybrid solution required to be compliant with British Standards Part B and F.

The mechanical extract ventilation system will provide background ventilation controlled by carbon monoxide sensors. The system will go into smoke extract mode upon activation of the fire alarm system within the car park. Make up air intake shall be via the car park entrances and louvered openings.

To prevent any noise disturbance, acoustic attenuators will be installed in the ventilation plant room on both sides of the fan (extraction/exhaust). In addition, the air velocity entering and exiting the plant room will be minimised in order to reduce noise by using large openings.

Under normal conditions, 3 air changes per hour will be achieved, this will increase to 6 air changes per hour if carbon monoxide levels are elevated and 10 air changes per hour in smoke clearance mode.

3.4 Commercial Units

Within the Barratt London scheme, there are a number of commercial units as listed below:

- Block F1 Business Suit
- Block F4 Canoe Storage
- Block H Commercial Units
- Block I Canteen Building

The systems below are to be installed as part of the tenant fit out works and as such will be subject to the requirements of the permission sought for these works. However, due consideration has been given within the design of the structure to accommodate all likely systems.

3.4.1 Mechanical Ventilation

Mechanical ventilation with heat recovery (MVHR) will be provided, which will supply the units with continuous fresh air from external. MVHR removes the warm stale air from wet areas, such as WC rooms and kitchens, creating a permanent air path through the buildings. The air drawn into the buildings is routed through a high efficiency heat exchanger where the warmth from the extracted air is transferred to the incoming fresh air before being supplied to occupied spaces. This lowers the space heating requirements, reducing the demand from the main space heating system. The rate of mechanical supply and extract will be determined based on occupancy levels and the ultimate use of the space, the design will be in line with the requirements of CIBSE Guide A.

3.4.2 Odour Control

There is a possibility that the commercial units on blocks F1, H and I may become restaurants or cafes pursuant to Class A3 of the Use Classes Order as amended. In this case, it is likely that odour control will be required. There are different categories of odour control depending on the specific type of cooking occurring. As a basic level of control a fine filtration followed by carbon filtration may be specified. In a more advanced level a fine filtration or ESP (Electrostatic precipitator) followed by UV ozone system may be required.

3.4.3 Noise Control

In addition, noise control is required to prevent an acoustic impact on the external environment as well as ensuring that noise exposure of kitchen staff does not constitute a hearing hazard. The noise control system will include an assessment of the control of the noise at and control of the noise to the environment. Recommendations made by the acoustic consultant will be adopted into the design of the ventilation systems

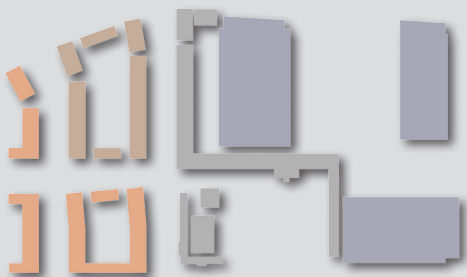
FORMER NESTLE FACTORY, HAYES

VENTILATION AND EXTRACTION STATEMENT

(Industrial Scheme)

MAY 2017





SEGRO



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SEGRO Plc

Planning Application
for Development
at
The Former Nestlé Factory
Nestles Avenue
Hayes
UB3 4RF

Ventilation and Extraction
Statement
(Industrial Scheme)

Planning Submission

Issue 5



Client Name SEGRO Plc

Client Address 258 Bath Road
Slough
SL1 4DX

Property: Former Nestlé Factory
Nestles Avenue
Hayes
UB3 4RF

Project Reference: 3660

Issue: Planning Submission – Issue 5

Date: April 2017

Prepared by: SH

Checked by: MDC

Validated by: MDC



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4.00 Air Inlet and Exhaust Points	6

APPENDIX

Drawing No 3660/M/101- Unit 1 – Ventilation Principles

Drawing No 3660/M/102- Unit 2 – Ventilation Principles

Drawing No 3660/M/103- Unit 3 – Ventilation Principles

Drawing No 3660/M/104- Unit 4 – Ventilation Principles

Site Layout Plan



1.00 INTRODUCTION

The purpose of this document is to summarise the intended ventilation and extraction philosophy to be provided to the commercial development element of the site known as The Former Nestlé Factory, Hayes on behalf of SEGRO Plc.

This report supports the commercial part of the redevelopment which is shown on the architect's site layout contained in the appendix.

Full planning permission for the part-demolition of existing factory buildings, associated structures, and redevelopment to provide 1,381 dwellings (Use Class C3), office, retail, community and leisure uses (Use Classes A1/A3/A4/B1/B8/D1/D2), 22,663 m² (GEA) of commercial floor space (Use Classes B1c/B2/B8 and Data Centre (sui-generis)), amenity and play space, allotments, landscaping, access, service yards, associated car parking and other engineering works.



