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Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-539
Ein cyf/Our ref

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14 August 2015

Dear William

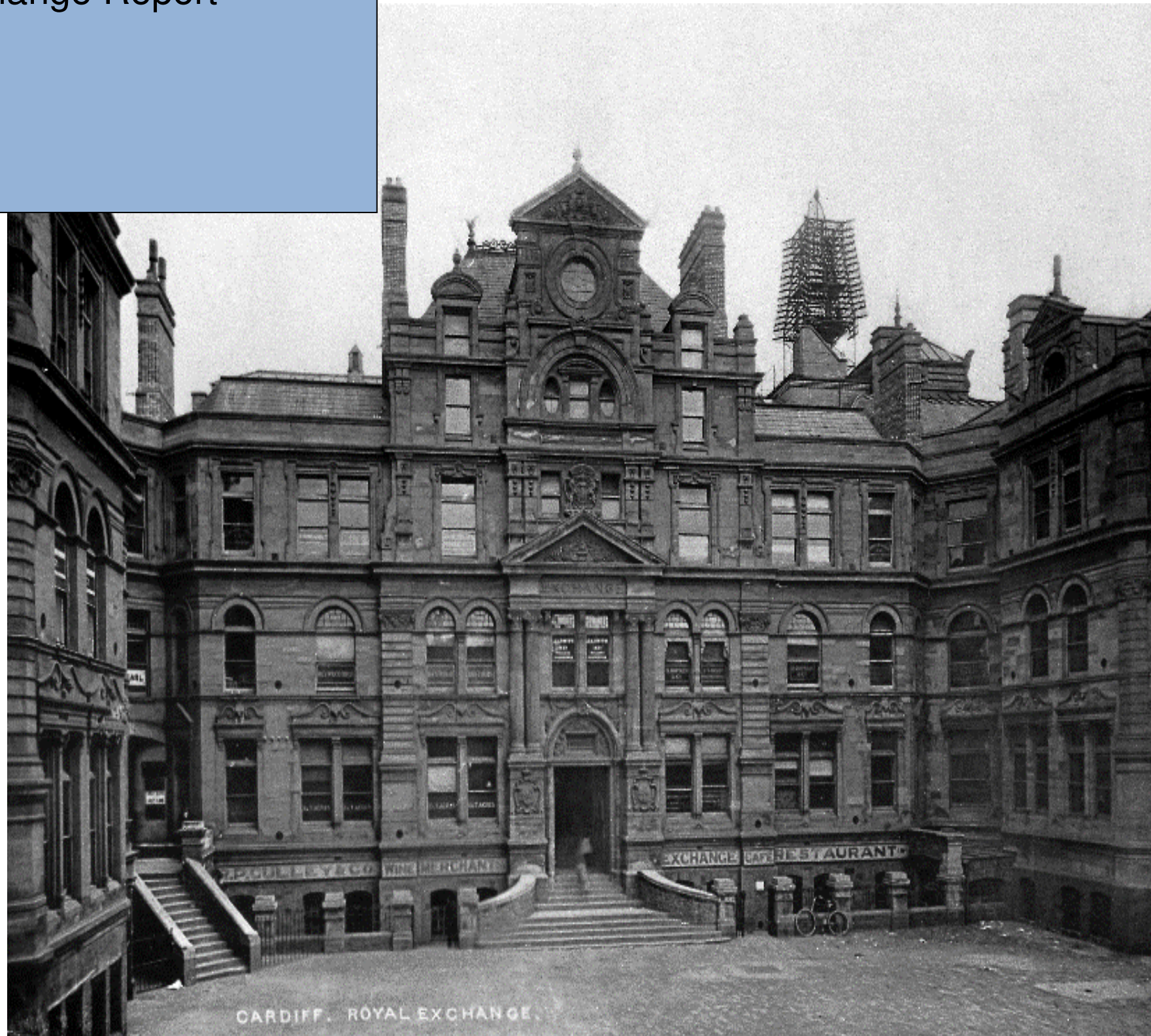
Further to my letter of 30 June regarding the Cardiff Coal Exchange, please find attached as promised a copy of the feasibility study prepared by Capita in association with Economy Science and Transport and CADW officials.

Edwina Hart

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Coal Exchange Report

14 July 2015



Quality Management

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Location			
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Revision Status / History

Rev	Date	Issue / Purpose / Comment	Prepared	Checked	Authorised
A	25/06/2015	Amendments following meeting 24/06/2015 – awaiting final comments from CADW	SP	CW	DR
B	14/07/2015	Amendments following CADW recommendations	SP	CW	DR

1. Executive Summary & Recommendations

1.1 Building Condition

The building is generally dilapidated with some areas dangerous and inaccessible. The building does not meet current regulations for occupation in terms of fire travel distances, disabled access and most statutory compliance regulations. In several areas within the building there is evidence of asbestos containing material, dry rot and rodent infestation.

1.2 Building Significance

The Coal Exchange is a listed Grade II* and is one of the most historically important commercial buildings in Wales, illustrating the region's immense commercial power in the late nineteenth century and early twentieth century. The most significant heritage components are:

- Exchange Hall including foyer, hall and ante rooms including the whole atrium, balcony galleries and the original roof.
- Front and East facades
- South entrance courtyard, though more than partially obliterated by the car park.
- The whole layout of the building with its interconnectivity between trading floor, galleries and offices
- Roof features including cupolas and turrets and general massing.

1.3 Approach to Redevelopment

This report represents a pragmatic approach to redevelopment which recognises the need to achieve sustainable commercial use whilst refurbishing and retaining as many of the significant heritage components as possible.

The approach used in this report also recognises the need to provide a variety of room sizes to suit a wide range of potential uses including office/commercial, creative arts/crafts, leisure, cafe/restaurant, exhibitions, concerts and conferences.

1.4 Recommendations

It is recommended that a phased approach to the refurbishment of the building is adopted. Initially it is important to fill in knowledge gaps with further and better surveys and investigation work.

- Health and Safety review including risk assessments
- Full building conditional survey including the roof
- Independent structural survey
- Measured to survey to production up to date plans and elevations
- Detailed conservation statement and conservation management plan
- Asbestos survey
- Pre-application discussions with local authority conservation officer and Cadw
- Detailed agreement with Cadw of the scope of the refurbishment
- The above can be undertaken separately. An allowance of circa £200,000 should be allowed for all this work.

Once a full understanding has been achieved of the risks and consequential costs of the various aspects of the building refurbishment, an initial work package to protect and make the building weather resistant and stable should be undertaken. Reconstruction work can then take place in phases and this is summarised below.

Phase	Works	Costs £k	Fees £k	Totals £k	Cumulative Totals £k
1	Investigations and Surveying (7.2)	-	200	200	200
2	First Works (7.3)	3,155	474	3,629	3,829
3	Zone 1 (7.5)	1,978	297	2,275	6,104
4	Zone 2 (7.6)	10,087	1,513	11,600	17,704
5	Entrance Area (7.7)	750	112	862	18,567
6	Delivery / Goods Access (7.8)	400	60	460	19,027
7	Zone 3 (7.6)	9,252	1,378	10,640	29,667
8	Zone 4 (7.6)	7,415	1,113	8,528	38,195
8	Zone 4 demolition Alternative (7.6)	187	280	2,155	

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2. Purpose of the Report

2.1 This report has been produced for the sole use of the Welsh Government in order to provide an overview of the condition of The Coal Exchange building and to consider repair and re-development options. These options range from initially making the building safe and watertight through to the refurbishment of the entire building on a zone by zone basis. High level indicative costs for each category of repair and option for refurbishment have been provided.

3. Methodology

3.0 Introduction

This report is not a condition survey but is a review of the building condition based on site visits, reports provided by other consultants, research and meetings with relevant organisations.

3.1 Site Visits

An initial familiarisation visit was carried out on Monday 9th March 2015, which involved a walk-around of the building to get a general overview of its condition and layout.

A two day inspection was conducted on Wednesday 18th and Thursday 19th March 2015 by Sarah Parr (Capita Building Surveyor) and Nick Renwick (Conservation Architectural adviser). Each accessible room was inspected and rated based on the categories in 3.3. Areas that were too dangerous to inspect and also areas where access wasn't gained, have been highlighted on the plans in Appendix A. These areas have been rated as category 4 based on a worst case scenario for the purpose of calculating costs.

A meeting was held on site at The Coal Exchange with RVW Consulting on Wednesday 25th March 2015. An external walk-around of the site was conducted together with a discussion of their previous report findings.

It should be noted that no roof inspections were carried out due to unsafe access. Comments on the condition of the roof are based on information from previous reports.

3.2 Condition Evaluation

Initially the buildings condition was evaluated on the basis of the following repair categories;

Category 1	Areas currently in use as office accommodation requiring minor repairs / decoration, provision of compliant escape routes, disabled access compliance, upgrading of electrical / heating / toilet facilities.
Category 2	Areas which can be brought back into temporary use with works as Category 1 plus minor repairs to floors, walls, ceilings, windows and doors.
Category 3	Areas which are capable of being repaired economically. Such repairs will include replacement of floor and roof structures, structural repairs to walls and all repairs / decorations associated with category 1 and 2 work.
Category 4	Areas which are not capable of reasonable economic repair because of their extremely poor condition. These areas are currently in a dangerous state and will either need to be demolished or reinstated completely following selective demolition.

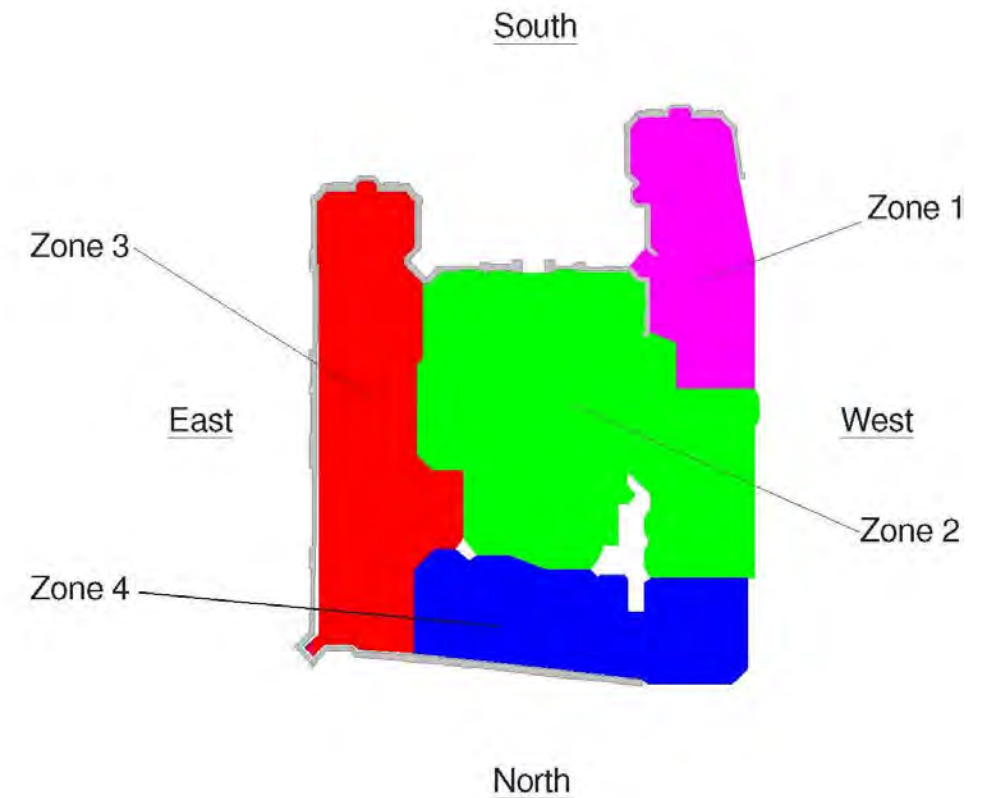
These categories were agreed with Welsh Government, Capita and Nick Renwick Architect (Conservation Architectural Adviser) and drawings showing these categories are provided in **Appendix A**. These drawings also show areas where no access was possible generally due to the dangerous condition of the building.

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3.3 Evaluation of Potential Refurbishment Works

Following the evaluation of the buildings condition, the building was split into four zones to evaluate phasing for repairs and refurbishment works.

Zone 1	South West corner extending half the length of the western side. Floors ground, first, second and third / roof space.
Zone 2	Main hall, rooms between the southern elevation and the main hall and some rooms between the western elevation and the main hall. Floors ground, first, second and third / roof space.
Zone 3	South East corner to North East corner including rooms along the eastern elevations extending to the Main Hall. Floors ground, first, second, and third / roof space.
Zone 4	Rooms from the Northern elevation to meet zones 2 and 3. Floors ground, first, second and third / roof space.



Drawings showing these zones are contained in **Appendix B**.

3.4 Building Refurbishment Options

In considering how the building would be refurbished the following assumptions were developed and agreed with Cadw.

1. Initial work packages (options 1A and 1B)

A basic package of work comprising facade retention including full scaffolding and a full 'top hat' temporary roof would be the first work to be undertaken making the building safe and watertight (option 1A in Section 6.0). This initial work could be augmented with a building wrap which is a material used to cloak the building elevations to provide an external appearance similar to the elevations of the building behind the wrap (option 1B in section 6.0)

2. Zone 1 Refurbishment Option 2.

The next work package would be to fully refurbish zone 1 at all floor levels and make it ready for occupation. This would mean that all floors would become structurally sound, all finishes and decoration renewed, wiring and heating replaced, new toilets, lift access made available, fire escape routes put in place, windows repaired / replaced, roof repaired / replaced and external walls fully repaired on completion of this work.

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3. Zone 2 Refurbishment Option 3

This refurbishment package has been split into subsets 3A, 3B and 3C. Option 3A provides for a fully refurbished and fit for occupation ground floor with the upper floors structurally sound but otherwise un-refurbished. Option 3B provides refurbished ground and first floors with all floors above structurally sound. Option 3C is the refurbishment of Zone 2 at all floor levels and the roof refurbished.

4. Zone 3 Refurbishment Option 4.

This refurbishment package has been split into subsets 4A, 4B and 4C. Option 4A provides for a fully refurbished and fit for occupation ground floor with the upper floors structurally sound but otherwise un-refurbished. Option 4B provides refurbished ground and first floors with all floors above structurally sound. Option 4C is the refurbishment of Zone 2 at all floor levels and the roof refurbished.

5. Zone 4 Refurbishment Option 5

This refurbishment package has been split into subsets 5A, 5B and 5C. Option 5A provides for a fully refurbished and fit for occupation ground floor with the upper floors structurally sound but otherwise un-refurbished. Option 5B provides refurbished ground and first floors with all floors above structurally sound. Option 5C is the refurbishment of Zone 2 at all floor levels and the roof refurbished.

6. Zone 4 Demolition Option

This option assumes that the external facade is retained and that the area of the building in zone 4 is demolished. This work package also includes providing external wall ends to close the building in order to make it weather tight. The reasons for considering this option are provided in Section 7.



A summary of the refurbishment options is shown in the table below.

Option	Facade Retention	Temp Roof	Building Wrap	Zone 1		Zone 2				Zone 3				Zone 4				Demolition Works
				All Floors	Roof	GF	1st Fl	2nd & 3rd Fls	Roof	GF	1st Fl	2nd & 3rd Fls	Roof	GF	1st Fl	2nd & 3rd Fls	Roof	
1A	✓	✓																
1B	✓	✓	✓															
2	✓	✓	✓	✓	✓													
3A	✓	✓	✓	✓	✓	✓			✓									
3B	✓	✓	✓	✓	✓	✓	✓		✓									
3C	✓	✓	✓	✓	✓	✓	✓	✓	✓									
4A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓					
4B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓					
4C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
5A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
5B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
5C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓

3.5 Input from Cadw

Several informal meetings were held within Cadw to discuss progress in the evaluation of the building and to provide input into the Initial Conservation Study found in section 5 of this report.

3.6 Initial Conservation Study

Section 5 of this report has been produced by Nick Renwick (Conservation Architectural Adviser) and provides the basis of thinking which informed the definitions of the condition evaluation categories, the subsequent refurbishment zones and the options considered in section 6 of this report.

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4. Overview of Condition

4.1 Introduction

A visual high level inspection was carried out on Wednesday 18th and Thursday 19th March 2015, where categories were given to each accessible room within the building.

It is difficult to consider each category as separate entities on a floor by floor basis. For example, areas of category 1 and 2 on the ground floor may have areas above on the first, second and third floors that are category 3 or 4. The roof is likely to be defective above these areas also. It was agreed that the best approach to such variations in condition is to consider the building on the basis of zones. Four zones were agreed and each contains a variety of differing categories of repair.

A desk top study of previous reports on the building has been carried out and this information has been used in conjunction with our own findings on site from the visual inspection.

4.2 Health and Safety

The health implications of the building must also be considered. There were areas of asbestos which have been labelled as asbestos containing materials. A full refurbishment and demolition survey would need to be conducted prior to any refurbishment works.

Precautions will also need to be taken against further health risks posed within the building. It was noted during our visits that there is an extensive amount of pigeon carcasses and faeces and precaution would need to be taken against Psittacosis. There were visible fungi fruiting bodies and mycelium in some accessible areas, which will release spores into the atmosphere. It is also anticipated that there is an extensive rodent infestation and precautions would need to be taken against Leptospirosis.

4.3 Statutory Compliance

A DDA assessment and fire risk assessment have not been carried out. However, it is apparent from the visual inspection that in it's current form the building is not compliant with current regulations. Furthermore, the mechanical and electrical installations would also require replacement / upgrading to meet current regulations.

The implications of this are that lift access will need to be provided, new heating and toilet facilities installed, additional fire escape stairs provided together with improved fire escape routes and a complete rewiring needs to be undertaken.

4.4 General Overview

- There is extensive water penetration as a result of a combination of factors; leaking roofs, blocked and leaking rainwater goods, cracks and vegetative growth in the walls to list a few factors.

- In many areas there has been total and partial floor collapse and there is evidence of other areas of floors beginning to lose their structural integrity.
- The collapsing floors have caused damage to the walls by dislodging the masonry and jeopardised the stability of the walls / facades.
- There are extensive areas of rotten floor and roof timbers and this is especially evident in areas where the timbers are in contact with the external walls.
- The roof areas have not collapsed but there is a risk that this could occur. Many of the roof timbers are rotten and are no longer performing their structural role. Snow and extreme wind loading will have an impact on the stability of the roofs.
- The north-west and south-east wing are in danger of collapse.
- Each elevation has cracked and loose masonry.
- Many of the ceilings have coal ash pugging to act as an acoustic barrier. When this material becomes wet it changes to a concrete like substance and thus imposes additional weight onto the timber. This can contribute to the collapsing of ceilings when combined with the continued water ingress causing rotten timber.

4.5 Roofs



The building has a complex roof formation, made up of pitched roofs with slate and glazed areas and of flat roofs. We were unable to inspect the roof during our visual inspection due to unsafe access. Where we have made comment on the condition of the roof, we have used information from previous reports.

Slate covered roofs

- Nail fixings have corroded in many locations.
- Weathered and loose pointing to ridge and hip tiles evident on all roofs.
- Cracked and loose ridge and hip tiles.
- Delaminating slates.
- Lack of felt below the slates in many areas.
- Insufficient sized tiling fillets at eaves and valley gutter locations.

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Glazed roofs

- Poor lead detailing between glazed panels corresponding with areas of staining and leaks internally.
- Evidence of numerous patch repairs, not all successful.

Flat roofs

- Flat roof on west elevation constructed in bitumen felt over a timber decking. In poor condition with split and blistered areas, allowing continued water penetration.

Parapet gutters and rainwater goods

- Lead lined parapet gutters in a poor condition, with areas that have been patch repaired with bitumen felt and bitumen coatings.
- Rainwater outlets and downpipes are blocked causing a back up of water in the gutters and a continued overflow of water down the face of the building in the areas around the blocked and leaking gutters.
- Water staining internally below the outlets and gutters indicate continued leakage.

4.6 Chimneys

- Chimney stacks are all in a poor state of repair.
- Excessive weathering of the mortar joints to the stacks, resulting in loose stones and bricks.
- Many stacks have extensive vegetative growth in the recessed joints.

4.7 External fire escapes

- Two external fire escapes in the light well elevations, both from the North wing third floor.
- One fire escape of steel construction and in a poor state of repair.
- One fire escape of timber construction and in a state of collapse.

4.8 North West Wing



North Elevation

West Elevation

Access to this area was on the ground floor as all other floors were unsafe to enter. Combining our findings and previous reports, we can provide the following overview of the area.

- There has been a total collapse of floors at first and second floor level, which has caused damage to the walls in the process and resulted in a lack of restraint of the walls.
- Floor areas around the north-west wing have been propped in instances of partial floor collapse. These floors are still suffering from continued damage from water penetration.
- The facade is showing signs of settlement.
- Many of the accessible roof timbers in this area are rotten and have lost their structural integrity. Rotten timber lintels are no longer providing support to the roof trusses.
- Areas of stress to the window jambs have caused the facade stone to split, allowing water penetration and cracks to progress in size due to the free-thaw action.
- Action is required to protect this area from collapse.

4.9 South East Wing



This area is in a critical condition and access was extremely limited due to the unsafe condition of the area. With our own findings in combination with previous reports we can provide the following overview below.

- Floors at all levels have collapsed, resulting in removal of lateral restraint over the full height of the wing.
- The structural loads have been transferred to the outer decorative leaf of stone, causing the window heads and jambs to split.
- The west elevation of the south-east wing is exhibiting signs of immediate instability, as there is no structure tying the masonry back to the main structure.
- There is damage to the stone facade from falling masonry and evidence of masonry on the ground during our inspection.

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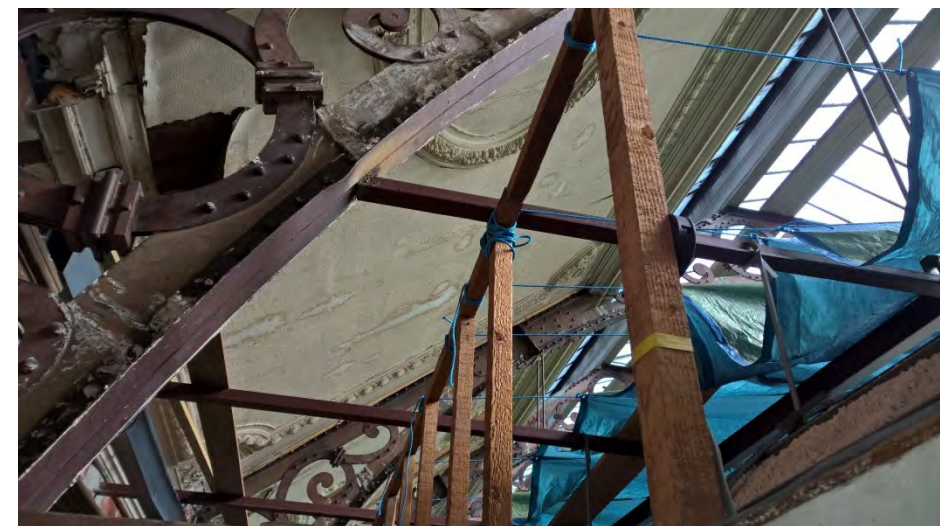
- Action is required to protect this area from collapse.

4.10 Main Hall



The main hall on the ground and first floor is in a reasonable condition in comparison to other areas of the building, with localised areas of repair required. However, the condition deteriorates as the building moves up to the second floor and the glazed roof area. This deterioration will eventually feed down through to the currently less impacted areas, so a/an holistic approach needs to be taken / adopted.

The ante rooms are also in a reasonable condition on the ground floor, however the condition deteriorates further up the building. There has been a total collapse of floors in areas on the second floor and evidence of continued water ingress. Again, an approach to address the roof and damaged areas above the ante rooms will be required to prevent the deterioration migrating down to the ground floor.



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5. Initial Conservation Study

5.1 Introduction

The Coal Exchange is the centre piece of Mount Stuart Square built largely in limestone in the French Renaissance style. The scale and rich architectural detail serve to illustrate the region's immense commercial power in the late 19th century and it has a strong presence within the streetscape.

This building dominates the square by its design even though some of the buildings around are larger. This is due to the intricate detail and architectural massing of the elevations, the former breaking down the latter, which in turn turns breaks down the monumental scale.

The whole building is listed Grade II* as one of the most historically important commercial buildings in Wales, illustrating (the) region's immense commercial power in the late C19 and early C20. *Historic Wales Report 14015*. See Appendix D.

5.2 Understanding the Site

HISTORICAL BACKGROUND

Cardiff was for over 50 years the largest coal port in the world with the mineral brought down from the coal bearing valleys to the north first by canal boat and after the 1840s by rail way and then shipped out of Cardiff. Trade such as this needs a market that can adapt immediately to changes in supply and demand and initially the coal owners and ship owners met in the local public houses and offices.

