# Scope of Works: Security & Fabric Repairs

Clayton Hall

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| Doc No: | P0224-SCH-REP010 Scope of Works |
| Issue: | For Comment |
| Rev: | - |
| Date: | September 2024 |

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# 1.0 Pre-Construction Information

## 1.1 PURPOSE OF THE DOCUMENT

The pre-construction information forms part of the tender documentation for the appointment of the Principal Contractor, it describes the project, construction work and timing, identifies hazards and risks, required standards for health, safety and welfare and identifies interfacing activities. Designers and Contractors may use this information in conjunction with other contract documentation to plan their work. It is a responsibility of the Client (or clients' representative) to ensure its preparation and they must provide this document as soon as practicable to each contractor (including Principal Contractor) being considered for appointment.

The purpose is to highlight the main health and safety issues in connection with the construction work in the project and to form a basis for tenderers to explain their proposals for managing the risk inherent in the project.

**CONSTRUCTION PHASE PLAN**

The appointed Principal Contractor will develop the Pre-Construction Information as part of his duties to produce a Construction Phase Plan, in particular taking reasonable steps to ensure co-operation between all Contractors to achieve compliance with the Regulations together with any specific rules and recommendations set down within the Plan.

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## 1.2 PROJECT TEAM / PEP

MANCHESTER CITY COUNCIL

### PROJECT EXECUTION PLAN - GENERAL INFORMATION

| | | | | | |
|---|---|---|---|---|---|
| **Issue Date:** | 08/0824 | **Status:** | In Design | | |
| **Issue No:** | 02 | | | | |
| **Job No:** | AMP/44943-2 | | | **Target Hours:** | |
| **Project Title:** | Clayton Hall – Security Improvements –<br>Fire & Intruder Alarm, CCTV, Fencing and Structural Repairs. | | | | |
| | **Name** | **Company** | | **Contact No.** | **E-mail** |
| **Design Team** | | | | | |
| Heritage Architect: (Designer) | Bernadette Bone | BB Heritage Studios | | 07813076325 | bb@bbheritagestudio.com |
| Electrical Engineer: (CCTV) | Thomas Balcombe | MCC Capital Programmes | | 07929823590 | thomas.balcombe@manchester.gov.uk |
| Electrical Engineer (Alarms) | Christian Lumor | MCC Capital Programmes | | 07508880600 | cristian.lumor@manchester.gov.uk |
| Structural Engineer: | Robert Ratcliffe | The Moreton Partnerrship | | 07975096338 | robert.ratcliffe@the mortonpartnership.co.uk |
| Ecologists: | Oliver Silver (Director) | Urban Green | | 01613123131 | oliver.silver@weareurbangreen.co.uk |
| Ecologist | Jake Healy | Urban Green | | 01613123131 | jake.healy@weareurbangreen.co.uk |
| Landscape Architect | Lucy Marshall | CW Studio | | 01614643895<br>07966840145 | lucy@cwstudio.co.uk |
| Landscape Graduate | Anna Livingstone | CW Studio | | 01614643895 | annalivingstone@cwstudio.co.uk |
| Archaeologist | Mark Fletcher | Matrix Archaeology | | 07739554201 | mfletcher@matrixarch.co.uk |
| **Principle Contractor** | | | | | |
| | | | | | |
| Operations Manager | James Flitcroft | Warden Construction | | 07921099523 | james.flitcroft@warden.co.uk |
| Estimator | Jamie Huen | Warden Construction | | 07919694916 | jamie.huen@warden.co.uk |
| Quantity Surveyor: | Chloe Swain | Warden Construction | | 07919694926 | chloe.swain@warden.co.uk |
| Contracts Manager | Craig Norcross | Warden Construction | | 07919694928 | craig.norcross@warden.co.uk |
| Site Manager | TBC | Warden Construction | | | |
| **MCC Capital Programmes** | | | | | |
| Contract Administrator | Richard Broadbent | MCC Capital Programmes | | 07940749287 | richard.broadbent@manchester.gov.uk |

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|---|---|---|---|---|
| Quantity Surveyor | Stephen King | MCC Capital Programmes | 07866001585 | stephen.king@manchester.gov.uk |
| Team Leader Building Surveyors | Tony Holland | MCC Capital Programmes | 077990504133 | tony.holland@manchester.gov.uk |
| Team Leader Engineering Group | Tony Jones | MCC Capital Programmes | 07985313674 | tony.jones@manchester.gov.uk |
| Head of Minor Works | John Bowker | MCC Capital Programmes | 07989147683 | john.bowker@manchester.gov.uk |
| **CDM** | | | | |
| Principal Designer | Stephen Martin | Keelagher Okey Klein | 07957982148 | stephen.martin@kok-surveyors.com |
| **Premises Contact** | | | | |
| Key Holder | Lynn Blinkhorn | Friends of Clayton Hall | 07779827656 | lynn.blinkhorn@sky.com |
| **Client** | | | | |
| Technical Services Manager | Kath McVicker | MCC Corporate Estates (AMP Team) | 0782185688 | kath.mcvicker@manchester.gov.uk |
| **Other Services** | | | | |
| | | | | |

| | |
|---|---|
| **Project Dates:** | |
| Estimated Start: | October 2024 |
| Design Estimated Complete: | August 2024 |
| TC Agreed: | No |

| **Progress Information** | | | | | |
|---|---|---|---|---|---|
| **Status:** | Design | | | | |
| | **N/A** | **Required** | **Due Date** | **Received Y/N** | **Date** |
| Building Design: | | Yes | | No | |
| Electrical Design: | | Yes | | Yes | |
| Mechanical Design: | N/A | | | | |
| Structural Engineer Design: | | Yes | | No | |

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|---|---|---|---|---|---|
| Ecology Report | | Yes | | Yes | |
| Landscape Design | | Yes | | No | |
| Asbestos Management Report: | | Yes | | Yes | |
| Asbestos Refurbishment Survey | | Yes | | No | |
| H & S (Designer's Risk Assessment): | | Yes | | No | |
| PD Advisor | | Yes | | Yes | |
| Building Regulation: | | Yes | | No | |
| Planning Permission & Listed Building Consent: | | Yes | | Yes | |
| Other: | | | | | |
| **Client Approval:** | **Yes?** | **No?** | | **Date** | |
| | Yes | | | 07/06/2022 | |
| **Comments:** | | | | | |

**c.c.** **Capital Programmes & Procurement Team Leader**
**Capital Programmes & Procurement Quantity Surveyor**
**Consultants**
**Principal Contractor**

## 1.3 THE SITE

Site Address:
**Clayton Hall**
Clayton Park,
Ashton New Road,
Clayton,
Manchester
M11 4RU

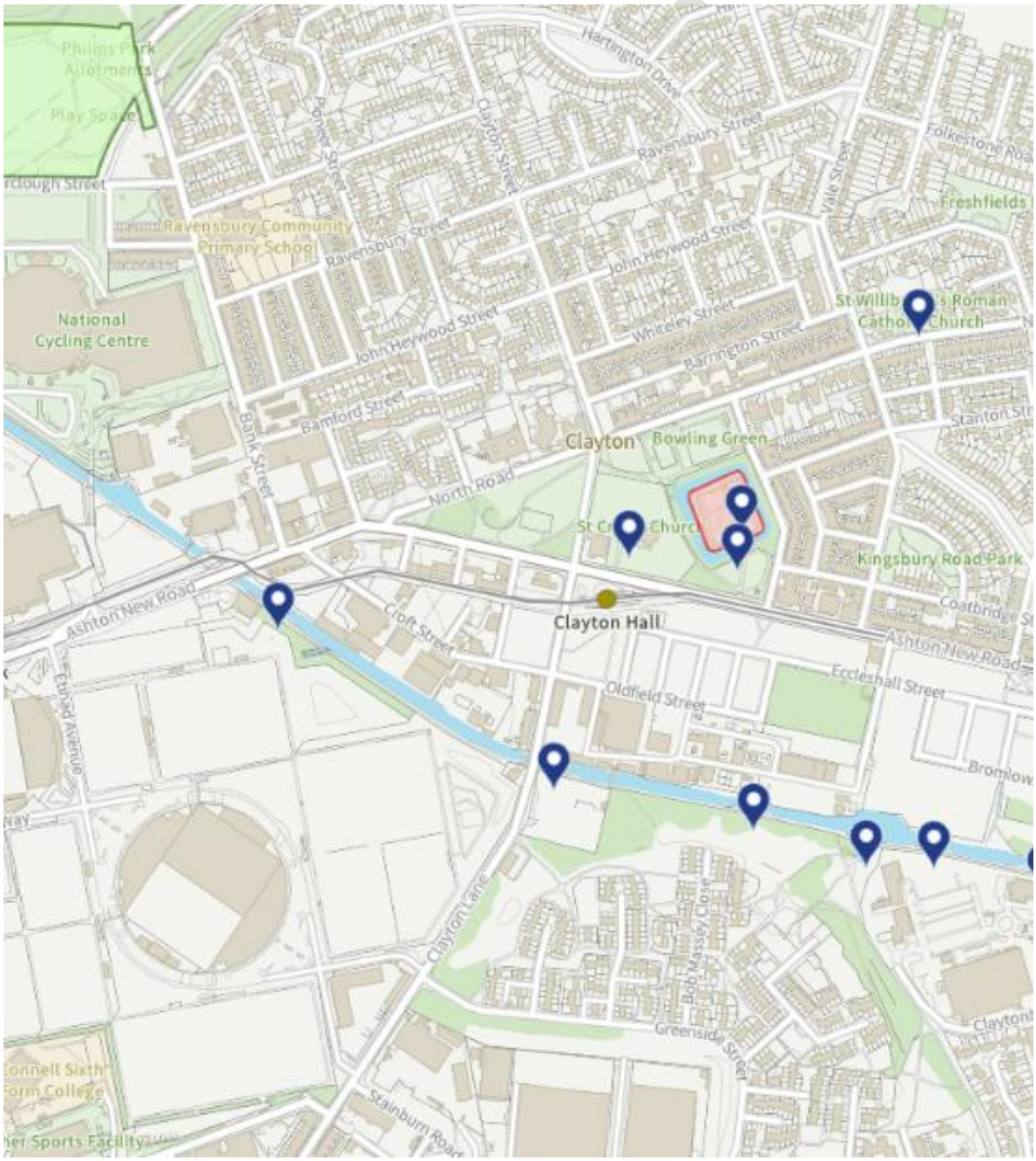


Fig. 01: Site Location Plan

## 1.4 PROJECT DESCRIPTION

### 1.4.1 HERITAGE SIGNIFICANCE OF THE SITE

Clayton Hall is a Grade II* listed moated hall whose earliest fabric is thought to have been constructed by the Byron family in the mid 14th Century. It is located on the site of a scheduled ancient monument and accessed via a separately Grade II listed 17th century stone bridge. It is a site of very considerable heritage significance and a rare example of a moated site. The hall and wider park area is owned by Manchester City Council (MCC) and has been run as a Living History Museum by the Trustees of the Charity and Friends of Clayton Park since 2009.

### 1.4.2 SUMMARY SCOPE OF WORKS

The proposed works at Clayton Hall consist of the following;

A) Enabling works including ecological works, archaeological works and removal of vegetation.
B) Removal of the existing boundary fencing and walls.
C) Installation of new boundary fencing including new foundations.
D) Installation of new CCTV equipment.
E) Fabric repairs to the Hall.
F) Landscape replacement proposals.

### 1.4.3 TIMESCALES FOR THE CONSTRUCTION WORK

| KEY EVENTS | TARGET DATE | WEEKS |
|---|---|---|
| Issue of information for discharge of conditions | September 2024 | 8 weeks |
| Issue of information for Scheduled Monument Consent | September 2024 | 8 weeks |
| Issue of tender documents | September 2024 | 4 weeks |
| Return of tender documents | October 2024 | |
| Issue of Natural England Licence | September? | |
| Start of ecology site works | October? | |
| Start of archaeological site works | November? | |
| Timescales for tree works | November - February | |
| Start date or the construction works | November? | |
| Completion date | August 2025 | |

### 1.4.4 PERMITTED HOURS OF WORK

The permitted hours during which works may be undertaken on site are:-

- Not before 7.30am or after 18.00pm Monday to Friday.

