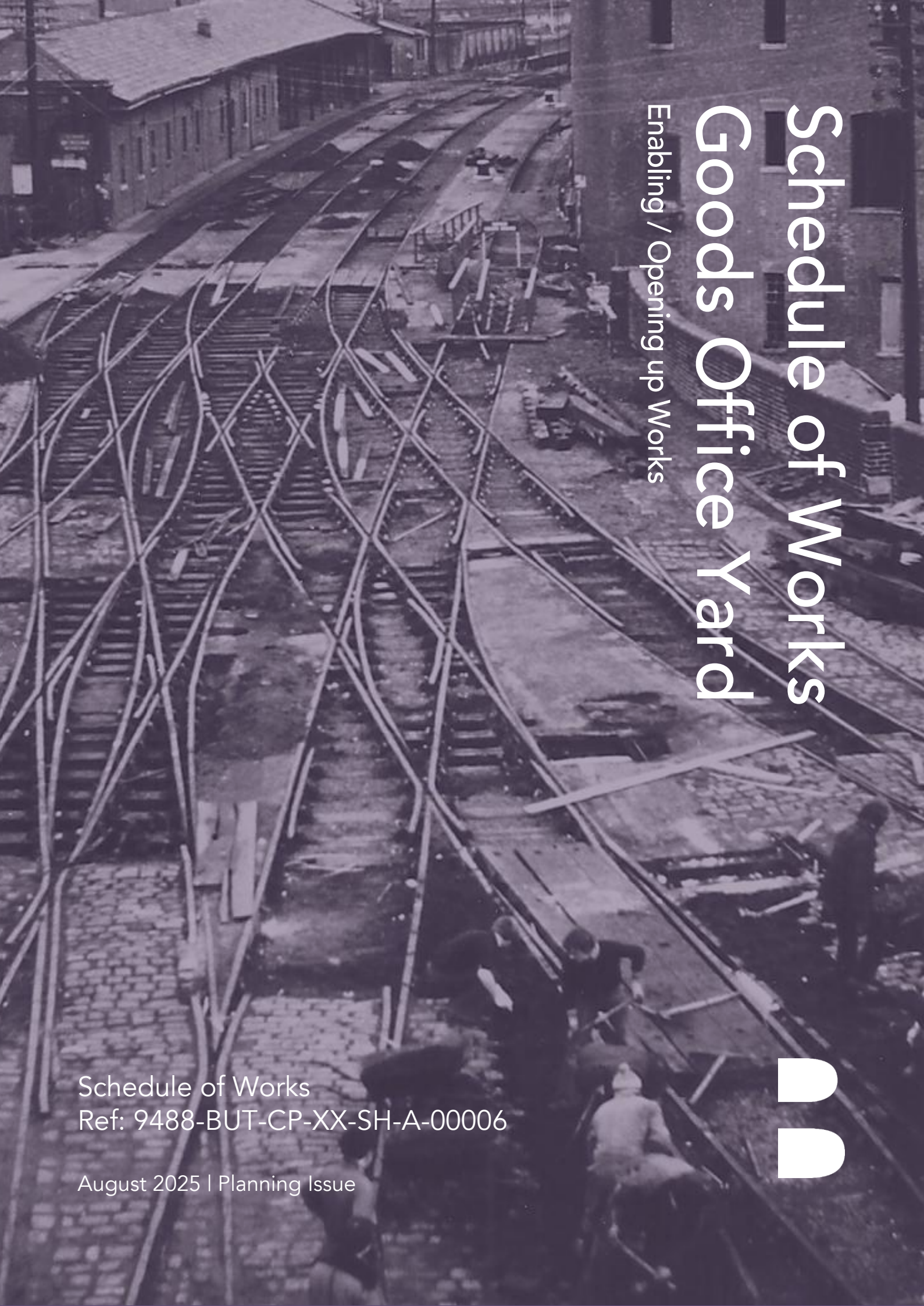

Schedule of Works
Goods Office Yard

Enabling / Opening up Works

Schedule of Works
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Buttress

Buttress Architects Ltd.
41 Bengal St.
Manchester
M4 6AF

T: 0161 236 3303
W: www.buttress.net

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1.0 Introduction

This document contains a description of the 'work items' that are to be undertaken as part of the project and it is to be read in conjunction with the Preliminaries and Specification.

A ***Work Item*** is either; a single operation, a series of operations or a complete element of the project and the cost for each 'work item' is to be entered in the Schedule of Works.

The ***Schedule of Works*** quantifies many of the 'work items' contained in this document; reference should be made to separate accompanying pricing document.

The ***Specifications*** 'Conservation & NBS' contain specifications and method statements, references are provided across drawings, schedules, specifications, documents etc. To be used as reference documents.

The ***Drawings*** that accompany the LBC / tender documentation have, where appropriate, been annotated with the 'work item' references used in this document.

1.1 Definitions

EMPLOYER'S REPRESENTATIVE means the person nominated in the Contract as Employer's Representative, Architect, Contract Administrator or Project Manager.

CA means both Contract Administrator/Accredited Professional. Inspections and approvals are to be dealt with by said representative individual.

REMOVE means disconnect, dismantle as necessary and remove the stated element, work or component and all associated accessories, fastenings, supports, linings, and bedding materials, and dispose of unwanted materials. It does not include removing associated pipework, wiring, ductwork, or other services.

KEEP FOR REUSE means during removal prevent damage to the stated components or materials and clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or for use in the Works as instructed.

REPLACE means remove the stated existing components, features, and finishes. Provide and fit in lieu new components, features or finishes which, unless specified otherwise, must match those which have been removed. Make good as necessary.

REPAIR means carry out local remedial work to components, features and finishes as found in the existing building, resecure, or refix as necessary and leave in a sound and neat condition. It does not include:

- Replacement of components or parts of components.
- Redecoration.

MAKE GOOD means carry out local remedial work to components, features and finishes which have been disturbed by other, previous work under this Contract and leave in a sound and neat condition. It does not include:

- Replacement of components or parts of components.
- Redecoration.

The meaning of the term shall not be limited by this definition where used in connection with the defects liability provisions of the Contract.

EASE means make minor adjustments to moving parts of the stated component to achieve good fit in both open and closed positions and ensure free movement in relation to fixed surrounds. Make good as necessary.

TO MATCH existing means, use products, materials and methods to match closely all visual characteristics and features of the existing work, with joints between existing and new work as inconspicuous as possible, all to approval of appearance.

