



Registered in England No. 2727193

THE MORTON PARTNERSHIP LTD.

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**IN THE COURT OF APPEAL**  
**ON APPEAL FROM THE HIGH COURT OF JUSTICE**  
**QUEEN'S BENCH DIVISION**  
**PLANNING COURT**

**C1/2016/\_\_\_\_\_**  
**CO/4944/2015**

**BETWEEN:**

**THE QUEEN**  
**(on the application of SAVE BRITAIN'S HERITAGE)**  
**Appellant/Claimant**

**and**

**LIVERPOOL CITY COUNCIL**  
**1<sup>st</sup> Respondent/Defendant**

**and**

**REGENERATION LIVERPOOL AND NEPTUNE IN PARTNERSHIP**  
**2<sup>nd</sup> Respondent/Interested Party**

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**EXPERT REPORT**

**OF**

**EDWARD JAMES MORTON**

**OF**

**THE MORTON PARTNERSHIP LTD.**

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**Specialist Field** : **Conservation Structural Engineer**

**Subject Property** : **The Futurist Cinema, Lime Street, Liverpool**

**Instructed By** : **Save Britain's Heritage (SAVE)**

**Inspection Dates** : **Tuesday 19<sup>th</sup> April 2016 (Edward Morton)**  
**Tuesday 10<sup>th</sup> May 2016 (Rik Fox)**

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## 1.0 INTRODUCTION

### 1.1 Formal Details

My name is Edward James Morton. The name of the company which employs me is the Morton Partnership Limited. The nature of the business is that of Civil and Structural Engineers and Historic Building Specialists. The London Office address is Old Timber Yard House, 55 The Timber Yard, Drysdale Street, London, N1 6ND.

I am a Managing Director of The Morton Partnership Ltd., Chartered Engineer and Fellow of The Institution of Civil Engineers.

My particular expertise relates to working with historic buildings where I have in excess of 25 years' experience. I am a member of the Institute of Historic Building Conservation (and sit on their technical sub-committee), an also an Engineer Accredited in Conservation (CARE) under a jointly run scheme administered by The Institution of Civil Engineers and The Institution of Structural Engineers (where I sit on the panel).

I am the appointed structural engineer to Westminster Abbey, York Minster, Canterbury Cathedral, Durham Cathedral, Southwark Cathedral and Ely Cathedral. I refer to Appendix A for further details of my qualifications and experience.

My colleague, Richard (Rik) Fox is a chartered civil engineer with over 40 years' experience and who has been employed by The Morton Partnership for 26 years. He has worked extensively on existing and historic buildings throughout the country including being project engineer for The Albert Memorial, a new visitor centre at Windsor Castle, and Tedworth House for Help for Heroes to name a few. His full qualifications are: B.Eng (Hons), C.Eng, MICE.

### 1.2 Instruction

Save Britain's Heritage (SAVE) instructed me to undertake an assessment of The Futurist and provide a view and ongoing assistance in relation to proposals by Liverpool City Council to demolish part of the front elevation of The Futurist Cinema, situated on Lime Street in Liverpool.

### 1.3 Disclosure of Interests

I have no personal or professional connection with the parties, witnesses or advisers, or actual or potential interests that might adversely or potentially affect my independence.

## 2.0 BACKGROUND AND ISSUES

### 2.1 The parties

**Claimant/Appellant:** Save Britain's Heritage (SAVE)

**1<sup>st</sup> Respondent/Defendant:** Liverpool City Council

**2<sup>nd</sup> Respondent/Defendant:** Regeneration Liverpool and Neptune Developments in Partnership

**2.2 Property Address:** The Futurist, Lime Street, Liverpool

### 2.3 Background

**2.3.1** The Futurist Cinema is Liverpool's first purpose built cinema and one of a diminishing number of pre-WWI movie theatres in the United Kingdom. It was constructed in 1912 by renowned theatre architects Chadwick and Watson. It has a highly decorative façade of faience blocks.

**2.3.2** Neptune Developments Surveyor visited on Thursday 14<sup>th</sup> April and highlighted structural concerns with the front elevation of The Futurist. Liverpool City Council's Building Control Officer visited on Friday 15<sup>th</sup> April 2016 to assess the condition and a press release was issued by the Council that day indicating urgent 'deconstruction' works were required.

**2.3.3** By agreement with the City Council I visited on Tuesday 19<sup>th</sup> April 2016 and requested that the City Council provide plans. A cross section was received on 25<sup>th</sup> April and I produced a letter report dated 28<sup>th</sup> April 2016 which is included as appendix B1. A second letter was produced on the same day following receipt of historic drawings of the Futurist obtained by SAVE which is included as appendix B2.

**2.3.4** Scaffold was erected by the City Council to facilitate access and to allow 'deconstruction' and on the 26<sup>th</sup> April 2016, an email from Liverpool City Council's Head of Building Control (time of sending 17.47), indicated that the pediment was "in such a dangerous condition that it requires immediate action." It was advised that works would commence immediately to reduce the height of the pediment.

**2.3.5** A telephone hearing was held on Friday 6<sup>th</sup> May in The High Court of Justice before Lord Justice Lindblom whom ordered that the interim injunction to prevent Liverpool City Council demolishing the upper part of the elevation should be dismissed. The City Council undertook to reduce the elevation only to the point to ensure public safety and that the materials removed with care to allow these to be re-used as far as practical.

- 2.3.6** These works were not started and my colleague, Mr Rik Fox of The Morton Partnership Ltd, was able to visit on Tuesday 10<sup>th</sup> May. He met with Mr Greg Allen (Liverpool City Council Chief Building Control Officer) and they jointly inspected the building from the access scaffold. At the time of the visit the contractor's work people were in the process of dismantling the roofs behind the pediment via the second floor.
- 2.3.7** Following consultation with Mr Fox I wrote a letter summarising my view based on the additional information provided by Mr Fox and my discussion with him, including a sketch design for a temporary works scheme to support the front elevation, and dated 11<sup>th</sup> May 2016, included as appendix B3. This letter was checked by Mr Fox prior to sending. Mr Fox confirmed that he was advised that the hoist, to remove demolished material was, going to be erected internally on Thursday 12<sup>th</sup> May 2016.
- 2.3.8** On the 12<sup>th</sup> May 2016 at 18.47 an email was received advising that Mr Allen had advised that it was not possible to insert a hoist internally and that a Structural Engineer on behalf of the respondent would visit on Friday 13<sup>th</sup> May at 10.00am and with an offer for a representative of SAVE to attend site. This was not possible given the very short notice.
- 2.3.9** Mr Allen advised to Mr Mann (Liverpool City Council Principal Solicitor for Regulatory and Planning matters) in an email on the 13<sup>th</sup> May at 13.03 of the outcome of the visit with the Structural Engineer, Mr Dave Hughes of the Alan Johnstone Partnership LLP. This included that the internal hoist was not possible, nor an external hoist, and that remote means (high level plant) would be needed for removing the upper part of the structure which would require the removal of the scaffold. He indicates a full road closure would be necessary for these works.
- 2.3.10** A copy of a report by Mr Dave Hughes of the Alan Johnston Partnership LLP was received late afternoon of 13<sup>th</sup> May. This suggested that deconstruction from the existing scaffold was not a suitable working platform for operatives and presented a danger to the public and that high/long reach machinery would be needed to carry out this work. He suggests that removal down to first floor level would be necessary.
- 2.3.11** On Friday 13<sup>th</sup> May the Court decided that the matter needed to be heard at the Court of Appeal on Monday 16<sup>th</sup> May at 2.00pm. This report has prepared for the appeal hearing.
- 2.3.12** We understand that by Saturday morning the 14<sup>th</sup> May the majority of the scaffold had been dismantled. The road was open for two lanes.

## 2.4 Issues

2.4.1 I see the predominant issues as follows:

- a) Can the deconstruction of the upper section be carried out with dismantled material removed and stored as directed in the Court Order of Friday 6<sup>th</sup> May.
- b) That the deconstruction of the fabric should not extend beyond that which is necessary for public safety as directed in the Court Order of Friday 6<sup>th</sup> May.
- c) Is there a danger to the public from the collapse of the front elevation of the building.
- d) Is there any evidence of progress movement of the front elevation to suggest its instability.
- e) What are the consequences of the demolition of the front elevation down to first floor level by remote (high level plant).
- f) Are there alternative means of securing the front elevation of the building that could be implemented.
- g) What is the impact on Lime Street and traffic.

## 2.5 DOCUMENTS RELIED UPON

2.5.1 The following documents provided have been consulted and relied upon:

- Structural Statement by Curtin's following inspection of 28<sup>th</sup> March 2014;
- Structural Statement of Façade Retention by Sutcliffe dated February 2015;
- Structural Assessment Report by Sutcliffe dated 14<sup>th</sup> April 2016 (Executive Summary only);
- Historic drawings from archive including plans and sections;
- Letter report from Dave Hughes of Alan Johnston Partnership LLP dated 13<sup>th</sup> May 2016;
- Various correspondence as included in the Exhibits RM1 to RM5 appended to the Witness Statement of Roger Mann dated 13<sup>th</sup> May 2016.

### **3.0 TECHNICAL INVESTIGATIONS**

#### **3.1 Inspection Details**

**3.1.1** I inspected the property on 19<sup>th</sup> April 2016. This was an inspection externally from ground level and internally as escorted by representatives of Liverpool City Council and the Developer. The results of this inspection were included in my letter dated 28<sup>th</sup> April 2016 (see appendix B1) and principally related to the front elevation.

**3.1.2** My colleague Mr Richard Fox visited on the 10<sup>th</sup> May and inspected the front elevation from the scaffold erected externally. The results of this survey were included in my letter dated 11<sup>th</sup> May 2016 (see appendix B3).

#### **3.2 GENERAL FACTS ARISING FROM INSPECTION**

**3.2.1** The property dates to around 1912 and was built to the designs of renowned theatre Architects Chadwick and Watson (see photograph 1 for image of building in 1938). It is a masonry structure with steel structure used to span internally to create open spaces and then with suspended floors of filler joist construction, that is with small steel beams with concrete or similar infill between. The front elevation has a highly decorative façade of faience blocks.

**3.2.2** The building is clearly in poor condition and it is accepted that the rear of the building is beyond practical re-use, in terms of the majority of the historic fabric would be lost. Thus the inspections concentrated on looking at the viability of retaining the front elevation.

