

15 September 2023

Jack Naven
Planning Department
Manchester City Council
Town Hall
Manchester
M60 2LA

Dear Jack,

Science and Industry Museum, Liverpool Road, Manchester, M3 4JP
Listed Building Consent for repair and redecoration works to the Gantry (PP-12340008)

Please find enclosed an application for Listed Building Consent at the Science and Industry Museum for repair and redecoration works to the Gantry. The description of development is:

“Listed Building Consent for the refurbishment, repair and redecoration of the Gantry crane structure at the Power Hall, Science and Industry Museum where works shall include the stripping of paint, introduction of new waterproofing measures including at its juncture with the adjacent Power Hall, introduction of bird protection measures, carrying out of structural repairs and repainting, and other associated works”

The Science and Industry Museum is located to the northwest of central Manchester, to the east of the River Irwell and is within the Castlefield Conservation Area.

The Applicant is the Science and Industry Museum.

1 Background

In April 2022, £14.2 million of funding from the Government's Department of Culture, Media and Sport (DCMS) was awarded to the Science and Industry Museum to complete urgent repairs and improvements. This funding will facilitate works to substantially improve thermal efficiency and futureproof the Site against predicted increased rainfall as a result of climate change. Overall this will ensure the museum's environmental sustainability and support Greater Manchester's goal to become carbon neutral by 2038 – 12 years ahead of the national target. The proposed works to the Gantry fall within a wider series of essential repair and refurbishment works across the Science and Industry Museum site which seek to maintain and preserve the listed buildings to ensure their long term conservation and use. Additional works include restoration works to the roof of the Grade II listed New Warehouse as well as waterproofing works to the Special Exhibition Gallery and Viaduct. These works will be coming forward under separate planning and listed building consent applications.

Proposals contained within this application are specifically related to repair and redecoration works of the Gantry, which lies within the curtilage of the Grade II listed Power Hall. Investigation has revealed that the current protective coatings to the Gantry have failed across many locations. This has consequently led to

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widespread instances of corrosion of the existing structure. Based upon recent inspections the Gantry requires repair works to stop the progressive deterioration and corrosion of the superstructure and therefore safeguard its future.

The gantry makes an important contribution to the character of the Science and Industry Museum site, Castlefield Conservation Area and to the setting of the Powerhall and New Warehouse (both Grade II listed buildings). It is important that works are undertaken to conserve this significant industrial structure for future generations to enjoy.

2 Site Context

The Gantry is located at the eastern end of the Science and Industry Museum site, directly adjacent to Power Hall. It is understood that the Gantry was built during the 1880s and was used to facilitate the unloading of goods from train wagons. The Gantry is a steel structure that consists of two rows of nine columns with longitudinal beams running between the column heads. These beams support two paired crane beams which previously were able to track along the length of the Gantry. Secondary structures are also present which house lifting gear, and form balustrading and access gantries. The Gantry is currently painted with a black oil paint cover with a grey undercoat.

For context, please see below for a Site Location Plan highlighting where the Gantry sits within the wider Museum complex:

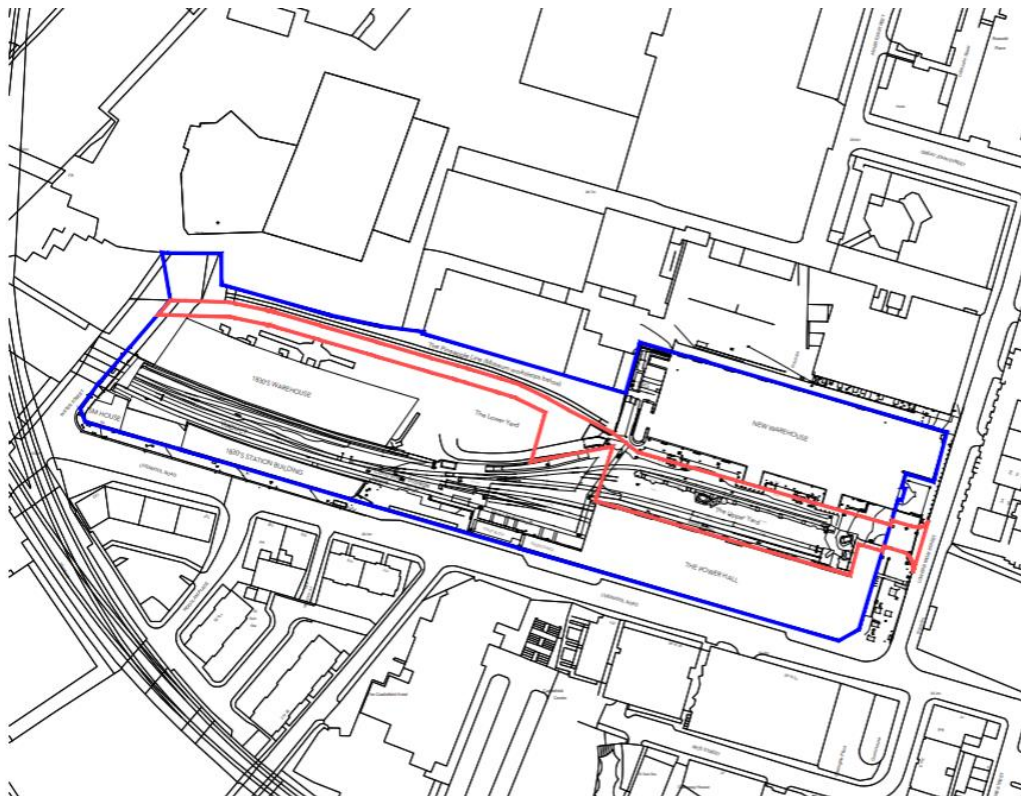


Figure 1 – Extract of Site Location Plan (Source: Buttress)

The Gantry is located within a complex of listed buildings all located within the Science and Industry Museum Site. The Museum as a whole contains six listed buildings ranging between Grade I and Grade II, with a number of outdoor spaces and walkways that allow visitors to explore these historic buildings. The Gantry itself is located within the Upper Yard between the Grade II listed New Warehouse and Power Hall. With regard to the wider context the Science and Industry Museum is located within the Castlefield Conservation Area, an area that is known for its canals, warehouses, and industrial architecture.

3 Significance of the Power Hall and Gantry

Although not being statutorily listed in its own right, the Gantry lies within the curtilage of the Grade II listed Power Hall and contributes to the group of listed buildings at the Museum. The Power Hall was originally constructed in the late 19th Century as part of Liverpool Road Station (Grade I listed) which is of very high significance due to being the world's first passenger railways station. The Power Hall was integral to the later operational life of the world's oldest station, the adjacent travelling cranes and Gantry therefore helped facilitate this operation. Furthermore, due to being constructed following the end of passenger services at Liverpool Road Station, the Power Hall and Gantry are representative of the shift to goods handling and processing and the expansion of trade and industry in Manchester.

In terms of the architectural interest, the Power Hall occupies a prominent site within the Science and Industry Museum. An example of Victorian architectural design the shipping shed complements the Passenger Station complex and gives balance to the Liverpool Road frontage. The overall mass of the building also makes an important contribution to the local streetscape, especially when viewed from one of the operational railway viaducts that cross Castlefield, therefore making a significant contribution to the conservation area. The addition of the Gantry around 1880 is representative of the increased need for the movement of heavy goods being handled at the site. The Gantry crane is a testament to the engineering prowess of its time. It was designed and constructed to handle substantial loads, showcasing the ingenuity and innovation that characterized the industrial era. The gantry crane remains in situ and is an example of a largely unchanged model.

As well as having a high level of individual heritage significance, the assets located at the Science and Industry Museum have exceptional group value. The collective presence of these related elements enhances the overall value of each individual component, creating a more cohesive and meaningful cultural and historic landscape.

For further details see the Heritage Statement prepared by Buttress.

