

Figure 6-3: Level 04 Fire Brigade access and hose coverage



Figure 6-4: Level 05 Fire Brigade access and hose coverage

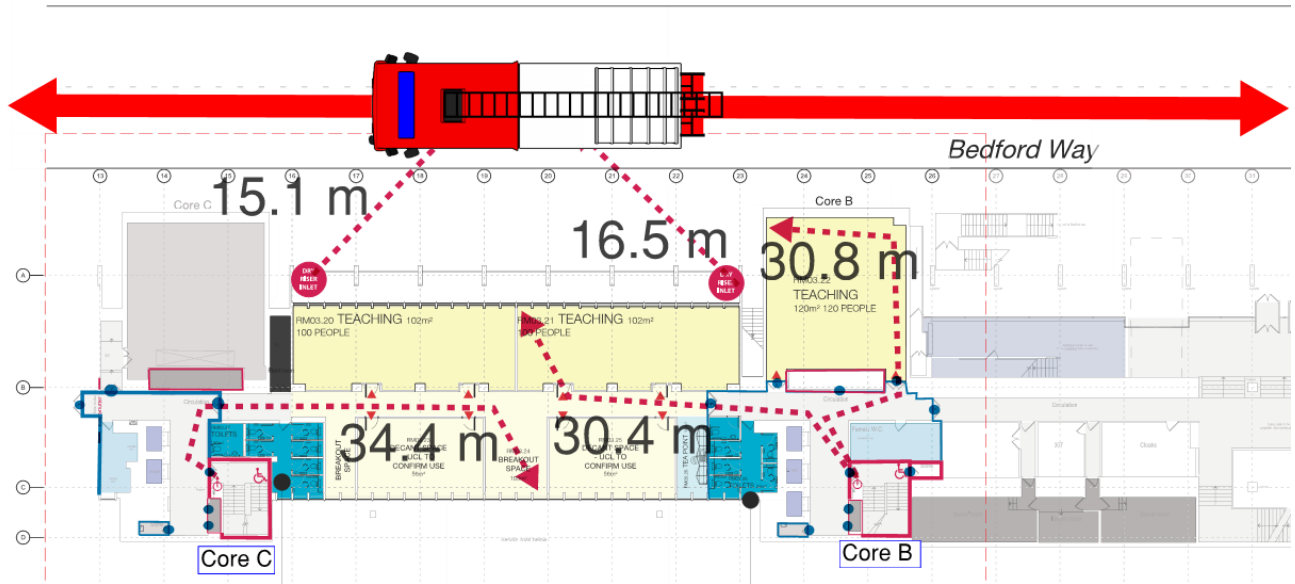


Figure 6-5: Level 03 between cores B to C, existing fire brigade access and hose coverage by providing dry riser outlets in Cores B & C

6.2 Dry Risers

A dry riser/falling main will be provided in Stair V serving the 'Wing' at all level to assist the Fire Brigade services designed in accordance with BS 9990. The inlet should be located by the service road – see Figure 6-1.

In the existing situation dry riser outlets are located in stairs A to C at every two levels. During Phase works, 1 it is to be ensured that dry riser outlets are provided in stairs B to C at Level 03, and stair A at levels 04 and 05. It is recommended for dry riser outlets to be provided at all levels for the final design i.e. as each future phase is completed on a phase-by-phase basis.

6.3 Fire Hydrants

Exact locations of existing fire hydrants should be confirmed near Bedford way and the service road. However, the existing building is understood to be located within 100m of an existing hydrant.

6.4 Basement Smoke Clearance

Following code recommendations, any basement greater than 200m², is required to be provided with natural smoke venting equivalent to 1/40th (2.5%) of floor area on opposite sides to allow cross ventilation. Therefore, natural smoke clearance should be provided at Level 02 of the Wing to comply with code. It is not practical to comply fully with code given the existing situation in terms of cross ventilation.

The Level 02 is proposed to be separated into fire compartments being vented via fire service opening doors to external for assisting the smoke clearance strategy, see Figure 6-6 . The proposed smoke clearance strategy is improving significantly the existing situation (i.e. this level was used as workshops areas with no venting or firefighting facilities), by providing fire service access, compartmentation and as much smoke venting as practicably possible. The below is considered reasonable given existing constraints and has been discussed and agreed with the London Fire Brigade.