**3.2.3** There is clear evidence of movement to the upper part of the building with out of plumb noted, and including root growth which has widened joints and pushed the wall out locally (see photograph 3). These were highlighted in the Sutcliffe February 2015 report (clause 6.2.1 4<sup>th</sup> bullet point and also highlighted in associated photographs) suggesting that this was causing stone setts to become loose and unstable. I note nothing was done at that time to either kill the vegetation or consolidate the units.

**3.2.4** I have seen no evidence to suggest that the movement is progressive in nature in specially the cross walls at second floor level do not show any signs of recent movement. One wall is strapped across a straight joint and shows some minimal signs of movement, but which appears historic, and the others which are straight jointed do not. As some of the walls, according to the historic plans are later additions, it suggests the out of plumb movement of the wall occurred prior to their installation.

- 3.2.5** It is suggested that the floors, and in particular the in-built steels, have corroded and are aggravating the movement to the front elevation. Where the main second floor steels are built in there is some corrosion but this has not resulted in any significant cracking where they are built in to the front elevation which would be clearly evident if this had occurred. Thus these still have an important role to play in providing lateral stability. They do bear on steel lintels to the rear which require temporary support.
- 3.2.6** The filler joist floors shown some signs of corrosion also but I do not consider this significant and they still contribute to providing lateral stability to the front elevation. The fact that I was permitted to access these, with the representatives of the Council, and that they have been used to dismantle the upper level roof, suggests their condition is reasonable.
- 3.2.7** The wall at ground floor level has cross walls to either side of the foyer which clearly provide lateral restraint to the front elevation. The historic plans show that one of these has a wall below it, whilst the other has an apparent steel beam below it. Of course this may have changed subsequently.
- 3.2.8** The faience was considered in the reports of Curtain's and Sutcliffe's to be a cladding applied to the masonry rather than hollow blocks and indicated in the Sutcliffe report of April 2016 as acting independently of each other (clause 1.5 in executive summary).
- 3.2.9** Rik Fox identified these as blocks during his inspection of 10<sup>th</sup> May 2016 and thus they will have much greater stability than a cladding. He also did not find any units to the façade which were loose or detached or acting independently.

#### **4.0 OPINION**

- 4.1** The Council now consider that the most appropriate method of 'deconstructing' the front elevation is to use remote high level plant. This process, in my experience is relatively uncontrolled method of work which will cause elements to fall internally and externally. A methodology or risk assessment for the works has not be seen but photograph 6 shows the type of plant this it is assumed will be used. This will clearly have an impact on the use of Lime Street, and thus the suggestion that a road closure will be necessary.
- 4.2** They suggest that the demolition work will need to be carried out down to first floor level, which we assume means the first floor front wall would be demolished as well. This will bring with it the requirement to remove the second floor main steel beams. No indication is given how this will be carried out and I assume they are not simply going to allow these to drop internally in an uncontrolled manner. This could potentially cause progressive collapse of other aspects of the building.



- 4.3** The second aspect that no mention is made of is that with the upper parts of the front elevation of The Futurist removed what will be the implication on the two adjoining properties, 61 and 67 Lime Street. Will the stability of these two structures be compromised by the demolition or will partial demolition of these also be required. As no mention of this is made we assume that the City Council have satisfied themselves that the buildings are in a condition where they will remain self-stable.
- 4.4** The recent report by Mr Hughes suggests that he did not access the interior of the building, saying there was no access from the scaffold (paragraph 2). This means his report is limited in extent. The fact that workers were inside the building on Tuesday when Mr Fox visited suggests they were accessing through the interior to get to the second floor for access to remove the high level roofs.
- 4.5** Mr Hughes goes on to say that with the removal of one of the head stones (copings I assume) that there was lateral movement of the pediment. As essentially a free standing wall this is not surprising. Of course the techniques for removal used by the contractor is unknown and if they had simply tried to lever the coping off without raking out the mortar joints first then this will have inevitably resulted in some movement. Often the first unit is the most difficult as it is essentially 'locked' in place, and once free the adjoining units often require less work to release.
- 4.6** I deal with numerous historic buildings where localised repair, or replacement of individual units is required. The key to this is the methodology chosen to work the joints free and then remove the unit from the wall.
- 4.7** So assuming appropriate methods are adopted I consider it is practical to carefully de-construct the pediment to the front elevation in a safe and controlled manner. The Council have however indicated that installing a hoist internally up through the filler joist floor structures is not possible and thus there is no position to store the deconstructed elements or to get them to ground level for storage and subsequent re-use.
- 4.8** The reason that the Council indicate that the internal hoist is not viable is due to its size it will need to cut through a number of steel joists in the filler joist floor construction and the Council consider that this could have an adverse impact on the lateral stability provided to the front elevation. Whilst I understand and accept that the insertion of a hoist internally is not sensible, I consider that a hoist could be placed externally but fixed onto either of the adjoining buildings, which we assume are self-stable (see clause 4.3 above). The access scaffold, now removed, could simply extend to the hoist position and then the material safely and carefully removed to ground level for re-use.

- 4.9** In my letter of 11<sup>th</sup> May 2016 (appendix B3) I have suggested an alternative method of temporary support to the front elevation which would allow the retention of the entire front elevation including the pediment.
- 4.10** It is disappointing, and surprising, that the scaffold erected has been removed. Firstly it is noted this was fixed to the front elevation via anchors and through windows when erected, even though the Council has concerns about the wall stability, rather than a free standing and buttressed scaffold, accepting that this would extend further into Lime Street. Secondly if the front wall was so at risk, as suggested, then the scaffold may have afforded some additional restraint, although it this may have been limited.
- 4.11** I also note that despite the assertion about the very poor and unstable condition of the wall that firstly no works, other than the access scaffold and removal of the rear timber roofs, have occurred, and also that no road closure has been implemented.
- 4.12** The proposed temporary works would include both an external scaffold, and internal scaffold. The internal would comprise standards (vertical scaffold poles) rising up through the building with core drilling of the clinker concrete infill to the filler joist floors to allow the poles to extend through floors. The internal and external scaffold would be tied together and essentially act to 'clamp' the wall in place. Core-drilling with appropriate equipment would not impact on the stability of the structure. This would need to extend through the basement level and with the ground and first floors used as kentledge (weight) to provide further stability to the structure.
- 4.13** Another benefit of this option is that it would not require the closure of Lime Street to implement. A full design would be required, but with an appropriate scaffold contractor, and associated designer, and a contractor experienced with working in buildings in poor condition I consider these temporary works could be implemented swiftly.
- 4.14** Of course the matter of public safety is paramount - however it should be accepted that the Council have consistently advised of their concerns in this regards and indicated that works would be undertaken immediately, but in fact no substantive works have yet being implemented. Again it should be noted that Lime Street has not been closed.
- 4.15** Movement in historic buildings is not unusual. The extent is of course important, but more critically is if the movement is current and progressive in nature. I have seen no evidence to suggest that this is the case here. It should be noted that Mr Anthony Clarke of Curtains (CARE registered), in his report of 28<sup>th</sup> March 2014 for the City Council and Neptune indicates that the "The structural condition of the façade for its age is reasonable", although needs some further investigation. Whilst this is some two years old and the building will have

deteriorated, I do not consider the change would be to the extent to indicate the whole elevation as unstable.


- 4.16** It is noted that both the Curtains report and the 2015 report by Sutcliffe's on façade retention suggest an option of an external steel façade retention scheme. This would leave the interior of the building free of temporary structure to facilitate easier construction for any future development.
- 4.17** Both reports however suggest that this is likely to require partial, or in the case of Sutcliffe's possibly full, road closure; investigations into the basement arrangement and the effects of surcharge from the temporary structure; the implication of services in the pavement or road etc. However despite the last report being over 14 months old there does not appear to have been any progression of the investigations to prove the validity of this option or not. I have made further comments on this based on the archive plans retrieved on behalf of SAVE from the City archive (see appendix B2).

## 5.0 SUMMARY

- 5.1** I have considered if it is possible that the undertakings outlined in the Court Order of 6<sup>th</sup> May are practical. I confirm that in my opinion that they are, and it is practical and safe to do the deconstruction work with the methods outlined in section 4.0 and including using a hoist externally fixed to an adjoining building.
- 5.2** The currently proposed method of demolition of the front wall could potentially lead to progressive collapse of other elements of the Futurist or possible the majority of the front elevation. No mention of the impact, or not, of the proposed works on the adjoining buildings is made.
- 5.3** I have provided an alternative temporary works scheme using scaffold both internally and externally with the wall clamped between to provide it with temporary stability including the high level pediment. This method would not need a complete road closure of Lime Street and could I believe is implemented in a short period.
- 5.4** No evidence has been offered to date of progressive movement of the front elevation of the Futurist.
- 5.5** Further consideration of an external temporary works façade retention scheme has not been made by the Council since the Sutcliffe's 2015 report or the areas of further checks suggested in the Curtin's report of 2014 undertaken.

**6.0 Expert's Declaration****I, EDWARD JAMES MORTON, DECLARE THAT:**

- 6.1 I confirm that insofar as the facts stated in my report are within my knowledge I have made clear which they are and I believe them to be true, and that the opinions I have expressed represent my true and complete professional opinion.
- 6.2 I understand that my duty included in my providing written reports and giving evidence is to help the court, and that this duty overrides any obligation to the party who has engaged me. I confirm that I have complied with my duty.
- 6.3 I have endeavoured to include in my report those matters, which I have knowledge of or of which I have been made aware, that might adversely affect the validity of my opinion.
- 6.4 I have indicated the sources of all information I have used.
- 6.5 I have not, without forming an independent view, included or excluded anything which has been suggested to me by others.
- 6.6 I will notify those instructing me immediately and confirm in writing if for any reason my existing report requires any correction or qualification.
- 6.7 I understand that;
- a) My report, subject to any corrections before swearing as to its correctness, will form the evidence to be given under oath or affirmation;
  - b) I may be cross-examined on my report by a cross-examiner assisted by an expert;
  - c) I am likely to be the subject of public adverse criticism by the judge if the Court concludes that I have not taken reasonable care in trying to meet the standards set out above.
- 6.8 I confirm that I have not entered into any arrangement where the amount or payment of my fees is in any way dependent on the outcome of the case.
- 6.9 The above declaration is in accordance with the requirements of the Civil Procedure Rules, and in particular Rule 35 "Experts and Assessors".



