

FUME EXTRACT STRATEGY STATEMENT

Project: New Islington Free School
Project No: 7/4781

The site is located in central Manchester on an area of disused land adjacent to the Rochdale canal. The site forms a roughly rectangular shaped parcel of land.

The site is proposed to be developed into a two storey free school with car and bicycle parking facilities.

Kitchen Ventilation

The kitchen on the ground floor of the school building will be provided with a mechanical supply and extract ventilation system. The kitchen ventilation systems will comply with Building Regulations Approved Document F 2010 and HVCA DW172.

Extract ventilation with balanced (85%) supply air make up will be provided to the kitchen.

Supply and extract air will be provided by an air handling plant positioned within the ground floor plantroom. The air handling plant supply and extract air will be ducted to the kitchen area. A ventilation canopy of stainless steel construction will be positioned above the kitchen cooking appliances and equipment.

The extract air ventilation rate will be designed to provide a suitable effective face velocity on the canopy. Supply air will be provided at a rate of 85% of the extract ventilation duty. The extract section of the ventilation canopies will provide grease filtration with activated carbon filters.

The cooking processes employed within school can cause odour pollution problems. The kitchen ventilation systems will be designed to diminish odour pollution.

The extract air discharge will be at least 1m above the roof level with high velocity cone to discharge the exhaust air away from any surrounding buildings and occupied areas. No exhaust air will be discharged at low level.

Supply and extract ductwork will comply with HVCA DW144 galvanised sheet metal ductwork.

Extract ductwork routed between fire compartments will be installed using fire rated ductwork. Fire dampers will be installed in supply ductwork where ductwork passes through a fire compartment.

Extract fans will be fire rated to 300°C.

Access panels will be provided in the supply and extract ductwork to facilitate ductwork cleaning.

Acoustic attenuators will be provided on the inlet and outlet of supply and extract fans to attenuate air borne noise at source.

Volume control dampers will be installed within the supply air ductwork system to allow balancing and commissioning.

General & Toilet Extract Ventilation

The toilets and a number of other rooms will be provided with mechanical extract ventilation. make up air will be provided via under-cut doors and door transfer grilles.

Extract fans will be installed within ceiling voids. Air will be ducted to discharge to atmosphere through the roof with terminal. Supply and extract ductwork will comply with HVCA DW144 galvanised sheet metal ductwork.

Extract ductwork routed between fire compartments will include fusible link fire dampers.

Access panels will be provided in the supply and extract ductwork to facilitate ductwork cleaning.

Acoustic attenuators will be provided on the inlet and outlet of supply and extract fans to attenuate air borne noise at source.

Volume control dampers will be installed within the supply air ductwork system to allow balancing and commissioning.