APPRAISE means the contractor is to appraise and carry out own independent assessment of the works detailed here within and update the scope of works as is necessary through consultation with the Architect.

SALVAGED refers to materials that have been *removed* and *kept for reuse* on this job: no second-hand or reclaimed material are to be used on this project.

CONSOLIDATION means the contractor is to make something physically stronger and solid. Returning / combing items into a single / coherent whole. Rake out and repoint / build with an NHL mortar. Return to match original profiles. Rebuild in association with structural ties / wall core gravity grouting etc

1.2 Precedence

General: Where, and to the extent that, documents conflict the following orders of precedence apply:

The contractor must read in association with all Landscape Architect, Structural, MEP & Civil Engineering packages. Separate landscaping, structural, MEP and civil engineering proposals take precedent over indicative architectural information, illustrated across architectural drawings.

2.0 General

2.1 Project Background

2.1.1 The combined project focuses on a number of areas within Science & Industry Museum complex. The Science and Industry Museum is located to the north-west of central Manchester, to the east of the River Irwell and within the Castlefield Conservation Area.

2.1.2 This schedule of works focuses on the **Goods Office Yard** which is located between the Upper Yard to the east at the Viaduct (Station Approach) to the West. The Goods Office Yard interfaces with the west elevation of the Power Hall and north elevation of the Goods Office and toilet block. There is an undercroft which exists below this area, which is currently an unused space, due to extensive and ongoing water ingress issues.

2.1.3 The works proposals extending across the Goods Office Yard are to be split into two distinct phases.

2.1.3.1 **Phase I** – will be an enabling / opening up works package, where it is proposed to carefully lift, remove and store segments of the railway tracks for future reinstatement. Focused and identified areas of ballast, cobble setts and hard finishes / materials, will be carefully lifted, removed and set aside for future reinstatement. The sub-base material will be removed to a depth of circa 1.25m below external finish ground levels. Excavation of a strips of land, extending down to expose the extrados of buried and concealed arches / foundations below, to allow for inspection and analysis, to inform future proposals.

2.1.3.2 This phase will allow for backfilling of all trenches and trial holes, including the full reinstatement of backfill material, all external finishes / materials and railway tracks within their original locations.

2.1.3.3 This package of work will help inform future proposals for the permanent enhanced landscaping and waterproofing scheme.

2.1.3.4 **Phase II** – may include a permanent landscaping scheme, where a concrete slab, troughs, below ground drainage network will likely be introduced to manage and control surface water, including the introduction of a waterproofing solution, all concealed and hidden by a new landscaping scheme, which will connect the Upper Yard and Viaduct (Station Approach) landscaping schemes together.

2.1.4 The Goods Office Yard area/structure is not specifically Listed but is located between several listed structures, interfacing with the Grade II listed Power Hall and Goods Office, including being within associated Grade I & II curtilage.

2.1.5 The site is within close proximity to Deansgate, Spinningfields and the Castlefield Basin. The site is well connected with Deansgate train station and Metrolink approximately 550m away. Refer to separate Design and Access Statement for detailed location information.

2.2 Familiarisation

2.2.1 The contractor must fully familiarise themselves with the buildings / assets and their construction, as well as site wide access and logistics, prior to submitting their tender.

2.3 Preliminaries and General Particulars

2.3.1 The contractor must include for all necessary scaffolding, temporary public access, building / asset protection, perimeter hoarding to all scaffold / storage and welfare facilities, internal access provisions etc. Include for protection of historic features and fabric accordingly. Include for all necessary access provisions, taking into account that the site complex is a live environment and may require alteration to said access components at any given time. Prior to submitting a price, the contractor must have visited the site to assess the logistics and access requirements.

2.4 Drawings

2.4.1 All dimensions are in millimetres unless noted otherwise.

2.4.2 The existing general arrangement base drawings (plans, sections and elevations) are based upon 2025 data provided by others. The accuracy & general arrangement of this information is unknown and subject to further review onsite and may therefore be subject to change. Dimensions and arrangements must be checked for accuracy onsite by the contractor, prior to any works commencing, ordering or manufacture / fabrication of any elements or components.

2.4.3 Any discrepancies / irregularities must be reported to the CA immediately. No work shall commence until any such discrepancies have been resolved.

2.4.4 In any project involving fabric repairs, the tendered drawings may have been prepared well in advance of the contract period and are reflective of the condition / arrangement at the time of survey.

2.4.5 The marked-up drawings are based upon surveys from ground level and other accessible vantage points only.

2.4.6 The contractor and/or subcontractor must allow a period of two weeks in their programme, to reappraise the drawings and confirm the scope of works to each identified area, once appropriate and safe access has been provided.

2.4.7 All areas for repair are to be marked up from the drawings onsite by the contractor and agreed with the Architect, prior to commencing any works.

2.4.8 Quantities / areas identified are for tender purposes only.

2.4.9 Specific drawing references are provided against each of the work items throughout this schedule, however the contractor must read and appraise all drawings, schedules and specifications provided, against those specifically referenced. If the contractor believes that they are not in possession of the correct and/or relevant information, they must advise and report to the CA immediately.

2.5 Limitations

2.5.1 The drawings are based upon existing data and no concealed and / or hidden spaces have been exposed and / or opened up for inspection, unless specifically highlighted. Therefore, the arrangement and interfacing illustrated across details are purely indicative / approximate only. The accuracy of the survey data graphically presented cannot be confirmed. These drawings are for tender purposes only.

2.5.2 Limited and focused opening up works have been undertaken, to inform build-ups as existing. All detail arrangements and build-ups beyond external visible surfaces are purely indicative / approximations only with suggested construction and interfacing arrangements. The contractor must check all existing build-ups once appropriate safe access has been provided and will advise the Architect of any discrepancies.

2.5.3 No hidden or concealed spaces have been assessed or opened up, unless otherwise noted.

2.6 External ‘dilapidation’ inspection of work areas

2.6.1 Prior to the commencement of any work on site including the erection of scaffolding or other the contractor is to allow to undertake an inspection with the CA in order to record the existing condition of the existing building, structures (areas not subject to change in particular) including roofs, footpaths, road and other external paved areas.

2.6.2 The contractor is to provide report of any significant defects together with a photographic record of the external areas.

2.7 Photographs

2.7.1 The contractor must provide a photographic record of each individual repair with at least one photograph before, during and after. Complex areas such as major rebuilding works will require a series of photographs to record the work properly and fully.