However this could not last as trade increased exponentially with more and more coal and ship owners, agents, brokers and merchants moved to Cardiff from areas like Newcastle, Liverpool, London and the West Country to service the industry and make profits out of the Black Gold. Therefore a purpose built building was deemed necessary similar to other national trading market buildings such as the Baltic Exchange in London or the Cotton Exchange in Liverpool.

The site chosen was the garden area in the centre of Mount Stuart Square. This had originally been built as a residential square on the lines of a London Square populated by the middle echelons of the docks merchants, however the houses had gradually been taken over by offices as the area became Cardiff's commercial centre.

The building was constructed in phases between 1883 and 1897, these were almost continuous as economic pressures kept the building work progressing. The exchange floor was both first and last as it was redesigned in 1911. The changes appear to have been cosmetic with the trading booths removed and more detail applied to the balconies.

Edwin Seward was the architect and Edward Turner the building contractor. Financing was initially by subscription raised through the business community but as the first phases came into operation the management company raised finance through profits and rents.

Edward Turner was the 'go to' builder for the Cardiff establishment. As was common in this period the contract would have been similar to a Design and Build procurement scenario with the contractor given scheme design drawings and expected to provide his own working details and build within a contract sum. This probably accounts for the bland elevation and absence of detailing to the North / West elevations.

The economic zenith of the Exchange and indeed the port of Cardiff, was immediately before the First World war and from then it went into a gradual decline culminating in its closure as a trading floor in 1961. The stock exchange carried on until the late 1960s using its own trading premises on the first floor.

The building has had various uses since then, as a concert hall or exhibition space and twice it has been proposed as the site of the Welsh Parliament, but no use has stuck and the building as a whole has continued to decline.

The wings of the building including the offices to the rear continued to be used as offices, many of them populated by the residuary shipping firms that carried on in ever reducing circumstances throughout the century. The North East corner housed Barclays Bank until 15 years ago and a Housing Association occupied the first floor of the North section until 20 years ago. New 'up to date' entrances were constructed for both. Because of the poor materials used both have deteriorated quicker than the building itself.

The South East wing experienced a bad fire in the late 1980s, which damaged irretrievably the interior structure, however the exterior has remained intact.

Media companies set up home in the South West and West wings in the 1990s and combined with the concerts being held on the exchange floor, the building seemed to take on a new existence. However Cardiff Bay Development Corporation purchased the entire building in 1989 and though their first aim was 'To promote development and provide a superb environment in which people will want to live, work and play' they failed to get to understand the building and the renaissance stalled and withered.

Components

The building to the front was constructed around a grand forecourt enclosed by two wings with steps leading up to the main entrance to the Exchange floor, the remainder of the building was offices serving the Exchange. The plan form is rather eccentric firstly because of the irregular shape of the original garden and secondly to provide each office with windows. As a result there are internally a number of internal courtyards and light

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wells and lean to roofs, creating what would now be termed an overdevelopment of difficult to maintain buildings.

The original design drawings include additional entrances on the West elevation and at the North West Corner. However no evidence of these can be seen in the building fabric and so it is assumed that they were never constructed.

The main part of the building was constructed in pale cream limestone (Corsham Stone) on a snecked grey stone plinth. This applies to all exterior elevations apart from the North and majority of West in these areas a yellow brick has been used, which gives it a more utilitarian appearance.

The design is described in the listing as derived from French Renaissance. The full text can be seen in the appendix .It is three storeys high plus accommodation in roof pavilions and a basement throughout.

The internal wings behind the exchange floor are constructed in local Radyr stone and are plain and lacking in detail. There are indications that the original design was more elaborate as the stone window sills have stone stooling which should have supported stone surrounds. The internal elevations to the north wings are faced in white ceramic brickwork, which though give a lavatorial feel serve to enhance reflectance to light the internal courtyards.

The physical centre and heart of the building was and still is the Exchange floor where it is purported the first £1 million deal was done or cheque written; the story varies. This formally called the Coal and Shipping Exchange was reached by an axis of corridors going North, West and East each leading to separate entrances onto the square as well as the main entrance to the south.

The floor was an atrium with offices on the two upper levels leading off balconies overlooking the floor. The dealing floor itself went through a number of layout changes with dealing booths replaced over the years by an open cry system. The Listing describes the Exchange floor as' comprises an oak panelled room 15mx29.5m with 2 tiers of balconies above the trading floor. It has a glazed roof at the full 17.5m height of the Hall, supported on iron trusses. The ante-rooms (to the floor) were also finished in panelling with stained glass windows and fittings in the architectural style of the day.

From 1961 to the present time some unsympathetic alterations have been carried out, including the insertion of a false acoustic ceiling above the exchange floor in the 1970s, so hiding the upper level gallery and the roof trusses. Also the ruination of the entrance courtyard with an underground car park.



AERIAL PHOTOGRAPH FROM EAST



THE EXCHANGE FLOOR IN 1912

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THE EXCHANGE FLOOR IN 2014

Changes since the start of the Twentieth Century were negligible, the most significant being the demolition of the railway offices constructed in the front forecourt.

In order to promote the late 1960s uses new entrances were constructed around the main forecourt and North entrance and escape stairs inserted behind. These using concrete and aluminium would have appeared up to date interventions at the time but now look tired and out of place.

In its pomp the Exchange Building served as a catalyst to redevelop the whole area around. The houses around, all originally designed for domestic use, became offices and many were demolished and multi floored purpose built offices erected in their stead. This redevelopment spread out to the streets around James St, Bute St and West Bute Street.

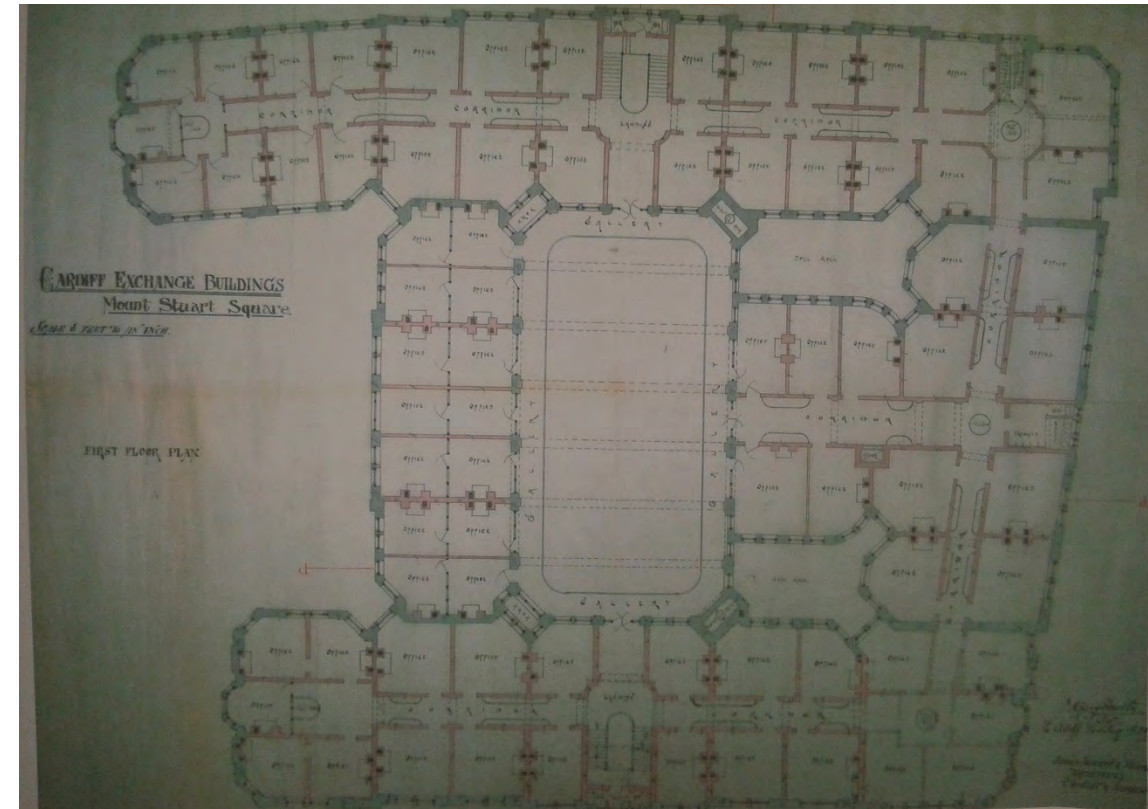
5.3 Assessment of Significance

SIGNIFICANCE

The building contains one of the only extant dealing floors left in Great Britain, others like the Baltic Exchange in London have been demolished, whilst the Royal Exchange in Manchester became a theatre and the Joint Stock Building in Birmingham is a Pub/Restaurant. It is a testament to how business was conducted in the 19 and early 20th century. The building was dynamic in itself creating and promoting business throughout the world whilst at the same time providing purpose built offices for the firms

doing business there. It even provided its own leisure facilities with a Members only club off the exchange floor and restaurants in the basement.

Architecturally, the Exchange floor and south and east entrances are of particular significance in design terms, but taken as a whole the building is a footprint of a Victorian business centre and should be treated as an entity. It was, using words from a modern advertisement for office space, Ready-to-go workspaces with the widest possible range of complementary support services available on demand.



Floor Layout

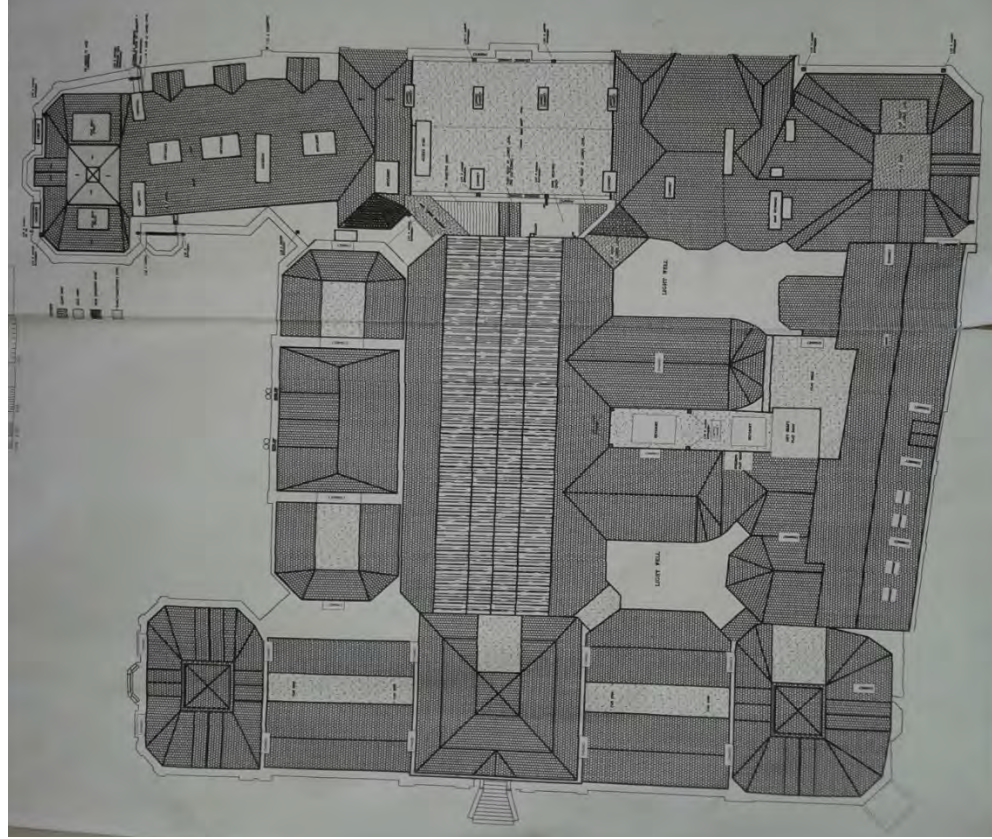
AREAS OF ORIGINAL FABRIC AND CHARACTER

It is always invidious with a complex building to make judgements without a detailed assessment but the initial visual inspection has indicated that the following areas retain particularly high levels of original fabric and historic character:

Exchange Hall including foyer, hall and ante rooms including the whole atrium, balcony galleries and the original roof.

- All facades.
- South entrance courtyard, though more than partially obliterated by the car park.
- Roof features including cupolas and turrets and general massing.

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ROOFSCAPE

LEGIBILITY OF ARCHITECTURE

The exchange floor is basically unaltered on the ground and first floor. The original features and fittings have mercifully been kept. It is at second floor level that interventions have obscured the architectural narrative with the insertion of the suspended ceiling which truncates the atrium.

The ceiling even though attempts were made to soften its design by curving the perimeter, remains a problem. Not only does it destroy the elegance of the atrium, it also cuts off the second floor balcony and gallery, the last by cutting away the ranks of offices behind and their interconnectivity with the exchange floor losing the ethos of the original design.

The building as a whole was originally designed on a cruciform pattern with the exchange floor as its crucible served by entrances at each point of the compass with galleries leading from each entrance to the exchange floor. Though the galleries have been obstructed and the west entrance lost the pattern is still there and can easily be restored.

The offices are all of a rigid cellular layout each with its chimney flue if not fireplace. In some areas the timber screen that separated off the ante room from the inner sanctum remain. All with the exception of those overlooking the balconies have natural light. This

is because of the layout of the whole building with light wells and inner courtyards. Unlike many other buildings of this period these have not been filled in or built over.

DEFICITS

Apart from its general condition, access for the disabled is the main deficit of the layout. With all main areas at upper ground level and above there is little option for creating level accesses apart from the main entrance area, however this is bound up with the whole layout of the 1970s car park. Interestingly a lift was originally constructed to serve all floors. It was in the well to the south-east of the exchange floor and the mechanism is still in the motor house on the roof. The floors were originally constructed with sand or sea shell pugging and where the floors are stable these remain so creating both fire resistance and acoustic insulation.

There are a number of fire escape structures but many of these are unusable firstly because of their structural disrepair and secondly because the ultimate means of escape are blocked. However it should be noted that this is not the case the currently occupied areas of the building.

As previously mentioned the offices are all cellular and divided up by structural walls many containing chimneys so opportunities for open plan arrangements, if proposed are minimal. However this would serve to promote the concept of multi uses for the building, rather than single uses

The 1970s car park cannot economically be restored to effective use. The ramp is too steep, car parking spaces minimal and access poor.

A significant number of basement windows and doors have been lost as the pavement has encroached making the rooms difficult to use. Of the basement itself the 1970s Welsh Assembly pre-contract work has made general circulation impossible. A complete redevelopment of the basement could provide new opportunities such as the creation of new car parking areas. However this would have to be the subject of a detailed study.

5.4 Issues & Vulnerabilities

OBJECTIVES

The building lies in limbo at the moment with the exception of part of the south west wing it is effectively empty and very vulnerable to continual deterioration. There is a dedicated team titled Save the Coal Exchange Ltd that is working to draw attention to the building and its predicament and also provide facilities management for the lettable areas. However it needs a long term purpose to be identified around which all the energies of the business and local community as well as Local and national authorities can coalesce.

Over at least the last 25 years various uses have been put forward. Ignoring the two schemes for a Welsh Assembly, plans have been prepared for practically all use classes

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under the Planning Act. None have stuck. What is needed is one that provides and promotes the future of the Exchange Floor, its entrance and atrium, not as an adjunct but as the heart of the building.

COMMUNITY EXPECTATION

There were always two communities in Butetown the business and the civil; historically the two did not mix. Therefore the residential community had no expectation of the Exchange apart from a 9-5 office for the business community. Further developments to the east around Mermaid Quay and the Roath Basin waterfront have left Mount Stuart Sq behind as an island divorced from the new areas of affluence.

Since the 1980s when the Cardiff Bay Development Corporation (CBDC) was conceived the lines have become much more blurred between the two with residential sitting cheek by jowell with commercial. Additionally the residential developments have been a mix of so called luxury apartments and affordable and rented housing resulting in a greater mix around Mount Stuart Square, which can only add to the cohesiveness of the community.

Therefore any new use for the Coal Exchange building must acknowledge this and produce a use that all the community can take ownership of.

Mount Stuart Square was like a business village with everyone knowing one another as they were nearly all involved in the same trade. Over the years this has been lost, but because of the physical proximity of all the buildings this attribute has never quite died and could easily be completely resurrected if the Coal Exchange were brought back to life to the advantage of all communities.

5.5 Conservation Policy & Principals

PHILOSOPHY

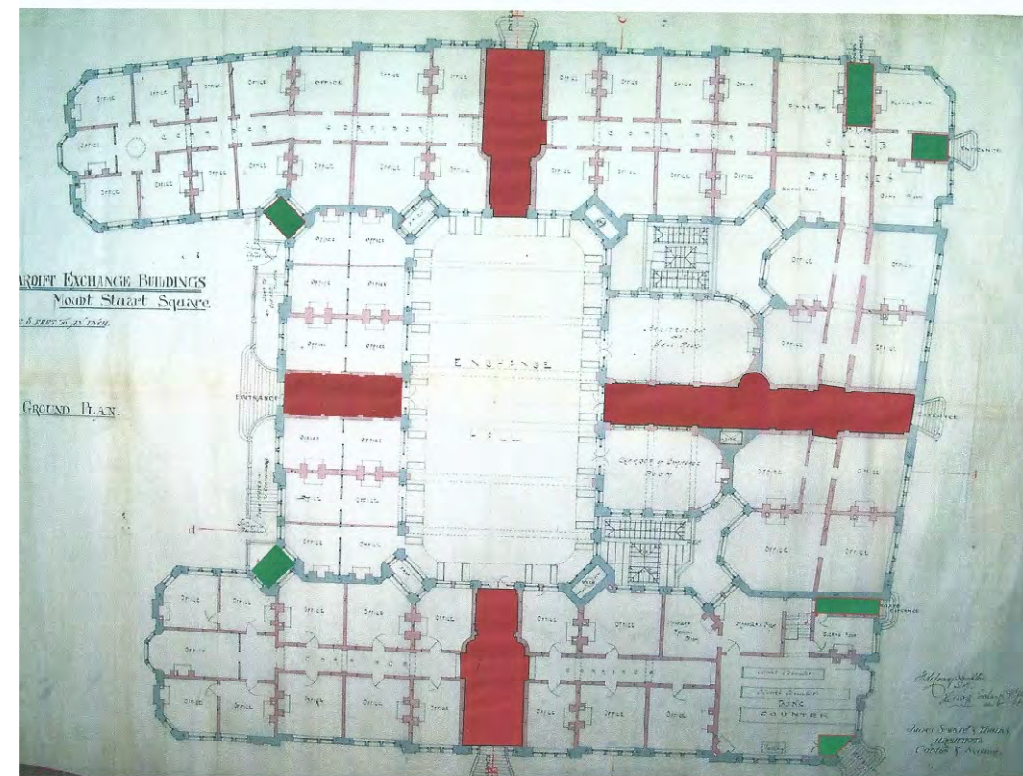
The philosophy proposed is that the original character of the site should be retained and not lost under a welter of contemporary alterations influenced by the prevailing fashions of today.

Established principles of 'conserving as found' will be applied to the building and interventions will only be proposed where significant elements have been modified or lost as in the case of the trading floor roof. However a pragmatic approach is required due to the destruction of finishes due to neglect, fire damage and refurbish works of recent years. Therefore areas exhibiting original features and finishes will be conserved whilst all other areas will be refurbished using modern materials/techniques to resemble the original appearance of rooms.

VISION

The proposal is that the whole building be altered and refurbished to return it to the uses envisaged by its original architect. That is a self-contained centre with offices, restaurants, leisure facilities and conference facilities. Some areas may also be suitable for exhibitions, craft and arts uses.

This will be done without any major alterations to the building structure, only refurbishment of what is still there and using the geography of the building with its central wings enveloped by its perimeter façade. The only changes proposed will consist of opening up all the original entrances even if they were never actually constructed, so that the building can be accessed from all angles. This will mean that the central passage way leading from each door will lead to the central galleries themselves leading to the exchange floor.



PLAN. Floor layout showing original principal entrances RED & secondary GREEN

The central passage way going north from the exchange floor will become an arcade with offices and shops leading off it similar to those in Cardiff city centre. The spurs leading off it will allow the most flexible use of the building as each will have their own entrances. So linking the building organically with the whole of the square.

The building layout of rooms will be developed to provide a variety of differing room sizes. The majority of the existing rooms will be left as constructed. Where walls and

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building structure are missing, there is an opportunity to provide larger rooms for craft and leisure uses.

The trading floor will remain as it is, a venue for exhibitions, concerts and conferences similar to that of the Oval basin in front of the Millennium Centre but with the advantage of being undercover and properly serviced and secure also in the most opulent restored Edwardian surroundings.

The building should be conserved and repaired as it stands with the need for modern services balanced with the necessity to retain original intent and authenticity. Therefore the original layout will be retained.

Previous studies have advocated demolition and rebuilding of the North West corner of the building. It is accepted that the external finishes of this section are not of the same architectural quality as those on the south and east fronts, however they are not of substandard materials and the settlement of this section is historic and has caused no critical damage. Therefore the section should be kept as is.

The 1970s car park in the main forecourt to the building was originally designed in concrete in the brutalist style of the period. In the late 1980s attempts were made to soften it outline by building of a false 'georgian' balustrade around the roof in cast concrete. Disregarding at this stage the aesthetic imperfections, the whole structure compromises all opportunities for both returning the forecourt to its original state and also creating ramps and steps that are DDA compliant.

South Elevation



The Front forecourt in 2005



Forecourt in 1910s

5.6 Implementation & Review

PROGRAMME & STATUTORY CONSENTS

It is recommended that early pre-application discussions are held with the appropriate Planning Authority prior to any design work being considered.

Before any physical work can commence Listed Building Consent will be required for any alterations. Listed below are examples of alterations that are foreseen and others may be found after a Full Conservation Plan has been completed.

1. Recreation of external entrances and creation of ramps.
2. Clearing away of 1970s forecourt and rebuilding of original forecourt to main entrance.
3. Removal of suspended ceiling above 2nd floor to trading floor and reopening of gallery and rebuilding of original lantern.
4. Opening up of central corridors to form arcades and rebuilding of lost staircases and construction of lifts.
5. Rebuilding of damaged floors particularly that to the South East corner wing.
6. Repairing of all external façades including stone details. .
7. Reroofing of whole building.

5.7 Next Actions

- Full Conservation Plan
- Pre-application discussions with the local authority conservation officer and Cadw

6. Cost and Area Appraisal

6.1 Cost Methodology

An appraisal was made of the condition of the building by allocating four categories of work to each floor.

Broadly these categories were:

Category 1	Currently in use and requiring relatively minor works
Category 2	Can be brought into use after relatively minor refurbishment works.
Category 3	Repair works required.
Category 4	Major repairs to structure and comprehensive refurbishment works required

6.2 Cost specification of categories used for costs

The detailed specification for each category of work for costing purposes is as follows:

Category 1- Work Specification

We have used costs per m2 for the following items

- Floor finishes (cleaning / new carpets where damaged (limited area))
- Wall finishes (painting / patch repairs)
- Ceiling finishes (painting / patch repairs)
- Doors and wood work repairs and decoration
- Window repairs and decoration
- M&E alterations

Also included are allowances for:

- DDA compliance
- Roof repairs
- Other compliance requirements

Category 2 – Work Specification

We have used costs per m2 for the following items

- Floor finishes (new)
- Wall finishes (painting / patch repairs to a greater area)
- Ceiling finishes (painting / patch repairs to a greater area)
- Doors and wood work repairs and decoration (allowance for more repairs than cat 1)
- Window repairs and decoration
- M&E alterations (A higher allowance made to cover new fittings etc)

Also included are allowances for:

- DDA compliance
- Roof repairs
- Other compliance requirements

Category 3 – Work Specification

We have used costs per m2 for the following items

- Floor finishes & structure
- Wall finishes & structure
- Ceiling finishes & structure
- New Doors and wood work inc decoration
- New Windows and decoration
- New M&E systems throughout

Also included are allowances for:

- DDA compliance
- Roof repairs
- Other compliance requirements

Category 4 – Works Specification

We have used costs per m2 for the following items

- Floor finishes & structure (all)
- Wall finishes & structure (all)
- Ceiling finishes & structure (all)
- New Doors and wood work inc decoration (all)
- New Windows and decoration (all)
- New M&E systems throughout (all)

Also included are allowances for:

- DDA compliance
- Roof repairs
- Other compliance requirements

6.3 Basis of Costs

- Costs provided are at 2Q2015 prices
- All information contained in Appendix F (sources of material)
- Costs based on a reasonable specification for bringing the building back into use.