.....  
**Edward Morton**  
**B.Eng (Hons), CEng, FICE, IHBC**  
**Engineer Accredited in Conservation**

**Dated: 15<sup>th</sup> May 2016**

**APPENDIX A**  
**Qualifications and Experience**

### STATEMENT OF RELEVANT EXPERIENCE

#### EDWARD MORTON - THE MORTON PARTNERSHIP

**Name:** Edward Morton **Position:** Managing Director  
**Nationality:** British **Date of Birth:** 23 March 1965  
**Qualifications:** B.Eng (Hons), CEng, FICE, IHBC, Engineer Accredited In Conservation  
**Tel:** 0044 20 7324 7270  
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**Email:** ed.morton@themortonpartnership.co.uk

Ed is Managing Director of The Morton Partnership Ltd, a company of civil and structural engineers with in excess of 25 employees being almost entirely involved with the conservation, restoration and refurbishment of historic buildings and structures. He is accredited in conservation under the CARE scheme.

Ed travels countrywide and abroad related to conservation projects acting for National Amenity Societies, Local Authorities, Buildings Preservation Trusts and individual Clients. These including The National Trust, English Heritage, The European Space Agency, The Palace of Westminster, and many cathedrals and churches.

For over ten years, Ed has been acting to the Heritage Lottery Fund assessing applications and providing expert advice. He has also acted as Assistant Monitor for major projects.

Ed is currently the Engineer to Canterbury Cathedral, York Minster, Westminster Abbey, Durham Cathedral, Ely Cathedral and Southwark Cathedral. He is honorary engineer to the Diocese of Canterbury, London and Chelmsford and sits on the IHBC technical sub-committee and the CARE panel.

Below are a few of the projects that Ed Morton has worked on related to historic buildings:

#### **GENERAL:**

##### **1991 - 1993 The Manor House, Bury St Edmunds**

Acted as project engineer for refurbishment and conservation of Grade 1 eighteenth century Manor House and timber frame extension to a Museum for St Edmundsbury Borough Council.

##### **1992 - Lowther Lodge, London**

Produced detailed structural condition survey of Grade 1 Listed headquarters of the Royal Geographical Society. Has acted as advisor to the Society on structural issues.

##### **1992 - 2002 Claydon House, Buckinghamshire**

Engineer for large scale repairs of Grade 1 Listed National Trust house. Has since advised on all engineering related matters.

##### **1992 - The National Trust, East Anglia**

Appointed on various commissions at Melford Hall, Ickworth Hall and Estate, Wimpole Hall and Estate, Coggeshall Grange Barn, Shermans Hall, Anglesey Abbey, Oxburgh Hall, Paycockes and other smaller properties.

##### **1994 - 2002 Warehouses 1 & 2, West India Docks**

Lead consultant and structural engineer for re-roofing and structural repairs contract (£2.8ml) of Grade 1 Dock Warehouses. Subsequently appointed as structural engineer to convert three blocks into a Museum of the Port of London & Docklands (£7ml) funded by the Heritage Lottery Fund.

- 1995 - The National Trust, Kent & East Sussex Region**  
Has acted for the Trust on numerous properties including Sissinghurst Castle, Knole, Batemans, Scotney Castle Gardens, Bodiam Castle, Chartwell, Sheffield Park Gardens and many others.
- 1995 - 2003 Danson House, Bexley, Kent**  
Restoration of Grade 1 Villa of 1750's by Sir Robert Taylor for English Heritage Major Projects including significant timber repairs to roof and floors. New platform lift to basement.
- 1996 - 1997 Down House, Down, Bromley, Kent**  
Refurbishment of Grade 1 home formerly occupied by Charles Darwin for English Heritage Major Projects.
- 1997 - 2002 Waterpoint, Kings Cross**  
Feasibility study into moving of three storey Listed brick built water tower on the line of the channel tunnel rail link, including detailed site investigations, measured surveys etc. Subsequent engineering and management of the move in 2001 and refurbishment work.
- 1999 - Stowe House, Buckinghamshire**  
Engineer appointed to Phase 1, Phase 2 and Phase 3 repairs to Grade 1 listed Stowe House (£4.8ml + £5.3ml + £5.5ml), as well as advising the School over projects and also the National Trust within the landscape gardens.
- 2001 - 2011 Ballyfin, Portlaoise, County Laoise, Ireland**  
Engineer appointed to conversion to significant and important county house and demesne including main C18<sup>th</sup> house to hotel, the associated 1920's wing including provision of new swimming pool, services tunnel, lead on repairs to Richard Turner iron conservatory, conservation repairs to grotto, tower and other buildings on the estate. Winner of Project of the Year at the 2012 RICS Awards.
- 2003 - Palace of Westminster**  
Engineer for long term rolling programme of repairs and re-roofing to Charles Barry's cast iron roofs. Phase 1 complete with Phase 2 commencing on site shortly.
- 2003 - 2009 Wollaton Hall, Nottingham**  
Structural Engineer to the Phase 1 repairs to the Grade I listed 1580's house including the Chinese lattice floor structure of the Prospect Room Floor. Works also included the Camellia house in structure in the landscape. Winner of 2009 RICS Regional Conservation Award and Project of the Year.
- 2003 - Chatham Historic Dockyard, Chatham, Kent**  
Structural Engineering appointment to numerous buildings and structures at the internationally important dockyard including assessment of chimneys, HMS's Cavalier's mast, gangways to 2 ship and 1 submarine, Thunderbolt Pier, lead on repairs to Covered Slip No 3, feasibility to Colour and Sail Mast shop and many others. Recently completed works to a number of buildings for use as a new campus for the University of Kent.
- 2004 - Battersea Power Station, Battersea, London**  
Acting as Conservation Engineer with regards to the works at the Grade II listed Power Station. This involves consultations with the developers design team and then with the statutory bodies, principally English Heritage. Currently appointed as independent consulting engineer to the London Borough of Wandsworth to monitor and assess works to the re-building of the chimneys.
- 2006 – 2009 Easton Neston, Towcester, Northamptonshire**  
Appointed as structural engineers to significant repairs and re-building of the fire damaged Wren Wing, along with repairs to the main house and ancillary buildings including the Real Tennis Court.
- 2009 - Townscape Heritage Initiative and Area Partnership Scheme, Berwick-upon-Tweed, Northumberland**  
Assessment for some 60 buildings for a successful application for THI and APS funding for external repairs including roofs, walls, joinery etc. Provision of report setting out works required and associated budget costings.
- 2008 - 2012 House, Dublin, Ireland**  
Structural Engineer for large scale repairs to large private house and gardens to the south of Dublin including new basement structure, conservation repairs to main house. Phase 2 completed in 2012.



- 2008 – 2009**      **Ballykean, County Wicklow, Ireland**  
Structural Engineer for significant repairs and refurbishment to historic house in residential use including new extensions.
- 2011 – 2012**      **Christ Church, Oxford – Jubilee Bridge**  
Design of new contemporary bridge in a Grade I Listed historic landscape. Included commissioning a historic landscape assessment, which enabled a feasibility study and options to be considered. Meetings with Local Authority and Amenity Societies to show design and receive comments. Submitted planning application and awaiting approval.

**TIMBER FRAMES:**

- 1993-1995**      **Queen Elizabeth Hunting Lodge, Epping, Essex**  
Appointed as Structural Engineer for refurbishment of Grade I listed and Schedule Ancient Monument Royal Hunt Standing built for King Henry VIII. Work included feasibility study, investigation contract, leading to full repairs of three storey timber frame building to museum standards.
- 1994**              **Alston Court, Nayland, Suffolk**  
Repairs and refurbishment of grade I listed timber frame hall house building dating to 1350's.
- 1994 - 1995**      **Timber Trestle Viaducts, Wickham Bishops, Essex**  
Appointed by Essex County Council to survey, specify and supervise repairs to 1850's Scheduled Ancient Monument. Co-ordinated repair grants on behalf of council.
- 1994 -**            **Hadleigh Guildhall, Hadleigh, Suffolk**  
Repairs to grade I listed timber framed jettied house for Town Council including assessment of reasons for movement and subsequent specification of successful repairs. Ongoing advice and recent conservation repair of Grand Hall Ceiling.
- 1994**              **Clarendon Cottage, Gentlemen's Row, Enfield**  
Structural Engineers and contract administrator's for significant structural repairs to one of the few remaining timber frame buildings in greater London, listed grade II\*.
- 1994**              **Dragon Hall, Norwich, Norfolk**  
Structural Engineer for three phases of repair at Grade I listed medieval merchants house in Norwich for a building preservation trust in conjunction with Norwich City Council's Architect's department.
- 1997 -**            **Cressing Temple Barns, Essex**  
Advice to Essex County Council on Grade I listed and Schedule Ancient Monument barns dating to C12<sup>th</sup> including on repairs to various elements. Additional advice provided for other historic buildings on the site.
- 2000 -**            **Abbey Farm, Faversham, Kent**  
Lead Consultant and project co-ordinator for works to group of medieval buildings including Grade I barn and Grade II barn.
- 2000 – 2003**      **Aubyns, The Green, Writtle, Essex**  
Structural advice for repairs to Grade I listed timber frame hall house including negotiation with insurance company.
- 2001 - 2012**      **Provender, Faversham, Kent**  
Structural advice on repairs to grade I listed timber frame house with Ptolemy Dean Architects on three phases partly funded by English Heritage.
- 2002 – 2003**      **Beeleigh Abbey, Maldon, Essex**  
Structural Engineer for repairs to Grade 1 listed timber frame and masonry building.
- 2003 – 2004**      **Table Hall, Peterborough Cathedral Precincts**  
Structural Engineer for the sensitive repair of this Grade I listed building including the careful jacking of the building into a better alignment and the removal of raking shore which had been present for many years.
- 2005**              **Pembridge Market Hall, Pembridge, Herefordshire**  
Structural Engineer for survey and production of schedule of structural repairs to Grade I listed open market building.
- 2006 -**            **The Guildhall, Stratford-upon-Avon**  
Structural Engineer for structural assessment of the Grade I listed Guildhall related to an application to the Heritage Lottery Fund.