2.7.2 Photographs do not need to be presented in a document; however, each file should be renamed to have a prefix that corresponds with the unique reference number provided on the drawing.

2.8 Cleaning upon completion of works

2.8.1 All parts of the elevations, working areas are to be thoroughly cleaned down on completion of the works. Prior to dismantling the scaffold ensure that it is cleaned and clear of any debris that could damage the face of the building. As the scaffold is dismantled remove debris and brush clean all sills, ledges, and the like.

2.8.2 This item is specifically for cleaning upon completion. Cleaning during the works as required for good housekeeping is to be costed elsewhere within the preliminaries.

2.9 Samples / trial works

2.9.1 Prior to the commencement of any works, there may be a requirement to provide samples / trial works in advance of progressing full packages of works.

2.9.2 These must be provided in a timely manner, as outlined within the separate Architectural Conservation Specification.

2.10 Sub-consultants, specialists

2.10.1 General: The schedule of works must be read in conjunction with all available sub consultant / specialists' information, including drawings, schedules, specifications, and reports. Any discrepancies / anomalies identified are to be brought to the attention of the Architect as soon as they become evident.

2.10.2 Separate Landscaping, Structural, Civil and MEP Engineers proposals take precedent over indicative architectural information.

2.11 Dimensions

2.11.1 Dimensions: Do not rely on scaled dimensions.

2.11.2 All dimensions relevant to the existing buildings and any other assets or features must be confirmed by the contractor before, order, manufacture, and installation.

2.11.3 The contractor must undertake a survey(s) in order to ascertain sufficient information about the structures and their surroundings, prior to undertaking any works.

2.12 Architectural information:

2.12.1 All construction must be undertaken and completed in strict accordance with all drawings, specifications, schedules, statutory building and planning regulations, health and safety regulations, all relevant British Standards, codes of practice requirements and manufacturers recommendations, standards, and instructions.

2.12.2 Any discrepancies and/or anomalies across construction information must be reported immediately to the contract administrator prior to commencement of any works.

2.13 Schedule of works, drawings, specifications, and reports:

2.13.1 General: The specification must be read in association with all available drawings, schedules, specifications, and reports etc. Copies of which are issued with the tender documents.

2.13.2 Architect's drawings numbered: See drawing issue sheet(s) accompanying tender.

2.13.3 The Contractor must note that anything mentioned or shown on the aforesaid drawings that is not contained in the specifications and/or schedules or anything which is in the specifications and/or schedules which does not appear in the drawings shall be deemed to be included in the tender figure.

2.13.4 The Contractor must fully acquaint themselves with the drawings, specifications, schedules, reports, during the tender period

and if there should be anything which is ambiguous or otherwise not clear, the Contractor is to obtain clarification from the Architect before submitting their tender.

2.14 Work Items

2.14.1 Work item headings and sub-headings.

- 100 Goods Office Yard - Investigative Works
    - 101 Goods Office Yard Context
    - 102 Investigative Works

3.0 Specific Requirements

3.1 Method Statements

3.1.1 The Contractor must provide method statements detailing the sequencing, method of work and protection for the following items:

3.1.1.1 As per Method Statement reference: Goods Office Enabling works methodology REV B 29.07.25

3.1.2 Note: the contractor may be required to provide additional method statements above and beyond those listed in advance or during the various works, to evolve as the project progresses.

3.2 Work in Listed Buildings and Heritage Assets

3.2.1 It is the responsibility of the Contractor to ensure that no disturbance of any fabric within the listed buildings takes place unless this is specifically detailed on the Architect's drawings and/or specification. The Architect's information is subject to listed building consent and any deviation from this is an offence under the Planning (Listed Buildings and Conservation Areas) Act 1990.

3.2.2 Should the Contractor be in doubt about the extent of works or protection required, they must consult with the Architect prior to those works being carried out. Agreement may also be required from the local authority Conservation Officer in some cases, and therefore the Contractor must make any queries to the Architect in a timely manner.

3.2.3 The Contractor must provide adequate protection to any historic features which are to be retained in order to avoid damage as the works are in progress. The methods for protection must be agreed with the Architect prior to works being carried out.

3.2.4 Should it be the case that it is not possible to protect historic features without causing further damage to the building, it is the Contractor's responsibility to exercise maximum care to avoid disturbing any historic fabric during the course of the works. This may entail an approach of temporary protection with the agreement of the Architect.

3.2.5 It should be noted that damage to historic fabric cannot be made good in an acceptable manner and that the Contractor is to take all necessary measures to ensure damage does not occur.

3.2.6 The Contractor is to satisfy themselves that they are in possession of adequate information prior to commencing any work.

3.2.7 Any discrepancies found within this document by the Contractor must be brought to the attention of the Architect at the time of tendering.

3.2.8 The contractor is to be responsible for all on site measurement including setting out for new work, details and dimensions for any replacement or repair work.

3.2.9 All dimensions included on the drawings are to be checked for accuracy on site prior to commencing work and any discrepancies reported to the Architect immediately.

3.2.10 No work shall commence until any such discrepancies have been resolved.

3.3 Opening-up and Inspection

3.3.1 It is the nature of the historic building repair works described on the drawings, that the full scope or nature of these works will not be known until opening-up and exposure of concealed / hidden structure and access to closely inspect the historic fabric has been undertaken by the contractor and Architect. The Contractor is to be fully aware of the requirement for inspection and clarification of the scope and specification of repairs throughout the works, making allowance within the programme for such input by the Architect. It is expected that the Contractor shall make themselves available together with their Head Mason (or other specialist) and Conservator to inspect and confirm the scope of works to each elevation / work area with the Architect, Curator and Employer's representatives and that this period of further investigation shall be allowed for in their

programme.

3.3.2 The Contractor is to allow for a sequencing of work and operations, typically as set out below:

1. Preparation and submission of method statements and samples, with adequate time for review by the Design Team and revision or re-sourcing, as necessary. It is recommended that method statements be submitted 2 weeks prior to the undertaking of the relevant works.
2. Protection of the adjacent historic fabric and access routes as required.
3. Recording and opening-up of the fabric, to expose concealed structure etc.
4. Inspection of the fabric by the Architect, allowing for recording and survey works, as necessary. The contractor is to include for providing access and allowing time within the programme for such inspections.
5. Inspection of the fabric by the structural engineer, local authority etc and/or specialist surveyors, timber and damp for example.
6. Confirmation of instructions for works, which might differ from expectations and allowances, outlined within the contract documents. The contractor is to allow time within the programme and sequence the opening-up and repairs to enable such input.
7. Undertaking of the specified works, with allowance for inspection by the Design Team as works progress and prior to covering in.
8. On-going maintenance and adaptation of protection as necessary, removal of the same and cleaning of the site area upon completion of the works.