Exclusions

- Abnormal site conditions unless specifically identified
- Works undertaken beyond the boundary of the site (eg local infrastructure works)
- Acquisition costs
- Specialist Equipment
- Costs to conform with conservation specification
- Furniture, fittings and equipment for users fit outs and for general common space

6.4 Cost Uplift for conservation works

Until a more detailed study has been completed, it is not possible to assess areas which will require a higher standard of repair. The probable costs for such repairs are not included in these estimates and we consider that a further 30-40% cost uplift may be needed to undertake such works.

6.5 Cost Options

Section 3.3 of this report sets out the refurbishment zones for the building and section 3.4 describes the building refurbishment options.

Facade retention, temporary roof and building wrap

All options include for facade retention work to prop/support structurally unsound walls / floors and a temporary 'top hat' roof. A facade 'wrap' which pictorially shows the elevations of the building and which is attached to external scaffolding has also been included in the costs for all options except option 1B.

Basement

Costs have been included for making the basement structurally sound, clearing away rubbish, work to walls, structure of the ground floor above and making good of the basement floor. Costs have not been allowed for making the basement usable for car parking, storage or any other use.

Front Forecourt

Costs for removing the 1970's front forecourt and entrance to the car park are provided separately.

Deliveries Entrance

The cost to provide a new entrance for deliveries, an access corridor into the hall area and a goods lift are provided separately.

Cost Options

Cost options are summarised on the proceeding page.

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Examples of Building WRAPS



Examples of temporary roofs or 'top hats'

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Option	Facade Retention	Temp Roof	Building Wrap	Zone 1		Zone 2				Zone 3				Zone 4				Demolition Works	Individual Costs £K	Cummulative Costs £K
				All Floors	Roof	GF	1st Fl	2nd & 3rd Fls	Roof	GF	1st Fl	2nd & 3rd Fls	Roof	GF	1st Fl	2nd & 3rd Fls	Roof			
1A	✓	✓																	3,030	
1B	✓	✓	✓																125	3,155
2	✓	✓	✓	✓	✓														1,978	5,133
3A	✓	✓	✓	✓	✓	✓			✓										8,429	13,562
3B	✓	✓	✓	✓	✓	✓	✓		✓										452	14,014
3C	✓	✓	✓	✓	✓	✓	✓	✓	✓										1,206	15,220
4A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓						6,731	21,951
4B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓						1,215	23,166
4C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						1,306	24,472
5A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		5,981	30,453
5B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		474	30,927
5C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		960	31,887
5D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓			25,716

New entrance: demolition of existing entrance and bunker, high quality plaza capable of providing an external seating area, allowance £750,000.

Goods Delivery: entrance, access corridor to hall and goods lift, allowance £400,000

Cost Breakdown by Zone

	SQM	SQFT	ROOMS	COST £	COST/SQM	COST/SQFT	COST/ROOM	Comments
Works to externals				3,155,000				<i>Required works to facade and temporary works to roof</i>
Zone 1								
GF & Roof	381	4,101	11	1,233,951	3,239	301	112,177	<i>Includes roof and structural works to upper floors</i>
FF	371	3,993	9	348,283	939	87	38,698	
SF/TF	422	4,542	13	396,227	825	87	30,479	
Zone 2								
GF & Roof	1,150	12,379	13	8,429,216	7,330	681	648,401	<i>Includes roof and structural works to upper floors</i>
FF	782	8,417	23	452,308	578	54	19,666	<i>mostly a change from cat 1 to cat 2, hence low cost</i>
SF/TF	998	10,742	25	1,205,222	1,208	112	48,209	
Zone 3								
GF & Roof	744	8,008	11	6,731,117	9,047	841	611,920	<i>Includes roof and structural works to upper floors</i>
FF	684	7,363	20	1,214,935	1,776	165	60,747	
SF/TF	1,037	11,162	25	1,305,583	1,259	117	52,223	
Zone 4								
GF & Roof	508	5,468	11	5,980,286	11,772	1,094	543,662	<i>Includes roof and structural works to upper floors</i>
FF	522	5,619	12	474,643	909	84	39,554	
SF/TF	831	8,945	18	959,265	1,154	107	53,293	
Totals	8,430	90,741	191	31,886,036	3,782	351	166,943	

Note

All Ground floor costs include works to roof and structural work to upper floors to ensure the ground floor can be used safely

*All costs are to bring the building into use, **NO ALLOWANCE FOR REPAIRS TO A HIGHER STANDARD HAVE BEEN MADE.***

7. Strategies

7.1 Report Limitations

In considering the potential strategies for this project it is important to understand the limitations of this report.

- A large proportion of the building could not be reviewed because it was considered to be too dangerous to enter or was locked off for health and safety reasons.
- This is not a building condition survey but a review of the buildings overall status of decay
- A structural survey has not taken place and comments on the structure are based on previous reports undertaken by others
- The extent of areas containing asbestos is not established
- This report includes an Initial Conservation Study. A full Conservation Study is required to achieve full agreement with Cadw for the scale and content of the refurbishment works.

7.2 Initial Actions

The next actions should be to fill in knowledge gaps in order for the project to proceed to a strategy.

- Health and Safety review including risk assessments
- Full building conditional survey including the roof
- Independent structural survey
- Measured to survey to production up to date plans and elevations
- Full Conservation Study
- Asbestos survey
- Detailed agreement with Cadw of the scope of the refurbishment
- Pre-application discussions with the local authority conservation officer and Cadw
- The above can be undertaken separately. An allowance of circa £200,000 should be allowed for all this work.

7.3 First Works

The first works to be undertaken should be to make the building safe and watertight. We have assumed that this would be for the whole building, even if it was later decided that building renovation works would take place on a zone by zone basis.

- Work to stabilise and make good external walls
- Temporary roof to the entire building
- Work to basement
- Wrap to the scaffolding surrounding the building

- Cost £3,155,000
- Fees @ 15% £474,000

7.4 Uses Strategy

In considering a sequence for the refurbishment works we assumed the following:

- There is a need to show early income and commitment to the overall refurbishment of The Coal Exchange.
- Wherever possible the areas of heritage significance should be refurbished first to stop further decline.
- A variety of room sizes should be achieved in order to support the widest uses of the building
- Room layouts would remain as the original design in Category 1 and 2 areas only. Room sizes/shapes in category 3 and 4 areas would be flexible to suit need uses. These rooms would generally be large and be capable of temporary sub division.
- It should be noted from the cost information, that the first options (3A, 4A, 5A) are relatively high because they include the full cost for replacing the roof over each zone and structurally repairing the floors above. We have therefore considered that each zone will be tackled as a complete zone with all floors refurbished.

7.5 Zone 1

In order to achieve income and to demonstrate commitment to the refurbishment of The Coal Exchange it is considered that works to complete Zone 1 are the next step

It should be noted that this work will achieve a series of rooms to the same size as the original building. These are a variety of sizes and ideal for small businesses requiring office related uses. None of the rooms are large enough to provide space for large businesses or non office uses.

- Work to all floors in Zone 1
- New roof over Zone 1
- Area of useable space 1,174 sq m, 12,636 sq ft, 33 rooms
- Cost £1,978,000
- Fees @ 15% £297,000

7.6 Zone 2, 3 and 4 Strategies

Given the heritage significance of zone 2 it would appear necessary that this is the next zone to be refurbished if the building was to be dealt with in a zone prioritisation order. However, it should be noted that the full cost of refurbishing all floors in this zone is relatively high at £10,086,746. Whilst some of the spaces refurbished are large (eg. hall) most rooms are office sized. We are aware of filming and performance

opportunities for the hall area and the potential income from such uses may offset the relatively high cost of refurbishing this zone.

- Work to all floors in Zone 2
- New roof over Zone 2
- Area of useable space 2980 sq m, 31,538 sq ft, 61 rooms
- Cost £10,086,746
- Fees @ 15% £1,513,000

Zone 3 or 4 could be considered next. Both provide opportunities for the creation of large flexible or bespoke spaces. Zone 3 contains large areas which are inaccessible / dangerous but also includes areas of heritage significance.

- Work to all floors in Zone 3
- New roof to Zone 3
- Area of useable space 2465 sq m, 26,533 sq ft, 56 rooms
- Cost £9,252,000
- Fees @ 15% £1,388,000

Zone 4 has little heritage significance and high levels of damage/decay. Subject to Cadw agreement, this area could be largely demolished to achieve a large area open to the elements. If Zone 4 was refurbished

- Work to all floors in Zone 4
- New roof to Zone 4
- Areas of useable space 1861 sq m, 20,031 sq ft, 41 rooms
- Cost £7,415,000
- Fees @ 15% £1,113,000

If Zone 4 is demolished

- 508 sq m
- 5468 sq ft
- Cost £26,000
- Fees @ 15% £4,000

7.7 Front Entrance

Work to Zones 1 and 2 do not include remodelling of the front entrance area externally. This area of the building includes a bomb resistant bunker intended as a shelter in circumstances of an attack. It is recommended that this is demolished along with the current balcony and external paved areas. A high quality plaza capable of providing an external seating area could be provided and allowance of £750,000 is recommended for such work.

7.8 Delivery Issues

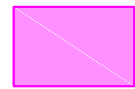
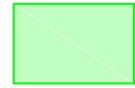




In order for the Zone 2 hall and associated catering facilities to function an entrance for deliveries with access to a goods lift needs to be provided. This could be achieved by providing an entrance and service tunnel through Zone 4 to a goods lift in Zone 2 kitchen/hall. A cost allowance of £400,000 is recommended for this work.

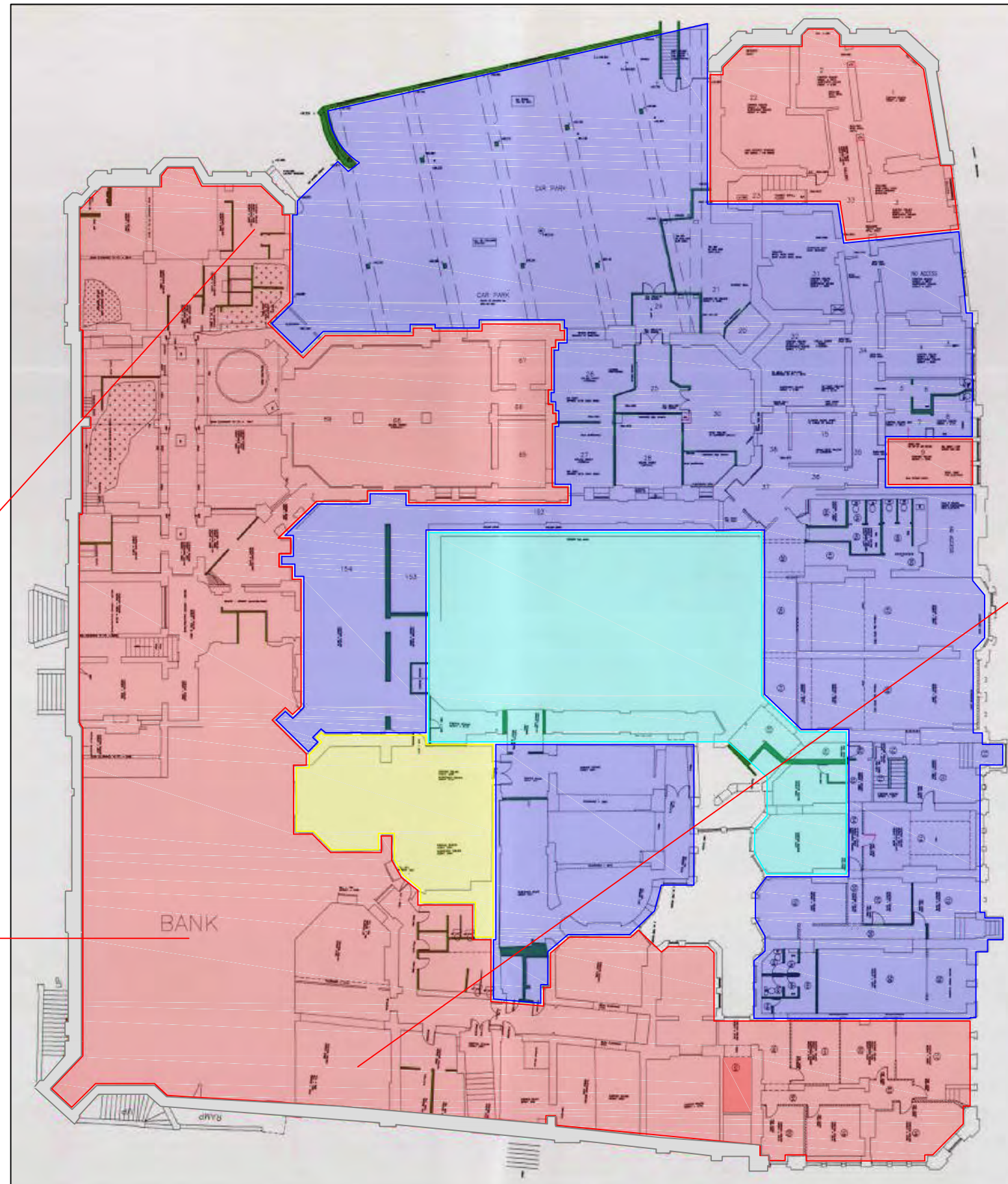
7.9 Phasing Summary

Phase	Works	Costs £k	Fees £k	Totals £k	Cummulative Totals £k
1	Investigations and Surveying (7.2)	-	200	200	200
2	First Works (7.3)	3,155	474	3,629	3,829
3	Zone 1 (7.5)	1,978	297	2,275	6,104
4	Zone 2 (7.6)	10,087	1,513	11,600	17,704
5	Entrance Area (7.7)	750	112	862	18,567
6	Delivery / Goods Access (7.8)	400	60	460	19,027
7	Zone 3 (7.6)	9,252	1,378	10,640	29,667
8	Zone 4 (7.6)	7,415	1,113	8,528	38,195
8	Zone 4 demolition Alternative (7.6)	187	280	2,155	

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Appendix A Category Plans

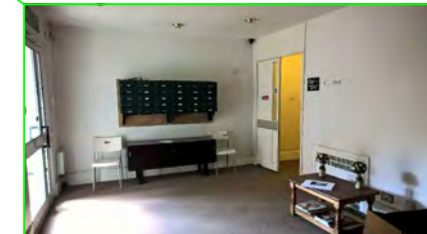
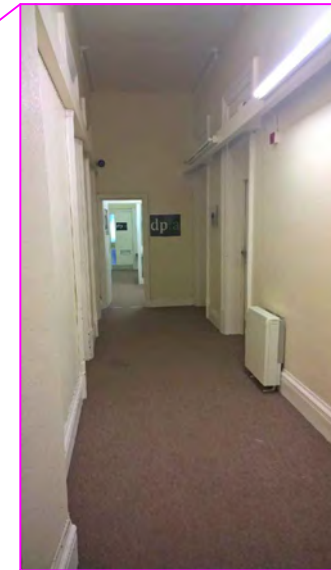
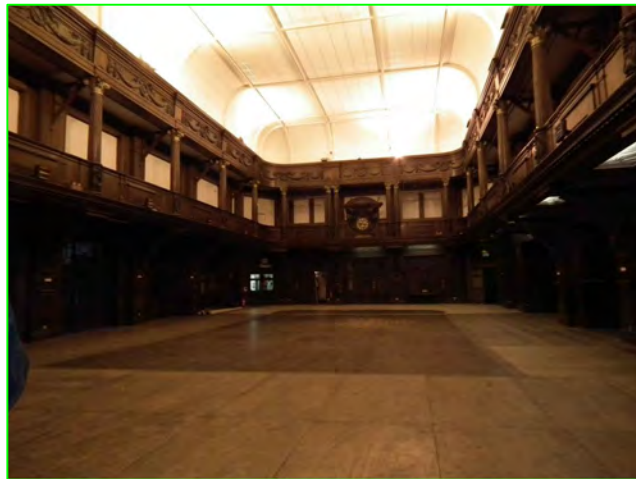
-  Category 1 Areas currently in use as office accommodation that would require 'minor' repairs.
-  Category 2 Areas which can be brought back into temporary use with 'minor' repairs.
-  Category 3 Areas which are capable of being economically repaired.
-  Category 4 Areas which are not capable of reasonable economic repair.
-  No access due to dangerous structure
-  No access



Client			
Welsh Government			
Project			
Coal Exchange Feasibility Study			
Drawing		Drawing no.	
Basement with categories		CE/C01	
Scale @ A3	Drawn	Checked	Approved
NTS	SP		
Project No.		Date	
CS/079052		02/06/2015	
BS1192 Compliant rev			

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- Category 1** Areas currently in use as office accommodation that would require 'minor' repairs.
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- Category 3** Areas which are capable of being economically repaired.
- Category 4** Areas which are not capable of reasonable economic repair.
- No access due to dangerous structure**
- No access**



Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Ground Floor with categories

Drawing no.
CE/C02

Scale @ A3
NTS

Drawn
SP

Checked

Approved

Project No.
CS/079052

Date
02/06/2015

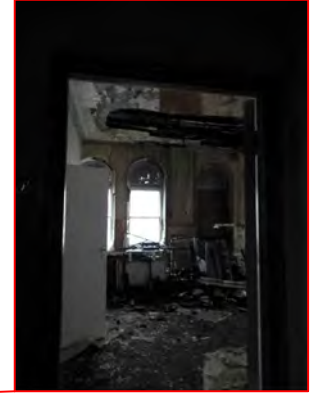
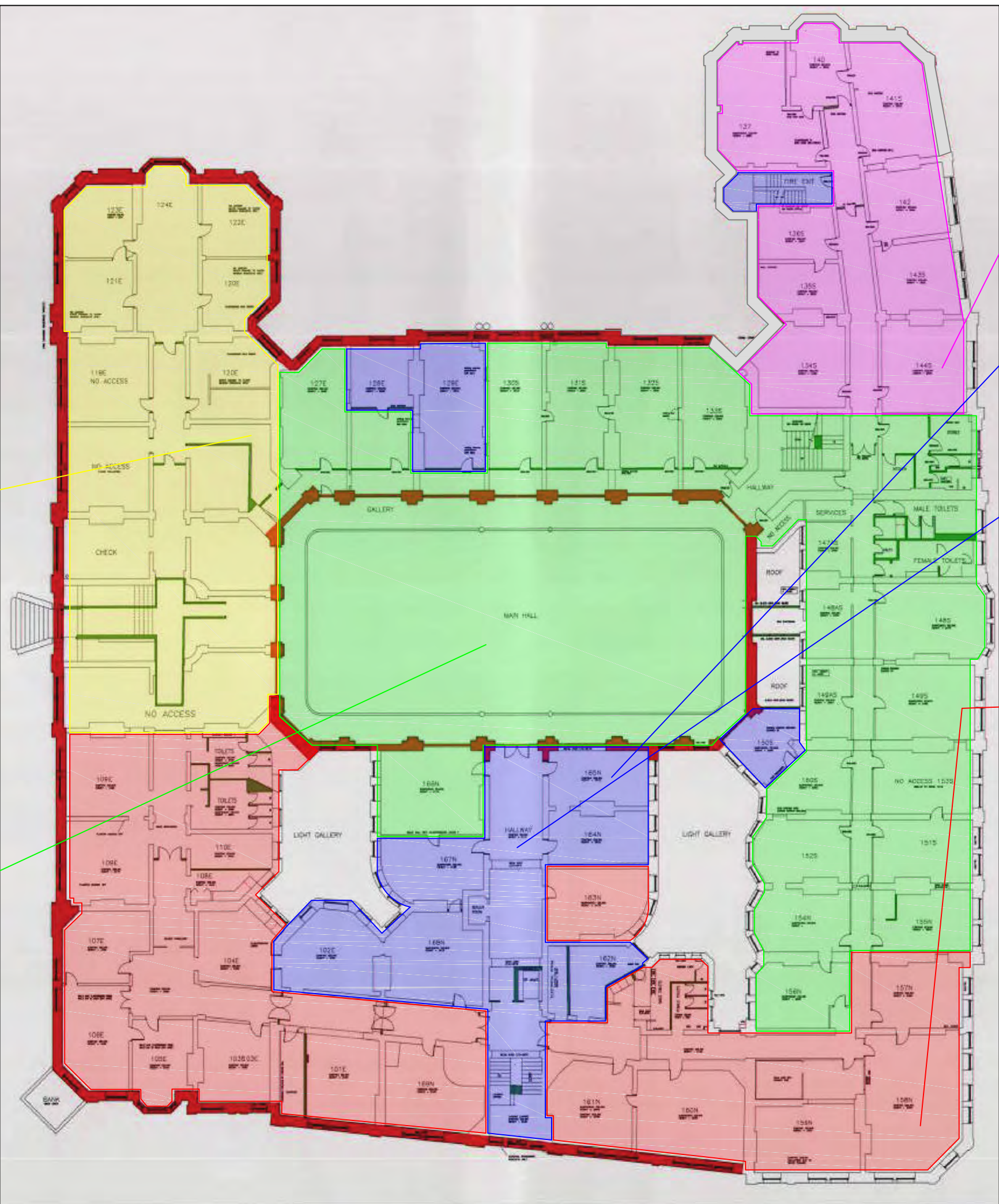
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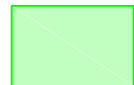




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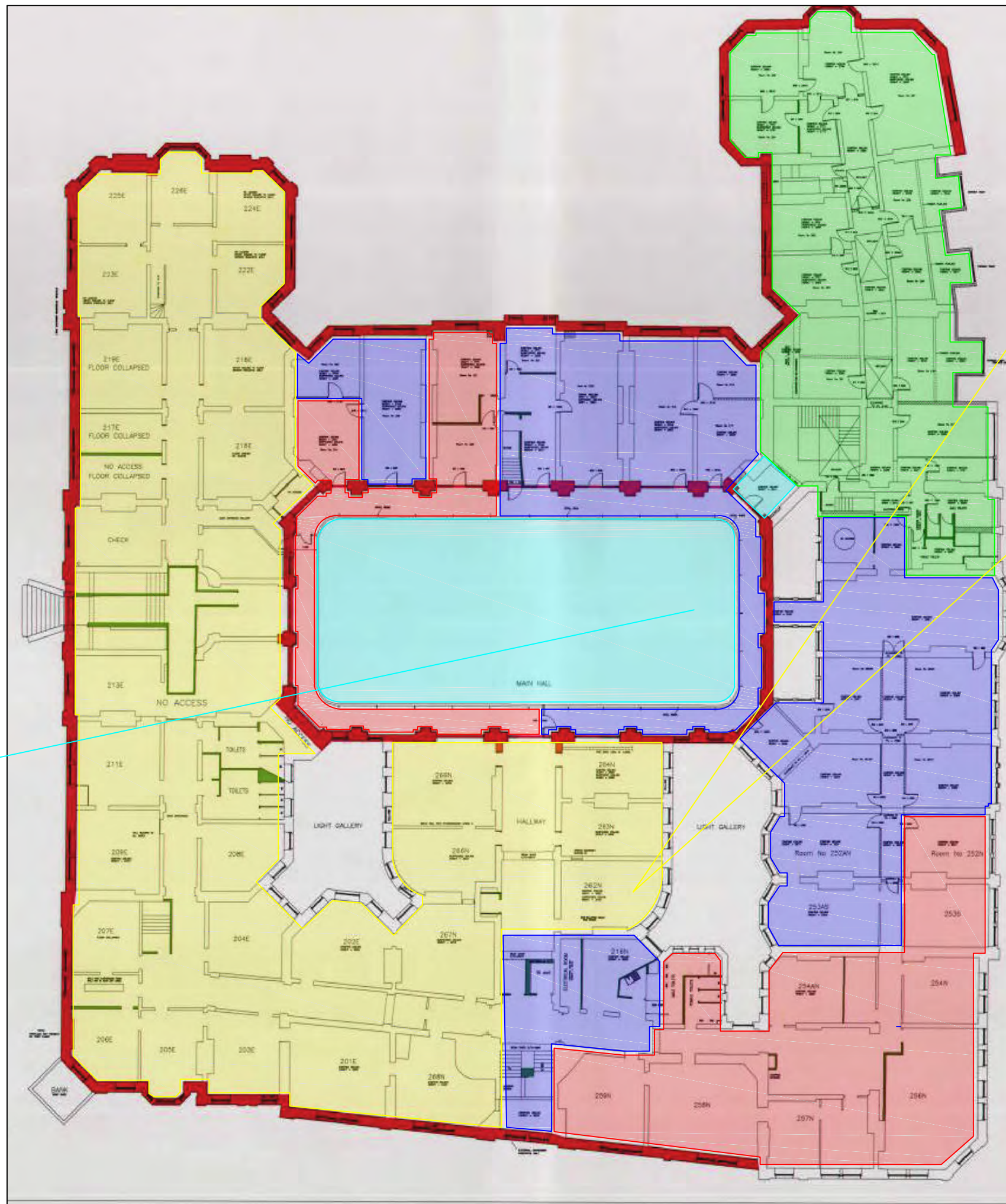
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- Category 4** Areas which are not capable of reasonable economic repair.
- No access due to dangerous structure**
- No access**



