building dynamics

building survey *report*

THE CUBE CINEMA

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BRISTOL
BS2 8NQ

ON BEHALF OF

THE CUBE CINEMA LIMITED

Date: April 2011

File Ref: 110301

building *dynamics*
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EXECUTIVE SUMMARY

This summary is not to be read in isolation of the main body of the report: the full report contains more detail on those items discussed in the summary as well as other matters that are not summarised at all.

Fly tower

The roof coverings are in fairly good condition but are detailed poorly; the sub-covering build-up is unclear as is the provision of thermal insulation. Given the limited landlord-procured repairs overall you should anticipate that only *de minimis* works have been undertaken ignoring any desirable improvement or upgrades. Roof access for maintenance and is perilous, with no safe access, edge protection or personnel restraint.

The walls of the fly tower, including the facing brickwork and reinforced concrete structural elements are in very poor and dangerous condition and immediate remedial action is recommended; this will require initial detailed assessment to establish all causes and the full effect and extent of the problems before remedial solutions are developed, accurate budgets are clarified and tenders are sought.

As freehold owner, you will be responsible for all such works, while at present the landlord has responsibility under the lease, albeit you have limited powers to enforce and control works and ensure that they are done to suit you.

The Zone

The roof and walls of this section of the property are of construction and in conditions broadly similar to those of the Fly Tower and all of the cautionary comments apply here also.

The Auditorium

The pitched roof coverings are in poor condition and replacement of the coverings is recommended, despite previous localised repairs. The lantern and its roof and side coverings are similarly dilapidated. Concealed timbers are vulnerable to decay and damage from water ingress.

The perimeter valley gutters are in poor condition and the coverings need to be replaced and re-detailed to allow for current regulations and improved thermal insulation. The provision for rainwater drainage is inadequate.

The perimeter parapet walls and copings are similarly in poor condition.

The external elevations are dilapidated and repairs to the masonry and render are needed.

As freehold owner, you will be responsible for all such works, while at present the landlord has responsibility under the lease, albeit you have limited powers to enforce and control any works and to ensure that they are done to suit you.

The Projection Room

The felt roof coverings are in fairly good condition but the substrate is unseen. Roof access is also unprotected and, as a fire exit rout, dangerous.

The external walls appear sound but were built to significantly lower standards of thermal performance than current regulations permit.

As freehold owner, you will be responsible for all works, while at present the landlord has responsibility under the lease, albeit you have limited powers to enforce and control works and ensure that they are done to suit you.

The Lounge

The felted covering to the shallow pitched roof is in fairly good condition but, as with the other roofs the substrate is unseen but is likely to have been exposed to, and compromised by, historic water ingress.

The external walls, facing the inner courtyard, are in poor condition and internal dampness is evident. Repairs and improvements are recommended.

As freehold owner, you will be responsible for all works, while at present the landlord has responsibility under the lease, albeit you have limited powers to enforce and control works and ensure that they are done to suit you.

The Common Parts

The roof coverings are in poor condition and there is evidence of ongoing water penetration damaging the finishes in the toilets; the lease appears to make these parts, including the internal elements, the landlord's responsibility and you should clarify this with your solicitor.

External walls are in poor condition and internal dampness is evident. Repairs and improvements are recommended, including structural waterproofing.

As freehold owner, you will be responsible for all works, while at present the landlord has responsibility under the lease, albeit you have limited powers to enforce and control works and ensure that they are done to suit you.

External components generally

Windows and doors are dilapidated and require extensive repairs and/or replacement and redecoration.

The lease makes these issues your responsibility and you are recommended to start a programme of repairs and maintenance albeit that this will probably follow, or be part of, deliberations over your future tenure.

Internal components and finishes

The lease makes you responsible for all internal repairs, maintenance and redecoration although you need to clarify the tenure and responsibilities for the Common Parts as noted above.

There is extensive evidence of disrepair from failures in external components which are presently the landlord's responsibility; you may seek to mitigate your responsibility as a consequence.

Fire protection and means of escape appear to be inadequate and you have been recommended to consider fully your responsibilities in this regard and to make improvements to passive (fixed structural and fabric protection) and active (fire alarms, etc) measures.

There are places where internal linings – some as fire rated – appear to contain asbestos. You are required to hold and maintain a register of all such materials, and any that are suspected of being asbestos-based and you have been recommended to procure and maintain such a register. If, as suspected, some of the materials are ACMs, you will be recommended to remove those vulnerable to damage and you will need to consider further fire precaution improvements.

It is essential that the entire electrical installation be tested and reported on by competent, qualified and independent electricians. At the end of the lease the landlord will be entitled to see a current test certificate confirming that the installation is safe with any repairs carried out; this information is equally important if you proceed with the freehold purchase.

All space heating should be tested and reported on when the main installation is tested.

Conclusion

As noted above, the full report contains more detail on those items discussed in this summary and must be read in full.

You requested preliminary cost advice and, separately I sent to you the following spreadsheet. This information was also conditional: it was essential that we discussed them and I urged caution in using them beyond their role as very preliminary budgets.

Item	Element	Work needed	Budget
a.	Scaffold access to the elevations of the Fly Tower	Enabling access for repairs to the main walls and structure	£5,000
b.	Rainwater goods	Replace verge gutter and downpipe	£500
c.	Concrete repairs	Further investigation of the concrete structure to establish condition and repairs needed	£5,000

Item	Element	Work needed	Budget
d.		Repairs to the structure; preliminary only pending the results of the investigations above	£20,000
e.	Masonry repairs	Rake out and repoint all brickwork, using access scaffold	£10,000
f.		Re-render the Princess Row elevation with provisional allowance for substrate repairs	£2,500
g.	Roof repairs	Replace pitched roof coverings to the auditorium, including new insulation	£15,000
h.		Replace parapet, etc gutters auditorium using a felt system	£5,000
i.		Repair timber cladding to lantern	£2,500
j.		Repairs to roofs over Common Parts	£500
k.	General matters	External joinery repairs and general redecoration	£7,500
l.		Replace windows to the Lounge	£2,500
m.		Remove the external fire exit gantry behind the Zone and improve access/egress	£5,000
n.		Timber treatment and damp-proofing to be confirmed after survey – nominal allowance for internal tanking in Common Area and other more minor works	£15,000
o.		Contingency allowance	£10,000
		Total budget as noted below* (excluding statutory costs, professional, fees and VAT)	£104,000

*These costs also exclude:

- Works in connection with asbestos, both in its surveying, identification and management and in its removal
- Works in connection with improving fire precautions, particularly (but not solely) under the auditorium seating
- Works to building services – testing has been recommended

- General improvements (ie providing facilities, etc that presently are not available) such as open-edge protection and safety matters are also excluded although I have included a sum to replace the fire exit behind the Zone
- Works to refurbish and alter the customer toilets
- Internal remodelling and redecoration

CONTENTS

A INSTRUCTIONS AND INTRODUCTION

A1 In accordance with your instructions we have undertaken an inspection of The Cube Cinema in order to report on its construction and condition.

A2 For the purposes of this commission, a building survey is an inspection and assessment of the construction and condition of a building and does not include advice on value. The inspection and reporting has been carried out by a chartered building surveyor with appropriate experience. The survey generally includes the structure, fabric, finishes and, where advised, the grounds. The exposure and testing of services is not covered.

The report includes reference to visible defects and guidance, as appropriate, on maintenance and remedial measures.

The survey does not include intrusive investigation of materials or structure or inaccessible or hidden areas unless these were agreed in advance with the building owner.

A3 We have undertaken a thorough inspection of the property, both internally and externally, although there are areas where access is not possible.

A4 The property was inspected on March 3, 2011 during which the weather was cold, clear and dry, but after recent rain.

A5 We understand you are considering acquiring a new freehold interest in the premises, and that you will continue to use the property broadly as it is used now, as a cinema and arts centre, with associated accommodation.

