

# Station Building Re-roofing Project



Schedule of Works  
Ref: 9059SoW

Feb 2021

## Version history

Project name: Station Building, Liverpool Road – Re-roofing Project

Project number: 9059

Client: Science Museum Group

| Rev: | Date:      | Status   | Name                              | Description  |
|------|------------|----------|-----------------------------------|--------------|
| 1    | 27/11/2020 | Stage 3  | Alex Scrimshaw   Snr Technologist | First issue  |
| 2    | 16/12/2020 | Stage 3  | Alex Scrimshaw   Snr Technologist | Second issue |
| 3    | 05/02/2021 | Planning | Alex Scrimshaw   Snr Technologist | Third issue  |
| 4    | 11/02/2021 | Planning | Alex Scrimshaw   Snr Technologist | Fourth issue |

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

### 1.1 DEFINITIONS

**CA** means Conservation Architect.

**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.

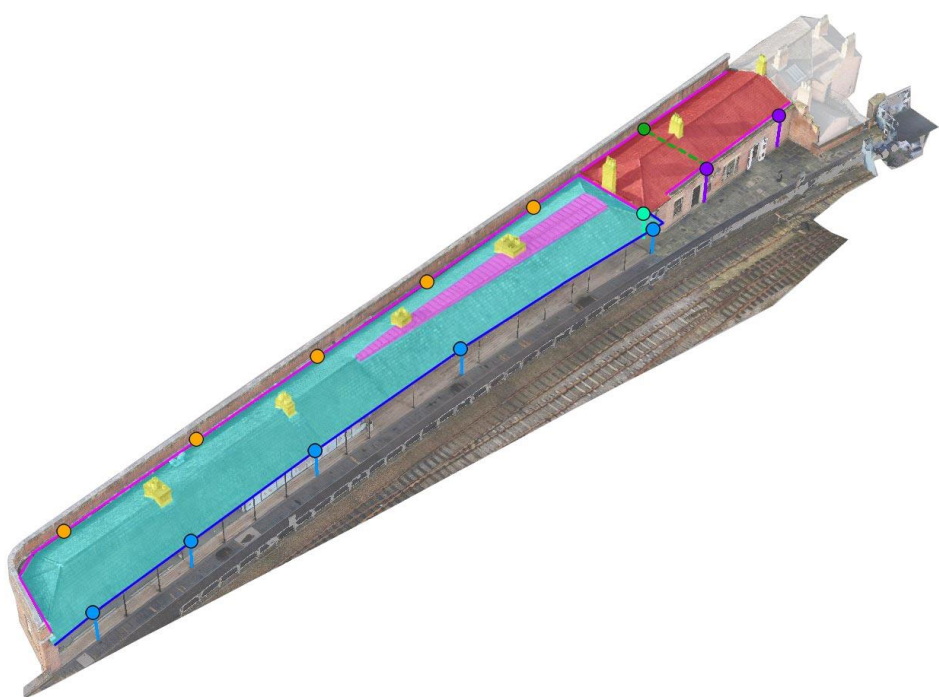
**APPRAISE** means the contractor is to appraise and carry out own independent assessment of the works detailed here within and update the scope of works as is necessary through consultation with the Architect.

**SALVAGED** refers to materials that have been *removed and kept for re-use* 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

2.0 Scope of Works

| Work Item | Description        | £ |
|-----------|--------------------|---|
| 01        | Project Background |   |



3D graphic illustrating extent of proposed re-roofing package

|    |                 |
|----|-----------------|
| 02 | Familiarisation |
|----|-----------------|

The contractor is to fully familiarise themselves with the building and its construction prior to submitting their tender.

|    |                                       |
|----|---------------------------------------|
| 03 | Preliminaries and General Particulars |
|----|---------------------------------------|

Include for all necessary scaffolding (temporary roof) and perimeter hoarding to scaffold / storage and welfare facilities. Include for protection of historic features and fabric. Include for all necessary internal scaffolding and access provisions, taking into account that the Museum complex is a live environment and may require alteration to said access components at any given time. Prior to submitting a price, the contractor should visit site to assess the logistics and access requirements.

| Work Item | Description | £ |
|-----------|-------------|---|
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#### 04 Internal 'dilapidation' inspection of work areas

In order to record the condition of each internal work area:

- Immediately prior to the work commencing in an area, undertake an inspection with the CA in order to record the existing condition of the areas. The inspection is to be limited to the space in and around the work area and the routes to and from the work area.
- Provide a report of any significant defects together with a photographic record for each area.
- Confirm the scope of work within each area with the CA and agree how any anomalies will be dealt with e.g. occupiers' fixtures and fittings, partition abutments, etc.

#### 05 External 'dilapidation' inspection of work areas

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

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

#### 06 Photographs

- 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.
- 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.

#### 07 Cleaning Upon Completion of the Works

- All parts of the elevations 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.
- Clean down all paintwork and windows.
- 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.