Client			
Welsh Government			
Project			
Coal Exchange Feasibility Study			
Drawing		Drawing no.	
First Floor with categories		CE/C03	
Scale @ A3	Drawn	Checked	Approved
NTS	SP		
Project No.		Date	
CS/079052		02/06/2015	
BS1192 Compliant rev			

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-  Category 3 Areas which are capable of being economically repaired.
-  Category 4 Areas which are not capable of reasonable economic repair.
-  No access due to dangerous structure
-  No access



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Coal Exchange Feasibility Study

Drawing **Second Floor with categories** Drawing no. **CE/C04**

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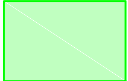




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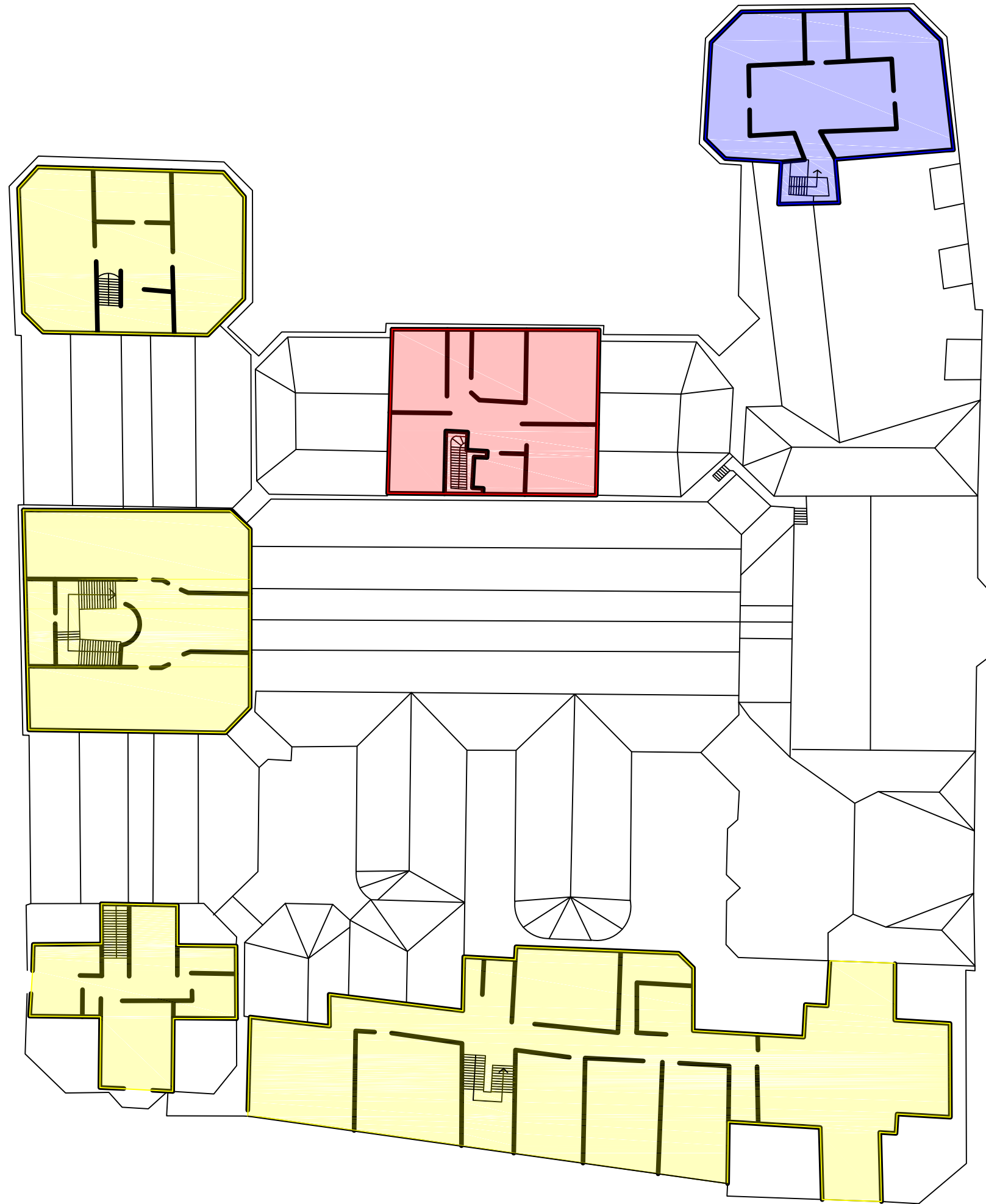
Project No. **CS/079052** Date **02/06/2015**

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-  Category 1 Areas currently in use as office accommodation that would require 'minor' repairs.
-  Category 2 Areas that can be brought back into temporary use with 'minor' repairs.
-  Category 3 Areas which are capable of being economically repaired.
-  Category 4 Areas which are not capable of reasonable economic repair.
-  No access due to dangerous structure
-  No access



Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing **Third Floor with categories** Drawing no. **CE/C05**

Scale @ A3 Drawn Checked Approved

NTS SP

Project No. **CS/079052** Date **02/06/2015**

BS1192 Compliant
rev

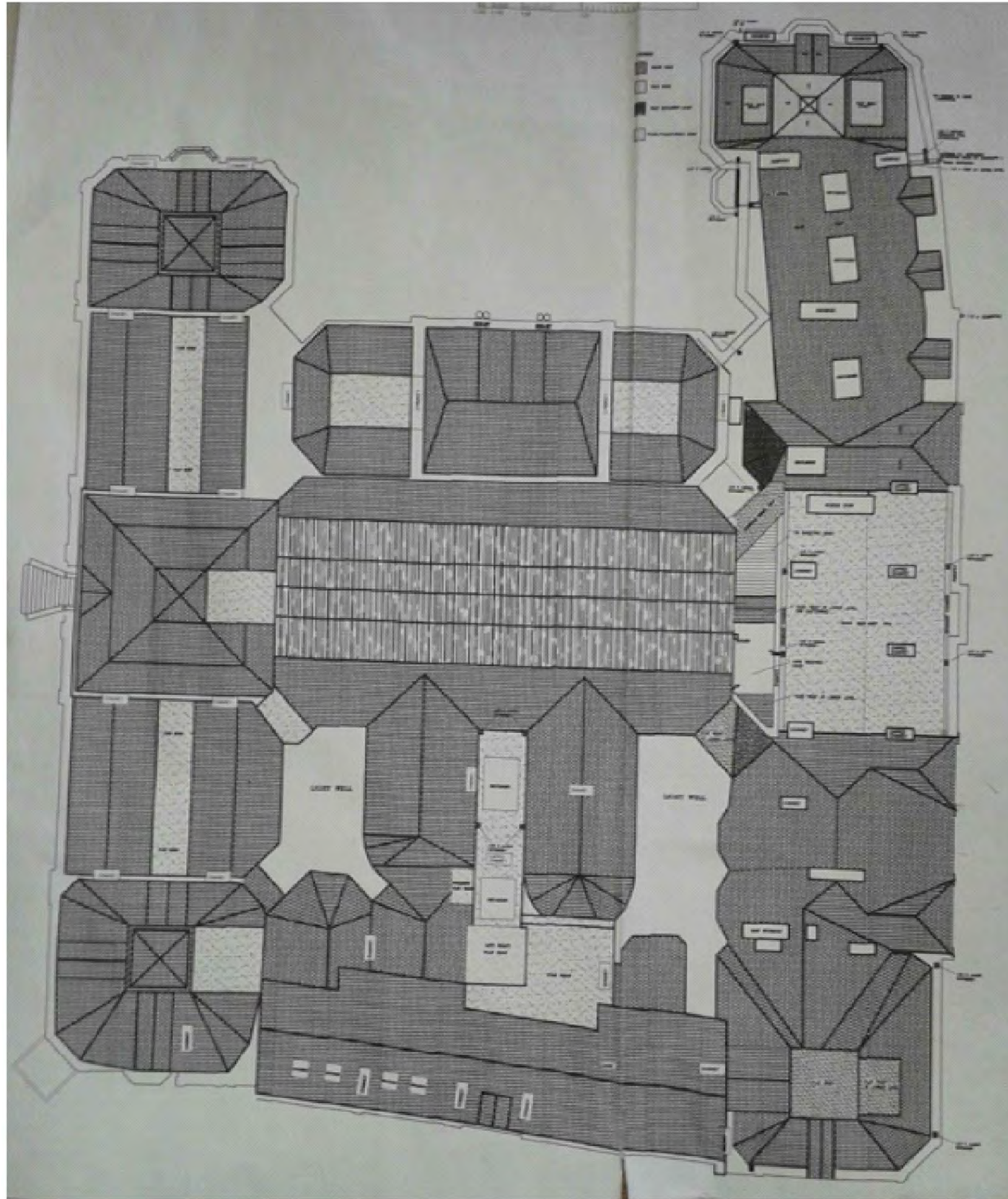
CAPITA

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Print Date: 04/06/2015 15:04:47

All roof areas were not accessed due to dangerous structure



Client			
Welsh Government			
Project			
Coal Exchange Feasibility Study			
Drawing		Drawing no.	
Roof		CE/C06	
Scale @ A3	Drawn	Checked	Approved
NTS	SP		
Project No.		Date	
CS/079052		02/06/2015	
BS1192 Compliant rev			

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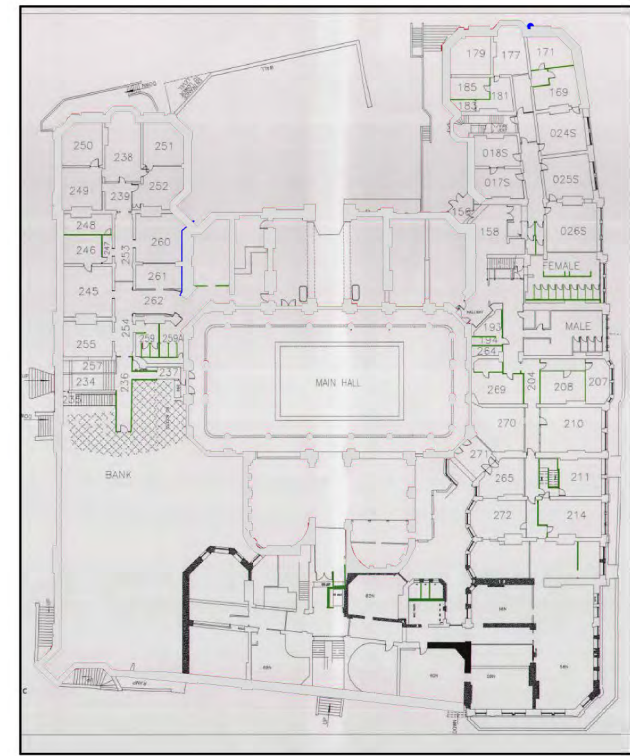
Ty Menter, Unit G1, Main Avenue, Treforest Industrial Estate,
Treforest, CF37 5YL - 01443 823200
www.capitaproperty.co.uk
Capita Property and Infrastructure Ltd.

CAPITA

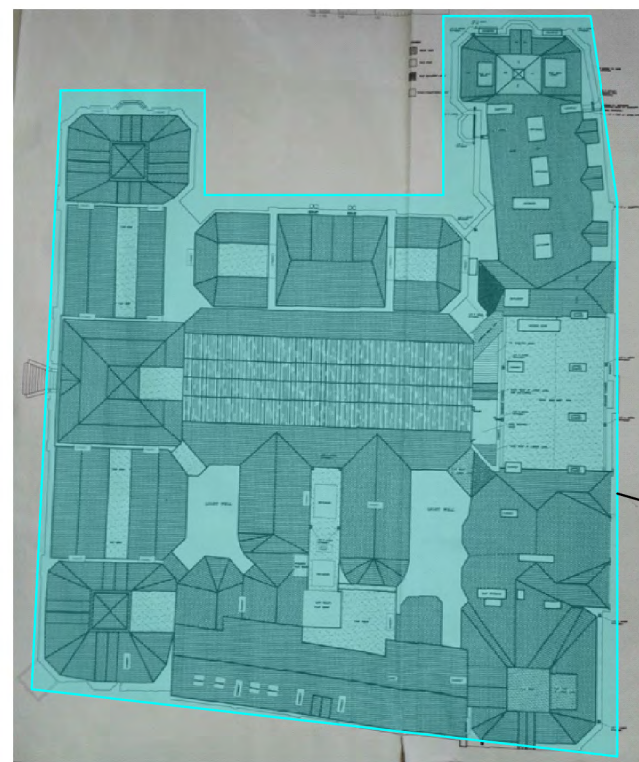
Appendix B Zone Plans

Option 1A

No internal areas, facade retention to all zones and temporary roof over all zones.



General Plan



Roof Plan

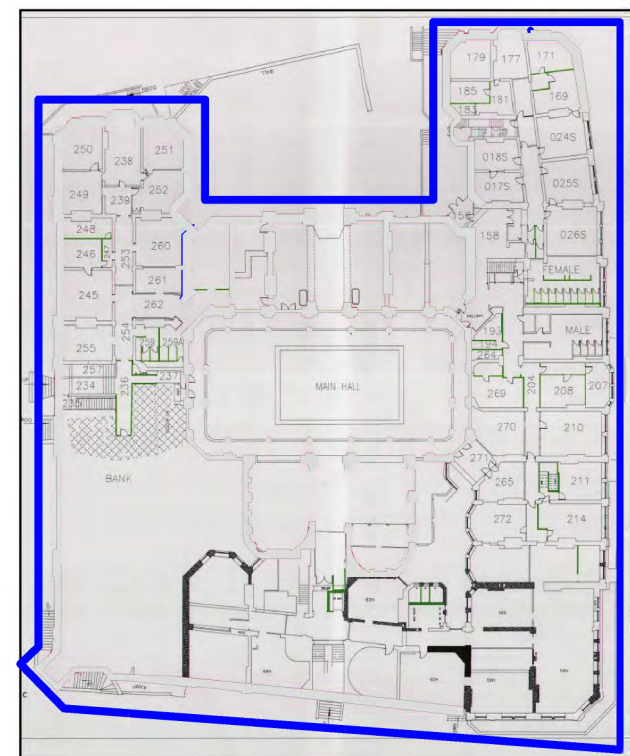
Costs

Temporary roof over all zones	£1,280,000
Facade retention	£750,000
Basement	£1,000,000
Cumulative Total	£3,030,000

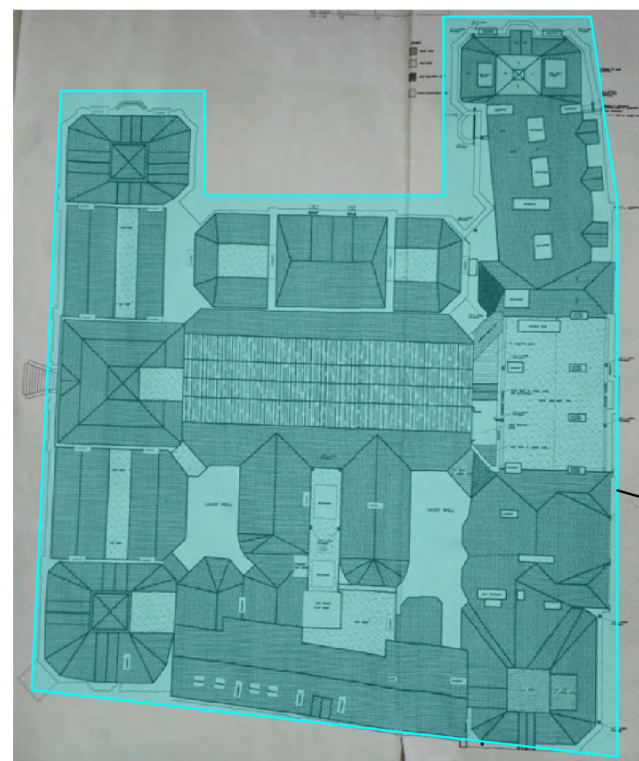
Temporary roof over all zones

Option 1B

No internal areas, facade retention with building wrap to all zones and temporary roof over all zones.



General Plan



Roof Plan

Costs

Temporary roof over all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
Basement	£1,000,000
Cumulative Total	£3,155,000

Temporary roof over all zones

Building wrap

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 1A & 1B

Drawing no.
CE/Z01

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved

Project No.
CS/079052

Date
02/06/2015

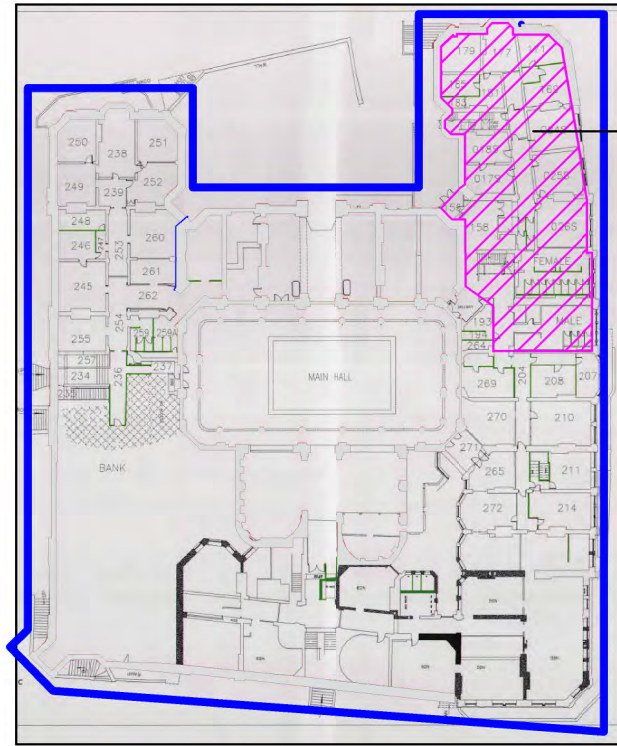
BS1192 Compliant
rev

CAPITA
Building Consultancy

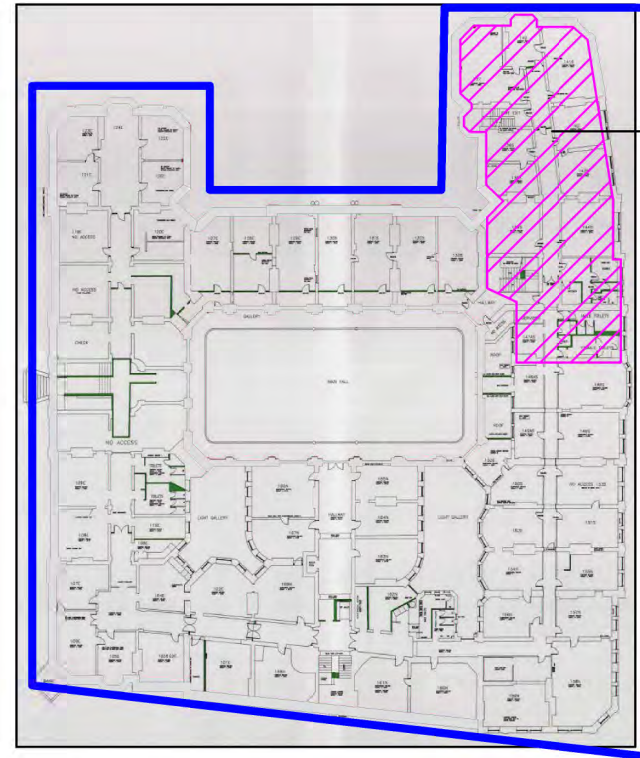
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Option 2

Refurbishment of entire Zone 1 area to enable occupation, including roof. Building wrap to circumference of the building and temporary roof over all zones.



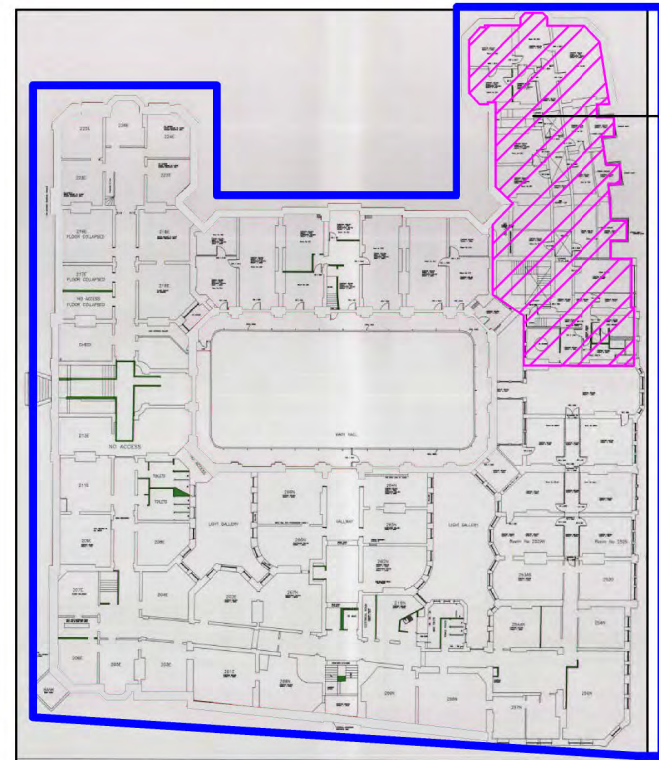
Zone 1
11 rooms



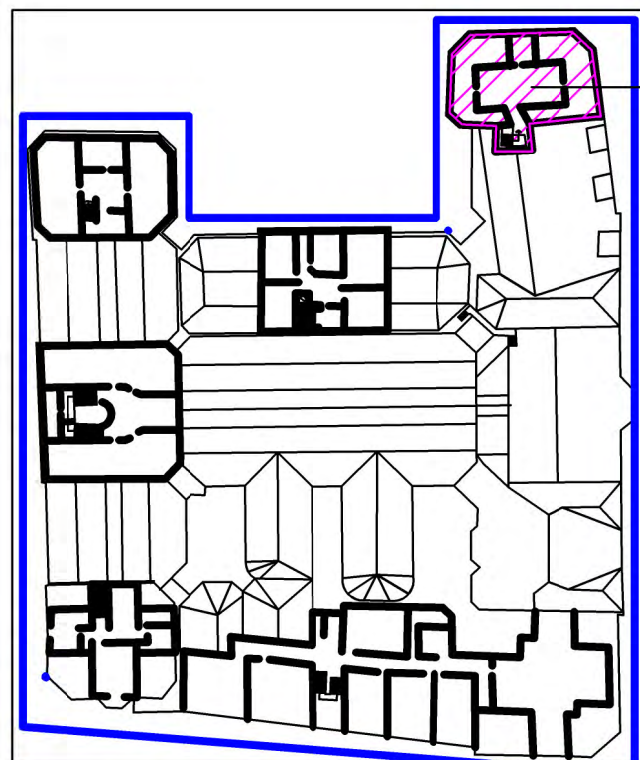
Zone 1
9 rooms

Ground Floor

First Floor



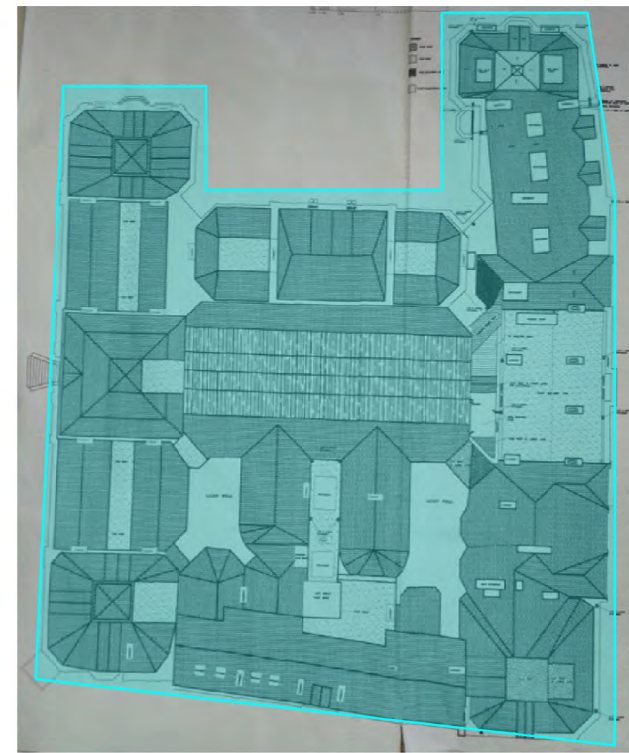
Zone 1
12 rooms



Zone 1
Flat

Second Floor


Third Floor



Roof Plan

Temporary roof over all zones

Key

 Zone 1 - full refurbishment

 Building wrap

Costs

Zone 1	£778,211
Roof refurbishment to Zone 1	£876,300
Temporary roof over all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£176,700
Other compliance requirements	£147,250
Allowance for basement	£1,000,000
Cumulative Total	£5,133,461