- 2007 - 2014**     **The Oak House, West Bromwich, West Midlands**  
Structural and conservation Engineer for assessment of Grade I listed oak framed house and also the adjoining barns. Barns about to start on site following successful HLF application.
- 2010 – 2011**     **Stowe Landscape Gardens, Stowe, Buckinghamshire – Wooden Bridge**  
Following a competitive tender appointed as Lead Consultant and Engineer for re-creation of historic timber bridge across the Worthies to complete the walk around the Octagon lake and built to facilitate disabled access as well as long term durability.
- 2011 -**             **Bramall Hall and Park, Bramall, Stockport, Cheshire**  
Conservation engineer for HLF funded works to main timber framed house and brick stable block alongside with improved visitor facilities. Stage 1
- 2012 -**             **Spaynes Hall, Great Yeldham, Essex**  
Structural Engineer for large scale repairs (£1.3ml) following significant fire damage to Grade II listed hall house. Detailed frame repair drawings prepared and repair details.
- 2012**               **Grange Barn, Coggeshall, Essex**  
Appointed to undertake quinquennial survey of the twelfth century barn for The National Trust. Survey undertaken after considerable period of rain which helped identify vulnerable areas in roof coverings.

**ECCLESIASTICAL:**

- 1990 -**             **Churches and Cathedrals**  
Has advised over 150 Parochial Church Councils on individual problems at churches and cathedrals including Canterbury Cathedral, York Minster, Peterborough Cathedral, Ely Cathedral, Sheffield Cathedral and Wakefield Cathedral, and the building of St. Edmundsbury Cathedral tower in Suffolk as well as numerous parish churches.
- 2001 -**             **Honorary Engineer to Diocese of Canterbury**  
Advising the DAC on Structural Engineering matters related to faculty applications with engineering considerations.
- 1993 - 2005**     **Canterbury Cathedral, Canterbury, Kent**  
Assisting the appointed Engineer to the Cathedral (Brian Morton) on a number of projects on the Cathedral including the North Oculus window, the Nave floor.
- 2005 -**             **Canterbury Cathedral, Canterbury, Kent**  
Appointed as Engineer to Canterbury Cathedral, advising direct on St Anslem's and St Gabriel's Chapel, investigation into movement of Bell Harry Tower and the re-roofing of the South East Transept. Around the Precincts have advised on a number of the buildings and building elements such as The Archbishop's Palace, the South Infirmary wall, the Archdeacon's house, Dormitory Undercroft and a number of others. Currently working on the refurbishment of the Choir House. Currently working 'Canterbury Journey' project.
- 1995 -**             **Churches Conservation Trust**  
Advising the CCT on various matters related to the churches in their care including Willingale Spain (Essex), Vange (Essex), Hythe (Essex), Steeping (Lincolnshire), Burham (Kent), Sandwich (Kent), Higham (Kent) and Saltfleetsby (Lincolnshire), St Margaret's of Antioch near Bedford. In 2012 completed a study of twelve churches assessing the structural implications of a sustainability improvements and retrofit.
- 1998-2003**     **St Peter and St Paul, Chingford**  
Structural Engineer and advisor to the PCC of listed Victorian Church related to structural condition of spire and church fabric generally and compiling reports to make Heritage Lottery Fund / English Heritage Joint Scheme application (successful at third attempt) and then supervising works through to completion in 2003.
- 1999 – 2003**     **St Ethelburga's Church, City of London**  
Following the IRA bomb of 1983 the church was eventually carefully re-built using retained or salvaged fabric with existing elements carefully conserved. The church has been developed into a centre for Peace and Reconciliation. The work was commended in the RIBA conservation awards.
- 2001-2003**     **All Saints Church, West Ham, London**  
Appointed as Structural Engineer and Lead Consultant, with Architectural sub-consultant, for structural repairs to roof of medieval Grade I Listed church including re-roofing and new lead lined gutters.

- 2002 - 2005**      **All Saints Church, West Dulwich, London**  
Appointed as Structural Engineers for circa £5ml re-building of Grade I listed Victorian church destroyed by fire. Works includes completion of the never finished original west end in a contemporary style, new steel trusses to main nave in modern replication of original lost trusses and repairs and conservation of the chancel which survived the catastrophic events more completely.
- 2003 -**            **Peterborough Cathedral Precincts, Peterborough**  
Appointed as Structural Engineer for the refurbishment of Table Hall which included some re-alignment of the building and structural repairs to first floor timber frame. Have also provided ad hoc advice on the Archdeaconsy, the Tourist Office and Laurel Court within the Precincts as well as to the West front of the Cathedral.
- 2004 -**            **Churches funded by HLF/EH Joint Scheme or the HLF Places of Worship Scheme**
- |  |  |
|--|--|
| St Andrew's, Soham, Cambridgeshire           | Nave roof repairs  |
| St Andrew's Church, Fingringhoe, Essex       | Tower and Porch repairs  |
| St Mary's Church, Lenton, Lincolnshire       | Spire repairs  |
| St John's, Thaxted, Essex                    | Roof and masonry repairs including to medieval trusses         |
| St Peter's, Colchester, Essex                | Roof repairs   |
| St Barnabas, Althamstone, Suffolk            | Roof repairs   |
| All Saint's, Chingford, London               | Masonry repairs following movement                             |
| Curfew Tower, St Margaret's, Barking, London | Masonry repairs and local roof repairs                         |
| St James, Bicnor, Kent                       | Masonry repairs to chalk block ashlar walls of medieval church |
| St Barnabas, Pimlico, London                 | Lead consultant for repairs to spire, circa £500k              |
| St Mary's, Great Bentley, Essex              | Masonry repairs to tower                                       |
| St Mary's Church, Wainfleet, Lincolnshire    | Repairs to bell frame and associated tower                     |
| Ss Peter & Paul, Chingford, Essex            | Significant repairs to spire                                   |
| St Mary's Church, Bow, London                | Timber repairs and drainage                                    |
| St James the Great, Colchester, Essex        | Repairs to south aisle roof and walling                        |
| St Mary's Church, Swineshead, Lincs          | Chancel roof repairs   |
| St Michael's, Thorpe-le-Soken, Essex         | South aisle roof repairs                                       |
| St Helen's, Stickford, Lincolnshire          | Tower roof repairs   |
| St Mary the Rood, Donington, Lincolnshire    | Roof repairs including timber structure below                  |
| St Mary's Church, Swineshead, Lincolnshire   | Roof repairs including timber structure below                  |
- 2004 - 2008**      **St Barnabas Church, Pimlico, London**  
Appointed as Structural Engineers and Lead Consultant for the assessment and repairs to the spire of this Victorian Grade I listed church. This was the largest grant offered under the joint EH/HLF scheme. We worked closely with the English Heritage and the DAC on the repair works.
- 2005**              **Cathedral Church of St John the Baptist, Norwich – The Narthex**  
Provided expert advice to the Heritage Lottery Fund in relation to an application of funding, and which was subsequently appointed a stage 1 pass.
- 2006 – 2009**      **All Saints Church, Walton-on-the-Naze, Essex**  
Lead consultant and structural engineer for structural repairs to north nave wall of church which I have been involved with for some 10 years monitoring movement etc.
- 2007 -**            **Honorary Engineer to Diocese of London**  
Advising the DAC on Structural Engineering matters related to faculty applications with engineering considerations.
- 2007 -**            **York Minster, York, Yorkshire**  
Appointed as Engineers to the Ancillary Projects to the York Minster Revealed project in 2007. Subsequently appointed as Engineer to the Minster in August 2009 to advise on all engineering aspects and including the role of Conservation Engineer to the East Front and Great East Window as part of the Revealed Project.

- 2009 – 2011 All Saints Church, Great Holland, Essex**  
Lead consultant and structural engineer for new roof, re-roofing to tower and repairs to Tudor brick tower including stone dressings and re-pointing.
- 2010 - 2013 All Saints Cathedral, Wakefield, Yorkshire**  
Conservation Engineer for the Project 2013 funded by HLF and which includes new underfloor heating with breathable limecrete floor to nave and aisles over an area of around 600m<sup>2</sup>, as well as advising on structural stone repairs.
- 2010 - 2013 Sheffield Cathedral, Sheffield, Yorkshire**  
Structural Engineer for the HLF funded project for the new entrance, underfloor heating and associated structural works.
- 2014 - 2105 St Michael and All Angels Church, Thorpe Satchville, Leicestershire**  
Lead Consultant and Conservation Engineer for the re-roofing with Swithland stone slates, structural repairs to walls and for re-plastering, all utilising 'hot lime'.

**SCHEDULED ANCIENT MONUMENTS:**

- 1998 Bicknacre Priory, Bicknacre, Essex**  
Consulting engineer for design and supervision of structural repairs of freestanding ruin of schedule ancient monument remains of Bicknacre Priory.
- 1998 - Bodiam Castle, East Sussex**  
Appointed engineering to various works at Bodiam Castle in particular looking at ways of scaffolding the structure whilst avoiding damage to below water archaeology and damage to the fabric. Involved with two contracts for moat bank repairs and as Structural Engineer for the repairs to Wall Three and the Stair Tower.
- 1998 - 2002 Norwich Castle, Norwich, Norfolk**  
Director responsible for the recent refurbishment of the Castle, with site advice on repairs and consolidation to masonry elements.
- 1999 South Infirmary Arcading at Canterbury Cathedral, Kent**  
Structural advice, design and specification of repairs to remains of south infirmary ruins in conjunction with the survey to the Dean and Chapter.
- 1999 English Heritage Condition Surveys – South East Region**  
Structural surveys of numerous scheduled ancient monuments in conjunction with consultant architect including the Pharos (roman lighthouse) at Dover Castle, Constables Bridge at Dover Castle, Reculver Tower, Bishops Waltham Palace and numerous other structures.
- 2000 – 2003 Winchelsea Town Wall Ruin at St Johns Hospital Gable, Kent**  
Lead Consultant and Contract Administrator for feasibility study, liaison with archaeologists, ecologists, English Heritage and other specialists, and following award of grant design, supervision of all repairs to two ruins of schedule ancient monuments for The National Trust.
- 2001 Colchester Garrison Walls, Essex**  
A structural survey in conjunction with consultant architect of roman walls following minor collapse, including liaising with archaeologists related to trial holes for investigation.
- 2002 - 2004 Freston Tower, Freston, Ipswich, Suffolk**  
Engineer for the repair of this early Grade I listed brick tower, possibly built either as a folly or a shipping navigation tower for the River Orwell. Works include low key sensitive repairs and refurbishment to convert for holiday lets for The Landmark Trust.
- 2005 Blackfriars', Winchelsea, East Sussex**  
Undertook feasibility study into the condition of the fabric of this standing ruin and associated vaulted undercroft. Proposed repairs works costed for inclusion in National Trust budgets for English Heritage grants.
- 2005 - 2007 Ulverscroft Priory, Ulverscroft, Leicestershire**  
Lead Consultant and Engineer for 2 English Heritage Grants for emergency structural works and erection of scaffold and roof, and project development work for the repair of the Parlour up to a stage where budget costs for the full repair are available.
- 2006 - The Abbot's Tower, St Osyth's Priory, St Osyth's, Essex**  
Structural Engineer for the project development and repairs to this important C16th tower constructed of septaria and limestone flush work with galleting on behalf of the owners of the extensive building complex.

