Michael Riley
5th Year Architecture: **Management and Professional Studies**

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Assignment 04: Building Regulations

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Assumptions

- Despite the site being in Dublin, Ireland this building will have to conform to UK building regulations.

Report

In the RIBA work stages A-D Architects are required to create a scheme which meets the clients brief and the planning authorities' requirements for developments in the area. This scheme should be programmatically accurate and have the potential to be constructed without major design changes.

The completion of stage D is signalled by the submission of a planning application to the local planning department and then the design of the building usually halts for the period of six weeks whilst the scheme is analysed for its suitability by the planning department. Occasionally when the time scale for a project is tight the client might instruct the Architect to proceed with production information and building regulations application, RIBA work stages E-F.

The building regulations application is to certify that the building will meet all of the legislative requirements set out in the governments approved documents. However, a building regulations submission is not the only approach to proving the buildings compliance with legislation but it is generally a standard approach to testing the building.

If a part of the building is unusual and uses materials or components which are not approved by the building regulations it is necessary to test these components to check their suitability for the building. This process is expensive, time consuming and might be required by a building regulations authority if they are not satisfied the information you have provided.

Given the choices I will produce a building regulations submission to either the local government authority or an independent building control officer from a firm like STMP.

There is an advantage for choosing the local authority as they can work closely with you and the planning authority and conservation officers from the basic concept of your building. If this consultation works correctly potential problems can be noted very soon in the design process. One of the potential disadvantages with using the local authority, though, is the time it takes to gain building regulation approval as some local authorities have a very large work load and very few staff.

There is also a further advantage to using the independent building control officers in that it is a competitive service which needs to provide the best service it can to keep their clients. They will also be available for consultation if required and the time scales are much reduced.

Given the above comparisons I would recommend a local authority building regulations submission as the site is a sensitive conservation area and receives a lot of local interest. Consultations with all of these authorities should commence as soon as possible.

Approved Documents

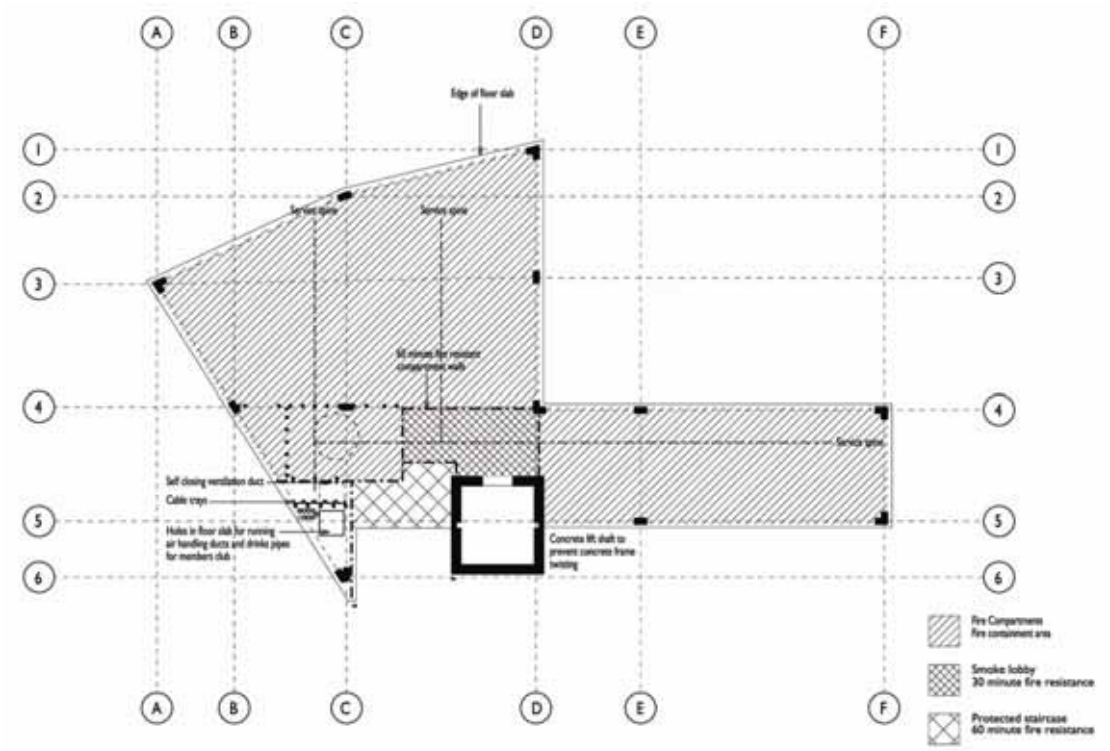
I have numbered the responses to potential issues in the Issues? box and detailed descriptions follow.