Floor Areas

Floor Level	Zone 1
Ground	381m ² / 4101 sq ft
First	371m ² / 3993 sq ft
Second	322m ² / 3466 sq ft
Third	100m ² / 1076 sq ft
Total	1174m² / 12636 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 2

Drawing no.
CE/Z02

Scale @ A3
NTS

Drawn
SP

Checked

Approved

Project No.
CS/079052

Date
02/06/2015

BS1192 Compliant
rev

CAPITA
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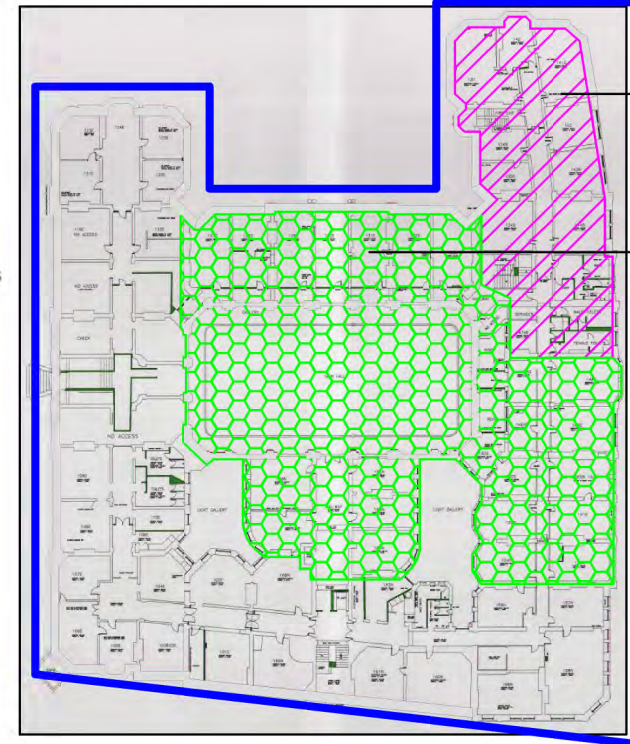
Ty Menter, Unit G1, Main Avenue, Treforest Industrial Estate,
Treforest, CF37 5YL - 01443 823200
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Option 3A

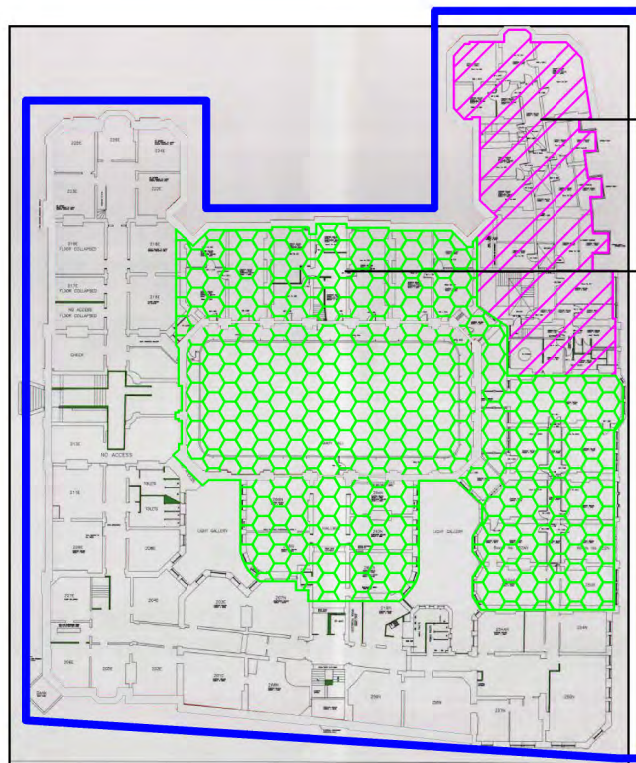
Refurbishment of all areas to Zone 1 (as option 2) and Zone 2 ground floor to enable occupation, with upper floors to Zone 2 structurally complete. Includes refurbishment of roof to Zone 1 and 2. Building wrap to Zones 2, 3 and 4 and temporary roof over all zones.



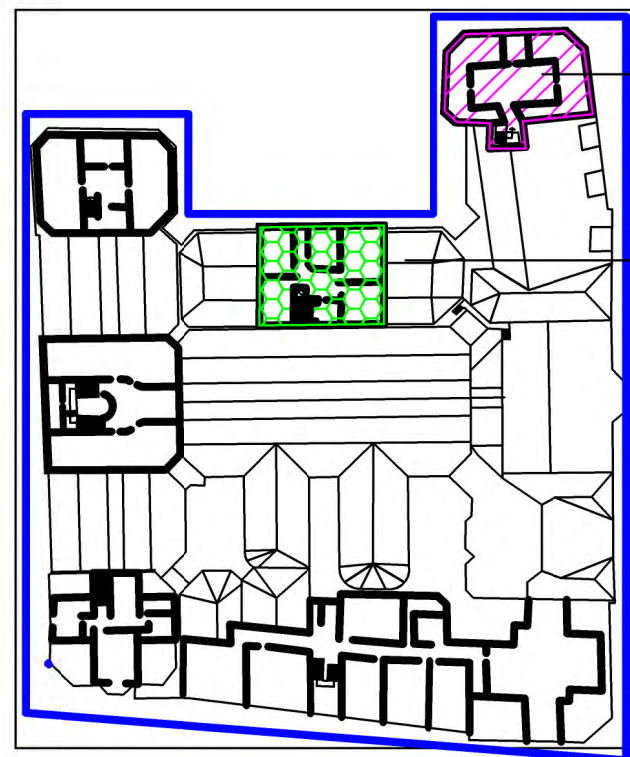
Ground Floor



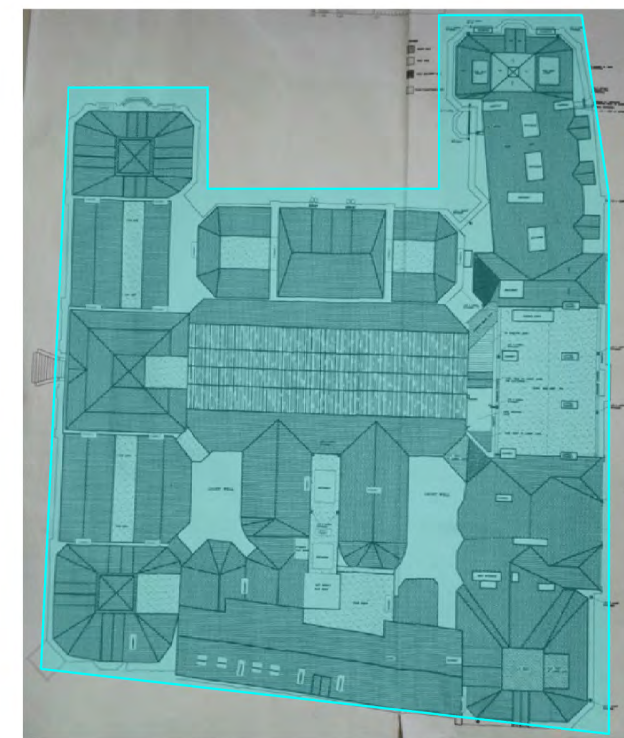
First Floor



Second Floor







Third Floor



Roof Plan

Temporary roof to all zones

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 2 - structurally complete
-  Building wrap

Costs

Zone 1	£778,211
Zone 2	£2,183,466
Roof refurbishment to Zones 1&2	£5,188,800
Temporary roof over all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,231,200
Other compliance requirements	£1,026,000
Allowance for basement	£1,000,000
Cumulative Total	£13,562,677

Floor Areas

Floor Level	Zone 1	Zone 2
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 3A

Drawing no.
CE/Z03

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved
SP

Project No.
CS/079052

Date
02/06/2015

BS1192 Compliant
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Option 3B

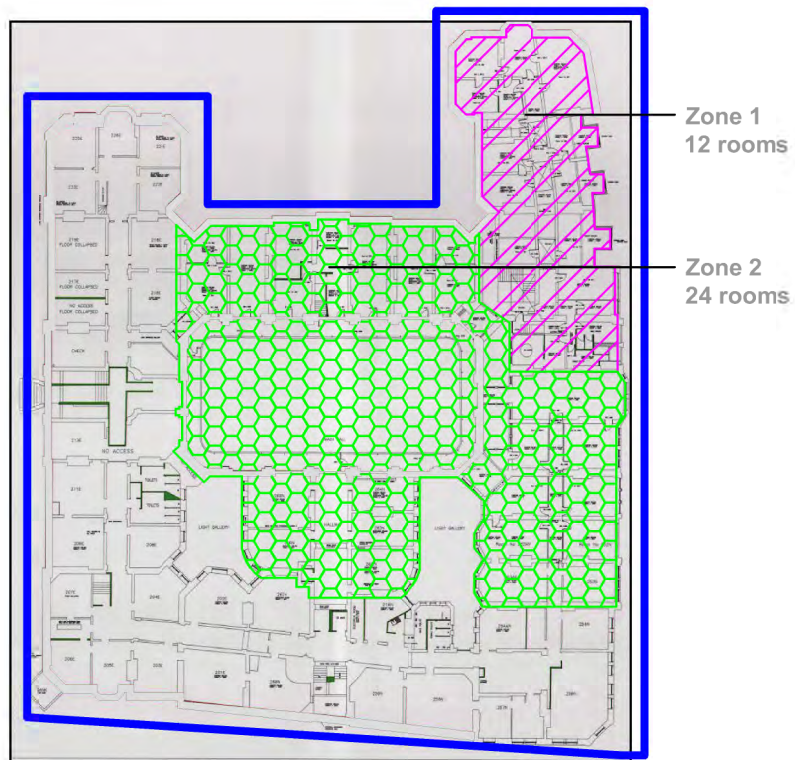
Refurbishment of Zone 1 (as option 2) and Zone 2 ground floor and first floor, with upper floors to Zone 2 structurally complete. Includes refurbishment of roof to Zone 1 and 2. Building wrap to Zones 2, 3 and 4 and temporary roof over all zones.



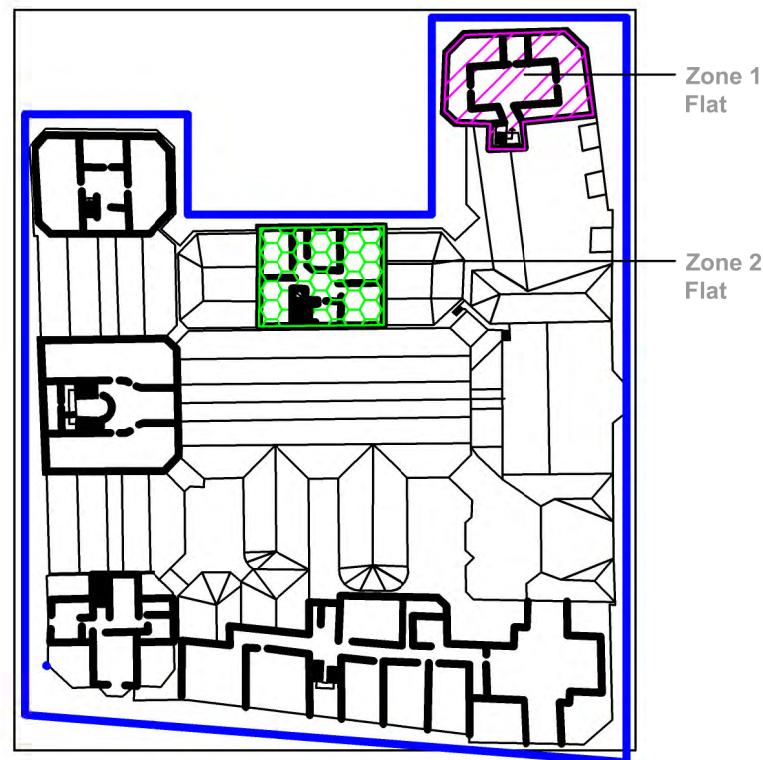
Ground Floor



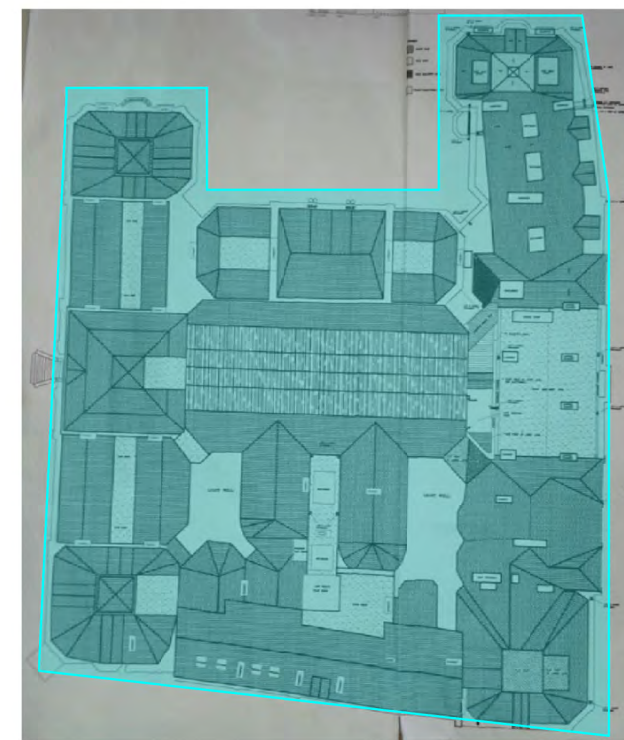
First Floor



Second Floor







Third Floor



Roof Plan
Temporary roof to all areas

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 2 - structurally complete
-  Building wrap

Costs

Zone 1	£778,211
Zone 2	£2,635,774
Roof refurbishment to Zone 1 & 2	£5,188,800
Temporary roof over all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,231,200
Other compliance requirements	£1,026,000
Allowance for basement	£1,000,000
Cumulative Total	£14,014,985

Floor Areas

Floor Level	Zone 1	Zone 2
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 3B

Drawing no.
CE/Z04

Scale @ A3
NTS

Drawn
SP

Checked

Approved

Project No.
CS/079052

Date
02/06/2015

BS1192 Compliant
rev




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Option 3C

Refurbishment of Zone 1 and Zone 2, including roof.
 Building wrap to Zones 2, 3 and 4 and temporary roof over all zones.

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Building wrap



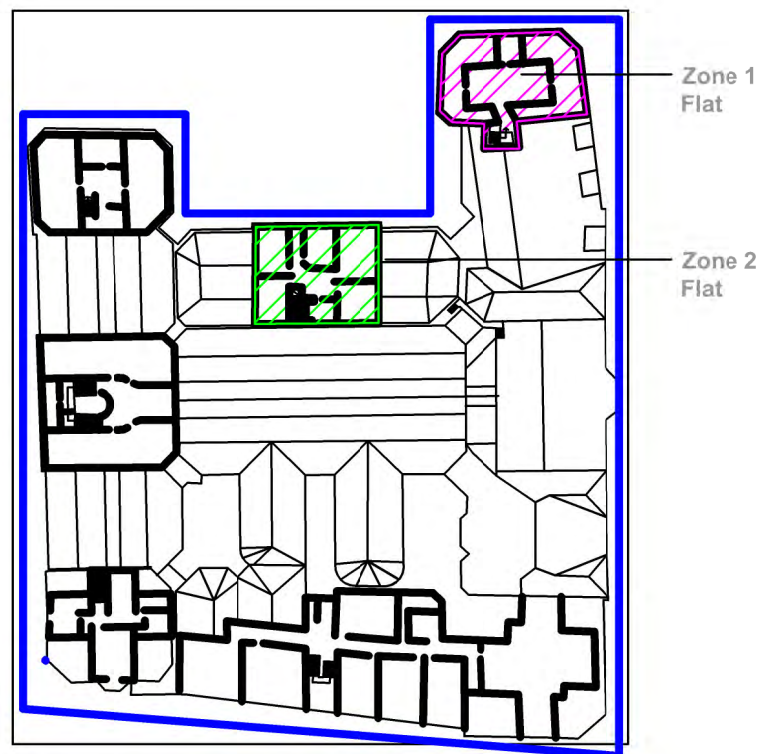
Ground Floor



First Floor



Second Floor



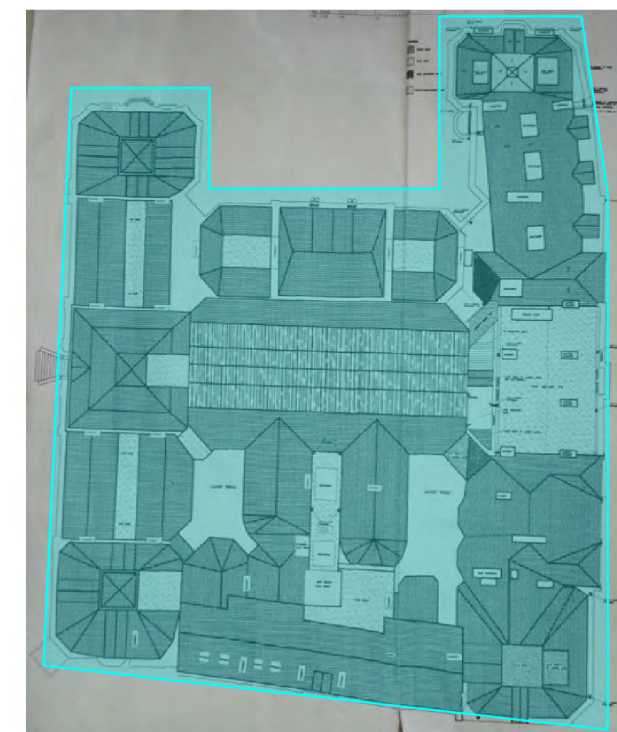
Third Floor

Costs

Zone 1	£778,211
Zone 2	£3,840,996
Roof refurbishment to Zone 1 & 2	£5,188,800
Temporary roof to all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,231,200
Other compliance requirements	£1,026,000
Allowance for basement	£1,000,000
Cumulative Total	£15,220,207

Floor Areas

Floor Level	Zone 1	Zone 2
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft



Roof Plan

Temporary roof to all zones

Client			
Welsh Government			
Project			
Coal Exchange Feasibility Study			
Drawing		Drawing no.	
Option 3C		CE/Z05	
Scale @ A3	Drawn	Checked	Approved
NTS	SP		
Project No.		Date	
CS/079052		02/06/2015	
BS1192 Compliant rev			

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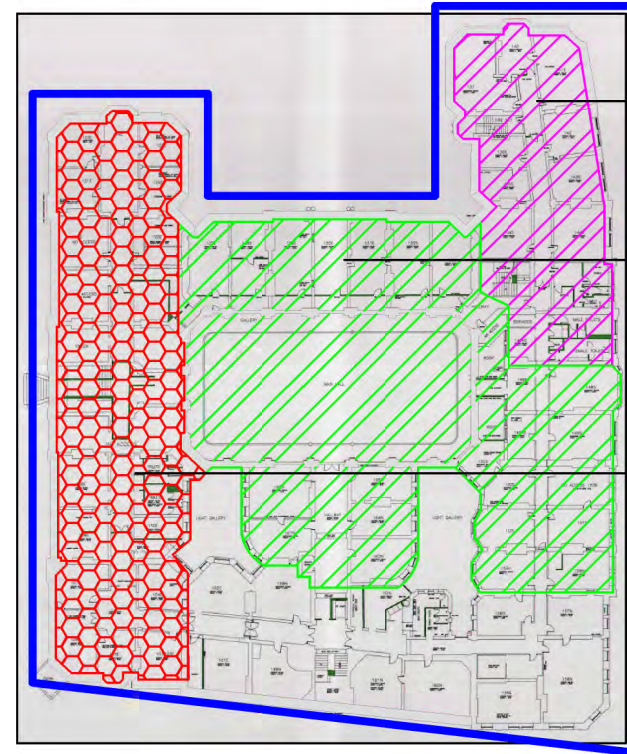
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Option 4A

Refurbishment of all areas to Zone 1 and Zone 2 (as option 3C) and Zone 3 (ground floor) with upper floors to Zone 3 structurally complete. Includes refurbishment of roof to Zones 1, 2 and 3. Building wrap to Zones 3 and 4 and temporary roof over all zones.



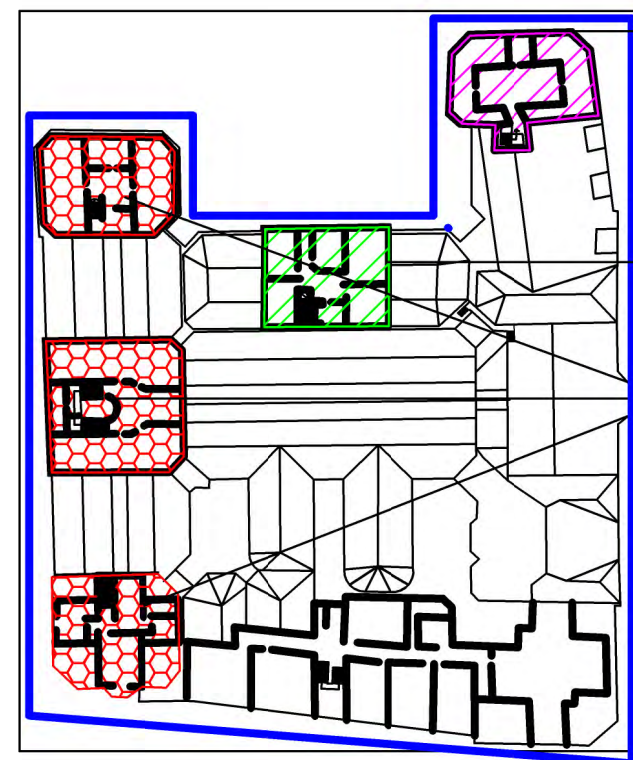
Ground Floor



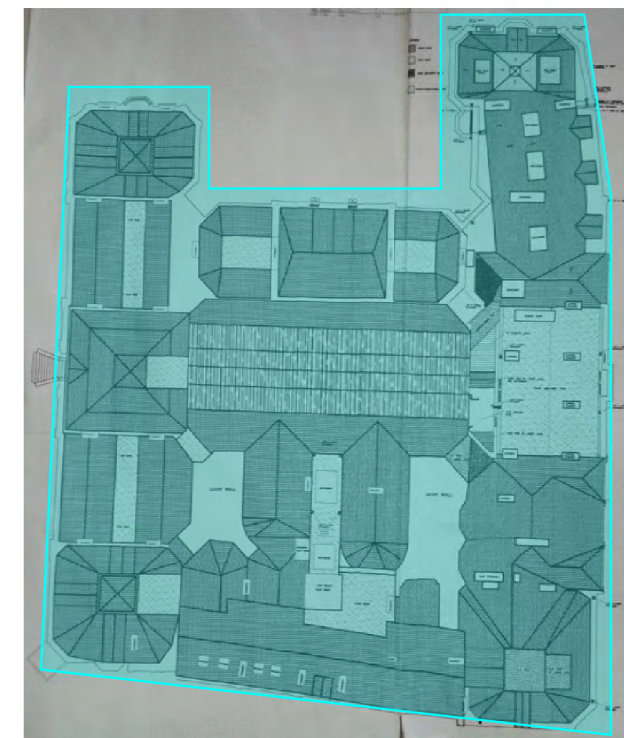
First Floor



Second Floor








Third Floor



Roof Plan

Temporary roof to all areas

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Building wrap

Costs

Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£3,664,167
Roof refurbishment to Zones 1,2 and 3	£6,900,000
Temporary roof to all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,970,700
Other compliance requirements	£1,642,250
Allowance for basement	£1,000,000
Cumulative Total	£21,951,324