- At no time on Saturdays, Sundays or Bank Holidays unless agreed by the Client

### 1.4.5 SURROUNDING LAND USE

The site is accessed from Ashton New Road through Clayton Park. The site is a historic moated platform so is surrounded by a moat ditch. This forms a direct boundary to the east with Clayton Hall Road and is then bound by paths within the park to the north, west and south. The wider site is bounded by Ashton New Road to the south,

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Clayton Street to the west and North Road to the north. Clayton Park is opposite Clayton Hall tram stop and is principally surrounded by residential areas to the west and north and St Cross Church to the immediate west.

### 1.4.6 EXTENT AND LOCATION OF ANY EXISTING RECORDS AND PLANS

EXISTING DRAWINGS

| **DRAWING REF** | |
|---|---|
| 0224-al(05)001 rev A | Site Location Plan |
| 0224-al(05)003 | Existing Plans |
| 0224-al(05)004 | Existing Roof Plan |
| 0224-al(05)005 | Existing East & West Elevations |
| 0224-al(05)006 | Existing North & South Elevations & Sections |
| 0224-al(05)020 | Outer Moat Existing Fence Types |
| 0224-al(05)021 | Inner Moat Existing Fence Types |
| 0224-al(05)022 | Fence / Boundary Fabric Removal |

PROPOSED ARCHITECTURAL DRAWINGS

| **DRAWING REF** | |
|---|---|
| 0224-al(05)030 | Proposed Ground & First Floor Plans |
| 0224-al(05)035 | Repairs East & West Elevations |
| 0224-al(05)036 | Repairs North & South Elevations |
| 0224-al(05)040 | Proposed Fence Types Site Plan |
| 0224-al(05)041 | Proposed Fence Types Elevations Option A |
| 0224-al(05)042 | Proposed Fence Types Elevations Option B |
| 0224-al(05)050 | Proposed Areas of Asbestos Testing |

LANDSCAPE INFORMATION

| **DRAWING REF** | |
|---|---|
| 2407-CWS-XX-GF-DR-L-100 rev P02 | Landscape Proposals Plan |
| 2407-CWS-XX-GF-DR-L-101 rev P02 | Tree & Hedge Removals & Retention Strategy Plan |
| 2407-CWS-XX-GF-DR-L-200 rev P02 | Planting Plan |
| 2407-CWS-XX-GF-DR-L-201 rev P02 | Planting Schedule & Tree Pit Detail |
| 2407-CWS-XX-GF-DR-L-300 rev P01 | Landscape proposals & Maintenance Schedule |

STRUCTURAL INFORMATION

| **DRAWING REF** | |
|---|---|
| 16076-01 rev A | Boundary Fence Structural Details |
| 16076-02 rev A | Boundary Fence Site Plan |
| 16076-03 rev A | Repair Details Sheet 01 |
| 16076-04 rev A | Repair Works East & West Elevations |
| 16076-05 rev A | Repair Works South Elevation |

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MECHANICAL & ELECTRICAL INFORMATION

| **DRAWING REF** | |
|---|---|
| E0010 rev E | Proposed Security System Layout Rev E |
| E0011 | CCTV elevations |
| E0012 | Proposed Duct Site Plan |
| E0020 | Column Details |
| AMP44943.1 | Electrical Spec |

OTHER SUPPORTING INFORMATION

| **REPORT / DRAWING REF** | |
|---|---|
| UG_1455_ECO_BMHS_01<br>Badger Monitoring & Hedgehog Survey Report June 2024 | URBAN GREEN |
| UG_1455_ECO_BMS_OS 003<br>Badger Method Statement August 2024 | URBAN GREEN |
| UG_1455_ECO_BLP_01<br>Badger Licence Proposal | URBAN GREEN |
| Report No. 2024-05:MA866 Revision No.4<br>Written Scheme of Investigation (WSI), Archaeological Project Design, Archaeological Trial Pitting & Watching Brief, related to proposed broadband cable trench and boundary fence construction, Clayton Hall. | MATRIX ARCHAEOLOGY |
| Planning Consent Decision Notice | MCC |
| Listed Building Consent Decision Notice | MCC |
| Schedule of Planning & Listed Building Consent Conditions | BBHS |

EXISTING H&S FILE
MCC to confirm re: existing H&S File

EXISTING SERVICES
See O&M Manual following works carried out in May 2017.
The incoming services locations will be clarified by the owner as part of an initial site orientation.
The route of the mains electricity cable from Clayton Hall Road to the Hall is to be confirmed (or may need to be scanned and plotted).

ASBESTOS INFORMATION
Refer to the attached Asbestos Management Survey in Appendix A.

EXISTING FIRE PLAN
Refer to Appendix B.

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## 1.5 PROJECT REQUIREMENTS / CONSTRAINTS

### 1.5.1 SITE ACCESS

As previously noted the site is accessed from Ashton New Road through Clayton Park. Currently vehicle access is allowed through the park across the Grade II listed bridge to a small compound area to the rear of the site. Vehicles are restricted to 5mph through the park, must use their hazard warning lights and stop immediately for any pedestrians.

### 1.5.2 PARKING

The parking area on the moated platform is the only parking allocated to the Hall. The residential streets have recently had additional parking restrictions placed on them limiting parking to 2 hours. The contractor should assess options for vehicle access and parking as part of the tender response. Use of the parking on the moated platform will potentially cause disruption to the continued use of the site during the construction works but some access may be possible, this should be agreed in advance with MCC and the Trustees. **Note the advised width and weight limit of vehicles within the Structural Engineers information.**

### 1.5.3 CONTINUED USE OF CLAYTON HALL LIVING HISTORY MUSEUM

The Hall is in use as a Living History Museum, it is open to volunteers every Tuesday and to the public every Saturday. In addition the Hall hosts adhoc open days for adult groups and school groups. The aim will be to minimise any disruption to the opening of the Hall during the construction works. The main activities that are anticipated to cause disruption are the excavating of the trenches adjacent to the moat bridge and on the moated platform, connection of the CCTV system and fabric repairs to the timber frame and southern gable end.

### 1.5.4 HERITAGE DESIGNATIONS

Clayton Hall is a Grade II* listed building on a moated platform which is the site of a Scheduled Ancient Monument. The moated platform is accessed via a separately Grade II listed stone bridge. The site is therefore a significant heritage asset which is designated and protected to a high level under the Planning (Listed Buildings and Conservation Areas) Act 1990.

### 1.5.5 ECOLOGY

Ecological surveys have confirmed that there is an active badger set on the site. Badgers are afforded protection under the Protection of Badgers Act 1992. This will require that a licence is provided by Natural England for the proposed works. This will also require restrictions to be placed on the specific methodologies and machinery to be used for the excavation works. The planning & listed building consent also requested specific mitigation in relation to hedgehogs. For this is it recommended that precautionary working methods are used during the construction works.

### 1.5.6 ARCHAEOLOGY

The boundary of the scheduled ancient monument designation is shown in red to Fig. 01 and follows the line of the inner moat boundary encompassing the inner moat slope. As a Scheduled Ancient Monument any excavation on the site requires Scheduled Ancient Monument consent and mitigation such as trial pits prior to excavation and a watching brief during excavation. Refer to the Written Scheme of Investigation (rev 04) prepared by Matrix Archaeology.

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### 1.5.7 CONSIDERATE CONTRACTORS / SOCIAL VALUE

We hope that contractors working on this project will assist us with the following, in particular:

- Using local suppliers, subcontractors and tradesmen.
- Using local shops and facilities while working in the area.
- Respecting neighbours and local traders when planning road or pavement closures and noisy work.

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# 2.0 Client Considerations

## 2.1 Arrangements for planning and managing the construction works

The works are instructed by the building owner Manchester City Council (MCC).
An outline of the arrangements for planning and managing Health and Safety during the construction phase of the project is listed below:-

- MCC is responsible for the health and safety of any employees at work and any other people not in their employment who are affected by the works.
- The Principal Contractor is responsible for health and safety within the construction site and those that might be affected by construction operations.
- The client and their representative shall have the right to suspend the construction work if they believe that a person's safety is at risk.
- The client shall require that all work is undertaken in accordance with all statutory requirements with respect to health and safety. In addition all relevant approved codes of practice and guidance shall be adhered to.
- The Principal Designer shall review drawings and design changes throughout the project and raise any associated issues with respect to health and safety considerations with the design team.
- The Principal Contractor is responsible for developing the Construction Phase Plan and maintaining it on site throughout the duration of the project. The Client requires the Construction Phase Plan before work commences on site, the client will assess the plan to ensure it is suitable and sufficient.
- The Principal Contractor shall be responsible for the management and implementation of health and safety on site.
- All personnel on site must have received adequate training to undertake their work in a safe and competent manner. Information on the training of personal, refresher training and statutory training certification should be held by the Principal Contractor and must be available for inspection at the site.
- All persons on site should be given a site-specific induction to familiarize themselves with emergency procedures, management requirements and specific site details.
- Any training needs identified as being required during the course of the project shall be undertaken. These may be in the form of toolbox talks or other suitable methods.
- Health and Safety shall be included on the agenda of all site meetings and significant items recorded and minutes distributed to all relevant parties.
- A system of monitoring the construction works to ensure the effective management of safety throughout the project duration shall be implemented by the Principal Contractor.
- Such monitoring shall include:-

    - Workplace inspections – general site safety
    - Statutory inspections – scaffold, plant, equipment etc.
    - Sub-contractors – the monitoring of sub-contractors

- The Principal Contractor is responsible for the production of all required method statements and risk assessments with respect to his undertakings. In addition, the Principal Contractor shall review the method statements and risk assessments of all sub-contractors on site and ensure that their content is suitable and sufficient before permitting any relevant activities to commence.
- Details of all accidents on site and the findings of such investigations shall be forwarded promptly to the Client.

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**HEALTH & SAFETY GOALS FOR THE PROJECT**

2.2 The primary objective of all duty holders is to remove and minimise the risk of injury or incident and ensure that the legal standards for safety and health, guidance and best practice are achieved at all times and that all works are undertaken safely.

"Every person to return home safely every day"

**COMMUNICATION AND LIAISON BETWEEN CLIENT AND OTHERS**

2.3 All formal communications, instructions, technical queries etc are to be routed via the Contract Administrator, Richard Broadbent, MCC Capital Programmes.

Designers, including those working for the Principal Contractor, have a duty to ensure design detailing is co-ordinated for health and safety.

Design development details, changes, instructions etc are to be copied to the Principal Designer for review and where necessary comment. To facilitate this, the Principal Contractor shall provide designers with all necessary information and issue in good time design information to the Principal Designer.

MCC and the Trustees shall be informed of any requirements for pavement and road closures and kept updated on the programme timescales. We also request that the contractor initiate liaison and proactive updates with neighbours.

**SECURITY OF THE SITE**

2.4 The Principal Contractor is entirely responsible for the security of the site. The Principal Contractor is to ensure that there is adequate hoarding to prevent access to the site of all un-authorised persons.

Particular account is to be taken of unauthorised persons straying into work areas while construction activities are taking place.

The Principal Contractor is to provide within the Construction Phase plan for the project a marked up site plan showing location of the site compound including proposed locations of skips, parking etc.

**HOARDING DESIGN**

2.5 TBC

**WELFARE PROVISION**

2.6 There are limited toilet facilities within the Hall and these will need to be available for visitors on open days. Therefore the Principal Contractor should allow for additional site facilities if required. The facilities should comply with the requirements of Schedule 2 of the Construction (Design and Management) Regulations 2015. If the Principal Contractor determines that external welfare facilities are required then the location should be shown on a marked up site plan for agreement. The welfare facilities are to be established before any construction activity commences on site and maintained in a hygienic manner for the duration of the project.

**SITE TRANSPORT ARRANGEMENTS OR VEHICLE MOVEMENT RESTRICTIONS**

2.7 As previously noted parking is restricted. The Principal Contractor will also need to assess turning circles for large vehicles into adjacent streets which can be restricted by residential parked cars.

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The contractor is responsible for anticipating and arranging any required pavement and road closures with prior notification to highways, MCC, the Trustees and the neighbouring properties.