2.00 VENTILATION PRINCIPLES

The ventilation principles to each of the four industrial units are specific to two main elements of the units i.e. the warehouse and the office accommodation. The warehouse areas to each of the four industrial units shall be naturally ventilated via fabric air leakage and the loading bay doors. The office accommodation shall be provided with mechanical ventilation to the occupied areas. See Section 3.00 of this report for the mechanical ventilation details.



3.00 MECHANICAL VENTILATION

The following areas of the office accommodation shall be provided with mechanical ventilation:

- Male toilet and shower
- Disabled WC and shower
- Female toilet and shower
- Cleaners cupboard
- Open plan office
- Tea room/ tea point

The remaining areas of the office accommodation are unoccupied store rooms, equipment rooms or transient circulation spaces. These areas are not provided with mechanical ventilation.

The mechanical ventilation to each area will be as follows:

- | | |
|----------------------------|---|
| • Male toilet and shower | Dedicated extract system |
| • Disabled WC / shower | Dedicated extract system |
| • Female toilet and shower | Dedicated extract system |
| • Cleaners cupboard | Dedicated extract system |
| • Open plan office | Heat recovery supply and extract ventilation from a common system |
| • Tea room/tea point | Dedicated extract system |



4.00 AIR INLET AND EXHAUST POINTS

Louvers will be provided in the office area external cladding on different facades to each of the four units to provide inlet and exhaust points. See the ventilation principles drawing in the appendix for the location of the louvers.

In addition to the above there will be gas fired boiler flues. These flues shall be located as indicated on the ventilation principles drawing.



APPENDIX

DRAWING NO's.

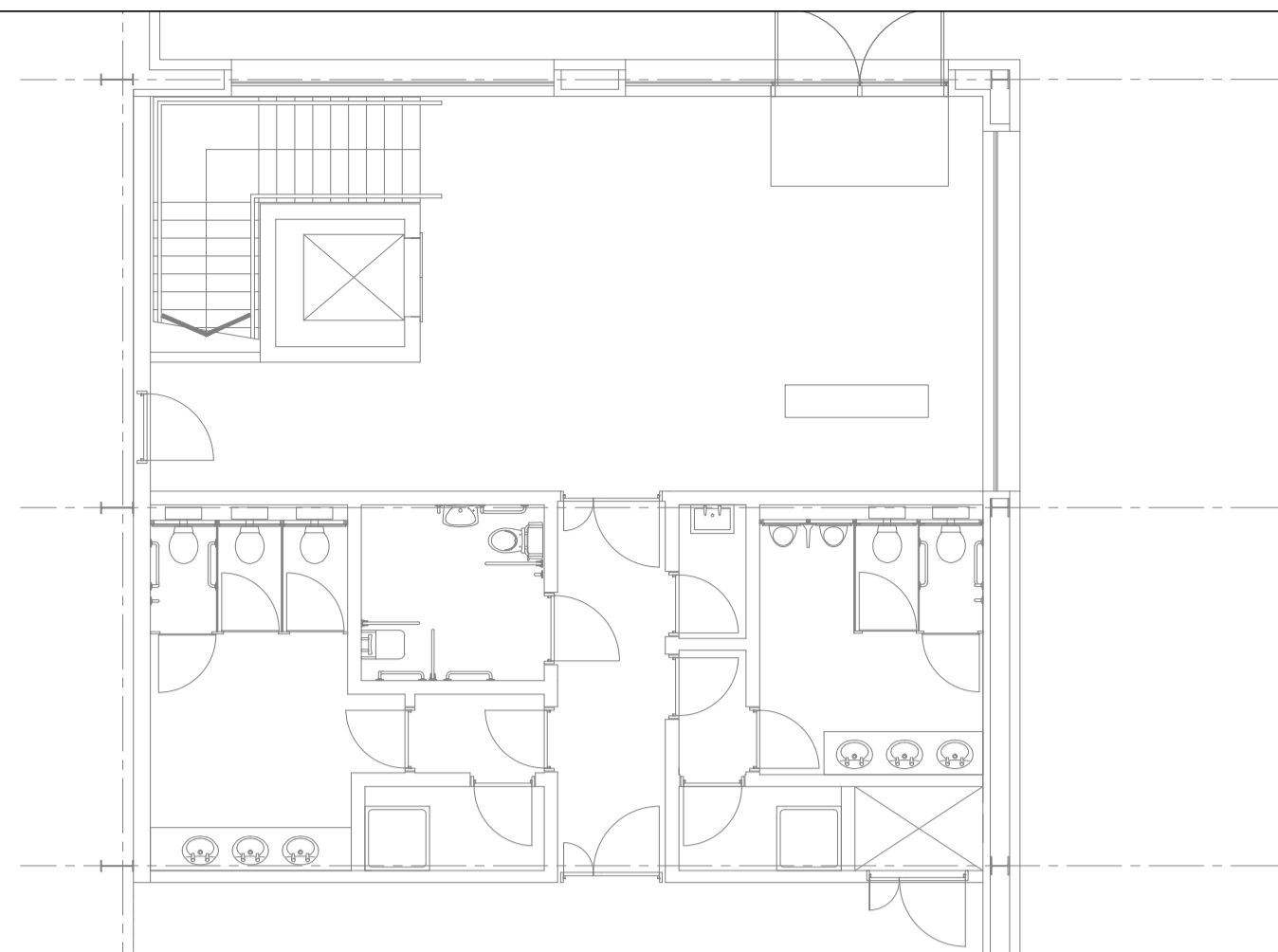
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3660/M/102: Unit 2, Ventilation Principles