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 4A

Drawing no.
CE/Z06

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved

Project No.
CS/079052

Date
02/06/2015

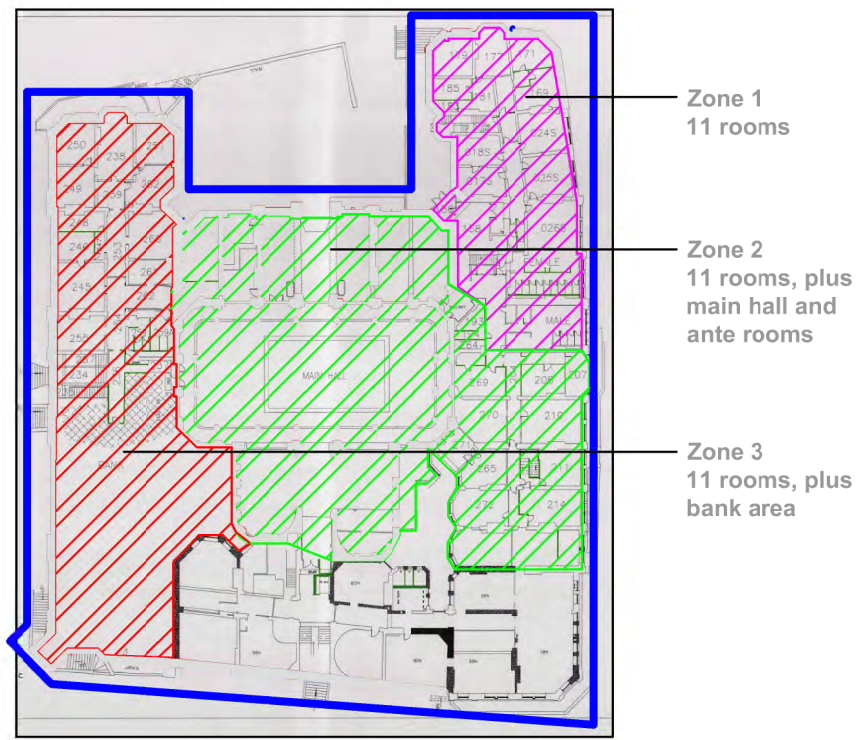
BS1192 Compliant
rev

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Building Consultancy

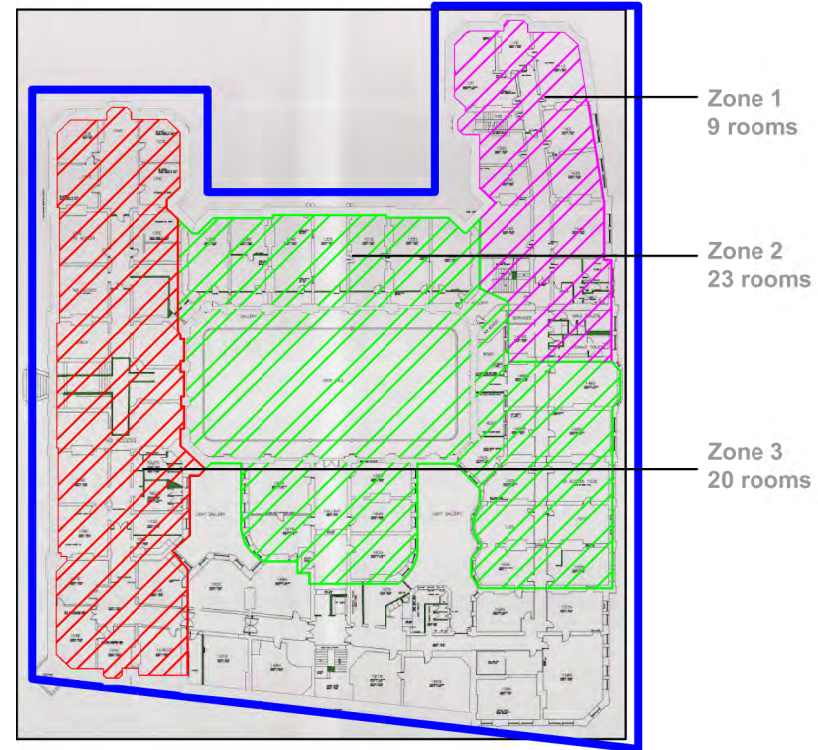
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Option 4B

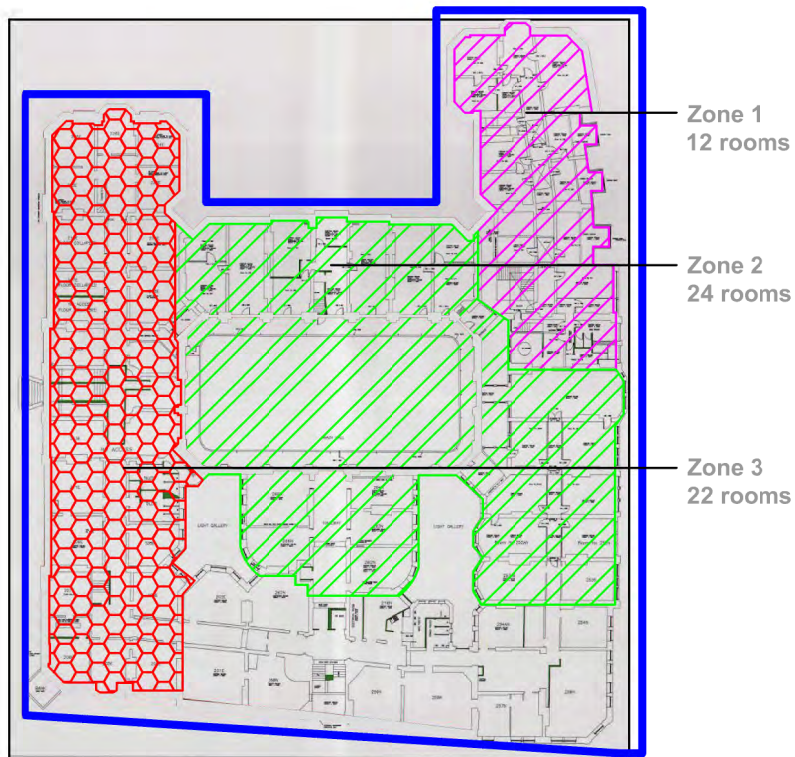
Refurbishment of all areas to Zone 1, Zone 2 (as option 3C) and Zone 3 ground floor and first floor with the upper floors to Zone 3 structurally complete. Includes refurbishment of roof to Zones 1, 2 and 3. Building wrap to Zones 3 and 4 and temporary roof over all zones.



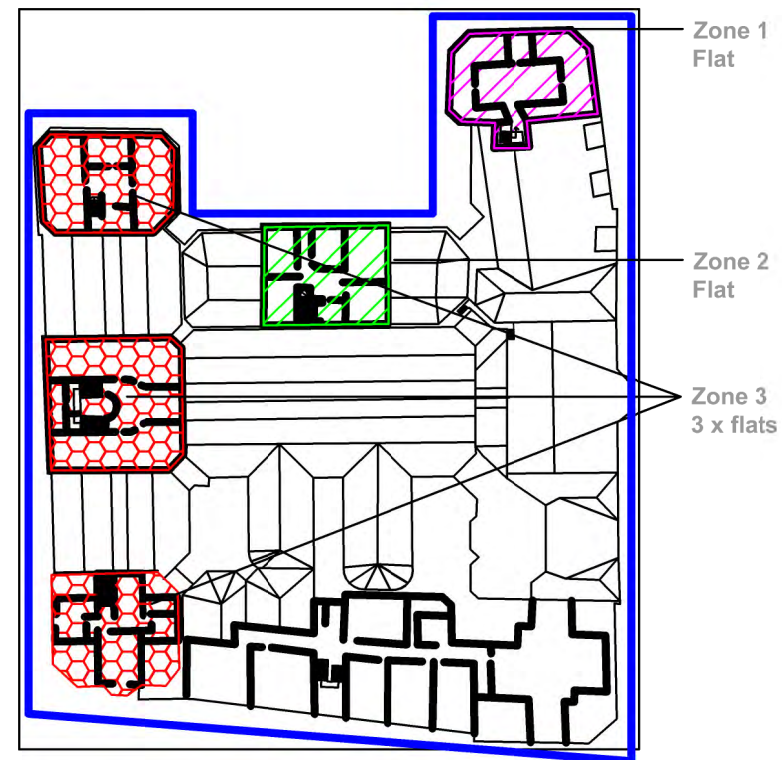
Ground Floor



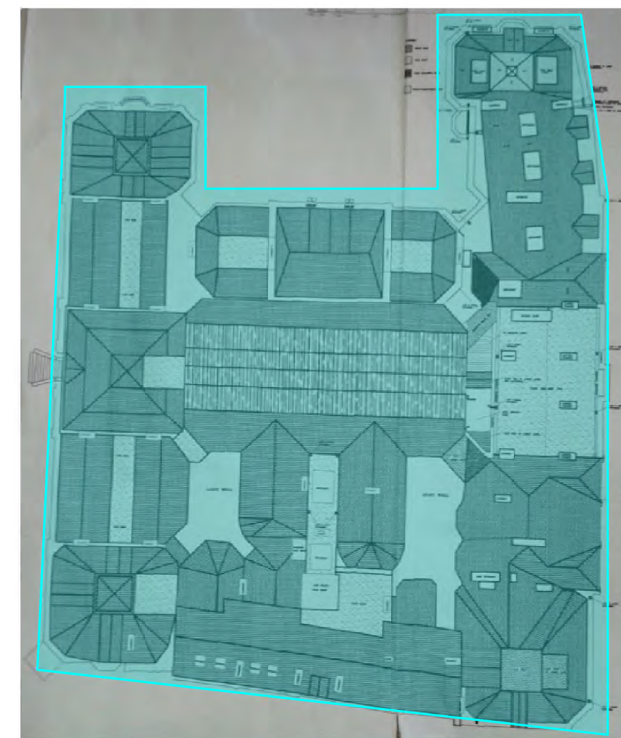
First Floor



Second Floor








Third Floor



Roof Plan

Temporary roof to all zones

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Building wrap

Costs

Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£4,879,102
Roof refurbishment to Zones 1, 2 & 3	£6,900,000
Temporary roof to all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,970,700
Other compliance requirements	£1,642,250
Allowance for basement	£1,000,000
Cumulative Total	£23,166,259

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft
Total	1174m ² / 12636 sq ft	3226m ² / 34723 sq ft	2465m ² / 26533 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 4B

Drawing no.
CE/Z07

Scale @ A3
NTS

Drawn
SP

Checked

Approved

Project No.
CS/079052

Date
02/06/2015

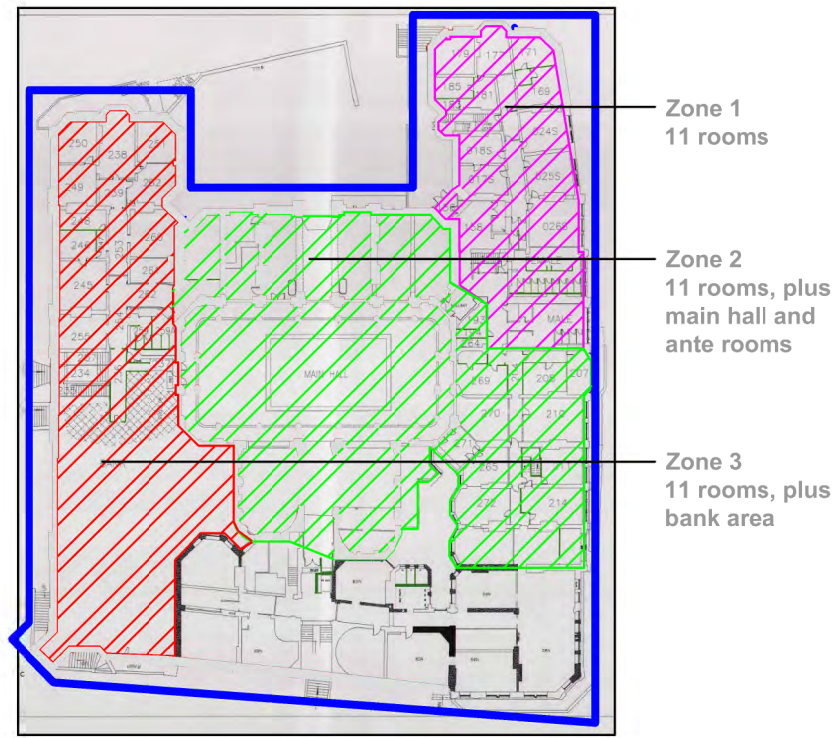
BS1192 Compliant
rev

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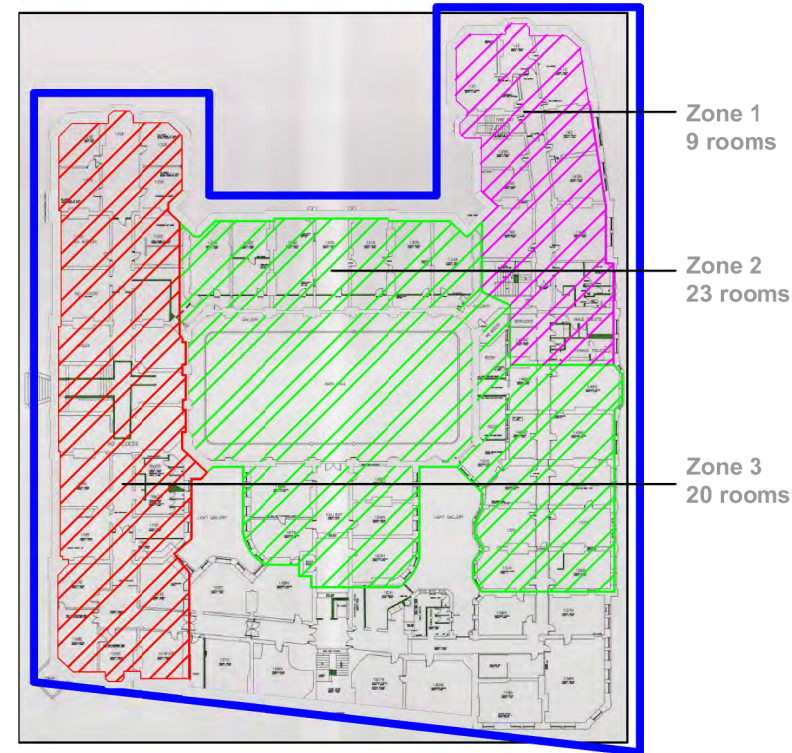
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Option 4C

Refurbishment of all areas to Zone 1, 2 and 3, including refurbishment to roof. Building wrap to Zones 3 and 4 and temporary roof to all zones.



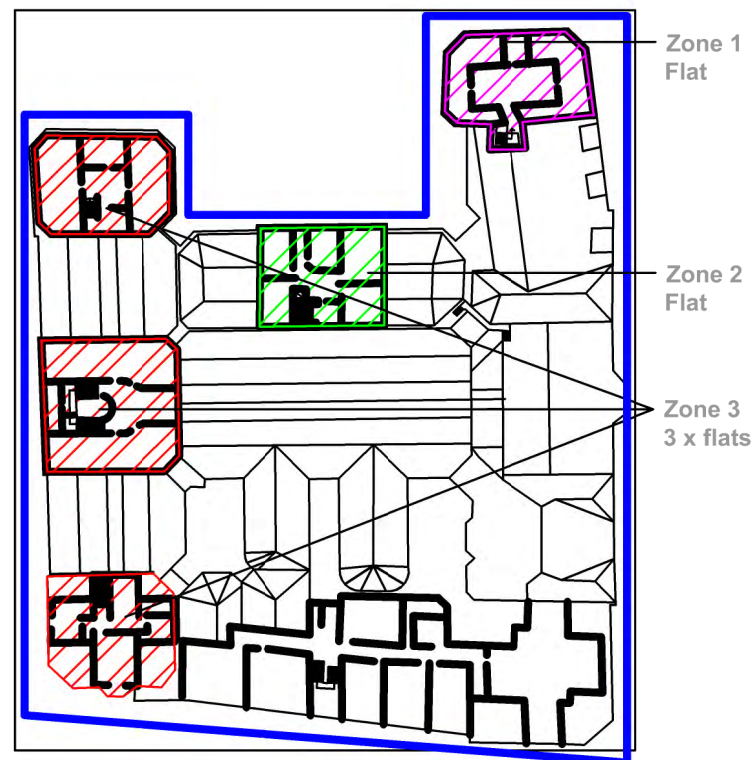
Ground Floor



First Floor



Second Floor



Third Floor





Costs

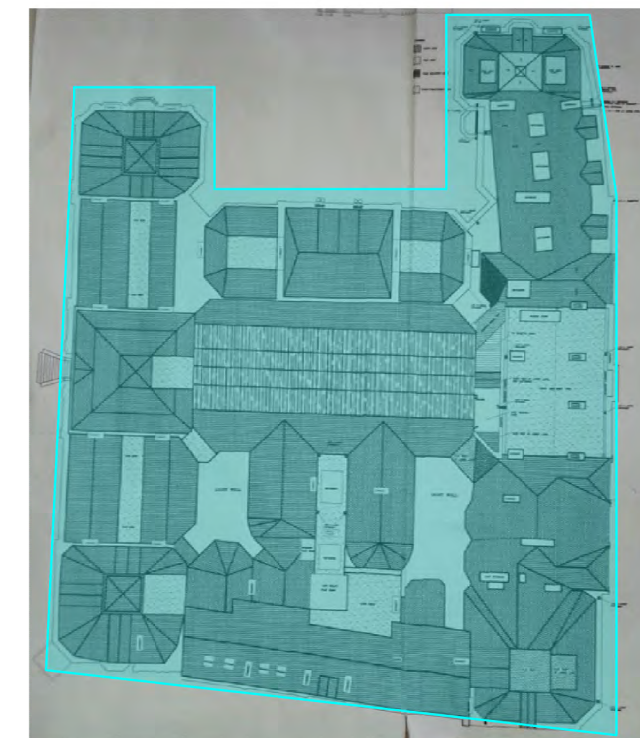
Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£6,184,685
Roof refurbishment to Zones 1, 2 & 3	£6,900,000
Temporary roof to all zones	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£1,970,700
Other compliance requirements	£1,642,250
Allowance for basement	£1,000,000
Cumulative Total	£24,471,842

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Building wrap



Roof Plan

Temporary roof to all areas

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 4C

Drawing no.
CE/Z08

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved

Project No.
CS/079052

Date
02/06/2015

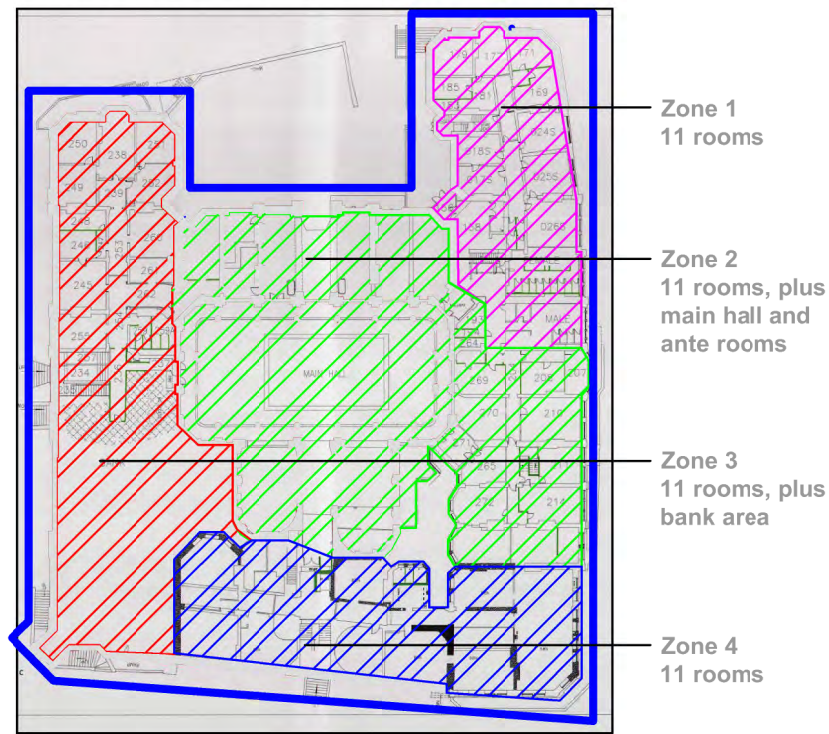
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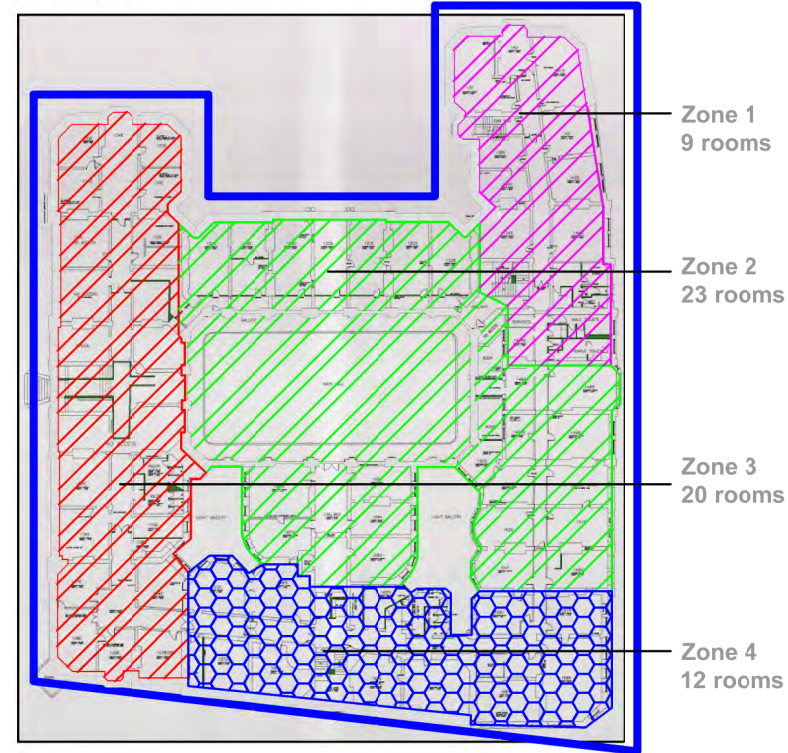
Ty Menter, Unit G1, Main Avenue, Treforest Industrial Estate,
Treforest, CF37 5YL - 01443 823200
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Option 5A

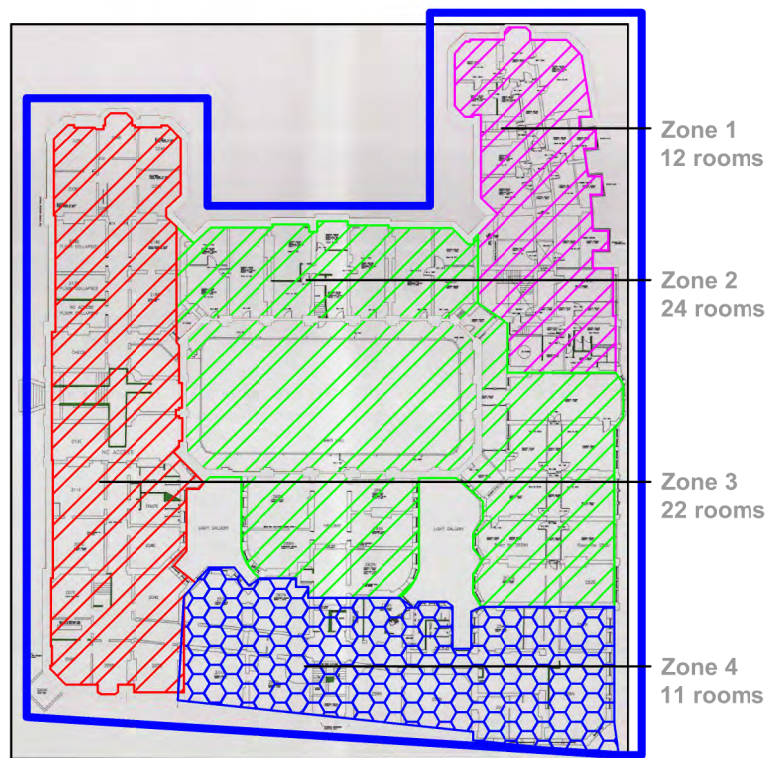
Refurbishment of all areas to Zone 1, Zone 2, Zone 3 (as option 4C) and Zone 4 ground floor, with upper floors to Zone 4 structurally complete. Includes refurbishment of entire roof. Building wrap to building and temporary roof over all areas to undertake works.



