

PROJECT NO. AMP-44787/1**MCC M&E CONDITION SURVEY****PROJECT Name: Building Fabric Repairs**

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Mechanical Works Survey in relation to External Fabric cladding repairs

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Executive Summary

The proposed cladding works will have limited impact on the majority of mechanical systems, however it is recommended that some works are undertaken to rectify pressing concerns with the ventilation system, and undertake repairs to reinstate the functionality of louvres within the Sports Hall.

In line with fabric repairs to the cladding it is proposed to provide maintenance and repair to the existing mechanical louvres, including relocation of actuation handles and additional physical protection to all items from projectiles. Additionally, a full mechanical ventilation duct clean to alleviate some of the other ventilation issues prior to more extensive works.

Introduction

Over the past 4 years there have been several surveys undertaken at Denmark Road's Active Lifestyles Centre. These have included a comprehensive report by Atkins (Dated January 2017) which includes a significant table of assets and their expected remaining lifespan, and suggested works. Further a report from MCC Minor works team (Dec 2019) including Mechanical, Electrical, and Structural assessments. All these reports have suggested that more comprehensive works than the cladding are undertaken in the near future.

This report focusses on the immediate mechanical work required and the works in association with the cladding works. It is highly recommended that maintenance or replacement of other systems are carried out in line with recommendations made in other reports in a timely fashion.

Mechanical Services Installation Condition Survey

Sports hall:

Assessment:

The fabric replacement is primarily external and focussed on the Sport Hall element of the complex, with other external areas being cleaned and repaired where necessary. Therefore, in line with these works the mechanical systems to be included within this body of work will be similar.

The ventilation within the sports hall has not been maintained. The mechanically operated louvres are assumed to be non-functioning and their winding mechanisms are inaccessible and most of them are broken. Externally three of these louvres on the side facing the astro turf pitches have been covered with what is assumed powder coated steel sheets, from historical images this seems to be the case for at least the last decade. Although the original reason for covering these louvres is unknown it is assumed that they became damaged and non functioning, then instead of a costly repair they were covered.

Internally the mechanical actuators for these louvres are inaccessible. The handles to operate them are mounted at a height approximately 3m above the floor. Furthermore 7 out of the 9 handles are visibly missing or damaged. It is assumed that these actuators are only mechanically operated by these handles, however it is possible that they are motorised through CO2 and/or temperature sensors.

The other mechanical systems within the Sports hall, such as the direct gas heater, flue, and cold water storage tank were noted but not investigated. It is assumed they are all still in a functioning condition, but ongoing preventative maintenance as detailed in other reports should be undertaken.

Proposal:

The louvres should have work undertaken on them to bring them back into use. It is suggested that this includes a full clean, fixing of any broken mechanisms, removal of external cladding where it exits, and a replacement actuation system with mechanical controls at an accessible level (such as 2m to keep them out of). These control points should be protected from accidental damage using a stiff wire cage or similar (as used on other fixtures in the hall). The handle actuator should be removable to allow trained staff use only to minimise damage to the mechanism or over opening and closing of the louvres. Additionally, a study mesh cage should be affixed internally around and over the louvres to protect them from accidental physical damage and externally weatherproof mesh.



External covered louvre showing evidence of ongoing physical damage



Internal louvre showing evidence of physical damage and missing actuator handle

Additional Potential Issues Elsewhere:

Changing Rooms Assessment:

As noted in other reports a significant portion of the centre would benefit from refurbishment. This includes areas causing maintenance issues such as in public changing rooms and shower areas. In these areas there are reports of mould and damage have been made. It is expected that mould growth is due to insufficient ventilation/surface damage rather than water ingress from outside.

Proposal:

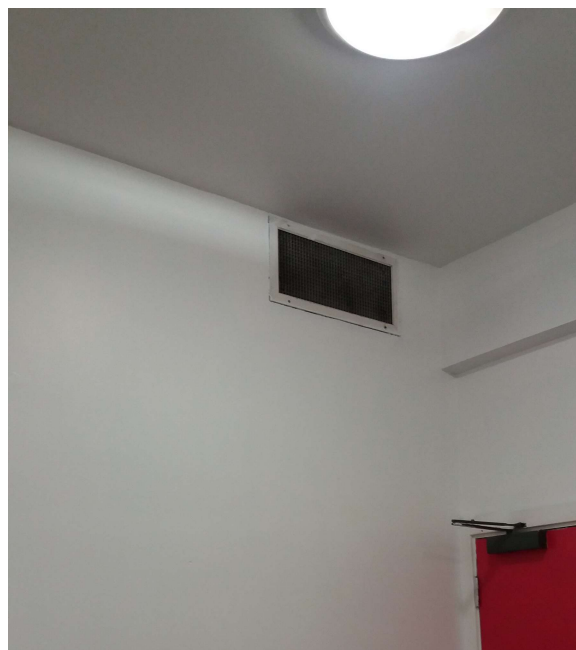
Areas which are damaged, such as missing tiles and degraded sealant should be rectified. The mould growth is expected to be due to insufficient ventilation rather than water ingress from outside or an internal leak. Therefore, in the first instance the mechanical ventilation system should be cleaned and maintained to ensure it is working as designed. Any natural ventilation grilles should also be cleaned of a build-up of detritus.

If wider more extensive internal refurbishment works are to be carried out, it is suggested that a further full assessment of the ventilation system is carried out including measuring existing flow rates, and updated where necessary to comply with current regulations and guidance.

A risk sum for these works can be included for.



Evidence of internal damage and rusting within changing rooms (image from Nov 2019)

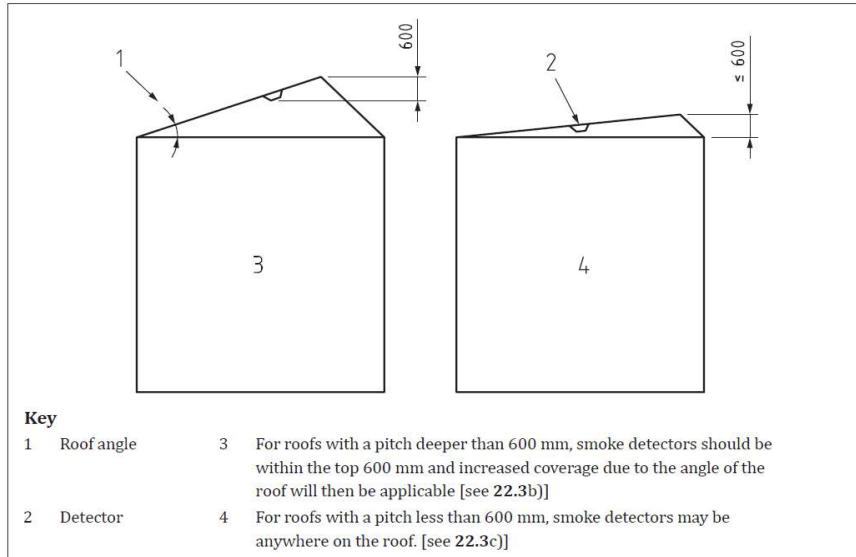


Mechanical Ventilation Grille serving a changing room (image from Nov 2019)

Other concerns:

It appears that the smoke detectors within the sports hall are too low for current regulation compliance. Although not my primary area of expertise it would appear from looking from floor level that the position of the detectors is outside that of 600mm from the pitch as stated in BS 5839-1 (2017).

Figure 7 — Smoke detectors in pitched roofs [see 22.3d)]



Excerpt from BS 5839-1 regarding smoke detector positioning



An example of the smoke detector on a lower cross beam seemingly more than 600mm from the apex