**SITE SET UP**

2.8 The site area is restricted, as part of the tender returns we request that consideration is given to the preferred arrangements for any compound areas, access, parking, welfare facilities & power supplies.

**CONTRACT PARTICULARS TBC BY MCC**

2.9 The proposed contract is TBC
The contractor is to price the Schedule of Works and provide a fixed price sum on the form of tender.
Payment terms are to be TBC BY MCC

**PERMIT-TO-WORK SYSTEMS**

2.10 The Principal Contractor shall implement a permit to work system for higher risk work activities or where the Client has a specific requirement.

**FIRE PRECUATIONS**

2.11 The Principal Contractor shall carry out a Fire Risk Assessment in respect of the works in accordance with the Regulatory Reform (Fire Safety) Order 2005, which shall be regularly reviewed and updated as necessary.

**EMERGENCY PROCEDURES AND MEANS OF ESCAPE**

2.12 The Principal Contractor is to ensure that their activities do not compromise any fixed or temporary alarms or the means of escape or any fire smoke detection equipment.

Generally the Principal Contractor shall ensure that emergency procedures and means of escape are maintained throughout the Construction Phase and any additional measures as a result of the works or erection of scaffolding / hoarding, etc. on site are put in place and maintained as required. This includes (but may not be limited to) the physical protection of routes, floors and other types of surfaces, access/egress points, locks and door furniture and emergency and safety lighting and signage for escape routes etc.

The Principal Contractor shall have particular regard to the safety of the public in and around Clayton Park and on the Hall site during open days.

**NO-GO AREAS OR OTHER AUTHORISATION REQUIREMENTS FOR THOSE INVOVLED IN THE PROJECT**

2.13 The contractor's operatives will not be allowed to venture into areas not defined as their workplace.

**ANY AREAS DESIGNATED AS CONFINED SPACES**

2.14 All works involving work on or entry into confined spaces shall be carried out in accordance with the requirements of the regulations and shall be subject to a safe system of work and the issue of a confined spaces permit to work, as appropriate.

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# 3.0 Environmental Restrictions and Existing On-Site Risks

## 3.1 SAFETY HAZARDS

### 3.1.1 BOUNDARIES AND ACCESS, ADJACENT LAND USES, INCLUDING MEANS OF ESCAPE

Access is to be maintained across the moat bridge at all times. If this is not feasible then prior agreement will be needed with MCC and the Trustees as to restriction of their access and use.

### 3.1.2 ANY RESTRICTIONS ON DELIVERIES OR WASTE COLLECTION OR STORAGE

Contractor to confirm arrangements for deliveries to ensure that the adjacent residential streets are maintained as vehicular routes. Waste shall be removed from the site on a regular basis to ensure the site remains clean and clear and hazards are avoided. No waste is to be stored within the building unless specifically agreed with the Principal Designer and Client in writing beforehand.

### 3.1.3 EXISTING STORAGE OF HAZARDOUS MATERIALS

None known.

### 3.1.4 LOCATION OF EXISTING SERVICES, PARTICULARLY THOSE THAT ARE CONCEALED – WATER, ELECTRCITY, GAS ETC

Information on the known location of existing services will be provided by the Client. The Principal Contractor should then ensure that the services can be safely located, exposed, identified and where necessary isolated and protected before commencing any works.

### 3.1.5 INFORMATION ABOUT EXISTING STRUCTURES – HAZARDOUS MATERIALS

See attached Asbestos Management Report (Appendix A).

### 3.1.6 ANY DIFFICULTIES RELATING TO PLANT AND EQUIPMENT IN THE PREMISES

To be reviewed with the Principal Contractor on site.

### 3.1.7 HEALTH & SAFETY INFORMATION CONTAINED IN EARLER DESIGN, CONSTRUCTION OR 'AS BUILT' DRAWINGS

N/A

## 3.2 HEALTH HAZARDS

### 3.2.1 CONTAMINATED LAND

N/A

### 3.2.2 EXISTING STRUCTURES CONTAINING HAZARDOUS MATERIALS

See attached Asbestos Management Report (Appendix A).

### 3.2.3 HEALTH RISKS ARISING FROM CLIENT'S ACTIVITIES

None known.

### 3.2.4 EXISTING ON-SITE RISKS

There is considerable drug litter including needles, particularly to the lower moat area. This will need to be cleared following the required methodologies before any works take place. It is also proposed that the area under the bridge is fenced off for the duration of the construction works as this is the area that is the most affected. Any fencing to close of this area will need to be free standing and not fixed to or supported by the bridge itself.

# 4.0 Significant Design and Construction Hazards

## 4.1 SIGNIFICANT DESIGN ASSUMPTIONS

The Principal Contractor shall address the following significant hazards associated with the design. It is essential that the Construction Phase Plan properly addresses the issues in the Risk Assessments through the production of method statements which detail the safe systems of work before the specific work actually commences on site.

Refer to Appendix C – Risk Management Register

## 4.2 SUGGESTED WORK METHODS / SEQUENCES

Due to the ecological and archaeological constraints on the site then it is essential that the necessary enabling works have been undertaken prior to any groundworks being commenced. The following work sequence has been identified by the design team to assist in meeting these requirements alongside mitigating issues which may constitute a risk to the Health & Safety of construction workers. The sequence list is not intended to be exhaustive and should be developed through the programme / phasing plan to be submitted by the Principal Contractor prior to work commencing.

- Clear site of all drug litter and fence off the area under the bridge.
- On receipt of the licence from Natural England close the suggested badger set entry points. Note that the main set will remain open and as such there are mitigations needed to minimise any impact on that active set. See separate ecology report 'Badger Monitoring & Hedgehog Survey Report June 2024'.
- Undertake the necessary archaeological trial pits.
- Install the necessary site hoarding.
- Commence the tree and vegetation removal. Note the restriction on these works under planning condition 10 which states that no removal or other work to trees or hedges shall be undertaken in the main bird breeding season (1 March to 31 August) and the team recommendation that no works commence until October.
- Contractor to confirm if any additional vegetation clearance over and above that noted to the proposals by CWS would be needed to the moat base and embankments for H&S / access purposes.
- Commencement of groundworks (note the requirement for discharge of planning & listed building consent conditions and Scheduled Monument Consent prior to any excavation).
- Clearance of vegetation to gutters, and all above and below ground drainage systems.

## 4.3 CO-ORDINATION OF ON-GOING DESIGN WORK

All ongoing design and design changes shall be co-ordinated through the Principal Designer and Contract Administrator.

## 4.4 DESIGN CHANGES THROUGHOUT THE PROJECT

If, due to unforeseen circumstances, there are aspects of the design which require modification post tender and these significantly affect health and safety the following procedure shall apply.

Designers and / or the Principal Contractor:-

- As soon as it becomes known that a design element is to be modified, the Principal Designer shall be notified and provided with the relevant information.
- Each modification shall be developed on the basis of Regulation 13 and the "principles of prevention" regarding execution, maintenance, repair and subsequent demolition and dismantling.

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- Each modification of design shall be submitted in sufficient time to permit proper consideration of health and safety by all parties.
- The Principal Contractor shall be required to update amend and modify as necessary their Construction Phase Plan to address the change.
- Designers are to highlight significant health and safety issues due to change advising the Principal Designer and Principal Contractor

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# 5.0 The Health and Safety File

5.1 The Principal Contractor shall comply with his duties under the CDM Regulations 2015 and obligations set out in the contract documents to ensure that the Principal Contractor receives all the information required to complete the Health and Safety file within four week of issue of the Certificate of Practical Completion by the Contract Administrator. Operation and Maintenance Manuals must be available before the building is handed over to the Client.

Files shall be provided in an electronic document format (including all manufacturers' data, drawings, etc). In addition, separate electronic copied of drawings in CAD and editable word / excel documents shall be provided. Two hard copies in white, four-ring binders should also be provided.

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# 6.0 Schedule of Works

| ITEM REF | DESCRIPTION | SPEC REF | COST |
|---|---|---|---|
| **A** | **ENABLING WORKS INCLUDING ECOLOGICAL WORKS, ARCHAEOLOGICAL WORKS & REMOVAL OF VEGETATION** | | |
| A1 | CLEARANCE OF DRUG LITTER<br><br>SITE SET UP / HOARDING / SCAFFOLDING ETC to contractors design (also see SE spec & Schedule of Works). | C20/210 | |
| A2 | ECOLOGICAL ENABLING WORKS<br>Refer to the ecological reports by Urban Green in particular 'Badger Monitoring & Hedgehog Survey Report' dated June 2024. All of the following works are to be actioned on site by Urban Green as the contractor.<br><br>Prior to the commencement of any groundworks ensure that the necessary licence(s) have been granted by Natural England for the closure of Setts 2 and 7 and the disturbance of Setts 1 and 5.<br><br>Undertake the necessary closure works to Setts 2 and 7.<br><br>Ensure that the necessary measures are in place for the 10m buffer zone to Setts 1 and 5. Refer to the Badger Method Statement. | C20/215 | |
| A3 | ARCHAEOLOGICAL ENABLING WORKS<br>Refer to the Matrix Archaeology Report 'Archaeological Trial Pitting & Watching Brief related to proposed broadband cable trench and boundary fence construction (Report no. 2024-05:MA866) dated June 2024.<br>The archaeological excavations are to be actioned on site by Matrix Archaeology as the contractor.<br><br>Prior to the commencement of any excavation for cable trenches, tree pits or fencing ensure that the necessary archaeological trial pits have been undertaken.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE | C20/220 | |
| A4 | REMOVAL OF VEGETATION TO MOAT LANDSCAPE<br>Refer to CWS drawing 2407-CWS-XX-XX-DR-L-101 P01 Tree and Hedge Retention and Removal Strategy<br><br>Remove trees / hedges and shrubs to the extent shown. | C20/225 | |

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| | Contractor to confirm if any additional vegetation clearance over and above that noted to the proposals by CWS would be needed to the moat base and embankments for H&S / access purposes.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br><br>Note: retention of tree trunks / branches on site for retention of habitat. | | |
| A5 | ASBESTOS TESTING<br>Undertake targeted areas of asbestos testing. | C20/120 | |
| A6 | REMOVAL OF CEILING & WALL FINISHES WITHIN PROPOSED CCTV ROOM (REF: B01-01-012)<br>Remove existing ceiling board to whole room, if possible retain hatch.<br>Remove damaged boarding to walls, retain where intact. | C20/255 | |

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| ITEM REF | DESCRIPTION | SPEC REF | COST |
|---|---|---|---|
| **B** | **REMOVAL OF EXISTING BOUNDARY FENCING & WALLS** | | |
| B1 | REMOVAL OF EXISTING BOUNDARY FENCING TO OUTER MOAT BOUNDARY<br>Remove existing boundary fencing to extent shown to drawing al(05)022, note the requirement for the retention of;<br><br>- Existing gate posts to access from Clayton Hall Road, north & south<br>- Existing gated vehicle maintenance access<br>- Existing kerb details wherever possible<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE. | C20/240 & SE spec | |
| B2 | REMOVAL OF EXISTING BOUNDARY WALLS TO OUTER MOAT BOUNDARY<br>Dismantle existing boundary walls to extent shown to drawing al(05)022 including excavation of foundations.<br><br>Carefully salvage and retain the existing masonry walling and copings, clean of mortar and vegetation for reinstatement.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE. | C20/245 & SE spec | |
| B3 | REMOVAL OF EXISTING FENCING TO INNER MOAT BOUNDARY<br>Remove existing boundary fencing to the inner moat boundary to the small extent shown to drawing al(05)022 with archaeologist present as a watching brief.<br><br>Inner moat boundary fencing is supported on steel I sections circa 2m spacing. – see instruction for whether these are to be cut at ground level or fully removed.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE. | C20/240 & SE spec | |