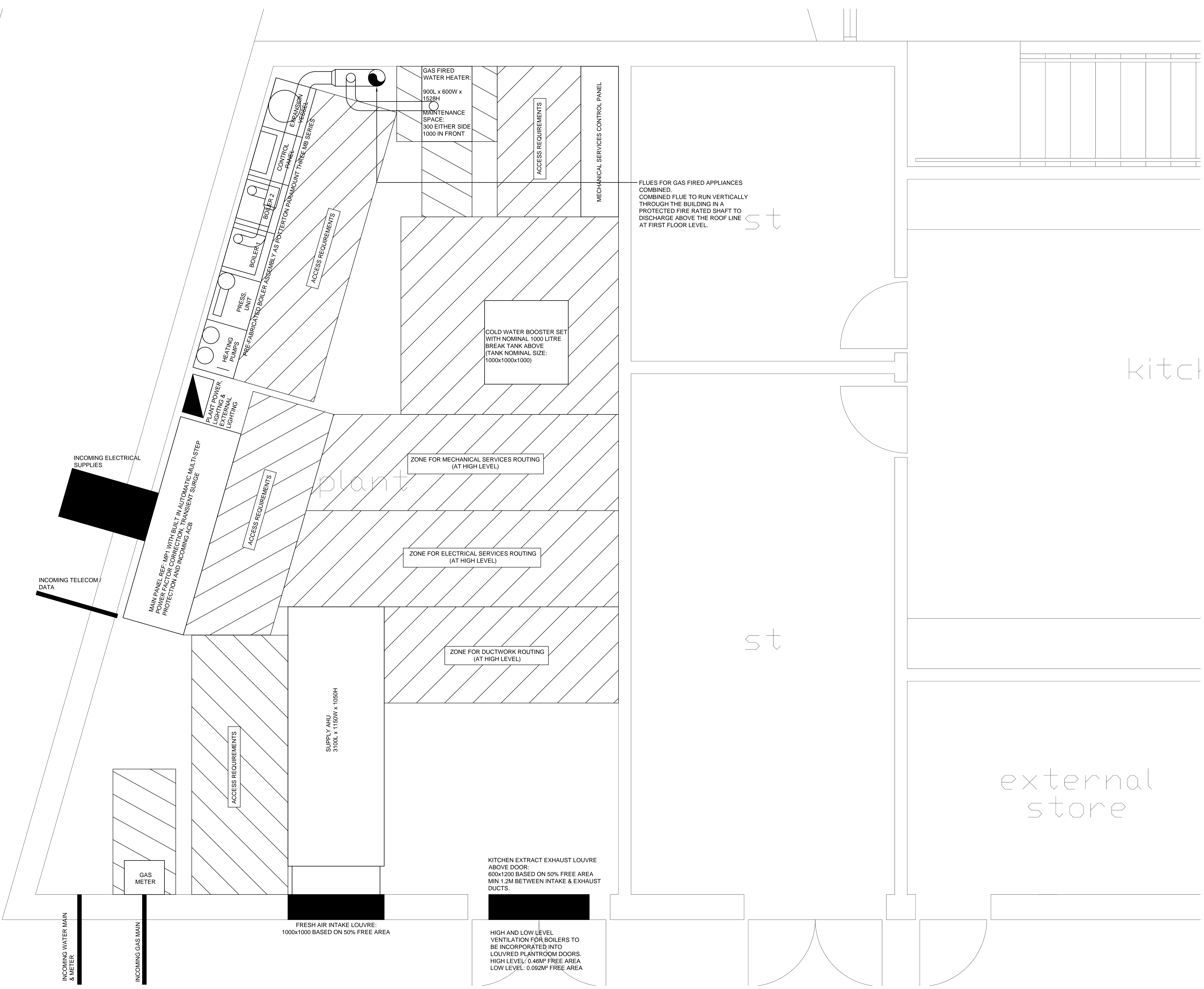
Boiler Flues

The boiler flues off the heating and hot water boilers located within the ground floor plantroom will discharge to atmosphere at least 1m above the roof level.

The flues off each appliance will common together within the ground floor plantroom and then rise through the first floor of the building to discharge to atmosphere above the roof.

The following drawings have been prepared to demonstrate the fume exhaust strategy: -

Drawing No.	7/4781/E701 Rev P2	Ground Floor Plantroom Layout
	7/4781/E702 Rev P2	Building Elevations, Mechanical Services
	7/4781/E703 Rev P2	Roof Plan, Mechanical Services Penetrations
	7/4781/E704 Rev P2	Ground & First Floor, Louvre Locations



FLUES FOR GAS FIRED APPLIANCES COMBINED. COMBINED FLUE TO RUN VERTICALLY THROUGH THE BUILDING IN A PROTECTED FIRE RATED SHAFT TO DISCHARGE ABOVE THE ROOF LINE AT FIRST FLOOR LEVEL.

kitchen

plant

st

external store

P2	20.01.14	ARCHITECTS COMMENTS INCORPORATED.	SPM	SM	PW
P1	17.01.14	PRELIMINARY ISSUE	SPM	SM	PW
Rev	Date	Description	By	Check	App.

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Client	ISG PLC				
Project	NEW ISLINGTON FREE SCHOOL				
Office	ALTRINCHAM				
Discipline	MECHANICAL				
Title	GROUND FLOOR PRELIMINARY PLANTROOM LAYOUT				
Drawn	SPM	Date	JAN '14		
Checked	SPM	Scale @	A1 1:20		
Approved	PW	Status	PRELIMINARY		



Job number	Drawing number	Revision
7/4781	M 701	P2

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FLUES FOR GAS FIRED APPLIANCES COMBINED.
COMBINED FLUE TO RUN VERTICALLY
THROUGH THE BUILDING IN A PROTECTED FIRE
RATED SHAFT TO DISCHARGE ABOVE THE
ROOF LINE AT FIRST FLOOR LEVEL.