- 2007 Shornemead Fort, Shorne, Kent**  
Structural Engineer for the project development and repairs to this late C19th concrete fort built as part of the London defence scheme for the Royal Society for the Protection of Birds.
- 2007 English Heritage Condition Surveys**  
Structural Engineer for structural surveys of various monuments including Hadleigh Castle in Essex, Audley End House and Bridges in Essex, Duxford Chapel in Cambridgeshire, Waltham Abbey Gatehouse, St Olaves Priory, Berney Arms Windmill, Longthorpe Tower in Peterborough, and others.
- 2008 - Lincoln Castle, Lincoln, Lincolnshire**  
Appointed as Structural Engineer for the feasibility and subsequently for the HLF funded Lincoln Castle Revealed project, currently on site with both the new build low energy Heritage Skills Centre within the Castle walls and phase 1 of the wall walks.
- 2009 - 2010 Dover Castle, Dover, Kent**  
Structural Engineer for repairs and re-interpretation for The Tower, Arthur's Hall etc for English Heritage.
- 2012 - Swingbridge, Oxford**  
Appointed as Conservation Engineer and Lead Consultant for the repairs to the Scheduled railway swingbridge constructed to the designs of Stephenson.
- 2013 Lancaster Castle, Lancaster**  
Appointed as Conservation Engineer to assess structural issues as part of the conservation appraisal and condition surveys to the Castle which has recently come out of Crown Prison use.
- 2013 - 2015 Ruined Northern Ranges, St Osyth's Priory, St Osyth's, Essex**  
Conservation Engineer for the project development and repairs to this important C16th ruin involving complex repairs on behalf of English Heritage.

#### **APPOINTMENTS:**

Consultant Engineer to English Heritage  
Expert Advisor to The Heritage Lottery Fund  
Appointed Monitor to the Heritage Lottery Fund  
Consultant Engineer to Diocese of Chelmsford  
Consultant Engineer to the Diocese of Canterbury  
Fellow of The Institution of Civil Engineers  
Member Institute of Historic Buildings (formally ACO)  
Consultant Conservation Engineer to Essex County Council.  
Lecturer at Anglia Polytechnic on Conservation Engineering  
Guest Lecturer at Thurrock Council  
Guest Lecturer at Essex County Council  
Guest Lecturer at Oswestry Borough Council  
Guest Lecturer at Cambridge University

Guest Lecturer for the Town Planning Institute, East Anglian Region.  
Guest Lecture for COA.  
Guest Lecturer for SPAB.  
Guest Lecturer for RIBA Eastern and London Regions  
Guest Lecturer for RICS  
Guest Lecturer for IStructE History Study Group  
Guest Lecturer for University of York, Institute of Archaeology  
Guest Lecturer for University of Birmingham, Ironbridge Institute  
Guest Lecturer for The Bedfordshire and Hertfordshire Historic Churches Trust  
Guest Lecturer for the AABC Annual Conference

#### **ARTICLES ETC:**

Principal Contributor to English Heritage Practical Building Conservation Volume on Timber (2012)  
Context – 'Waxham Great Barn Restoration' (1994)  
Context – 'Back from the Brink - Ashfield Street' (1998)  
Context – 'Trial by Fire answers a loaded question' (2001)  
Context – Dinosaurs at Crystal Palace Park (2002)  
Context - Consulting the Badgers (2002)  
Cornerstone – 'Structural Consequences of Attic Conversions' (2005).  
Journal of Architectural Conservation – Paper on Scaffolding to Historic Buildings (2008)  
Journal of Architectural Conservation – Paper on Wollaton Hall 'Chinese Lattice Floor' (2012)

#### **SOCIETIES:**

Member of the Society for the Protection of Ancient Buildings  
Member of the Association of the Study of Historic buildings  
Member of the Victorian Society  
Member of the Georgian Group  
Member of the Essex Historic Buildings Group  
Supporter of the Churches Conservation Trust

**APPENDIX B**

**Letter Reports by Edward Morton of The Morton Partnership Ltd,**

**B1. First Letter dated 28<sup>th</sup> April 2016**

**B2. Second Letter dated 28<sup>th</sup> April 2016**

**B3. Letter dated 11<sup>th</sup> May 2016**

Registered in England No. 2727193

THE MORTON PARTNERSHIP LTD.

CONSULTING CIVIL & STRUCTURAL ENGINEERS,  
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Our ref: EJM/CE/17016-02

28<sup>th</sup> April 2016

Henrietta Billings  
SAVE Britain's Heritage  
70 Cowcross Street  
London EC1M 6EJ

**by email only**

Dear Henrietta,

**RE: THE FUTURIST, LIME STREET, LIVERPOOL**

As you are aware I visited the Futurist Cinema in Lime Street, Liverpool on Tuesday 19<sup>th</sup> April 2016 where I was shown around the building by representatives of Liverpool City Council (Fiona Gibson and Peter Skates), Neptune Developments (Rob Mason) and Ian Maciver (from Sutcliffe's Structural Engineer), although the later could not stay until the end of the inspection due to a prior commitment.

In particular I requested if plans were available, and I was advised that they should be, and these would be sent through. I followed this up with an email to Mark Kitts on the evening of Wednesday 25<sup>th</sup> April to confirm this request, and was advised the same evening by email from Mr Kitts that "*If you haven't already received via others I will sort tomorrow*".

Unfortunately we were hit by a serious computer virus on Thursday morning and thus have not been receiving email since then on our normal addresses. I subsequently emailed Mark Kitts on Monday morning, when I provided a temporary email address. Mr Kitts then sent back a section of the building. Unfortunately whilst this provides some assistance it is not the plans at each level which was needed for the proper assessment.

However in the absence of the plans I provide the following review of the building and in particular the front elevation.

We have been provided with the following information:

- Structural Statement by Curtins following inspection of 28<sup>th</sup> March 2014;
- Structural Statement of Façade Retention by Sutcliffe dated February 2015;
- Structural Assessment Report by Sutcliffe dated 14<sup>th</sup> April 2016 (Executive Summary only);
- Historic drawing - Section A-A through approximate centre of building.

The building is clearly in poor condition and it has already been accepted that the rear of the building is beyond practical re-use, in terms of the majority of the historic fabric would be lost. Based on this I spent my time concentrating on the front elevation and where I was able to gain access at ground, first and second floor levels, as well as the set-back projection room, but could not see the roofs and thus the restraint to the pediment. The front wall is of brick construction, but clad in terracotta units. The pediment at high level is set on engaged piers which project from the general face of the wall and will have a stiffening effect on the elevation.

At second floor level there are quite a number of cross walls which appear to be bonded into the front wall. This is positive as they will provide lateral stability to this element. More particularly there are no signs of cracks to these, near the front wall, which one would expect if there was progressive outwards movement of this wall. Only one cross wall had a crack but this had been strapped some while ago as a temporary measure and not opened further. See photographs 1 and 2.

These second floor cross walls are mainly supported on steel beams below spanning across the first floor room (the bar I assume) and which is open for the width of much of the front elevation. These were not as badly corroded as reported where these enter the front wall, and I didn't see evidence of any significant corrosion jacking affecting the wall. See photographs 3 and 4. However I did that some of these extend back and bear on further steel lintels over doorways which are in poor condition. So some temporary propping of these beams and/or the affected lintels would be appropriate. The first floor here is largely timber with a significant void below to the 'filler joist' structure of the ceiling to the ground floor lobby.

The floors are largely of filler joist construction, i.e. steel beams encased in concrete, in this case a clinker based mixed, not unusual for the period. There are signs of some corrosion to these, but again this is not currently to an extent where seen, and where they bear into the front elevation, that it is contributing to movement of the front wall through corrosion jacking. Of course we were permitted to walk on some of these floors, for instance at second floor level, which suggests they are still in a condition to accept this.

At ground floor level there appear to be cross walls other side of the entrance foyer which we assume are bonded in and thus provide some lateral restraint at ground floor level to the front elevation. As these appear to be substantial walls, it also seems likely that walls exist in the basement below these, although access to these was not possible at the time of the inspection.

As previously indicated the front elevation is terracotta clad. The recent report suggests that the cladding is in danger of imminent failure through lack of bond or failure of ferrous fixings. I did carefully review the front elevation, from ground level, and could not find evidence of micro-fractures to the units, which one would expect if such fixings had been used. I also could not see level, any evidence for delaminating or failing units. I certainly did not see any evidence that the masonry and terracotta cladding are acting independently of each other. It is noted that in the Sutcliffe February 2015 there are some images appended and these show some localised damage to features through decay or failure of the 'fire-skin' to the terracotta, and a few ferrous fixings and possible damage to one unit through corrosion of a steel beam from a filler joist floor.

So in conclusion it is noted that there is some lean outwards of the front elevation, however there is no evidence to suggest that there is progressive movement of this, i.e. this movement appears to be historic in nature. The lack of movement to the front elevation is evidenced by the lack of cracking to the cross walls which tie into and provide lateral restraint to this elevation. Once cross wall has split but temporary restraint straps have been inserted with no evidence of further movement. I could not detect any evidence of failure of the terracotta cladding at the time of the inspection.

It is noted that the statement by Antony Clarke of Curtins (an engineer accredited in conservation – CARE), and on behalf of Neptune Developments and Liverpool City Council in March 2014, indicates in the discussion section on the façade condition that:

"The structural condition of the façade for its age is reasonable whilst the remainder of the property is in poor condition."

He does suggest some further investigation into the fixing of the terracotta units, as well as the filler joist floors where bearing in to the front elevation. These investigations seem not to have been carried out, or if they have I have not been provided with this information.

With regard to the pediment, I have been provided with the high level images including the steel restraint angles back to the timber roof structure behind. It seems likely that the ends of these are residing on decayed timber structure and thus in reality I suspect are offering only nominal restraint, if any. Thus I do consider that the pediment section is vulnerable, particularly in strong wind conditions.