3.4 Samples

3.4.1 Sample panels will be executed prior to commencement of the works and will be carried out by skilled craftspeople who will be working on the project. The purpose of the sample panels is to ensure that the craftsperson is familiar with the proper execution and care of the works and that the Architect and Property Curator is satisfied with the level of workmanship to be produced.

3.4.2 The Contractor shall allow for the participation of the Employer's representatives in the planning, execution, and review of all samples.

3.4.3 The Contractor is to provide a secure facility within their compound to store samples of materials and workmanship approved by the Architect. These samples are to remain available for the duration of the works.

3.5 Recording

3.5.1 Photographs

3.5.1.1 High quality digital detailed and general photographs will be taken of areas of specific interest at each progress stage, in particular to record evidence of building sequences and materials which may be subsequently lost or covered up.

3.5.1.2 At the completion of work general photographs will be taken of the completed work.

3.5.2 Drawings

3.5.2.1 Final Construction drawings to show all areas of stone repair and renewal, and mortar repairs shall be prepared.

3.5.3 Records and Reports

3.5.3.1 Written records will be kept describing work carried out and observations regarding the condition of the works. Conservation reports of work to fine carving and details shall be prepared.

3.5.4 Archive Standards

3.5.4.1 All record be they photographic, drawn or written, shall be deposited in the assigned work shared folder location in accordance with the Employer's archive policy.

3.6 Workmanship

3.6.1 The Contractor is to be aware that the Science and Industry Museum, Manchester is an important heritage site, with a number of listed assets and as such only skilled masons, conservators and craftspeople are to execute the works. Full details of those undertaking the works are to be provided to the Architect prior to commencing any works on site.

3.7 Programme

3.7.1 The Contractor shall provide a programme of work based on the tender drawings before commencement of work on site. This programme shall indicate separately the erection sequence for access scaffold, inspection period, order period and works on site for each phase of work.

4.0 Opening Up & Building / Asset Protection

4.1 General

4.1.1 Work which exposes the historic fabric to the weather (where protection is not specified) undertake during favourable weather; once such work is commenced, complete it as quickly as possible. The Contractor is responsible for preservation of the historic fabric in accordance with the contract documents.

4.1.2 Cutting away and alteration work generally:

Undertake with the minimum amount of disturbance to those parts of the building intended to be left undisturbed. The use of power tools should be carefully considered and only used with the Architect's approval. The Contractor is to assume that all opening up will be undertaken by hand.

4.1.3 Opening up of joinery should be undertaken at existing access points, or by removal of complete panels, fascia's etc. to joint lines. Retain, reference, and set aside for future refixing any removed panels.

4.1.4 Provide all necessary forms of protection, temporary support, and safe access as necessary to allow for inspection of and access to the exposed structure or fabric.

4.2 Workmanship Generally

4.2.1 Generally, undertake the works as follows:

a) Prior to undertaking any construction works, all working areas and access routes are to be thoroughly protected for the duration of the contract.

b) The contractor is to provide adequate protection to any historic features which are to be retained in order to avoid damage as the works are in progress. The methods for protection should be agreed with the Architect prior to works being implemented.

c) Whilst historic surfaces are often worn, discoloured and out of true level, these imperfections can contribute to the interest and historic value of a building and thus should be thoroughly protected.

d) The Contractor must be aware that works of opening up which are not carried out in accordance with the specification may contravene legislation requiring Listed Building Consent.

e) Work which exposes the building fabric to the weather (where protection is not specified) undertake during favourable weather; once such work is commenced, complete it as quickly as possible. The Contractor is responsible for the preservation of the building fabric in accordance with the contract documents.

f) Cutting away and alteration work generally: undertake with the minimum amount of disturbance to those parts of the building intended to be left undisturbed. The use of power tools should be carefully considered and only used with CA approval. The Contractor is to assume that all opening up will be undertaken by hand.

g) Opening up of joinery should be undertaken at existing access points, or by removal of complete panels, fascia's etc. to joint lines. Retain, reference and set aside for future refixing any removed panels.

h) Provide all necessary forms of protection, temporary support and safe access as necessary to allow for inspection of and access to the exposed structure or fabric.

4.3 Onsite Recording Prior To Works

4.3.1 In advance of any works commencing onsite (inc. opening up, demolition, removals, temporary, conservation, restoration works etc) the existing building fabric musy be thoroughly recorded to provide a snapshot in time and reference archive material for future usage.

4.3.2 The contractor shall provide a full dilapidation survey, covering the area of works, to the CA for wider distribution and should be provided digitally.

4.3.3 The contractor shall agree with the CA and clearly label onsite items, fabric and contents that are not to be demolished and/or removed but are to be carefully protected and retained for reuse, conservation and/or restoration works.

4.3.4 Subject to approval and prior to commencing removal of detritus, the contractor shall ensure that all items to be salvaged are identified, set aside, protected, labelled (catalogued & tagged), safely stored for reuse and/or retention. Tagging protocol as per item 17.4.

4.3.5 The contractor shall adopt the following strategy for recording onsite items, as follows:

a) Full dilapidation survey photographs both internally and externally prior to any works taking place.

b) Photograph each specific asset, component and/or element which are to undergo works (removal, repair, restoration etc), including but not limited to:

   a. Wall fixed items; wall panelling, dado rails, picture rails, skirtings, inbuilt furniture, lighting etc.

   b. Ceiling fixed items; cornices, roses, lighting etc.

   c. Windows; varying types, surrounds, cills, linings, ironmongery etc.

   d. Door set; varying types, door leaf(s), frame, linings, architraves, ironmongery etc.

c) Take mouldings and profiles (cross sections/dimensions) of elements and components to allow for reproductions (like-for-like) to be produced.

d) Where elements of the fabric are loose, carefully remove (retain intact as far as is feasible), tag and store a remnant (of the above) of each instance to assist with future matching within a designated area within the building.

e) It will also be possible to record areas of the fabric which were previously unseen: offering a unique opportunity to gather invaluable data, previously unavailable.

4.4 Onsite Tagging and Recording of Objects

4.4.1 No direct fix and or permanent marking of items will be acceptable.

4.4.2 Temporarily mark a unique identification number on each object, component prior to any removal and catalogue accordingly.