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| ITEM REF | DESCRIPTION | SPEC REF | COST |
|---|---|---|---|
| **C** | **INSTALLATION OF NEW BOUNDARY FENCING INCLUDING NEW FOUNDATIONS** | | |
| C1 | FOUNDATIONS TO NORTH SIDE<br>NOTE: retention of gate post onto Clayton Hall Road<br>Install Helix screw piles with RC ground beams in accordance with drawings and specification provided by SE: The Morton Partnership<br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br>Methodology also to allow for watching brief attendance by an ecologist. | Refer to SE spec | |
| C2 | FOUNDATIONS TO WEST & SOUTH SIDE<br>Install basic screw piles with steel ground beams in accordance with drawings and specification provided by SE: The Morton Partnership<br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br>Methodology also to allow for watching brief attendance by an ecologist. | Refer to SE spec | |
| C3 | FOUNDATIONS TO INNER MOAT<br>Install basic screw piles with steel ground beams in accordance with drawings and specification provided by SE: The Morton Partnership<br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br>Methodology also to allow for watching brief attendance by an archaeologist & ecologist. | Refer to SE spec | |
| C4 | FOUNDATIONS TO EAST SIDE<br>NOTE: retention of gate post onto Clayton Hall Road<br>Install basic screw piles with steel ground beams and concrete haunching in accordance with drawings and specification provided by SE: The Morton Partnership<br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br>Methodology also to allow for watching brief attendance by an ecologist. | Refer to SE spec | |
| C5 | FOUNDATIONS TO SOUTH SIDE CORNER<br>NOTE: retention of gate post<br>Install pad footings in accordance with drawings and specification provided by SE: The Morton Partnership<br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br>Methodology also to allow for watching brief attendance by an ecologist. | Refer to SE spec | |
| C5 | NEW BOUNDARY FENCING TO OUTER MOAT<br>Provide new boundary fencing in accordance with drawings al(05)040, al(05))41 & al(05)042 and SE details. | Q40 | |

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| | Include provision for gate for access to south side corner.<br>Make good hardstanding as item F2 | | |
| C8 | NEW BOUNDARY FENCING TO INNER MOAT<br>Provide new boundary fencing in accordance with drawings al(05)040, al(05))41 & al(05)042 and SE details. | Q40 | |
| C9 | WORKS TO EXISTING MOAT VEHICLE ACCESS GATE<br>Gate to be eased to reduce clash on concrete base. | Q40 | |

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| ITEM REF | DESCRIPTION | SPEC REF | COST |
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| **D** | **INSTALLATION OF NEW CCTV EQUIPMENT** | | |
| D1 | EXCAVATION OF TRENCHES<br>Excavate trenches for broadband / CCTV cables in accordance with M&E specification & drawings.<br>Methodology to allow for watching brief attendance by an archaeologist and ecologist.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br><br>Note trench works will require excavating through concrete upstand / concrete moat base and making good in accordance with items F2 & F3. | Refer to MCC M&E spec | |
| D2 | INSTALLATION OF EXTERNAL CABLES AND MAKING GOOD<br>Install cables in accordance with M&E specification & drawings.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br><br>Make good hardstanding and soft landscaping in accordance with items F2 & F3 | Refer to MCC M&E spec | |
| D3 | INSTALLATION OF INTERNAL CABLES AND BUILDING MOUNTED EQUIPMENT<br>Install internal cables and building mounted equipment in accordance with M&E specification & drawings.<br><br>Spec clause – wiring entering the building, routed to the CCTV monitoring room, then routed via eaves, removal of netting | Refer to MCC M&E spec | |
| D4 | INSTALLATION OF EXTERNAL CCTV POLE<br>Install CCTV pole in accordance with M&E specification & drawings.<br><br>NOTE THE RESTRICTIONS ON THE TYPES OF MACHINERY THAT CAN BE USED STIPUATED IN THE BADGER METHOD STATEMENT AND NATURAL ENGLAND LICENCE<br><br>Make good hardstanding and soft landscaping in accordance with items F2 & F3 | Refer to MCC M&E spec | |
| D5 | FIRE ALARM SYSTEM<br>Scope of works as confirmed by MCC<br>1) Upgrade / modernise existing system<br>2) Fire alarm panel, manual call point and all detectors replaced with new<br>3) Removal of existing units on walls and ceilings<br>4) Installing new units in same position as existing<br>5) Test and commission system | Refer to MCC M&E spec | |

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| ITEM REF | DESCRIPTION | SPEC REF | COST |
|---|---|---|---|
| **E** | **FABRIC REPAIRS TO CLAYTON HALL** | | |
| E1 | VEGETATION REMOVAL<br>Remove vegetation from all gutters and from the faces of the south elevation stone / brick chimney stack as noted to drawings al(05)035 & al(05)036<br>Remove vegetation from gulleys. | C41/ 125<br>&<br>C41/130 | |
| E2 | HIGH LEVEL & ROOF INSPECTION / SURVEY<br>Allow for high level access for inspection to eaves / roof level by conservation architect.<br>Allow for attendance by a heritage roofing specialist for roof inspection / survey and recommendations for scope of roof repair works.<br>Provisional sum allowance for patch roof repairs TBA with MCC. | C41 / 120 | |
| E3 | TRIAL PAINT REMOVAL<br>Prior to the commencement of any paint removal undertake 2no. sample trial areas, 1no. trial removal of paint to brickwork and 1no. trial removal of paint to stonework. | C20 / 300 | |
| E4 | MORTAR & STONE ANALYSIS<br>Prior to the commencement of any repointing or stone repairs allow for mortar analysis to 8no. locations as follows;<br>- 2no. to stonework to south elevation chimney stack<br>- 2no. to brickwork to south elevation chimney stack<br>- 2no. to stonework to northern block<br>- 2no. to brickwork to northern block<br><br>Allow for stone analysis to 2no. locations | C41 / 200 | |
| E5 | REMOVAL OF REDUNDANT EXTERNAL FIXTURES<br>Removal of satellite dish and redundant light fittings as shown to drawings al(05)035 & al(05)036 | C41 / 135 | |
| E6 | REMOVAL & REPLACEMENT OF EAVES NETTING<br>Carefully remove existing netting to the eaves to the full perimeter of the building, including debris within the netting.<br>Allow for a high level inspection of the eaves.<br>Allow for full replacement of eaves soffit boarding.<br>Provisional sum allowance for repairs to eaves level timbers including timber verge boards / timber gutters / rafter ends etc and including allowance for replacement leadwork.<br>Installation of CCTV wiring & equipment.<br>Replacement with new netting. | C20 / 250<br><br>C41 | |
| E7 | RENDER & PAINT REMOVAL TO SOUTH & EAST ELEVATIONS OF NORTHERN BLOCK<br>Render & paint removal to areas noted to drawings al(05)035 & al(05)036 | C20 / 300 | |

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| E8 | ALLOWANCE FOR PAINT REMOVAL TO NORTH ELEVATION GABLE END & OUTBUILDING<br>Possible optional additional scope of paint removal to north elevation gable end. | C20 / 300 | |
| E9 | STONEWORK & BRICKWORK REPAIRS<br>Provisional sum allowance, scope TBC following paint removal.<br>Allow for<br>- Removal of cement mortar to stone base to perimeter, and stone chimney stack, repointing in lime based mortar.<br>- defrassing of stone, patch stonework repairs, patch brick replacement. | C41 | |
| E10 | REPOINTING TO BRICKWORK AND STONEWORK<br>Final extent of repointing to be confirmed following the paint removal. Allow for the following areas as noted to drawings al(05)035 & al(05)036<br>- Stone plinth to the perimeter of the building<br>- Stonework and brickwork to the south elevation chimney stack<br>- Brickwork to the south elevation gable as noted to the drawings<br>- Brickwork to the south & east elevations of the northern block as noted to the drawings | C41 | |
| E11 | REBUILDING OF SOUTH ELEVATION GABLE<br>Rebuilding to the extent noted to SE details.<br>Replacement lintols to 2no. windows<br>Salvage or provide new clay tiles for the raked detail. | Refer to SE spec & Schedule of Works | |
| E12 | REMOVAL OF DECAYED TIMBER TO SOUTH ELEVATION OF NORTHERN BLOCK<br>Remove decayed timber and repair / infill with brickwork as SE details. | Refer to SE spec & Schedule of Works | |
| E13 | REPAIRS TO THE TIMBER FRAME<br>Refer to the schedule of timber repairs within the SE specification and Schedule of Works. | Refer to SE spec & Schedule of Works | |
| E14 | TIMBER REPAIRS TO EAST ELEVATION TIMBER FRAMED WINDOWS<br>Extent to be confirmed following close up inspection | C41 | |
| E15 | INTERNAL PLASTER REPAIRS TO CEILING & INTERNAL WALLS<br>Repair to plaster ceiling within room B01-01-011.<br>Reinstatement of plaster to inner face of south gable wall in room B01-01-011<br>Replacement of ceiling in room B01-01-012<br>Repair to plaster wall finishes in room B01-01-012 | M20 | |
| E16 | INVESTIGATE POSSIBLE MOVEMENT TO ROOM B01-01-012 & REPAIRS TO TIMBER FLOOR | | |

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| | Carefully lift floor boards to remainder of room B01-01-012 and investigate possible movement.<br>Reinstate floor boards and replace missing section. | | |
| E17 | ADJUSTMENT TO INTERNAL DOORS<br>Doors into rooms B01-01-011 & B01-01-012 are not closing (possibly due to movement as item E15). Adjust doors to ensure that they adequately open and close. | | |

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| ITEM REF | DESCRIPTION | SPEC REF | COST |
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| **F** | **LANDSCAPE REPLACEMENT PROPOSALS** | | |
| F1 | LANDSCAPE REPLACEMENT PROPOSALS<br>Refer to CWS drawings<br>• 2407-CWS-XX-XX-DR-L-100 P01 Landscape Proposals Plan<br>• 2407-CWS-XX-XX-DR-L-101 P01 Tree and Hedge Retention and Removal Strategy<br>• 2407-CWS-XX-XX-DR-L-200 P01 Planting Plan<br>• 2407-CWS-XX-XX-DR-L-201 P01 Planting Schedule and Tree Pit Detail | Refer to CW Studio info | |
| F2 | MAKING GOOD OF HARDSTANDINGS<br>Following the excavation works for the fencing or trenches for the cables make good the hard standings. This includes tarmac paths and concrete moat lining and upstands. | Refer to SE spec | |
| F3 | MAKING GOOD OF SOFT LANDSCAPE<br>Following the excavation works for the fencing or trenches for the cables make good the soft landscaping. This includes lawned and planted areas. | Refer to CW Studio info | |
| F4 | REPAIRS TO ABOVE AND BELOW GROUND DRAINAGE SYSTEMS<br>Scope to be confirmed following vegetation clearance, surveys and inspections.<br><br>Possibly allow for full replacement? | R10 & SE spec | |

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# 7.0 Materials, Workmanship & Method

# C20 ENABLING WORKS

## 100 INTRODUCTION

### 110 DESK STUDY / SURVEY

Before starting any works, the contractor should examine all available information and carry out;

- A review of the scope of works as detailed to this method statement and the drawing package.
- Ensure that the necessary agreements / consents are in place.
- A review of the access requirements / limitations of the site and surrounding area.
- A review of the access arrangements for the works and restrictions due to the existing fabric and maintaining access for occupants and visitors.
- A review of the structural engineers information / ecological / archaeological requirements.
- A review of the drainage survey.
- Ensure a photographic survey of all areas subject to alteration is undertaken by the contractor.
- The contractor should ensure that they are thoroughly familiar with the historical importance of the site and the specific requirements that this places on the methods of working.
- The contractor should ensure that he is familiar with the location of the services, in particular the route of the mains electricity cable from Clayton Hall Road across the moat.
- The contractor should review the form and location of any flammable, toxic or hazardous materials and provide statements on the proposed methods of removal and disposal where required.
- The contractor should review the Asbestos Survey Information.

The contractor should then report and provide method statements describing;

- Proposed programme of work, including sequence and methods of investigations and fabric removal.
- Arrangement for protection of personnel and the general public, including exclusion of unauthorized persons.
- Welfare arrangements.
- Arrangement for control of site transport and traffic.

### 115 INFORMATION TO BE PROVIDED WITH TENDER

- Construction Programme
- Assessment of access requirements including;
  - Pavement / road closures.
  - Proposed construction access points.
  - Site facilities.
  - Waste removal.

### 120 ASBESTOS SURVEY

An Asbestos Management Survey was carried out in 2023 (refer to Appendix A)
No asbestos removal has been undertaken to date.

Required areas of testing prior to construction works are marked up to drawing al(05)050 and limited to:

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- Wall and ceiling finishes / linings to areas of wiring routes for CCTV.
- Eaves level boarding.
- Gutters.