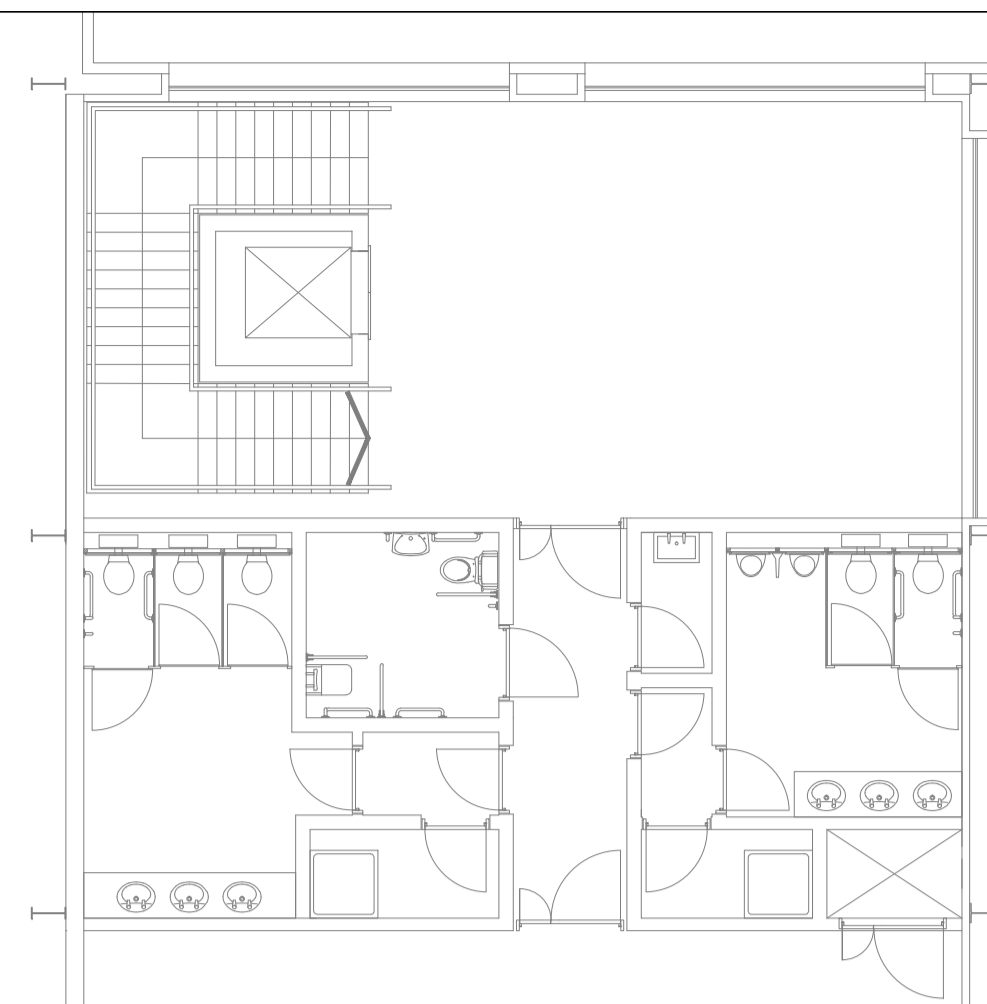
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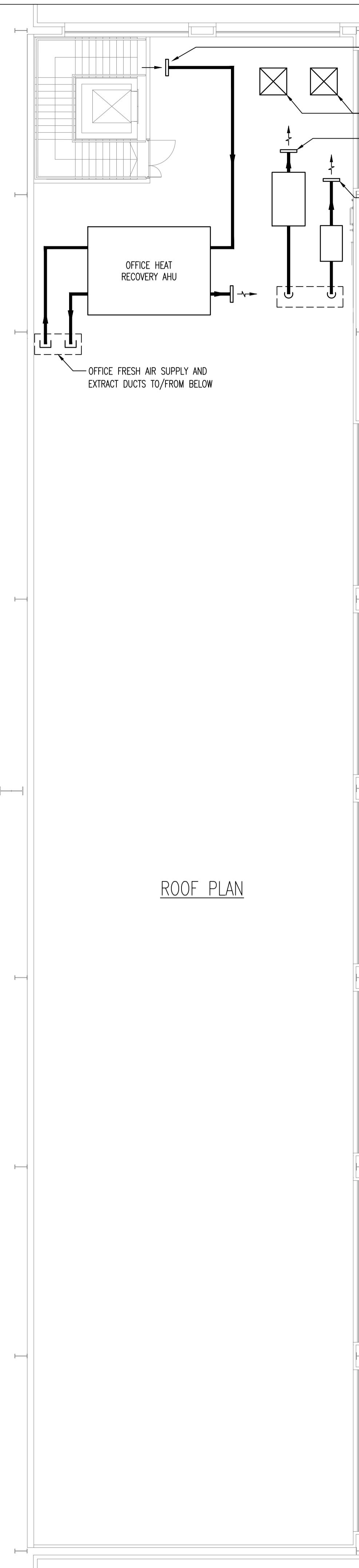
Site Layout Plan