## 08 Fabric Repairs Generally

Schedule of works to be read in conjunction with separate Architectural Restoration Specification ref-9059RS, the content of which is summarised by the following headings and document references:

- 1.0 Protection of Historic Fabric/Features
- 2.0 Access Scaffolding
- 3.0 Hydraulic Lime Mortar
- 4.0 Pointing of Ashlar
- 5.0 Brick Repair
- 6.0 Pointing of Brickwork
- 7.0 Roof Repairs – General Requirements
- 8.0 Roof Repairs – Natural Slating
- 9.0 Roof Repairs – Leadwork / Coverings / Flashings / Gutters
- 10.0 Redecoration / Renewal of Rainwater Goods
- 11.0 Paint and Clear Finishing
- 12.0 Repair of Timber Framed Structures
- 13.0 Stucco Render Repairs

## 09 Sequencing

Drying out of timber frame

- Drying out of existing saturated timberwork should commence early in the programme to give the timber the best chance to dry out to suitable moisture levels to allow for retainment. The mortar around all embedded truss ends should be carefully raked out and removed to allow for increased ventilation to accelerate the drying out process. Temporary works / bracing of timber trusses to eliminate potential rotation as per structural engineers' package. Once timbers have been dried out to suitable levels, repoint perimeter gap with a suitable lime mortar.

| Work Item | Description | £ |
|-----------|-------------|---|
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## 100 Roof – removals & demolition

### 101 Slate covered roofs (R1-R7, R9)

- Allow for wholesale stripping back of existing roof slates (incl ridge and hip tiles) and set aside for reinstatement. Sort and arrange, courses are to be returned to match original arrangement.
- Allow for wholesale removal of counter battens / battens and felt and tip.
- Existing 'Masterboard' sarking layer, fixed atop of timber rafters is to be retained insitu.
- **Note:** rigid insulation boards may exist on top of sarking layer. If found, existing boards are to be remove and replaced, on a like-for-like basis.
- Allow for removal of defective areas of 'Masterboard' sarking, localised towards parapet gutter and existing outlet locations. Allow for eaves sarking board along entire length to be renewed up to 20%.
- Thoroughly protect the interiors from the environmental elements for the duration of the works.
- Carefully remove and tip all existing lead cover, flashings and weathering's to stepped valley and parapet gutters (incl kerbed upstand) including felt and flashband flashings. Allow for credit to client.
- Allow for assessment of all concealed / hidden rafter ends, truss ends and wallplates to review potential decay and scope for repair works.
- Remove all redundant cabling, extracts and ducting penetrations across existing roofscape as identified.
- Retain existing roof extract duct to roof R3.
- Allow for thorough survey of roof structure to understand level variances and possible unbeknown obstructions to proposed layout.

### 102 Leadwork – roofs (R8)

- Allow for wholesale stripping back of triangular lead lined flat roof coverings / flashings with solid wood rolls. Allow for credit to client.
- Undertake inspection of existing supporting timberwork.
- Allow for replacement of 20% of existing timber substrate, pending assessment.

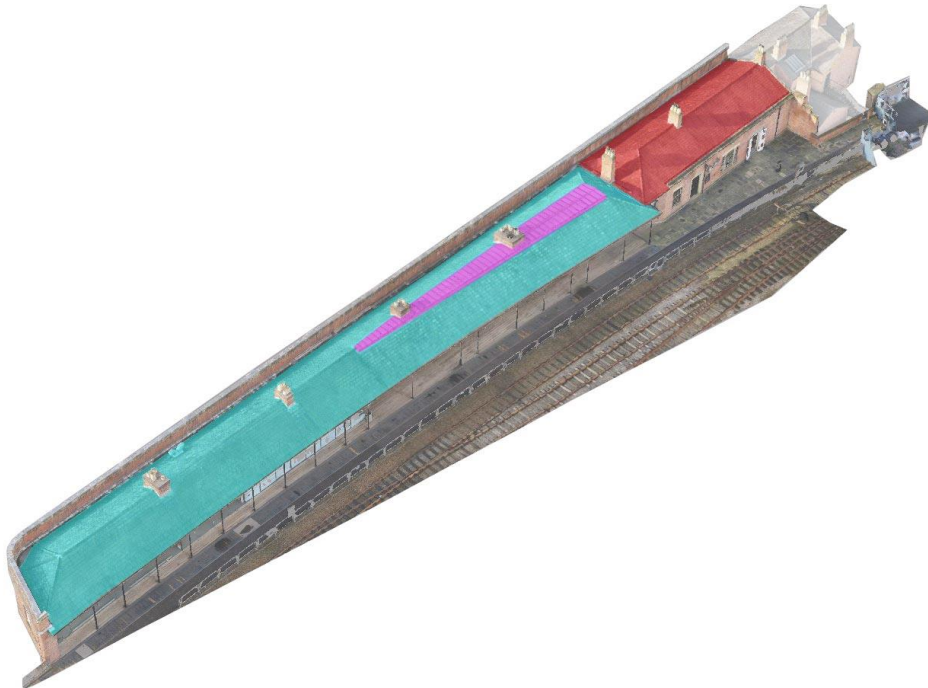
### 103 Leadwork – gutters

- Allow for wholesale stripping back of all lead lined stepped parapet and valley guttering including

| <i>Work<br/>Item</i> | <i>Description</i>                                                                                                                                   | <i>£</i> |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                      | cover flashings, weatherings, sumps etc. Allow for credit to client.                                                                                 |          |
|                      | <ul style="list-style-type: none"> <li>▪ Allow for removal of 20% of supporting structure, gutter sole boards pending further assessment.</li> </ul> |          |

| Work Item | Description | £ |
|-----------|-------------|---|
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## 200 Roof – proposed works