Doc	Description	Issues?
A	A1 Loading	No
	A2 Ground Movement	No
	A3 Disproportionate collapse.	No
B	B1 Means of warning and escape	No
	B2 Internal fire spread (linings)	Potential 1
	B3 Internal fire spread (structure)	Potential 1
	B4 External fire spread	No
	B5 Access and facilities for the fire service	No
C	C1 Preparation of the site	No
	C2 Dangerous and offensive substances	No
	C3 Subsoil drainage	Potential 2
	C4 Resistance to weather and ground moisture	No
D	D1 Cavity insulation	No
E	E1 Protection against sound from other parts of the building and adjacent buildings	Potential 3
	E2 Protection against sound within a dwelling-house	NA
	E3 Reverberation in the common internal parts of buildings containing flats or rooms for residential purposes	NA
	E4 Acoustic conditions within schools	NA
F	F1 Means of ventilation	No
	F2 Condensation within roofs	No
G	G1 Sanitary conveniences and washing facilities	No
	G2 Bathrooms	No
	G3 Hot water storage	No
H	H1 Drainage	No
J	J1 Air supply	No
	J2 Discharge of products of combustion	No
	J3 Protection of building	No
	J4 Provision of information	No
	J5 Protection of liquid fuel storage systems	NA
	J6 Protection against pollution	No

K	K1 Stairs ladders and ramps	No
	K2 Protection from falling	Potential 4
	K3 Vehicle barriers and loading bays	NA
	K4 Protection from open windows, skylights and ventilators	No
	K5 Protection against impact from and trapping by doors	No
L	L1 Conservation of fuel and power within dwellings	NA
	L2 Conservation of fuel and power in buildings other than dwellings	No
M	M1 Access and use	No
	M2 Access to extensions to buildings other than dwellings	NA
	M3 Sanitary conveniences in extensions to buildings other than dwellings	NA
	M4 Sanitary conveniences in dwellings	NA
N	N1 Protection against impact	No
	N2 Manifestation of glazing	No
	N3 Safe opening and closing of windows, skylights and ventilators	No
	N4 Safe access for cleaning windows etc.	No

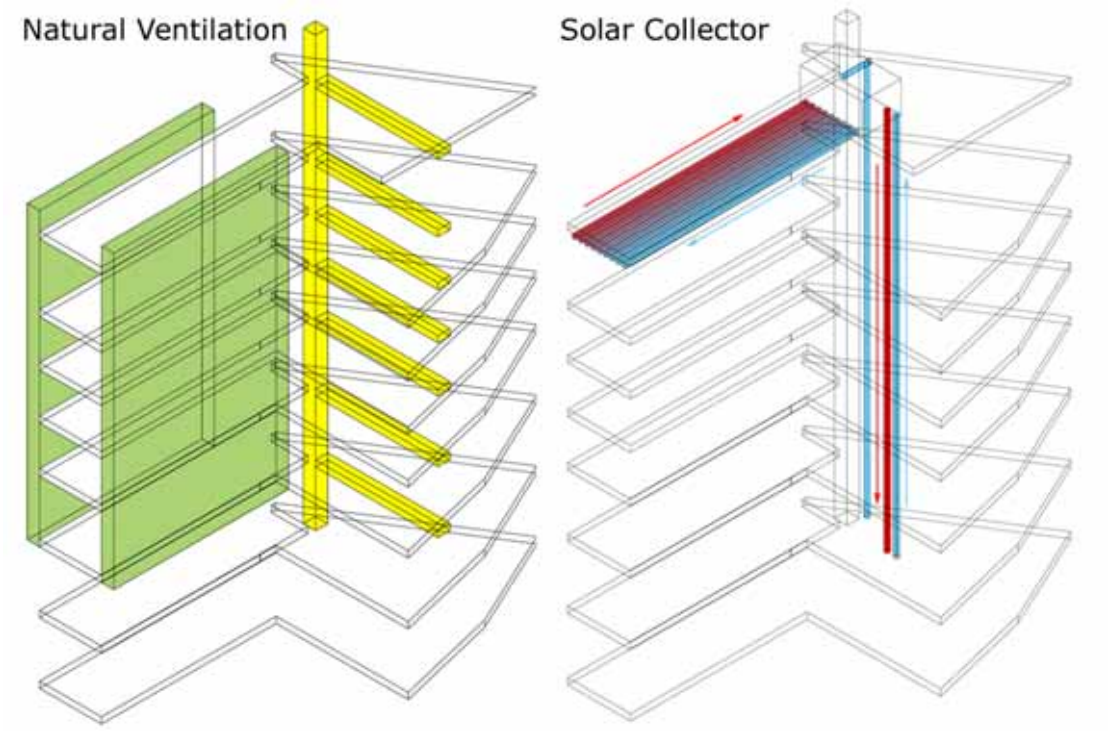
Issue 1 - B2 Internal fire spread (linings); B3 Internal fire spread (structure)

Though the majority of my building is simply constructed with well used and researched methods, one section of my building, which I shall refer to as the bookend, has a natural ventilation, solar collector and cooling strategy which involves the whole section being built as one fire compartment. This compartment can be separated at each floor by automatic closing vents but this construction method has the potential, subject to extensive testing, to prove its suitability and safety.