Contractor to check proposed routing of wiring and confirm if any additional areas of testing are required.

They are scheduled as follows:

- 01: external eaves soffit / builderswork penetration to proposed camera 01 location
- 02: external eaves soffit / builderwork penetration to proposed camera 02 location
- 03: external eaves soffit / builderswork penetration to proposed camera 03 location
- 04: external eaves soffit / builderswork penetration to proposed camera 04 location
- 05: external eaves soffit / builderswork penetration to proposed camera 05 location
- 06: external eaves soffit / builderswork penetration to proposed camera 06 location & speaker location
- 07: external eaves soffit / builderswork penetration soffit to proposed speaker location
- 08: gutter to east elevation of northern block – NOTE historically sensitive and physical sample should only be taken if visual survey suspects asbestos.
- 09: verge board to northern block – NOTE historically sensitive and physical sample should only be taken if visual survey suspects asbestos.
- 10: internal ceiling to room B01-01-011
- 11: internal ceiling to room B01-01_012
- 12: floor to room B01-01-012

## 130 FEATURES TO BE RETAINED & PROTECTED

All existing elements which are not specifically noted to be removed are to remain.
Specific areas known to require protection include (but are not limited to);

- Gate posts onto Clayton Hall Road and within the moated site.
- Existing gated vehicle access into the moat.
- Kerbs and edging to the perimeter paved path wherever possible.
- South gable chimney stack externally & internally.
- Timber frame externally & internally.

## 150 WASTE REMOVAL

- The contractor is to allow for the removal of waste items from the construction works and to confirm the methodology.

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# 200 ENABLING WORKS / FABRIC REMOVAL WORKS

## 205 ENABLING WORKS / FABRIC REMOVAL WORKS

To include;

- Clearance of drug litter.
- Ecological enabling works.
- Archaeological enabling works.
- Removal of vegetation to moat landscape.
- Removal of existing perimeter fencing.
- Removal of existing perimeter walling and foundations with the salvaging of the walling masonry and coping stones.
- Removal of trees and vegetation as the landscape architects proposals.

## 210 CLEARANCE OF DRUG LITTER

- Drug litter is evident on site, particularly to the lower moat area, this includes needles. Clearance should follow best practice methodologies, including the use of appropriate PPE and equipment. Suitable tools such as tongs should be used to move used needles wherever possible to minimise using gloved hands. Appropriate sharps containers should be in place and ready to receive needles before any moving or handling begins.
- Regular site checks should be undertaken throughout the construction period.

## 215 ECOLOGICAL ENABLING WORKS

- Ecological surveys have confirmed that there is an active badger set on the site. Refer to ecological reports by Urban Green. Badgers are afforded protection under the Protection of Badgers Act 1992. This will require that a licence is provided by Natural England for the proposed works. This will also require restrictions to be placed on the specific methodologies and machinery to be used for the excavation works.
- The planning & listed building consent also requested specific mitigation in relation to hedgehogs. For this is it recommended that precautionary working methods are used during the construction works.
- Prior to the commencement of any groundworks Urban Green are to ensure that the necessary licence(s) have been granted by Natural England for the closure of Setts 2 and 7 and the disturbance of Setts 1 and 5.
- Urban Green to undertake the necessary closure works to Setts 2 and 7.
- Principle Contractor and all relevant subcontractors to ensure that the necessary measures are in place for the 10m buffer zone to Setts 1 and 5 (refer to the Method Statement) and to allow for a monitoring presence by Urban Green during the excavation works.

## 220 ARCHAEOLOGICAL ENABLING WORKS

- Refer to the Matrix Archaeology Report ‘Archaeological Trial Pitting & Watching Brief related to proposed broadband cable trench and boundary fence construction (Report no. 2024-05:MA866) dated June 2024.
- The archaeological excavations are to be actioned on site by Matrix Archaeology as the contractor following receipt of Scheduled Monument Consent and the closure of the badger setts.
- The Principle Contractor is to ensure that prior to the commencement of any excavations for cable trenches, tree pits or fencing ensure that the necessary archaeological trial pits have been undertaken.
- Note: there are restrictions on the types of machinery that can be used stipulated in the Badger Method Statement and Natural England licence.

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**225 REMOVAL OF VEGETATION TO MOAT LANDSCAPE**

- Following the completion of the other enabling works as detailed to clauses C20/210, C20/215 & C20/220 undertake the specified tree, hedge and shrub removal as detailed to CWS drawing 2407-CWS-XX-XX-DR-L-101 P01 Tree and Hedge Retention and Removal Strategy.
- Principle contractor to confirm if any additional vegetation clearance over and above that described to the proposals by CWS would be needed to the moat base and embankments for H&S/access purposes.
- Note: there are restrictions on the types of machinery that can be used stipulated in the Badger Method Statement and Natural England licence.
- Works to the trees will be carried out between November and February in order to minimise the impact on nesting birds.
- Log Pile Habitats: Wood from removed trees to be retained on site within the outer moat embankments to create additional habitat features to support nutrient recycling and biodiversity. Locations to be agreed with the Trustees to ensure that access is possible. Log piles will be constructed both in shady and sunny areas of the site with the pile starting in a hole below ground level. Vertical sticks will be added to each side to support the pile. Gaps will be filled with dry leaves and a layer of loose bark applied when the pile is complete. During dry spells log piles in shady areas should be watered with a fine rose to top up moisture levels (Trustees to action).

**240 REMOVAL OF EXISTING PERIMETER FENCING**

- Following the completion of the other enabling works as detailed to clauses C20/210, C20/215, C20/220 remove existing boundary fencing to extent shown to drawing al(05)022.
- Note the requirement for the retention of;
  - Existing gate posts to access points from Clayton Hall Road, north & south and on the moated platform.
  - Existing gated vehicle maintenance access.
  - Existing kerb details wherever possible.
- Note: for the inner moat boundary fencing ensure that any excavation allows for the presence of the archaeologists as a watching brief.
- Note: there are restrictions on the types of machinery that can be used stipulated in the Badger Method Statement and Natural England licence.

**245 REMOVAL OF EXISTING BOUNDARY WALLS TO OUTER MOAT NORTH BOUNDARY**

- Following the completion of the other enabling works as detailed to clauses C20/210, C20/215, C20/220 dismantle existing boundary walls to extent shown to drawing al(05)022 including excavation of foundations.
- Carefully salvage and retain the existing masonry walling and copings for re-use, clean of mortar and vegetation.
- Note: there are restrictions on the types of machinery that can be used stipulated in the Badger Method Statement and Natural England licence.

**250 REMOVAL OF NETTING TO EAVES**

- The projecting eaves is currently netted, this is required to be removed for installation of the CCTV wiring and equipment.
- Note that the eaves netting appears to be damaged in areas and also has debris within it to certain areas. The condition of the eaves soffit boards is not known but it is likely that they are in poor condition and if the netting is pulled away this could result in pulling away the eaves soffit boards and risks falling debris and damaging the historic fabric. Therefore small sections of netting should be carefully cut away in a piecemeal manner.
- Allowance should be made for replacing the eaves soffit boarding to the full perimeter of the building.

- On completion of the CCTV installation new netting should be installed without obstructing the camera equipment.

**255 REMOVAL OF CEILING & WALL FINISHES WITHIN PROPOSED CCTV ROOM (ROOM REF: B01-01-012)**

- Remove existing ceiling board to the whole room, if possible retain the ceiling hatch. All visible fabric to the ceiling is modern and not of heritage significance. If historic lath and plaster is found during the removal works then works should stop and instructions sought.
- Removal of the ceiling should be undertaken with care to avoid any damage to ceiling / roof timber to which it may be attached and to adjacent timber framing within the walls.
- Plasterboard finishes to the walls have previously been partly removed. Any remaining areas of damaged boarding to the walls should be carefully removed as preparation for the necessary repairs.

## 300 CLEANING WORKS

305 MASONRY CLEANING WORKS

To include;

- Trial areas of paint removal to stonework and brickwork
- Removal of areas of patch render finishes
- Removal of paint to the south and east elevations of the northern block
- Possible additional areas of paint removal to the north elevation of the northern block & outbuilding

310 RELATED REPAIR / REMEDIAL WORKS

- Principle Contractor to confirm preferred construction sequence. Propose that externally to brick and stonework works to be carried out before cleaning include: removal of redundant fixtures and fittings as clause C41/135
- Trial sample areas of cleaning to brickwork and stonework will be required to agree the methodology and enable like for like masonry to be sourced.

315 PROTECTION

- Surfaces not designated for cleaning: prevent damage, including marking and staining.
- Openings / vents / grilles: prevent ingress of water, cleaning agents and detritus. Any protection sheets should be fixed using temporary fastenings that are located within masonry joints. For other surfaces seek instructions.

320 CONTROL AND DISPOSAL OF WASH WATER AND DETRITUS

- Control of wash water: collect and divert to prevent ingress and damage to building fabric and adjacent areas. If required seek approvals from the relevant Authority for disposal.
- Above and below ground drainage systems: keep free from detritus and maintain normal operation.

325 COLD WEATHER

- Cleaning procedures using water: do not use when air temperature is at or below 5°C. Protect damp surfaces from frost.
- Chemical cleaning agents: do not use when surface temperatures are below those recommended by the manufacturer.

330 CLEANING GENERALLY

- Operatives are to be appropriately trained and experienced for each type of cleaning work. Evidence of training should be submitted on request.

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- Contractor to comply with all Health & safety requirements when working with dust producing appliances.
- Prior to cleaning, all drainage systems in the affected area should be protected. Land drains to be protected using hessian, geotextile sheeting or other dust barriers to prevent infection of the drainage system. All vulnerable areas, openings, areas not to be cleaned and potential dust traps must be protected prior to carrying out any works. Ensure adequate protection to pedestrian / vehicular traffic using the areas around the building and park and to the neighbouring buildings.
- Control of cleaning: confine cleaning processes and materials to designated areas. Prevent wind drift.
- Removal of detritus: Dispose of regularly and safely in accordance with the required legislation.
- Monitoring: frequently check results of cleaning compared to approved trial samples. If results established by trials are not achieved seek instructions. For any modifications to the cleaning methods and materials after approval of the trial samples then seek instructions.

335 RECORD OF CLEANING WORKS

- Written report: Maintain for cleaning methods and procedures used for each type of surface and deposit. Purpose – for building maintenance and to inform future cleaning operations.
- Report content: relevant attributes of cleaning methods used including:
  - Equipment and settings
  - Dwell times
  - Numbers of applications and any specific preparation required
  - Ambient temperatures

- Other documentation: provision will be required to allow for archaeological and architectural advisors to visit the site and make records prior to and during the cleaning works taking place.
- Submission: submit record of trials prior to seeking instruction to proceed with full scope, submit full report at completion of the cleaning works.

340 TRIAL SAMPLES

- The aim of the trial sample areas is to find the appropriate cleaning methods for the different background materials / different locations of the building / different types of deposits whilst minimizing any resulting effect on the background historic fabric. The sample areas should therefore start with the lowest pressure and least amount of cleaning product / abrasive action. The aim will be to remove the surface deposits whilst retaining the natural patina of the material and avoiding surface damage. There may be ingrained deposits that are not possible to remove without causing irreparable damage to the fabric and in these situations the works should stop. Damage to the fabric is to be avoided in all situations.
- Trial samples of each of the different cleaning methods will be required. The trials should start with DOFF and only proceed to other methods if the DOFF is not achieving the required results.
  - Location / Size:
    Location 01: South gable end of northern block to an area which covers brickwork and stonework. Size 1m2.
    Location 02: East elevation of northern block. Size 1m2.
    Location 03: North gable end elevation. Size 1m2.
    Location 04: East elevation of outbuilding. Size 1m2.

- Records: maintain written records for each trial area, including cleaning methods, conditions, equipment and settings, dwell times, number of applications and any specific preparation required. The report of the trials should be submitted before proceeding with the full scope of cleaning.