*3D graphic illustrating proposed roof areas to undergo re-roofing*

### 201 Slate covered roofs (R1-R7, R9) blue and red shaded areas

- Inspect existing structure and schedule list of repairs, over and above what was anticipated.
- Install breather membrane, counter battens / battens (screw fixed to avoid vibration) and reinstate roof slates in coursing to match the original arrangement, including ridge tiles across entire roofscape with code 5 lead flashings at chimneystack abutments.
- Note: cementitious sarking board to be installed across platform roof, where identified for replacement only. Redecorate all replacement boarding to match existing colour scheme.
- Install rigid insulation board on top of sarking board layer, if found to be present as existing. Thickness is to match existing.
- Extend leadwork from guttering to roof pitch as identified within separate work item 203.
- Retain existing roof extract duct to roof R3, renew timber upstand and all weathering's to ensure wind and watertight envelope.
- Introduce proprietary eaves / ridge ventilators across ticketing hall roof only, as detailed.
- Cowl to extract to be replaced as per separate M&E specification.

| <i>Work Item</i> | <i>Description</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>£</i> |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                  | <ul style="list-style-type: none"> <li>Read alongside detailed drawings 9059 (04) 002-004.</li> </ul> <p><b>Timber and Damp Survey Findings:</b></p> <ul style="list-style-type: none"> <li>Following timber and damp survey, visible areas of timber decay and excessive saturation have been identified within a number of locations.</li> <li>Replace decayed parapet gutter boards to north elevation within roof space above room SB 102, across 4lm as identified on Hutton + Rostron plan mark-up.</li> <li>Replace 2lm section of decayed timber wallplate to east elevation within roof space above room SB 102 as identified on Hutton + Rostron plan mark-up.</li> <li>Remove decayed section of 3nr. rafter ends to east elevation within roof space above room SB 102 and allow for scarf splice lap with new treated timber to match existing as identified on Hutton + Rostron plan mark-up.</li> <li>Replace decayed parapet gutter boards to south elevation within room SB 105, across 1lm as identified on Hutton + Rostron plan mark-up.</li> </ul> <p><b>Allowances:</b></p> <ul style="list-style-type: none"> <li>Allow for 10% replacement of timber wallplate (south &amp; east pitch) generally.</li> <li>Allow for 25% new slates and ridge tiles to match existing.</li> </ul> |          |

## **201a Conservation Access Rooflight – roofs (R1) *red shaded area***

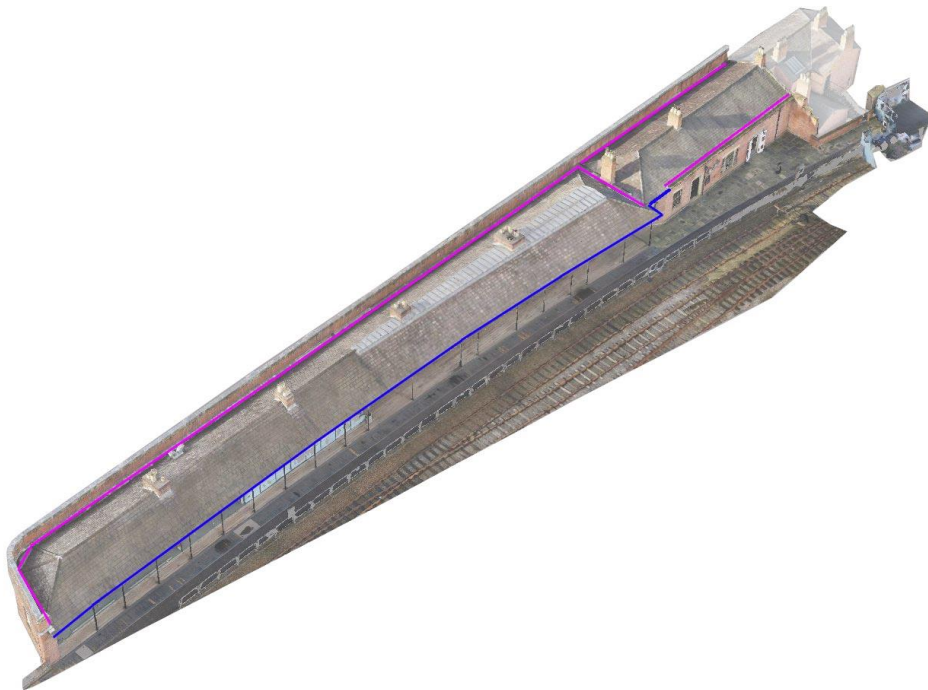
- Install conservation rooflight to south pitch of roof R1 to provide access into parapet gutter. Trim out opening and install between existing timber purlins. Install all flashings and weatherings as required in lead.
- Manufacturer: The Rooflight Company. [info@therooflightcompany.co.uk](mailto:info@therooflightcompany.co.uk)
- Product: E1 Conservation Access Rooflight. Exact hinge side to be confirmed onsite.
- Size: structural (W) 888mm x (L) 1114mm
- Construct and install treated timber softwood ladder internally to provide access up to and out of rooflight access point. The contractor is to confirm the setting out of the rooflight onsite prior to the order, manufacture and installation of rooflight.
  - Lead to roof slope is to extend up to the underside of the rooflight bottom externally, to provide a safe point for foot traffic.
  - Read alongside detailed drawings 9059 (37) 013.