INCOMING POWER & DATA SUPPLIES ALL
BELOW GROUND LEVEL

WEST ELEVATION

FLUES FOR GAS FIRED APPLIANCES COMBINED.
COMBINED FLUE TO RUN VERTICALLY
THROUGH THE BUILDING IN A PROTECTED FIRE
RATED SHAFT TO DISCHARGE ABOVE THE
ROOF LINE AT FIRST FLOOR LEVEL.

INCOMING GAS AND WATER
SUPPLIES. WATER ENTERS
BUILDING BELOW GROUND,
GAS ENTERS ABOVE GROUND.

INCOMING GAS
SUPPLY MAIN

FRESH AIR INTAKE
LOUVRE:
1000x1000 BASED ON
50% FREE AREA

HIGH AND LOW LEVEL VENTILATION FOR
BOILERS TO BE INCORPORATED INTO
LOUVRED PLANTROOM DOORS. MINIMUM
AREA REQUIRED:
HIGH LEVEL: 0.46M² FREE AREA
LOW LEVEL: 0.092M² FREE AREA

KITCHEN EXTRACT EXHAUST
LOUVRE ABOVE DOOR:
600x1200 BASED ON 50% FREE AREA

SOUTH ELEVATION

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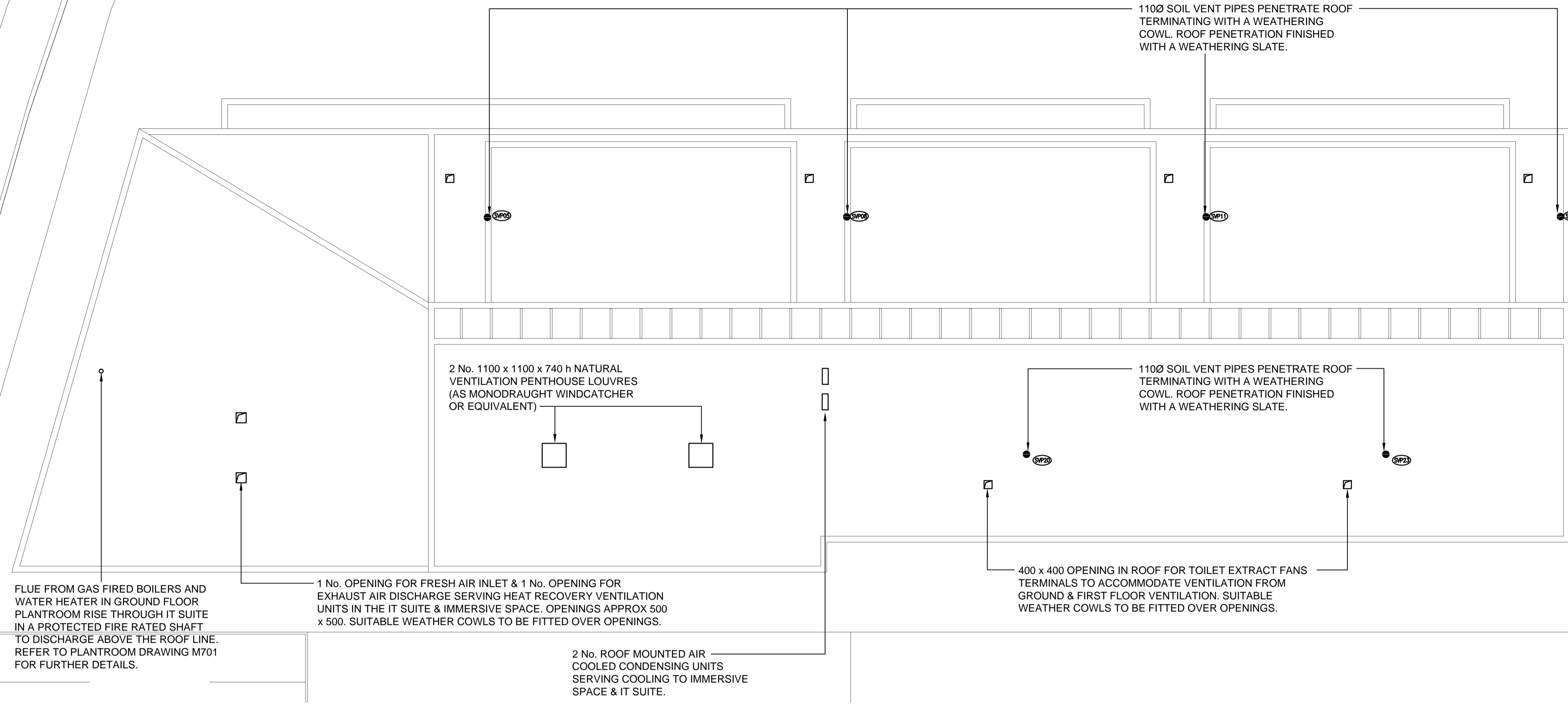
Client	ISG PLC				
Project	NEW ISLINGTON FREE SCHOOL				
Office	ALTRINCHAM				
Discipline	MECHANICAL				
Title	BUILDING ELEVATIONS PRELIMINARY MECHANICAL SERVICES REQUIREMENTS				
Drawn	SPM	Date	JAN' 14		
Checked	SPM	Scale @ A1	1:20		
Approved	PW	Status	PRELIMINARY		



