



Lewis Brown
Manchester City Council
Programme Management Office
Corporate Core Directorate
Town Hall Extension
Albert Square
Manchester
M60 2LA

REFERENCE:

Queens Park Conservation
Studio - Planning

Dear Lewis,

Subject : Roof Edge Protection - Planning

17 January 2025

This letter is intended to be shared with the Planning Department.

AtkinsRéalis
9th Floor
Piccadilly Place
Manchester
M1 3BN
Tel: 07768 695 664

AtkinsRéalis were appointed as Principal Designer for the refurbishment works to the Queens Park Conservation Studio, Rochdale. A foreseeable need for roof access has been identified as it is likely the roof will need to be accessed for the clearing of leaves / debris from rain water goods and reactive maintenance such as roof leaks. We understand that discussions have been ongoing now for some time relating to proposing to install a permanent edge protection system on the roof.

The design team have conducted a comprehensive review of various roof fall protection systems. The review process included an evaluation into each system, including a folding guardrail system, fall arrest cable system, a fixed handrail system and the potential use of a MEWP. Each system was assessed based on safety, maintenance requirements and from a logistical point of view. It is thought that a guardrail would disrupt the authenticity of the building aesthetic, however safety remains of paramount importance to both the client and design team.

Under the CDM Regulations when preparing or modifying a design, a designer must take into account the general principles of prevention. The aim is to (as far as reasonably practicable) **eliminate** foreseeable risks. Where this is not possible they must take reasonably practicable steps to **reduce** the risks or **control** them through the design process.

A fold down handrail system was reviewed, however this solution isn't suitable due to space restrictions of the pitched roof. This system is typically for a flat roof and would require to be set back 2m from the roof edge. There is also the additional safety concern, when the rail is in its folded position adjacent the roof edge, you would need to consider additional safety measures, i.e. an anchor point to tie yourself onto, until the rail is fully extended.

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A fall arrest system (i.e. man-safe system) was also considered, however this was also viewed as not suitable for various reasons. The hierarchy of control for fall protection prioritises eliminating the hazard first, followed by preventing falls, and then mitigating the consequences of falls, and typically used when other systems are not feasible. There are increased maintenance requirements in line with the LOLER 1998 Regulations), training requirements, the potential for misuse (i.e. users not having the correct equipment and forgetting / refusing to clip onto the line) and while the system is effective for fall arrest, they do not prevent falls, meaning there is still a risk of injury. Due to the existing roof constraints to the Queens Art Gallery, the installation of a fall arrest system could mean the stripping out of thermal panels.

The use of a MEWP for possible maintenance activities was also discussed. However as per the above systems, we believe this is also not suitable for this site. MEWPs again require users with specialist training, aren't ideal for uneven ground which could lead to a safety risk, can be seen as expensive and likely to be ineffective due to restrictions and the users being unable to leave the platform.

It is highly unrealistic that a MEWP operative can safely reach the heavy metal grates over the parapet wall to lift them for cleaning the roof gutters from the confines of a MEWP basket. Such cleaning tasks requires development of Safe Systems of Work, RAMS and a Work at Height Rescue Plan. Additionally, a manual handling assessment is needed to ensure lifting the grates doesn't involve excessive pulling, stretching or twisting that can result in serious injury from incorrect lifting techniques. Due to the risks from using a MEWP, (which also includes crushing, trapping and the risk of moveable mobile plant striking pedestrians) it is not considered as a safe option to access roof gutters in this particular scenario.

A bespoke combined solution has also been suggested by Planning, which includes a localised, permanent full-height handrail at the roof access point to protect the worker when entering the roof area. As the worker progresses along the parapet, collapsible sections would gradually be raised. However this hybrid approach holds the same risks as mentioned in paragraph 4.

A fixed handrail is the most suitable system for fall protection. They provide continuous protection against falls, require minimal maintenance, would not require the use of a harness or similar equipment and would be suitable for the Queens Art Gallery roof.

Based on the above and the thorough design team review, including the detailed edge protection options appraisal drawing provided by Buttress, we recommend that a fixed handrail is the best solution.

Yours faithfully



Yvonne Lewis IMaPS
Health and Safety Consultant
Health and Safety Services

cc. Mathew Lawless – Manchester City Council
Morgan Evans – Manchester City Council
Jamal Parara – AtkinsRéalis