The break out space compartment is 310m² excluding low risk spaces such as toilets and protected lobby, thus 7.75m² of smoke vent area should be achieved to meet the recommended 2.5%. It is proposed for this venting area to be provided via fire service opening doors to the permanently vented circulation corridor and through opening the doors in Stair V into the service road. Assuming that the doors height is 2m, three doors of 1300mm wide, a total area of 7.8m² is achieved. The cross venting criterion is also met. The back-of-house circulation corridor is considered as an external space since it is permanently vented via the last room being meshed/grilled walls.

The Apple Lab and Media Booth rooms form a 97.2m² compartment, therefore 2.45m² of smoke vent area should be achieved to meet the recommended 2.5%. This is proposed to be provided via the opening the doors into the external circulation space and doors of Stair V, thus a total area of 2.6m² it is achieved. No cross venting would be achieved unless smoke is vented through the breakout space. This is considered reasonable for this compartment since in this corner, the risk associated with these rooms from heat and smoke build-ups are no different than ground floor rooms.

The plant room compartment is 197.2m² total area therefore a smoke vent area of 4.9m² is required based on achieving the recommended 2.5%. This is proposed to be achieved via doors opening into the existing exhaust plenum, and doors to the back of house corridor. The back-of-house circulation corridor is considered as an external space since it is permanently vented via the last room being meshed/grilled walls.

The UCL Estates offices are of total area 204.4m² thus a smoke vent area of 5.1m² is required based on achieving the recommended 2.5%. This is proposed to be achieved via doors opening to the permanent ventilated corridor. The doors are 1300mm wide and 2m height and a total area of 7.8m² is provided.