4.4.3 The reference number must be:

- unique, none repeating.
- durable to remain legible over time.
- removable, should the need arise to make a change in the future.
- never cause harm to the object, element, or component.

4.4.4 All items temporarily removed and identified to be reinstated within original locations at a later date, should be thoroughly recorded so that the item is returned to the exact position to which it was removed.

4.4.5 The exact tagging protocol may differ from object to object but will typically include one of the following methods:

- Cloth binding cord loosely wrapped and tied with solid tag.
- Brass wire and solid tag, can be used where existing holes or voids exist within the object in question. Choose a strong holding point.
- Direct paper labels, generated from a computer or hand written.

4.4.6 If in doubt, discuss in further detail with the Architect and client curator.

4.5 Preparation Of Fabric

4.5.1 Prior to installation of any protective measures. The areas in question must be thoroughly cleaned to remove all loose debris / dust which could lead to scratching / abrasion of the finished surface once protective boards are overlaid.

4.5.2 It is important to try to not over wet floors as the substrate could become loosened or efflorescence could be triggered. Surface dirt should be removed with minimal quantities of warm water.

4.5.3 Sweep and vacuum existing floors / components prior to laying / fixing of any protective boards.

4.5.4 Contractor is to photograph and record all areas prior to undertaking any works.

4.6 Protection Of Fabric

4.6.1 Generally, provide all necessary and suitable protection to all areas of work and areas adjacent to the works in order to enable the least destructive, safe and efficient means of carrying out of the works.

4.6.2 The element of protection is to encompass the non-destructive shielding of the existing building fabric and finishes against wear and tear and destructive working methods; the enclosing of working areas and areas of opening up against environmental and climatic conditions; the security of the working area and the site as a whole and the safety of site operatives, visitors and general public.

4.6.3 The structure, fabric, decoration, and contents of the buildings are to be suitably protected by the use of dustsheets, solid protection, sealing of doors, etc.

4.6.4 All protection is to be loose laid, or pressure fixed by wedging, bracing, clamping or tying as appropriate in a manner that will not damage the existing fabric of the building, no direct fix will be acceptable. The use of cloth string is acceptable.

4.6.5 The Contractor is to make allowance for and carry out all necessary modifications and adaptations of all forms of protection, where so instructed or where so required, to enable the safe and efficient carrying out of the works.

4.6.6 All protective installation must be regularly and routinely checked, with replacement of materials etc where well-worn and/or defective.

4.6.7 The appropriate method of protection is to be agreed with the CA.

4.6.8 Equipment and materials must not be propped against decorated surfaces, fittings, or furniture.

4.6.9 Footwear is to be appropriate to the part of the building or structure in which the work is being undertaken to avoid damage to floor finishes and coverings.

4.6.10 No contents or fixture and fittings shall be moved by the Contractor without the written permission of client.

4.6.11 No adhesive tapes or mechanical fixings shall be used to secure insitu protection. If no alternatives can be proposed, each instance of proposed use should be discussed with the Architect and Project Conservator.

4.6.12 No item longer than 1200mm can be carried through the building unsupervised. Materials and objects should be appropriately covered to ensure that damage will not occur to either the fabric or contents of the building. The admission of equipment / materials longer than 1200mm into the building will be considered – however prior consultation must be sought with the Architect / Project Conservator.

4.6.13 Cutting of boards on site; dustsheets must be laid, and vacuum cleaners must be available at the point of work and used to collect dust as and when created.

4.6.14 All Contractors must adhere to the restricted walkways through the building / site. These routes MUST be clearly visible and identified by the Contractor.

4.6.15 All contractors must use dustsheets at all times.

4.6.16 Illustrative prints relating to particularly fragile elements / components, will be located at the site of work. All contractors are required to familiarise themselves with the pictures provided.

4.6.17 All areas of the building / asset are vulnerable and important and should be protected for the duration of the building works.

4.6.18 All items protected must be protected by products and materials which are fire retardant.

4.7 Collections Care

4.7.1 The contractor must liaise with the client conservation and collections care manager and Architect to develop suitable protective measures for exhibits and collections items, where required, highlighted.

4.7.2 It is important to note that any changes across the interior building fabric during construction works packages may result in variations across previously maintained relative humidity, temperature, moisture, and ventilation levels. This may adversely affect the exhibits and collections items.

4.7.3 It is of paramount importance to maintain all internal climatic conditions, for the duration of the contract.

4.7.4 Temporary monitoring equipment may need to be deployed. Locations are to be agreed with the client collections team.

4.7.5 Monitoring equipment / sensors may be required to monitor, rH, temperature, moisture, ventilation, vibration levels.

4.7.6 The collections team will undertake enhanced environmental control of the building spaces.

4.8 Conservation Working Practices During Building Works

4.8.1 It is of paramount importance that the working site is maintained and cleaned throughout the construction works.

4.8.2 The following measures are to be observed and implemented throughout the duration of the contract to minimize the disruption to the Client and occupier and reduce the time needed for the final clean prior to Client handover.

- Prior to temporary fixing of protection measures, area to be covered should be vacuumed / cleaned to remove all loose debris and dust prior to overboarding.
- Vacuum cleaners must be used at source where dust is being created. Bags and filters must be regularly changed, and the vacuum cleaners well maintained.
- Contractors should vacuum up after themselves at the end of each working day.
- Insitu protection must be well maintained.
- Keep to walkways of protection.
- Items over 1.2m need to be carried by two people, with ends padded.
- Provide walkways of Antinox covered with hardwood through each room.
- All equipment and materials should be placed on Antinox.
- Loose laid sheets of Antinox should be used by contractors around work areas.
- No access to storage areas or other unauthorised areas outside work site except where accompanied at all times by Client or Project Architect.

4.9 Materials For Protection Generally

4.9.1 Dust Sheets: To be linen or cotton type close weave material to prevent the ingress of dust and paints.

4.9.2 Polythene Sheet: To be minimum 250micron polythene, laid with all joints lapped and taped to prevent the passage of dust and moisture.