| Work Item | Description | £ |
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|     |                                                      |  |
|-----|------------------------------------------------------|--|
| 202 | <b>Leadwork – roofs (R8) <i>pink shaded area</i></b> |  |
|-----|------------------------------------------------------|--|

- |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <ul style="list-style-type: none"> <li>▪ Note: All leadwork to Lead Sheet Association (LSA) standards and guidance.</li> <li>▪ Set out and construct code 6 lead lined flat roof with class A building paper, laid to falls with solid wood rolls including all supporting structure and flash with code 5 leadwork at abutments with chimneystacks. <i>Triangular flat roof plan size circa 765mm x 30m x 2.5lm.</i></li> <li>▪ Introduce lead mushroom vents. Quantity as illustrated on GAs.</li> <li>▪ Read alongside detailed drawings 9059 (37) 006, 011.</li> </ul> |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

## 203 Leadwork – gutters



**3D graphic illustrating proposed lead lined gutters (pink line). Cast iron gutters (blue line).**

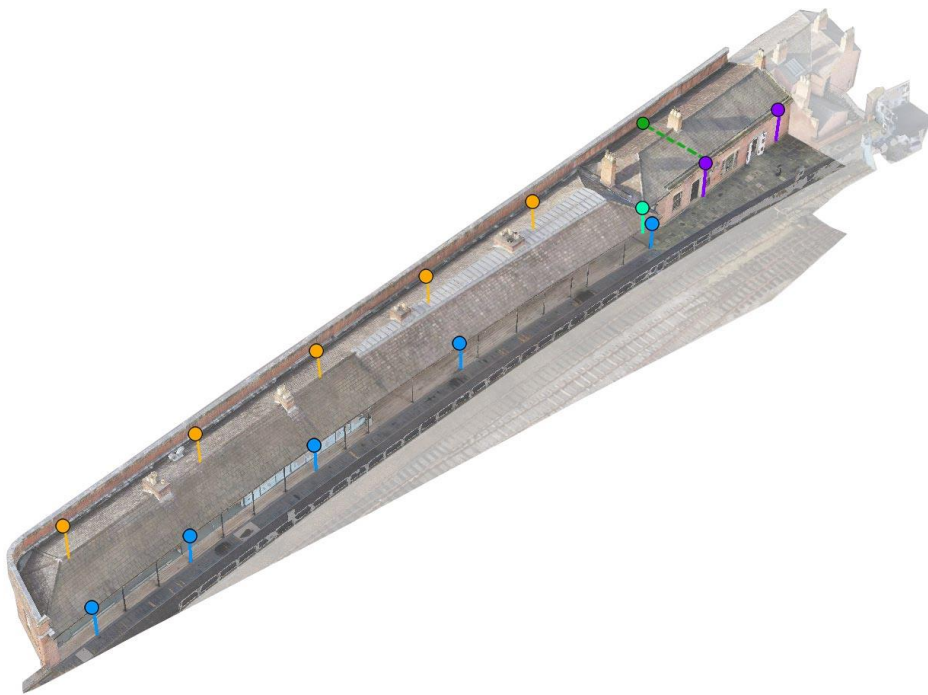
- Note: All new leadwork is to be installed to Lead Sheet Association (LSA) standards and guidance.
- Allow for adjustments and modifications to be undertaken across existing stepped guttering, including the setting out of the current parapet gutter sole boards, gutter lengths and drip heights etc to meet the requirements as set out in the LSA guidance documents. The existing bay lengths and drip heights are indicated on the existing GAs, any dimensions which do not fall within the recommended maximum and minimum allowances are to be altered to suit the following for code 6 lead gutter linings:
  - Proposed Gutter Dimensions:  
  
Maximum 2250mm length (between drips) x maximum 850mm overall girth x 55mm minimum drip height.
- Allow for replacement of 20% of existing gutter sole boards / supporting structure, pending further assessment. New timbers should be isolated from any damp or potentially damp masonry with a damp proof material or ventilated air gap.
- Allow for 100% replacement of all sump coverings including supporting structure, pending further assessment.
- Set out and construct stepped valley and parapet gutters including supporting timber structure, bearers, gutter sole boards and sumps where required or identified to be replaced. Note: where timber comes into contact with saturated masonry, allow for wrapping of ends with a dpc.