4 Pre-Application Engagement

Manchester City Council (MCC) have been engaged throughout the pre-application process having attended four meetings on site on: 08 March 2023; 23 May 2023; 15 June 2023; and, 03 July 2023. Both Planning and Heritage Officers were present at all meetings. During these meetings, the need for the proposed works was established with regard to restoration works as well as outlining the proposed approach to such works. Discussion was also focused on how the fabric of the Gantry, which lies within the curtilage of the Grade II listed Power Hall, would be protected during works.

During initial meetings, proposals were outlined to the council giving an opportunity for MCC to highlight any queries and feedback. The subsequent meetings were utilised to present updated proposals that

incorporated feedback received from the Council. Council feedback is robustly reflected within the proposals as set out within the accompanying Design and Access Statement.

Historic England was also engaged during the development of this application. An email was issued on the 26.07.23 where proposals were outlined alongside an invitation to discuss proposals in more detail at a dedicated meeting. Historic England then confirmed on 26.07.23 that a site visit to discuss proposals would not be required. Historic England will not be a statutory consultee on this application.

Due to the scale and nature of the proposals being limited to repair and redecoration works to the Gantry only, further consultation with other stakeholders is not considered necessary and there will be no amenity impact as a result of the proposals.

5 Proposals

5.1 Re-painting

A properly installed, appropriately specified paint finish is important to defend against corrosion and future decay. It is understood that the last re-painting of the Gantry took place in the 1980's, and as such the existing paint covering has failed. Furthermore, paint sampling carried out for the Gantry shows that the 1980's finish was also applied directly over the top of the previous paint layers which was detrimental to its longevity.

To achieve the maximum design life and reduce the risk of failures it is proposed that a new paint coating is applied onto prepared bare metal of the Gantry, rather than over existing coatings. It is important to properly prepare the surface as failure to do so is likely to have a detrimental effect on the life cycle of the applied coating, and it is unlikely that an adequate warranty could be provided for coatings applied over existing paint finishes.

Heavy cleaning is necessary in multiple areas across the gantry due to the extensive nature of the corrosion. If existing paint finishes were to be left in place away from areas of corrosion a mix of backgrounds for the new paint finish would be created. This would lead to issues related to the consistency of the finish. Any proposed blast cleaning will be carried out with a blasting medium chosen to minimise damage to the underlying structural fabric, except for where corroded material is to be removed.

To aid in the redecoration of the Gantry Crick Smith were commissioned to carry out a historic paint research and analysis report in August 2020. In summary, the report identified that the whole Gantry structure has always been painted in a single colour. Analysis shows in recent phases of schemes the Gantry has been painted with a grey oil paint with earlier decorations differing slightly with red and brown lead oil paints. It is therefore concluded that the current grey oil finish has no historic precedent for the original and earlier periods of the structure. For a full breakdown of the historic paint report please see Section 4 of the Design and Access Statement prepared by Buttress. Further, discussions are to be carried out into the proposed paint finish.

5.2 Repairs

It is proposed that previous repairs are to remain in place and will not be modified as there is no sign that these repairs are failing meaning there is no structural reason for their alteration.

Where repair works are judged to be required to safeguard the structural capacity and safety of the Gantry, these will be carried out to be visually unobtrusive and achieve a seamless repair which is not visible in the finished, painted structure.

Repair workstreams include:

- Remove heavily corroded metalwork back to competent material.
- Fabricate infill section of metalwork, with material to match existing as closely as possible.
- Weld replacement metal section to the existing to achieve full structural continuity.
- Grind/polish weld flush.

Alternative approaches to these repair works have been considered however have ultimately been judged to be less appropriate. A key reason for this is that most alternative methods are better suited to tying linear cracks through metalwork, whereas the primary corrosion issues present on the Gantry include patches of corrosion, at which alternative methods effective. In addition, certain alternatives were discounted due to the potential to negatively impact the character and construction of the existing structure.

5.3 Additional Interventions

Much of the current corrosion as outlined above has been exacerbated by details within the design of the Gantry which has caused water to pool at certain locations. Two specific interventions have been proposed to address this.

