**Assent** Building Control Ltd

**6th November 2015**

# PRELIMINARY BUILDING REGULATIONS REPORT

**Address:** Renslade House, Exeter

**Description:** The construction of an 8 storey residential block for potential student accommodation.

**Drawings:** Mitchell Architects Drwg. No: 1953.P105, P104, P103, P102, P101, P100 including Jubb drwg H101, and outline briefs from acoustic, M&E and thermal design consultants.

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## 1.0 Introduction

1.1 The works are controlled under the Building Regulations as they involve the formation of a building (Regulation 3a and 3b for the provision of a controlled service/ services).

1.2 An Initial Notice has yet to be submitted following formal submission of an application so awaiting client confirmation on formalising the application. Please be aware an application must be submitted at least 5 working days before any commencement of works on site.

1.3 The design drawings submitted to-date has been checked to determine compliance with the Building Regulations using the Approved Documents. Our comments/ observations are as follows:

## 2.0 Part A – Structure

2.1 A full structural design package [engineers design drawings, construction details and calculations] are required to be submitted for the scheme proposals. The elements of design should include the principle key stages of the building;

[a] Foundations – assessed for additional floor loadings and changes in usage/ layout.
[b] Floors [ground and upper floors]
[c] Structural frame – including connection details/ fixing proposals and restraint details
[d] Wall construction
[e] Roof construction
[f] Disproportionate collapse

*NOTE: Additional comments may arise when the full design packages are forwarded for assessment as other factors may be raised for checking – along with general floor constructions and connection details with that existing tower building, we can itemise specific areas for conditional approval where necessary subject to your consent, please advise.*

## 3.0 Part B – Fire Safety

3.1 The following installations shall be provided in accordance with respective British Standards:

- Fire alarm – BS 5839 Pt. 2 2002 –Category L1/2 full design layouts and specifications of the system should be submitted to clarify compliance with this provision. The common areas are to be nominally protected in order to operate smoke ventilation provisions these will be identified in greater detail below within the report.
- Emergency lighting – BS 5266 – level of coverage will also be determined by the use – all [common areas] will need to have full coverage for escape routes, circulation areas and exits.
- Fire Exit Signage – BS 5499 Pt.1 fire safety signs, notices and graphic symbols, locations and signage types should be indicated upon the final set of fire strategy floor plans – we will advise accordingly to agree directional signage requirements once the fire safety provisions have been fully formulated.

3.2 PURPOSE GROUP, TRAVEL DISTANCES, OCCUPANCY & STOREY EXITS:

- Purpose group: Other Residential group 2b
- Travel distance (direct): Within bedrooms 9m single direction, corridors 9m single direction or 35m where alternative egress provided, and elsewhere 18m single direction and 35m where alternative exits available.
- Occupancy: Residential – Not Applicable as dependent upon sleeping accommodation [number of bedrooms determine occupancy] while shared facilities are determined by useable floor space so details on the actual layouts will need to be provided for detailed review including actual floor areas with usage]
- Storey exits: the number as detailed appears as satisfactory but is subject to the information contained in the report below.

The scheme design and building layout as submitted has been reviewed and the following comments are made to identify measures towards achieving compliance;