You have advised that your present occupation is under two leases:

- one dated 21st August 1998 for a term of 15 years from January 1, 1998 (until December 31, 2012) which covers the internal parts only of the cinema foyer (used as the Bar), Office, workshop (used as the Lounge) and the void under the auditorium seating
- the other dated February 1, 1967 for a term of 99 years (until January 31, 2067) covers solely entirety of the projection room

The 1998 lease appears to grant a right of access over ‘Common Parts’ which include the access corridor to the rear and the male and female patrons’ toilets. These appear not to be demised to you and to have been once part of a larger Common Parts accessing the Arts Centre from No 4 King Square.

Copies of these leases have been provided by your solicitor Kevin Froud of Lyons Davidson, and your consideration of the freehold purchase is to be balanced with options for renewing the lease either on the same or alternative terms.

This 1998 lease, imposes repairing obligations on you in connection only with the demised parts, leaving the landlord to repair and maintain the exterior and structural parts and the 1967 lease imposes full repairing obligations on you for the projection room. I have been unable to find reference to the courtyard and you having rights of access over it; you solicitor should advise on this

A6 You have provided a copy of a report by structural engineers Whitby Bird, commissioned in May 2005 but dated March 2006 which provides a brief overview of the condition of the main external parts; whilst I have read the Whitby Bird report, I am not auditing it or updating it but, as discussed prior to commissioning this survey report, there is will need to be a significant structural engineering input to repairs and remedial works.

A7 This report is based on the inspection of the property and any information made available that is presumed to be correct. This report is prepared for the benefit of The Cube Cinema Limited only and Building Dynamics cannot be held responsible to any third party for the whole or any part of its contents.

Neither the whole nor any part of this report nor any reference thereto may be included in any document, statement or circular without the prior written approval by Building Dynamics of the form and context in which it will appear.

A8 The exterior has been inspected mainly from ground level only although with ladder-access, the main upper roofs, including that of the Fly Tower have been assessed.

A9 We have not inspected those parts of the structure that are covered, unexposed or inaccessible and we are therefore unable to report whether such parts are free from rot or other defect.

A10 We are not qualified to test building services installations, such as heating, water and electrics and consequently, they have not been tested but their inspection and calibrated testing by competent engineers is recommended should you require more comprehensive advice.

A11 We are not aware of the content of any environmental audit or other environmental investigation or survey which may have been carried out on the property and which may draw attention to contamination or the possibility that contamination exists.

A12 In undertaking out examination we have presumed that no contaminative or potentially contaminative operations have ever been undertaken on the property and we have not investigated past or recent uses either on the property or any neighbouring land to establish whether there is contamination potential.

A13 We have not carried out any specialists' tests to determine the presence of any deleterious material, including but not limited to high alumina cement (HAC), calcium chloride, woodwool slabs for permanent shuttering, calcium silicate bricks or fibrous specialist materials such as asbestos and as such we are unable to report that the building is free from hazards caused by these materials.

A14 This report must not be reproduced in part or in whole without the written consent of Building Dynamics that will not be withheld unreasonably.

A15 The report is neither intended as, nor must be used as, a specification of works. Prior to the preparation of an appropriate specification, further investigation and detailed measurement will be required in order to determine the full extent of any work required.

A16 Please note that in the event of dissatisfaction, a copy of the firm's complaints' handling procedure is available on request.

As per the conditions of engagement for this instruction, the total liability of this firm shall not exceed £250,000 (two hundred and fifty thousand pounds).

A17 All references to front, rear, left and right assume the reader to be facing the front elevation at all times. The front elevation is referenced as that facing Princess Row and this means that the main public access is across a car park on the left hand side of the property.

B DESCRIPTION

B1 The property was built over many years and reflects different styles and types of vernacular architecture, from Victorian industrial to simple 1960's self-build expansion. The development of the site appears to have been in response to opportunities rather than as a result of any strategic planning.

B2 The accommodation includes three separate occupancies, which understanding and continuity is crucial to the future of operations:

- The main auditorium, management offices, bar and patrons' lounge form the larger part, in the predominantly older sections with a believed-1950's vertical, 'volunteer-built' extension which created the fly tower and adjacent space known as 'The Zone'
- The male and female patrons' toilets and access corridor are in an area below a 'flying freehold' and
- The projection room is in an addendum overcroft, latterly in-filled at ground level with lock-up garages

B3 The roofs of the older parts are mono- and duo-pitched timber structures covered with clay tiles. Parapet and valley gutters are dressed in various sheet materials including modern built-up felt systems.

The flat roofs over the fly tower and parts of the lounge and The Zone are also weathered with modern built-up felt coverings.

B4 The main elevations are built predominantly in facing clay brickwork in a combination of solid (9") and cavity (10") walls but part of the front elevation has a rendered finish over what appears to be random-rubble stone walling.

B5 The main windows are painted timber and the main doors are painted and stained timber in timber frames.

B6 There is a main courtyard on the left hand side of the property which includes the main customer entrance. This has a part concrete and part-timber decking surface. It is accessed via a painted steel staircase from the adjacent car park which is in different ownership.

As noted in paragraph A5, I have not been provided with documentation detailing the ownership of, or liability for, this area.

B7 The outer boundaries, which are considered as public spaces or, in the case of the car park, in other ownership are excluded from this report other than general comments as to ownership and maintenance.

C CONDITION OF THE PROPERTY

C1 Roofs and Rainwater Goods

C1.1 The roofs are not readily accessible or visible from ground level but access was gained with extension ladders.

For clarity, each principle roof is discussed under its own sub heading, below:

Fly tower

C1.2 The roof is predominantly flat, laid to drain towards the left hand side; ordinarily a roof such as this would have shallow kerbs on the non-drainage edges to control overflows in very heavy rainfall but these are missing.

Other than at the gutter edge, the felt cap sheet has been dressed directly against the top of the tower; this directs rainwater to run down and in to the walling rather than dripping off, and preferably away from the wall although general wetting is inevitable.

There is a shallow upstand in the middle of the roof from which, possibly, a former lantern has been removed.

C1.3 There are areas of considerable water ponding, largely due to very shallow drainage falls and this ponding may induce thermal shock in the coverings, compromising their durability.

There is very little that can be done practically and economically to alleviate or remedy the situation until more extensive roof repairs are needed when, consideration should be given to improving both drainage and thermal insulation (see also paragraph C1.5)

C1.4 The roof decking is concealed from view on the top by the coverings and from below by largely inaccessible platforms and inner linings which are unclear.

The surface of the roof feels ‘soft’ and ‘gives’ under-foot; it is possible that there is thermal insulation below the newer felt or the softness may indicate lightweight and/or weak decking.

C1.5 You explained that the landlord procured and paid for the replacement of these roof coverings a few years ago they should be asked for full details of the works carried out and any guarantees from which you might benefit.

Repairs and maintenance remain the landlord’s responsibility under the lease.

C1.6 There is no permanent provision for safe access to this roof and, once on the roof all edges are unprotected.

For safety of maintenance operatives, at the very least, this area should not be accessed other than by a safe, certified temporary access (scaffold, cherry-picker, etc) until permanent, maintained safety barriers or fall-arrest systems are in place.

C1.7 There is a single asbestos cement gutter on the left hand side of the building, directing rainwater from the roof surface to the roof over the Auditorium.

The gutter is congested but access to it for maintenance is dangerous. As noted, there is no provision for safe access to the roof and, under your lease, this is the landlord's responsibility for repair and maintenance and it will be prudent to discuss with the landlord ways of their having safe access – an issue that they must not ignore.

The Zone

C1.8 This roof is similarly covered with a built-up felt system and was, I understand, recovered at the same time as the roof over the Fly Tower.

C1.9 The main surface is in fair-to good condition although, as with the higher roof, the substrate is unseen – please note the comments in paragraph C1.4 regarding the internal elements.