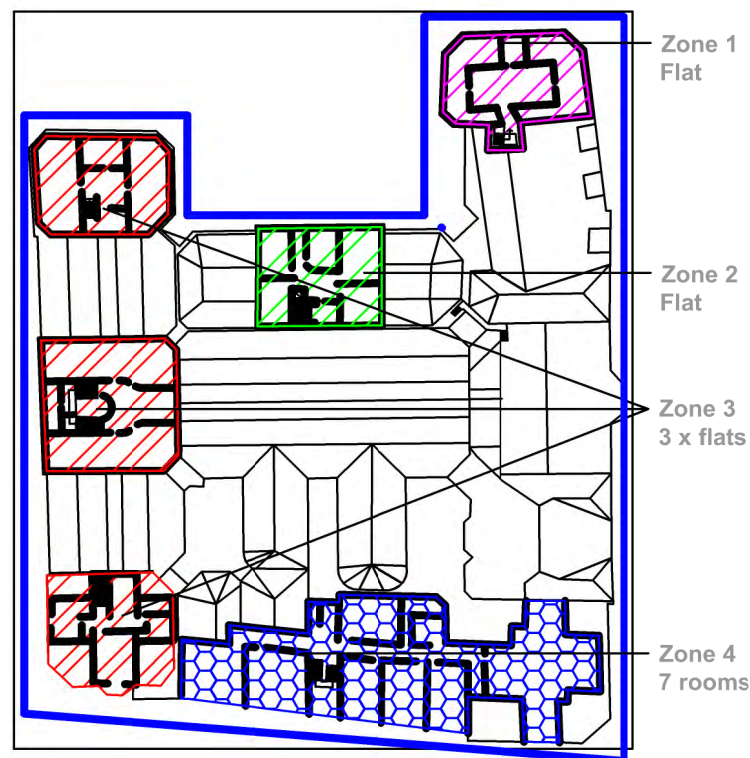
Ground Floor



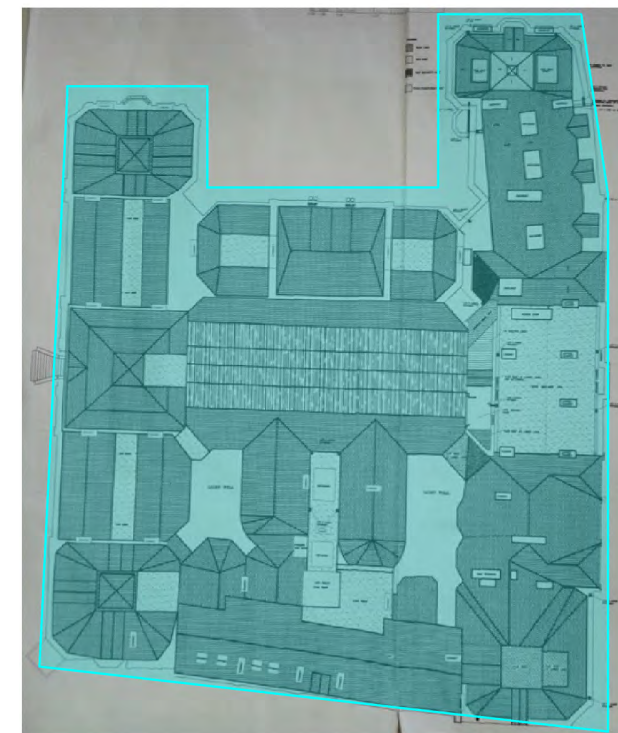
First Floor



Second Floor










Third Floor



Roof Plan

Temporary roof to all areas

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Zone 4 - full refurbishment
-  Zone 4 - structurally complete
-  Building wrap

Costs

Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£6,184,685
Zone 4	£3,643,686
Roof refurbishment to all zones	£8,068,400
Temporary roof to all areas	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£2,607,900
Other compliance requirements	£2,173,250
Allowance for basement	£1,000,000
Cumulative Total	£30,452,128

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3	Zone 4
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft	508m ² / 5468 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft	522m ² / 5619 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft	504m ² / 5425 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft	327m ² / 3519 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft	1861m² / 20031 sq ft

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 5A

Drawing no.
CE/Z09

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved

Project No.
CS/079052

Date
02/06/2015

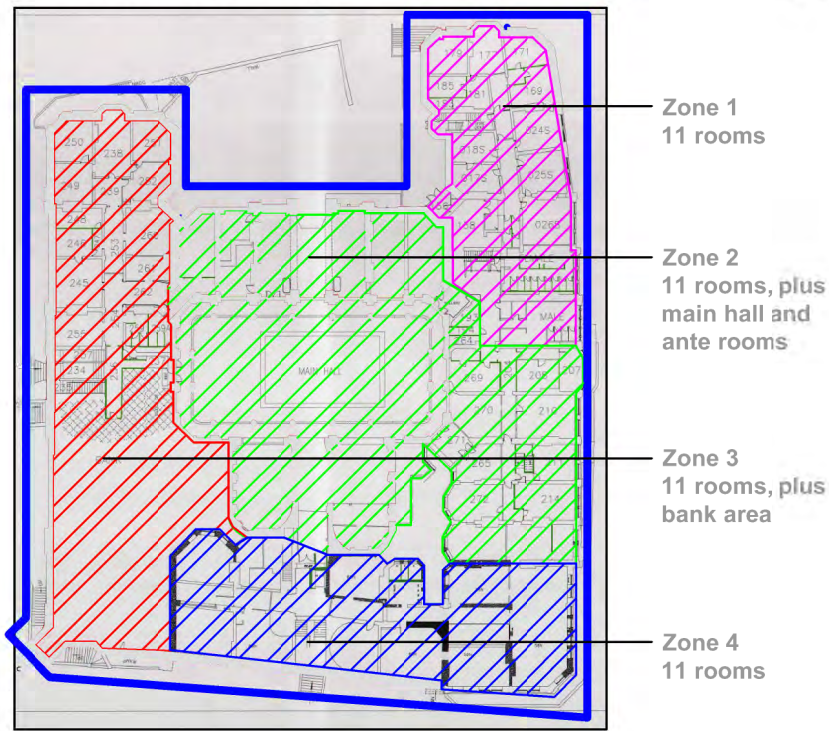
BS1192 Compliant
rev

CAPITA
Building Consultancy

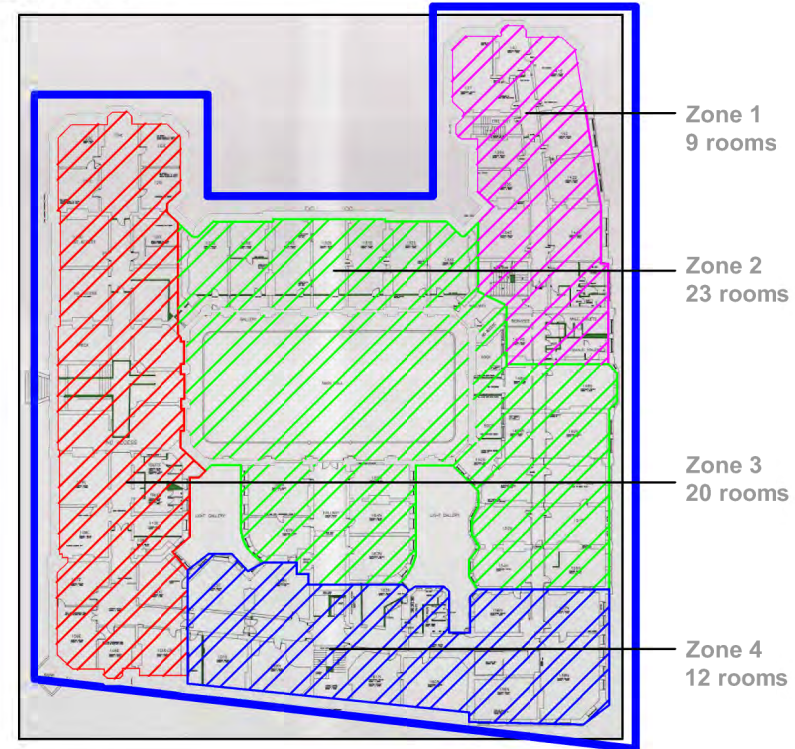
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Option 5B

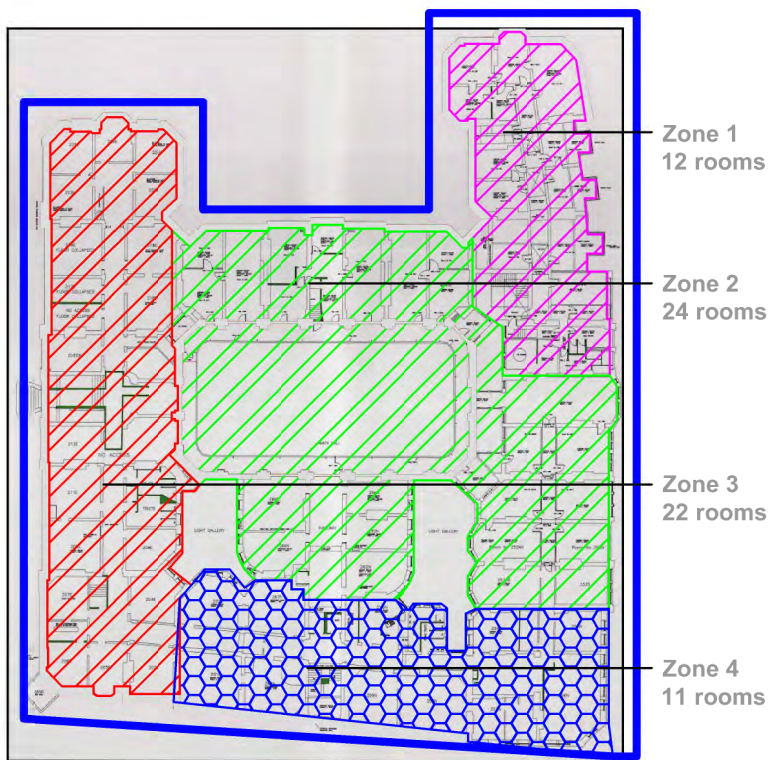
Refurbishment of all areas to Zone 1, Zone 2, Zone 3 (as option 4C) and Zone 4 ground floor and first floor, with upper floors to Zone 4 structurally complete. Includes refurbishment of entire roof. Building wrap to building and temporary roof over all areas to undertake works.



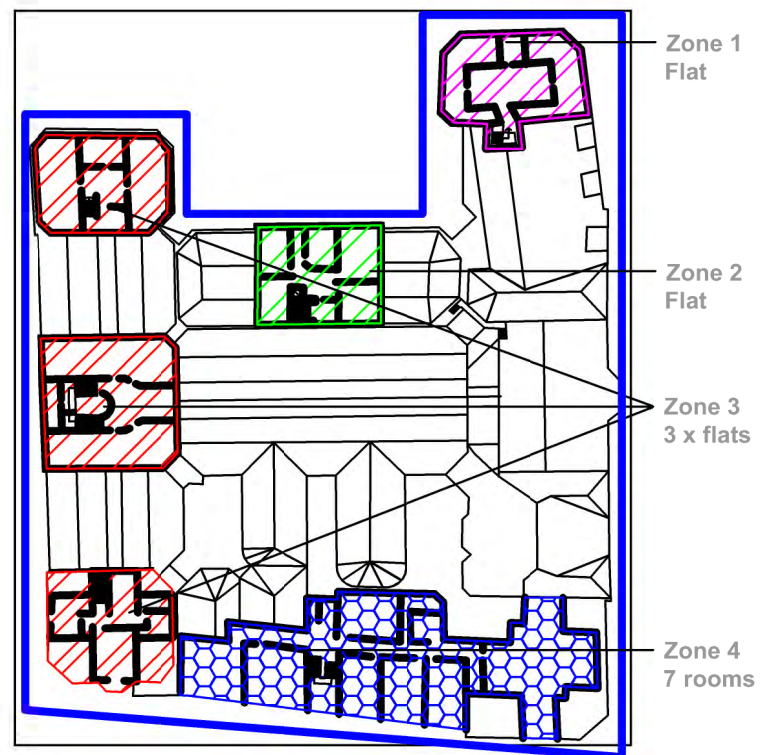
Ground Floor



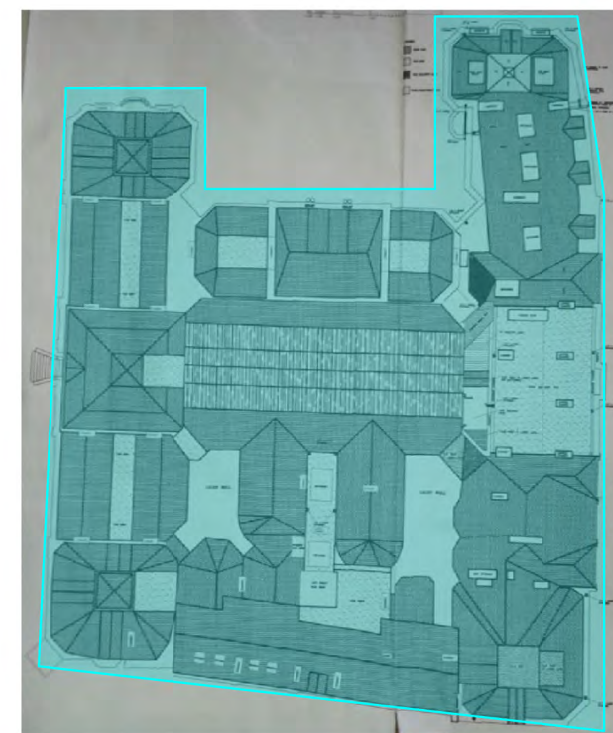
First Floor



Second Floor



Third Floor



Roof Plan

Temporary roof to all areas








Costs

Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£6,184,685
Zone 4	£4,118,329
Roof refurbishment to all zones	£8,068,400
Temporary roof to all areas	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£2,607,900
Other compliance requirements	£2,173,250
Allowance for basement	£1,000,000
Cumulative Total	£30,926,771

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3	Zone 4
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft	508m ² / 5468 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft	522m ² / 5619 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft	504m ² / 5425 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft	327m ² / 3519 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft	1861m² / 20031 sq ft

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Zone 4 - full refurbishment
-  Zone 4 - structurally complete
-  Building wrap

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 5B

Drawing no.
CE/Z10

Scale @ A3
NTS

Drawn
SP

Checked
SP

Approved

Project No.
CS/079052

Date
02/06/2015

BS1192 Compliant
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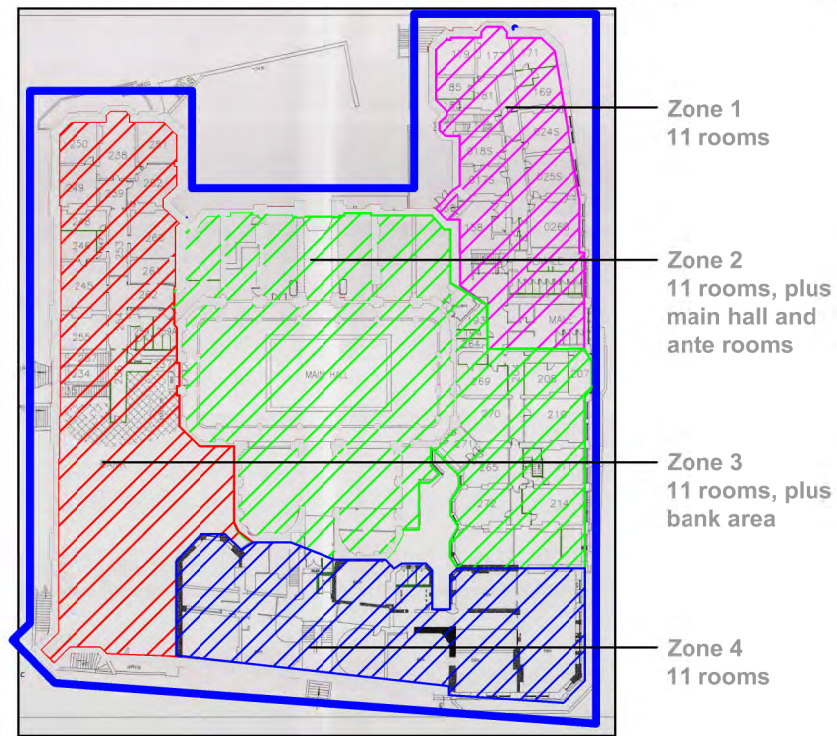
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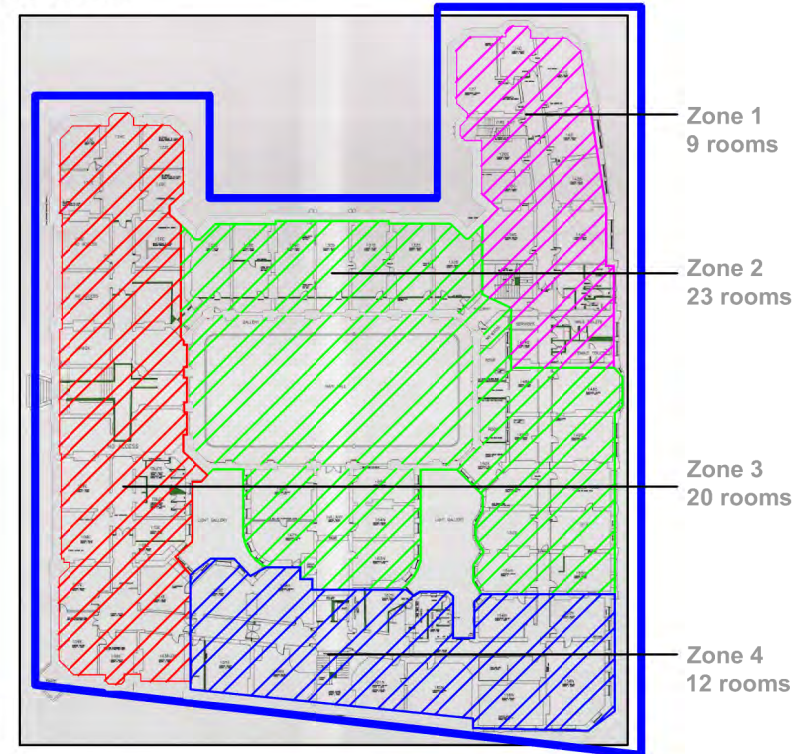
Option 5C

Refurbishment of all areas to Zone 1, Zone 2, Zone 3 and Zone 4, including refurbishment of entire roof.

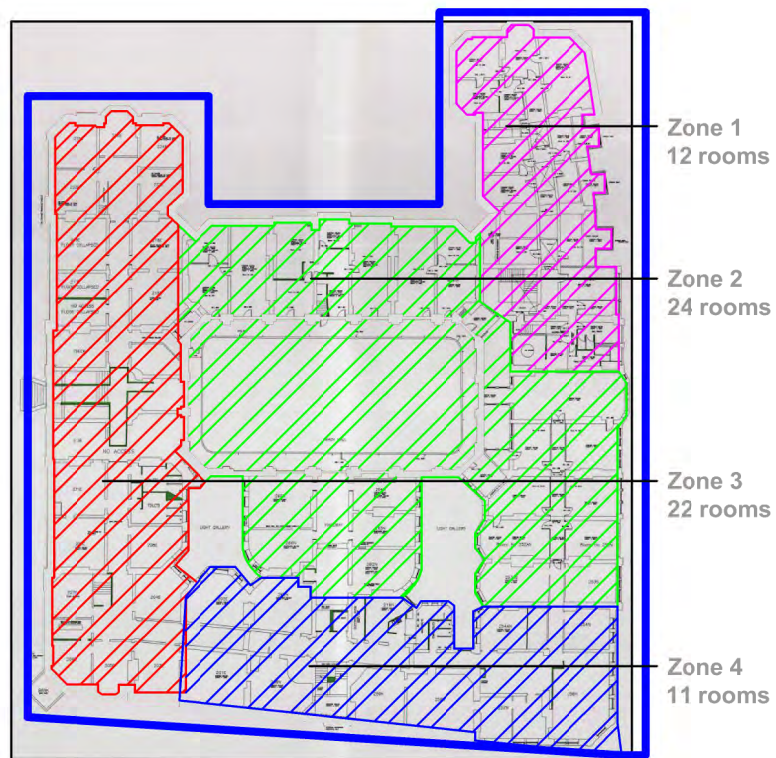
Building wrap to building and temporary roof over all areas to undertake works.



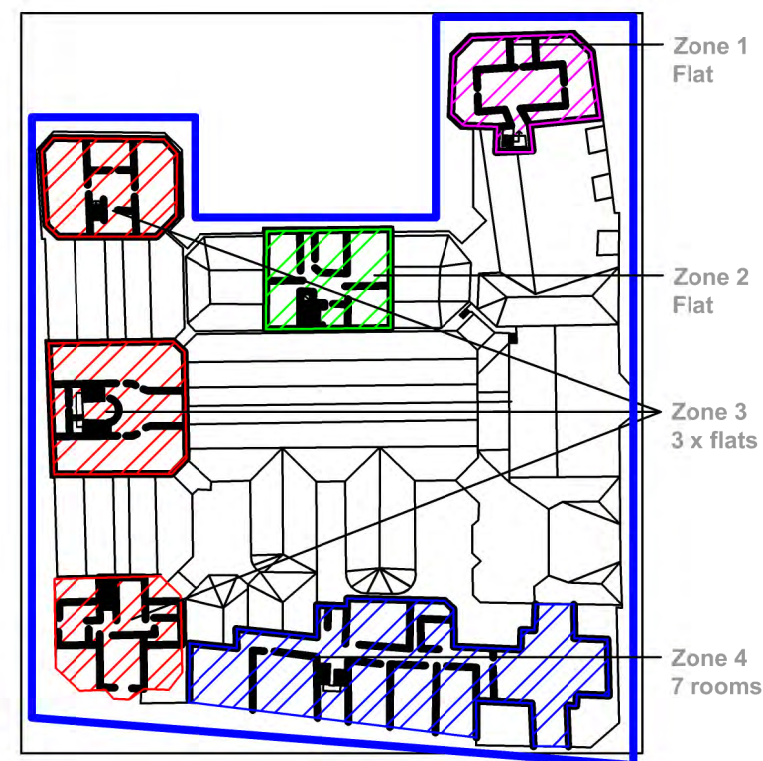
Ground Floor



First Floor



Second Floor



Third Floor







Costs

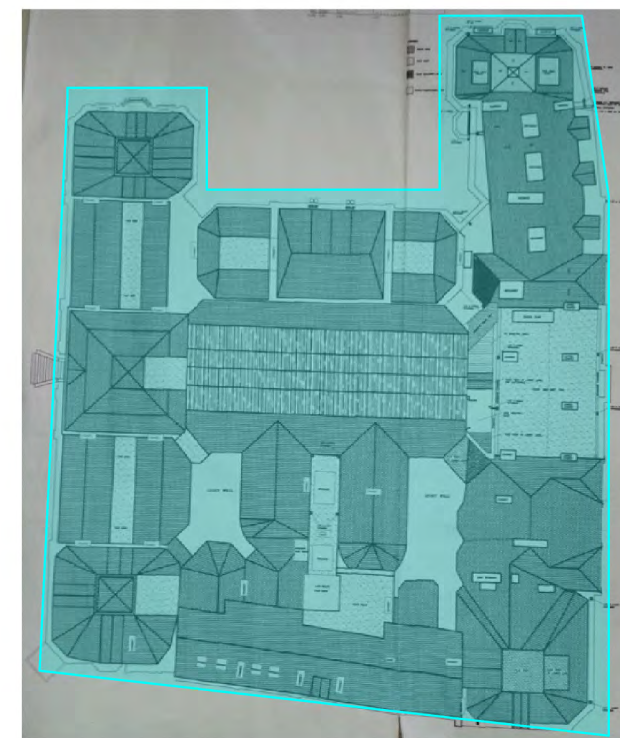
Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£6,184,685
Zone 4	£5,072,094
Roof refurbishment to all zones	£8,068,400
Temporary roof to all areas	£1,280,000
Facade retention	£750,000
Building wrap	£125,000
DDA compliance	£2,610,900
Other compliance requirements	£2,175,750
Allowance for basement	£1,000,000
Cumulative Total	£31,886,036

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3	Zone 4
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft	508m ² / 5468 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft	522m ² / 5619 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft	504m ² / 5425 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft	327m ² / 3519 sq ft
Total	1174m² / 12636sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft	1861m² / 20031 sq ft

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Zone 4 - full refurbishment
-  Building wrap