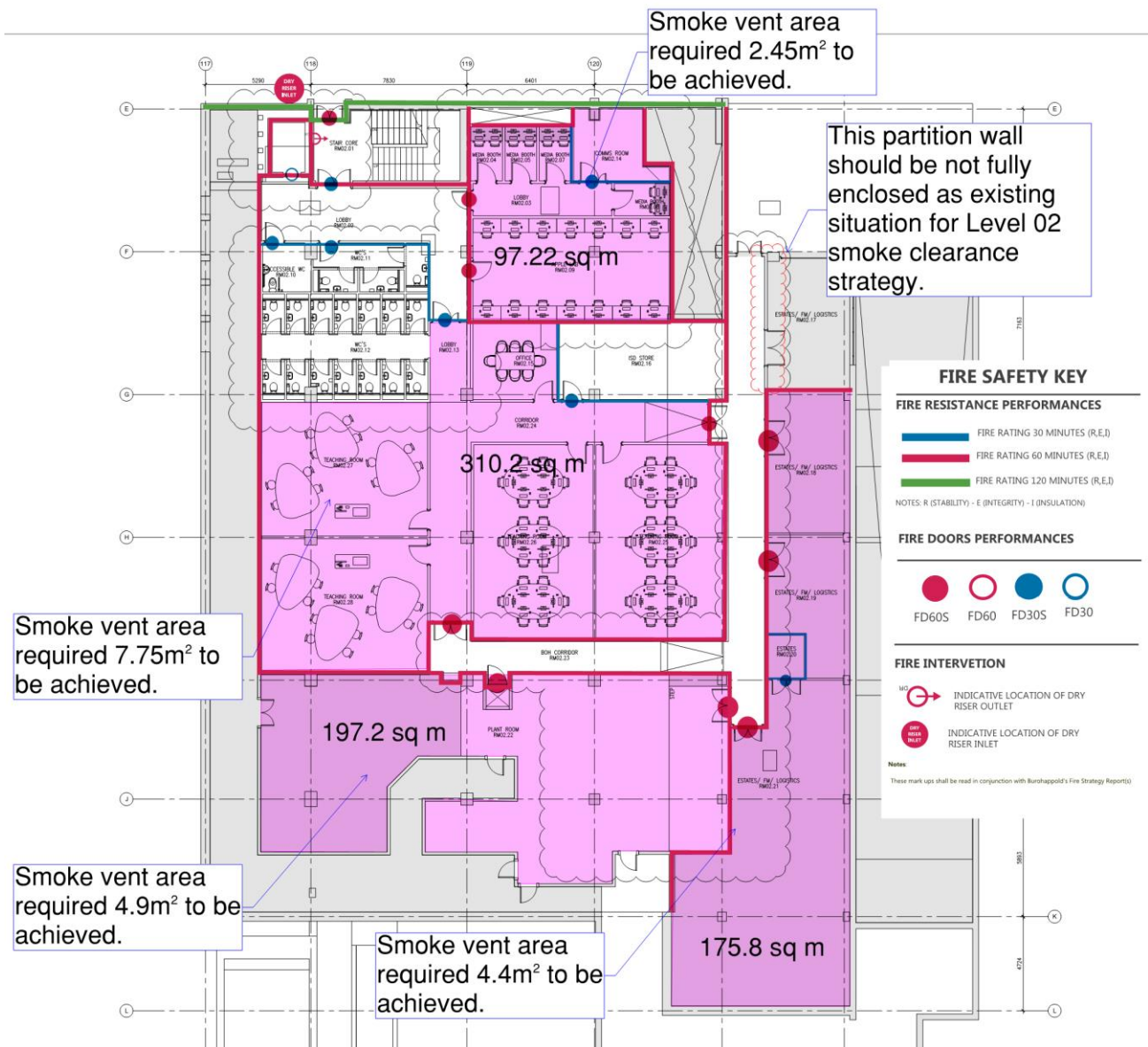


Figure 6-6: Level 02 Wing smoke clearance requirements

7 Fire Active Systems

7.1 Automatic Fire Detection and Alarm System

The fire detection and alarm system should be designed as per BS5839-1:2017. It is recommended that the building be provided with an automatic fire warning and detection system with manual call points sited adjacent to exit doors. The assumed risk profiles require a Type M system as a minimum; however, it is proposed to enhance this to an L1 system in accordance with UCL Fire Technical Note 54 to all areas subject to these proposed works.

In accordance with UCL requirements there will be no investigation period.

In accordance with UCL Fire Technical Note TN054, combination voice and tone alarm sounders will be considered in all areas where a large numbers of students or public could be present in the space (e.g. open plan studios/workshops, break out spaces, lecture theatre, seminar rooms, exhibition and café spaces). Any omission of this voice alarm sounders should be explicitly agreed with UCL Fire Officer.

All other areas can be provided with standard sounders.

Visual alarms meeting BS EN 54-23 to be provided in the following locations:

- In all areas where the level of noise might cover the alarm sounders (Workshops, plant rooms, etc),
- In all areas where audible alarms are not acceptable (sound or anechoic booths, etc)
- In all disabled facilities (WC, showers, etc) and in all disable refuges to allow good communications through intercom,
- In all areas where a main fire panel is located to help find it.

The alarm panel installed for Phase 1 will be connected with the main building alarm panel.

Other requirements in UCL Fire Technical Note 54 (i.e. sound levels etc.) should be met unless otherwise agreed with UCL Fire Officer.

7.2 Hose Reels

Hose reels are no longer required within Building Regulations and guidance, therefore, with agreement from UCL, it is reasonable for them to be removed. These should be appropriately replaced by Fire Extinguishers as per UCL Technical Note 023. Fire extinguisher number and location will need to be reviewed as part of UCL fire risk assessments.

Careful considerations should be in place to ensure that the removal of these fire hose reels during Phase 1 works does not affect the operation of existing fire hose reels serving other areas.

7.3 Emergency Power Supply

A suitable secondary power supply serving the life safety systems of the building should be installed. This system should be independent of the primary power supply.

7.4 Emergency Lighting

Emergency lighting shall be provided in accordance with BS 9999 and designed in accordance with BS 5266 Part 1 and UCL Fire Technical Note TN20. All escape routes should have adequate artificial lighting and should be on a separate circuit from that supplying any other part of the escape route. This system includes an emergency escape route lighting system, an open area (anti-panic) lighting system, and an emergency lighting for high risk task area lighting system.