PRODUCTS / EQUIPMENT

345 ABRASIVE CLEANING EQUIPMENT

- Manufacturer / supplier: to contractors / specialists choice subject to site trials.
- Nozzle types: Subject to site trials.
- Abrasives: Subject to site trials.
- Other requirements: apply abrasive at the lowest pressure that will remove deposits whilst causing the minimum of abrasion to the surface(s). Where deposits are ingrained seeks instructions. For each surface establish the optimum settings (pressure and abrasive volume), nozzle type and distance of nozzle from the

surface. Keep a written records of these variables.
Remove and collect dust and debris from each completed surface as work proceeds and finish by rinsing off thoroughly with clean water using suitable low pressure spray equipment.
Allow for the mixing of water and abrasive within the vessel.
Allow for the requirement to vary the working pressure on the machine.

350 DOFF / THERMATECH CLEANING SYSTEM FOR REMOVAL OF MOSS, ALGAE AND PAINT TO MASONRY
For removal of paint to brickwork and stonework. Trial areas to be undertaken first.

- Manufacturer / supplier: to contractors / specialists choice subject to site trials.
- Cautionary trial samples of different cleaning techniques to be undertaken, starting with DOFF as the least intrusive and preferred cleaning method. If in doubt that a successful result can be achieved without damaging the masonry or adjacent materials then the option not to clean may be adopted. The most appropriate cleaning technique is to be selected which follows the suggested criteria;
  - Causes minimum abrasion to the surface.
  - Does not remove the surface patina and any surface tooling.
  - Is compatible with adjacent materials.
  - Or the methodology ensures that no damage will be caused to adjacent materials of differing properties.
  - Successfully removes any damaging soiling.

355 JOS/TORC CLEANING SYSTEM
For removal of paint to brickwork and stonework. Only to be trialed is the DOFF cleaning system is not successful.

- Manufacturer / supplier: to contractors / specialists choice subject to site trials.
- Cautionary trial samples of different cleaning techniques to be undertaken, starting with DOFF as the least intrusive and preferred cleaning method then moving on to JOS / TORC using the least abrasive settings and medium. If in doubt that a successful result can be achieved without damaging the masonry or adjacent materials then the option not to clean may be adopted. The most appropriate cleaning technique is to be selected which follows the suggested criteria;
  - Causes minimum abrasion to the surface.
  - Does not remove the surface patina and any surface tooling.
  - Is compatible with adjacent materials.
  - Or the methodology ensures that no damage will be caused to adjacent materials of differing properties.
  - Successfully removes any damaging soiling.

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# C41 REPAIRING / RENOVATING / CONSERVING MASONRY & TIMBER

## 100 INTRODUCTION

110 SCOPE OF WORK

- To be confirmed following the removal of the paint as section C20/300 and high level inspections but to include all works as noted within the Structural Engineers specification and also anticipated to include removal of render, localized replacement of defective brickwork, repointing and also dismantling and re-building of localised areas of masonry.
- The inspection should also confirm the full extent of timber repairs required.

120 REVIEWING SCOPE OF THE WORK

- General Inspection: Undertake an initial joint inspection prior to the commencement of any works. Undertake trial samples of paint removal in accordance with clauses C20/340 for agreement of the methodology. Following the removal of the paint arrange a further joint inspection with the principal contractor, architect and structural engineer to confirm type and extent of work required.
- High Level & Roof Inspection / Survey: Allow for a high level inspection of the south gable end prior to the works commencing. Confirm material and condition used for the raked detail (clay tiles?) and allow for a trial area of removal to determine if the clay tiles can be salvaged and reused.
  Allow for high level access for inspection to eaves / roof level by conservation architect and SE. Allow for attendance by a heritage roofing specialist for roof inspection / survey and recommendations for scope of roof repair works. High level inspection at eaves roof level also to confirm extent of repairs required to eaves level roof timbers.
  Inspection at ground and 1st floor of the east elevation timber framed window to determine the full extent of repairs required.
- Drainage Survey: Review conclusions from the drainage survey.
- Marking for masonry repairs: Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced.
- Identification of masonry units to be removed, replaced or repaired: Code number cross- referenced to drawings/ photographs.
- Records of masonry to be repaired: Before starting work, use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.

125 REMOVAL OF VEGETATION / PLANT GROWTH FROM MASONRY

- Plants, root systems and associated soil / debris: carefully remove from joints, voids and facework.
- Removal of roots: use dampened temporary wood wedges or other approved method to assist removal. Where growths cannot be removed completely without disturbing masonry seek instructions.
- Where removal of root system is not possible, cut through stem as close as possible to the face of the masonry and apply herbicide paste in accordance with the product requirements. Leave stump to wither and re-assess further removal. Note: to be undertaken sufficiently in advance of the main masonry repair works to allow for the stumps to wither.

130 REMOVAL OF VEGETATION / PLANT GROWTH FROM GUTTERS AND DRAINAGE

- Plants, root systems and associated soil / debris: carefully remove from all gutters, downpipes and drains.
- Following removal of vegetation and completion of the drainage survey confirm condition of all above ground and below ground drainage systems.
- Scope of repair works to above ground and below ground drainage systems to be confirmed following vegetation removal, survey and inspections.

135 REDUNDANT FITTINGS / FIXINGS

- Items to be removed prior to the paint removal:
  - Netting at eaves level externally (including any debris caught in the netting) to the full perimeter.
  - Satellite dish to the south elevation

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- Lighting fittings / misc redundant fittings to the east / south elevations

- Removal: Minimize disturbance to surfaces.

140 RECORD DRAWINGS / PHOTOGRAPHS
- General: Maintain accurate records of work carried out to masonry
  Note - Provision will be made to allow for Archaeological / Architectural advisors to visit the site and make records prior to the works taking place. Requirement for additional recording to be confirmed.
- Submission: At completion.
  - Copies: 2 no. copies.

**WORKMANSHIP GENERALLY**

150 POWER TOOLS FOR REMOVAL OF MORTAR
- Usage: only permitted where approved by CA.

155 PUTLOG SCAFFOLDING
- Usage: Not permitted.

160 PROTECTION
- Handling of masonry units: Prevent overstressing during transit, storage and fixing. Lift units at designed lifting points where provided.
- Storage of masonry units: On level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination by salts and other deleterious substances.
- Protection of masonry: Suitable nonstaining slats, boards, etc. Remove at completion.
  - Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces.
  - Prevent mortar/ grout splashes and other staining and marking.

165 STRUCTURAL STABILITY
- General: Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

170 DISTURBANCE TO RETAINED MASONRY
- Retained masonry in the vicinity of repair works: Disturb as little as possible.
- Existing retained masonry: Do not cut or adjust to accommodate new or reused units.
- Retained loose masonry units and those vulnerable to movement during repair works: Prop or wedge so as to be firmly and correctly positioned.

180 OPERATIVES
- General: Skilled and experienced with the materials and procedures required.
  - Evidence of training and previous experience: Provide on request.

185 ADVERSE WEATHER
- Frozen materials: Do not use. Do not lay masonry units on frozen surfaces.
- Air temperature: Do not bed masonry units or repoint.
  - In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and the masonry is thoroughly protected).
  - In hydraulic lime:sand mortars when at or below 5°C and falling or unless it is at least 3°C and rising.
  - In nonhydraulic lime:sand mortars in cold weather without approval.
- Temperature of the work: Maintain above freezing until mortar has fully set.
- Rain and snow: Protect masonry by covering during precipitation and at all times when work is not proceeding.
- Hot conditions and drying winds: Prevent masonry from drying out too rapidly.
- New mortar damaged by frost: Rake out and replace.

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190 CONTROL SAMPLES

- General: Obtain approval of the following before proceeding with the remainder:
  - paint removal to brickwork as section C20/300
  - paint removal to stonework as section C20/300
  - removal of mortar to brickwork as section C41
  - removal of mortar to stonework as section C41
  - repointing of brickwork as section C41
  - repointing of stonework as section C41
- Protection: Protect from adverse weather and damage.

195 MATERIAL SAMPLES

- Approval: Before placing order, submit for approval representative samples of:
  - sands for bedding and pointing
  - stone for repairs
  - bricks for patch repairs
  - stone for indent repairs
  - clay tiles for the raked detail to the gable end

**MATERIALS/ PRODUCTION/ ACCESSORIES**

200 LABORATORY TESTING: STONE & MORTAR

- Stone & mortar analysis is required to finalise the specification for repair.

- Stone analysis is to allow for the verification of typology and geology of the existing stonework to enable geological matching stones to be sourced. Stone samples can be dust or friable section, do not cut out sections of stone. Allow for stone analysis to 2no. locations as follows;
  - 1no. to south chimney stack
  - 1no. to quoins to northern block

- The laboratory testing of the stonework should provide a full petrographic assessment of the characteristics of the material to enable suitable matching stone to be specified. The test regime for the stonework should include the following;
  - A petrographic test regime which will provide an analysis of the typology and geology of the stonework including identification of possible open quarries for stone matching. It will include analysis of microcracking and pore sizes.
  - Existing soluble salt content.

- Prior to taking any samples the methodology for sample removal and provision to the laboratory should be confirmed with the laboratory. Spalled fragments and dust samples may be sufficient. Stone samples should be accompanied by good documentation, prior to the removal the location of the sample should be photographed and marked on a plan and elevation. The condition of the masonry on removal should be noted (eg is it waterlogged / frost damaged etc.). If fragments or dust samples cannot be taken and cores are required then prior approval should be sought on locations and methodology. Immediately following the removal of the sample it should be placed in a double zip locked bag to retain the moisture content as removed.

- Mortar analysis is required to different areas to establish the original mix constituents, aggregate sizes and mix proportions. Allow for mortar analysis to 8no. locations as follows;
  - 2no. to the south elevation chimney stonework – one of which is facing mortar and one of which is bedding mortar
  - 2no. to the south elevation chimney brickwork – one of which is facing mortar and one of which is bedding mortar
  - 2no. to stonework to the northern block – one of which is facing mortar and one of which is bedding mortar

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- 2no. to brickwork to the northern block – one of which is facing mortar and one of which is bedding mortar

- The laboratory testing of the mortar can be organized through Womersley's, Ravensthorpe Industrial Estate, Low Mill Lane, Ravenshtorpe, Dewsbury, WF13 3LMJ. It should provide a full assessment of the characteristics of both the bedding and facing (pointing) mortar. The test regime for the mortar should include a full analysis of the characteristics of the mortar that will characterize;
  - Sands and aggregates including type and size
  - Full analysis of the binder constituents
  - The mix proportions

220 RECORDING PROFILES

- Profiles: Take measurements from existing masonry units, as instructed, to allow replacements to be matched accurately.
- Recording in situ: If there are no suitable joints for inserts, seek instructions.
- Drawings and templates: Prepare as necessary, clearly and indelibly marked to identify use and location.

230 INSPECTION OF DRAWINGS/ TEMPLATES

- Give notice: Before commencing production of the following replacement masonry units: shop drawings and templates for brickwork and stonework where applicable .
  - Period of notice (minimum): 10 working days.

235 INSPECTION OF MASONRY UNITS

- General: Before dispatch to site, inspect and check completed units for:
  - Match with approved samples.
  - Compliance with drawings and specification.
- Give notice: At appropriate stages in production to allow inspection of masonry units before delivery to site.

240 STONE

- Type: sandstone to match existing - exact type to be confirmed following analysis and on approval of samples
- Requirements: Free from vents, cracks, fissures, discolouration, or other defects which may adversely affect strength, durability or appearance. Thoroughly seasoned, dressed and worked in accordance with shop drawings prepared by the supplier.
  - Finish: tooled and ashlar to match existing.
  - Supplier: to contractors choice.

245 REPLACEMENT STONE UNITS

- Minimum bed depths and agreed face lines in relation to existing work: Maintain. Make suitable allowances for any final finishing carried out in situ.
- Sizes and profiles: To match existing masonry; existing joint widths maintained.
- Sinkings for fixings and joggles: Accurately aligned and positioned in relation to existing masonry. Provide sinkings for lifting devices.
- Marking: Each block/ dressing clearly marked on a concealed face to indicate the natural bed and position in the finished work.

250 ORIENTATION OF STONE

- Natural bed:
  - In plain walling: Horizontal
  - In projecting stones and copings: Vertical and at right angles to wall face.
  - In arches: At right angles to line of thrust.

255 ASHLAR BLOCKS/ DRESSINGS

- Cutting and dressing stone: To true and regular surfaces, free from hollow or rough areas.

