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The Royal Hotel Bangor

Steelwork Condition Report – Executive Summary

19053-DID-ZZ-XX-RP-0001



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1 Executive Summary

The following points provide a summary of the report on the condition of the steelwork structure of the former Royal Hotel Building.

- External columns present evidence of severe corrosion. Due to the severity of corrosion column replacement will be required to restore the structural integrity.
- Column replacement will present a complex engineering challenge with temporary works structure required to support the existing connecting structure as well as the façade. This is likely to be a significant cost.
- The health and safety risk associated with a column replacement will be high as the existing external wall is installed within the depth of the steel section, presenting a potential collapse of wall panels during removal of the existing column.
- External edge beams are concrete encased and although corrosion does not appear to be as severe as the columns it is recommended that Cathodic Protection is provided to help prevent further deterioration. This is likely to provide an extended design life of approximately 20 years.
- Taking the health and safety and cost aspects of column replacement it is recommended that demolition is considered. This will allow the structure to be re-built to a design life of 50-100 years and in accordance to the most up-to date Eurocode and building regulation standards.
- Without intervention further deterioration is expected. This will continue to impact on the structural integrity of the building.

2 Background

2.1. Introduction

Design ID were appointed by The Clear Group as part of a design team to provide structural and civil engineering design services for a proposed redevelopment of the former Royal Hotel in Bangor. The original design scope included demolition of the rear portion of the former hotel building to make way for a 3-storey rear extension. The front portion of the building, fronting onto Quay Street was to be retained and altered internally to accommodate a new layout for apartments from first to fourth floor level and restaurant/café units at ground floor level. An image of the front portion of the Royal Hotel, as pictured in May 2020, is shown in Figure 1.



Figure 1 – Image of the Royal Hotel, taken in May 2020

3 Existing Structure

3.1. Initial Surveys and Observations

Due to a lack of historical drawing records Design ID carried out two visual surveys internally to gain an understanding of the existing structural form. The first of these surveys was conducted in May 2020. The purpose of this survey was to identify a potential structural arrangement and locations for opening up wall, ceiling and floor finishes for further investigation. This was followed by a second survey in June 2020 where several openings in internal finishes were formed to expose the existing structure by a contractor appointed by the client.

The outcome of this survey identified that the existing structure was a steel frame with insitu concrete floors and roof. The ground floor structure could not be verified, however it appeared to be a solid concrete floor slab. Internal dividing walls are constructed in 100mm brickwork. External infill walls are formed in 215mm solid brickwork with no cavity.

It should be noted that it was not possible to open up and investigate all areas of the building during the visits mentioned above. Therefore, the structural layout drawings provided in Appendix C have been developed based on what could be observed. It must be noted therefore that unidentified structure may exist. This report will comment only on the structure that could be observed.

3.2. Early Defects Identified

During the initial surveys carried out by Design ID in May and June a large number of defects were noted internally and externally. This was particularly pronounced on the external wall elevations. There were extensive areas of cracking and boast plaster that presented a health and safety risk to the general public due to the potential for these areas to spall and fall to the ground below. It was recommended to the client that loose areas of plaster should be removed to reduce the risk. Due to the severity of cracking and boast plaster to one particular area along Crosby Street it was recommended that strapping be provided as a temporary measure to maintain some restraint to the existing wall panels. Works were carried out by the clients appointed contractor in July 2020 to remove boast plaster and add strapping to wall panels along Crosby Street as illustrated in Figure 2. The measures undertaken at that time are short term measures and more permanent remediation was recommended to the client by Design ID. The cracking identified appeared to coincide with existing structural column and beam lines. Having identified that the existing structural form is a steelwork frame the initial assumption was that the cracking was formed due to corrosion and expansion of the steel.



Figure 2 – Images following removal of loose plaster and temporary strapping of existing walls taken in July 2020.

3.3. McFarland Consulting Input

On Design ID's recommendation McFarland Consulting were appointed by the Client to carry out a Structural Health Monitoring Assessment on the primary structure. McFarland Consulting are experts in this field. They recommended a '3 Phase' approach to the assessment:

- **Phase 1 – Initial Investigations**

This would involve a visual inspection of all columns/beams (in their current state) and subsequently assigning a RAG condition rating to each. A register and annotated drawings would be produced with each element assigned a rating for both their internal and external faces. The findings of this condition survey would inform the selection of localised breakouts and investigations, including non-destructive testing (NDT), as outlined in Phase 2.

- **Phase 2 – Localised NDT and Section Measurements of Elements**

Following completion of the Phase 1 works, a number of the more severely distressed locations would be identified for further breakout by a contractor before mobilising again to undertake the Phase 2 works. This phase would involve undertaking NDT of a selection of concrete and brick elements that surround the frame as well as section measurements noting their typical surrounding material.

Proposed testing included:

- Chemical testing of bricks for soluble salts;
- Scanning Electron Microscopy (SEM) analysis of corrosion products formed on the surface of the embedded metal;
- Visual/Macro analysis of metal samples to determine material type/structure;
- SEM analysis of the brick and mortar for salt distribution at the contact with the embedded metal; and
- Chloride, sulphate, HAC and cement content analysis performed on lump samples extracted from concrete elements surrounding the steel.

- **Phase 3 – Design of Remedial Solutions**

Following collation of the information gleaned from the first 2no. phases, design of detailed remedial works would be undertaken.

Phase 1 works were undertaken in July 2020 and the completed report is provided in Appendix A. The report identified moderate to severe corrosion to the majority of external steelwork. At this point several localised openings to further expose some of the external elements were completed by the client's contractor in October 2020. These areas were selected by Design ID and McFarland consulting to identify the severity of corrosion and to inform what testing would be appropriate for the 2nd phase of the health assessment.

Both Design ID and McFarland associates attended site to observe these opening up works. On review it was evident that severe corrosion of the external steel columns had taken place. The upper level columns were particularly deteriorated, with a large extent of delamination and section loss present. Photos showing evidence of the extent of corrosion are provided within Appendix B.

On view of the condition of the existing columns in these locations it was the opinion of Design ID that large areas of columns would likely need to be replaced in their entirety. Although not all areas of steelwork were observed at this time, the extent of visual defects on unobserved column lines was consistent and there is a high likelihood that the extent of corrosion is wide-spread and that a large percentage of columns would require replacement. It was agreed at this point that continuing with phase 2 testing of external columns would not add value to the client as it was likely that the existing columns were largely beyond repair.

4 Conclusions and Recommendations

4.1. Conclusions

Severe corrosion has occurred to existing external columns. The severity of corrosion appears to increase with building height. As per the original building construction the columns are placed within the width of the existing 215mm thick solid brickwork walls, with no cavity present. The original construction incorporated a render finish, which was applied directly to the outer face of the columns. This offered the only barrier between the steelwork and the external environment. The structure is exposed to airborne salts due to its proximity to Belfast Lough. This aggressive environment appears to have contributed to the extent of corrosion identified. The absence of a cavity or protective coatings to the steelwork has meant that once corrosion commenced the propagation of corrosion products has caused an outward pressure on the external wall finishes thus creating cracking and deterioration. Over time these cracks have provided direct pathways for moisture ingress, which appears to have further accelerated the corrosion. Images taken during the surveys are provided within Appendix B.

4.2. Recommendations

It should be noted that whilst the entire structure has not been exposed for examination the extent of cracking and boost plaster in un-examined areas would suggest that there is likely to be a consistent extent of deterioration, particularly to the external steelwork facing onto Crosby Street and Quay Street.

Design ID would recommend that action is taken to remediate the defects noted as soon as possible.

The extent of corrosion identified is severe, with a large extent of columns likely to be beyond repair. Therefore the following options for remediation should be considered:

Option 1 – Replacement of External Columns.

This would involve temporary propping of the internal load bearing elements being supported by the column at each level (ie beams, floor slabs) and also temporary shoring of the existing external wall panels. The extent of temporary works is likely to be significant and may need to extend onto the public footway along Quay Street. Consideration should be given to the approvals that may be required by the local council to facilitate the execution of the works.

This option carries a high Health and Safety Risk due to the extent of temporary shoring required and the works involved in removing the columns, installing new steelwork and reinstating masonry walls. It should be noted that due to the age and fragility of the existing steel structure there is uncertainty surrounding the overall building stability once isolated elements start to be removed. Due to the extent of corrosion and expansion of steelwork it is likely to be difficult to dislodge the existing columns from the surrounding masonry without causing damage to the existing wall panels. There is a risk that this could lead to falling debris or partial collapse of wall panels over a public footway/road and measures should be adopted to mitigate this risk. Consideration should therefore be given to removing the external facades to facilitate the column replacement. The cost of this option is likely to be significant.

Option 2 – Demolition and re-construction

Option 2 would involve demolition of the existing building in its entirety and constructing a new steelwork frame, precast floor/roof slabs and an external cavity wall. This option will mitigate the health and safety risks associated with option 1. It will also provide a building structure with confidence of achieving a minimum 50-year design life. This will also allow a new structure to be build that conforms to todays robustness standards as demanded by Eurocodes and Building Regulations.

Option 2 is recommended due to the reduced risk to site operatives, the general public and the adjacent building occupants. This would also provide the opportunity to justify a minimum 50-year design life for the new building. Whilst option 1 would extend the life of structural columns, the remaining structure would require regular maintenance to extend the life of the whole building. It was also evident from the surveys conducted that existing incoming beams and their connections showed signs of deterioration; therefore it is likely that repairs will be required that will be complex and expensive due to the bespoke nature of repair that would be required.

Note that following selection of the chosen solution the proposals should be designed and detailed by a chartered structural engineer.

Appendix A – McFarland Consulting Phase 1 Steelwork Condition Survey



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Royal Hotel, Bangor – Steelwork Condition Survey

19604-MCL-XX-RP-J-0001-P01

To: John Ferris (Clear Group)	From: Enda McKenna
Re: Royal Hotel, Bangor - Steelwork Condition Survey	Date: 22/08/2020

1.0 INTRODUCTION

On the 3rd July 2020, McFarland Consulting Limited (MCL) were instructed by John Ferris of Clear Group to undertake a visual survey of the encased steel frame at the Royal Hotel, Bangor. The survey was undertaken on 23rd July 2020 by 2no. MCL Corrosion Engineers.

2.0 SCOPE OF WORKS

MCL proposed a three phase approach for the investigations into the steel frame condition:

- Phase 1 – Initial Investigations
- Phase 2 – Localised NDT and Section Measurements of Elements
- Phase 3 – Design of Remedial Solution

This report summarises the findings of Phase 1. The scope of works for this phase included undertaking a visual inspection of encased columns and beams and subsequently assigning a Red, Amber or Green (RAG) condition rating to each element.

Only those columns and beams to be retained as part of the refurbishment works were surveyed. The findings of this condition survey will inform the selection of localised investigations, including non-destructive testing and potential cathodic protection trials, that may be undertaken in subsequent phases of works.

3.0 CAVEATS AND EXCLUSIONS

Any information made available to us in the course of the investigation whether verbal or in the form of drawings, documents, reports etc. has been assumed to be bona fide and of reliable content.

4.0 DESCRIPTION OF THE STRUCTURE

The Royal Hotel, Bangor is believed to have been constructed circa 1932 and is therefore of the order of 88 years old. It is a masonry/render clad steel frame structure with reinforced concrete floors that is to be refurbished for residential and retail use. Columns and beams on the external elevations are encased with brick at the majority of locations. Where observed from the various opening up works, no cavity space exists between the external columns and the surrounding brick infill. Some of the columns at the rear elevation were observed to be encased in concrete. Internal steel frame elements are encased in wire mesh and plaster which is offset from the steel frame using timber studs.

5.0 FINDINGS AND OBSERVATIONS

A visual inspection of the columns and beams was undertaken from ground level around the exterior of the building and from the respective floor levels within the building interior. Additionally, close inspection of the exterior elevation fronting Crosby Street was facilitated through the use of scaffolding constructed from ground to roof level along this elevation. Inspection of the external aspect of the rear elevations was not undertaken.

The columns and beams were inspected and subsequently assigned a condition rating and corresponding colour indicator, in accordance with the convention outlined in Figure 1 below. Where the assigned condition rating for the interior and exterior faces of the same element differed, the more severe condition is considered to apply to the element overall.

At a selection of locations, localised openings in the building fabric (undertaken by others) exposed the embedded/encased steel columns and beams. These openings permitted localised visual inspection of the steelwork. However, wall finishes, ceiling finishes and timber framing/studwork generally prevented direct inspection of much of the structural steelwork. The current condition of the concealed steelwork could only be inferred by observing the condition of wall or ceiling finishes in the vicinity. Cracking, delamination, bulging/displacement etc. of the wall/ceiling finishes was considered likely to signify corrosion of the concealed steelwork.

An observation register for each element can be found in Appendix A. Plan drawings indicating the assigned condition rating for each element on a floor by floor basis can be found in Appendix B.

Observed Condition	Colour Rating
Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Component from View)	No Colour
Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defect(s) on Wall/Ceiling Finishes	Green
Evidence of Moderate Surface Corrosion on Column/Beam. Evidence of Moisture Ingress in Locality of Column/Beam. Minor Defect(s) Observed on Wall/Ceiling Finishes	Yellow
Evidence of Severe corrosion on Column/Beam. Significant Defect(s) Observed on Wall/Ceiling Finishes	Red

A summary of observations is outlined below:

- Following removal of delaminated and loose rendered elements by a contractor in the weeks preceding our inspection, numerous instances of the exposed steel columns were observed. On the front elevation of the structure, the majority of deterioration was observed on the top floor (Plates 1 to 3). On the Crosby Street side elevation, render was removed exposing the columns over the top 3no. floors (Plates 4 to 7). The contractor had installed a number of straps on this elevation to prevent further loose material from falling (Plates 8 to 9).



Plate 1



Plate 2

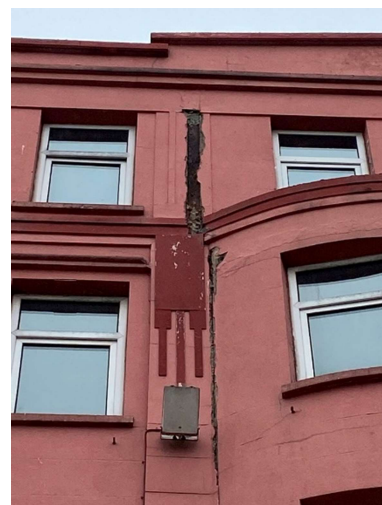


Plate 3



Plate 4

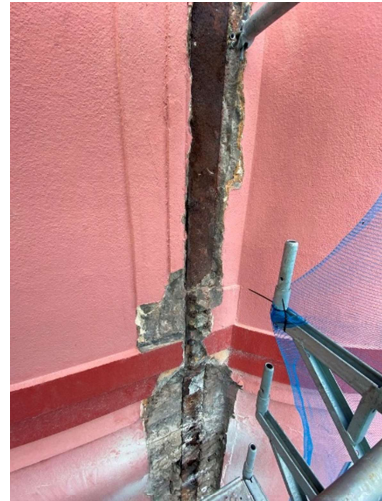


Plate 5

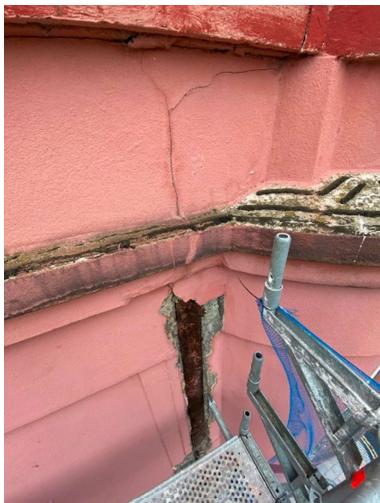


Plate 6



Plate 7

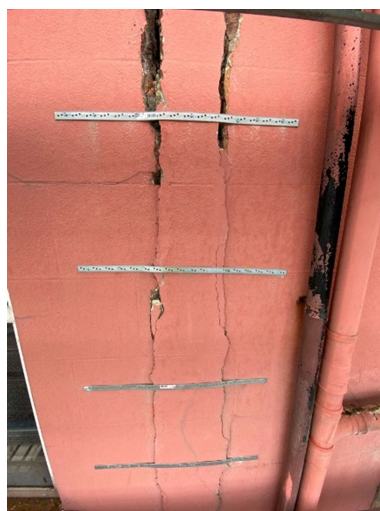
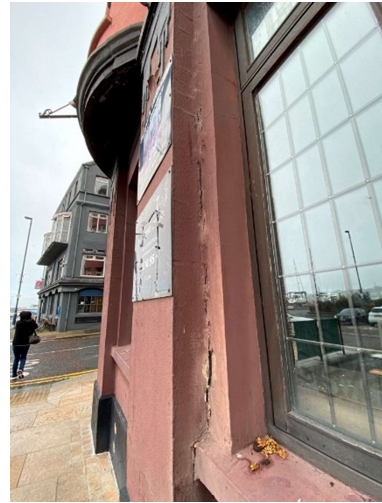


Plate 8

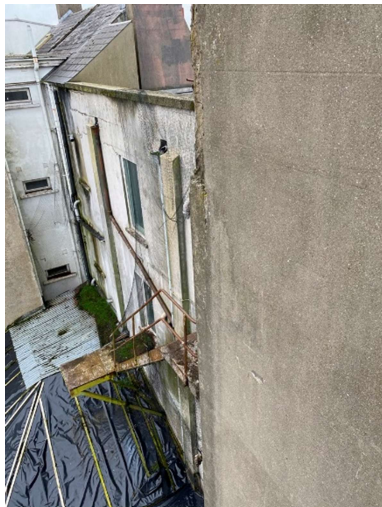
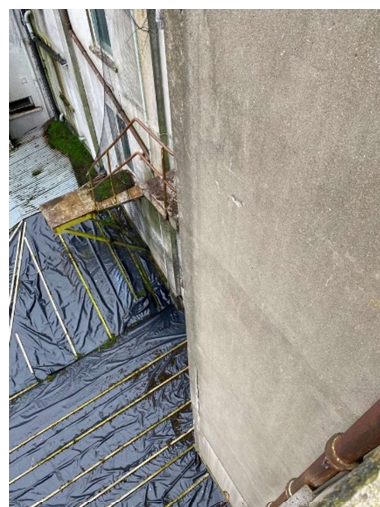


Plate 9

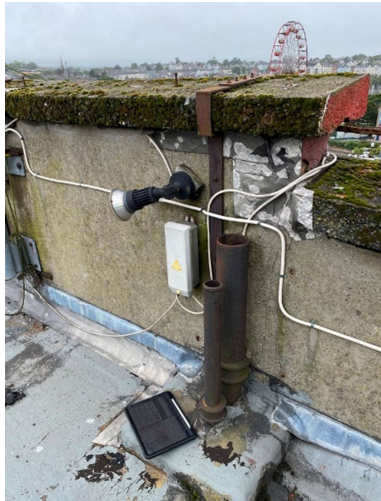
- Numerous cracks remain on the external elevations directly over steelwork locations (Plate 10) with bulging of the façade evident in localised areas (Plate 11).