7.5 Emergency Signage

Escape routes shall be marked with suitable exit signage complying with the Health & Safety (Safety signs and signals) Regulations 1996. An exit sign will mark every doorway or other exit providing access to a means of escape. The position of such signs will be agreed between the architect and the fire service as part of Building Regulation Approvals, and will then be reviewed as part of the RRO fire risk assessment.

Exit signs will comply with BS 5499: Part 1 and European sign directives; and according with UCL Fire Technical Note TN090.

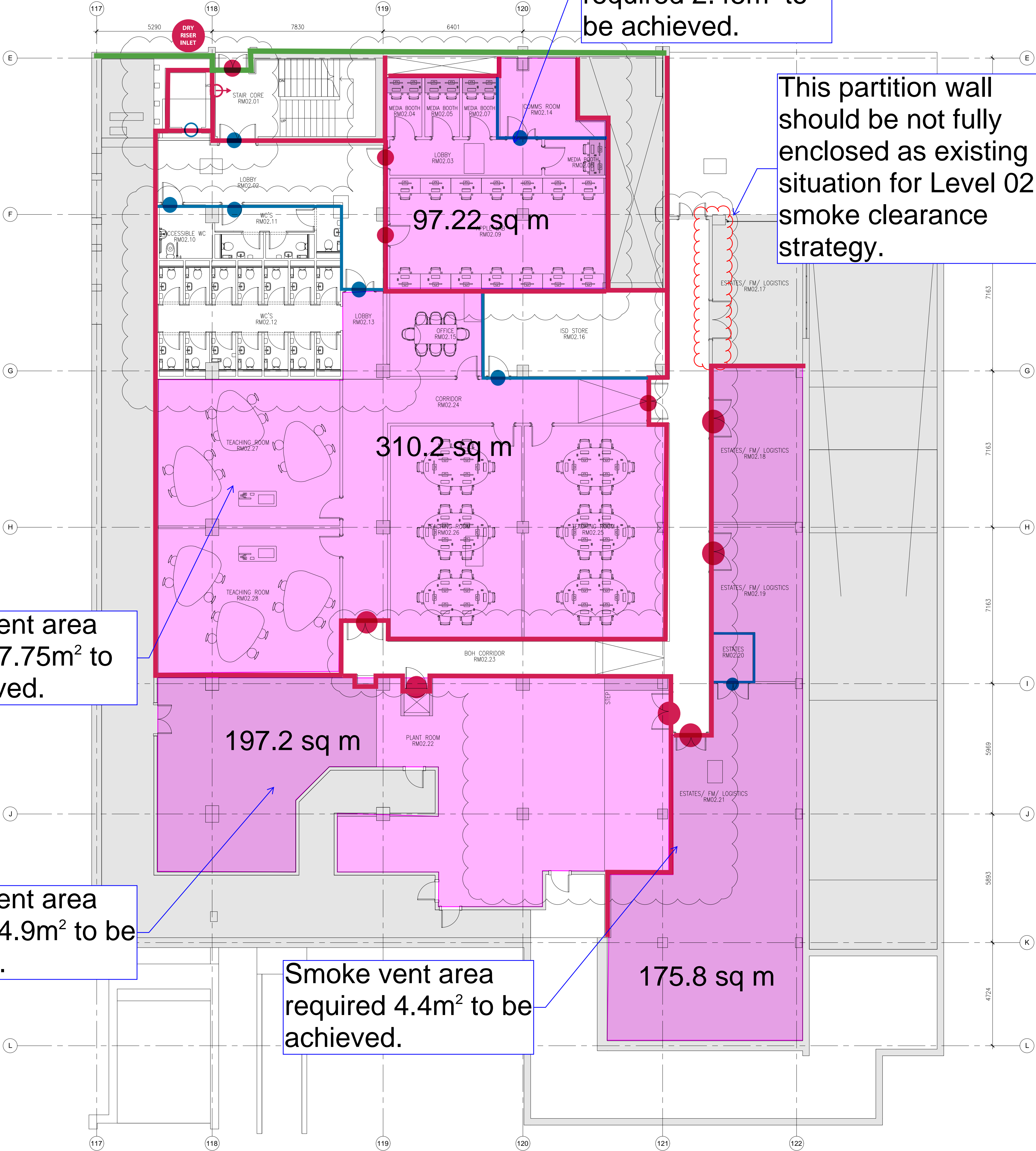
7.6 Secondary Power Supply

Suitable secondary power supply should be provided to all life-safety systems.