C1.10 At the abutment with the rear wall of the Fly Tower, the felt coverings are turned up and in to the brickwork.

The detail is weak, particularly at the left hand end where the felt is merely stuck to the concrete column face. Improvements are desirable and should include flashings to protect the upstands.

C1.11 The verges of the roof are detailed with drips over painted timber fascias.

The felt appears sound but the timbers are in poor condition and decorations have failed.

C1.12 As with the Fly Tower, the landlord should be asked for details of the works carried out and any guarantees that might be available.

Repairs and maintenance remain the landlord's responsibility under the lease.

C1.13 There is also no permanent provision for safe access to this roof and, once again the roof all edges are unprotected.

The advice in paragraph C1.6 relates here also and the redundant fire escape should be removed (see paragraph C2.14).

C1.14 There is a single asbestos-cement gutter on the left hand side of the building; the outlet is misaligned and the stop-end is missing.

The gutter is congested but access to it for maintenance is also dangerous; as noted, lack of safe access to the roof is a major hazard and, under your lease, it is the landlord's responsibility for repair and maintenance and it will be prudent to discuss with the landlord ways of their providing safe access, possibly in conjunction with improving means of escape (see paragraphs C2.14 and C3.2).

The Auditorium

C1.15 The roof over the Auditorium comprises a Victorian-era duo-pitched, hipped timber roof covered with Double Roman clay tiles, the pitches draining to a tapered perimeter gutter. On top of the roof, a former-lantern structure remains with pitched, hipped tiled roof and timber-clad sides.

C1.16 The tiles on the lantern pitches are in poor condition and, despite localised repairs, have been set out unevenly, with insufficient attention paid to correct gauge (the amount of overlap created by correct batten spacing).

There are some replacement ridge and hip tiles and overall the roof is in fair-to-poor condition but apparently weathertight. If more extensive roof repairs are considered, and as are recommended (see below) it would be prudent to include this roof in the programme.

C1.17 The rainwater goods comprise uPVC eaves gutters and downpipes, draining over the lower roof pitches to the valley gutters.

These appear generally sound but the two downpipes have been finishes too far above the roofs beneath which will encourage splashing in heavy rainfall.

C1.18 The timber clad sides of the lantern are painted. Overall the woodwork is in fair condition but with isolated loose and rotten slats on the right hand face; the painted finishes are poor.

The lead flashing details at the base of the lantern, protecting the lower roof abutment, are poorly detailed with the lead being too light for the location, inadequately fixed and not clipped. As a consequence, some sheets have slipped which has exposed the background to water ingress. Loose and missing sections need immediate reinstatement and this detail should be improved when the opportunity arises; until then, regular inspections are recommended to identify any weaknesses or failures.

C1.19 The tiles on the lower slopes, below the timber cladding, are in fair-to-poor condition and are a combination of older, imperial sizes and newer metric; while these are not necessarily incompatible it is indicative of the patch-and-mend approach to maintenance and, where inspected in one area, the tiles seem to be loose laid, rather than some being nailed, leaving them vulnerable to wind damage.

The gauge of these is also irregular and the lower detail with the felt-lined gutters is poorly made. On the left hand side, several tiles are slightly displaced and a few are broken.

C1.20 The valley and parapet gutters follow an original stepped pattern and would then have been dressed with lead.

These coverings have been replaced over time and the present finishes are in poor condition; at the rear left hand corner, holes, back-falls and defective weatherings require immediate repair beyond simple patching but elsewhere, for other failed sections, patching may appropriate but only as a temporary measure.

In the very near future, these gutter linings need to be replaced completely; at that time provision must be made to investigate and repair damage caused by prolonged leaks and I fear that concealed woodwork may well have been compromised; the risks from timber decay are significant and full exposure of vulnerable elements is needed. This may cause damage to internal finishes.

C1.21 The perimeter parapets have clay copings and the parapet faces are generally rendered; the roof/gutter upstands are detailed with lead flashings.

The joints between the coping stones have largely failed and the leadwork is in very poor condition. As part of the main roofing works, these components should be changed – it may be possible to reuse some of the copings.

C1.22 Thermal insulation is most unlikely to meet close-to current standards if any is provided.

New thermal insulation is needed under the Building Regulations as re-roofing works trigger a requirement to comply.

C1.23 As advised elsewhere, under the lease, the landlord is responsible for repair and maintenance of the roof and structure so these defects and required repairs need to be drawn to their attention as a priority with a view to establishing a programme and strategy for works.

While increasing thermal insulation is theoretically an improvement, statutory compliance is not optional and the landlord should be encouraged to manage this aspect of the work correctly.

C1.24 Considering the Fly Tower and Auditorium roofs together, the rainwater draining from the former passes through gutters and downpipes to the latter which drains solely through a small outlet in the front parapet.

This is an inappropriately large volume through too small an outlet and a redesign of the roof drainage is needed.

<u>The Projection Room</u>

C1.25 This is a flat roof, covered with built-up felt similar to the Fly Tower and The Zone.

The surface is in quite good condition although, as with the higher roof, the substrate is unseen and comments in paragraph C1.4 regarding the internal elements apply.

C1.26 The verges of the roof are detailed with drips over painted timber fascias.

The felt and timbers appear sound but the decorations are in poor order.

C1.27 As with other flat roofs, the landlord should be asked for details of the works carried out and any guarantees that might be available.

Repairs and maintenance remain the landlord’s responsibility under the lease.

C1.28 There is also no permanent provision for safe access to this roof and, once again the roof all edges are unprotected.

C1.29 There is no verge guttering: the roof falls towards the right hand side, draining into the parapet gutter over the lower Auditorium roof.

The Lounge

C1.30 This is a shallow mono-pitched roof, covered with built-up felt similar to other roofs.

The surface is in good condition although, as with the higher roof, the substrate is unseen and previous comments regarding the internal elements apply.

C1.31 The verges of the roof are detailed with drips over painted timber fascias which appear sound but the decorations are in poor order.

C1.32 As with other felted roofs, the landlord should be asked for details of the works carried out and any guarantees that might be available.

Repairs and maintenance remain the landlord's responsibility under the lease.

The Common Parts

C1.33 To the rear of The Zone, the roof over the common parts, comprising patrons' toilets and access corridor are formed from two abutting mono-pitched Double-Roman clay tiled roofs which fall towards a cranked deck covered in built-up felt.

C1.34 The tiles are in poor condition and the gauge of these is also irregular on the higher roof. Several tiles are slightly displaced and a few are broken.

C1.35 The upper parapet on the right hand side is in poor condition and copings should be repaired.

C1.36 The lead flashings to all sides are poorly detailed and the narrow, shallow valley gutter between the pitches is congested and, clearly, readily becomes blocked. This will encourage water to back up and enter below the tiles.

C1.37 The felted roof coverings are in fair condition with no major defects evident.

The narrow valley gutter below the right hand pitch is overly-tight and will also be prone to blocking and surcharge.

C1.38 As with other roofs, the landlord should be asked for details of the works carried out and any guarantees that might be available.

Repairs and maintenance remain the landlord's responsibility under the lease.

C2 Walls – Including External Structure and Cladding

Fly tower

C2.1 The tower is approximately equivalent to a five/six storey building some 12 to 15m high. The main walls comprise fair-faced clay brickwork panels set within in-situ cast concrete frames.

You have advised that these elements were built in the 1950s by volunteers and the present finishes of both the brickwork and concrete frame indicate amateur, low-skill labour.

C2.2 The concrete columns forming the four main corners of the fly tower and the horizontal concrete beam members show very poor compaction of the concrete which has resulted in the formation of numerous and large voids.

As the 2005 Whitby Bird report makes clear, the concrete elements are in very poor condition and it seems that the recommended repairs from five years ago have not yet been auctioned; the condition described by Whitby Bird remains evident and the recommendations for repairs are that much more critical now.