New canopies are to be installed to cover the southern Gantry beam to divert rainwater away from the superstructure. As the southern beam directly abuts Power Hall's northern elevation applying coatings to the rear face is extremely challenging. This has led to widespread serious corrosion of the rear of the southern beam. Whilst it is judged that adequate structural capacity remains, stopping further deterioration is a priority and diverting water away from this area is the most robust way of achieving this. It is unlikely that this face will be able to be properly protected by painting and so diverting water away appears to be the most robust means to safeguard.

The existing crane beams are understood to be hollow, the lack of drain holes means that they are likely to trap water, leading to internal corrosion. This is likely exacerbated by internal stiffeners which will trap water at various locations along the length of the beam. The proposed conservation works address this by adding drainage points to the bottom of the beams at the positions of all vertical stiffeners to allow any trapped water to drain out. This will reduce the risk of further serious internal corrosion which may ultimately compromise the structure.

Engagement with an Environmental specialist has also allowed the development of a detail for implementing a bird proofing system for the Gantry. A system called Avishock has been recommended by NBC Environment which is a small and discreet rubber track that houses 2 copper strips covered by a conductive plastic cover. It has been tested and trialled by The Food and Research Agency (FERA) and found to be harmless to birds and is viewed positively by other organisations such as Natural England, RSPB and RSPCA. This measure will minimise the risk of birds nesting on the structure as well reducing the potential for staining along the newly refurbished Power Hall and Gantry areas.

6 Methodology

Method Statements for all works forming part of this application have been prepared by Buttress / Buro Happold which fully detail how the works will be carried out, as well as how historic fabric will be protected, prior to works beginning and throughout works taking place. This will ensure elements of the listed fabric are appropriately preserved. A Conservation Philosophy Document has also been prepared by Buro Happold outlining the current condition of the Gantry Structure as well as the proposed approach to conservation across works.

The accompanying Heritage Impact Assessment prepared by Buttress assesses the works in terms of impact on the historic fabric of the Gantry and concludes that no harm to the heritage asset has been identified within the proposals.

7 Accordance with Planning Policy

The key material planning consideration for this application is the impact on the designated heritage asset, the setting of nearby listed buildings and the character of the conservation area and therefore adherence to planning policy regarding the historic environment. Through discussion with the Conservation and Planning Officers at MCC it was agreed that the scope of this application only required an application for Listed Building Consent and not full Planning Permission.

Paragraph 190 of the NPPF (2021) states that *“in determining applications, local planning authorities should take account of:*

- *the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- *the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- *the desirability of new development making a positive contribution to local character and distinctiveness.”*

Paragraphs 201-203 place great weight on the conservation of designated heritage assets, emphasising the need to avoid “substantial harm” in terms of demolition, significant alteration, or compromise the setting unless that harm is clearly justified (via four specific tests) or there are substantial public benefits that outweigh that harm. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits.

Policy CC9 Design and Heritage within the adopted Manchester Core Strategy (2012) which sets out that development in Manchester City Centre should protect or enhance the heritage assets that have been identified, including listed buildings, conservation areas and scheduled ancient monuments. The policy also supports the need to ensure buildings are of the highest standard in terms of appearance and function, and all reinstatement works will repair the listed fabric to match the original like-for-like.

Policy EN3 Heritage within the adopted Manchester Core Strategy also set out that development must be designed to preserve or enhance the historic environment as well as the character setting and accessibility of scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains.

Saved UDP Policy DC18.1 states that the Council give particularly careful consideration to development within Conservation Areas and will seek to preserve and enhance the character of these designated areas, while saved UDP Policy DC19.1 states that applications for listed building consent involving or having an impact on buildings of Special Architectural or Historic Interest will have regard to securing the retention, restoration, maintenance and continued use of such buildings and to protecting their general setting.

7.1 Applicant Response

A Heritage Assessment has been prepared by Buttress and submitted in support of this listed building consent application. It concludes that the scheme responds appropriately and sensitively to the character and fabric of the Grade II listed asset with minimal visual impact to the museum estate. The proposals will result in numerous benefits in relation to the structural enhancement of the buildings fabric, aesthetic enhancements across the external appearance and new detailing to ensure the long-term protection of the heritage asset.