**Plate 10****Plate 11**

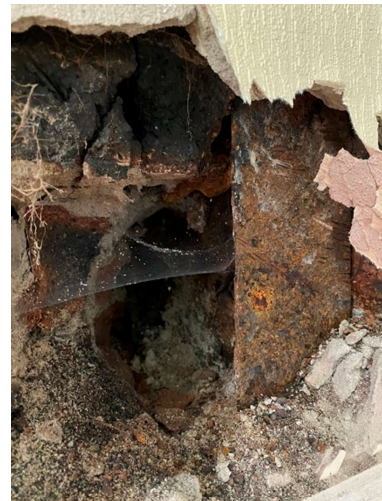
- From the limited viewing angles of the rear elevation, spalled material over the column to the rear of the lift shaft was observed as well as cracking on the main elevation (Plates 12 to 13).

**Plate 12****Plate 13**

- At roof level, evidence of prior attempts to waterproof the structure using patches of membrane was observed in localised areas (Plate 14). Cracking and corrosion staining were also observed on the various elements of the ornate dome structure at the corner of the building (Plate 15).

**Plate 14****Plate 15**

- Internally, numerous localised breakouts around the steel frame had been undertaken by others. For the most part, where the frame has been exposed internally on the external elevations, corrosion to varying degrees of severity was observed (Plates 16 to 17).

**Plate 16****Plate 17**

- The internal steel frame was observed to be in good condition at the majority of locations where breakouts had occurred (Plate 18). Corrosion was observed at locations where saturation and staining was evident (Plate 19). Saturation of walls and ceilings was observed on the majority of floors in localised locations, the extents of which are annotated on the floor plans provided in Appendix B. Localised cracks and delamination on internal walls and ceilings was also observed in localised areas, the majority of which is considered to have been caused by normal building movements.



Plate 18



Plate 19

- Consistent cracking across all floors was observed on the north west corner of the building, directly below the ornate dome structure (Plates 20 to 21). Although evidence of corrosion was observed in these areas, particularly on the external columns, we are unsure if this cracking is also structural and should be assessed further by others.



Plate 20



Plate 21

6.0 CONCLUSIONS AND NEXT STEPS

In summary, evidence of moderate to severe corrosion was observed on the majority of steelwork elements on external elevations. Due to a lack of cavity space around these elements, once corrosion commences, the propagation of corrosion products is causing an outward pressure on the external façades thus creating cracks and delamination. Internal steelwork was generally in much better condition where observed with only localised instances of moderate corrosion observed due to water ingress and saturation.

The external works undertaken recently by the contractor is considered to have removed the immediate risk of failing material from the building. However, this should be seen as a temporary measure and further deterioration and delaminated material should be expected to manifest in the short to medium term, particularly now that the steel frame is exposed to the elements.

In conjunction with the structural engineer, a selection of columns and beams should now be selected for further exposure to determine their section sizes and surrounding material. It is important to determine how external walls are tied into the steel frame as any remedial measure will likely involve reinstating cavities where possible.

Once these areas have been exposed we will be in a position to commence with the Phase 2 non-destructive testing works as outlined in our scope emailed on 26th June 2020 which includes:

- Chemical testing of bricks for soluble salts;
- Scanning Electron Microscopy (SEM) analysis of corrosion products formed on the surface of the embedded metal;
- Visual/Macro analysis of metal samples to determine material type/structure;
- SEM analysis of the brick and mortar for salt distribution at the contact with the embedded metal; and
- Chloride, sulphate, HAC and cement content analysis performed on lump samples extracted from concrete elements surrounding the steel.

In addition to the specified testing on the brick/concrete elements surrounding the steel frame, consideration should also be given to localised testing of the reinforced concrete floors which may include:

- Confirmation of construction details such as concrete strength and reinforcement spacing/diameters to inform a structural assessment of the slabs. Depending on the results of this assessment, a number of slabs may need to be load tested to confirm structural capacity.
- Determining cover to reinforcement to ensure it meets with required fire regulations.
- Ensuring there are no deleterious inclusions within the concrete such as chlorides or High Alumina Cement (HAC) and that the concrete surrounding the reinforcement remains in an alkaline state through carbonation testing.

We are also unsure if any metallic wall ties have been used in the construction of the building. Given the structure's age and exposure, it would be prudent to determine their existence so they can be replaced accordingly.

Appendix A – Observation Register

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A1	Column	Internal	0	Visually Sound	Green	Yellow
A1	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
B1	Column	Internal	0	Not Observable	White	Yellow
B1	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
C1	Column	Internal	0	Not Observable	White	Yellow
C1	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
D1	Column	Internal	0	Not Observable	White	Yellow
D1	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
E1	Column	Internal	0	Localised Corrosion	Yellow	Red
E1	Column	External	0	Heavy Cracking & Delamination	Red	Red
A2	Column	Internal	0	Non Existant	Grey	Grey
B2	Column	Internal	0	Non Existant	Grey	Grey
C2	Column	Internal	0	Non Existant	Grey	Grey
D2	Column	Internal	0	Non Existant	Grey	Grey
E2	Column	Internal	0	Not Observable	White	Yellow
E2	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
A3	Column	Internal	0	Non Existant	Grey	Grey
B3	Column	Internal	0	Not Observable	White	White
D3	Column	Internal	0	Not Observable	White	White
E3	Column	Internal	0	Not Observable	White	Yellow
E3	Column	External	0	Moderate Cracking & Delamination	Yellow	Yellow
A3+	Column	Internal	0	Moisture Ingress	Yellow	Yellow
B3+	Column	Internal	0	Non Existant	Grey	Grey
C3+	Column	Internal	0	Non Existant	Grey	Grey
D3+	Column	Internal	0	Non Existant	Grey	Grey
E3+	Column	Internal	0	Non Existant	Grey	Grey
B4	Column	Internal	0	Minor Surface Corrosion at Breakout	Green	Green

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C4	Column	Internal	0	Non Existant		
D4	Column	Internal	0	Non Existant		
E4	Column	Internal	0	Moisture Ingress		
E4	Column	External	0	Moderate Cracking & Delamination		
B5	Column	Internal	0	Moisture Ingress		
C5	Column	Internal	0	Not Observable		
D5	Column	Internal	0	Non Existant		
E5	Column	Internal	0	Not Observable		
E5	Column	External	1	Moderate Cracking & Delamination		
B6	Column	Internal	0	Moderate Surface Corrosion		
C6	Column	Internal	0	Moderate Surface Corrosion		
D6	Column	Internal	0	Non Existant		
E6	Column	Internal	0	Not Observable		
E6	Column	External	1	Moderate Cracking & Delamination		
B7	Column	Internal	0	Not Observable		
C7	Column	Internal	0	Not Observable		
D7	Column	Internal	0	Non Existant		
E7	Column	Internal	0	Not Observable		
E7	Column	External	0	Heavy Cracking & Delamination		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A1	Column	Internal	1	Not Observable		Amber
A1	Column	External	1	Moderate Cracking & Delamination	Amber	
A/B1	Beam	Internal	1	Not Observable		Green
A/B1	Beam	External	1	Not Observable		
B1	Column	Internal	1	Not Observable		Amber
B1	Column	External	1	Moderate Cracking & Delamination	Amber	
B/C1	Beam	Internal	1	Not Observable		Green
B/C1	Beam	External	1	Not Observable		
C1	Column	Internal	1	Not Observable		Red
C1	Column	External	1	Heavy Cracking & Delamination	Red	
C/D1	Beam	Internal	1	Not Observable		Green
C/D1	Beam	External	1	Not Observable		
D1	Column	Internal	1	Heavy Cracking / Boast Plaster	Red	Red
D1	Column	External	1	Heavy Cracking & Delamination	Red	
D/E1	Beam	Internal	1	Not Observable		Green
D/E1	Beam	External	1	Not Observable		
E1	Column	Internal	1	Non Existant		Grey
E1	Column	External	1	Non Existant		
A2	Column	Internal	1	Non Existant		Grey
A/B2	Beam	Internal	1	Non Existant		
B2	Column	Internal	1	Non Existant		Green
B/C2	Beam	Internal	1	Not Observable		
C2	Column	Internal	1	Non Existant		Green
C/D2	Beam	Internal	1	Not Observable		
D2	Column	Internal	1	Non Existant		Green
D/E2	Beam	Internal	1	Not Observable		
E2	Column	Internal	1	Heavy Cracking / Boast Plaster	Amber	Amber

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E2	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
A3	Column	Internal	1	Non Existant	Grey	Grey
A/B3	Beam	Internal	1	Non Existant	Grey	Grey
B3	Column	Internal	1	Not Observable		
B/C3	Beam	Internal	1	Not Observable		
C3	Column	Internal	1	Not Observable		
C/D3	Beam	Internal	1	Not Observable		
D3	Column	Internal	1	Not Observable		
D/E3	Beam	Internal	1	Not Observable		
E3	Column	Internal	1	Not Observable		Amber
E3	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
A3+	Column	Internal	1	Moisture Ingress		Amber
A/B3+	Beam	Internal	1	Moisture Ingress		Amber
B3+	Column	Internal	1	Non Existant	Grey	Grey
B/C3+	Beam	Internal	1	Non Existant	Grey	Grey
C3+	Column	Internal	1	Non Existant	Grey	Grey
C/D3+	Beam	Internal	1	Non Existant	Grey	Grey
D3+	Column	Internal	1	Non Existant	Grey	Grey
D/E3+	Beam	Internal	1	Non Existant	Grey	Grey
E3+	Column	Internal	1	Non Existant	Grey	Grey
B4	Column	Internal	1	Not Observable		
B/C4	Beam	Internal	1	Not Observable		
C4	Column	Internal	1	Not Observable		
C/D4	Beam	Internal	1	Visually Sound at Breakout location. Minor Cracking of Plasterwork		Green
D4	Column	Internal	1	Non Existant	Grey	Grey
D/E4	Beam	Internal	1	Visually Sound		Green
E4	Column	Internal	1	Moisture Ingress	Amber	Amber

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E4	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
B5	Column	Internal	1	Moisture Ingress and Boast Wall Finish		Red
B/C5	Beam	Internal	1	Moisture Ingress in Locality		Amber
C5	Column	Internal	1	Not Observable		
C/D5	Beam	Internal	1	Not Observable		
D5	Column	Internal	1			
D/E5	Beam	Internal	1	Not Observable		
E5	Column	Internal	1	Boast Tiling / Boxout. Damp to 1no. Face	Amber	Amber
E5	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
B6	Column	Internal	1	Not Observable		
B/C6	Beam	Internal	1	Not Observable		
C6	Column	Internal	1	Not Observable		
C/D6	Beam	Internal	1	Continuous with D/E6 - Minor Surface Corrosion		Amber
D6	Column	Internal	1	Non Existant		
D/E6	Beam	Internal	1	Continuous with C/E6 - Minor Surface Corrosion		Amber
E6	Column	Internal	1	Not Observable		Amber
E6	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
B7	Column	Internal	1	Not Observable		
B/C7	Beam	Internal	1	Not Observable		
C7	Column	Internal	1	Not Observable		
C/D7	Beam	Internal	1	Not Observable		
D7	Column	Internal	1	Non Existant		
D/E7	Beam	Internal	1	Not Observable		
E7	Column	Internal	1	Not Observable		Amber
E7	Column	External	1	Moderate Cracking & Delamination	Amber	Amber
A1/3+	Beam	Internal	1	Moisture Ingress Locally		Amber
B1/3	Beam	Internal	1	Moisture Ingress Locally		Amber