So in my opinion it should be perfectly possible to retain the front elevation of the building and incorporate it into a new scheme. As indicated in both the March 2014 Curtins report and the February 2015 Sutcliffe report there are temporary works options available to provide lateral restraint to the front elevation whilst this work is carried out, and indeed due to the concerns if this could be implemented at this time it will provide greater re-assurance about stability as well as restrain the pediment. The most effective option for this would be an external inclined steel framed propping scheme built off the pavement and or road. Both reports rightly highlight the need to establish if any services exist in the pavement, but seeing as the latter report is now over a year old I assume this has now been established, although no information has been provided.



In addition it is necessary to know about the basement layout. Any structure sitting on the pavement will surcharge the basement retaining wall (as shown on the section provided). However if there are cross walls, which seem likely from the walls above, then these act as buttresses to the wall and provide 'strong points' for the external temporary structure to utilise. Of course the position and condition of these walls will need to be checked.

The Sutcliffe 2015 report suggests that such a scheme will be extremely difficult for a number of reasons.

Firstly they advise that the terracotta units will be vulnerable to damage by construction activities such as demolition, piling, underpinning and through induced vibration. I do not agree with this and providing that all temporary waling (horizontal members running along the building) and associated verticals use protective padding and timber boards, the risk of damage will be limited, although some is likely.

Bond failure between terracotta units and main wall – I have not seen any evidence from the existing reports or my own inspection of this action. If this action was found then conservation treatments could be used to stabilise and re-secure these back to the elevation.

Some stone sets (terracotta units I assume) are loose or fractured – conservation works on these prior to main construction works could temporary support these.

So in my view it is possible to introduce a scheme of temporary works in the form of a steel frame to provide temporary restraint to the elevation. The check on pavement services will be required and bridging over these may be needed. Also careful planned access will be needed into the basement to check positions and condition of cross walls buttressing the front wall. Obviously any existing plans will assist with this and thus my request for drawings – however it seems likely that there are basement cross walls based on the walls seen at ground floor level.

The steel frame, or associated wailers will need protective pads against the terracotta, and will need to extend through openings to clamp the wall. Some local opening up of terracotta at low levels will be advisable to understand the exact form, fixings etc., and thus further inform the methodology.

The temporary works is likely to extend into the road, I suspect over one lane, but of course this is even likely to be necessary for demolition.

Now turning the latest email from Liverpool City Council head of Building Control, where from access scaffold he has determined that the pediment is in 'such a dangerous condition that it requires immediate action'. This has, or is resulting in the reduction of height of the pediment. It is important that this work is carried out with great care and fully recorded, in particular in relation to the terracotta units so that these are not damaged. Of course it will also be useful in confirming details of the construction techniques and in particular how the units are fixed back to the main walls.

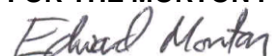
I note that they intend to only take the minimum amount of structure down at present but suggest that this will need to include the central arch at second floor level. Firstly I suggest that the extent of dismantling should be limited down to just above the string course to the pediment as shown on the marked-up photographs appended as photographs 7 and 8. This is the position where the wall steps out in thickness at the rear, as well as where the engaged piers or pilasters exist to the front elevation, which should offer greater stiffness to the elevation. If necessary it should be possible to provide some additional lateral restraint from the rear in the form of scaffold raking buttresses – I note that Greg Allen in the sixth paragraph of his email dated 26<sup>th</sup> April is suggesting the scaffolding contractor will return to assess some internal works so it could be part of these, but of course will need to be assessed once the roof structure behind is removed as indicated.

This will leave sufficient masonry over the central arch for this to be self-stable. However it should also be possible to insert temporary centering below the arch if necessary, and back propping below in the foyer, although I suspect this is unlikely. It will be important to cap over the head of the wall to protect this and ensure water ingress into the wall core is minimised.

I hope this report clearly sets out my views on the front elevation of the Futurist and hopes ensure its retention for incorporation into the proposed re-development of the site behind. Of course please do not hesitate to call me if you have any queries.

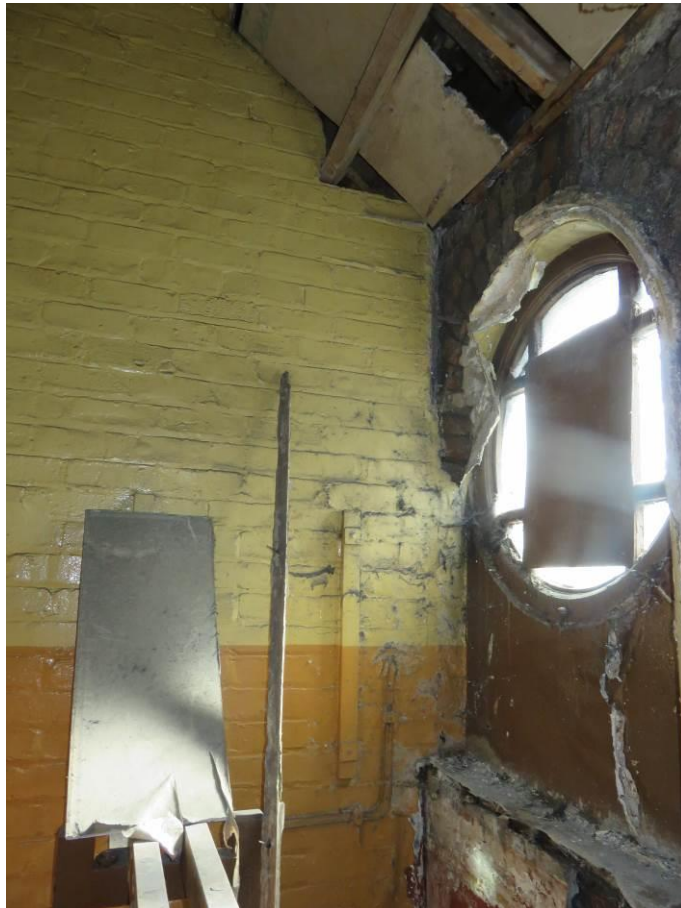
Yours sincerely

**FOR THE MORTON PARTNERSHIP LIMITED,**



**EDWARD MORTON B.Eng (Hons), C.Eng, FICE, IHBC**

Engineer Accredited in Conservation



Photograph 1: Cross wall to front elevation providing lateral restraint and with no evidence of cracking



Photograph 2: Cross wall with temporary restraint straps



Photograph 3: First floor room with steel beams spanning front elevation back to the cross wall behind



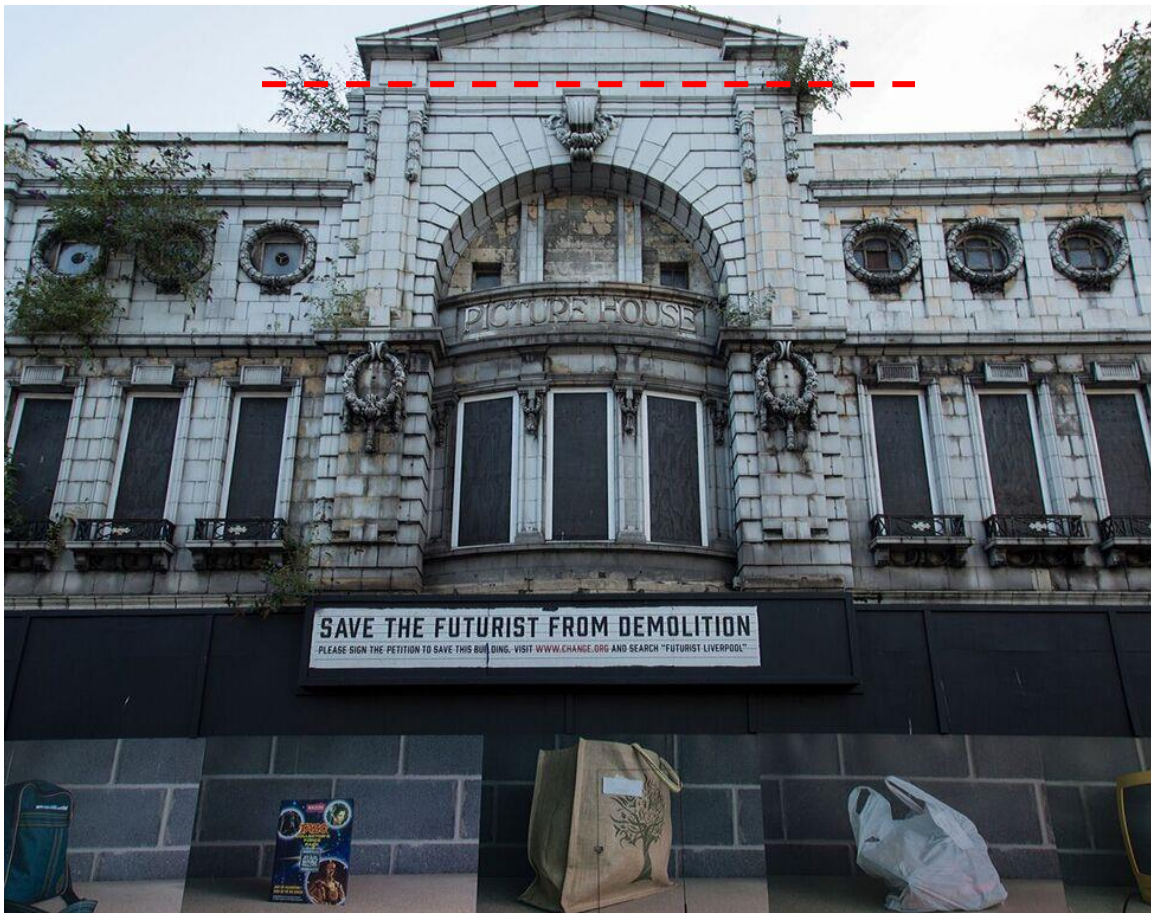
Photograph 4: Steel beam to front elevation with no evidence of corrosion jacking to built-in end



Photograph 5: Restraint straps to pediment



Photograph 6: Base of restraint straps



Photograph 7: Suggested position of dismantling



Photograph 8: Suggested position of dismantling

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THE MORTON PARTNERSHIP LTD.

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Our ref: EJM/CE/17016-03

28<sup>th</sup> April 2016

Henrietta Billings  
SAVE Britain's Heritage  
70 Cowcross Street  
London EC1M 6EJ

**by email only**

Dear Henrietta,

**RE: THE FUTURIST, LIME STREET, LIVERPOOL**

Thank you very much for the copies of the 1917 plans that Jonathan Brown managed to copy from the City Archive and which are really useful. I have appended extracts of these plans related to the front section of the building. Some comments arise out of these drawings as follows:

Firstly in the basement there are two cross walls, one positioned where I expected (13 ½" thick I suspect) and one additional one, albeit appearing slightly narrower (9" thick I suspect). There appears to be a steel beam under the second position I was anticipating seeing a wall.