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260 BRICKS / CLAY TILES

- Brick: Wherever brick repairs are required, bricks are to match those adjacent to the location where the repairs are located, in terms of colour, size and profile. This may require more than one type of brick to be sourced. This will be confirmed following the cleaning of the brickwork. Bricks to be sourced from second hand supplies, stock supplies and / or order handmade specials as may be required to ensure a like for like match. Sample panels (nominally 1m x 1m in size) of each different brick type with the specified mortar to be viewed against the existing such that the match can be agreed. Again to be confirmed at the inspection following the cleaning.

- Clay Tiles: The existing high level raked detail to the south gable end appears to be formed by clay tiles. The initial high level inspection should determine the type of materials used, the condition and whether these can be carefully removed, salvaged and reused. If the clay tiles have reached the end of their lifespan then new like for like clay tiles will need to be sourced.

**DISMANTLING/ REBUILDING**

310 DISMANTLING MASONRY FOR REUSE

- Masonry to be dismantled for reuse includes masonry to the north boundary wall and masonry to the southern gable end of the Hall
- Carefully cut out mortar - the method for the mortar removal should be submitted for approval by CA, preference is for all of the mortar to be removed by hand. Take care to avoid damage to arises and surfaces of adjacent brickwork. Remove masonry units to be re-used, carefully and in one piece.
- Clean off old mortar, dirt and organic growths and leave in a suitable condition for rebuilding. Remove masonry units whole. Only dismantle where indicated on the drawings / specification / schedule of instructed by the architect.

315 REBUILDING FOR BRICKWORK WALLS / SKINS

Areas of rebuilding as specified by the SE and as agreed following the paint removal.
Where areas of brickwork walling are to be taken down and rebuilt contractor to carry out photographic survey with a scaled reference as a record of the openings, level coursing and submit to the CA for approval.
Contractor to submit a method statement confirming process which is to be copied to the CA and Structural Engineer.

- Replacement materials: rebuild with salvaged bricks and / or alternatively sourced bricks to match.
- Mortar:
  Mix: provisionally 1:3 NHL3.5 hydraulic lime : sand. Mix to include one or a number of coloured aggregates to match existing, coloured aggregates will vary dependent on location - final mix to be confirmed following lab analysis of existing mortar and site trials.
  - Sand source/ type: Mix to include both coarse and fine sands to enable a like for like match to the existing, colour and type of sands will vary dependent on location - to be confirmed following site trials.
  - Suggested supplier: Womersley's, Ravensthorpe Industrial Estate, Low Mill Lane, Ravenshtorpe, Dewsbury, WF13 3LMJ
- Fixings: as SE requirements.
- Rebuilding: Carefully cut out mortar. Take care to avoid damage to arises and surfaces of adjacent brickwork. Ease out bricks and brush out void to remove any loose dust. Rake out and clean joint. Rebuild to follow the original coursing, bonding and joint profile as recorded but using snap headers.
  Wet brickwork thoroughly before repointing and rebedding. In dry conditions keep it damp as work proceeds to prevent dewatering of the mortar. Bed in approved mortar mix. Keep bedding mortar back from face of brickwork 25mm to allow for subsequent pointing. Ensure that the joints are kept full, especially the last joint which may be underpinning existing work.
  NB When brick is reversed ensure that any cavity behind the brick is well packed with mortar and that the brick face is brought out to align with the face of the brick wall. Great care to be taken to maintain gauge, irregularities of bond and character of mortar as recorded.
- Joint surfaces: Dampen to control suction as necessary.
- Laying: On a full bed of mortar, and all joints filled.
- Exposed faces: Keep clear of mortar and grout.

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- Joints: To match existing.
- Other requirements: Allow for all necessary temporary propping.

REPLACEMENTS AND INSERTIONS

330 PREPARATION FOR REPLACEMENT MASONRY

- Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.
- Existing metal fixings, frame members, etc: Report when exposed.
- Redundant metal fixings: Remove completely.
- Recesses: Thoroughly clean to remove loose material and leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather.

370 LAYING REPLACEMENT MASONRY

- Exposed faces of new material: Keep to approved face lines.
- Faces, angles and features: Accurately align. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
- Joint surfaces: Dampen to control suction as necessary.
- Laying: On a full bed of mortar, all joints filled.
- Exposed faces: Keep clear of mortar and grout.

375 GROUTING JOINTS

- Grout mix: hydraulic lime based grout to specialist suppliers specification, mix subject to site trials.
- Joints that cannot be fully filled with bedding mortar:
- Grout thoroughly around replacement masonry units
- Grouting: Keep grout back from exposed face to allow for the depth of pointing, using an approved temporary sealing material. Prevent grout staining exposed face.

380 STONE INSERTS

- Pockets to receive inserts
  - Cut out accurately. Undercut sides of pocket where necessary to provide space for bonding material.
  - Adjust depth so that insert stands proud of existing stone for finishing insitu.
  - Clean out thoroughly.

- Inserts: cut to the smallest rectangular shape necessary to replace the defective area and provide a firm seating. Install accurately and securely.
- Exposed faces: Keep clear of bonding material.
- Existing joint widths: maintain, do not bridge.

385 CORRODED FIXINGS

- Removal: cut out carefully, causing the least possible disturbance to surrounding masonry. Remove associated rust debris.
- Replacement: Assess requirement for replacement fixings during site inspection.

TOOLING / DRESSING STONE INSITU

410 WEATHERING LEDGES AT JOINTS

- Locations: to be assessed during site inspection.
- Requirement: Carefully weather the ledge to approval.
- Method: Suitably graded carborundum blocks or tooling as appropriate

415 REDRESSING STONE

- Locations: to be assessed during site inspection.
- Requirement: Carefully dress back stones to the extent agreed.
- Method: Suitably graded carborundum blocks or tooling as appropriate

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POINTING/ REPOINTING

810J PREPARATION FOR REPOINTING

- Removing mortar:
  - Work from the top of the wall downwards.
  - Carefully cut out mortar - the method for the mortar removal should be submitted for approval by CA, preference is for all of the mortar to be removed by hand. Take care to avoid damage to arises and surfaces of adjacent brickwork or widening joints.
- Recess for repointing: Form a neat recess of depth not less than 2 times the joint width. When mortar beyond this depth is loose and friable and/ or cavities are found seek instructions.
- Dust and loose debris. Remove. Dampen joints to control suction as necessary.

820 POINTING brickwork and stonework generally

- Preparation of joints: Rake out all joints to a depth not less than 25mm. Rake out to leave a square face at the back of the joint. Clean joints of raking debris. .
- Mortar:
  - Mix: provisionally 1:3 NHL3.5 hydraulic lime : sand. Mix to include one or a number of coloured aggregates to match existing, coloured aggregates will vary dependent on location - final mix to be confirmed following lab analysis of existing mortar and site trials.
  - Sand source/ type: Mix to include both coarse and fine sands to enable a like for like match to the existing, colour and type of sands will vary dependent on location - to be confirmed following site trials.
- Joints: subject to approval of control samples as clause 190, provisionally flush with brushed finish as clause 860.

840 POINTING WITH TOOLS/ IRONS

- General: Press mortar well into joints using pointing tools/ irons that fit into the joints, so that they are fully filled.
- Face of masonry: Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

860 BRUSHED FINISH TO JOINTS

- General: After the initial set has taken place, brush joints to remove laitance/ excess fines and give a coarse texture. Do not compact mortar.

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# H71 LEAD SHEET FLASHINGS

## 100 TYPES OF LEADWORK

110 NEW LEAD FLASHINGS AS REQURIED FOLLOWING ROOF INSPECTION
Reference drawing: to follow

- Substrate: Plywood.
  - Preparation: None.
- TBC
- Type of lead: Code 4 TBC
- Pretreatment: None.
- Joints in direction of fall

120 EXISTING SOAKERS AND STEP FLASHINGS / FLASHINGS TO CHIMNEYS

- Prior to confirming extent of replacement of existing lead flashings undertake high level inspection to chimney to Elliott St elevation and abutment where lower Lime Street roof meets upper section. Existing defective flashings to be removed.
- Lead soakers:
  - Thickness 1.75 to 2.00 mm (code 4).
  - Dimensions:
  Length: Slate/ tile gauge + lap + 25 mm. Upstand: Not less than 75 mm. Underlay: Not less than 100 mm.
  - Fixing: TBC by roofer.
- Lead step flashings:
  - Thickness: 2.00-2.50 mm (code 5).
  - Dimensions:
  Lengths: Not more than 1500 mm.
  End to end joints: Laps of not less than 100 mm.
  Cover: Overlap to soaker upstands of not less than 65 mm.
  - Fixing: Lead wedges at every course.

GENERAL REQUIREMENTS/ PREPARATORY WORK

510 WORKMANSHIP GENERALLY

- Standard: To BS 6915 and latest edition of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Association.
- Fabrication and fixing: To provide a secure, free draining and weathertight installation.
- Operatives: Trained in the application of lead coverings/ flashings. Submit records of experience on request.
- Measuring, marking, cutting and forming: Prior to assembly wherever possible.
- Marking out: With pencil, chalk of crayon. Do no use scribers or other sharp instruments without approval.
- Bossing and forming: Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
- Solder: Use only where specified.
- Sharp metal edges: Fold under or remove as work proceeds.
- Finished work: Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
  - Protection: Prevent staining, discolouration and damage by subsequent works.

516 LEADWELDING

- In situ leadwelding: Is permitted, subject to completion of a 'hot work permit' form and compliance with its requirements.

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520 LEAD SHEET

- Production method:
  - Rolled, to BS EN 12588, or
  - Machine cast, Agrément certified and to code thicknesses with a tolerance (by weight) of ±5%, or
  - Sand cast, from lead free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes; to code thicknesses but with a tolerance (by weight) of ±10%.
- Identification: Labelled to show thickness/ code, weight and type.

550 LIGHTNING PROTECTION

- Lead coverings: Attach the following to a lightning protection system: TBC.
  - Electrical continuity: Provide between lead sheets. Discontinuous sections must be separately bonded.

555 LAYOUT

- Setting out of longitudinal and cross joints: Submit proposals.

560 CONTROL SAMPLES

- General: Complete areas of the finished work, and obtain approval of appearance before proceeding:
- Size: not less than 5 m2.
- Location: drip with one complete wood cored roll.

610 SUITABILITY OF SUBSTRATES

- Condition: Dry and free of dust, debris, grease and other deleterious matter.

620 PREPARATION OF EXISTING TIMBER SUBSTRATES

- Remedial work: Adjust boards to level and securely fix. Punch in protruding fasteners and plane or sand to achieve an even surface.
- Defective boards: Give notice.
- Moisture content: Not more than 22% at time of covering. Give notice if greater than 16%.

630 PLYWOOD UNDERLAY

- Standard: Manufactured to an approved national standard and to BS EN 636, section 7 (plywood for use in humid conditions).
- Sheet size: 2400 or 1200 x 1200 mm and 6 mm thick.
- Moisture content: Not more than 22% at time of covering. Give notice if greater than 16%.
- Laying: Cross joints staggered and a 0.5 to 1 mm gap between boards.
- Fixing: With 25 mm annular ringed shank copper or stainless steel nails, at 300 mm grid centres over the area of each sheet and at 150 mm centres along edges, set in 10 mm from perimeter edges.
  - Nail heads: Set flush or just below the surface.

650 UNDERLAY

- Handling: Prevent tears and punctures.
- Laying: Butt or overlap jointed onto a dry substrate.
  - Fixing edges: With copper or stainless steel staples or clout nails.
  - Do not lay over roof edges but do turn up at abutments.
- Wood core rolls: Fixed over underlay.
- Protection: Keep dry and cover with lead at the earliest opportunity.

FIXING LEAD

705 HEAD FIXING LEAD SHEET

- Top edge: Secured with two rows of fixings, 25 mm and 50 mm from top edge of sheet, at 75 mm centres in each row, evenly spaced and staggered.
- Sheets less than 500 mm deep: May be secured with one row of fixings, 25 mm from top edge of sheet and evenly spaced at 50 mm centres.