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C1/3	Beam	Internal	1	Not Observable		
D1/3	Beam	Internal	1	Not Observable		
E1/2	Beam	Internal	1	Not Observable		Red
E1/2	Beam	External	1	Heavy Cracking	Red	
E2/3	Beam	Internal	1	Not Observable		Yellow
E2/3	Beam	External	1	Not Observable		
B3/4	Beam	Internal	1	Moisture Ingress Locally		Yellow
C3/4	Beam	Internal	1	Minor Surface Corrosion		Green
D3/4	Beam	Internal	1			Grey
E3/4	Beam	Internal	1	Moisture Ingress and Cracking		Red
E3/4	Beam	External	1	Moderate Cracking & Delamination	Red	
B4/5	Beam	Internal	1	Moisture Ingress Locally	Yellow	Yellow
C4/5	Beam	Internal	1	Boast Plasterwork	Green	Green
D4/5	Beam	Internal	1	Non Existant		Grey
E4/5	Beam	Internal	1	Not Observable		Yellow
E4/5	Beam	External	1	Not Observable		
B5/6	Beam	Internal	1	Cracking of Ceiling Finishes		Yellow
C5/6	Beam	Internal	1	Visually Sound		Green
D5/6	Beam	Internal	1	Non Existant		Grey
E5/6	Beam	Internal	1	Not Observable		Red
E5/6	Beam	External	1	Moderate Cracking & Delamination	Red	
B6/7	Beam	Internal	1	Minor Surface Corrosion		Yellow
C6/7	Beam	Internal	1	Not Observable		Grey
D6/7	Beam	Internal	1	Non Existant		
E6/7	Beam	Internal	1	Not Observable		Grey
E6/7	Beam	External	1	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A1	Column	Internal	2	Not Observable		Yellow
A1	Column	External	2	Moderate Cracking & Delamination	Yellow	
A/B1	Beam	Internal	2	Not Observable		White
A/B1	Beam	External	2	Not Observable		
B1	Column	Internal	2	Internal Downpipe		Red
B1	Column	External	2	Heavy Cracking and Delamination	Red	
B/C1	Beam	Internal	2	Not Observable		White
B/C1	Beam	External	2	Not Observable		
C1	Column	Internal	2	Not Observable		Red
C1	Column	External	2	Heavy Cracking, Delamination & Spalling	Red	
C/D1	Beam	Internal	2	Not Observable		White
C/D1	Beam	External	2	Not Observable		
D1	Column	Internal	2	Heavy Cracking and Boast Wall Finish	Red	Red
D1	Column	External	2	Heavy Cracking, Delamination & Spalling	Red	
D/E1	Beam	Internal	2	Not Observable		White
D/E1	Beam	External	2	Not Observable		
E1	Column	Internal	2	Non Existant		Grey
E1	Column	External	2	Non Existant		
A2	Column	Internal	2	Non Existant		Grey
A/B2	Beam	Internal	2	Non Existant		
B2	Column	Internal	2	Non Existant		White
B/C2	Beam	Internal	2	Not Observable		
C2	Column	Internal	2	Non Existant		Grey
C/D2	Beam	Internal	2	Not Observable		
D2	Column	Internal	2	Non Existant		Grey
D/E2	Beam	Internal	2	Minor Surface Corrosion		
E2	Column	Internal	2	Heavy Cracking and Boast Wall Finish	Red	Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E2	Column	External	2	Moderate Cracking and Delamination	Amber	Red
A3	Column	Internal	2	Non Existant		
A/B3	Beam	Internal	2	Non Existant		
B3	Column	Internal	2	Visually Sound		Green
B/C3	Beam	Internal	2	Not Observable		
C3	Column	Internal	2	Not Observable		
C/D3	Beam	Internal	2	Not Observable		
D3	Column	Internal	2	Not Observable		
D/E3	Beam	Internal	2	Cracked Render/Ceiling Finish		Amber
E3	Column	Internal	2	Boast Wall Finish	Red	Red
E3	Column	External	2	Moderate Cracking and Delamination	Amber	Red
A3+	Column	Internal	2	Moisture Ingress		Amber
A/B3+	Beam	Internal	2	Moisture Ingress Locally		Amber
B3+	Column	Internal	2	Non Existant		
B/C3+	Beam	Internal	2	Non Existant		
C3+	Column	Internal	2	Non Existant		
C/D3+	Beam	Internal	2	Non Existant		
D3+	Column	Internal	2	Non Existant		
D/E3+	Beam	Internal	2	Non Existant		
E3+	Column	Internal	2	Non Existant		
B4	Column	Internal	2	Moderate Surface Corrosion		Amber
B/C4	Beam	Internal	2	Not Observable		
C4	Column	Internal	2	Not Observable		
C/D4	Beam	Internal	2	Not Observable		
D4	Column	Internal	2	Non Existant		
D/E4	Beam	Internal	2	Not Observable		
E4	Column	Internal	2	Boast Wall Finish	Red	Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E4	Column	External	2	Moderate Cracking and Delamination	Amber	Red
B5	Column	Internal	2	Moderate Surface Corrosion and Moisture Ingress		Amber
B/C5	Beam	Internal	2	Not Observable		
C5	Column	Internal	2	Minor Surface Corrosion		Green
C/D5	Beam	Internal	2	Not Observable		
D5	Column	Internal	2	Non Existant		
D/E5	Beam	Internal	2	Not Observable		
E5	Column	Internal	2	Heavy Cracking and Delamination	Red	Red
E5	Column	External	2	Moderate Cracking and Delamination	Amber	Red
B6	Column	Internal	2	Boast Wall Finish		Amber
B/C6	Beam	Internal	2	Not Observable		
C6	Column	Internal	2	Not Observable		
C/D6	Beam	Internal	2	Cracked Ceiling Finish (Continous with Beam D/E6)		Amber
D6	Column	Internal	2	Non Existant		
D/E6	Beam	Internal	2	Cracked Ceiling Finish (Continous with Beam C/D6)		Amber
E6	Column	Internal	2	Cracked Wall Finish and Moisture Ingress		Amber
E6	Column	External	2	Moderate Cracking and Delamination		Amber
B7	Column	Internal	2	Visually Sound and Concrete Encased		Green
B/C7	Beam	Internal	2	Not Observable		
C7	Column	Internal	2	Not Observable		
C/D7	Beam	Internal	2	Not Observable		
D7	Column	Internal	2	Non Existant		
D/E7	Beam	Internal	2	Not Observable		
E7	Column	Internal	2	Not Observable		Amber
E7	Column	External	2	Moderate Cracking and Delamination	Amber	Amber
A1/3+	Beam	Internal	2	Moisture Ingress		Amber
B1/3	Beam	Internal	2	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C1/3	Beam	Internal	2	Not Observable		
D1/3	Beam	Internal	2	Minor Surface Corrosion		
E1/2	Beam	Internal	2	Not Observable		
E1/2	Beam	External	2	Not Observable		
E2/3	Beam	Internal	2	Not Observable		
E2/3	Beam	External	2	Not Observable		
B3/4	Beam	Internal	2	Not Observable		
C3/4	Beam	Internal	2	Not Observable		
D3/4	Beam	Internal	2	Non Existant		
E3/4	Beam	Internal	2	Moisture Ingress & Moderate Corrosion		
B4/5	Beam	Internal	2	Not Observable		
C4/5	Beam	Internal	2	Not Observable		
D4/5	Beam	Internal	2	Non Existant		
E4/5	Beam	Internal	2	Not Observable		
E4/5	Beam	External	2	Not Observable		
B5/6	Beam	Internal	2	Boast Wall Finish		
C5/6	Beam	Internal	2	Not Observable		
D5/6	Beam	Internal	2	Non Existant		
E5/6	Beam	Internal	2	Cracking of Ceiling Finishes		
E5/6	Beam	External	2	Not Observable		
B6/7	Beam	Internal	2	Not Observable		
C6/7	Beam	Internal	2	Not Observable		
D6/7	Beam	Internal	2	Non Existant		
E6/7	Beam	Internal	2	Not Observable		
E6/7	Beam	External	2	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A1	Column	Internal	3	Not Observable		Red
A1	Column	External	3	Heavy Cracking, Delamination & Spalling	Red	
A/B1	Beam	Internal	3	Not Observable		White
A/B1	Beam	External	3	Not Observable		
B1	Column	Internal	3	Not Observable		Red
B1	Column	External	3	Heavy Cracking, Delamination & Spalling	Red	
B/C1	Beam	Internal	3	Not Observable		White
B/C1	Beam	External	3	Not Observable		
C1	Column	Internal	3	Not Observable		Red
C1	Column	External	3	Heavy Cracking, Delamination & Spalling	Red	
C/D1	Beam	Internal	3	Not Observable		White
C/D1	Beam	External	3	Not Observable		
D1	Column	Internal	3	Boast Wall Finish	Yellow	Red
D1	Column	External	3	Heavy Cracking, Delamination & Spalling	Red	
D/E1	Beam	Internal	3	Not Observable		White
D/E1	Beam	External	3	Not Observable		
E1	Column	Internal	3	Non Existant		Grey
E1	Column	External	3	Non Existant		
A2	Column	Internal	3	Non Existant		Grey
A/B2	Beam	Internal	3	Non Existant		
B2	Column	Internal	3	Non Existant		Grey
B/C2	Beam	Internal	3	Not Observable		
C2	Column	Internal	3	Non Existant		Grey
C/D2	Beam	Internal	3	Not Observable		
D2	Column	Internal	3	Non Existant		Grey
D/E2	Beam	Internal	3	Not Observable		
E2	Column	Internal	3	Heavy Cracking and Boast Wall Finish		Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E2	Column	External	3	Heavy Cracking & Delamination	Red	Red
A3	Column	Internal	3	Non Existant		
A/B3	Beam	Internal	3	Non Existant		
B3	Column	Internal	3	Not Observable		
B/C3	Beam	Internal	3	Not Observable		
C3	Column	Internal	3	Not Observable		
C/D3	Beam	Internal	3	Not Observable		
D3	Column	Internal	3	Visually Sound		Green
D/E3	Beam	Internal	3	Minor Surface Corrosion		Green
E3	Column	Internal	3	Boast Wall Finish	Yellow	Red
E3	Column	External	3	Heavy Cracking & Delamination	Red	Red
A3+	Column	Internal	3	Cracked Wall Finish and Moisture Ingress		Yellow
A/B3+	Beam	Internal	3	Cracked Wall Finish and Moisture Ingress		Yellow
B3+	Column	Internal	3	Non Existant		
B/C3+	Beam	Internal	3	Non Existant		
C3+	Column	Internal	3	Non Existant		
C/D3+	Beam	Internal	3	Non Existant		
D3+	Column	Internal	3	Non Existant		
D/E3+	Beam	Internal	3	Non Existant		
E3+	Column	Internal	3	Non Existant		
B4	Column	Internal	3	Cracked and Boast Wall Finish		Red
B/C4	Beam	Internal	3	Not Observable		
C4	Column	Internal	3	Not Observable		
C/D4	Beam	Internal	3	Visually Sound		Green
D4	Column	Internal	3	Non Existant		
D/E4	Beam	Internal	3	Visually Sound		Green
E4	Column	Internal	3	Not Observable		Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E4	Column	External	3	Heavy Cracking & Delamination	Red	Red
B5	Column	Internal	3	Cracked and Boast Wall Finish		Red
B/C5	Beam	Internal	3	Minor Surface Corrosion (note expanded metal mesh)		Yellow
C5	Column	Internal	3	Not Observable		
C/D5	Beam	Internal	3	Visually Sound		Green
D5	Column	Internal	3	Non Existant	Grey	Grey
D/E5	Beam	Internal	3	Visually Sound		Green
E5	Column	Internal	3	Not Observable		Red
E5	Column	External	3	Heavy Cracking & Delamination	Red	Red
B6	Column	Internal	3	Cracked and Boast Wall Finish and Moisture Ingress		Red
B/C6	Beam	Internal	3	Not Observable		
C6	Column	Internal	3	Visually Sound		Green
C/D6	Beam	Internal	3	Visually Sound		Green
D6	Column	Internal	3		Grey	Grey
D/E6	Beam	Internal	3	Visually Sound		Green
E6	Column	Internal	3	Evidence of Moisture Ingress	Yellow	Red
E6	Column	External	3	Heavy Cracking & Delamination	Red	Red
B7	Column	Internal	3	Not Observable		
B/C7	Beam	Internal	3	Not Observable		
C7	Column	Internal	3	Not Observable		
C/D7	Beam	Internal	3	Not Observable		
D7	Column	Internal	3	Non Existant	Grey	Grey
D/E7	Beam	Internal	3	Not Observable		
E7	Column	Internal	3	Not Observable		Yellow
E7	Column	External	3	Moderate Cracking & Delamination	Yellow	Yellow
A1/3+	Beam	Internal	3	Moisture Ingress		Yellow
B1/3	Beam	Internal	3	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C1/3	Beam	Internal	3	Minor Surface Corrosion		
D1/3	Beam	Internal	3	Minor Surface Corrosion		
E1/2	Beam	Internal	3	Not Observable		
E1/2	Beam	External	3	Not Observable		
E2/3	Beam	Internal	3	Not Observable		
E2/3	Beam	External	3	Not Observable		
B3/4	Beam	Internal	3	Not Observable		
C3/4	Beam	Internal	3	Visually Sound		
D3/4	Beam	Internal	3	Non Existant		
E3/4	Beam	Internal	3	Not Observable		
B4/5	Beam	Internal	3	Not Observable		
C4/5	Beam	Internal	3	Not Observable		
D4/5	Beam	Internal	3	Non Existant		
E4/5	Beam	Internal	3	Not Observable		
E4/5	Beam	External	3	Not Observable		
B5/6	Beam	Internal	3	Not Observable		
C5/6	Beam	Internal	3	Visually Sound		
D5/6	Beam	Internal	3	Non Existant		
E5/6	Beam	Internal	3	Not Observable		
E5/6	Beam	External	3	Not Observable		
B6/7	Beam	Internal	3	Not Observable		
C6/7	Beam	Internal	3	Not Observable		
D6/7	Beam	Internal	3	Non Existant		
E6/7	Beam	Internal	3	Not Observable		
E6/7	Beam	External	3	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A1	Column	Internal	4	Not Observable		Red
A1	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	
A/B1	Beam	Internal	4	Not Observable		White
A/B1	Beam	External	4	Not Observable		
B1	Column	Internal	4	Not Observable		Red
B1	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	
B/C1	Beam	Internal	4	Not Observable		White
B/C1	Beam	External	4	Not Observable		
C1	Column	Internal	4	Not Observable		Red
C1	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	
C/D1	Beam	Internal	4	Not Observable		White
C/D1	Beam	External	4	Not Observable		
D1	Column	Internal	4	Heavy Cracking and Boast Wall Finish		Red
D1	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	
D/E1	Beam	Internal	4	Not Observable		White
D/E1	Beam	External	4	Not Observable		
E1	Column	Internal	4	Non Existant		Grey
E1	Column	External	4	Non Existant		
A2	Column	Internal	4	Non Existant		Grey
A/B2	Beam	Internal	4	Non Existant		
B2	Column	Internal	4	Non Existant		White
B/C2	Beam	Internal	4	Not Observable		
C2	Column	Internal	4	Non Existant		Grey
C/D2	Beam	Internal	4	Not Observable		
D2	Column	Internal	4	Non Existant		Grey
D/E2	Beam	Internal	4	Minor Surface Corrosion		
E2	Column	Internal	4	Heavy Cracking and Boast Wall Finish		Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E2	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	Red
A3	Column	Internal	4	Non Existant	Grey	Grey
A/B3	Beam	Internal	4	Non Existant	Grey	Grey
B3	Column	Internal	4	Mositure Ingress	White	Yellow
B/C3	Beam	Internal	4	Not Observable	White	White
C3	Column	Internal	4	Not Observable	White	White
C/D3	Beam	Internal	4	Mositure Ingress	White	Yellow
D3	Column	Internal	4	Not Observable	White	White
D/E3	Beam	Internal	4	Heavy Cracking of Ceiling Adjacent	White	Yellow
E3	Column	Internal	4	Not Observable	White	Red
E3	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	Red
A3+	Column	Internal	4	Moisture Ingress	White	Yellow
A/B3+	Beam	Internal	4	Not Observable	White	White
B3+	Column	Internal	4	Non Existant	Grey	Grey
B/C3+	Beam	Internal	4	Non Existant	Grey	Grey
C3+	Column	Internal	4	Non Existant	Grey	Grey
C/D3+	Beam	Internal	4	Non Existant	Grey	Grey
D3+	Column	Internal	4	Non Existant	Grey	Grey
D/E3+	Beam	Internal	4	Non Existant	Grey	Grey
E3+	Column	Internal	4	Non Existant	Grey	Grey
B4	Column	Internal	4	Moderate Surface Corrosion, Heavy Cracking and Boast Wall Finish	White	Red
B/C4	Beam	Internal	4	Not Observable	White	White
C4	Column	Internal	4	Not Observable	White	White
C/D4	Beam	Internal	4	Not Observable	White	White
D4	Column	Internal	4	Non Existant	Grey	Grey
D/E4	Beam	Internal	4	Not Observable	White	White
E4	Column	Internal	4	Not Observable	White	Red

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E4	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	Red
B5	Column	Internal	4	Moderate Surface Corrosion		Yellow
B/C5	Beam	Internal	4	Not Observable		
C5	Column	Internal	4	Not Observable		
C/D5	Beam	Internal	4	Not Observable		
D5	Column	Internal	4	Non Existant		
D/E5	Beam	Internal	4	Not Observable		
E5	Column	Internal	4	Not Observable		Red
E5	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	Red
B6	Column	Internal	4	Moderate Surface Corrosion and Cracked and Boast Wall Finish		Red
B/C6	Beam	Internal	4	Not Observable		
C6	Column	Internal	4	Visually Sound		Green
C/D6	Beam	Internal	4	Not Observable		
D6	Column	Internal	4	Non Existant		
D/E6	Beam	Internal	4	Not Observable		
E6	Column	Internal	4	Not Observable		Red
E6	Column	External	4	Heavy Cracking, Delamination & Spalling	Red	Red
B7	Column	Internal	4	Heavy Cracking		Red
B/C7	Beam	Internal	4	Not Observable		
C7	Column	Internal	4	Not Observable		
C/D7	Beam	Internal	4	Not Observable		
D7	Column	Internal	4	Non Existant		
D/E7	Beam	Internal	4	Not Observable		
E7	Column	Internal	4	Not Observable		Yellow
E7	Column	External	4	Moderate Cracking & Delamination	Yellow	Yellow
A1/3+	Beam	Internal	4	Moisture Ingress		Yellow
B1/3	Beam	Internal	4	Not Observable		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C1/3	Beam	Internal	4	Moderate Surface Corrosion (note shower/bath room)		Yellow
D1/3	Beam	Internal	4	Moisture Ingress		Green
E1/2	Beam	Internal	4	Heavy Cracking & Corrosion Staining	Red	Red
E1/2	Beam	External	4	Not Observable		
E2/3	Beam	Internal	4	Not Observable		
E2/3	Beam	External	4	Not Observable		
B3/4	Beam	Internal	4	Not Observable		
C3/4	Beam	Internal	4	Not Observable		
D3/4	Beam	Internal	4	Non Existant		Grey
E3/4	Beam	Internal	4	Cracking on Ceiling Adjacent	Yellow	Yellow
E3/4	Beam	External	4	Moderate Cracking & Delamination	Yellow	
B4/5	Beam	Internal	4	Not Observable		
C4/5	Beam	Internal	4	Not Observable		
D4/5	Beam	Internal	4	Non Existant		Grey
E4/5	Beam	Internal	4	Cracking on Ceiling Adjacent	Yellow	Yellow
E4/5	Beam	External	4	Moderate Cracking & Delamination	Yellow	
B5/6	Beam	Internal	4	Not Observable		
C5/6	Beam	Internal	4	Not Observable		
D5/6	Beam	Internal	4	Non Existant		Grey
E5/6	Beam	Internal	4	Heavy Cracking Adjacent	Red	Red
E5/6	Beam	External	4	Moderate Cracking & Delamination	Yellow	
B6/7	Beam	Internal	4	Not Observable		
C6/7	Beam	Internal	4	Not Observable		
D6/7	Beam	Internal	4	Non Existant		Grey
E6/7	Beam	Internal	4	Cracking on Ceiling Adjacent	Yellow	Yellow
E6/7	Beam	External	4	Moderate Cracking & Delamination	Yellow	

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
A/B1	Beam	Internal	Roof	Not Observable		Red
A/B1	Beam	External	Roof	Heavy Cracking, Delamination & Spalling	Red	
B/C1	Beam	Internal	Roof	Not Observable		White
B/C1	Beam	External	Roof	Not Observable		
C/D1	Beam	Internal	Roof	Not Observable		
C/D1	Beam	External	Roof	Not Observable		
D/E1	Beam	Internal	Roof	Not Observable		
D/E1	Beam	External	Roof	Not Observable		
A/B2	Beam	Internal	Roof	Non Existant	Grey	
B/C2	Beam	Internal	Roof	Not Observable		
C/D2	Beam	Internal	Roof	Not Observable		Green
D/E2	Beam	Internal	Roof	Visually Sound		
A/B3	Beam	Internal	Roof	Moisture Ingress Locally		Green
B/C3	Beam	Internal	Roof	Not Observable		Yellow
C/D3	Beam	Internal	Roof	Moisture Ingress Locally		
D/E3	Beam	Internal	Roof	Heavy Cracking of Ceiling Adjacent		
A/B3+	Beam	Internal	Roof	Moisture Ingress Locally		Yellow
B/C3+	Beam	Internal	Roof	Non Existant	Grey	Grey
C/D3+	Beam	Internal	Roof	Non Existant	Grey	
D/E3+	Beam	Internal	Roof	Non Existant	Grey	
B/C4	Beam	Internal	Roof	Not Observable		
C/D4	Beam	Internal	Roof	Minor Surface Corrosion		Green
D/E4	Beam	Internal	Roof	Visually Sound		Green
B/C5	Beam	Internal	Roof	Not Observable		White
C/D5	Beam	Internal	Roof	Not Observable		
D/E5	Beam	Internal	Roof	Visually Sound		Green
B/C6	Beam	Internal	Roof	Not Observable		White