Where water is able to penetrate structural elements major and rapid deterioration is likely; the poor compaction of the concrete and the likely shallow cover to steel reinforcement has exposed the steel to direct water-induced corrosion and also carbonation, a process where CO_2 in the atmosphere is dissolved in rainwater forming carbonic acid which can progress through weak concrete converting the normally alkaline concrete to an acidic environment which induces further corrosion of the steel. We discussed the expansive forces of rust and not only does this reduce the steel sections (smaller sections normally mean weaker sections) but the expanding corrosion is bursting the concrete apart.

There is an urgent need for reassessment of the entire reinforced concrete structure with a view to removing defective components, repairing what is left and stabilizing the building for a realistic future effective ‘life’.

C2.3 The clay brick panels are seen to be largely cavity construction above a first-floor level ring beam and below the beam the front wall is much older, solid brickwork.

A couple of pockets cut on the left hand wall reveal galvanised steel ‘twist’ wall ties across the cavity. Such ties are common in building of this age but, with exposure to water (rain) the zinc coating is sacrificed and the steel again corrodes, weakening the tying of the inner and outer skins of masonry and inducing instability; this is exacerbated by rust-expansion destabilizing the walls.

The ties seen did not exhibit rusting but, with the evident prolonged exposure of these elevations and poor condition of the structure and fabric when concrete repairs are carried out you should budget for masonry repairs also; the full extent of repairs needed will only be known after further, locally-invasive investigation.

The obvious holes should be repaired as a priority to exclude water.

C2.4 On the front left hand corner of the fly tower, the left hand edge of the full height panel of front elevation brickwork is exposed and shows a full-height crack.

Not only will this crack let in water, but it is indicative of either unwanted movement or uncontrolled movement.

If the masonry is actively moving it is important to establish why and whether the movement can be accommodated or more significant repairs are required. The investigation should include the wall ties and the ways in which the inner and outer skins of the wall are bound and how the wall panels sit within the frame.

C2.5 The front elevation above the concrete ring beam appears to share support from the adjoining buildings; clearly this has been the case for many years but it may be important to confirm any rights of support; this would be important in case of any major works to or redevelopment of the neighbouring sites and is a matter on which your solicitor should comment.

C2.6 The brickwork generally is in poor condition with eroded and weathered pointing and localised eroded bricks, these mainly to the front wall.

Clay brickwork is known to be porous, hence cavity walls should prevent water passing from outer to inner leafs; defective pointing will allow excessive water to penetrate the outer skin of the wall, both introducing water where it would better be excluded and potentially compromising wall ties and steel reinforcement. There is no sign of adequate cavity drainage.

Repointing is needed over large areas of the brickwork but, if this is cost-prohibitive, work should concentrate on the most seriously dilapidated parts.

C2.7 Looking up, down and along this elevation there is evidence of misalignment, some seeming as bulging and some and general ‘out-of-plumbness’; there are also areas of localised patch repairs.

The Whitby Bird report does not refer to the cracking or bulging of the brickwork and this may mean that it was not noted or did not exist at the time. It is not clear whether this is due to initial, inaccurate bricklaying or later distortion but it too should be assessed further as a priority equal with the concrete frame.

C2.8 The right hand elevation of the Fly Tower is partly visible from Princess Row and partly from the flat roof of the tower; the left hand wall is best seen from the roof over the auditorium and the rear elevation from the courtyard.

The overall condition of the masonry and the concrete sections is broadly similar to that reported above. As the elevations are assessed more fully, you should expect to reveal various issues that might be addressed individually but the need to assess all of the concrete and brickwork must be developed fully.

C2.9 The lower level brickwork to the ground floor storey includes two old pedestrian doorways, and an apparent old high level window opening; this and one doorway have been in-filled forming a small window.

The original stone details have weathered and been damaged although they are unlikely to have any architectural merit.

The masonry here is on poor condition and requires similar consideration as the larger areas above.

Internally the walls are damp at low level although the finishes are so basic and tired as to make the obvious effects negligible. As part of your strategy for the future use of the property you should consider a review of horizontal and vertical penetrating dampness.

C2.10 Under your lease, repairs and maintenance of the exterior structure and fabric remain the landlord's responsibility; given the very poor condition this needs addressing urgently as the defects and deterioration evident are damaging to the present and future longevity of the property and, for instance falling concrete is highly dangerous.

Should you pursue the option to purchase the freehold, this is one of the most important issues to understand and address.

C2.11 Whether by the landlord or you, all of the dilapidated parts should be assessed and repaired at the same time however if only parts are dealt repaired, those areas that are not treated should have regular reviews; given the need for expensive access, the opportunity to cover as much of the repairs as is possible should be taken, although the one-off cost is likely to be higher.

<u>The Zone</u>

C2.12 This section of the property is constructed in the same form as the Fly Tower: clay cavity brickwork around an insitu-cast concrete frame and all of the comments in the preceding paragraphs, discussing the inherent weaknesses and failures in the fabric and the remedies apply.

C2.13 Access to the right hand elevation is restricted: the land adjacent is in a different ownership and the neighbour should be asked to allow access.

This is not essential at this stage, given the general dilapidation and the likelihood of this wall being much the same as the others but, when more thorough inspections are carried out to develop detailed repair schedules, these areas must be included.

C2.14 On the left hand elevation a now-redundant steel access platform and ladder have been partially disassembled but the landing is still used for occasional access to the roof.

This must be stopped immediately and, preferably the steel structure removed: its fixings are corroding and, not only weakening, they are damaging the brickwork and this needs repair.

C2.15 Under your lease, repair and maintenance of the exterior is the landlord's responsibility and given the poor condition this needs addressing urgently as the defects and deterioration evident are damaging to the present and future longevity of the property.

As before, should you pursue the option to purchase the freehold, this is one of the most important issues to understand and address.

C2.16 Whether by the landlord or you, all of the dilapidated parts should be assessed and repaired at the same time however if only parts are dealt repaired, those areas that are not treated should have regular reviews; given the need for expensive access, the opportunity to cover as much of the repairs as is possible should be taken, although the one-off cost is likely to be higher.

The Auditorium

C2.17 The Auditorium has two external walls; one facing Princess Row and the other facing the inner courtyard. The side walls are made 'internal' by adjacent structures.

There is no evidence of adequate weathering or cavity drainage at these abutments but, realistically, any improvement beyond flashings when roof works are carried out will be unlikely, albeit desirable.

C2.18 The front wall has a projection-render finish which has been painted as a mural; the wall is interrupted by a blocked-up window and the main staff entrance.

Large areas of the render have de-bonded from the substrate, sounding hollow when tapped. Some parts have fallen away and, despite localised patch repairs the render is generally beyond economic repair; it should be removed and replaced with a more suitable coating.

Low-level failures indicate ground-borne dampness which shows internally through salt stains and failed decorations and high level failures around the parapet copings will be adding to water ingress from poor roof details.

C2.19 The front left hand return reveals random rubble stonework but the render conceals the main sections of masonry.

The selection of render coating should be finalised when the background can be considered in more detail; the walling behind the render may also need some remedial work before re-rendering.

C2.20 The rear wall of the Auditorium is built in fair-faced clay brickwork. It is a solid wall, probably part of the original Victorian building.

The wall is out-of plumb, although some of this may be very old movement or even poor original alignment, and the pointing is eroded. Localised repairs have been made below the parapet but there are further areas of failure where early repairs are needed.

As part of general envelope repairs and improvements, this wall should be carefully and properly repointed, using the opportunity to replace damaged brickwork and details.

C2.21 Lower roofs over The Lounge abut this rear wall; they are poorly detailed and the upstands should preferably be protected by flashings.