4.9.3 Reinforced Polythene: To be heavy duty Sisalite reinforced polythene sheet (860) by British Sisalcraft or similar.

4.9.4 Fibreboard: To be minimum 12mm Tentest board, loose laid and cut to suit irregular plan shape.

4.9.5 Underlay: To be carpet felt underlay, minimum 1.36 kilos per m2, loose laid and cut to suit.

4.9.6 Plywood: To be water and boilproof (wbp) plywood to BS 6566. Generally, the following minimum thicknesses will be used:

4.9.7 Floor protection: 4mm, cut to suit with joints taped.

4.9.8 Framed protection: 12mm on softwood frame, formed independent of the protected element.

4.9.9 Rubberized Foam: To be flexible foamtype pipework insulation, i.e. Armourflex or similar, of a suitable diameter and thickness to provide suitable protection.

4.9.10 Antinox is available from Swiftec tel: 0161 945 1500. Correx 2mm black flame retardant, is available from Cordek Ltd. tel: 01403 799 600.

4.9.11 Flame retardant bubblewrap FRC120 is available from Euronova Ltd. tel: 0117 944 2061.

4.9.12 Megafilm is available from Megafilm, tel: 0121 608 6161.

4.9.13 Flame retardant 5mm Impact CoverGuard TIG 5MM150, is available from Bainbridge International tel: 01489 776020. Bainbridge International also supply flame retardant bubblewrap.

4.10 Opening Up and Further Assessment

4.10.1 It may be necessary in some instances to open up areas of the fabric to provide further insight and assessment of building fabric which is concealed and/or hidden from view, this will help to define and inform the full extent and scope of remedial works and detailed repairs required within these locations. For example, there may be embedded timber members within masonry walls which are showing signs of structural failure, this may require microdrilling or the use of a resistograph tool.

4.10.2 Locations identified to be opened up shall be kept to an absolute minimum with minimal disturbance to the surrounding fabric.

4.10.3 The full extent of the opening up works is to be agreed / marked up with the Architect onsite prior to the commencement of any invasive works to ensure that there is the absolute minimum of disturbance to the historic fabric, and that all other areas are suitably protected.

4.10.4 If investigation of spores / fungal decay / mould growth is required, this MUST be completed by timber and damp specialist.

4.10.5 Works specified as requiring opening up for inspection, shall be undertaken only in accordance with the agreed schedule of opening up, and Method Statements to be submitted by the Contractor. The Contractor should be aware that works to open up structure and finishes which are not carried out in accordance with the specification, may contravene legislation requiring Listed Building Consent.

4.10.6 A full photographic record shall be undertaken before commencement and a record maintained throughout the progress of the works.

4.10.7 All areas of the fabric opened up for inspection MUST be reinstated upon completion of the main works. Reinstatement of the fabric may be required sooner, dependant on the item to which has been opened up. For example, if an area of the external envelope has been opened up, this shall be reinstated and made good following the inspection works to retain a weathertight enclosure.

4.10.8 All works MUST be undertaken by approved and skilled conservation specialist contractors.

4.10.9 If required, trial holes are to be dug in locations agreed with the Architect or Structural Engineer. In locations adjacent to existing buildings or site features, works are to be undertaken by hand.

4.10.10 All necessary protection and propping are to be incorporated to ensure the structural integrity of the existing building, the protection of the excavation and building fabric and the safety of the site operatives, occupiers and visitors.

4.10.11 Lifting of floorboards is to be undertaken using nonpowered hand tools only, by skilled craftsmen and in such a way as to allow for the reinstatement of all fabric to its existing state.

4.10.12 Where there are screw fixed floorboards, these are to be taken up in preference to others. Raised floorboards should be placed carefully on one side such that they do not present a Health and Safety hazard from projecting nail fixings and that these do not damage any existing part of the fabric of the buildings or its contents. Any dust and debris created by lifting of the boards should be vacuumed up as the work proceeds (not only at the end of the working day) to limit the spread of dust, although particular vigilance is required for items of potential archaeological importance.

4.10.13 Any items of masonry that are dismantled are to be carefully referenced with their original location. Do not scratch references, mark only on unexposed faces. Any dismantled masonry is to be stored on soft, non-staining, material and is to be placed without stone-to-stone contact.

4.10.14 Service ductwork is generally to be opened up for inspection at locations of existing access panels, or other locations as agreed with the Architect. Ductwork and services are to be opened up in such a way as to allow for the reinstatement to their proper functioning state of all fabric and services on completion of the work.

4.10.15 Opening up and investigation of existing services are to be carried out strictly as described within the agreed Contractor's Method Statements.

4.10.16 Close circuit television (CCTV) investigations where so specified, shall be undertaken by an approved specialist, in accordance with the Architect's instructions.

4.10.17 The Contractor is to inform the Architect when areas of opening up are safely secured and available for inspection, allowing a minimum of two working days' notice. Following inspection, unless otherwise instructed, backfill, relay, refix all disturbed materials and fabric to the area of the works, and make good surface finishes.

4.11 Health And Safety

4.11.1 The contractor will provide props, struts, scaffolding and shores, etc as necessary to ensure the stability of the existing structures, including making preliminary investigations and calculations where necessary. The Contractor is responsible for the overall safety of the Works and existing structures unless expressly made the responsibility of others in the Contract Documents. All such methods of temporary support and access are to be clean and isolated from the building fabric by suitable forms of protection.

4.11.2 All works are to be carried out strictly in accordance with all relevant legislation and legal obligations currently in force. The Contractor is to have particular consideration of the programming, planning and safe carrying out of operations in respect of other works and site operatives on and about the building.

4.11.3 The Contractor is to prepare and submit to the Contract Administrator and Principal Designer, for consideration, Risk Assessments and Method Statements to address the safe carrying out of the works with the minimum of disruption to the existing structure and fabric.

4.11.4 All opening up is to be carried out strictly in accordance with the health and safety measures and requirements.

4.12 Nuisance

4.12.1 Prevent all avoidable nuisance on and about the site with particular reference to fumes, dust and noise. Establish and maintain good relations with adjoining occupiers. Smoking is only allowed on site outside of the building, where it has been agreed with the Client and waste is to be collected and disposed of by the Contractor at the end of each working day.

4.12.2 Bonfires will not be permitted. All waste materials shall be removed from site and disposed of in a suitable manner and in compliance with all relevant legislation.

4.13 Risks

4.13.1 Fire:

Fire is one of the greatest risks as the damage can be so far reaching. Where a process creates a high risk of fire and is considered unavoidable, it is important to ensure that there is an adequate policy in place to mitigate the risks.

Where possible all hot work is to be dealt with offsite or on the ground well away from the building fabric. Hot work is only permitted only when deemed necessary by the CA.

Where possible prefabrication and Hotwork are to be carried out a minimum distance of 6 m outside the building, on the ground and with no combustible materials within 10m of the Hotwork operation.