In addition, the re-instatement of a paint scheme and finish informed by the findings of extensive paint analysis will be beneficial to the character of the Castlefield Conservation area and setting of the listed buildings, through the restoration of the structure's original character and appearance. In this regard the proposals will result in **no harm** to the significance or character of the conservation area or the setting of the neighbouring listed buildings. The full assessment of harm is set out in the accompanying Heritage Impact Assessment prepared by Buttress.

The proposals are considered a positive enhancement as safeguarding measures have been designed to lower potential risk to the asset and thus cause **no harm** within the terms of the NPPF. As a result it is considered that proposals are in accordance with Policy CC9 Design and Heritage of the Manchester Core Strategy (2012) as well saved UDP Policies DC18.1 and DC19.1.

8 Application Documentation

The following information is provided in support of this application:

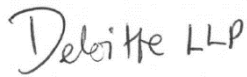
- Application form and Ownership Certificates, prepared by Deloitte (Dated 15 September 2023)
- Application Site Boundary and Site Location Plan (Dwg Ref - 9488 BUT G XX DR A (01) 000 P1), prepared by Buttress (Dated 21/03/23)
- Covering Letter, prepared by Deloitte (Dated 15 September 2023)
- Design and Access Statement, prepared by Buttress (Dated September 2023)
- Heritage Impact Assessment, prepared by Buttress (Dated August 2023)
- Schedule of Works (Ref – 9488SoW-G), prepared by Buttress (Dated September 2023)
- Stage 3 Structural Report (Ref -SIM-BHE-XX-XX-RP-S-0102) , prepared by Buro Happold (Dated 05 September 2023)
- Gantry Conservation Philosophy Document (Ref: SIM-BHE-XX-XX-DN-S-0001), prepared by Buro Happold (Dated 28 June 2023)

- Restoration Specification (Ref: 9488RS), prepared by Buttress (Dated September 2023)
- Architectural and Structural Drawings, please see Appendix A

The Planning Portal Reference for this application is: PP-12340008

We look forward to receiving your confirmation that the application has been formally registered. In the meantime, if you have any queries or require any further information, please do not hesitate to contact me or my colleague, Ellie Bird (+44 20 7007 3891 / efbird@deloitte.co.uk) and Josh Wyatt-Smith (0161 455 8541 / jwyattsmith@deloitte.co.uk).

Kind regards

A handwritten signature in dark ink that reads "Deloitte LLP". The signature is written in a cursive, flowing style.

Deloitte LLP

Appendix A – Architectural and Structural Drawings

Architectural

Drawing Title	Drawing Number
Location Plan	9488-BUT-G-XX-DR-A-(01)-000-P1
Site Plan as Existing	9488-BUT-G-GF-DR-A-(01)-001-P1
Ground Floor (Upper Yard) Plan as Existing	9488-BUT-G-GF-DR-A-(01)-002-P1
Beam Level Plan as Existing	9488-BUT-G-BL-DR-A-(01)-003-P1
North and South Columns Elevations as Existing	9488-BUT-G-XX-DR-A-(02)-001-P1
East and West Elevations as Existing	9488-BUT-NW-XX-DR-A-(02)-002-P1
Ground Floor (Upper Yard) Plan as Proposed	9488-BUT-G-GF-DR-A-(04)-002-P1
Beam Level Plan as Proposed	9488-BUT-G-BL-DR-A-(04)-003-P1
North and South Columns Elevations as Proposed	9488-BUT-G-XX-DR-A-(05)-001-P1
East and West Elevations as Proposed	9488-BUT-NW-XX-DR-A-(05)-002-P1
Gantry Repairs as Proposed	9488-BUT-G-XX-DR-A-(28)-001-P1
Beam Capping Detail as Existing and Proposed	9488-BUT-G-XX-DR-A-(28)-002-P1

Structural

Drawing Title	Drawing Number
Proposed Gantry Works – Stage 3	SIM-BHE-GA-XX-S-0003