C2.22 As a solid wall, where the outer wall becomes internal at the junction with the Lounge, water penetration is likely and may always be a risk but, the better the condition of the brickwork the less the likely problems.

C2.23 Presently, repair and maintenance of the exterior is the landlord's responsibility and given the poor condition this needs addressing urgently as the defects and deterioration evident are damaging to the present and future longevity of the property.

As before, should you pursue the option to purchase the freehold, this is one of the most important issues to understand and address.

The Projection Room

C2.24 This room was built in the late 1960s in load-bearing cavity masonry on to a first-floor concrete deck. The undercroft, originally exposed, has been infilled for use as lock-up parking and no access was available.

The walls are simple but appear sound with no major defects evident but, as noted above, brickwork is porous, and penetrating water may have compromised the wall ties, although no evidence of failure is evident.

It would be prudent to investigate the cavities, perhaps using a boroscope (like a medical endoscope) to inspect the ties however, if wall tie corrosion is evident, localised access and repair should be relatively easy to achieve.

C2.25 There is a secondary exit from the Projection Room across an adjacent flat roof in separate ownership; your solicitor should confirm rights of access and liabilities for repair and maintenance.

There is no safety edge protection or emergency lighting and the vertical ladder is unprotected. Particularly in case of emergency this is a hazardous route and urgent improvements are needed.

C2.26 As noted, repair and maintenance of the exterior are the landlord's responsibilities and this is an important issue to address.

The Lounge

C2.27 There is a single, rear-facing wall in similar style and construction to the higher rear wall of the Auditorium.

C2.28 The pointing is eroded and localised repairs have been made but there are other areas of failure where early repairs are needed, particularly at low level where

internal dampness is evident.

As part of general envelope repairs and improvements, this wall should be carefully and properly repointed, using the opportunity to replace damaged parts.

C2.29 While repair and maintenance of the exterior is the landlord's responsibility this needs addressing as the defects and deterioration evident are damaging to the present and future longevity of the property.

As before, should you pursue the option to purchase the freehold, this is an important issue to address.

The Common Parts

C2.30 There is a left hand wall facing the courtyard is in similar style and construction to the other Victorian walls.

C2.31 The pointing is heavily eroded and localised, low-grade repairs have been made. There are other areas of failure where early repairs are needed and where internal dampness is noted.

This wall should be carefully and properly repointed, using the opportunity to replace damaged brickwork and details.

C2.32 The right hand wall is inaccessible and, with consent of the adjoining owner an inspection is recommended.

C2.33 The inner walls of the corridor are below the level of the courtyard and much of the internal dampness may be as a consequence.

Further opening up of the courtyard against the wall is needed and it may be that an external 'tanking' system is needed to exclude water. If this is not feasible, internal tanking is an option, but less favourable.

C2.34 While repair and maintenance of the exterior is the landlord's responsibility this needs addressing and as before, should you pursue the option to purchase the freehold, this is an important issue to address.

C3 Windows, Doors and Joinery

C3.1 On the front elevation of the Fly Tower, the pedestrian entrance is poorly detailed and there is decay in the door frame and cill. This should best be replaced.

C3.2 To the rear, a former fire exit door from the Fly Tower opens over the roof of The Zone with the intention of accessing an external fire escape. The door and frame are dilapidated beyond repair and replacement (or blocking up if appropriate – see below) is needed.

In previous paragraphs, this fire escape is decommissioned and is unsafe; it cannot feature in fire exit provisions and the means of escape strategy needs to be reviewed and any amendments actioned.

C3.3 The Zone has a single-glazed steel window facing over the courtyard.

The painted finish is poor and the frame does not fit well in the reveals; there are gaps around the frame and between the two main sections.
Repairs and improvements are needed; under the lease this is a tenant's responsibility but the opportunity to cover the defect in the condition schedule appears to have been missed.

C3.4 The Auditorium has no functioning windows or doors.

To the front, a former window has been blocked up and rendered; it is considered briefly in the report of the front elevation. The fire exit door is painted timber and is generally dilapidated; repairs and maintenance are needed and it will be important to ensure the doorway is kept clear at all times.

On the rear elevation a painted timber round window is in poor condition and an adjacent doorway or larger window has been boarded over.

C3.5 The Projection Room has a pair of non-operational doors on the front elevation. These are dilapidated and temporary adhesive waterproof tape has been stuck over the cill detail. If these are ever reinstated to use, they will require safety protection as there is a storey-height drop to ground level.

The door to the secondary exit in the left hand wall is in fair condition but needs local repair and redecoration; the safety of the escape route is discussed in paragraph C2.25.

C3.6 The Lounge has a large painted timber screen facing the courtyard comprising a pair of single-glazed timber windows and a pedestrian door.

These are all dilapidated are require major repair or, preferably, replacement.

C3.7 The corridor of the Common Parts is accessed from the courtyard via a pair of painted timber doors; this is the main customer entrance.

The doors are operational but decorations are in poor condition.

C4 Internal Structure

C4.1 As explained the property consists of several inter-linking buildings of varying ages which have been adapted and extended to form the present facility. The Fly Tower is built around a structural reinforced concrete frame while most of the other parts are built in load-bearing masonry.

The deficiencies in the structure of the property, in various locations, have been discussed in the preceding sections.

Internal finishes are of various forms but most of the buildings' structures are either external or concealed.

There is no evident fire protection of the main fabric other than the inherent fire resistance of the materials but, given the poor quality of some of the components, fire resistance may have been compromised.

As is described below, there are inaccessible parts of the property generally which appear to contain or consist of asbestos and I have recommended that a full survey of all parts be commissioned; please refer to paragraph D1.

C4.2 The foundations are concealed from view and have not been inspected. There is no distortion or other indication of deficiency or failure.

C5 Substructure and Basements

C5.1 The property occupies several levels, none a strict basement, but parts of the Common Parts, the Office and the Auditorium sit below ground level.

Low-level dampness as a combination of lateral and rising moisture is evident throughout but a 'commercial' consideration needs to be made between cost or repair and benefit gained.

C5.2 The lease provides for the landlord to maintain and repair the structure and external fabric (other than internal finishes) and where no damp-proofing measures exist there is no obligation to repair or improve the situation.

C5.3 The space beneath the Auditorium seating is a significant floor area and has poor access and very poor exit arrangements in case of emergency.

As we discussed on site, the fire protection to the timber seating framework and underside is seriously deficient and where provided, largely incomplete or damaged.

This area should be assessed with specific consideration to fire precautions and means of escape and should be cleared of all flammable materials and combustion sources (such as electrics) immediately. I recommend the area should be treated as a fire-sterile space until a thorough assessment and strategy is in place: specialist advice is recommended and I can assist in arranging this should you wish.

C6 Floors

C6.1 The ground floor throughout is of mass concrete but with a variety of finishes.

There is general background dampness recorded by a hand-held moisture meter but the readings are merely indicative.

C6.2 Given the age and character of the premises, it is unlikely that new damp-proof construction is practical or cost effective so provision should be made to provide and maintain damp-resistant finishes (damp-proof finishes are not really practical).

Where finishes vulnerable to prolonged contact with dampness, such as the areas of wooden blocks (the office and bar), deterioration may be expected and many

loose blocks are noted.

C6.3 The stage and auditorium floors are built in timber. That of the stage sits above the office.

Paragraph 5.3 discussed deficiencies in fire protection that need to be addressed urgently. In addition, the stage does not appear to have adequate fire separation from the office and the integral fire exit corridor which should be a safe area.

C6.4 The floor of the area below the auditorium seating is a timber boarded construction which substrate is unseen.

It is likely to be above earth which, being prone to dampness, should be ventilated. No ventilation is evident and localised investigation is recommended.

C6.5 The Zone has a painted concrete floor; no major defects are noted although the finishes are worn.

C6.6 The concrete floor of the Projection Room has vinyl tiles; given their age and appearance they are likely to contain asbestos; this should be confirmed during the recommended asbestos survey.