Job number	Drawing number	Revision
7/4781	M 702	P2

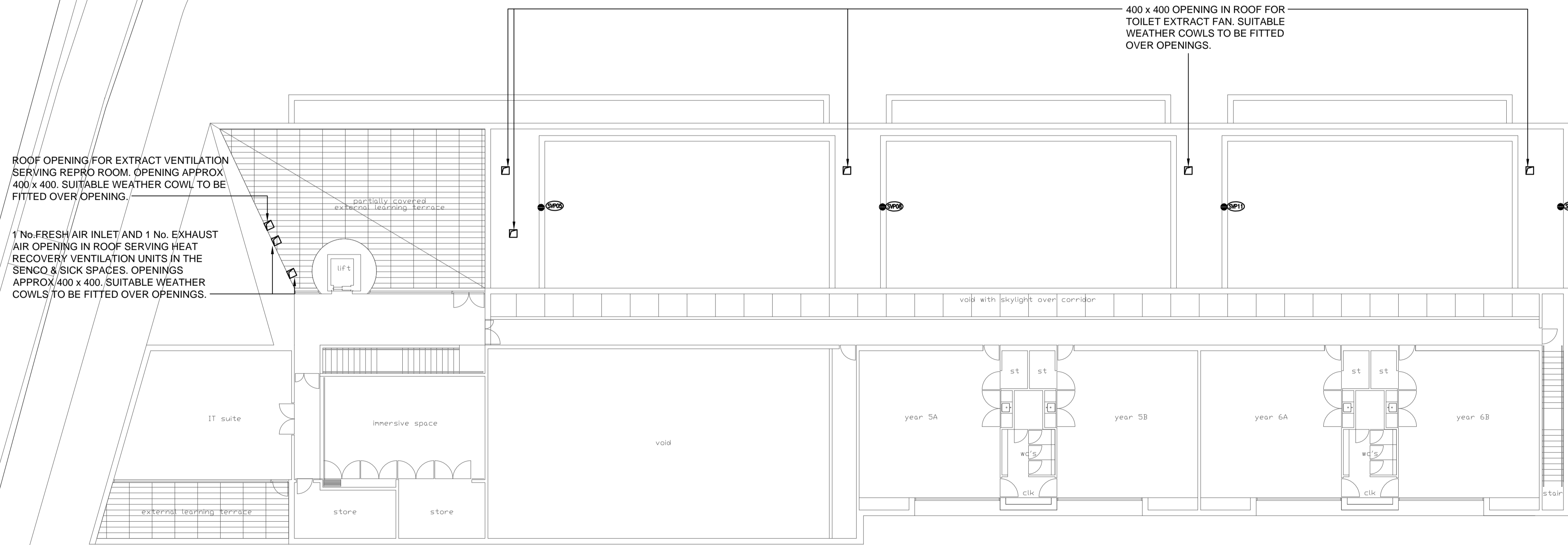
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REDHILL STREET