The contractor is to advise the CA, in writing beforehand, of the dates when hot work is being carried out, and the details (including method statements) of the work. This is to allow the client and CA to consider whether any further precautions are deemed necessary. A Hot Work Permit System may be introduced.

4.13.2 Burglary, theft and arson:

The asset must be thoroughly secured and protected at all times throughout the construction contract. All windows, doors and access points into the asset shall be blocked and/or secured at all times, ensure that the fixings do not, in themselves damage the building if it is forced.

Remove ladders, along with tools and other materials which may pose a risk to the fabric. Consideration should also be given to individual objects of value, this may include fixed assets fireplaces, doors etc which could be easily stripped out or loose portable items. These assets should be security marked with a property ID system (SmartWater or SelectaDNA for example) with assets temporarily over boarded to provide additional protection and hide from view. Details of the property identification system should be displayed at the perimeter if adopted to deter certain individuals.

4.13.3 Access routes:

It is important to consider access for equipment, materials, and people throughout the asset for the duration of the project. Prior to undertaking actual building works, access routes and elements and/or components of significance should be thoroughly protected.

Access routes should be carefully chosen to avoid proximity to vulnerable fabric, though this may be difficult for historic fabric. Mitigation measures should be implemented within the interior which may involve the use of foam padding and sheets or plywood or plastic padding for the protection of floors, staircase, and balustrades.

Protective measures must be carefully cut to fit and fixed to together to minimise the risk of them becoming trip hazards. Sheets are normally taped together at joints.

Principal trafficked areas need to be checked regularly to ensure that they remain sound and have not moved.

Vulnerable corners and projections may also need to be protected with foam rubber or expanding foam separated from the material by a sheet of polythene.

4.13.4 Incidental damage during repair or conservation work:

Identify potential risks and look to reduce the likelihood of occurrence and severity, when undertaking any intervention or conservation works.

4.13.5 Water damage:

The exterior envelope of the asset must be maintained and protected at all times to reduce and limit potential water ingress issues.

As well as rain, other sources of moisture could be introduced during pointing, masonry cleaning and other conservation processes.

Gutters and downpipes which are disconnected and/or removed during construction works shall be reconnected immediately or temporary drainage system introduced.

5.0 Schedule of Works

Work Item	*Description*

100 Goods Office Yard – Investigative Works

101 Goods Office Yard Context

Aerial view of the area referred to as 'Goods Office Yard'. *Dated 2023 obtained from Google Earth.*

This piece of land is sandwiched between the Station Approach (Viaduct) to the West and Upper Yard to the East.

Figure 01

Work Item *Description*

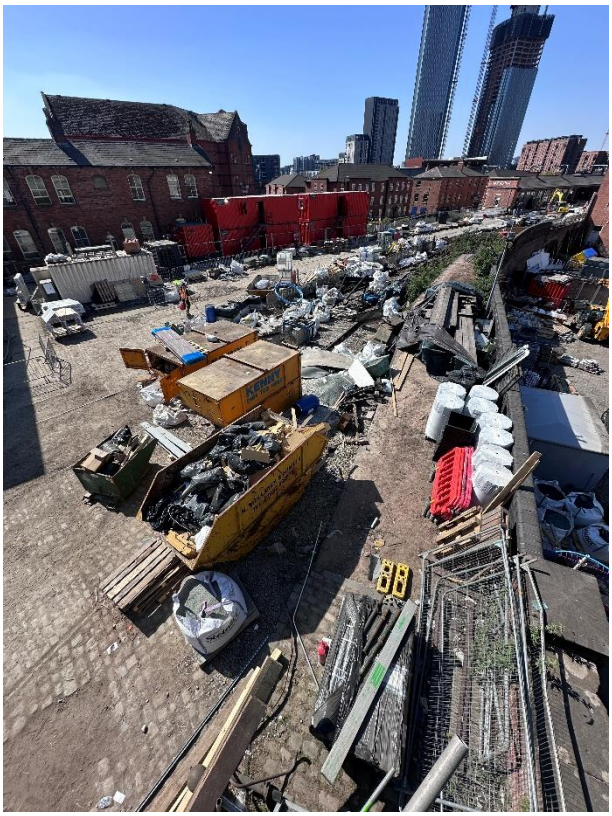
Site Photographs:

The following photographs show the 'current' arrangement and use of this area, which currently houses contractor welfare cabins, material storage for the Combined Projects contract, as well as being used as a circulation route for contractors (by foot / vehicles), between the Station Approach (Viaduct) to the West and Upper Yard to the East.