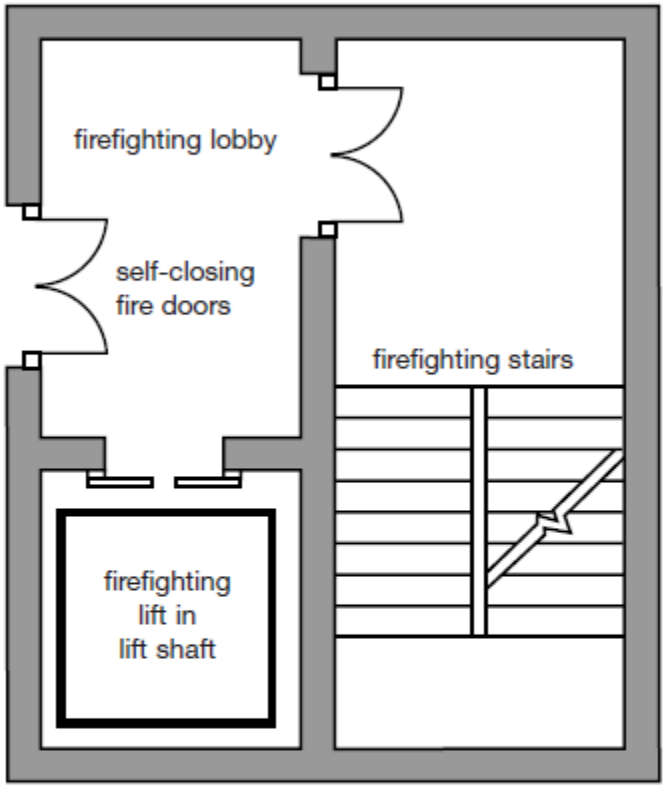
**Smaller Block**

**Ground floor level –** this is the principle entrance level for the new residential block – the east core has direct egress to external air while the west core is accessed through a common entry foyer. Located of this are shared toilet facilities, common room. Laundry etc. Other facilities are also provided but are separately access and fully enclosed/ fire separated from the general accommodation areas. The floor areas for the common room need to be confirmed to establish occupancy levels but would recommend alternative egress based upon that size of facility shown. The stair cores must be formed as 90 minute fire resisting shafts with doors provided being at least FD30S albeit where the height of the building exceeds 18m above ground level a fire fighting shaft/ stair core should be provided which requires a protected lobby to be formed, this is not apparent from those designs submitted would the premises be otherwise fully protected by a sprinkler system please clarify.

The fire fighting shaft details should be formed as follows;

## Diagram 52 **Components of a firefighting shaft**

See para 18.1




**Notes:**

1 Outlets from a fire main should be located in the firefighting lobby.

2 A firefighting lift is required if the building has a floor more than 18m above, or more than 10m below, fire service vehicle access level.

3 This Diagram is only to illustrate the basic components and is not meant to represent the only acceptable layout. Ventilation measures have not been shown (refer to BS 5588: Part 5 *Code of practice for firefighting stairs and lifts*).

All common corridors should be formed as 30 minute protected corridors and those higher risk facilities such as plant rooms, bin stores are to be enclosed by 60 minute fire rated construction.

The entrance level shows egress will be via the west core staircase, the common room opens onto the common area along with entrances accessing the block so consideration needs to be given for all exits to allow passage of all occupants requiring evacuating the building. Assessment of this fact will need to be carried out to identify all final exit widths relative to the level of occupancies using them.

The west core could be adapted by revising the layout to accommodate a fire fighting shaft configuration – it is noted that a dry riser is to be installed so again details on location and points of access will need to be submitted.

NB: Disabled access and egress provisions will also need to be provided as if level access and lifts are to be installed then fire safety measures will need to be adopted for disabled persons i.e. refuges and communication aids adjacent refuge locations.

Level 1 – Appears to have an external communal space with a single external stair – again the stairs width will need to be established as from those plans the stair width is assumed as a 1.8m wide stair which permits 360 persons. The internal corridor has a dead end situation to a stair core which appears to meet the travel distance criteria stated above 9m single direction and where escape can be made in two directions the travel is extended to 35m. All corridors linking two stair cores are to be subdivided which has been shown but that these doors are to be FD30S fire doors with visions panels between 500mm and 1500mm above floor finish levels – a door schedule along with fire strategy plans will need to be provided.

NB: All bedrooms shown should be formed as a fully enclosed 30 minute fire resisting enclosure – doors are to be FD30S self-closing fire doors fitted with intumescent seals and smoke strips. Cross corridor doors should be of equivalent standard for fire rating with vision panels stated above.