For information, existing gutter lengths as follows:

- *Station Building Platform roof = circa 83lm parapet gutter total.*
- *Station Building Ticketing roof = circa 45lm parapet gutter total.*
- Line existing kerbed upstand with code 6 lead and welted joints, appropriately flashed with gutter linings and cover flashings, incl for making good of kerbed upstand as identified elsewhere.
- Line and cap existing coping / kerb to valley gutter between roofs R2 & R7 with code 6 lead, clipped and appropriately flashed with stepped parapet guttering and adjacent chimneystack.
- Allow for consolidation / making good works to assumed concrete fill to kerbed upstand. Allow for replacement of 10lm x depth x height on a like-for-like basis pending inspection. Exact composition and mix to be agreed upon closer inspection.
- Introduce timber sole boards to roof pitch to provide greater gutter width for undertaking routine maintenance, avoiding potential future damage to slates. Install hardwood treated tilt fillet and eaves protection tray along entire length of guttering. Line with code 6 leadwork with welted joints. Incorporate ventilation provisions as identified elsewhere.
- Where gutters lengths exceed the minimum bay length parameters and where drips cannot be introduced, allow for the use of neoprene t-pren joints with code 4 lead cloak (fixed in direction of flow).
- Read alongside detailed drawings 9059 (01) 004-006, (04) 002-004, (37) 001 & 009.

| Work Item | Description | £ |
|-----------|-------------|---|
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## 300 Rainwater goods & outlets etc



*3D graphic illustrating the existing rainwater outlet locations*

### 301 TYPE 1 OUTLET - cast iron gutter and connection pipes (RWP 9-RWP 13)

- Refer to marked-up drawings for rainwater pipe (RWP) reference locations.
- Overhaul existing guttering (170x75mm), brackets and contorted pipe connections. *Circa 70lm length of cast iron guttering.*
- Allow for renewal of 20% of existing timber fascia board along entire length with treated sw, stained, profiles and detail to match existing.
- Record and tag gutter and connection pipes, take off site, shot blast taking back to bare metal and review surfaces for defects, undertaking all necessary repair works.
- Allow for replacement of 30% of cast iron guttering and brackets, to match existing pending inspection once back to bare metal.
- Prepare all cast iron elements and surfaces, wholesale redecorate.
- Reinstate in original locations, mating surfaces to receive application of modern mastic sealant.
- Connection pipe is to be adjusted and re-fixed to allow for the horizontal pipe to run in the direction

| Work Item | Description | £ |
|-----------|-------------|---|
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of flow, no back fall. Allow for hanger to be modified.

- A Ø 50mm dia lead chute is currently sleeved over the outlet to the contorted cast iron piped transfer to the head of all existing internal rainwater pipe columns, this vastly reduces the capacity and flow rate of the current guttering system and leads to regular blockage. From this the lead lined chute directs rainwater from the cast iron pipe and connects into a 90° uPVC elbow placed inside the hopper / column head. It is unknown at this time if the entire cast iron column thereafter is sleeved and the uPVC pipe is continuous or just partially to the head.
- The make-up of the contorted transfer pipes and exact detail of the lead chute socket is to be investigated when appropriate access has been provided. Allow for the following to be undertaken to each transfer pipe, pending inspection.
  - Remove existing lead transfer chute to base of cast iron pipe and replace with code 6 lead welded chute socket with a larger diameter pipe of Ø 75mm to match the cast iron pipe to allow for reconnection into assumed internal uPVC inner pipe.
- Interior of gutters to receive 2 coats of bitumen paint.
- Install stainless steel mesh leaf guard over each outlet. Guard to be removable and secure.
- Introduce rodding / access point at 90° bend to each outlet.
- Read alongside detailed drawings 9059 (37) 002.

### 302 TYPE 1 OUTLET - cast iron column with internal rainwater pipe

- Shot blast existing cast iron columns insitu to take back to original bare surface, including seat / hopper to head. Investigate surfaces to ascertain extent of possible defects. Include for localised tenting of each column including the provision of appropriate ventilation and extraction equipment.
- Prepare all cast iron elements and surfaces, wholesale redecorate.
- Read in conjunction with work item 301 for transition pipe from head of column to gutter.
- Read alongside detailed drawings 9059 (37) 002.