GROUND FLOOR PLAN



FIRST FLOOR PLAN



ROOF PLAN

- OFFICE FRESH AIR INTAKE POINT AT ROOF LEVEL. LOW VELOCITY DUCT INLET BEHIND ROOF PARAPET
- OFFICE VRF CONDENSERS
- TOILET AND SHOWER ROOM EXHAUST POINT AT ROOF LEVEL. LOW VELOCITY DUCT DISCHARGE BEHIND ROOF PARAPET
- TEA POINT/TEA ROOM EXHAUST POINT AT ROOF LEVEL. LOW VELOCITY DUCT DISCHARGE BEHIND ROOF PARAPET

OFFICE FRESH AIR SUPPLY AND EXTRACT DUCTS TO/FROM BELOW

OFFICE HEAT RECOVERY AHU

BOILER FLUE TERMINATION THROUGH THE FACADE AT H/L GROUND FLOOR

- NOTES:-
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND LEGEND DRAWING.
 2. DO NOT SCALE FROM THIS DRAWING.

PL1	DRAFT ISSUE FOR COMMENT	JAN 2017
Ref.	Revision	Date

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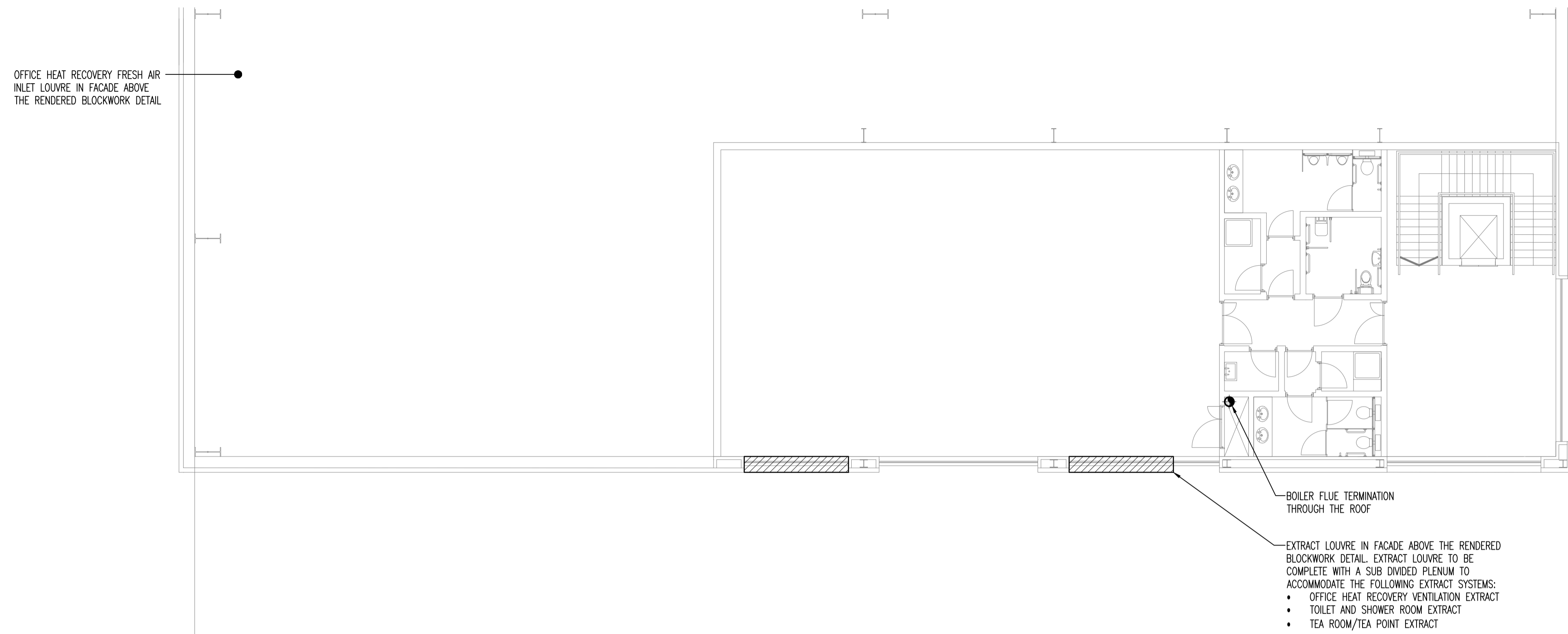
Watkins Payne Partnership 51 Staines Road West, Sunbury-on-Thames, Middlesex, TW16 7AH
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SEGRO PLC