This is positive as it shows that there are some walls which have a buttressing effect on the front wall, and thus will assist with any temporary works scheme externally, by helping resist any surcharge developed. Of course this depends on them being in reasonable condition.

I was then also considering why there does not seem to have been any attempt to access the basement. It may be that the floors to the two rooms, or shops, either side of the foyer have collapsed (I was not shown into these during my visit). But with a careful sequenced methodology I would imagine that access ought to be possible. If that was the case then providing a small raking shore, or similar, to the front wall in the position of the assumed beam would further assist with potential surcharge, and could of course be replicated elsewhere in its length. It would be good to establish the principal of access to the basement with the City Council.

Secondly the basement plan shows the brickwork steps out towards Lime Street, to each shop unit (see attached part basement plan). Again subject to inspection of condition this may mean that any temporary steel frame structure may be able to reside over this and thus the walls would be in compression rather than surcharging the basement wall with lateral pressure. It also means that services in the pavement should run outside this line. This would be subject to checking the alignment of the walls carefully, their condition and also thickness and thus their ability to take load without buckling. Of course the plan of the front wall at basement level, with the steps in its length will also provide some stiffening to resist this action, as opposed to a continuous wall along the length of the building.

The second item which comes out of the plans is that the second floor plan shows that, in fact, this was largely an open space (a tea room) then with a kitchen at one end. However now there are more cross walls. This leads me to the conclusion that the out of plumb of the front elevation occurred prior to the insertion of these cross walls, as otherwise there would have been movement cracks, and thus I conclude that no movement has occurred since the walls were added. This is with the exception of the wall which is strapped.

So subject to verification of the accuracy of the plans, that no changes or subsequent alterations have occurred at basement level, and the condition, I believe this reinforces the conclusion in my previous letter that a temporary works scheme to provide lateral support the front elevation should be perfectly possible.

Please do let me know if you have any queries.

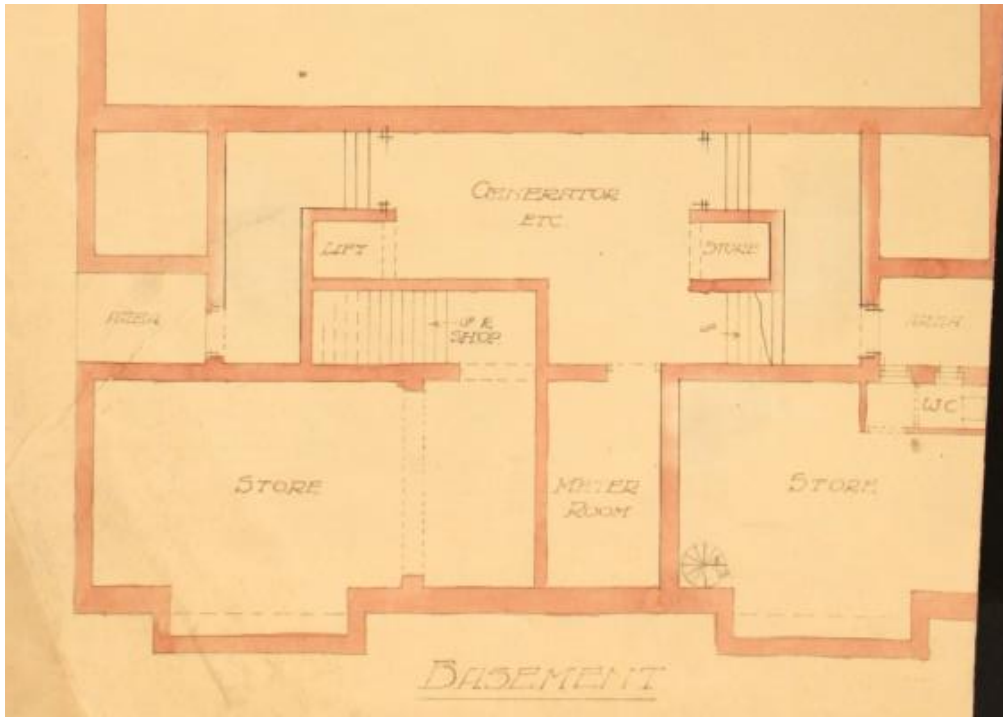
Yours sincerely

FOR THE MORTON PARTNERSHIP LIMITED,

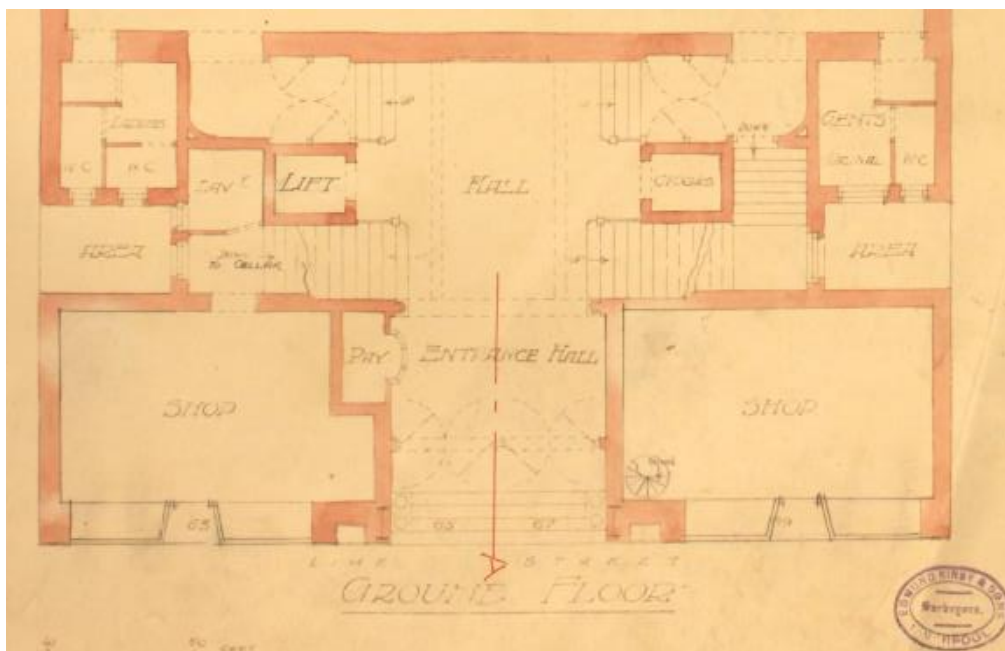
*Edward Morton*

**EDWARD MORTON B.Eng (Hons), C.Eng, FICE, IHBC**

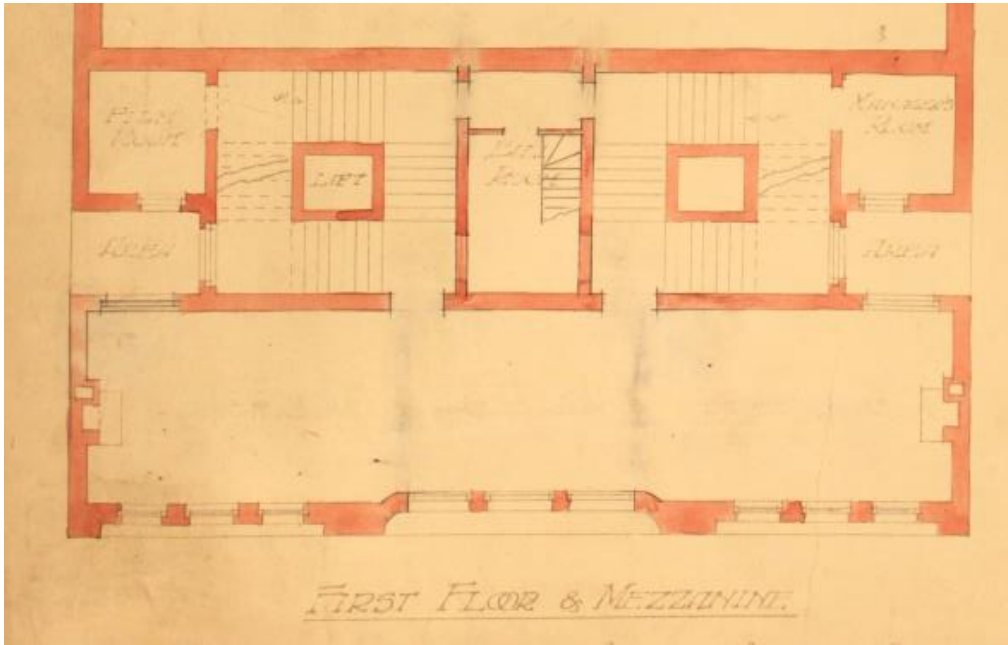
Engineer Accredited in Conservation



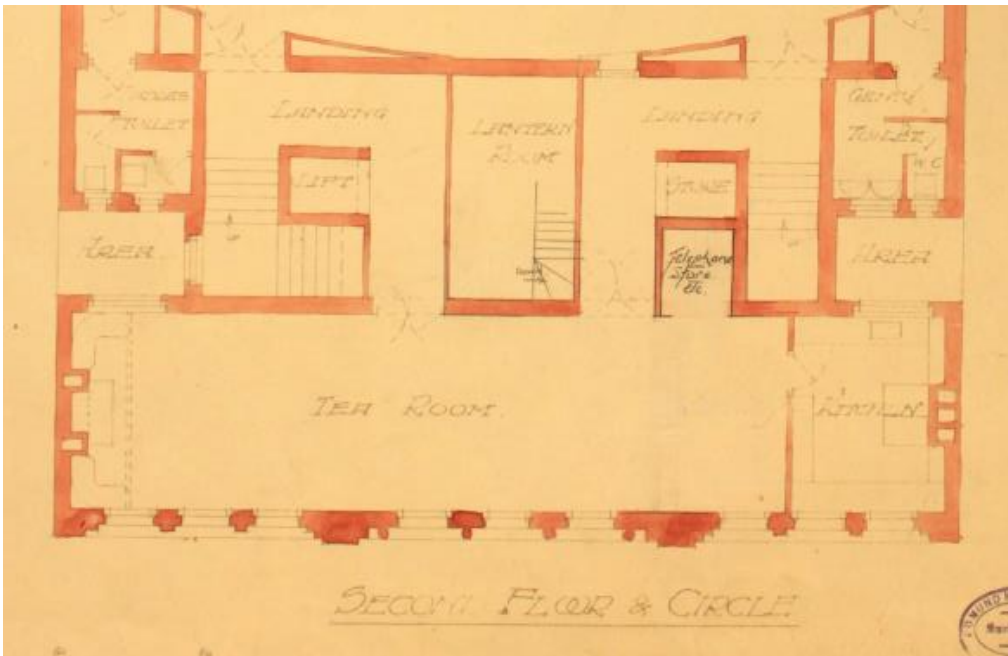
Basement Plan (front only)



Ground Floor Plan (front only)



First Floor (front only)



Second Floor (front only)



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Our ref: EJM/CE/17016-04

11<sup>th</sup> May 2016

Henrietta Billings  
 SAVE Britain's Heritage  
 70 Cowcross Street  
 London EC1M 6EJ

by email only

Dear Henrietta,

**RE: THE FUTURIST, LIME STREET, LIVERPOOL**

As you are aware my colleague Rik Fox visited yesterday and inspected the building with Greg Allen from Liverpool City Council and with the benefit of the scaffold erected to the front elevation.