Appendix A Typical Compartmentation Drawings for Phase 1

To assist Hawkins Brown in the preparation of fire drawings for Phase 1 work, the following mark-ups are provided.

NOTE:
ENSURE NO STRIP OUT, DEMOLITION OR BUILDING WORKS ARE UNDERTAKEN WITHOUT THE REQUIRED LISTED BUILDING AND PLANNING CONSENTS FROM THE LOCAL AUTHORITY.
IT IS AN OFFENCE TO CARRY OUT WORKS THAT REQUIRE LISTED BUILDING CONSENT WITHOUT SUCH CONSENT BEING OBTAINED.
DRAWINGS TO BE READ IN CONJUNCTION WITH:
• ARCHITECTURAL SCHEDULES AND SPECIFICATIONS.
• STRUCTURAL DRAWINGS AND SPECIFICATIONS.
• M&E DRAWINGS AND SPECIFICATIONS.
• ACOUSTIC REPORTS.
• FIRE STRATEGY.
• HERITAGE REPORT.
• SPECIALIST FACADE REPORT.
• IT/AV SPECIALIST DRAWINGS AND SPECIFICATIONS.
• LIFT SPECIALIST DRAWINGS AND SPECIFICATIONS.
THE MAIN CONTRACTOR IS TO SURVEY, TEST ACOUSTIC, FIRE AND THERMAL PROPERTIES OF EXISTING WALLS TO DETERMINE INTERNAL LINING REQUIREMENTS.



Smoke vent area required 2.45m² to be achieved.

This partition wall should be not fully enclosed as existing situation for Level 02 smoke clearance strategy.

Smoke vent area required 7.75m² to be achieved.

Smoke vent area required 4.9m² to be achieved.

Smoke vent area required 4.4m² to be achieved.

FIRE SAFETY KEY

FIRE RESISTANCE PERFORMANCES

- FIRE RATING 30 MINUTES (R,E,I)
- FIRE RATING 60 MINUTES (R,E,I)
- FIRE RATING 120 MINUTES (R,E,I)

NOTES: R (STABILITY) - E (INTEGRITY) - I (INSULATION)