C6.7 The Lounge has a concrete floor on which clay tiles are laid. There are concrete steps between this area and the bar and auditorium and the surfaces have been painted; all are scuffed and worn.

C6.8 The floor of the corridor in the Common Parts is covered with a timber board system; the substrate is unseen but, with evidence of the walls and floors nearby, the flooring may be vulnerable to dampness and consequent damage.

Parts of the floor are swollen and lifting by the female toilet door and this area should be both repaired and used as an investigation point before repair.

C6.9 The floors of the customer toilets are painted concrete. They are uneven, soiled and in poor condition.

In the female toilet, a drain cover is stuck and unable to be opened.

C7 Internal Ceilings, Walls, Partitions and Finishes

As discussed and agreed, you are generally familiar with the internal arrangement and overall condition so I have not commented in detail on cosmetic and minor operational condition or damage.

The lease provides you with full responsibility for all internal parts including finishes and decorations and requires you to repair and redecorate periodically and at the end of the lease before you return the property to the landlord. The redecoration component is an express obligation which has limited scope for mitigation.

C7.1 The soffit of the Fly Tower is too high above stage level, and accessible only by ladders and platforms which use is prohibited, hence a detailed assessment cannot be made. However, with limited access only, it appears that there is a combination of timber and steel structure; how this is designed and installed, and how it is protected, is unclear but should be clarified before you elect to purchase the freehold.

The integrity of the structure will need protection from fire and it appears that a partly-exposed (ie: unprotected) steel section may have asbestos cladding. This area must be accessed safely and inspected as, if as suspected, the cladding is asbestos and which is friable and damaged it may need to be removed and the fire protection reinstated with approved materials.

As the lease demises responsibility for the structure to the landlord, this matter should be drawn to their attention urgently.

The main walls are built in brickwork and blockwork. As noted externally, poor construction has exposed the fabric and supporting structure to water ingress and it would be most prudent to inspect closely the walls when access is provided to the roof soffit.

Safe and reliable operational access should also be provided.

C7.2 The roof over The Zone is formed from galvanised steel shuttering, supported on perimeter timber bearers which have been bolted to the walls with an intermediate steel beam.

There is salt staining and incipient corrosion on the steel sheeting, probably due to a combination of roof leaks and condensation, indicating insufficient thermal insulation as discussed above. There is no fire protection to the structure and I have concerns over the adequacy of both the bearing of the steel deck on to the timbers and the design and fixing of the perimeter bearers.

This element should be reviewed and assessed by a structural engineer and as the lease demises responsibility for the structure to the landlord, this matter should be reviewed before purchasing the freehold.

As with the Fly Loft, the main walls are built in brickwork and blockwork and poor construction has exposed the fabric and supporting structure to water ingress. The walls should be inspected closely when access is available to the roof soffit.

C7.3 The Auditorium soffit and walls are completely covered by a suspended ceiling and wall cladding.

There is evidence of water staining to the suspended ceiling tiles but the space above cannot be accessed due to glass fibre quilt laid on the tiles. The void should be inspected, however, and this will need further visits with some of the tiles and quilt removed and the area assessed for personal protection.

As the walls below the seating show signs of dampness, the spaces behind the cladding are vulnerable but show no evidence of damage at the time of survey.

One of the radiant IR heaters is defective with flash burns to the power socket; it has been decommissioned but, as noted below, the electrical installation and portable appliances should be assessed by independent electrical engineers.

C7.4 The ceiling of the Projection Room has a rigid board lining which may well be asbestos-based.
Unfortunately recent work appears to have been undertaken but it is essential that no further disturbance is permitted until it has been sampled and assessed. As with the Fly Tower, if asbestos is confirmed, the lining may need to be removed and reinstated with approved materials.

The walls are plastered and painted and generally are scuffed and soiled but no major defects are evident.

C7.5 The Lounge has a boarded sloping soffit which composition is unclear. Until it is confirmed to be asbestos free it should be treated as if it is an ACM.

The walls are part-lined and part exposed brickwork; with the defective external faces and windows, the wall show signs of dampness and the cladding will be vulnerable to damage and decay.

C7.6 The ceiling of the bar is a simple painted concrete slab. The walls are lined with undecorated ‘Sterling’ board.

No major defects are evident but, as previously, poor quality external repair will make the walls vulnerable to decay.

C7.7 In the Common Parts, particularly the toilets, the ceilings are in very poor condition. It is unclear whether the decorative textured finishes contain asbestos but before further work is carried out this must be confirmed. That to the corridor is part boarded and painted; it is soiled and scuffed.

The walls of the corridor are painted fairfaced brickwork; they are soiled and scuffed with evidence of penetrating dampness from the courtyard.

In the toilets, the walls and internal partitions are heavily dilapidated and require major refurbishment.

C7.8 To the office and the corridor to Princess Row, the ceiling is lined and painted; the material should be assessed to determine whether it contains asbestos.

Walls are painted masonry with internal stud and board partitions. All parts are soiled and scuffed.

C8 Electrics

C8.1 The property has three-phase earthed electrical supplies. The incoming service and distribution has not been inspected in detail or tested.

I consider it essential that the entire installation be tested and reported on by competent, qualified and independent electricians and at the end of the lease the

landlord will be entitled to see a current test certificate confirming that the installation is safe with any repairs carried out; this information is equally important if you proceed with the freehold purchase.

C9 Gas

C9.1 You advised that there is no operational gas supply but in the space below the auditorium seating there appears be an unused pipe which has the appearance of a gas supply.

This should be confirmed and, if not required and depending on the connection with the gas main, removed.

C10 Water Supply and Plumbing

C10.1 The location and adequacy of the water supply has not been identified.

C11 Hot water Installations, Boilers, Control Equipment and Space Heating

C11.1 You have advised that space heating throughout is from electric heater which should be tested and reported on when the main installation is tested.

C11.2 Water heating is provided to outlets by point-of-use heaters.

C12 Underground Drainage

C12.1 This has not been inspected but as part of your consideration of the freehold purchase a detailed CCTV survey is recommended given the likely age of the system.

C13 Other Services

C13.1 Fire detection and alarms – the fire protection system needs to be tested and certified as part of the recommended review of the overall strategy for fire protection and means of escape.

The provision and maintenance of such systems is an essential component of yiour continuing operation under The Licensing Act 2003, in accordance with the document you passed to me.

Any necessary improvements should be carried out so that you can operate; any breaches will place you in breach of your lease and, at the end of the lease the landlord will be entitled to see current certification confirming that the installation is safe with any repairs carried out; as with the electrics, this is important if you proceed with the freehold purchase.

C13.2 Security alarms, CCTV and entry systems have not been assessed or tested

C13.3 Lightning protection – there is no lightning protection system provided and the building has not been assessed for compliance with the current standards and specialist assessment is recommended.

Given the height of the Fly Tower, you may be required, or recommended, to consider a LPS.

C13.4 Specialist lighting and theatre equipment has not been assessed or tested

C14 External Areas, Outbuildings and Boundaries

C14.1 The courtyard which includes public access is bounded by fair-faced brick walls.

They are generally dilapidated and require repair and maintenance.

Under the lease, these are your landlord's responsibility but will fall under your responsibility with the freehold purchase.

C14.2 The front boundary abuts public footpaths and roads.

The right hand side and rear boundaries face neighbouring land under different ownerships and access should be sought to inspect those elevations.

The left hand boundary faces other buildings and also the car park.

C14.3 Your solicitor must advise on the intricacies and implications of the various ownerships, occupancies, repair and maintenance liabilities and right of access as they are an essential component of your continuing operation.

C15 Health and Safety Considerations

C15.1 Slips, trips and fall hazards are evident throughout, including the main roofs where there is no adequate, safe access or edge protection and fall prevention. There is no edge protection to the exit route from the projection room over the adjacent flat roof

Low light levels internally mean reduced visibility and the risk of slips and trips on uneven surfaces.