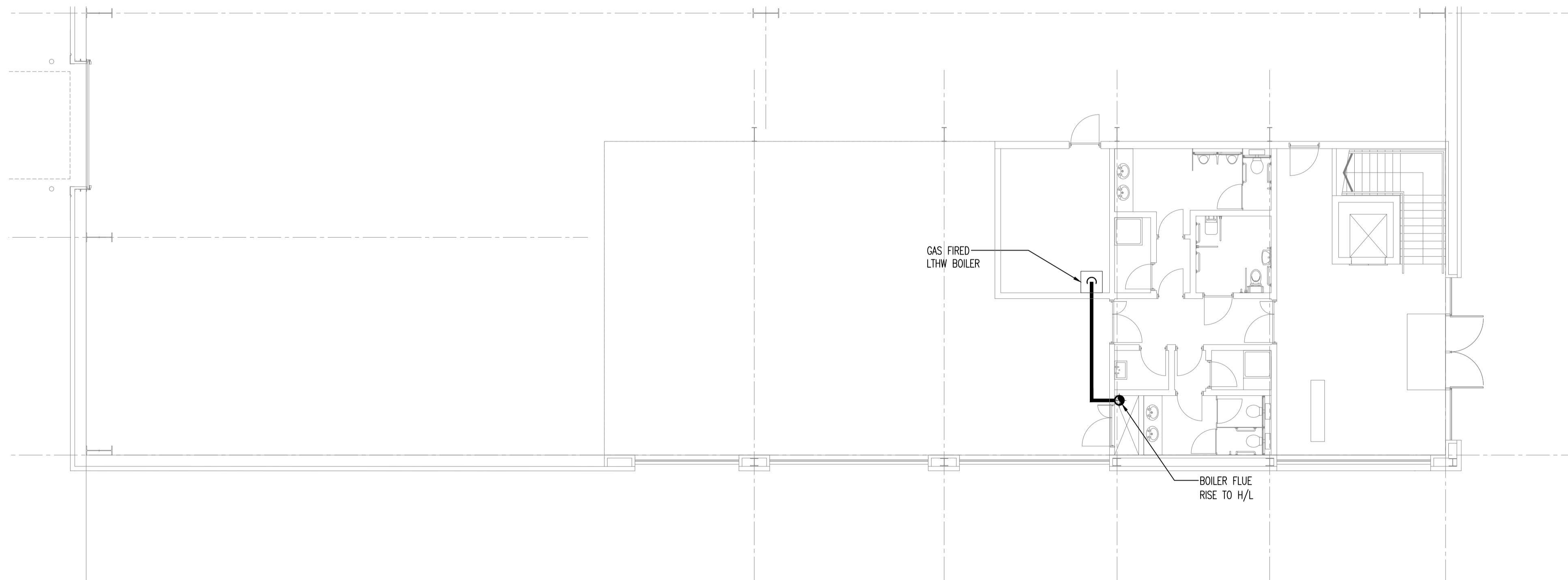
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Title
UNIT 1 VENTILATION PRINCIPLES

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Drawn By	SH	Validated	
Checked			
Drawing Number	3660/M/101	Revision	PL1