FIRE DOORS PERFORMANCES

- FD60S
- FD60
- FD30S
- FD30

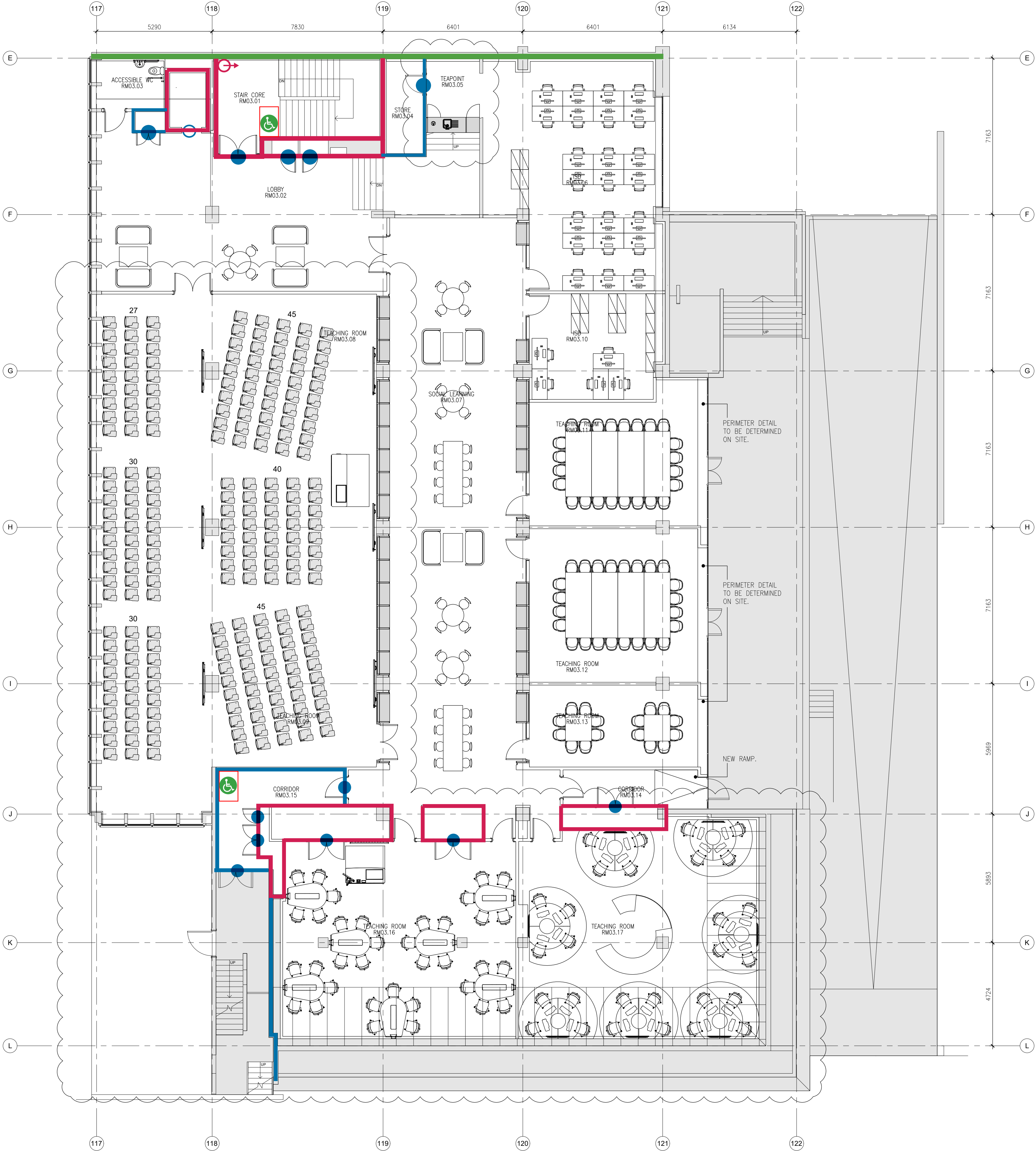
FIRE INTERVENTION

- INDICATIVE LOCATION OF DRY RISER OUTLET
- INDICATIVE LOCATION OF DRY RISER INLET

Notes:
These mark ups shall be read in conjunction with Burohappold's Fire Strategy Report(s)

P03	18.12.2017	Issued for information. Final Layout omitted from drawing title. WC block partition setting out updated. Apple Lab, Corridor Room and Media Booths updated to reflect EAI 018. Plant Room RM02.22 enlarged. Estates Room RM02.21 reduced in size to accommodate. New partition added to opening of removed double door to Plant Room RM02.22. BOH corridor shown within scope.	TP
P02	01.11.2017	Issued for information. Legend updated. Areas outside of scope highlighted. Layout updated in Media Booths, Apple Lab & Corridor Room.	TP
P01	27.10.2017	Issued for information.	TP
-	11.10.2017	Issued for information.	TP
REV	DATE	DESCRIPTION	BY
PROJECT UCL IOE PHASE 1 20 BEDFORD WAY. WC1H OAL			
CLIENT UCL IOE			
LOCATION LEVEL 2 WING			
DRAWING TITLE GENERAL ARRANGEMENT PLAN (FINAL LAYOUT)			
STATUS INFORMATION			SCALE 1:100 @ A1
DRAWN BY TP	CHECKED BY RA	DATE 15.09.2017	REVISION P03
DRAWING NUMBER UCL-IOE-0100-WA-02-DR-A-72-0001			

NOTE:
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• HERITAGE REPORT.
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• IT/AV SPECIALIST DRAWINGS AND SPECIFICATIONS.
• LIFT SPECIALIST DRAWINGS AND SPECIFICATIONS.
THE MAIN CONTRACTOR IS TO SURVEY, TEST ACOUSTIC, FIRE AND THERMAL PROPERTIES OF EXISTING WALLS TO DETERMINE INTERNAL LINING REQUIREMENTS.