Levels 2 to 7 – Internal corridors appear to have correct travel distances from dead end section of corridors with access between stair cores achieving the 35m travel distance criteria. Bedrooms are to be fire rated and enclosed as stated above, dead end sections of corridors should be fire separated from the main circulation corridor linking the two stair cores please be aware. Fire detection should be located within each bedroom as well as the common areas as these will be linked to ventilation criteria for smoke removal.

**Common areas** – the access arrangements proposed in the common areas where fitted with doors on or around the stairs should have vision panels – these being fire rated doors with vision panels located between 500mm and 1500mm above floor finish levels. All doors from each unit opening onto the shared common circulation routes should also be fire rated doors of equivalent standard – FD30S doors, self-closing devices fitted and strips and seals to all doors will be needed. A door schedule clarifying the door type and location is required when available. All final exit doors should also be fitted with approved type emergency fastenings. NB: The requirements for firefighting should also be taken into account for firefighting personnel, firefighting shafts and a dry riser would be necessary due to the configuration of the building. A tender appliance has been shown which demonstrates vehicle access to the site but that a fire strategy detail should be issued to show fire fighters access and fire hydrant facilities on site as well as dry riser positioning. Smoke ventilation provisions are required to the stair cores – a strategy should be adopted as these will need to be automatic AOV's the areas generally being 1m2 located at the head of each stir core. In addition corridors should also have ventilation provisions for smoke removal so would request design details to be forwarded to assess and agree a smoke ventilation strategy. Note some provisions could be reduced is the building is to be fully sprinklered but unaware that this is the case so request clarification on strategy for this and the larger block.

**External areas** – access routes for both safe egress from the premises as well as fire brigade access should be clarified upon the site layout plans, it is acknowledged that vehicles can access the site so would appear to be satisfactory in principle for fire appliance access but as stated above await formal construction details and specifications.

**General** – the proposed schemes as issued has merits in regulatory terms which can be given approval subject to further detailed designs, we would therefore request floor layout plans to reflect that fire strategy for each block as stated above. Once these fire strategy plans are submitted we will be able to provide more detailed comment and enable us to formerly consult with the fire authority. **These same comments would also be**

**applicable to the larger block so once a proposed fire strategy is formed please forward those designs for assessment and approval as well.**

### 3.3 INTERNAL FIRE SPREAD (LININGS)

Surface spread of flame classification to new wall and ceiling linings shall not exceed class 3 to small rooms and class 1/ 0 to escape routes/ large accommodation rooms over 4m2 [common rooms, shared facilities].

### 3.4 INTERNAL FIRE SPREAD (STRUCTURE)

The load bearing elements of construction that are to be formed i.e. floors and protection to steel beams supporting floors etc. should have at least 90 minutes of fire protection, please specify and provide construction details. The floors and walls separating the individual elements should be formed as compartment walls and floors also of 90 minutes fire rating, so special provisions should be adopted for fire stopping of services and also routing of services serving the building – this will need careful consideration for fire stopping provisions and use of fire dampers etc. please forward full M&E drawings for each floor identifying the provisions for ventilation ducts and all associated services for heating and cooling.

### 3.5 ACCESS & FACILITIES FOR FIRE FIGHTING

The proposals under this part are to be clarified as due to the height of the building exceeding 18m a firefighting shaft should be provided unless other fire suppressions systems are to be adopted please clarify and/ or revise the floors accordingly. The internal firefighting provisions for firefighting [dry riser] are to be further clarified and supported by detailed designs in due course.

### 4.0 Part C – Site Preparation to resistance to contaminants and moisture

4.1 Full design details and specifications are required for the floor constructions, window and roofing/ weathering elements for the buildings envelope, so await further design details when available.

### 5.0 Part E – Resistance to passage of Sound

5.1 As these premises are residential the sound insulation provisions are to be achieved so that sound reduction can be achieved between each bedroom, please clarify the upgrade provisions that are to be adopted to achieve this requirement. It should also be noted that upon completion of works a series of sound testing should be carried out to confirm the units formed have achieved the sound reductions measures necessary – copies of these sound reports will be required for our files to demonstrate compliance. Further advice will be given once design details are known.