ABOVE: This diagram shows the fire strategy in 2 dimensions. The bookend is defined as structural bays D4-D5 to F4-F5. This section of the building is one compartment for the entire vertical height of the building. At each floor level the full height ventilation chimneys can be cut to prevent the spread of fire.

NEXT PAGE TOP: This diagram shows the natural ventilation chimneys running the full height of the building and the solar collector at the top of the building. The yellow marked ducts in the ventilation diagram denote a mechanical ventilation system. This system is required to keep the recording studios and library archives acoustically isolated and at the correct humidity and temperature for the books.



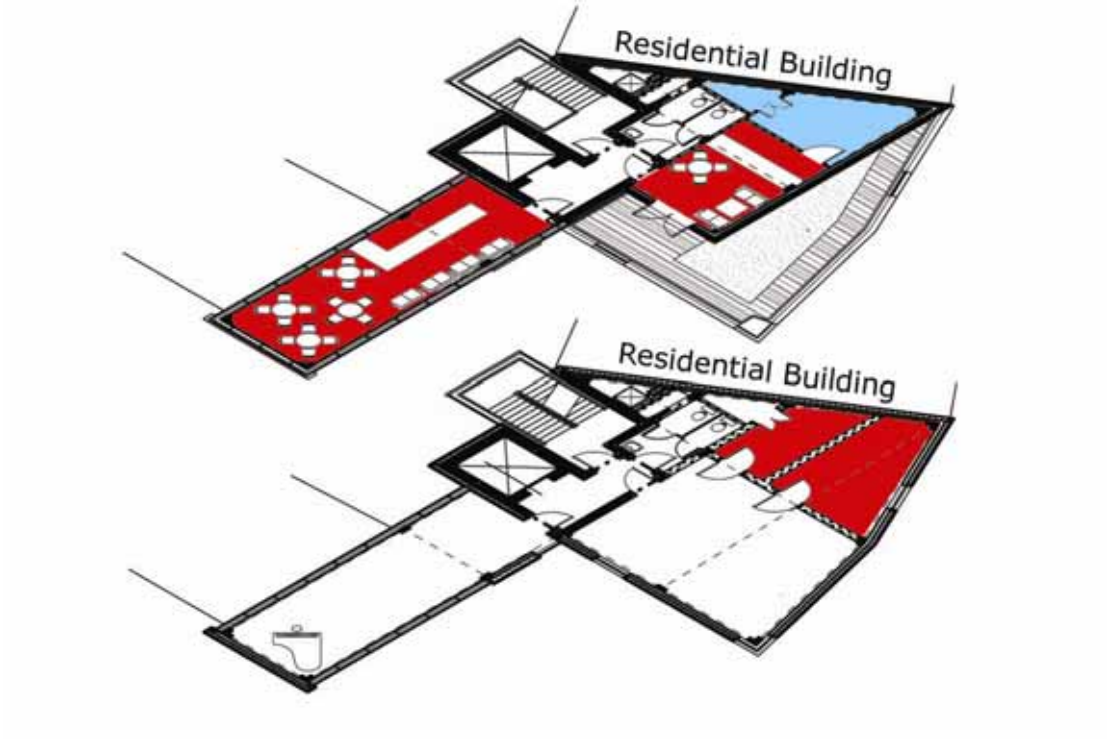
I would submit the above information with manufacturer's information relating to the bookend fire systems to the local authority. I am confident that this would be sufficient to pass the building regulations but would have to raise the potential issue with the client in case further testing was required. With consultations starting early in the design process any issues should be identified quickly.

Issue 2 - C3 Subsoil drainage

This site is situated near the banks of the river Liffey. There is also a culverted river, which feeds into the river Liffey running down the middle of the road in front of the site. An existing building on the site extends to all boundaries. Special care has been taken with the site drainage and the basement retaining walls to resist flood waters and high volume passing water.

Issue 3 - E1 Protection against sound from other parts of the building and adjacent buildings

This building has a recording studio as part of the accommodation schedule, and as such this room needs to be acoustically separate from the rest of the building to prevent normal building operations interfering with the recordings. Also a residential building is located behind the building. Care has been taken to acoustically insulate the party wall between the two buildings. This increased insulation level is also located in the members bar area where we have also placed service zone buffer between the residential and the members club.



ABOVE: This image shows floors four and five. The red depicts where the recording studios, bar and café are located. The blue depicts the service buffer zone. The bar in the bookend is less of a concern as it does not share a party wall with a residential building.

Issue 4 - K2 Protection from falling

There is an issue where contracted window cleaners or glazing repair men may be at risk carrying out their work. I propose fixing a man safe system to the roof tops where workmen can fix supportive equipment. This system can be partially hidden behind the parapet walls at the top of the building.