FIRE SAFETY KEY

FIRE RESISTANCE PERFORMANCES

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- FIRE RATING 60 MINUTES (R,E,I)
- FIRE RATING 120 MINUTES (R,E,I)

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FIRE DOORS PERFORMANCES

- FD60S
- FD60
- FD30S
- FD30

FIRE INTERVENTION

- INDICATIVE LOCATION OF DRY RISER OUTLET
- INDICATIVE LOCATION OF DRY RISER INLET

Notes:
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P04	08.02.2018	Issued for information. Furniture layout amended in Teaching Rooms RM03.08 & RM03.09 to reflect EAI 001. Furniture layout amended in Teaching Rooms RM03.16 & RM03.17 to reflect client requirements. Teapoint in RM03.05 amended.	TP
P03	18.12.2017	Issued for information. Lift position and shaft opening updated. Accessible WC and Riser position amended. Alignment of wall and double door updated. Setting out of doors to Teaching Rooms RM03.16 & RM03.17 adjusted to maintain 300mm from wall to leading edge for CDA.	TP
P02	01.11.2017	Issued for information. Legend updated. Areas outside of scope highlighted. Ramps, steps and perimeter detail indicated.	TP
P01	27.10.2017	Issued for information.	TP
-	11.10.2017	Issued for information.	TP
REV	DATE	DESCRIPTION	BY



PROJECT
UCL IOE PHASE 1
20 BEDFORD WAY. WC1H OAL

CLIENT
UCL IOE

LOCATION
LEVEL 3 WING

DRAWING TITLE
GENERAL ARRANGEMENT PLAN

STATUS INFORMATION	SCALE 1:100 @ A1
DRAWN BY TP	CHECKED BY RA
DATE 15.09.2017	REVISION P04

ENSURE NO STRIP OUT, DEMOLITION OR BUILDING WORKS ARE UNDERTAKEN WITHOUT THE REQUIRED LISTED BUILDING AND PLANNING CONSENTS FROM THE LOCAL AUTHORITY.

DRAWINGS TO BE READ IN CONJUNCTION WITH:

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- STRUCTURAL DRAWINGS AND SPECIFICATIONS.
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- SPECIALIST FACADE REPORT.
- IT/AV SPECIALIST DRAWINGS AND SPECIFICATIONS.
- LIFT SPECIALIST DRAWINGS AND SPECIFICATIONS.

GENERAL NOTES

THIS DRAWING IS THE COPYRIGHT OF MACE DESIGN. DO NOT SCALE THIS DRAWING.
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THE DRAWING IS ISSUED ON THE CONDITION THAT IT IS NOT REPRODUCED, RETAINED OR DISCLOSED TO ANY UNAUTHORISED PERSON EITHER WHOLLY OR IN PART WITHOUT THE WRITTEN CONSENT OF MACE DESIGN.

GENERAL ARRANGEMENT PLAN LEGEND:

SYMBOL	DESCRIPTION
	AREAS OUTSIDE OF SCOPE.
	BUILT IN JOINERY

FIRE RESISTANCE PERFORMANCES

-  FIRE RATING 30 MINUTES (R,E,I)
 FIRE RATING 60 MINUTES (R,E,I)
 FIRE RATING 120 MINUTES (R,E,I)

NOTES: R (STABILITY) - E (INTEGRITY) - I (INSULATION)

FD60S FD60 FD30S FD30

FIRE INTERVENTION



Notes:

These mark ups shall be read in conjunction with Burohappold's Fire Strategy Report(s)

P01	23.05.2018	Issued for information, Stage 4, Superloop layout added. Teaching Room & Bar wall amended. Plant Room wall amended.	TP
-	04.05.2018	Issued for information, Stage 3 Update.	RA
REV	DATE	DESCRIPTION	BY



MACE DESIGN
155 MOORGATE, LONDON, EC2M 6XB

PROJECT
UCL IOE PHASE 1B
20 BEDFORD WAY. WC1H 0AL

CLIENT
UCL IOE

LOCATION
LEVEL 4 WING

DRAWING TITLE
GENERAL ARRANGEMENT PLAN

STATUS INFORMATION		SCALE 1:100 @ A1
DRAWN BY RA	CHECKED BY TP	DATE 27.03.2018
DRAWING NUMBER UCL-IOE-0100-WA-04-DR-A-72-0001		REVISION P01