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
C/D6	Beam	Internal	Roof	Visually Sound		
D/E6	Beam	Internal	Roof	Visually Sound		
B/C7	Beam	Internal	Roof	Not Observable		
C/D7	Beam	Internal	Roof	Not Observable		
D/E7	Beam	Internal	Roof	Moisture Ingress Locally		
A1/3+	Beam	Internal	Roof	Moisture Ingress Locally		
B1/3	Beam	Internal	Roof	Moderate Surface Corrosion		
C1/3	Beam	Internal	Roof	Not Observable		
D1/3	Beam	Internal	Roof	Moisture Ingress		
E1/2	Beam	Internal	Roof	Not Observable		
E1/2	Beam	External	Roof	Not Observable		
E2/3	Beam	Internal	Roof	Not Observable		
E2/3	Beam	External	Roof	Not Observable		
B3/4	Beam	Internal	Roof	Moisture Ingress Locally		
C3/4	Beam	Internal	Roof	Not Observable		
D3/4	Beam	Internal	Roof	Non Existant		
E3/4	Beam	Internal	Roof	Not Observable		
E3/4	Beam	External	Roof	Not Observable		
B4/5	Beam	Internal	Roof	Not Observable		
C4/5	Beam	Internal	Roof	Visually Sound		
D4/5	Beam	Internal	Roof	Non Existant		
E4/5	Beam	Internal	Roof	Cracking on Ceiling Adjacent		
E4/5	Beam	External	Roof	Not Observable		
B5/6	Beam	Internal	Roof	Not Observable		
C5/6	Beam	Internal	Roof	Not Observable		
D5/6	Beam	Internal	Roof	Non Existant		
E5/6	Beam	Internal	Roof	Heavy Cracking Adjacent		

Element Ref:	Type	Aspect	Level	Notes	Face-by-Face RAG Rating	Combined RAG Rating
E5/6	Beam	External	Roof	Not Observable		
B6/7	Beam	Internal	Roof	Not Observable		
C6/7	Beam	Internal	Roof	Not Observable		
D6/7	Beam	Internal	Roof	Non Existant		
E6/7	Beam	Internal	Roof	Not Observable		
E6/7	Beam	External	Roof	Not Observable		

Appendix B – Condition Rating Plan Drawings

Notes:

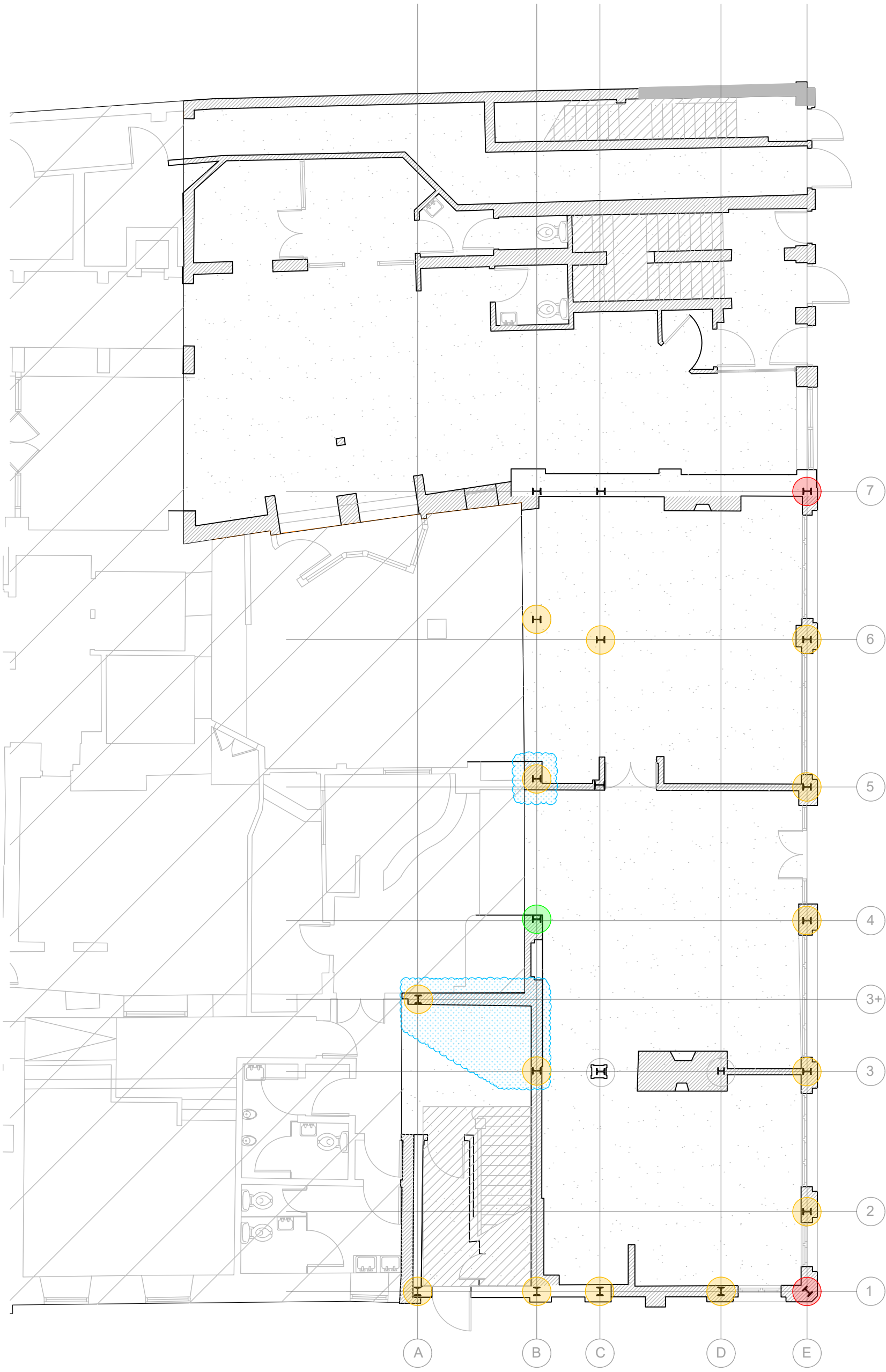
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
- Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defects(s) on Wall/Ceiling Finishes
- Evidence of Moderate Surface Corrosion on Column/Beam; Evidence of Moisture Ingress Locally; Minor Defect(s) Observed on Wall/Ceiling Finishes.
- Evidence of Severe Corrosion on Column/Beam; Significant Defect(s) Observed on Wall/Ceiling Finishes
- Crack Locations
- Evidence of Moisture Ingress



Existing Ground Floor Plan
Scale: NTS

P01	JK	For Issue	Aug20
P00	JK	Draft for Comment	Aug20
Rev	Chk'd by	Amendment	Date
For comment		As constructed	
For tender		Inspection	✓
For construction		Other	
Client			
DESIGN ID			
13 Main Street, Hillsborough BT26 6AE			
Project Ref. 19604			
Project Name			
Royal Hotel, Bangor Steel Frame Remediation			
Drawing Title			
RAG Condition Rating - Ground Floor Columns			
Date:	19/08/2020	Drawn by:	JK
Paper Size:	A3	Checked by:	JK
Scale:	N/A	Approved by:	EMcK
McFarland Consulting			
Unit A3, Harbour Court, Sydenham Business Park, 5 Heron Road, Belfast, BT3 9HB Tel: +44(0) 28 9073 8100 Email: info@mcfarlandconsulting.co.uk www.mcfarlandconsulting.co.uk			
Drawing No.			Rev
19604-MCL-GF-DR-J-0001			P01

Notes:

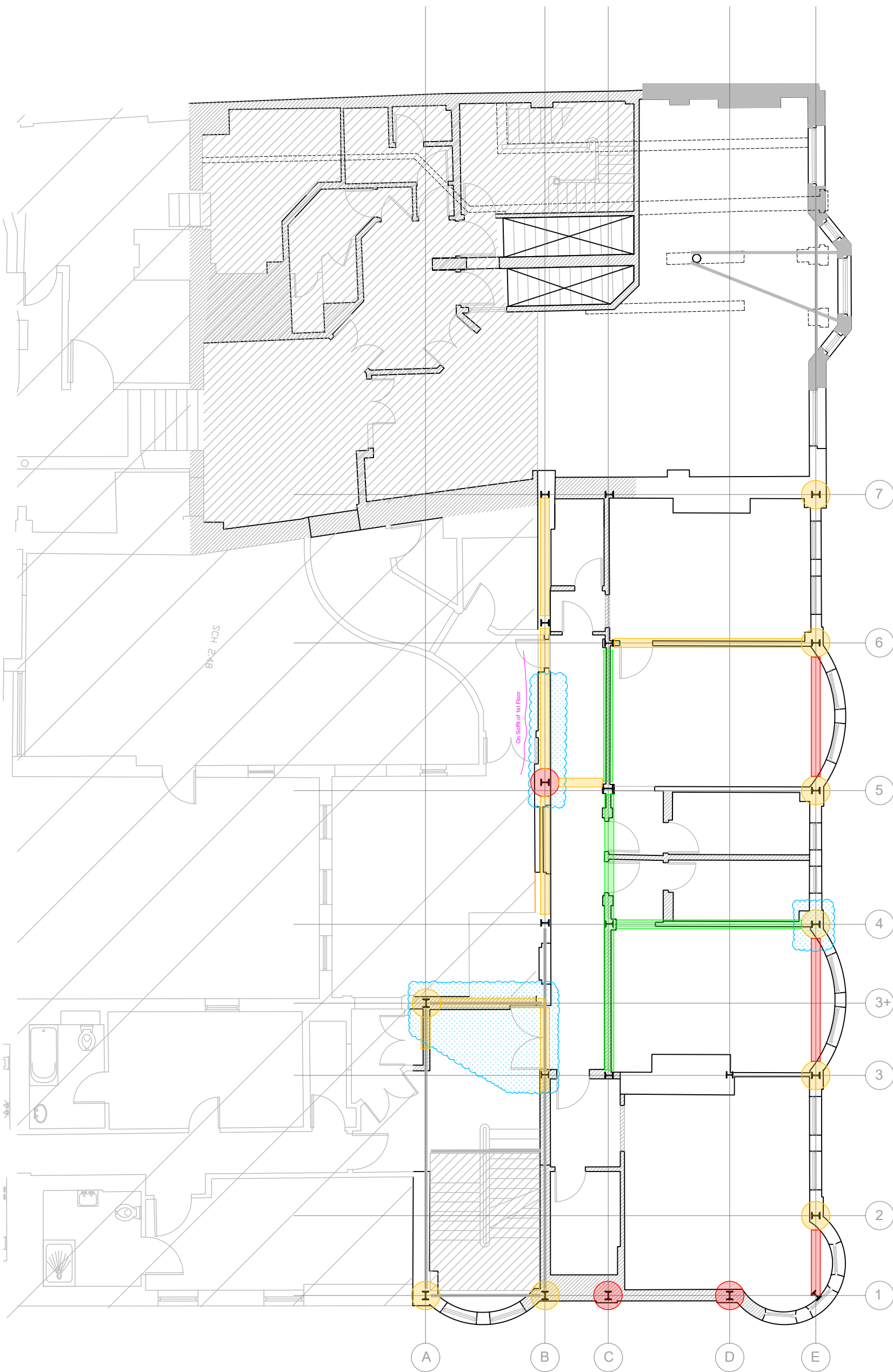
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
- Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defects(s) on Wall/Ceiling Finishes
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- Evidence of Severe Corrosion on Column/Beam; Significant Defect(s) Observed on Wall/Ceiling Finishes
- ~ Crack Locations
- Evidence of Moisture Ingress



Existing First Floor Plan

Scale: NTS

P01	JK	For Issue	Aug20
P00	JK	Draft for Comment	Aug20
Rev	Chk'd by	Amendment	Date
For comment		As constructed	
For tender		Inspection	✓
For construction		Other	
Client			
DESIGN ID 13 Main Street, Hillsborough BT26 6AE			
Project Ref.			
19604			
Project Name			
Royal Hotel, Bangor Steel Frame Remediation			
Drawing Title			
RAG Condition Rating - First Floor Columns & Beams			
Date:	19/08/2020	Drawn by:	JK
Paper Size:	A3	Checked by:	JK
Scale:	N/A	Approved by:	EMcK

McFarland Consulting

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 5 Heron Road, Belfast, BT3 9HB
 Tel: +44(0) 28 9073 8100
 Email: info@mcfarlandconsulting.co.uk
 www.mcfarlandconsulting.co.uk

Notes:

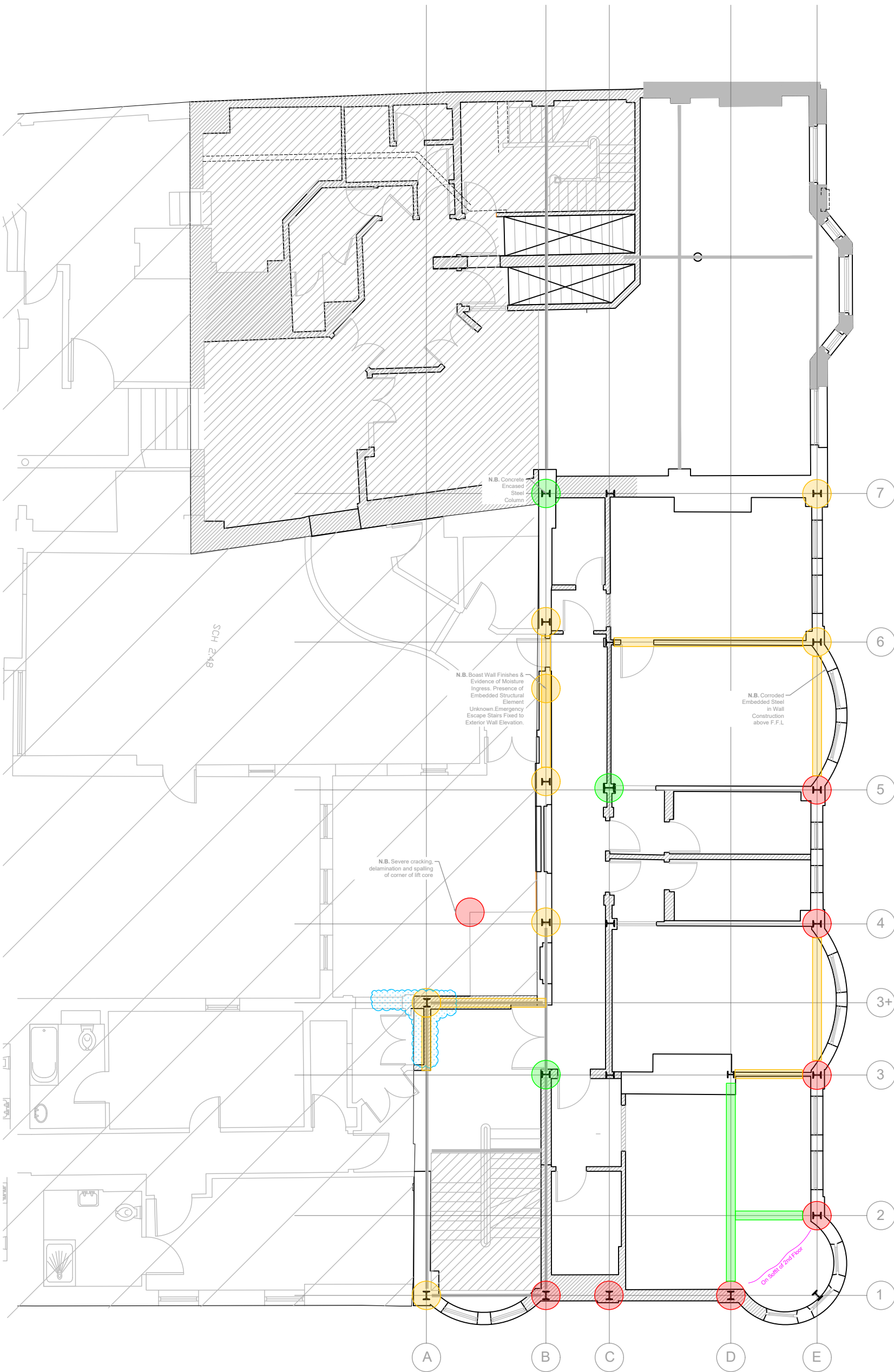
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
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- Evidence of Severe Corrosion on Column/Beam; Significant Defect(s) Observed on Wall/Ceiling Finishes
- ~ Crack Locations
- Evidence of Moisture Ingress



Existing Second Floor Plan

Scale: NTS

P01	JK	For Issue	Aug20
P00	JK	Draft for Comment	Aug20
Rev	Chk'd by	Amendment	Date
For comment		As constructed	
For tender		Inspection	✓
For construction		Other	
Client			
DESIGN ID 13 Main Street, Hillsborough BT26 6AE			
Project Ref.			
19604			
Project Name			
Royal Hotel, Bangor Steel Frame Remediation			
Drawing Title			
RAG Condition Rating - Second Floor Columns & Beams			
Date:	19/08/2020	Drawn by:	JK
Paper Size:	A3	Checked by:	JK
Scale:	N/A	Approved by:	EMcK
McFarland Consulting Unit A3, Harbour Court, Sydenham Business Park, 5 Heron Road, Belfast, BT3 9HB Tel: +44(0) 28 9073 8100 Email: info@mcfarlandconsulting.co.uk www.mcfarlandconsulting.co.uk			
Drawing No.	19604-MCL-02-DR-J-0001		Rev
			P01

Notes:

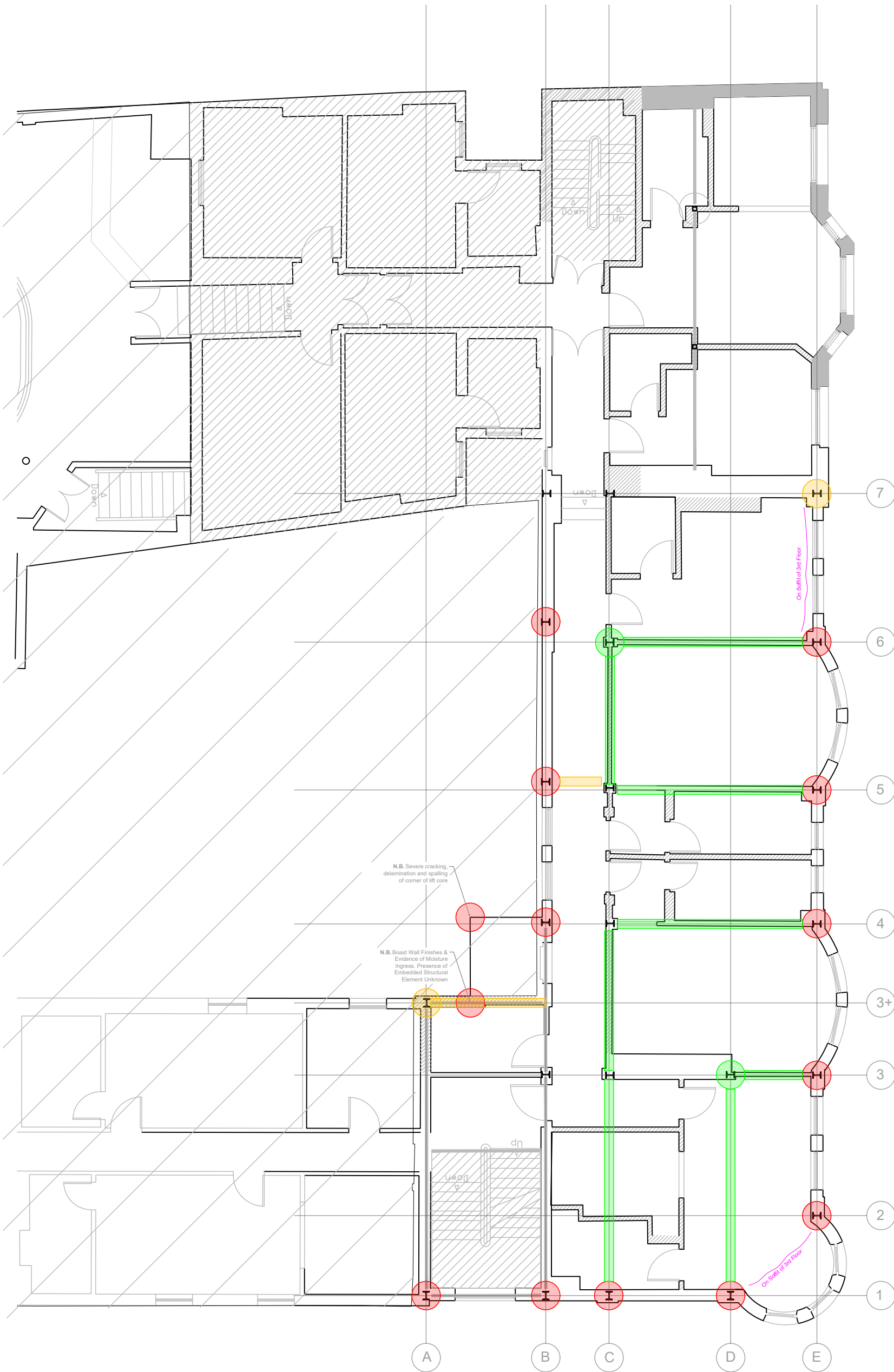
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
- Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defects(s) on Wall/Ceiling Finishes
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- ~ Crack Locations
- Evidence of Moisture Ingress



Existing Third Floor Plan

Scale: NTS

P01	JK	For Issue	Aug20
P00	JK	Draft for Comment	Aug20
Rev	Chk'd by	Amendment	Date
		As constructed	
		Inspection	
		Other	
Client			
DESIGN ID			
13 Main Street, Hillsborough BT26 6AE			
Project Ref. 19604			
Project Name			
Royal Hotel, Bangor Steel Frame Remediation			
Drawing Title			
RAG Condition Rating - Third Floor Columns & Beams			
Date:	19/08/2020	Drawn by:	JK
Paper Size:	A3	Checked by:	JK
Scale:	N/A	Approved by:	EMcK
McFarland Consulting			
Unit A3, Harbour Court, Sydenham Business Park, 5 Heron Road, Belfast, BT3 9HB Tel: +44(0) 28 9073 8100 Email: info@mcfarlandconsulting.co.uk www.mcfarlandconsulting.co.uk			
Drawing No. 19604-MCL-03-DR-J-0001			Rev P01

Notes:

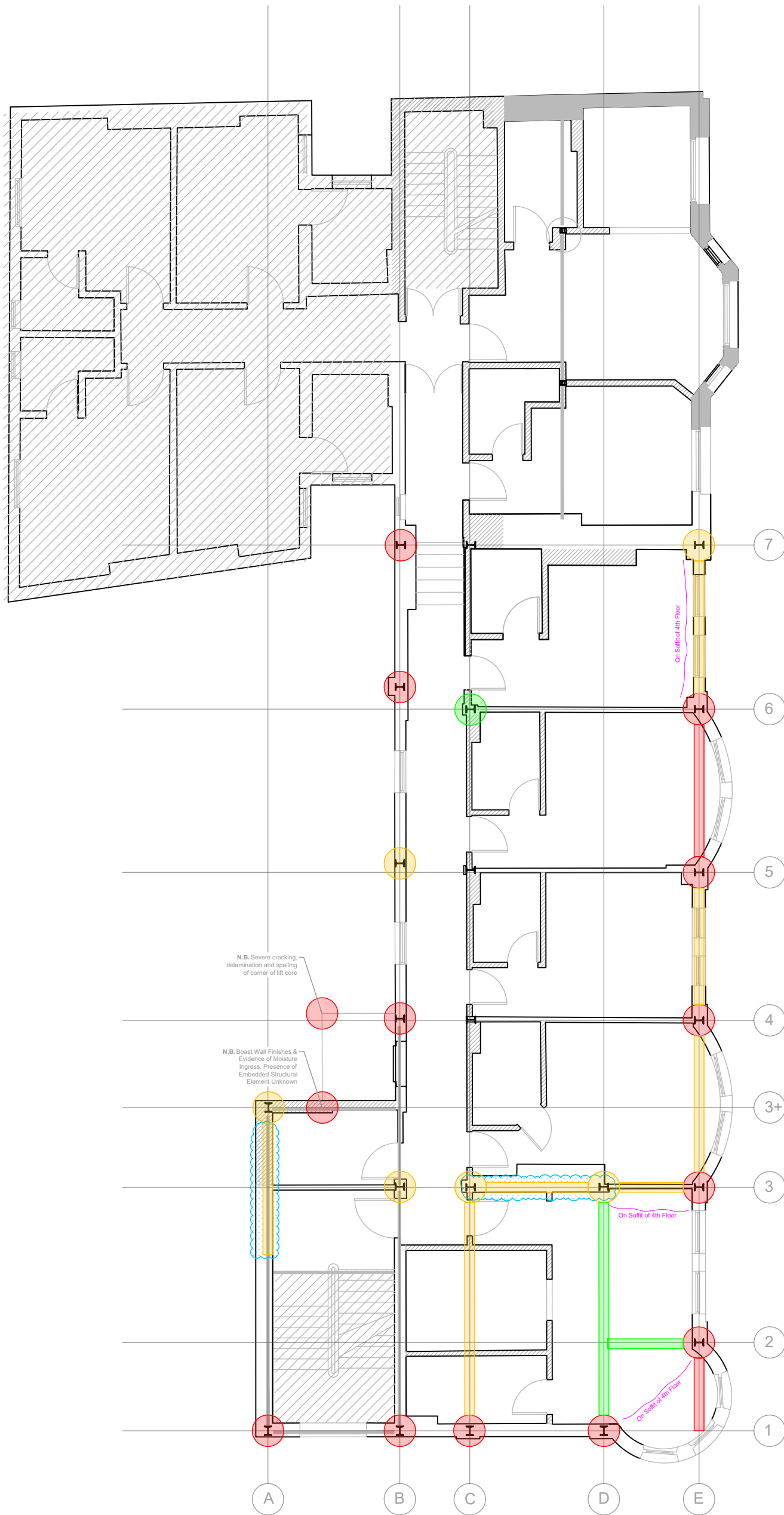
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
- Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defects(s) on Wall/Ceiling Finishes
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- Evidence of Severe Corrosion on Column/Beam; Significant Defect(s) Observed on Wall/Ceiling Finishes
- ~ Crack Locations
- Evidence of Moisture Ingress



Existing Fourth Floor Plan

Scale: NTS

P01	JK		For Issue						Aug20	
P00	JK		Draft for Comment						Aug20	
Rev	Chk'd by	Amendment							Date	
For comment		As constructed								
For tender		Inspection						✓		
For construction		Other								
Client			DESIGN ID 13 Main Street, Hillsborough BT26 6AE							
Project Ref.			19604							
Project Name			Royal Hotel, Bangor Steel Frame Remediation							
Drawing Title			RAG Condition Rating - Fourth Floor Columns & Beams							
Date:	19/08/2020	Drawn by:	JK							
Paper Size:	A3	Checked by:	JK							
Scale:	N/A	Approved by:	EMcK							
McFarland Consulting			Unit A3, Harbour Court, Sydenham Business Park, 5 Heron Road, Belfast, BT3 9HB Tel: +44(0) 28 9073 8100 Email: info@mcfarlandconsulting.co.uk www.mcfarlandconsulting.co.uk							
Drawing No.			19604-MCL-04-DR-J-0001				Rev		P01	

Notes:

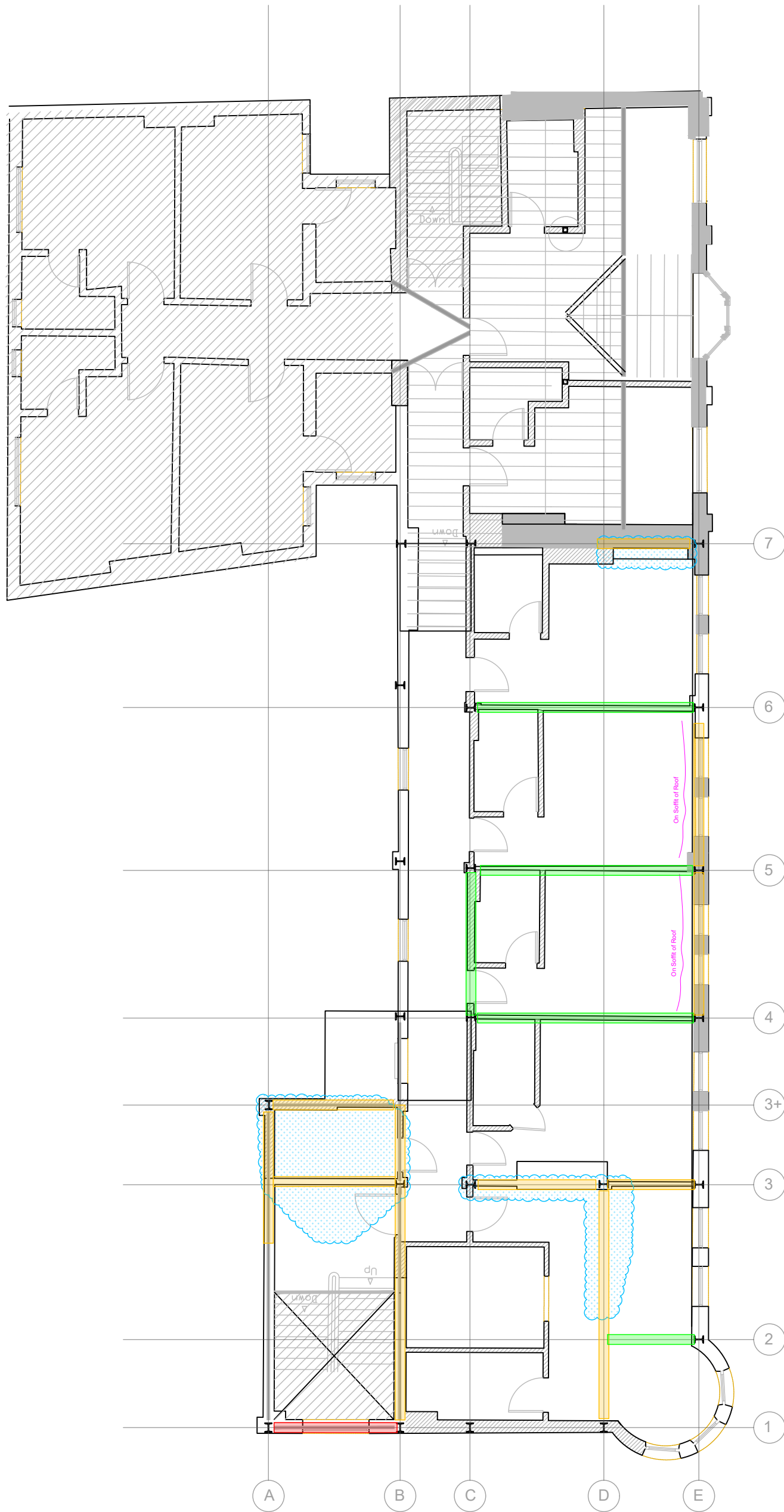
Survey was undertaken in July 2020.

Drawing is not to scale.

This drawing is for indicative purposes only.

Legend:

- Inspection of Column/Beam Not Possible (Wall/Ceiling Finishes Obscuring Element from View)
- Column/Beam Visually Sound; Evidence of Minor, Localised Surface Corrosion Only; No Defect(s) on Wall/Ceiling Finishes
- Evidence of Moderate Surface Corrosion on Column/Beam; Evidence of Moisture Ingress Locally; Minor Defect(s) Observed on Wall/Ceiling Finishes.
- Evidence of Severe Corrosion on Column/Beam; Significant Defect(s) Observed on Wall/Ceiling Finishes
- ~ Crack Locations
- Evidence of Moisture Ingress



Existing Roof Plan

Scale: NTS

P01	JK	For Issue	Aug20
P00	JK	Draft for Comment	Aug20
Rev	Chk'd by	Amendment	Date
For comment		As constructed	
For tender		Inspection	✓
For construction		Other	
Client			
DESIGN ID			
13 Main Street, Hillsborough BT26 6AE			
Project Ref. 19604			
Project Name			
Royal Hotel, Bangor Steel Frame Remediation			
Drawing Title			
RAG Condition Rating - Roof Beams			
Date:	19/08/2020	Drawn by:	JK
Paper Size:	A3	Checked by:	JK
Scale:	N/A	Approved by:	EMcK
McFarland Consulting			
Unit A3, Harbour Court, Sydenham Business Park, 5 Heron Road, Belfast, BT3 9HB Tel: +44(0) 28 9073 8100 Email: info@mcfarlandconsulting.co.uk www.mcfarlandconsulting.co.uk			
Drawing No.			Rev
19604-MCL-RF-DR-J-0001			P01

Appendix B – Supporting Photographs

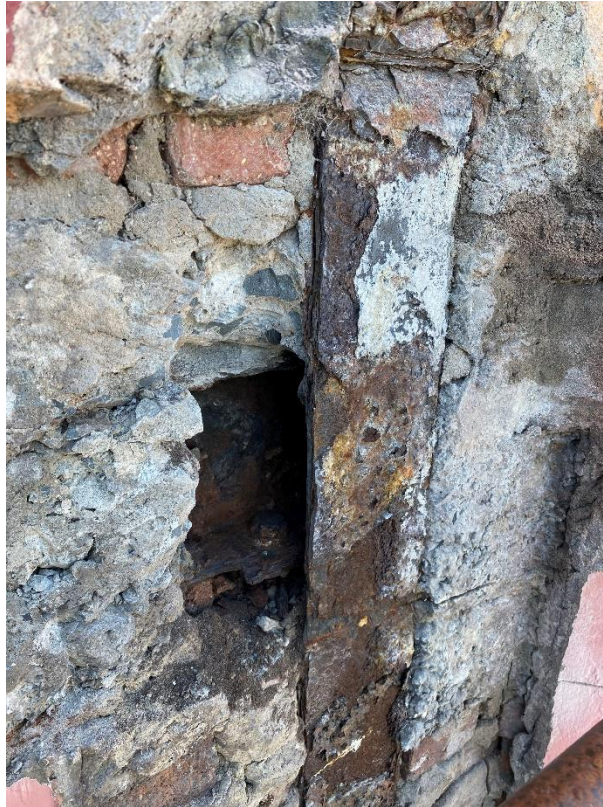


Photo 1 – Crosby Street 4th Floor beam to column connection – Severe corrosion and de-lamination of column flange evident.



Photo 2 – Crosby Street Column flange with severe section loss and de-lamination of incoming steel beam.



Photo 3 – Quay Street Column Beam to Column Connection at 1st Floor level. Severe section loss and de-lamination of column flange evident.



Photo 4 – Photo of column flange on Crosby Street Elevation. Significant de-lamination of column flange.



Photo 5 – First floor curved steel beam at corner of Crosby Street and Quay Street. Corrosion and de-lamination of steel top flange is present.



Photo 6 – Quay Street Column showing the typical relationship with the external solid brick wall. The photo indicates de-lamination of the steel flange.