Roof Plan

Temporary roof to all areas

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Option 5C

Drawing no.
CE/Z11

Scale @ A3

Drawn

Checked

Approved

NTS

SP

Project No.
CS/079052

Date
02/06/2015

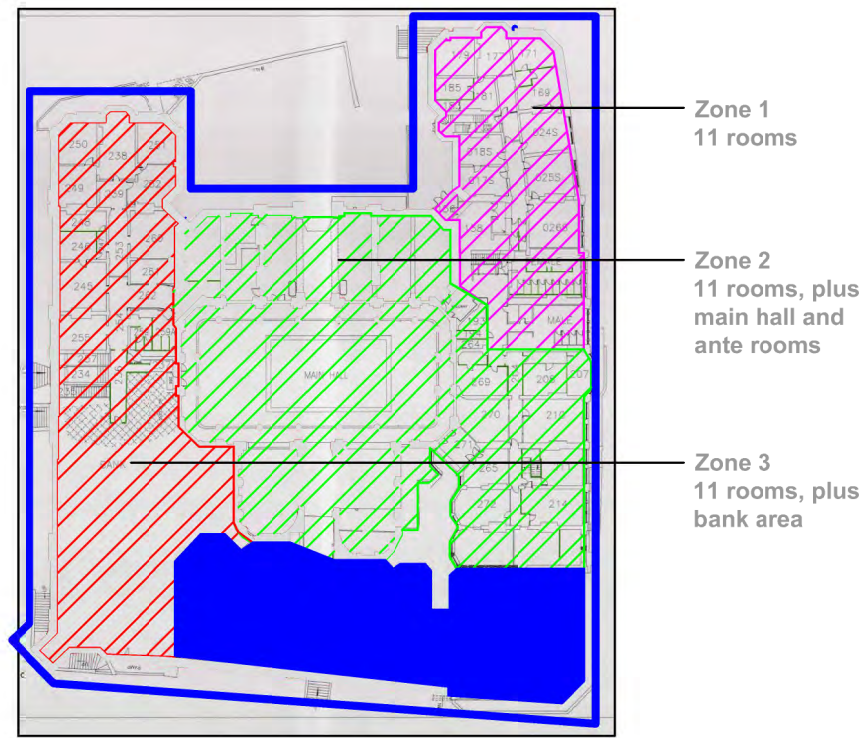
BS1192 Compliant
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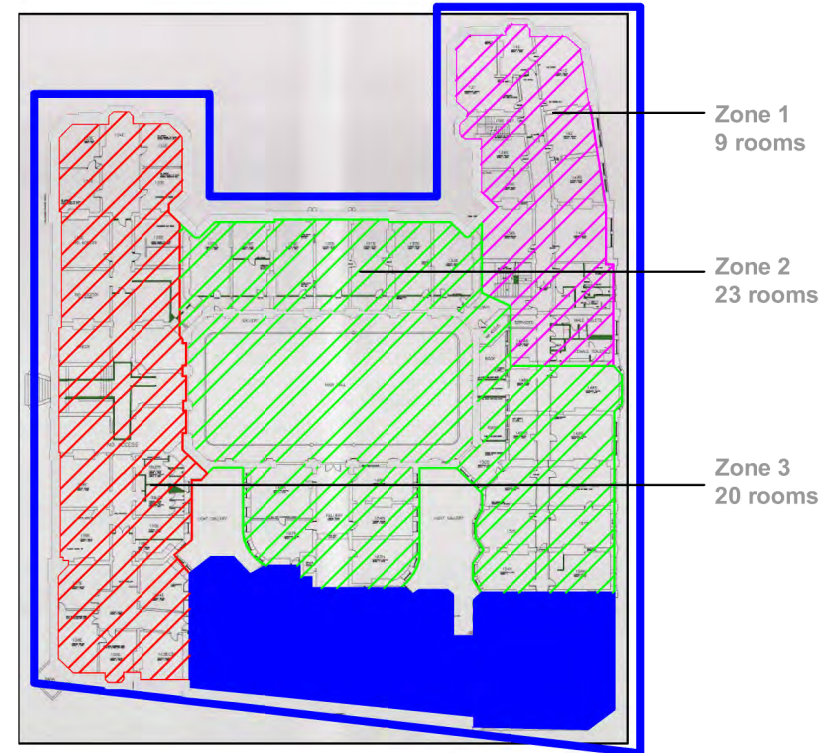
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Option 5D

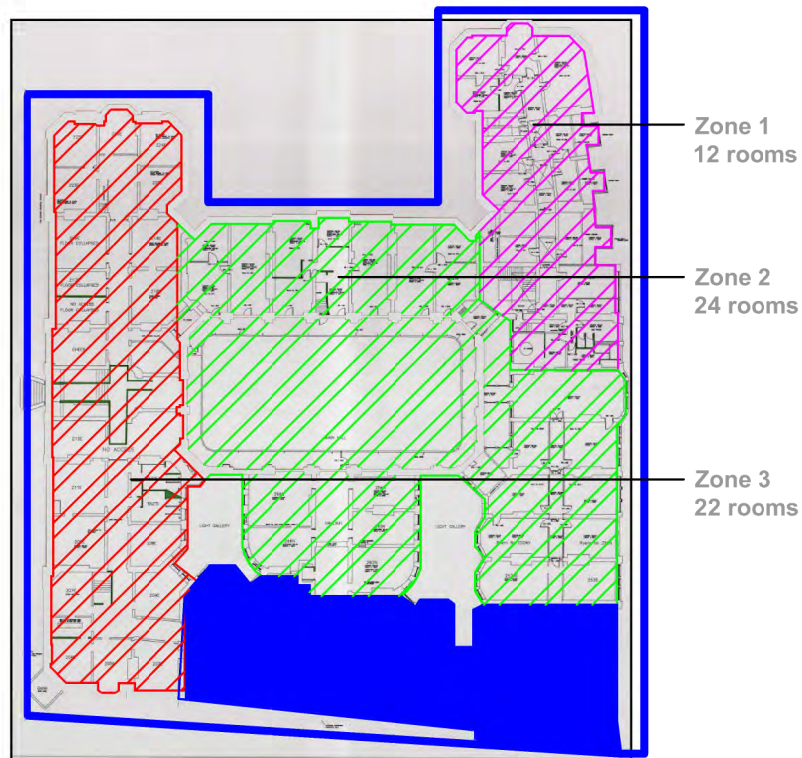
Refurbishment of all areas to Zone 1, Zone 2, and Zone 3. Demolition of Zone 4.
Building wrap to building and temporary roof over all areas to undertake works.



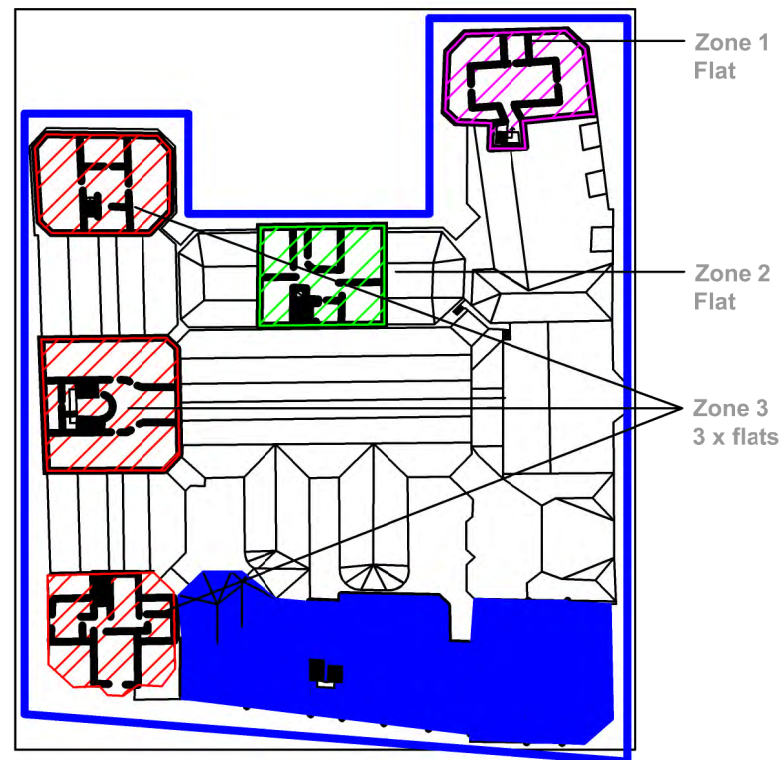
Ground Floor



First Floor



Second Floor



Third Floor







Costs

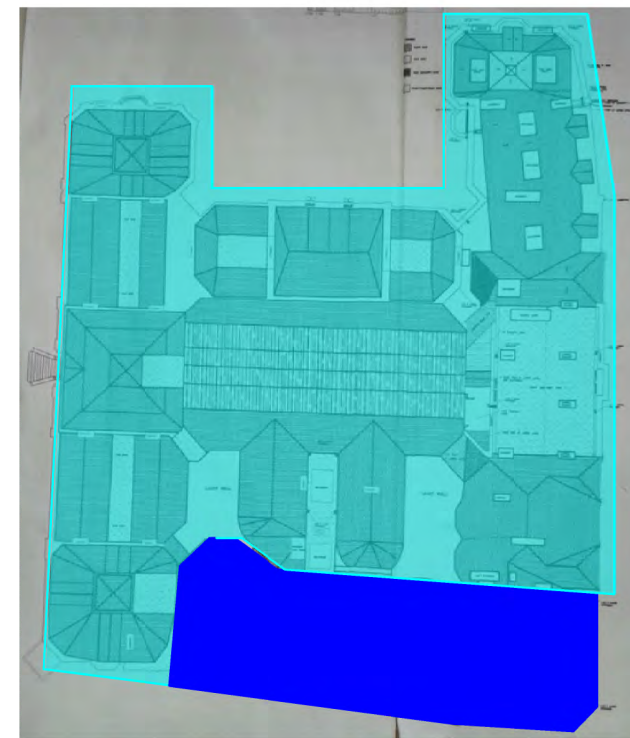
Zone 1	£778,211
Zone 2	£3,840,996
Zone 3	£6,184,685
Zone 4 - demolition	£1,875,000
Roof refurbishment to zones 1, 2 & 3	£6,900,000
Temporary roof to all areas	£1,000,000
Facade retention	£600,000
Building wrap	£125,000
DDA compliance	£1,970,700
Other compliance requirements	£1,642,250
Allowance for basement	£800,000
Cumulative Total	£25,716,842

Floor Areas

Floor Level	Zone 1	Zone 2	Zone 3	Zone 4
Ground	381m ² / 4101 sq ft	1150m ² / 12378 sq ft	744m ² / 8008 sq ft	508m ² / 5468 sq ft
First	371m ² / 3993 sq ft	782m ² / 8417 sq ft	684m ² / 7363 sq ft	522m ² / 5619 sq ft
Second	322m ² / 3466 sq ft	1188m ² / 12787 sq ft	684m ² / 7363 sq ft	504m ² / 5425 sq ft
Third	100m ² / 1076 sq ft	106m ² / 1141 sq ft	353m ² / 3799 sq ft	327m ² / 3519 sq ft
Total	1174m² / 12636 sq ft	3226m² / 34723 sq ft	2465m² / 26533 sq ft	1861m² / 20031 sq ft

Key

-  Zone 1 - full refurbishment
-  Zone 2 - full refurbishment
-  Zone 3 - full refurbishment
-  Zone 3 - structurally complete
-  Zone 4 - demolition
-  Building wrap



Roof Plan

Temporary roof to Zones 1, 2 and 3

Client			
Welsh Government			
Project			
Coal Exchange Feasibility Study			
Drawing		Drawing no.	
Option 5D		CE/Z12	
Scale @ A3	Drawn	Checked	Approved
NTS	SP		
Project No.		Date	
CS/079052		02/06/2015	
BS1192 Compliant rev			

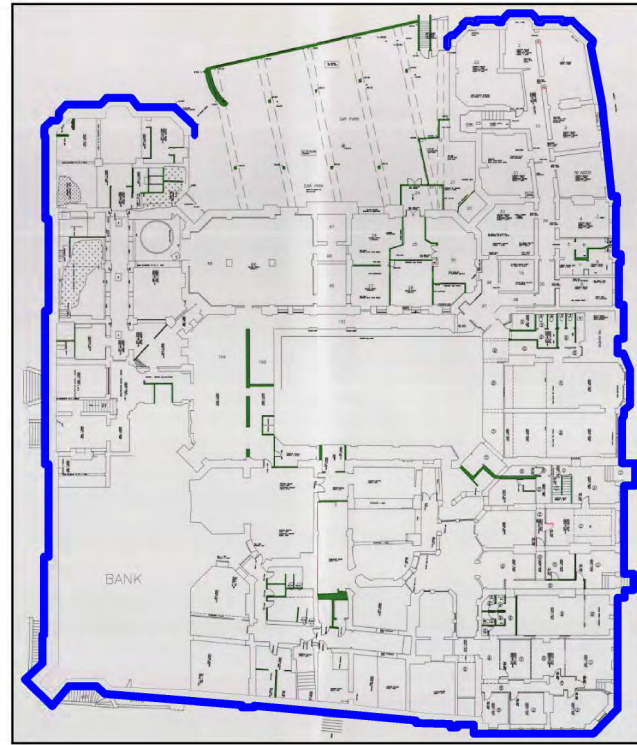
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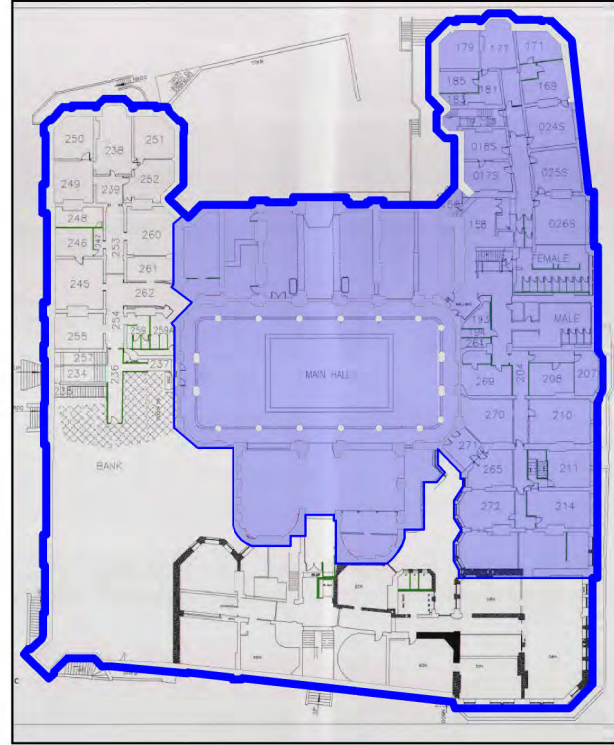
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Appendix C

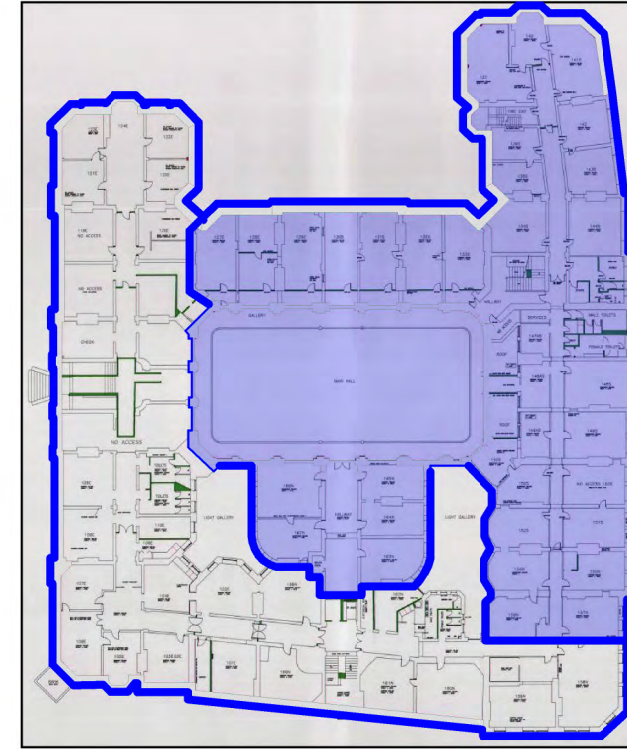
Areas retaining high levels of original fabric



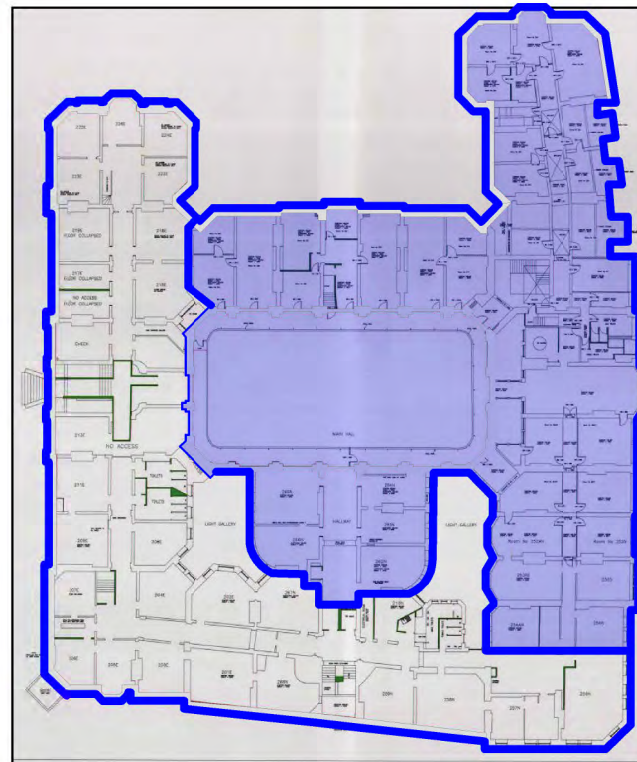
Basement



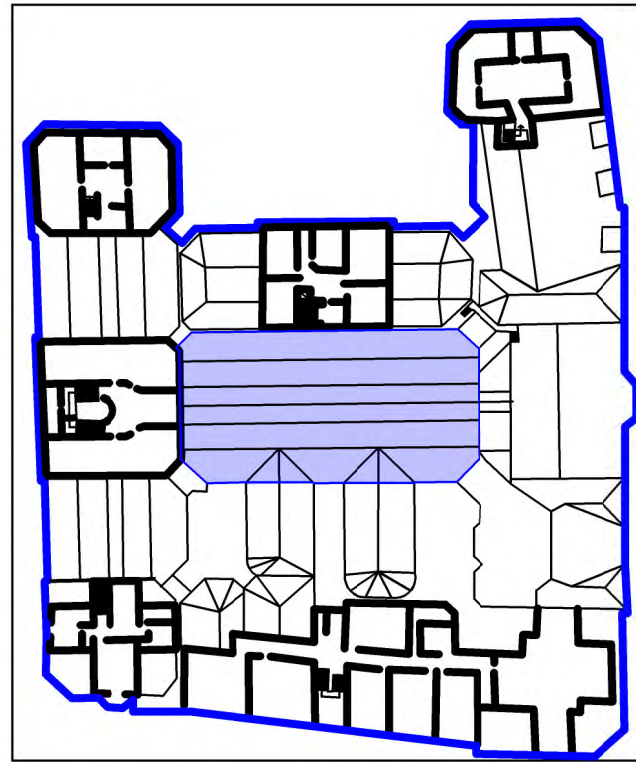
Ground Floor



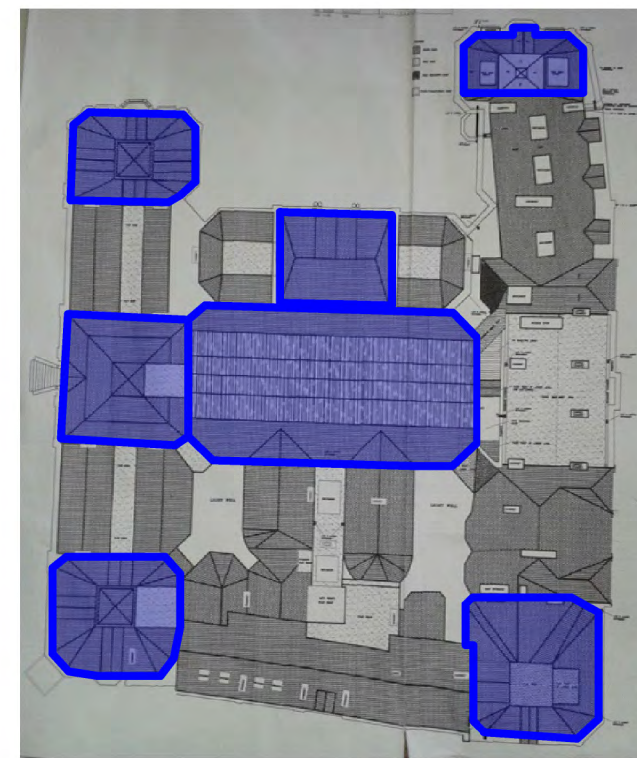
First Floor



Second Floor




Third Floor



Roof Plan

Areas where most original fabric and character survive

1. Exchange Hall including foyer, hall and ante rooms. Exchange hall includes balcony galleries and original roof.
2. All facades.
3. South entrance courtyard (though partially obliterated by car park).
4. Roof features including cupolas, turrets and general massing.

 Areas where most original fabric and character survive

Client
Welsh Government

Project
Coal Exchange Feasibility Study

Drawing
Areas retaining high levels of original fabric

Drawing no.
CE/H01

Scale @ A3	Drawn	Checked	Approved
NTS	SP		

Project No.	Date
CS/079052	02/06/2015

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Appendix D

Historic Wales Report 14015

Historic Wales Report

Dataset	Cadw Listed Buildings
Title	Cardiff Exchange Building
Type	Listed Building
Dataset UID	14015
Community	Butetown

Location
Prominently sited occupying the whole of the central area of the square.

Date Listed 5/19/1975
Last Amendment 8/21/1998
Grade II*

History
Built 1884-86 to design of Seward & Thomas, architects, on site of central gardens of Mount Stuart Square. Interior alterations to Exchange Hall by same architects 1911-12. Interior altered in 1970's including insertion of false ceiling in Exchange Hall. Underground car park added in late 1970's, disfiguring main entrance court.

Reason for Listing
Graded II* as one of most historically important commercial buildings in Wales, illustrating region's immense commercial power in late C19 and early C20.
Group value.

History
The Inner Harbour - An Historical Appraisal. An unpublished report prepared by The Survey of Cardiff for Cardiff Bay Development Corporation, 1989, p. 89-90.
The Builder, February 13, 1886.
S Williams, Cardiff Yesterday, Vol VI, 1983, Illus 30-32.

Interior
Retains entrance hall with Jacobethan style moulded plaster ceiling, panelled walls, and woodblock and inlay floor. Two fireplaces to R with C17 style wooden surrounds. At rear against wood and glass partition wall, two lions on high plinths supporting clock faces showing times of Cardiff high tides. Further rooms to L and R. Doors in rear partition wall lead to central Coal and Shipping Hall with exchange floor surrounded by galleried tiers of offices, in Jacobethan style dark wood. Inserted coved ceiling has reduced height to 2 storeys, hiding centrally glazed roof, with arched ribs and top tier of offices which remain as corridor. Fascia of top gallery remains visible with cornice, and swags and garlands, supported by Corinthian columns with gilded capitals and in lower zones carved decoration, dolphins alternating with trophies of pick, a shovel and miner's lamp. Columns paired at central bays of short sides of hall, framing to E barometer, and to W segmental pedimented aedicule with clock flanked by dragons, and inscription 'Tempus Fugit'. Gallery Fascia at this level with panelling and aprons. Gallery supported on brackets with alternating corbels of dragon and lion heads. Decorated plaster panels on beneath overhanging balconies. Sunk central floor, surrounded by wooden partitions to offices. Deeper area to rear (N) with fireplace, wood and glass partitioning, and lit by stained glass windows including

stylised ships and inscription 'Ye Olde Order Changeth'.

Exterior
Pale cream limestone (Corsham stone) on snecked grey stone plinth. Yellow brick on W elevation. Slate roofs, and chimneys mainly in yellow brick.

Style derived from French Renaissance models. Main entrance front faces S. Three storeys and basement plus attic storeys in central pedimented 'frontispiece', with hipped pavilion roof. Attic pediment over round window. Parapet has windows with segmental pediments. Lower attic storey with central semi-circular architrave enclosing window group, flanked by windows with moulded architraves. Lower pediment on paired engaged fluted Corinthian columns. Floral relief in triangular pediment surmounted by Royal Arms. Second floor windows have horned architraves with swags, first floor windows generally round-headed, ground floor windows paired beneath broken scroll pediments.

Two asymmetrical projecting wings (pavilion-type roofs) enclose forecourt with added underground carpark in concrete with cast concrete balusters. Wing elevations to forecourt treated in similar fashion to main front, but W wing has extra bays. Polygonal S returns of wings with splayed bay windows on all floors, flanked by external chimneys with stone panelling and pilasters.

Curvilinear pavilion-type roofs to E range. End and centre bays of elevation articulated by pilasters. Centre bay shallow 'frontispiece' with extra attic storeys, close in style to main front. End bays with pedimented attic windows. Grey stone basement with segmental-headed windows. At NE corner, steps up to projecting porch to Barclays Bank, resident here since building opened.

To N, central advanced block of four storeys, five bays, with flanking asymmetrical three storey blocks having pedimented attic windows. To W, less ambitious treatment in yellow brick with bathstone dressings, three storeys, but bays behind wing of entrance front two storeys with dormers in attic.

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Appendix E

Example Building Wraps



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Appendix F

Sources of Material

Sources of Material

- Structural Inspection of The Exchange Building; Curtains Consulting Engineers Plc (1994)
- Inspection of Condition (Revision 2 and 3); RVW Consulting (2013)
- Condition Survey interim report; RVW Consulting (2013)
- Explanation and clarification of emergency works; RVW Consulting (2013)
- Schedule of immediate works to dangerous structure; RVW Consulting (2013)
- Risk Assessment of the Coal Exchange; RVW Consulting, Safety Consultant, Willmott Dixon and H Smith (2013)
- Design Statement for Planning Submission; Aukett Fitzroy Robinson (2006)
- Listed Architectural Fabric Appraisal (draft copy); Aukett Fitzroy Robinson (2005)

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