### 6.0 Part F – Ventilation

6.1 Full design details and information will be needed to satisfy this part for all proposed uses, please forward the M&E ventilation proposals/ specifications. NB: The initial preliminary design brief submitted to-date I can confirm appears adequate subject to detailed submissions to be provided in due course.

### 7.0 Part G - Sanitation, Hot Water Safety and Water Efficiency

7.1 This is applicable where toilet/ sanitary facilities are to be provided – which from the floor plans are shown as adequate but are subject to full specification and drainage layout. NB: Stacks are duly noted the actual drainage layouts are to be supplied once designed; we await formal submission in due course.

**8.0 Part H - Drainage and Waste Disposal**

8.1 Full design and details for both the above and below ground drainage systems are to be fully clarified.

Layouts for above ground facilities are also required to be identified upon the floor layouts as due to the use provisions will need to be adopted as part of this project.

**9.0 Part J – Combustion Appliances and Fuel Storage Systems**

9.1 Please provide full M&E design details for these proposals for all space heating provisions.

**10.0 Part K – Protection from Falling, Collision & Impact**

10.1 Full design details and specifications are required for all staircases, plant areas and guarding provisions in and around changes in floor levels including roof top access – please clarify the new and existing stair provisions.

**11.0 Part L – Conservation of Fuel & Power**

11.1 Full design and details for the external envelope are required to be submitted along with thermal assessments to demonstrate compliance with current requirements for a newly converted building. Those U-value assessments of the external envelope have been noted and the figures appear adequate but as stated the installation of space heating and hot water provisions will be required to be fully designed and details forwarded with a full assessment of the building to identify if extra measures are necessary. If the windows are to be altered for better thermal properties then it is unlikely in my opinion we will need additional measures to the existing walls but this will need verification/ justification. It will be necessary to forward an Energy Performance Certificate for each new residential unit being formed, please be aware. NB: This follows from recent discussions concerning this so await further information.

11.2 Heating, hot water, ventilation, cooling and lighting installations shall follow that guidance within the Domestic Building Services Compliance guide. Commissioning of all services installations shall be carried out in accordance with CIBSE commissioning requirements and copies of the certificates are to be forwarded at completion stage of the project.

*NB: further in depth details will be identified once the formal submission of a details design and specification has been made so please be aware.*

**12.0 Part M – Access to & use of buildings**

12.1 Full access provisions are to be confirmed – level thresholds, colour contrast interior finishes, stair provisions along with a fire strategy to be identified. Sanitary provisions are also required so should be identified upon those plans with full provisions being identified and clarified in specifications/ designs where necessary subject to which proposal is eventually adopted.

**13.0 Safety Glazing**

13.1 Where glazing has been located within critical locations as defined under this part [less than 800mm above finish floor level] that all glazing to be installed will be safety glass with correct identification marking [BS6206] as well as manifestation provisions for full height glazed partitions.

## 14.0 Part P – Electrical Safety in Dwellings

14.1 Not applicable in this instance.

## 15.0 Security

15.1 Not applicable in this instance

## 16.0 Information to be provided

- Structural packages
- Fire strategy in line with our comments above
- Construction details and specifications of works for the entire scheme
- Acoustic design/ information – sound testing reports
- Ventilation strategy and proposals
- Sanitary provisions
- Drainage requirements for both above and below ground
- M&E services
- Staircase designs incorporating guarding requirements
- Part L – Energy Performance Certificates for each unit
- Disabled strategy provisions for general access and egress provisions for the building
- Commissioning certificates for all services upon completion

***NOTE: This report outlines that information submitted to date – more detailed reports and advice will be provided upon receipt of further detailed designs and specifications/ information when forwarded for our assessment/ review.***