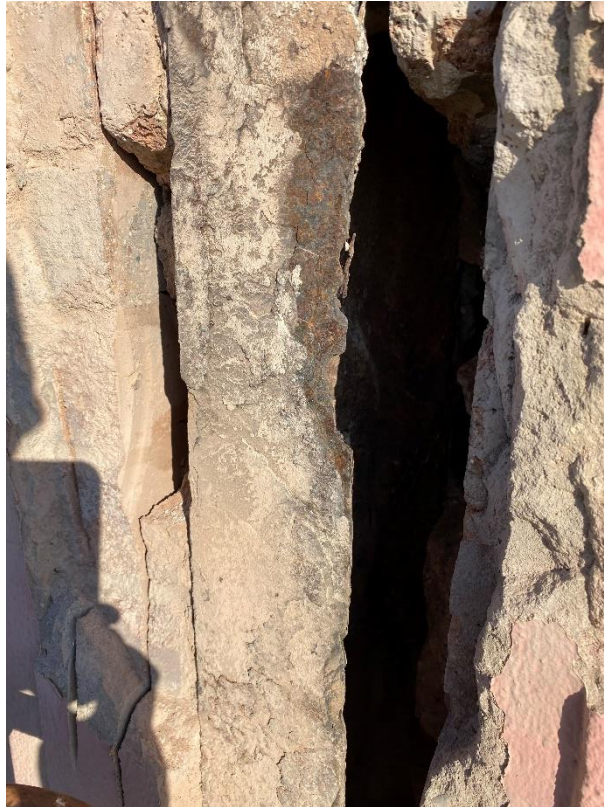


Photo 7 – Quay Street Column at 4th floor level. Severe section loss of columns evident.



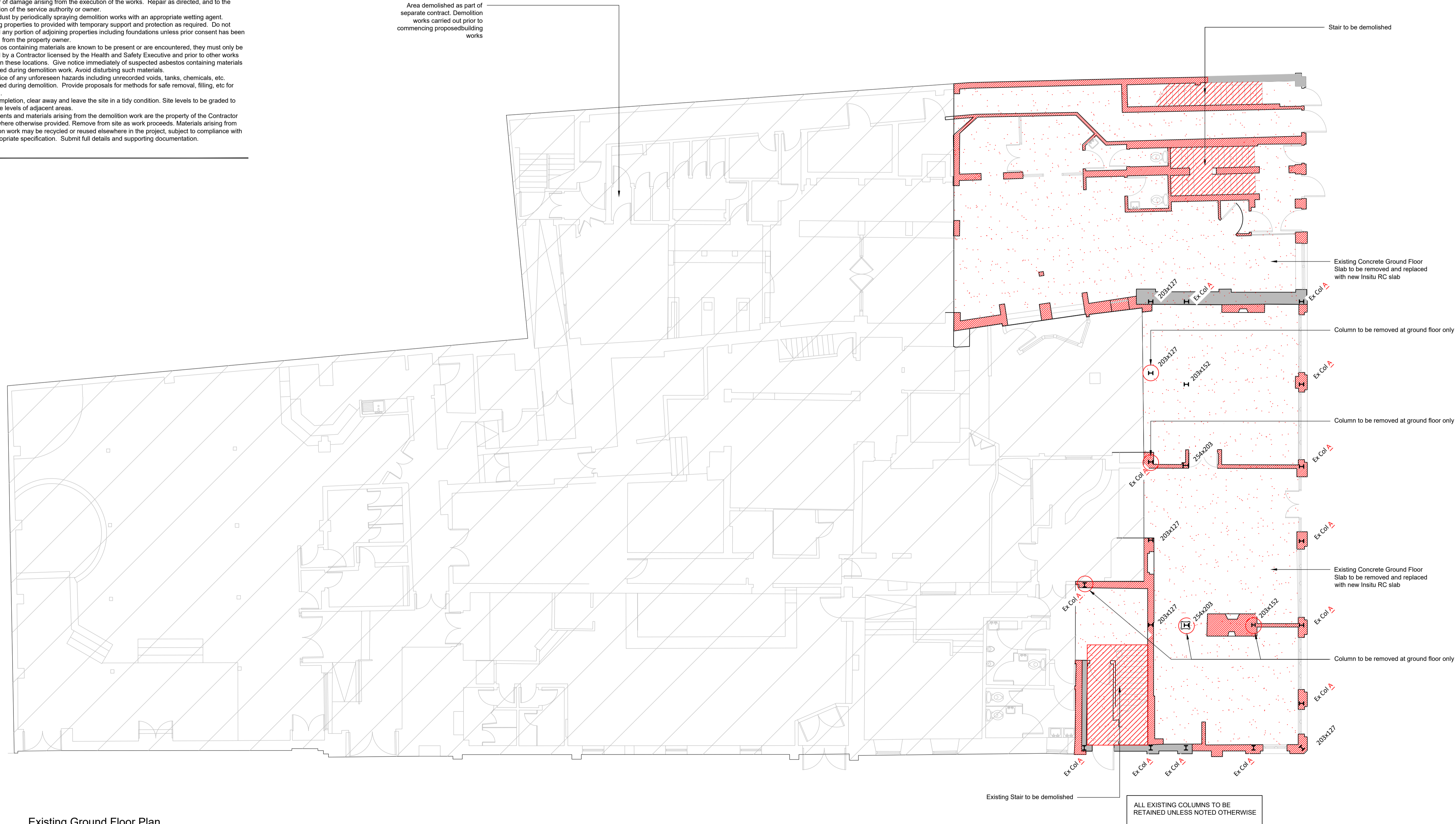
Photo 8 – Crosby Street Beam to Column Connection. Column and incoming beam indicate signs of corrosion and de-lamination.

Appendix C – Existing Structural Layouts

Demolition

1. Demolish structures in accordance with BS 6187. Operatives to be appropriately skilled and experienced for the type of work. They must hold or be in training to obtain relevant CITB Certificates of Competence. Site staff responsible for supervision and control of work must be experienced in the assessment of risks involved and methods of demolition to be used.
2. Contractor to employ a suitably experienced chartered engineer to design any temporary works necessary.
3. Before starting demolition work, examine available information, carry out a survey of the structures, site and surrounding area.
 - 3.1. Report and method statements: Submit, describing
 - 3.2. Form, condition and details of the structures.
 - 3.3. Form, location and removal methods of flammable, toxic or hazardous materials.
 - 3.4. Type and location of adjoining or surrounding premises which may be adversely affected by noise, vibration, dust or removal of structure.
 - 3.5. Identification and location of services above and below ground, including those required for the Contractor's own use. Arrangements for disconnection and removal of services.
 - 3.6. Type and location of features of historical, archaeological or geological importance.
 - 3.7. Sequence and method of demolition including details of specific pre-weakening.
 - 3.8. Arrangements for protection of personnel and the public including exclusion of unauthorised persons.
 - 3.9. Arrangements for control of site transport and traffic.:
4. **EXTENT OF DEMOLITION:** Subject to retention requirements specified elsewhere demolish structures down to and including foundations. Break out old foundations, slabs and the like as stated on the drawings/spec.
5. Notify the Engineer/PM of any contaminated material encountered. Remove and carry out remediation required by the Enforcing Authority.
6. Features to be retained: Keep in place and protect the following: _____
7. Work carried out to or which affects new or existing services to be carried out in accordance with the Byelaws or Regulations of the relevant Statutory Authority.
8. Services affected by the Works: Locate and mark and record position of services affected by the demolition works.
9. Arrange with the appropriate authorities for disconnection of services and removal of fittings and equipment prior to starting demolition.
10. Drains in use: Protect drains, manholes, inspection chambers, gullies, vent pipes and fittings still in use and ensure that they are kept free of debris. Make good damage arising from demolition work. Leave clean and in working order at completion. Give notice and notify service authority or owner of damage arising from the execution of the work. Repair as directed, and to the satisfaction of the service authority or owner.
11. Control dust by periodically spraying demolition works with an appropriate wetting agent.
12. Adjoining properties to be provided with temporary support and protection as required. Do not removed any portion of adjoining properties including foundations unless prior consent has been obtained from the property owner.
13. If Asbestos containing materials are known to be present or are encountered, they must only be removed by a Contractor licensed by the Health and Safety Executive and prior to other works starting in these locations. Give notice immediately of suspected asbestos containing materials discovered during demolition work. Avoid disturbing such materials.
14. Give notice of any unforeseen hazards including unrecorded voids, tanks, chemicals, etc. discovered during demolition. Provide proposals for methods for safe removal, filling, etc for approval.
15. Upon completion, clear away and leave the site in a tidy condition. Site levels to be graded to follow the levels of adjacent areas.
16. Components and materials arising from the demolition work are the property of the Contractor except where otherwise provided. Remove from site as work proceeds. Materials arising from demolition work may be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification. Submit full details and supporting documentation.

Area demolished as part of separate contract. Demolition works carried out prior to commencing proposed building works



Existing Ground Floor Plan
Scale 1:100

General Notes

1. For setting out refer to Architect's drawings.
2. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
3. **DO NOT SCALE FROM THIS DRAWING.** Use figured dimensions only.
4. CE Marking.
 - 4.1. All structural components to be CE Marked in accordance EN 1090 Pts 1 and 2.
 - 4.2. Building Execution Class: EXC1 EXC2 EXC3 EXC4
 - 4.3. Any steel fabricator used must be a member of the BCSA or demonstrate they are CE Marked by another approved notified body.
5. **Construction (Design and Management) Regulations 2015 / Construction (Design and Management) Regulations (NI) 2016 (CDM) - Client's Duties**
 - 5.1. CDM Regulations aim to improve health and safety in the industry by helping to:
 - Sensibly plan the work so the risks involved are managed from start to finish
 - Have the right people for the right job at the right time
 - Cooperate and coordinate work between clients, designers and contractors
 - Have the right information about the risks and how they are being
 - Communicate this information effectively to those who need to know
 - Consult and engage with workers about the risks and how they are being managed
 - 5.2 To comply with the CDM Regulations the Client must be aware of and undertake all their duties set out in Part 2 of the Regulations. These include, but are not limited to, making arrangements for welfare facilities, appointing a Principal Designer and appointing a Principal Contractor. A free copy of the HSE's Guidance on the Regulations can be downloaded from the HSE website (<https://www.hse.gov.uk/pubns/priced/153.pdf>). The Regulations can be downloaded from the UK Legislation website (www.legislation.gov.uk)

General Specific Notes & Specification

1. For All Project Specific Notes refer To Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend

- Ex Col Δ Assumed position of existing column (Based on surveyed beam arrangement)
- Existing 203x127 RSJ column as measured on site
- Existing 203x152 RSJ column as measured on site
- Existing 254x203 RSJ column as measured on site
- Existing Walls to be retained
- Existing Walls to be demolished
- 127x76x16 RSJ Existing beam size as measured on site
- 254 dp Beam A Assumed beam size based on size of box out visible during survey
- Assumed Beam Assumed beam based on estimated frame arrangement
- Denotes Existing 150mm thk RC Slab
- Denotes existing 220mm deep joists. Joists typically 38mm wide at approx 300-330mm centres. Every 4th joist is 75mm wide

Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

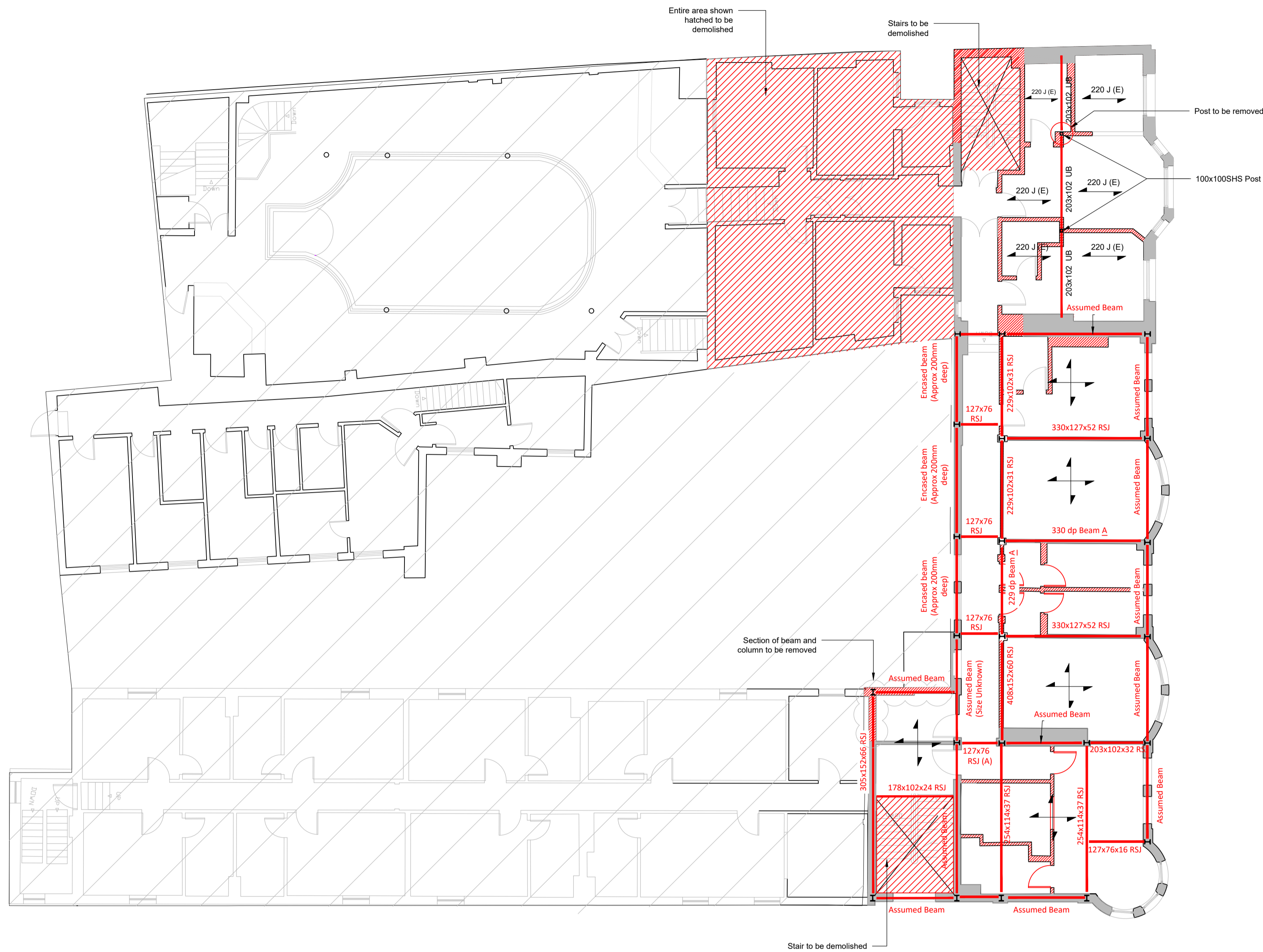
Design ID

Structural & Civil Engineers
13 Main Street
Hillsborough
BT26 6AE
+44 (0)28 9268 1055
mail@designid.co.uk
www.designid.co.uk

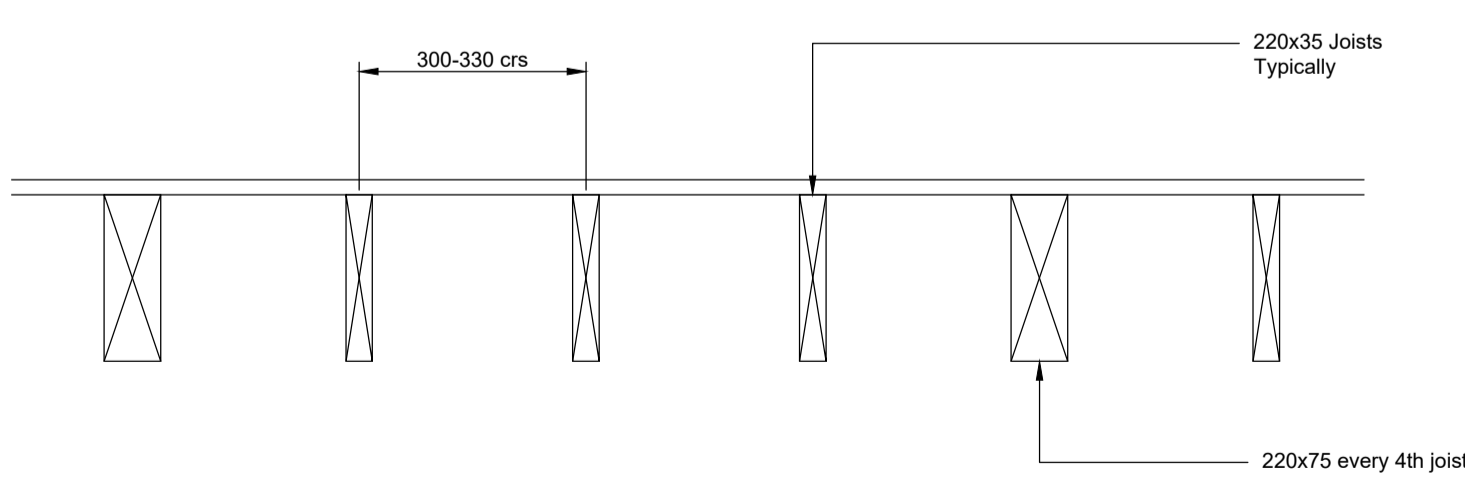
Think Design Engineer		Project	Drawn By	Design ID Project No.
		Refurbishment at Royal Hotel Bangor	BR	19053
		Drawing Title	Date Drawn	Scale(s) @ A1
		Existing Ground Floor Plan	13/05/20	1:100

Full Document Reference		Suitability & Description	
19053-DID-ZZ-GF-DR-S-0001		S0 WIP	

Project	Originator	Volume	Level	Type	Role	Number	Revision
19053	- DID - ZZ - GF - DR - S -	0001					P01