FIRST FLOOR PLAN



GROUND FLOOR PLAN

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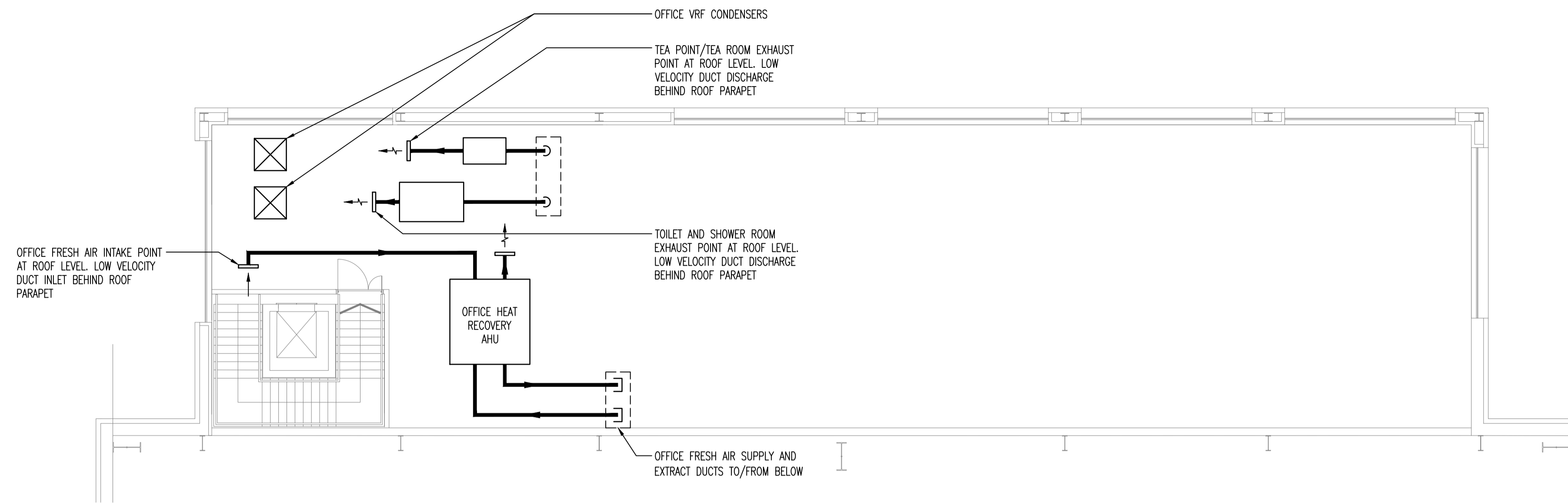
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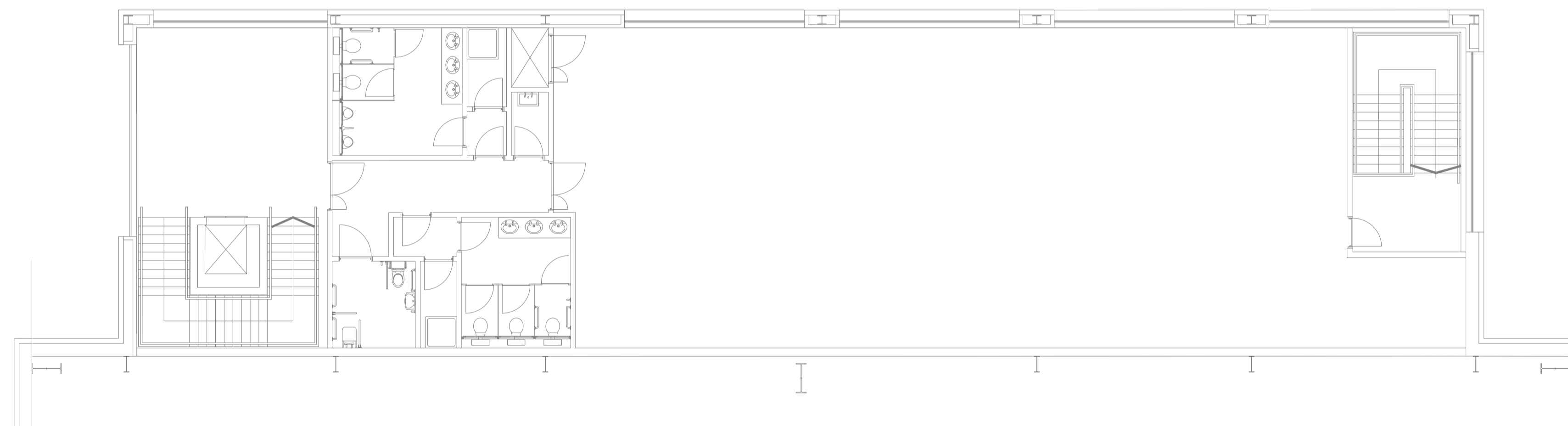
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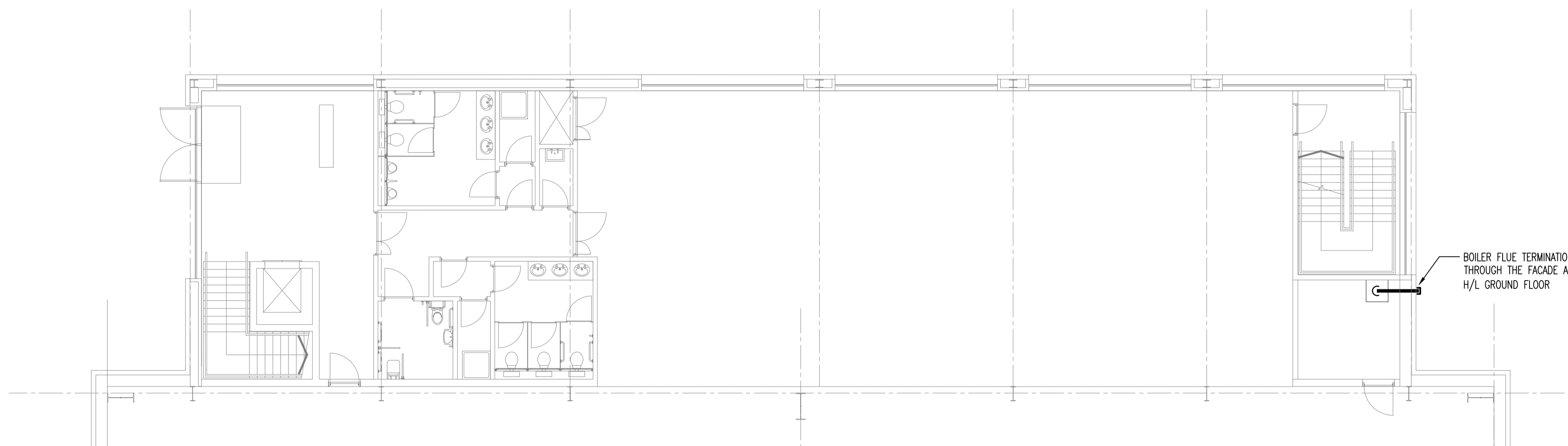
Drawing Number	Revision
3660/M/102	PL1