### 303 TYPE 2 OUTLET - hopper and downpipe (RWP 8)

- Refer to marked-up drawings for rainwater pipe (RWP) reference locations.
- Overhaul existing cast iron hopper.
- Overhaul existing guttering (170x75mm), brackets and contorted pipe connections.
- Record and tag existing hopper, downpipe, gutters (brackets etc), take off site, shot blast taking back to bare metal and review surfaces for defects, undertaking all necessary repair works.

| Work Item | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | £ |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|           | <ul style="list-style-type: none"> <li>▪ Prepare all cast iron elements and surfaces, wholesale redecorate.</li> <li>▪ Interior of gutters to receive 2 coats of bitumen paint.</li> <li>▪ Reinstate in original locations.</li> <li>▪ Connection pipe is to be adjusted and re-fixed to allow for the horizontal pipe to run in the direction of flow, no back fall. Allow for hanger to be modified.</li> <li>▪ Introduce rodding point to base of downpipe.</li> <li>▪ Introduce rodding / access point at 90° bend horizontal outlet pipe.</li> <li>▪ Install stainless steel mesh leaf guard over each outlet. Guard to be removable and secure.</li> </ul> |   |

### 304 TYPE 3 OULET - sump with hopper and downpipe (Sump 8 & RWP 7)

- Refer to marked-up drawings for rainwater pipe (RWP) and sump reference locations.
- Carefully remove existing upvc pipework to existing sump incl sump box and supporting structure.
- Note: Dual purpose outlet connects with horizontal internal rainwater pipe from sump 6.
- Overhaul existing cast iron hopper.
- Record and tag existing hoppers and downpipes (brackets etc), take off site, shot blast taking back to bare metal and review surfaces for defects. *Downpipe = circa 3.71m length.*
- Prepare all cast iron elements and surfaces, wholesale redecorate.
- Reinstate within original location.
- Introduce rodding point to base of each downpipe.
- Introduce code 7 lead chute / spitter over outlet to provide overflow, allow for BWIC in association with making connections within the wall build-up. Allow for embedded stainless-steel plate across head to support masonry to each leaf.
- Fabricate and install welded code 7 lead overflow chute to pass through masonry wall to provide an overflow to concealed gutter sump, allow for all builders work in connection and consolidation upon completion.
- Install stainless steel mesh leaf guard over each outlet. Guard to be removable and secure.
- Read alongside detailed drawings 9059 (37) 004-005, 008 & 012.

### 305 TYPE 3 OULET - sump with hopper and downpipe (Sump 7 & RWP 6)

| Work Item | Description | £ |
|-----------|-------------|---|
|-----------|-------------|---|

- Refer to marked-up drawings for rainwater pipe (RWP) and sump reference locations.
- Carefully remove existing sump box and leadwork to existing outlet.
- Overhaul existing cast iron hopper.
- Record and tag existing hoppers and downpipes (brackets etc), take off site, shot blast taking back to bare metal and review surfaces for defects. *Downpipe = circa 3.71m length.*
- Prepare all cast iron elements and surfaces, wholesale redecorate.
- Reinstall within original location.
- Introduce rodding point to base of each downpipe.
- Introduce code 7 lead chute / spitter over each outlet to provide overflow, allow for BWIC in association with making connections within the wall build-up.
- Introduce code 8 overflow chute within sump location, including all builders work in connection.
- Install stainless steel mesh leaf guard over each outlet. Guard to be removable and secure.

### 306 TYPE 4 OUTLET - sump with connection pipe (Sumps 1-5)

- Refer to marked-up drawings for sump reference locations.
- Carefully breakout and open up head (sump & outlet) of each cast iron / lead swan neck downpipe to investigate current arrangement.
- Carefully strip back and remove existing lead sump box and connection pipes through masonry wall to south elevation pilaster, including piped sleeve.
- Install galvanized RHS within each outlet to provide a sleeve for transfer of new discharge pipes through masonry wall. Finish with bitumen paint (blackjack). Consolidate masonry opening and seal around connection pipe and overflow chute with backing rod and mastic seal, colour matched to stucco.
- Locally remove and modify timber wall plate internally within this location, to allow for transfer of new lead welded overflow chute.
- Allow for the fabrication of code 7 lead lined sump with code 8 welded connection pipe, including all BWIC within each of the 5nr. outlet locations. Allow for connection works within existing recessed downpipe.
- Allow for the fabrication of code 8 lead welded perforated protruding overflow chute and weld insitu within lead lined sump box.
- Allow for remedial repair works to exterior stucco render locally within each outlet location, lined out to match original detail. Composition and mix to be agreed upon sampling.

| Work Item | Description                                                                                                                                                                                                                                                                                                                                                            | £ |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|           | <ul style="list-style-type: none"> <li>Fabricate and install welded stainless-steel leaf guard within each sump outlet, flush with drip. Guard to be designed for light foot traffic with perforated grille.</li> <li>See separate work item 307 for rainwater downpipe works to south façade.</li> <li>Read alongside detailed drawings 9059 (37) 003/010.</li> </ul> |   |

### 307 TYPE 4 OUTLET - South – recessed cast iron rainwater downpipes (RWP 1-5)

- Refer to marked-up drawings for rainwater pipe (RWP) reference locations.
- Overhaul all existing recessed rainwater downpipes to south façade including bracketing which straddles the pipes.
- Record and tag each downpipe and bracketing, take off site, shot blast taking back to bare metal and review surfaces for defects.
- Prepare all cast iron elements and surfaces, wholesale redecorate.
- Re-fix restored downpipes within original locations, incl bracketing.
- Introduce rodding point to base of each downpipe. Allow for removal of section of existing pipe and re-fix bracketing. Include for any remedial works to stucco render.
- Allow for remedial repair works to exterior stucco render within each outlet location, lined out to match original detail. Composition and mix to be agreed upon sampling.
- Read alongside detailed drawings 9059 (37) 003/010.