This scaffold rises up largely to the inner half of the pedestrian pavement, with the external half, we understand being where services exist. It comprises five boards plus one or two boards outside the inner standard. It was noted that the scaffold is laterally restrained by either fixings extended into the façade or by ties extending through the round windows.

Rik tested the terracotta units by hand and found these were well adhered with no evidence of detachment. Some local stress fractures in the units was noted but this was relatively isolated. Indeed it was found that the units were hollow blocks with mortar fill rather than a cladding as previously suggested. This is not an unusual construction detail and I provide some images below of typical units from others buildings to give a feel for the likely form of construction. The second image is of a dismantled façade which was subsequently re-built.



At the head of the wall, it was seen that buddleia has forced apart the right hand return wall and an associated crack having developed through this action and inevitably causing the front wall to move outwards locally.

The straps to an internal cross, as noted in my previous visit and report, was seen where the roof behind has now been removed.

Further buddleia has grown within the terracotta at the head of the pediment and has forced some of the units apart.

Behind the pediment the four metal restraint rods were noted extending back to a decayed roof structure, and with this linked to a grillage of angles to restraint the top of the parapet, although some of this is not now effective.

Above the arch is a large boss and scroll which is cracked but doesn't appear unstable at this time.

We understand that the intention of the Council and their contractors is to complete clearing away the timber roofs and then punch through the floor internally to erect a hoist so that the pediment can be taken down once it is numbered and photographed.

Having further considered this and discussed it with Rik I have the following observations to make.

- 1) Clearly it is good news that the terracotta units are stable and with no evidence of delaminating from the façade. There are some dislodged units at high level, but with root removal they could be eased back into position, or strapped or pinned to hold them in place.
- 2) To the side walls, it would be possible to drill and insert resin anchors to provide lateral restraint to the front elevation at these positions. These could have large plate washers to the external face. Some local damage to the terracotta would occur through the drilling.
- 3) As the access scaffold is laterally supported off the front elevation I assume it is accepted that the structure was capable of supporting this, i.e. its structural condition of the front wall is not to a point where it was not able to fulfill this action.
- 4) The Council are intending to break through the filler joist floors to provide a hoist to raise and lower elements as it is dismantled. Taking this precedent, I suggest an alternative option to dismantling would be to erect an internal scaffold, punching through the floor locally at standard positions and rising up through the building. This scaffold can then be used to link in with the external scaffold and 'clamp' the wall and provide it with lateral restraint. I attach an indicative sketch showing this option. It would of course need to be developed into a full design but I suggest a scaffold designer would be able to do this in a very short period of time.

Please do let me know if you have any queries.

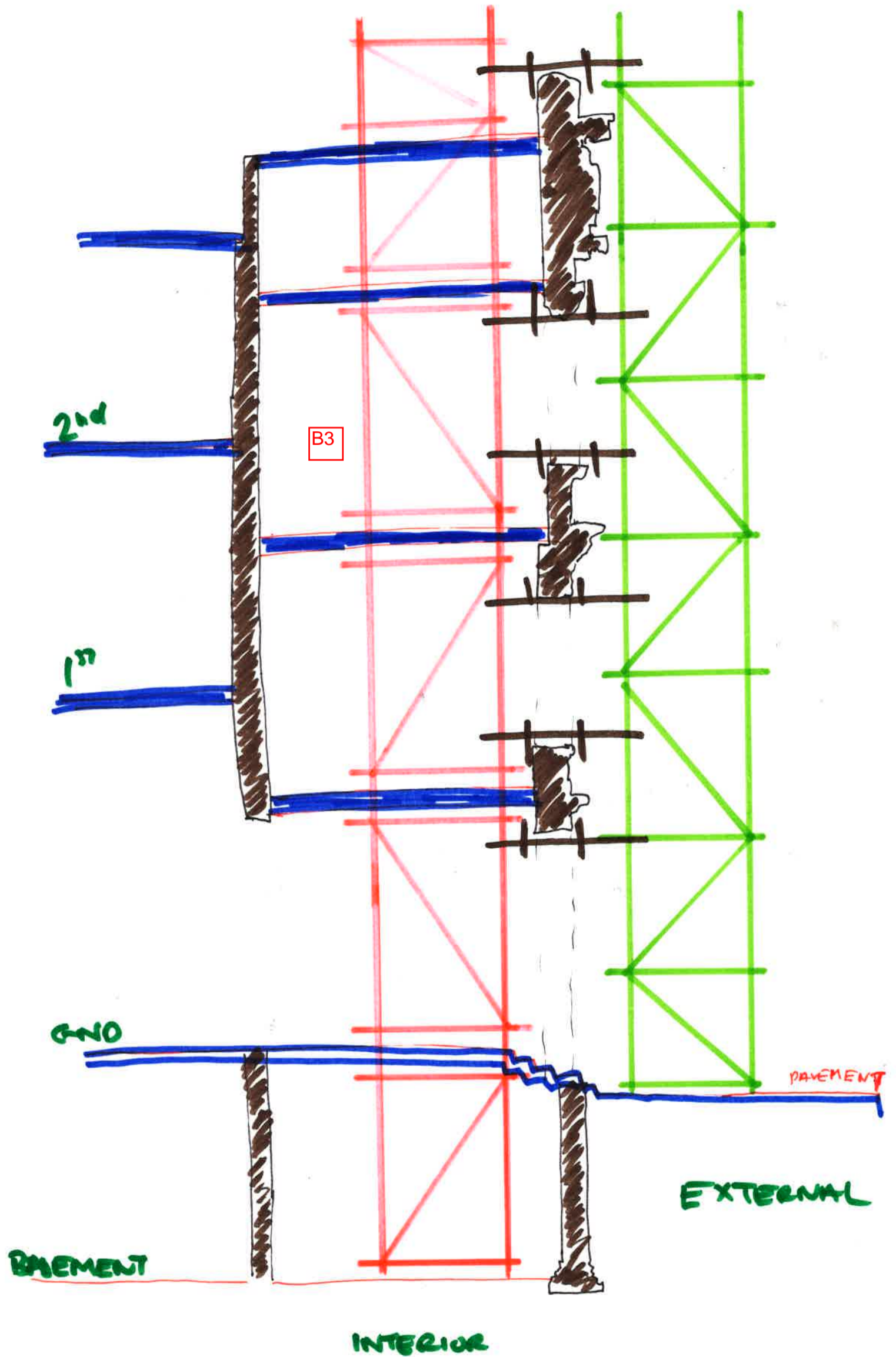
Yours sincerely

**FOR THE MORTON PARTNERSHIP LIMITED,**



**EDWARD MORTON B.Eng (Hons), C.Eng, FICE, IHBC**  
Engineer Accredited in Conservation

B3



INDICATIVE TEMPORARY WORKS OPTION  
TO RETAIN FRONT ELEVATION

**APPENDIX C:**

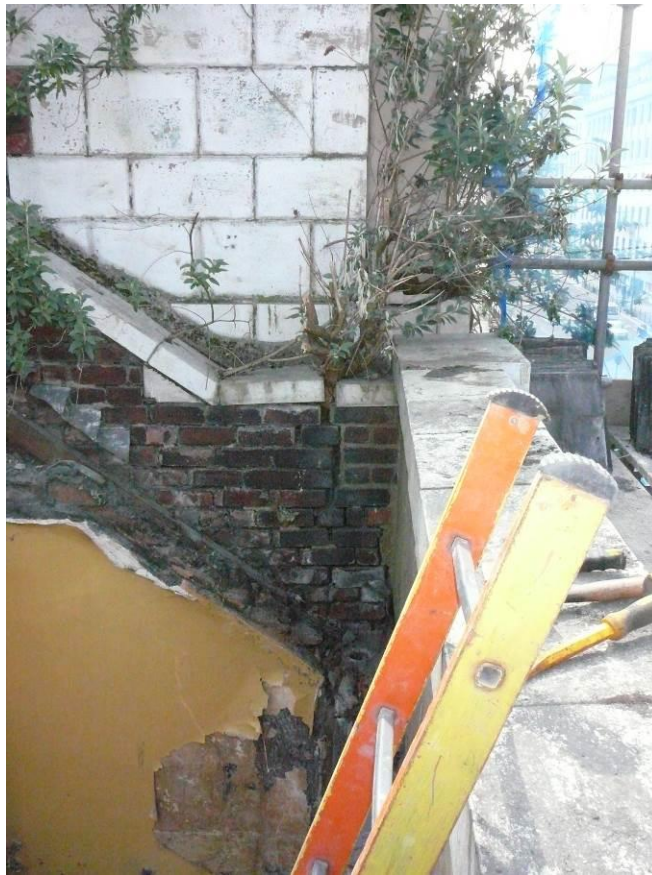
**Photographs**



Photograph 1: The Futurist in 1938



Photograph 2: The Futurist on 26<sup>th</sup> April 2016



Photograph 3: Buddleia growth to end wall causing opening of joint



Photograph 4: The Futurist on 10<sup>th</sup> May 2016 with scaffold erected



Photograph 5: The Futurist on 14<sup>th</sup> May 2016 with scaffold largely removed



Photograph 6: High level Plant being used for demolition