FIRST FLOOR ROOF LEVEL

REDHILL STREET



GROUND FLOOR ROOF LEVEL

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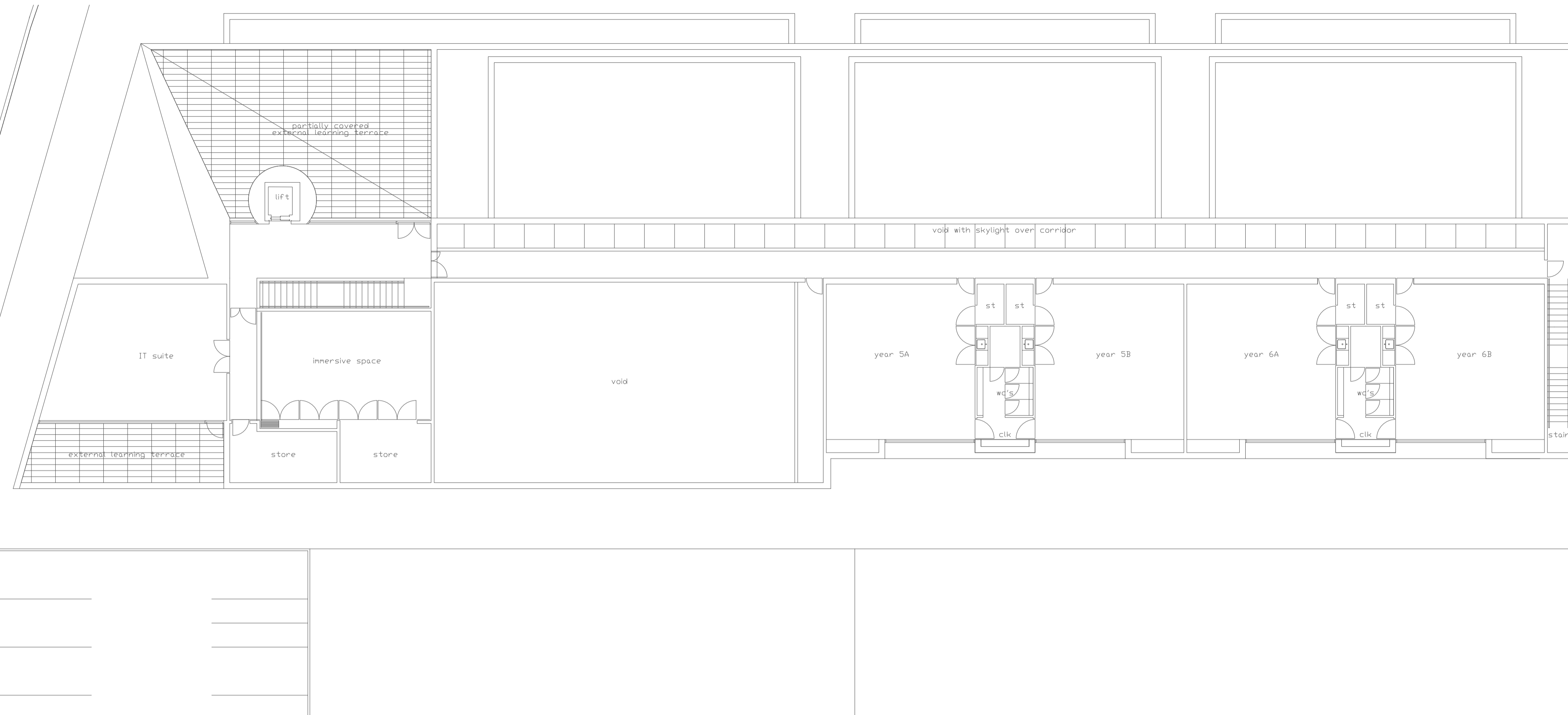
Client	ISG PLC				
Project	NEW ISLINGTON FREE SCHOOL				
Office	ALTRINCHAM				
Discipline	MECHANICAL				
Title	ROOF LEVEL PRELIMINARY MECHANICAL LAYOUT / PENETRATIONS				
Drawn	SPM	Date	JAN '14		
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Approved	PW	Status	PRELIMINARY		