### 308 TYPE 5 OUTLET - sump with trough (Sump 6)

- Refer to marked-up drawings for sump reference locations.
- Carefully remove existing internal horizontal upvc rainwater pipe and connections which runs north to south and connects into existing RWP 7 from Sump 6 within roof void.
- Allow for modification of existing internal steel lattice bracing to southern side of roof to allow for the insertion of new internal lead lined timber trough. *Refer to Structural Engineers details.*
- Allow for renewal of lead lined sump to include protruding overflow pipe to act as a failsafe in the event that the main outlet becomes blocked. Pipe is reconnected into same outlet. *Note: no way of knowing if the system is blocked.*
- Fabricate and install code 6 lead lined trough with neoprene t-pren joints onto plywood sheathing and supporting timber frame, laid at a 1:80 fall towards gutter outlet and RWP 7. Trough to include overflow channel with code 8 divider and lead welded bracing / support tubes at regular intervals.
- Fabricate and install welded stainless-steel leaf guard within sump outlet, flush with drip. Guard to

| <i>Work<br/>Item</i> | <i>Description</i>                                                                                                    | <i>£</i> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------|----------|
|                      | be designed for light foot traffic with perforated grille.                                                            |          |
|                      | <ul style="list-style-type: none"> <li>▪ Read alongside detailed drawings 9059 (37) 004-005/008 &amp; 012.</li> </ul> |          |

| Work Item  | Description                                                                                                                                                                                                                                                                                                                                                                                               | £ |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>400</b> | <b>Fabric Repairs</b>                                                                                                                                                                                                                                                                                                                                                                                     |   |
| <b>401</b> | <b>Chimneystacks (C1-C6)</b>                                                                                                                                                                                                                                                                                                                                                                              |   |
|            | <ul style="list-style-type: none"> <li>Rake out and repoint all masonry chimneystacks with a suitable lime mortar.</li> <li>Renew all stepped lead flashings, cover and soakers with code 5 lead.</li> </ul>                                                                                                                                                                                              |   |
| <b>402</b> | <b>Repointing</b>                                                                                                                                                                                                                                                                                                                                                                                         |   |
|            | <ul style="list-style-type: none"> <li>Rake out and repoint 50% of internal masonry parapet face along entire length with a suitable lime mortar.</li> </ul> <p>Provide rates for additional repointing works</p> <ul style="list-style-type: none"> <li>Lime repointing per m2 area</li> </ul>                                                                                                           |   |
| <b>403</b> | <b>Masonry Repairs</b>                                                                                                                                                                                                                                                                                                                                                                                    |   |
|            | <ul style="list-style-type: none"> <li>Cut out defective and spalled masonry to internal face of parapet wall. Allow for 150 bricks to be replaced pending further assessment. Bricks to be replaced on a like for like basis, colour, texture and bond.</li> </ul> <p>Provide rates for additional renewal of brick works</p> <ul style="list-style-type: none"> <li>Single brick replacement</li> </ul> |   |

| Work Item  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   | £ |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>500</b> | <b>Miscellaneous</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |
| <b>501</b> | <b>Bird protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
|            | <ul style="list-style-type: none"> <li>Remove and set aside existing bird protection netting fixed internally at truss chord level, directly accessed from platform, internal / external space.</li> <li>Undertake all necessary re-roofing works and refix bird netting upon completion.</li> </ul>                                                                                                                                                          |   |
| <b>502</b> | <b>Trace heating</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |
|            | <ul style="list-style-type: none"> <li>Allow for the installation of trace heating system along entire length of parapet and valley guttering. Including BMS and connection with existing services as directed by M&amp;E consultant.</li> </ul>                                                                                                                                                                                                              |   |
| <b>503</b> | <b>Rainwater sensor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |
|            | <ul style="list-style-type: none"> <li>Install rainwater sensors and alarm system as directed by M&amp;E consultant.</li> </ul>                                                                                                                                                                                                                                                                                                                               |   |
| <b>504</b> | <b>Internal Ventilation to Station Building Roof (R3-R5)</b>                                                                                                                                                                                                                                                                                                                                                                                                  |   |
|            | <ul style="list-style-type: none"> <li>Drill neat 12mm dia holes through the existing cementitious sarking board at wall plate level, at 600mm centres across the entire length of the Station Building platform roof.<br/><i>Note: Excluding the 'ticketing hall' roof.</i></li> <li>Holes are to be positioned to be concealed and hidden from general view at wall plate level to provide natural ventilation into hidden parapet gutter voids.</li> </ul> |   |
| <b>505</b> | <b>Ventilation to Ticketing Hall Roof (R1-R2, R9)</b>                                                                                                                                                                                                                                                                                                                                                                                                         |   |
|            | <ul style="list-style-type: none"> <li>Install layboard ventilators as per Restoration Specification clause 8.8.2.</li> <li>Install fascia ventilator as per Restoration Specification clause 8.8.1.</li> <li>Install eaves ventilator to lead sheeting as per Restoration Specification clause 8.8.3.</li> <li>Install ridge ventilator as per Restoration Specification clause 8.8.4.</li> <li>Read alongside detailed drawings 9059 (01) 006.</li> </ul>   |   |

| Work Item | Description | £ |
|-----------|-------------|---|
|-----------|-------------|---|