The access to the internal parts of the Fly Tower is unsafe.

The secondary ladder access to the projection room from the Lounge is dangerous.

C15.2 Low head heights under the Auditorium seating are low-risk but the area needs assessing for risk when working in confined spaces.

C15.3 Overloading including crowd loading needs to be considered, particularly in the case of the Auditorium seating. There is no evidence of loading capacities.

C15.4 Instability is evident in the brickwork walls and concrete frame of the Fly Tower and The Zone externally and remedial works are recommended, including some essential and immediate H&S considerations

C15.5 Demolition hazards and potential asbestos containing materials (ACM) need particular consideration: Section D discusses this in more details but ACMs must be assessed and recorded as a priority and any required management put in hand.

C15.6 Maintenance and other safe access is generally poor as noted, particularly to internal confined spaces and externally at high level.

C15.7 None of the glass is manifested to show compliance with Building Regulations where that below 800mm needs to be safety glass, breaking safely on impact.

C15.8 Fire prevention, fire detection, fire fighting and means of escape require full review, as a package of works as each is interdependent on the other.

C15.9 Vehicular hazards from adjacent traffic routes are most prevalent to the front and left hand sides where the risks from pedestrian and vehicle contacts are greatest.

You should review your signage and management policies to ensure the safety of your staff and customers.

C16 Environmental and Other Issues

C17.1 Thermal insulation and energy efficiency of the thermal shell seem particularly poor. The heating systems in use appear inefficient and there is little use of natural and lighting and ventilation.

There is considerable potential to upgrade thermal insulation but this is a cost-benefit assessment

C17.2 Please refer to Section D, where environmental issues are addressed in more detail.

C17 Ongoing Management Issues

C17.1 We have discussed how, as a tenant you are responsible for the interior only.

Consideration should be given to the future management of both the freehold leasehold titles and, in particular, the enforcement of the tenants' and landlord's covenants to repair and maintain the property.

This is a complex area of property law and your legal advisors and I should review and advise on appropriate consideration and timing.

C17.2 The Disability Discrimination Acts of 1995 and 2005 impose strict requirements on building and services providers to make equal access available to all people. This is developing and ongoing legislation which will become more extensive and onerous.

The premises are not readily accessible for either customers or staff and under the DDA, it is unlawful for service providers to treat disabled people less favourably than other people for a reason related to their disability. Service providers now have to make 'reasonable adjustments' to the way they deliver their services so that disabled people can use them.

Examples of reasonable adjustments include:

- installing an induction loop for people who are hearing impaired
- providing disability awareness training for staff who have contact with the public
- providing larger, well-defined signage for people with impaired vision
- putting in a ramp at the entrance to a building instead of, or as well as, steps

What is considered a 'reasonable adjustment' for a large organisation like a bank may be different to a reasonable adjustment for a small local shop. It's about what is practical in the service provider's individual situation and what resources the business may have. They will not be required to make changes which are impractical or beyond their means.

Failure or refusal to provide a service that is offered to other people to a disabled person is discrimination unless it can be justified.

This is a specialist area of property law and DDA audits are available. Whilst the legislation applies to all service providers, its enforcement is presently down to a private individual making approaches to the providers.

C17.3 Rights of way and easements: elsewhere in this report I have mentioned the importance of assessing and understanding the various tenures and boundaries.

Further legal advice is needed in connection with the evident flying freehold and the designation of the Common Parts as well as licences and sublettings; rights of way; adoption status of roads and footpaths; availability and status of services connections and restrictions to occupation

C17.4 Your solicitor should advise on the extent of other common or shared areas and whether you will have liability for works directly or for paying for the works by way of service charge or similar.

C17.5 You should seek from the landlord benefit to any guarantees and warranties for woks that they have procured.

D DELETERIOUS AND POTENTIALLY HARMFUL CONSTRUCTION

During the course of the inspection, the likely presence of deleterious materials, those known to adversely affect buildings or parts of the structure and those known to be harmful to health has been assessed. Only such materials which are clearly visible or where there are visible defects which indicate their possible presence have been commented on in any detail and unless advised otherwise, it will be necessary to carry out further investigation (possibly including sampling and chemical analyses) to establish the nature or presence of such materials.

As explained, such investigations are beyond the scope of this inspection and report and will require further specialist advice, which provision can be coordinated. This will require further visits to the property and will incur you in additional charges.

D1 <u>Asbestos</u>

The presence of asbestos or asbestos containing materials (ACMs) in a building is a very important matter; its presence potentially is hazardous to the health of the users and its treatment or subsequent removal may be costly. The Health and Safety Executive assesses that asbestos related diseases account for more than three thousand deaths a year in the UK (HSE Press Release E138:01 – 2 August 2000).

Every premises owner, occupier or manager has either:

- A legal duty to manage the risk from asbestos, or
- A duty to cooperate with whoever manages that risk.

As long as the asbestos is in good condition, and it is not being or going to be disturbed, the HSE currently advises that there is limited risk but, if it is disturbed or damaged, it can become a danger to health because asbestos fibres are released into the air to be inhaled.

The Regulations have been reviewed, creating the new duty to manage asbestos. Those responsible must:

- Find ACMs and check the condition of the material.
- Presume any unknown material to contain asbestos.
- Identify by sampling and testing if planning maintenance or alteration work
- Record the location of the material on plans or drawings
- Assess if the location means that the ACM is likely to be disturbed
- Plan to prepare for and manage the risks

If it is required to treat or remove the ACMs, trained specialist personnel must do this. There are strict procedures recommended by the Health and Safety Executive and these must be implemented.

During the inspection of the property the presence of asbestos or ACMs has been identified and I have recommended that, in the first instance, you should procure a Management Survey and obtain an Asbestos Register. Given the complexity and age of the building, this may contain many presumptions which will need clarification before any disturbance of ACMs is permitted. You should balance the costs of a full Demolition and Refurbishment survey with a more limited Management survey.

The HSE further requires that anyone undertaking asbestos surveys or samples should have appropriate training and experience and be able to demonstrate independence, impartiality and integrity. It is vital that surveys are done to a recognised standard and this element of the building survey should therefore be considered in the light of the results from further investigations and testing as appropriate.

D2 <u>Lead in paint and water supply pipework</u>

Lead as a construction material is commonly found in old paint systems and in water supply pipework. It is a heavy metal and is absorbed after ingestions. Those most at risk are children who are able to absorb higher percentages of ingested lead.

Lead-based paints are most hazardous when they are being worked with or removed. Lead paint in good condition, left undisturbed, should not be a high risk. Removal of lead paint may be more hazardous that managing its presence.

Lead paint may only be identified by testing and such tests are recommended before any maintenance, removal or redecoration is carried out.

Where lead pipework is known or suspected to be present in a building's water supply the action to be taken depends on the potential for the water to dissolve lead; it is more soluble in softer water than hard water. Lead solder was commonly used on non-lead pipework.

Where leadwork is suspected contact must be made with the local water authority to determine the necessary course of action. It is recommended that the use of lead in water supply systems should be discontinued and all lead should be replaced.

There is lead pipework in the staff toilet and the presence of further lead pipes is likely.

D3 Urea Formaldehyde Foam (UFF) and Other Volatiles

UFF is principally found as cavity wall insulation and man-made boards.

Formaldehyde is carcinogenic and, in its gaseous form, may be given off. Prolonged exposure causes health problems if the material does not comply with the appropriate British Standard. UFF also gives off toxic fumes when ignited.

If you have cavity insulation you should enquire with the vendor or installer as to the specific material used.

D4 Wood Preservatives

Where timbers in a property have been or are treated for wood boring insect or wood rot, many of the preservatives used are highly toxic and contact with them must be limited.