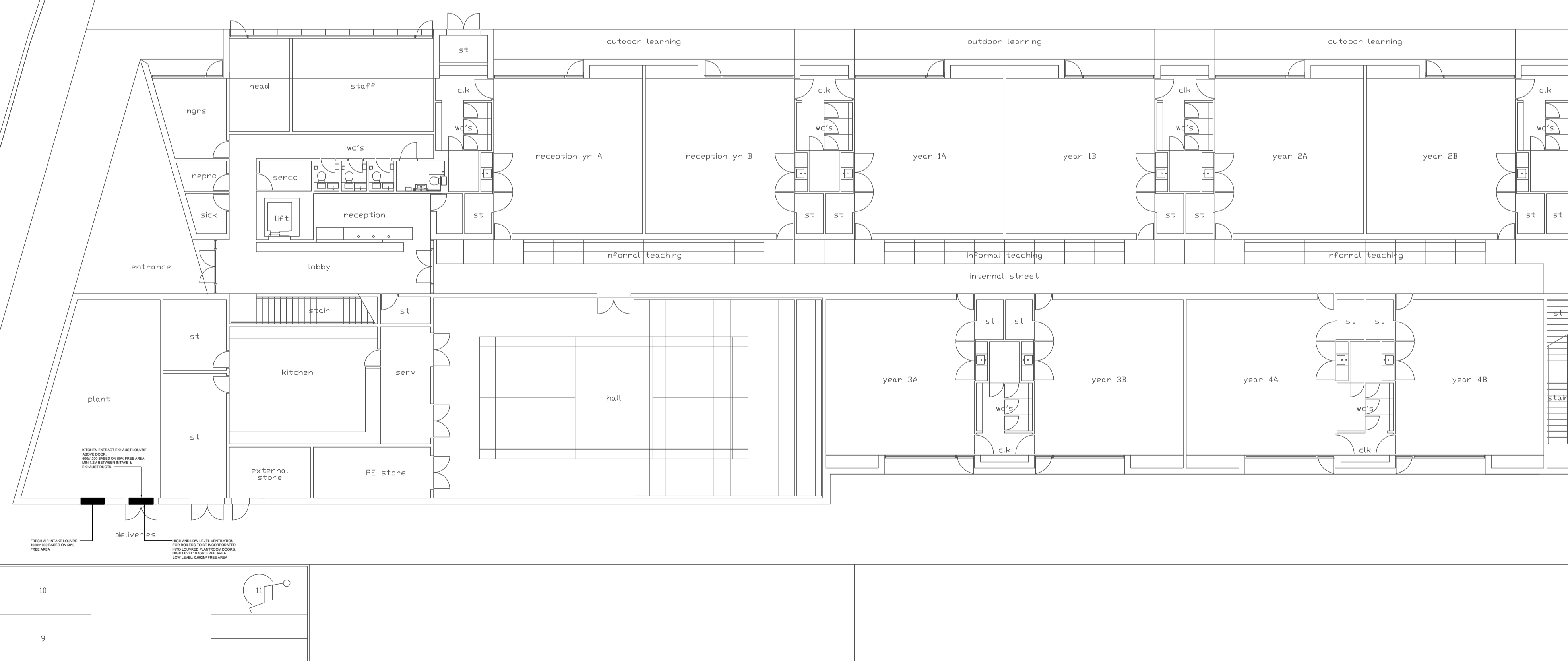
Job number	Drawing number	Revision
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REDHILL



FIRST FLOOR PLAN



GROUND FLOOR PLAN

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Client	ISG PLC				
Project	NEW ISLINGTON FREE SCHOOL				
Office	ALTRINCHAM				
Discipline	MECHANICAL				
Title	GROUND & FIRST FLOOR PRELIMINARY LOUVRE LOCATIONS PLAN				
Drawn	SPM	Date	JAN '14		
Checked	SPM	Scale @	A1 1:150		
Approved	PW	Status	PRELIMINARY		



Job number	Drawing number	Revision
7/4781	M 704	P2

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