ALL EXISTING COLUMNS AND BEAMS TO BE RETAINED UNLESS NOTED OTHERWISE.
 ALL TOP OF STEEL LEVEL = U/SIDE SLAB/JOIST



Typical Floor Joist Arrangement in Timber Floor Areas
 Scale 1:10

- ### General Notes
- For setting out refer to Architect's drawings.
 - This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
 - DO NOT SCALE FROM THIS DRAWING. Use figured dimensions only.
 - CE Marking
 - All structural components to be CE Marked in accordance EN 1090 Pts 1 and 2.
 - Building Execution Class: EXC1 EXC2 EXC3 EXC4
 - Any steel fabricator used must be a member of the BCSA or demonstrate they are CE Marked by another approved notified body.
 - Construction (Design and Management) Regulations 2015 / Construction (Design and Management) Regulations (NI) 2016 (CDM) - Client's Duties
 - CDM Regulations aim to improve health and safety in the industry by helping to:
 - Sensibly plan the work so the risks involved are managed from start to finish
 - Have the right people for the right job at the right time
 - Cooperate and coordinate work between clients, designers and contractors
 - Have the right information about the risks and how they are being
 - Communicate this information effectively to those who need to know
 - Consult and engage with workers about the risks and how they are being managed
 - To comply with the CDM Regulations the Client must be aware of and undertake all their duties set out in Part 2 of the Regulations. These include, but are not limited to, making arrangements for welfare facilities, appointing a Principal Designer and appointing a Principal Contractor. A free copy of the HSE's Guidance on the Regulations can be downloaded from the HSE website (<https://www.hse.gov.uk/pubns/priced/153.pdf>). The Regulations can be downloaded from the UK Legislation website (www.legislation.gov.uk)

- ### General Specific Notes & Specification
- For All Project Specific Notes refer To Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend

- Existing column position (Based on surveyed beam arrangement)
- Existing 203x127 RSJ column as measured on site
- Existing 203x152 RSJ column as measured on site
- Existing 254x203 RSJ column as measured on site
- Existing Walls to be retained
- Existing Walls to be demolished
- Existing beam size as measured on site
- Assumed beam size based on size of box out visible during survey
- Assumed beam based on estimated frame arrangement
- Denotes Existing 150mm thk RC Slab
- Denotes existing 220mm deep joists. Joists typically 38mm wide at approx 300-330mm centres. Every 4th joist is 75mm wide

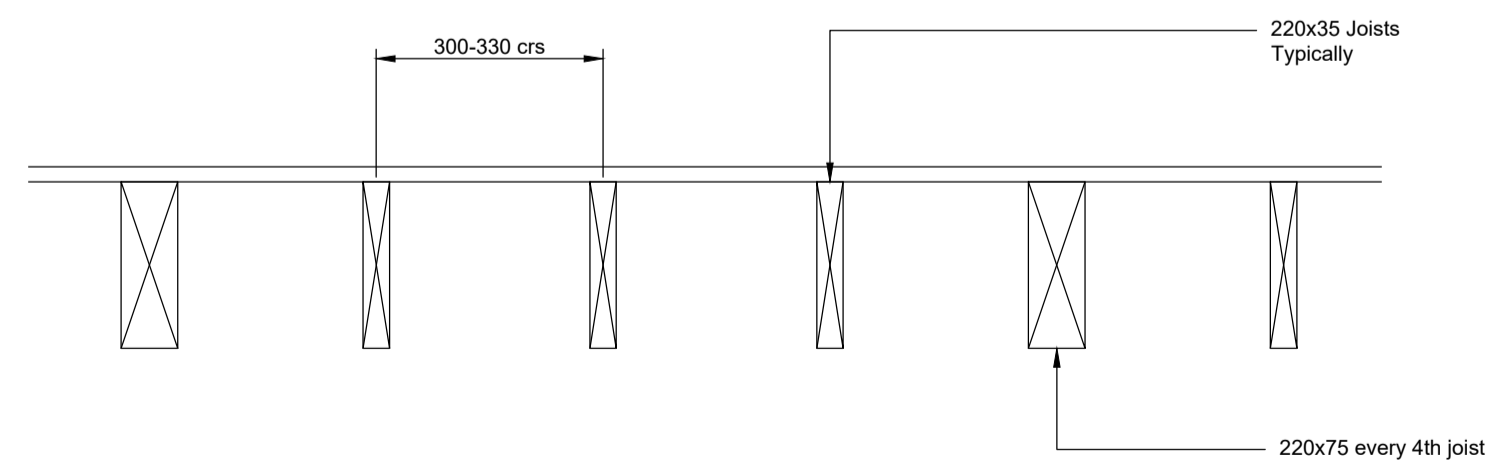
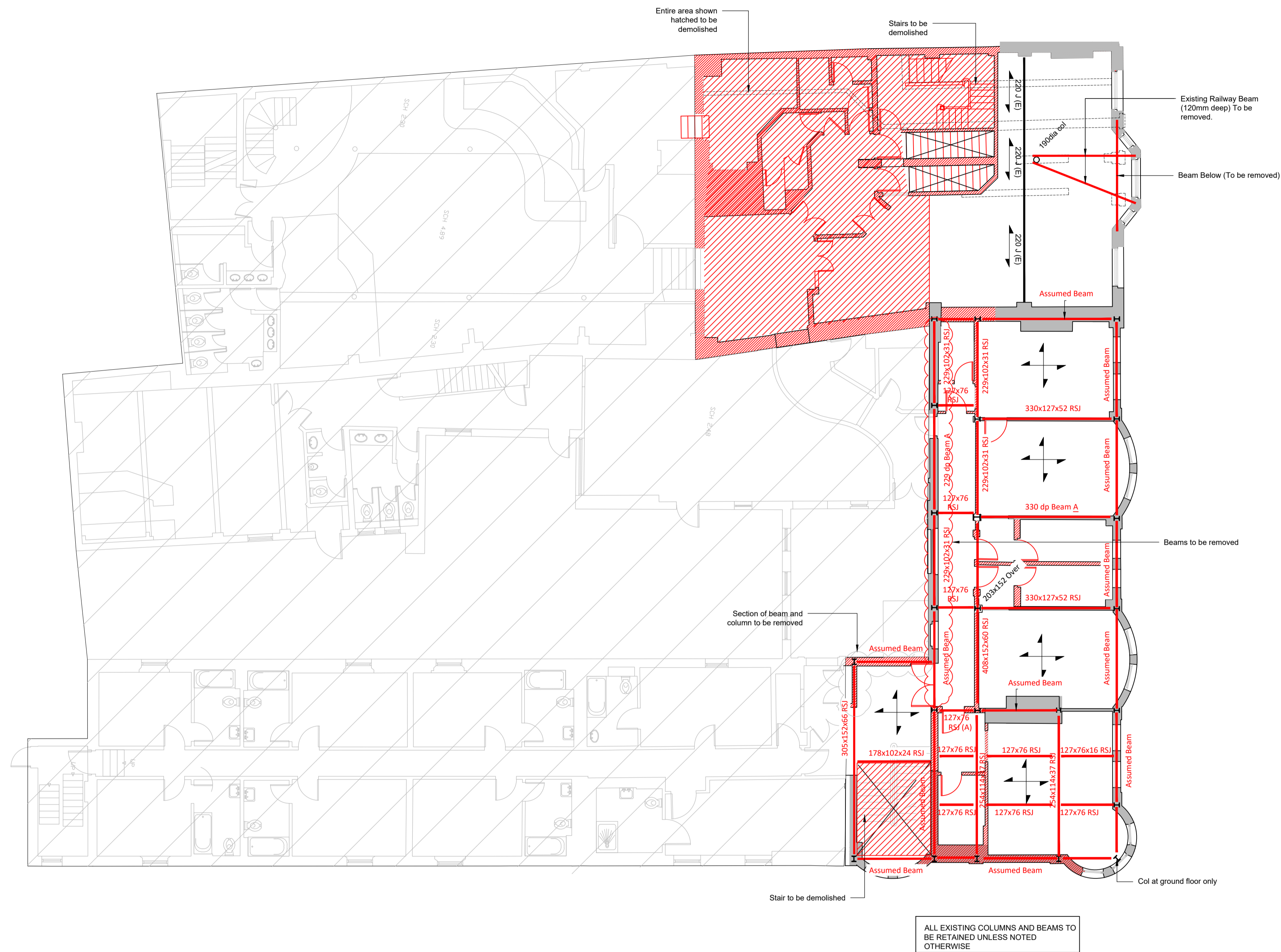
Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

Design ID
 Structural & Civil Engineers
 13 Main Street
 Hillsborough
 BT26 6AE
 +44 (0)28 9268 1055
 mail@designid.co.uk
 www.designid.co.uk

Project	Drawn By	Design ID Project No.
Refurbishment at Royal Hotel Bangor	BR	19053
Drawing Title	Date Drawn	Scale(s) @ A1
Existing Second Floor Plan Showing Structure Over	13/05/20	1:100

Full Document Reference	Suitability & Description
19053-DID-ZZ-03-DR-S-0004	SO WIP

Project	Originator	Volume	Level	Type	Role	Number	Revision
19053	- DID - ZZ - 03 - DR - S - 0004						P01



Typical Floor Joist Arrangement in Timber Floor Areas

Scale 1:10

General Notes

- For setting out refer to Architect's drawings.
- This drawing is to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
- DO NOT SCALE FROM THIS DRAWING. Use figured dimensions only.
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General Specific Notes & Specification

- For All Project Specific Notes refer to Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend

- Ex Col A
Assumed position of existing column (Based on surveyed beam arrangement)
- 203x127
Existing 203x127 RSJ column as measured on site
- 203x152
Existing 203x152 RSJ column as measured on site
- 254x203
Existing 254x203 RSJ column as measured on site
- Existing Walls to be retained
- Existing Walls to be demolished
- 127x76x16 RSJ
Existing beam size as measured on site
- 254 dp Beam A
Assumed beam size based on size of box out visible during survey
- Assumed Beam
Assumed beam based on estimated frame arrangement
- Denotes Existing 150mm thk RC Slab
- 220 J (E)
Denotes existing 220mm deep joists. Joists typically 38mm wide at approx 300-330mm centres. Every 4th joist is 75mm wide

Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

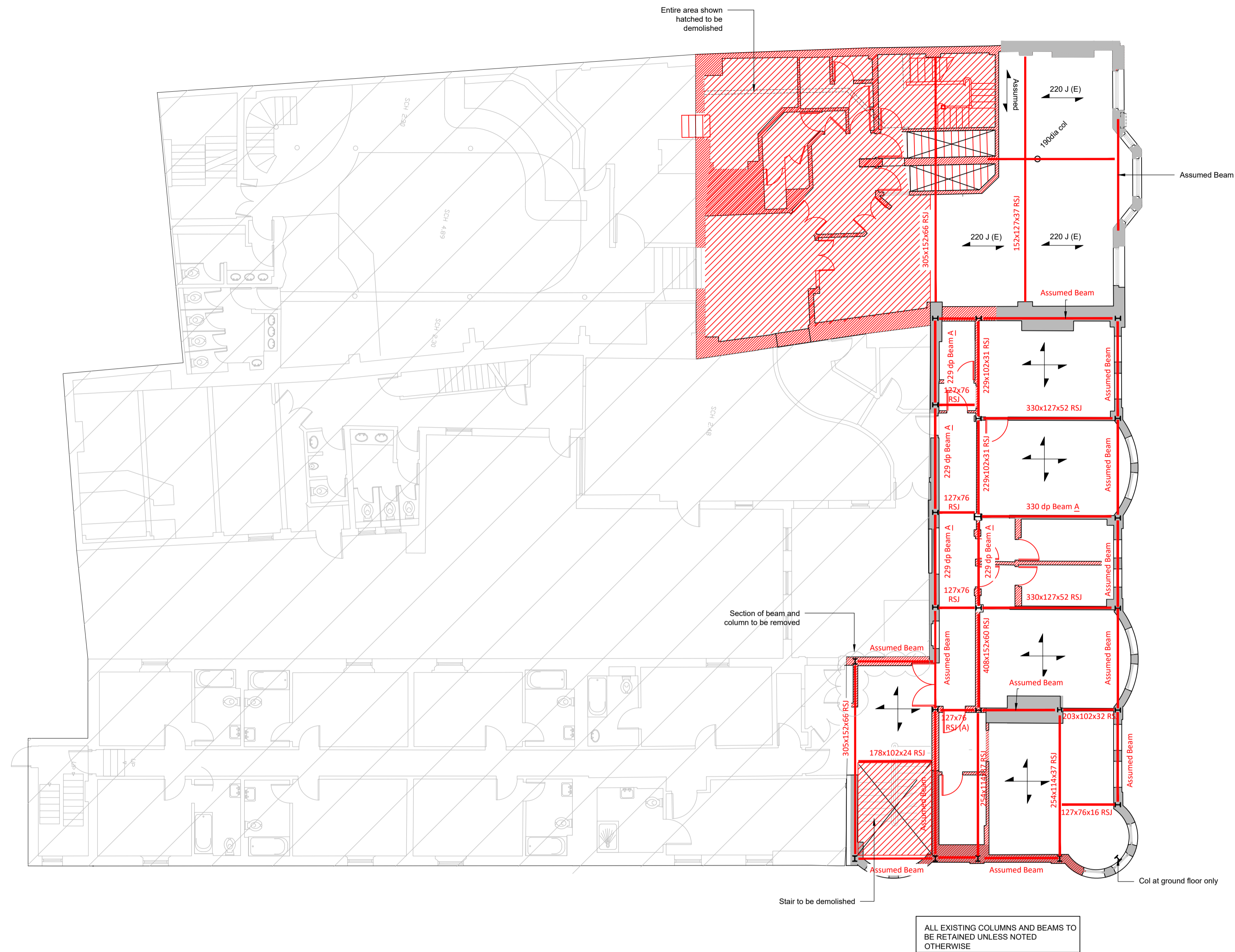
Design ID

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 mail@designid.co.uk
 www.designid.co.uk

Project	Drawn By	Design ID Project No.
Refurbishment at Royal Hotel Bangor	BR	19053
Drawing Title	Date Drawn	Scale(s) @ A1
Existing First Floor Structural Layout	13/05/20	1:100

Full Document Reference	Suitability & Description
19053-DID-ZZ-01-DR-S-0002	SO WIP

Project	Originator	Volume	Level	Type	Role	Number	Revision
19053	- DID - ZZ - 01 - DR - S - 0002						P01



General Notes

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General Specific Notes & Specification

- For All Project Specific Notes refer to Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend

- Ex Col Δ
- Assumed position of existing column (Based on surveyed beam arrangement)
- Existing 203x127 RSJ column as measured on site
- Existing 203x152 RSJ column as measured on site
- Existing 254x203 RSJ column as measured on site
- Existing Walls to be retained
- Existing Walls to be demolished
- Existing beam size as measured on site
- Assumed beam size based on size of box out visible during survey
- Assumed beam based on estimated frame arrangement
- Denotes Existing 150mm thk RC Slab
- Denotes existing 220mm deep joists. Joists typically 38mm wide at approx 300-330mm centres. Every 4th joist is 75mm wide

Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

Design ID

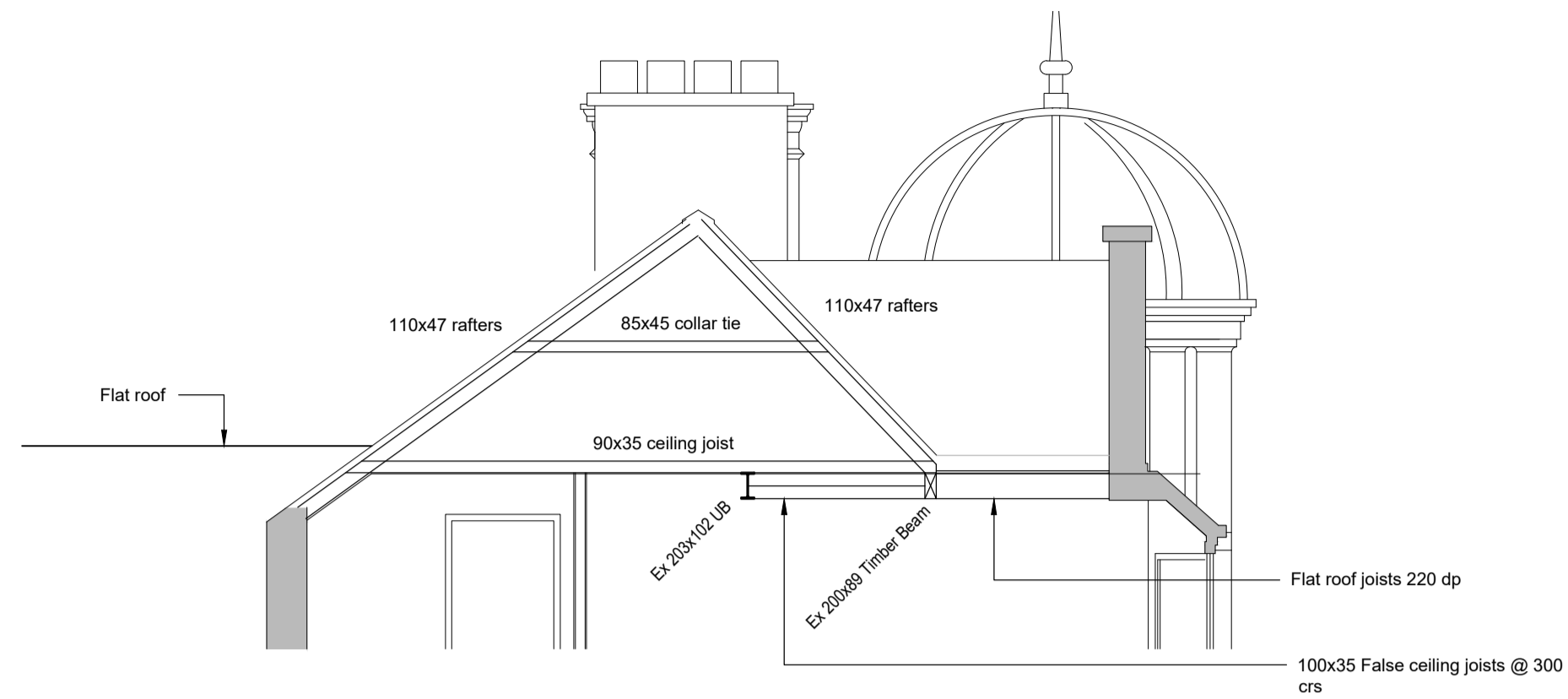
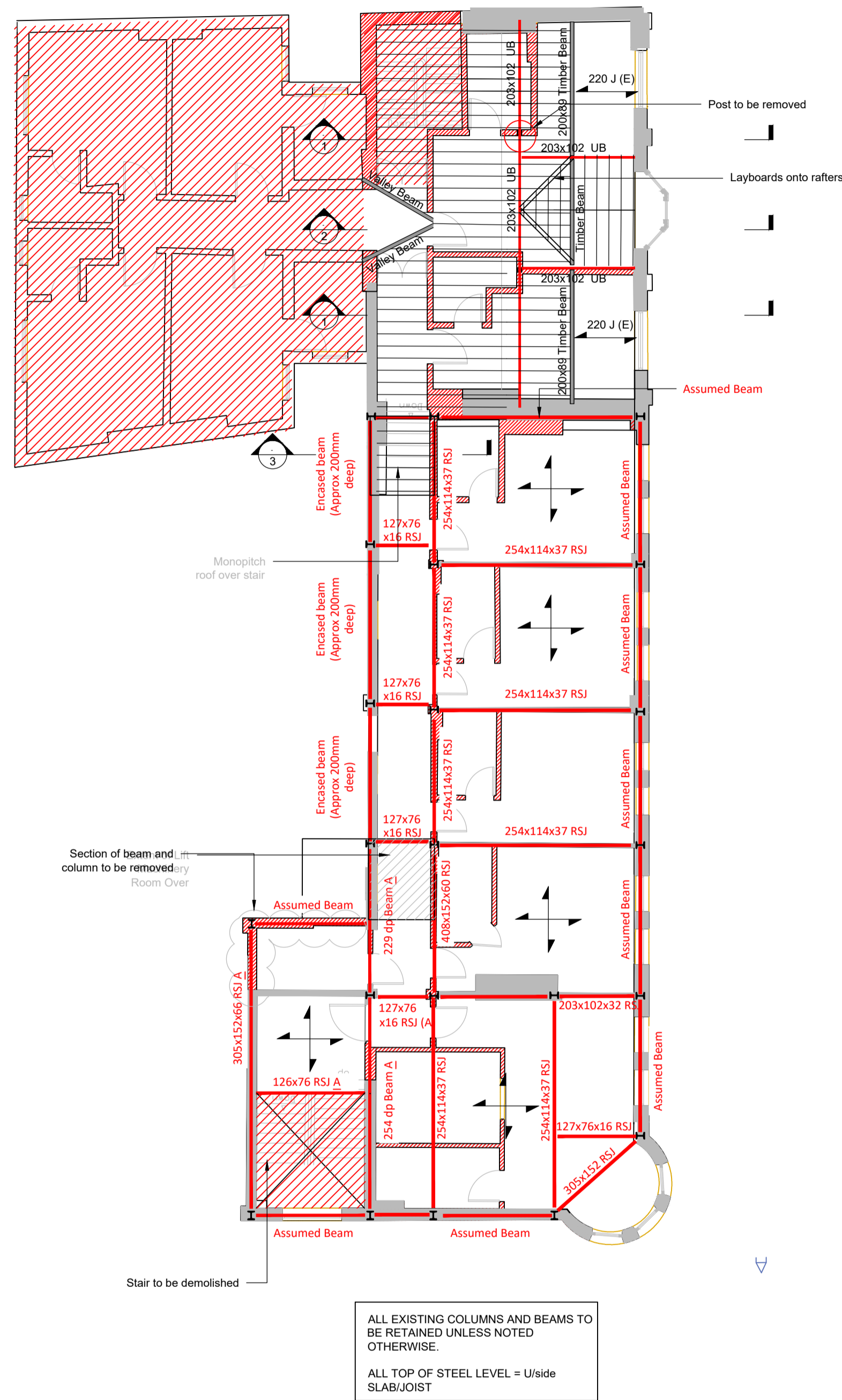
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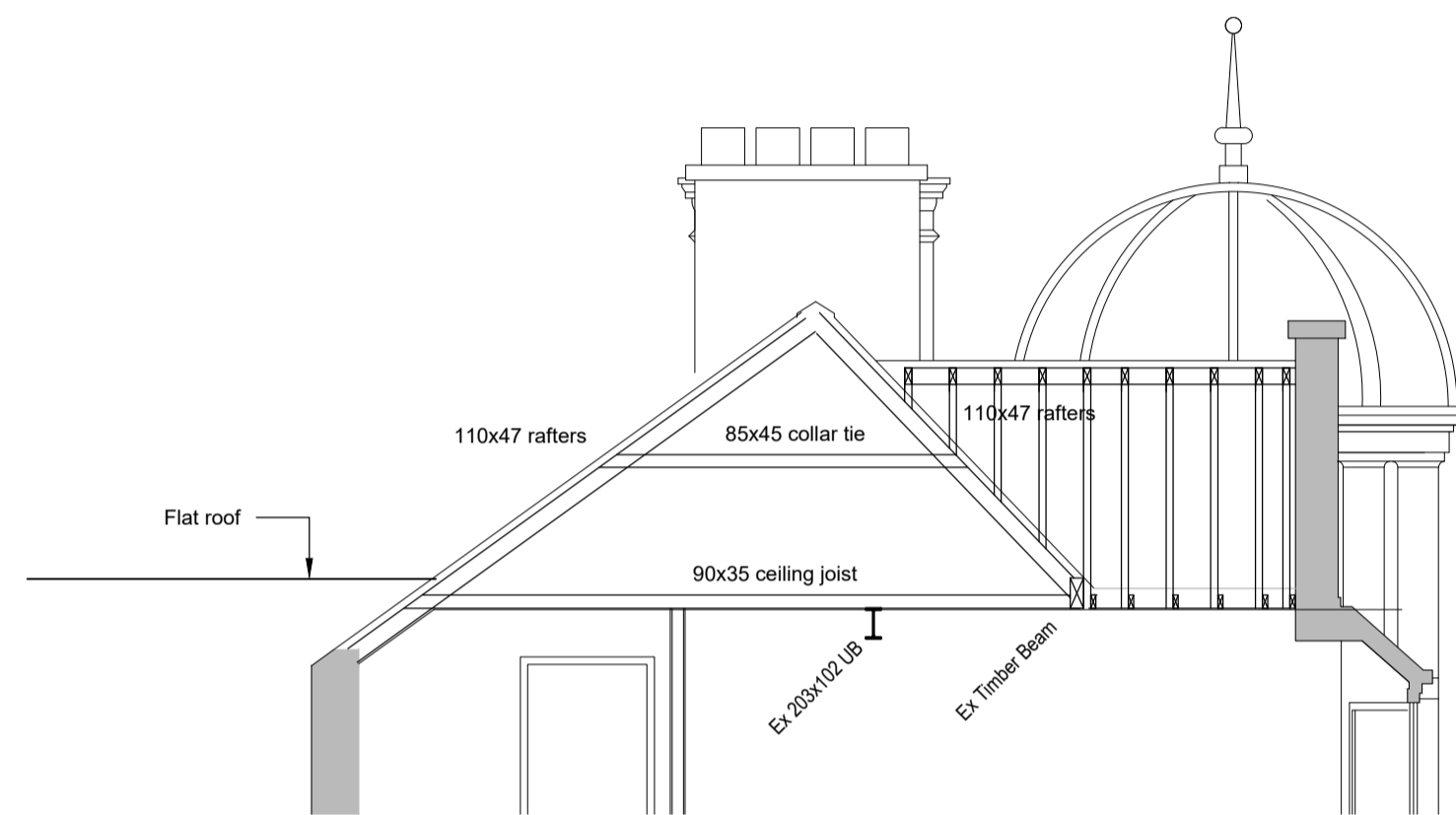
Project Refurbishment at Royal Hotel Bangor	Drawn By BR	Design ID Project No. 19053
Drawing Title Existing First Floor Plan Showing Structure Over	Date Drawn 13/05/20	Scale(s) @ A1 1:100

Full Document Reference 19053-DID-ZZ-02-DR-S-0003	Suitability & Description SO WIP
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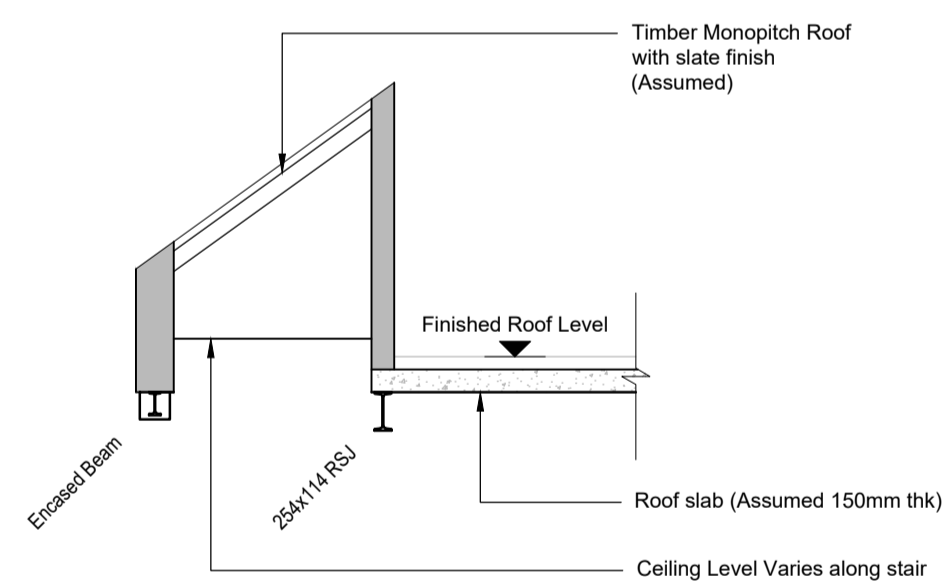
Project 19053	Originator - DID -	Volume - ZZ -	Level - 02 -	Type - DR -	Role - S -	Number - 0003	Revision P01
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Section 1
Scale 1:50



Section 2
Scale 1:50



Section 3
Scale 1:50


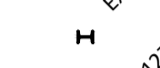
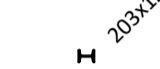

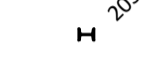

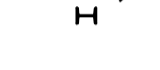



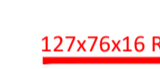

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General Specific Notes & Specification

- For All Project Specific Notes refer to Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend

-  Ex Col
-  Assumed position of existing column (Based on surveyed beam arrangement)
-  Existing 203x127 RSJ column as measured on site
-  Existing 203x152 RSJ column as measured on site
-  Existing 254x203 RSJ column as measured on site
-  Existing Walls to be retained
-  Existing Walls to be demolished
-  Existing beam size as measured on site
-  Assumed beam size based on size of box out visible during survey
-  Assumed beam based on estimated frame arrangement
-  Denotes Existing 150mm thk RC Slab
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Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

Design ID

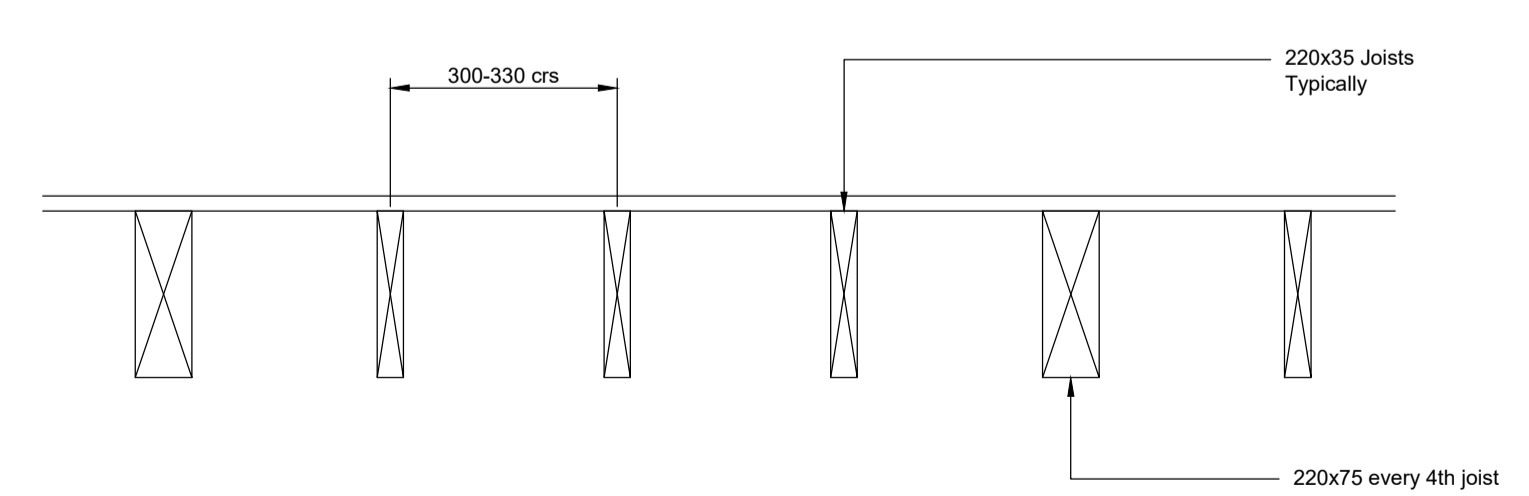
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Project: Refurbishment at Royal Hotel Bangor	Drawn By: BR	Design ID Project No: 19053
Drawing Title: Existing Fourth Floor Plan Showing Structure Over	Date Drawn: 13/05/20	Scale(s) @ A1: 1:100

Full Document Reference: 19053-DID-ZZ-05-DR-S-0006	Suitability & Description: SO WIP
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Project	Originator	Volume	Level	Type	Role	Number	Revision
19053	- DID - ZZ - 05 - DR - S - 0006						P01



Typical Floor Joist Arrangement in Timber Floor Areas

Scale 1:10

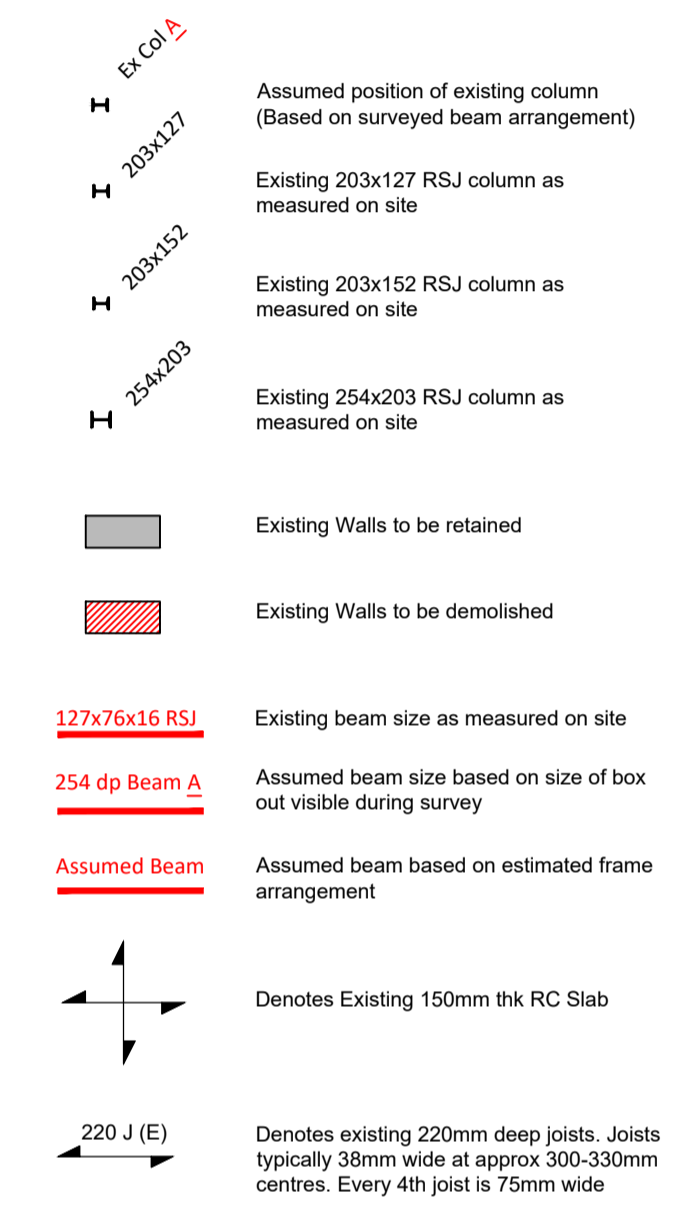
General Notes

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General Specific Notes & Specification

- For All Project Specific Notes refer To Drawing No. 19053-DID-ZZ-XX-DR-S-1000

Legend



Rev	Date	Drawn By	Appr. By	Description
P01	27.05.20	BR	CL	First Issue

Design ID

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Project	Drawn By	Design ID Project No.
Refurbishment at Royal Hotel Bangor	BR	19053
Drawing Title	Date Drawn	Scale(s) @ A1
Existing Third Floor Plan Showing Structure Over	13/05/20	1:100

Full Document Reference	Suitability & Description
19053-DID-ZZ-04-DR-S-0005	SO WIP

Project	Originator	Volume	Level	Type	Role	Number	Revision
19053	- DID -	ZZ -	04 -	DR -	S -	0005	P01