Organic preservatives are volatile and must only be used in well ventilated spaces to prevent a build-up which could be detrimental to health.

D5 Wood wool slabs as permanent formwork

These are lightweight boards normally in the order of 50mm thick and consist of wood fibres in a binder, offering very limited thermal insulation. They were used commonly as permanent shuttering for in-situ cast reinforced concrete in the 1960s and '70s.

Structurally, they offer no significant advantages to the concrete but their absorbent nature has a tendency to draw from the wet concrete water and fines, creating voids in the concrete matrix and inconsistencies in the mix. These inconsistencies can significantly weaken reinforced concrete and also reduce the concrete cover to the steel reinforcement, increasing the likelihood of carbonation, corrosion and premature failure.

In many instances, the woodwool slabs may have been covered over with finishes such as plaster, render or other panels and may, therefore, have been inaccessible at the survey.

Before the presence of the woodwool slabs, where identified, can be confirmed as detrimental to the fabric or structure of the building, further investigations will be required.

D6 Compressed Straw and other Composite Fibrous Slabs

These lightweight boards are normally 50mm thick and consist of straw compacted only by heat and pressure and surfaced with paper.

They are prone to deterioration in damp and moist conditions and as such are unsuitable for roof decking or where damp and most conditions can be anticipated

D7 Man-Made Mineral Fibre (MMMF)

MMF comprises materials such as glass fibre, rock wool, mineral wool, cellulose fibre, which are principally used as insulants and all of which can be viewed as harmful, particularly to the respiratory tracts.

Care must be taken when in contact with these materials.

D8 Chipboard Panels

Chipboard or particleboard (BS5669.1979) comprises wood particles bonded under pressure with adhesive.

Due to the inherent poor resistance to moisture chipboard should not be used where it may remain wet for long periods or where humidity and temperature will vary. As such chipboard should not be used on flat roofs or bathroom and kitchen floors although its use in these areas is common. Chipboard is also susceptible to dry rot when wet and this is an added risk.

D9 MDF etc

Manmade fibreboards such as medium and high density fibreboards (MDF and HDF) are used with increasing frequency. They have good general working properties and take paint well.

The composite fibres, bound in resins, are released in to the atmosphere when cut or sanded and the particles are known health hazards. Care must be taken when in contact with these materials. As with panels discussed in D8, they have inherent poor resistance to moisture unless specially treated.

D10 Concrete

Concrete normally contains Portland cement aggregate and water when required. It works well in compressions but gains tensile strength only when it is reinforced with steel bars or mesh.

Several common building defects have been found to affect concrete structures. Briefly, these are:

- Chloride ion contamination – The presence of high levels of chloride salts often used as an accelerator to speed curing, a rapid deterioration. This is normally found in pre-cast concrete. High levels above 0.5% will mean that the concrete will have to be replaced. The presence of high levels of chloride normally result in cracking' which is the principal indicator.
- Carbonation – Usually the result of inadequate reinforcement cover which leads to cracking of the surface as a result of corrosion of the steelwork Specialist repair will be required.
- High Alumina Cement {HAC) – This type of cement was used in concrete manufacture for early strength and rapid hardening particularly in the 1960's and 1970's. Following structural failure of buildings of this type its use in warm moist environments was found to be detrimental to its long-term strength and stability. HAC is no longer used in building. Its historic use must however be considered when evaluating a building.
- Alkali Silica Reaction (ASR) – develops when a violent reaction takes place, in the presence of water in cured concrete between the concrete components and silica-based aggregate used in the concrete manufacture. It is thus a latent defect. The effect of ASR in extreme circumstances causes the formation of gelatinous ‘lenses’ in the concrete which exert expansive forces on the concrete, effectively bursting it open from within.

D11 Cavity Walls

Without the use of specialist instruments the cavity, which separates the inner and outer leaves of a brickwork/blockwork wall, cannot be investigated.

In properties of this age, the inner and outer skins of the wall are linked by galvanised steel ‘ties’ which, over time, can rust from contact with water. The corroded metal expands up to ten times and this imposes significant stresses in the walling, leading to predominantly horizontal cracking.

Firstly, you will need to confirm this diagnosis by limited further investigation using a boroscope and exposing the ends of several ties to confirm their condition.

If the ties are corroding, remedial ties will need to be introduced to ensure the stability and integrity of the wall and the corroding ties will need to be removed to prevent progressive corrosion damage. This work should be within the skills of good general builders although there are ‘specialist’ companies providing this service.

The presence of cavity wall insulation can aggravate problems of wall-tie failure and dampness bridging the cavity. It should be noted that the purpose of cavity is to provide a physical barrier and cavity fill compromises this design feature.

During the construction phase poor workmanship can lead to a build-up of mortar on the wall-ties and on cavity trays, which can lead to moisture bridging the cavity and leading to internal dampness.

D12 Foundations

Without excavation we cannot comment on the type, depth or bearing sub-soil.

Problems occur when foundations are undersized, poorly constructed or not to an adequate depth to prevent frost heave or moisture related ground movement. Whilst there is no evidence of foundation movement at the time of inspection, future deterioration cannot be discounted without further investigation.

D13 Lintels to Main Walls

It was not possible to inspect the concealed construction around openings in the walls. It is probable that the supports in structures include reinforced concrete timber and steel lintels.

D14 Timber Decay

Whilst there is no evidence of timber decay affecting the structural timbers, you will appreciate that many of the timbers are concealed or inaccessible and we cannot therefore guarantee that the property is free from wood rotting fungi.

The nature of the fungi that cause wet and dry rot and larvae of the wood-boring insects is such that they can be active without any physical evidence. As their presence can be concealed by plaster, timber and even paintwork, it is impossible to guarantee that any of these defects do not exist in the property.

The wood-rotting fungi thrive in areas where timber is in direct contact with moisture and where the environment is humid, warm and unventilated. Such locations are often concealed or inaccessible and it is more likely therefore that rot will exist in places that cannot be seen.

D15 Dampness

As part of the inspection a hand-held moisture/damp meter was used and dampness was discovered in the main outer walls and at low level in internal some walls.

D16 Environmental Issues

a) The vendor of the land will have no responsibility to advise you on its past use. You should therefore satisfy yourself as to the land's former use and that it and its immediate environs have not been in use as a tip or been infilled with waste material
b) Past mining activity is know in and around Bristol. You solicitor should research mining records and advise on risk parameters
c) Landfill sites are prone to emanation of carbon dioxide and methane gasses, which are harmful and the latter is potentially explosive.
d) Radon may also be present and the local authority will hold registers of affected areas. You solicitor may be able to advise through the pre-purchase enquiries.
e) The Environmental Protection Act 1990 which came into force in April 1993 gives enforcement powers to authorities to clear and make safe land known

to be dangerous or harmful. Similarly, the Environmental Protection Act will require local authorities to prepare a register of land that can be identified as potentially contaminated from past or present use.

f) The term ‘contamination’ has a wide meaning, which relates to persons, the environment and nuisance and should include persistent vegetation such as Japanese Knotweed, which may be found on previously undeveloped or ‘greenfield’ sites. This particular plant spreads rapidly and can cause structural failure in concrete slabs and paving. It is notifiable and requires immediate and comprehensive specialist attention.

appendix
photographs

1 Fly Tower roof - overview

2 The Zone roof – overview

3 Auditorium roof – overview

4 Auditorium roof valley gutters – overview

5 Auditorium roof – cladding and detailing defects

6 Auditorium roof – gutter detailing defects

7 Roof over The Common Parts

8 Walls to Fly Tower & The Zone – typical construction

9 Walls to Fly Tower & The Zone – typical construction defects in reinforced concrete

10 Dangerous and unusable fire exit from The Zone/stage area

11 Suspected asbestos (damaged) material fire proofing structure to Fly Tower

12 Deficient fire lining to the soffit of the auditorium seating