ROOF PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

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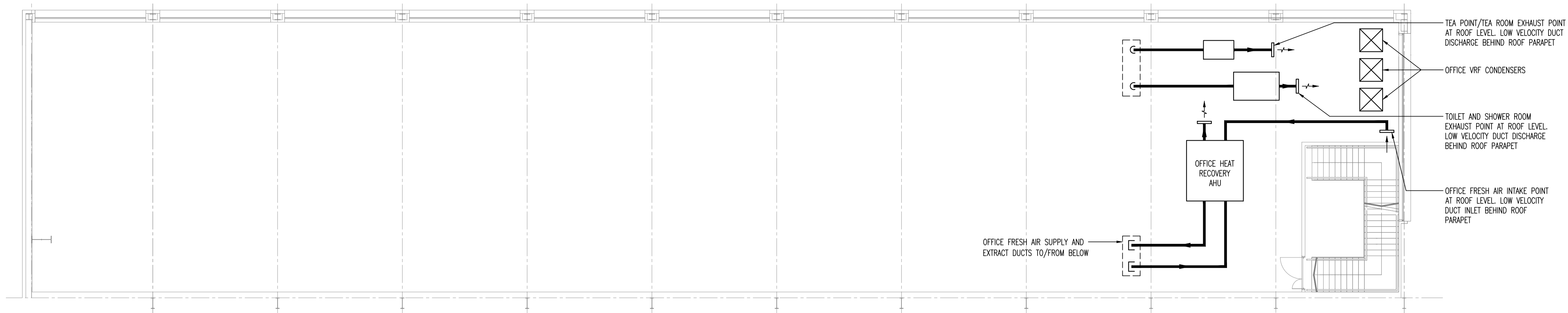
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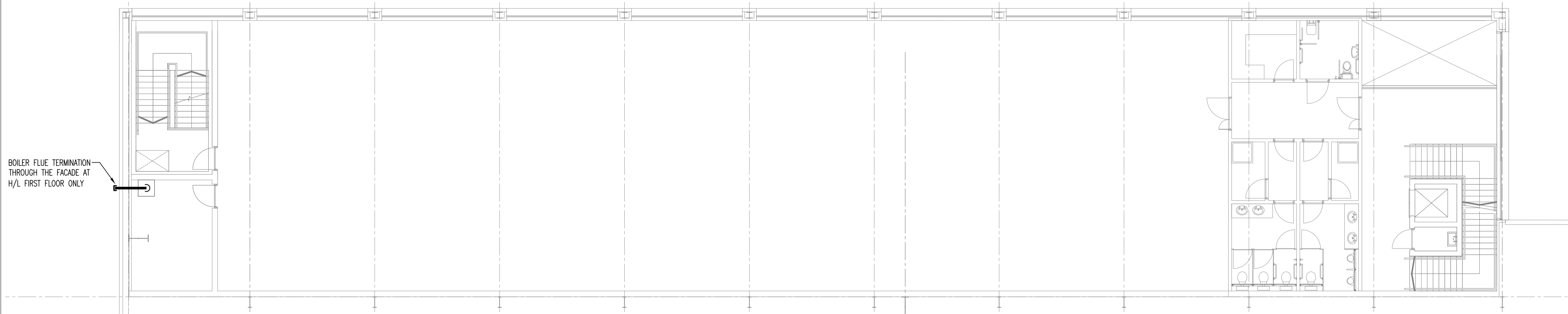
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UNIT 3 VENTILATION PRINCIPLES

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Drawing Number	Revision
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ROOF PLAN