Photograph 01

Photograph 02

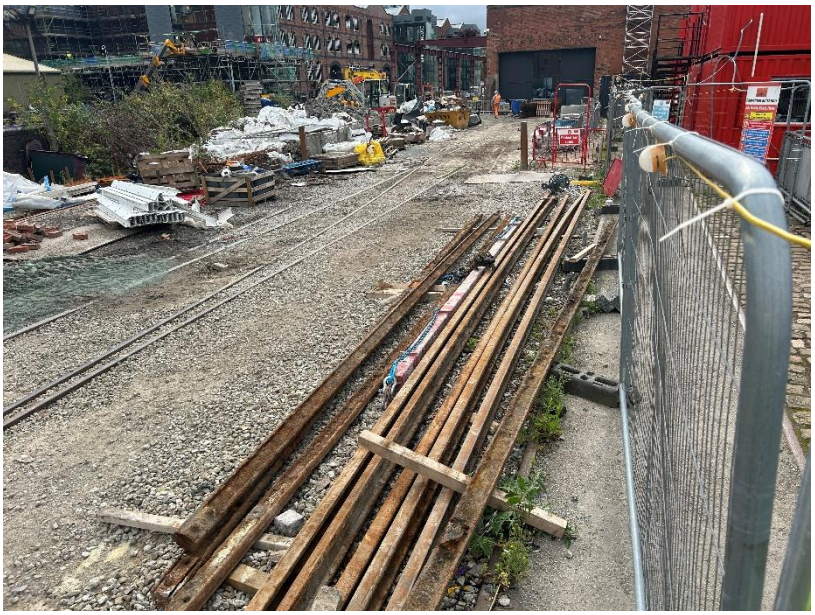
Work Item	*Description*



Photograph 03

Photograph 04

Work Item	*Description*



Photograph 05

Photograph 06

Work Item	*Description*

Photograph 07

Work Item *Description*

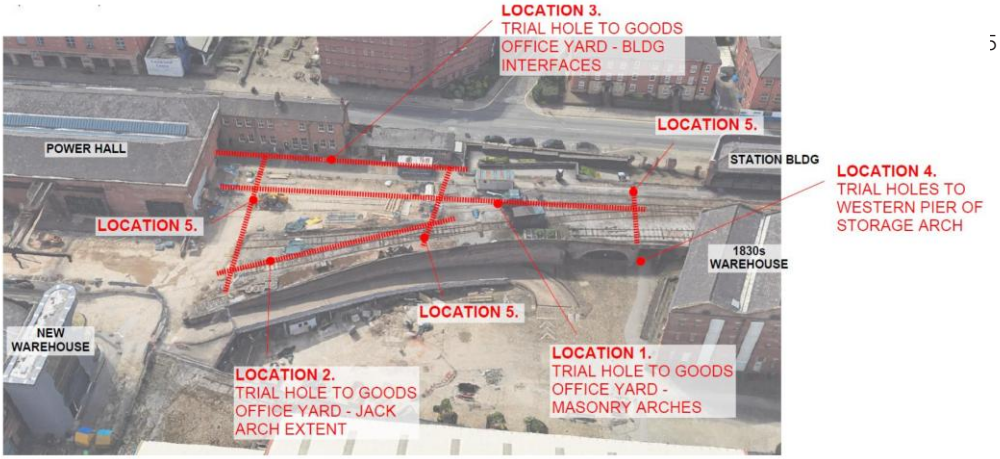
102 Investigative Works

The below works are to extend across the exterior landscape of the Goods Office Yard.

01.

- Read in conjunction with **Architects** drawing(s): GOY (01) 000, 101, 102, (03) 101
- Refer to separate **Structural Engineer** sketch for proposed excavation / trial holes scope, reference: SIM-BHE-GOY-XX-SK-S-0001_P02 - Extent of trial pits
- Refer to separate **Contractor's** method statement for proposed excavation / trial holes scope, reference: Goods Office Enabling works methodology REV B 29.07.25
- Refer to separate **Heritage Impact Assessment** (HIA) which accompanies this pack, reference: **9488-BUT-XX-XX-RP-HC-00001 GOY Heritage Impact Assessment**

02. There are a series of excavations and trial holes which have been identified by the Structural Engineer to be required to help inform and define future proposed works for the Goods Office Yard hard landscaping, waterproofing and drainage project. This project aims to confirm and identify the depth of buried masonry foundations / arches or other, the construction type and weight of existing above-arch build-up, determine details for existing waterproofing / drainage and to carry out contamination surveys and analysis of backfill material, to identify interfaces between existing buildings and underlying historic structures over and above those already listed.



Refer to Structural Engineer Sketch, which details the requirements.

There is an allowance for full trenches / excavations to be formed, extending across the full length as drawn by the engineer, the exact scope may be reduced / increased pending initial tactile assessment, however for the basis of this exercise, there is an allowance for full excavation to take place as presented.

It shall be noted that the exact locations of excavations, trenches and trial holes may differ to those graphically presented across drawing(s), subject to change.

Work Item	*Description*

03. The works will generally involve the following:

a) Note: exact scope may be adjusted to suit findings as the works progress and is therefore subject to change.

b) Undertake a detailed photographic record survey prior to any invasive investigative works taking place across all work areas.

c) Clearly mark and define work areas for further exploration / excavation.

d) Clear all work areas of all loose detritus and/or stored items which currently mask the work areas.

e) Undertake GPR surveys across all work areas to identify and locate any buried below ground services, pipework, cabling etc.

f) The work areas / locations are currently noted as a worst case 'full strip' which may require excavation. If required, the full length of each strip will be excavated, however, it is anticipated that only discrete trial pits / excavations will be located along each strip length at key locations. The exact scope is to be confirmed onsite, once works commence, which will evolve dynamically to suit our findings.

g) Carefully and neatly remove hard surface materials, if cobbles / setts, carefully lift, stockpile and store ready for future reinstatement. Remove snots and other matter from blocks.

h) Carefully and neatly remove macadam / tarmac / concrete and dispose of.

i) If tracks are required to be lifted, these must be tagged, recorded and stored in a safe location for future reinstatement.

j) Remove all sub-base material to allow for exposure of buried structure(s), store temporarily for future reinstatement.

k) The buried structures that we anticipate will be exposed during focused excavation works will be foundations to the Goods Office, Power Hall and any other structural load-bearing assets, including the extrados of masonry arches to the undercroft, located below the Goods Office Yard. Below ground drainage network or services may also become exposed.

l) It is obvious from reviewing historic photography and data that the Goods Office Yard area has been disturbed in the past relating to alternate layouts of tracks etc. It is unknown at this time to what extent below ground has been disturbed. Therefore, if items of archaeological interest are exposed and discovered, all works will cease until all relevant parties have reviewed and inspected to record findings and advise next steps.

m) The strips or trial holes are to be circa 1.25 x 1.25m max wide to avoid impacting loading onto underlying structures. The contractor will utilise machinery / plant as described within contractor method statement.

n) Where 1.25m wide excavations are not adequate to safely reach the required depth (resulting in exposure of buried structure) deeper investigations will generally be undertaken

Work Item	*Description*
	by vertical coring, with the exact methodology of this to be confirmed by the contractor.
	o) In all locations, samples may be taken of existing masonry to determine masonry thickness, strength, mortar composition etc. These may include the removal of single bricks or small diameter core samples being taken (max 150mm diameter).
	p) Width of pits will be limited to avoid undermining existing foundations or any other buried items.
	q) Upon completion of excavations / trial holes, all discoveries and exposed material will be thoroughly recorded using photographs, written reports, diagrams at the surveyor's discretion.
	r) Any analysis commissioned as part of the inspections will be made available for viewing and retained for records / archive.
	s) All temporarily removed fabric, sub-base material will be reinstated as existing.
	t) All hard landscaping materials will be reinstated, where cobbles / setts have been removed, these will be reinstated within their original locations on a new mortar bed and jointed to match existing arrangement.
	u) Where macadam, tarmac and/or concrete slabs have been removed and disposed of, these will be reintroduced with new, to match pre-works aesthetic as existing.
	v) Where ballast has been temporarily removed, this will be reinstated to match pre-works arrangement.
	w) Where railway tracks or any other buried features / items have been temporarily removed, these will be reinstated to match pre-works arrangement.

Buttress

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