## 600 Future access & fall restraint

### 601 Attic access platform

- Provide narrow access platform on pedestals adjacent to internal gutter trough to allow for routine maintenance to be undertaken. 18mm WBP ply on pedestals to raise and avoid existing joists and sheeps wool insulation between. Platform is to extend to eastwards to provide safe access platform for rooflight egress. Install treated timber post and rail barrier internally to match the area of the access platform.
- Trim out and introduce timber fascia around existing access hatch, including the installation of 2nr. grab rails.
- Read alongside detailed drawings 9059 (37) 013 / 014.

### 602 External barriers

- Fabricate external galvanised steel barriers (50x8mm plate) and decorate, colour to be confirmed. The contractor is to provide fabrication drawings for comment, prior to order, manufacture, and installation. The exact location and positions are to be confirmed onsite.
- Fix steel barriers into masonry wall with dome headed bolts and decorate.
- Provide and install aluminium safety warning signage, adjacent to barrier. To be fixed into masonry wall. Client is to confirm exact signage requirements. Allow for x2 of each of the below.

Risk of falling sign – 200 x 300 x 3mm Aluminium Composite. Product:

<https://www.keysigns.co.uk/signs-c2/safety-signs-c3/hazard-warning-signs-c4/drop-below-warning-signs-c25/risk-of-falling-signs-p324>

No unauthorised persons allowed beyond this point sign – 200 x 300 x 3mm Aluminium Composite.

Product: <https://www.keysigns.co.uk/signs-c2/safety-signs-c3/prohibition-safety-signs-c87/no-admittance-signs-c97/no-unauthorised-persons-allowed-beyond-this-point-signs-p1120>

- Read alongside detailed drawings 9059 (37) 013.

| <i>Work Item</i> | <i>Description</i> | <i>£</i> |
|------------------|--------------------|----------|
|------------------|--------------------|----------|

## 900 Provisional works

### 901 Truss repairs

- Allow for spliced timber repair (2nr.) to embedded truss end including structural resin type repair (rotafix), pending further analysis. Include for replacement of 1.2lm of timber (tie beam / principal rafter).
- Include for all temporary propping and bracing, note platform level is timber boarded. Lattice beam support to be included from window cill back to solid base at platform level.

### 902 Rafter repairs

- Allow for spliced scarf timber repairs to decayed rafter ends, circa 600mm length. No side laps.
- Allow for 20nr. repairs to be undertaken pending further analysis.

### 903 TYPE 4 OUTLET – recessed cast iron rainwater downpipes to south facade

- Allow for wholesale replacement of 1nr. cast iron downpipe including bracketing pending further analysis.
- Include for all installation and finishing works.

### 904 TYPE 1 OUTLET – cast iron column with internal rainwater pipe

- Allow for wholesale replacement of 1nr. cast iron column pending further analysis.
- Include for all installation and finishing works.

### 905 TYPE 1 OUTLET – gutter and connection pipes

- Allow for wholesale replacement of 2nr. cast iron piped connections (transition pipe) to match original arrangement, pending further analysis.
- Include for all installation and finishing works.

### 906 Internal redecoration

| <i>Work Item</i> | <i>Description</i> | <i>£</i> |
|------------------|--------------------|----------|
|------------------|--------------------|----------|

- Allow for localised redecoration of existing 'Masterboard' sarking layer, allow for 15m2.

Provide rates for additional redecoration works

- Redecoration of existing cementitious sarking per m2 area

## **907 Insulation between and over joists**

- Remove existing mineral insulation laid between ceiling joists across cold roof within the entirety of the ticketing hall (two roof spaces) towards the west of the Station Building.
- Install new highly vapour permeable insulation between ceiling joists such as Thermafleece CosyWool, sheep's wool flexible slabs, 75mm thick to suit existing ceiling joist depth and 175mm flexible slabs over as a cross layer, 250mm thick insulation total.
- All roof voids are to be cleared of all dust and debris. Carefully remove debris from roof spaces over the First- and Second-Class Ticketing Hall facilities using HEPA filtered vacuums and dust extraction units etc. all practical measures should be taken to prevent potentially contaminated debris from entering the occupied airspaces during and after refurbishment.
- Insulation should be laid over existing ceilings once they have been cleaned, inspected, and repaired.

## **908 Redecoration of external cast iron columns**

- Allow for 25% redecoration across remaining 14nr. cast-iron columns (not internal downpipe columns). Wire brush and redecorate where required.

## **909 Roof insulation over sarking boards**

- IF rigid insulation boarding is found to exist below slate covering, atop of sarking board layer. It is proposed to replace rigid insulation board like-for-like, in terms of overall thickness.

Buttress 