FIRST AND SECOND FLOOR PLAN



GROUND FLOOR PLAN

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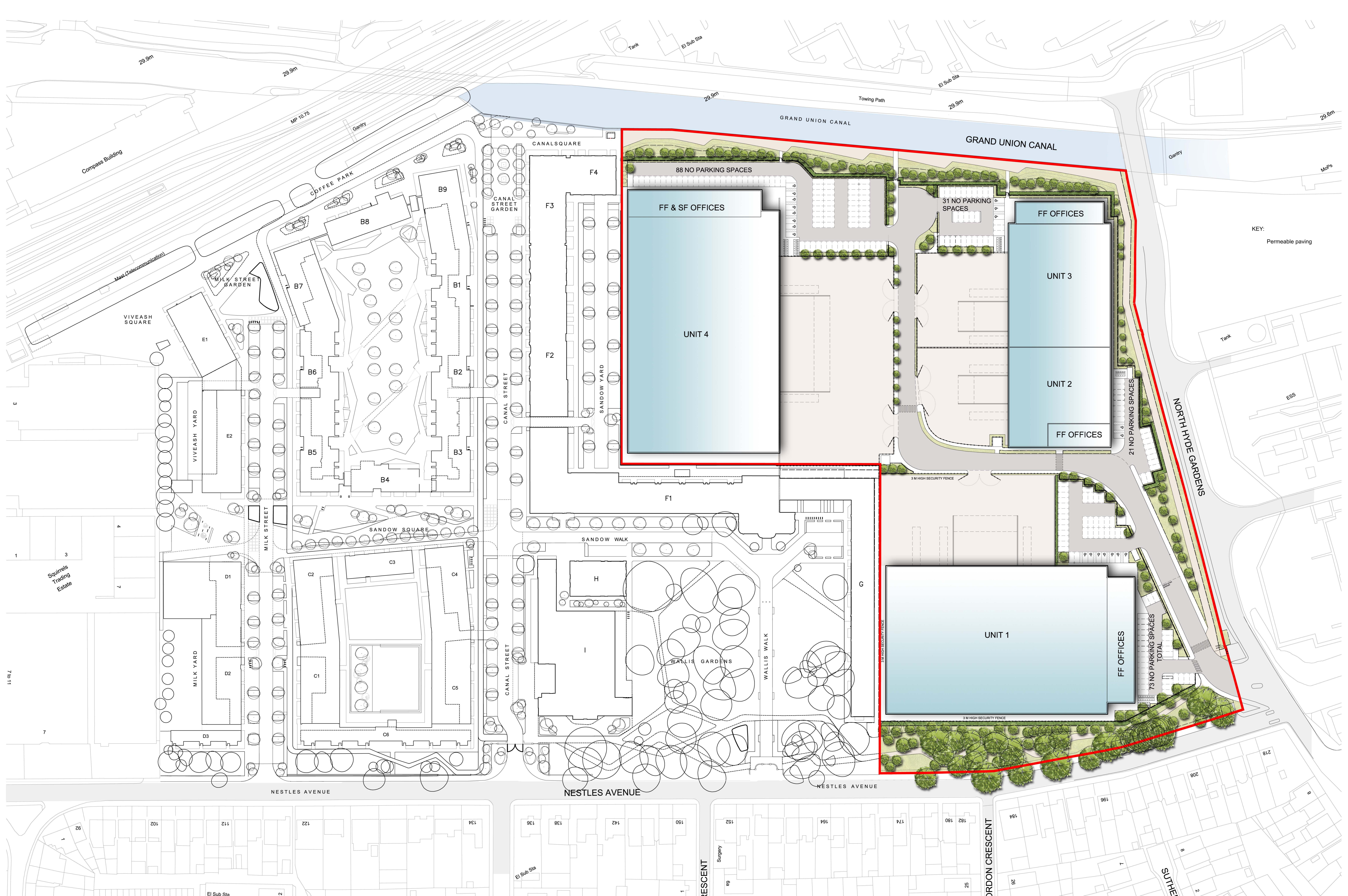
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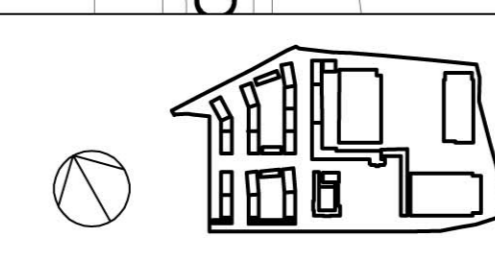
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UNIT 4 VENTILATION PRINCIPLES

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Checked			

Drawing Number	Revision
3660/M/104	PL1



KEY:
Permeable paving



DATE	REV. DESCRIPTION	CHK.

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FORMER NESTLE FACTORY, HAYES
ILLUSTRATIVE SITE LAYOUT PLAN

MS 100

SCALE 1:500@ A0

ISSUE D6