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710 FIXINGS

- Nails to timber substrates: Copper clout nails to BS 1202-2, or stainless steel (austenitic) clout nails to BS 1202-1.
  - Shank type: Annular ringed, helical threaded or serrated.
  - Shank diameter: Not less than 2.65 mm for light duty or 3.35 mm for heavy duty.
  - Length: Not less than 20 mm or equal to substrate thickness.
- Screws to concrete or masonry substrates: Brass or stainless steel to BS 1210, tables 3 or 4.
  - Diameter: Not less than 3.35 mm.
  - Length: Not less than 19 mm.
  - Washers and plastic plugs: Compatible with screws.
- Screws to composite metal decks: Self tapping as recommended by the deck and lead manufacturer/ supplier for clips.

715 CLIPS

- Material:
  - Lead clips: Cut from sheets of same thickness/ code as sheet being secured.
  - Copper clips: Thickness: 0.6 mm.
  Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere; dipped in solder if exposed to view.
  - Stainless steel clips: Thickness: 0.46 mm.
  Grade: BS EN 10088, 1.4301(304) terne coated if exposed to view.
- Dimensions:
  - Width: 50 mm where not continuous.
  - Length: To suit detail.
- Fixing clips: Secure each to substrate with two fixings not more than 50 mm from edge of lead sheet.
- Fixing lead sheet: Welt clips around edges and turn over 25 mm.

760 CONTINUOUS CLIPS

- Material:
  - Lead continuous clips:
  Thickness: 2 codes more than sheet.
  - Copper continuous clips: Thickness: 0.70 mm.
  Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere.
  - Stainless steel continuous clips: Thickness: 0.46 mm. Grade: BS EN 10088, 1.4301(304).
- Dimensions:
  - Width: To suit detail.
- Fixing clips: Secure at 200 mm centres.
- Fixing lead sheet: Welt edge around continuous clip and dress down.

770 WEDGE FIXING INTO JOINTS/ CHASES

- Joint/ chase: Rake out to a depth of not less than 25 mm.
- Lead: Dress into joint/chase.
  - Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
- Sealant: TBC

780 WEDGE FIXING INTO DAMP PROOF COURSE JOINTS

- Joint: Rake/ cut out under damp proof course to a depth of not less than 25 mm.
- Lead: Dress lead into joint.
  - Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
- Sealant: TBC

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790 SCREW FIXING INTO JOINTS/ CHASES

- Joint/ chase: Rake out to a depth of not less than 25 mm.
- Lead: Dress into joint/ chase and up back face.
  - Fixing: Into back face with stainless steel screws and washers and plastics plugs at not more than 450 mm centres, at every change of direction, and with at least two fixings for each piece of lead.
- Sealant: TBC.

JOINTING LEAD

810 FORMING DETAILS

- Method: Bossing or leadwelding except where bossing is specifically required.
- Leadwelded seams: Neatly and consistently formed.
  - Seams: Do not undercut or reduce sheet thickness.
  - Filler strips: Of the same composition as the sheets being joined.
  - Butt joints: Formed to a thickness one third more than the sheets being joined.
  - Lap joints: Formed with 25 mm laps and two loadings to the edge of the overlap.
- Bossing: Carried out without thinning, cutting or otherwise splitting the lead sheet.
  - Details where bossing must be used: TBC

845 WOOD CORED ROLL JOINTS WITH SPLASH LAP

- Core: Timber.
  - Size: 45 x 45 mm round tapering to a flat base 25 mm wide.
  - Fixing to substrate: Brass or stainless steel countersunk screws at not more than 300 mm centres.
- Undercloak: Dress three quarters around core.
  - Fixing: Nail to core at 150 mm centres for one third length of the sheet starting from the head.
- Overcloak: Dress around core and extend on to main surface to form a 40 mm splash lap.

860 DRIPS WITH SPLASH LAPS

- Underlap: Dress into rebate along top edge of drip.
  - Fixing: One row of nails at 50 mm centres on centre line of rebate.
- Overlap: Dress over drip and form a 40 mm splash lap.

880 WELTED JOINTS

- Joint allowance: 50 mm overlap and 25 mm underlap.
- Copper or stainless steel clips: Fix to substrate at not more than 450 mm centres.
- Overlap: Welt around underlap and clips and lightly dress down.

970 FINISHING

- Finishing agent: Patination oil.
- Location: TBC
- Application: As soon as practical, apply a smear coating evenly in one direction and in dry conditions.

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# M20 PLASTERED / RENDERED COATINGS

## 200 TYPES OF COATING

280 LIME PLASTER ON TO MASONRY / LIME PLASTER ON TO BOARD

The existing plaster finish has been removed from the internal face of the south gable wall to the first floor, due to movement and water ingress. It has also been partly removed from the ceiling.

The existing board finishes to the ceiling should be cut back to a clean edge and suitable fixing position to that new sections of board can be pieced in. Assess what the existing ceiling board material is and match like for like unless otherwise instructed.

Finish ceiling and wall in lime plaster. Suggested product is Solo Onecoat Lime Plaster, supplier: Womersleys

**GENERAL**

418 SAMPLE

- Complete sample areas, being part of the finished work, in locations TBC.

495 MIXING

- Plasters / render mortars (site prepared as manufacturers details):
  - Batching: By volume. Use clean and accurate gauge boxes or buckets.
  - Mix proportions: Based on damp sand. Adjust for dry sand.
  - Lime:sand: Mix thoroughly. Allow to stand, without drying out, for at least 16 hours before using.
- Mixes: Of uniform consistence and free from lumps. Do not retemper or reconstitute mixes.
- Contamination: Prevent intermixing with other materials.

497 COLD WEATHER

- General: Do not use frozen materials or apply coatings on frozen or frost bound substratres.
- External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
- Internal work: Take precautions to enable internal coating work to proceed without detriment when air temperature is below 3°C.

**PREPARING SUBSTRATES**

510 UITABILITY OF SUBSTRATES

- Soundness: Free from loose areas and significant cracks and gaps.
- Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
- Tolerances: Permitting specified flatness/ regularity of finished coatings.
- Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

531 ROUGHENING FOR KEY

- Substrates: Roughen thoroughly and evenly.
  - Depth of surface removal: Minimum necessary to provide an effective key and as manufacturers details.

**BACKINGS/ BEADS/ JOINTS**

636 BEADS/ STOPS FOR EXTERNAL USE

- Stainless steel: To BS EN 10088-1, grade 1.4301.

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646 CRACK CONTROL AT JUNCTIONS BETWEEN DISSIMILAR SOLID SUBSTRATES

- Locations: Where defined movement joints are not required. Where dissimilar solid substrate materials are in same plane and rigidly bonded or tied together.
- Crack control materials:
  - Isolating layer: Building paper to BS 1521.
  - Metal lathing: Internally: Externally: stainless steel ribbed expanded metal .
- Installation: Fix metal lathing over isolating layer. Stagger fixings along both edges of lathing.
- Width of installation over single junctions:
  - Isolating layer: 150 mm.
  - Lathing: 300 mm.
- Width of installation across face of dissimilar substrate material (column, beam, etc. with face width not greater than 450 mm):
  - Isolating layer: 25 mm (minimum) beyond junctions with adjacent substrate.
  - Lathing: 100 mm (minimum) beyond edges of isolating layer.

**EXTERNAL RENDERING**

810 APPLICATION GENERALLY

- Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
- Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
  - Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
- Drying: Prevent excessively rapid or localized drying out.

820 DUBBING OUT FOR RENDERING

- General: Correct substrate inaccuracies.
- Thickness of any one coat (maximum): 16 mm.
  - Total thickness (maximum): 25 mm, otherwise obtain instructions.
- Mix: As undercoat.
- Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Comb surface of each coat.

830 ANCHORED MESH REINFORCEMENT

- Application of first undercoat: Through and round mesh to fully bond with solid substrate.

840 UNDERCOATS GENERALLY

- General: Rule to an even surface. Comb to provide a key for the next coat. Do not penetrate the coat.
- Undercoats on metal lathing: Work well into interstices to obtain maximum key.

856 FINAL COAT - PLAIN FLOATED FINISH

- Finish: Even, open texture free from laitance.

880 CURING AND DRYING

- General: Prevent premature setting and uneven drying of each coat.
- Curing coatings: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
  - Curing period (minimum): As the lime manufacturer's recommendations .
  - Final coat: Hang sheeting clear of the final coat.
- Drying: Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
- Protection: Protect from frost and rain.

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# M60 PAINTING / CLEAR FINISHING

## 100 COATINGS

110 BREATHABLE / CLAYPAINT TO INTERNAL PLASTERED SURFACES

- Manufacturer: earthBorn Paints or other to Contractors choice and CA approval
  - Product reference: claypaint.
- Surfaces: internal plastered surfaces.
  - Preparation: as described below .
- Initial coats:
  - Type: 10% thinned mist coat of claypaint .
  - Number of coats: 1no. coat .
- Finishing coats:
  - Type: claypaint .
  - Number of coats: 1 - 2 no. coats .

160 EXTERNAL BLACK PAINT FINISH TO FENCING

- Manufacturer: to Contractors choice and CA approval
  - Product reference: external paint onto galv finishes
  - Colour: Black
- Surfaces: all metal elements of fencing (ie fence panels / posts / gates)
- Preparation & finishing: as manufacturers and product requirements

**GENERALLY**

205 PAINT ANALYSIS

- TBC if required.

215 HANDLING AND STORAGE

- Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
- Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

220 COMPATIBILITY

- Coating materials selected by contractor:
  - Recommended by their manufacturers for the particular surface and conditions of exposure.
  - Compatible with the selected timber type.
  - Compatible with each other.
  - Compatible with and not inhibiting performance of preservative/fire retardant pre-treatments.

280 PROTECTION

- 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

300 CONTROL SAMPLES

- Approval of appearance: Obtain before commencement of general coating work.

**PREPARATION**

400 PREPARATION GENERALLY

- Standard: To BS 6150, Section 4.
- Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.

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- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts: Remove.
- Dirt, grease and oil: Remove.
  - Give notice if contamination of surfaces/ substrates has occurred.
- Joints, cracks, holes and other depressions:
  - Fill with stoppers/ fillers. Work well in and finish off flush with surface.
  - Abrade to a smooth finish.
- Water based stoppers and fillers:
  - Apply before priming unless recommended otherwise by manufacturer.
  - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.
- Surface irregularities: Abrade to a smooth finish.
- Dust, particles and residues from abrasion: Remove.
- Doors, opening windows and other moving parts:
  - Ease before coating.
  - Prime resulting bare areas.

420J FIXTURES AND FITTINGS

- Before commencing work: Remove: any surface mounted fixtures and fittings.
- On completion of coating work: Refix.

425 IRONMONGERY

- Before commencing work: Remove ironmongery from surfaces to be coated.
- Hinges: Do not remove.
- On completion of coating work: Refix.

430 EXISTING IRONMONGERY

- General: Remove old coating marks. Clean and polish.

481 UNCOATED TIMBER

- General: Abrade to a smooth, even finish with arrises and moulding edges lightly rounded or eased.
- Heads of fasteners: Countersink sufficient to hold stoppers/fillers.
- Resinous areas and knots: Apply two coats of knotting.

570 UNCOATED MASONRY/ RENDERING

- Loose and flaking material: remove.

580 UNCOATED PLASTER

- Nibs, trowel marks and plaster splashes: Scrape off.
- Overtrowelled 'polished' areas: Abrade lightly.

590 UNCOATED PLASTERBOARD

- Depressions around fixings: Fill with stoppers/ fillers

APPLICATION

711 COATING GENERALLY

- Application standard: To BS 6150, Section 5.
- Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
- Overpainting: Do not paint over intumescent strips or silicone mastics.
- Priming coats:
  - Thickness: To suit surface porosity.

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- Application: As soon as possible on same day as preparation is completed.

- Finish:
  - Even, smooth and of uniform colour.
  - Free from brush marks, sags, runs and other defects.
  - Cut in neatly.

720 PRIMING JOINERY

- Preservative treated timber: Retreat cut surfaces before priming.
- End grain: Liberally coat, allow to soak in and then recoat.

730 WORKSHOP COATING OF CONCEALED JOINERY SURFACES

- General: Apply coatings to all surfaces of components.

731 SITE COATING OF CONCEALED JOINERY SURFACES

- General: After priming, apply additional coatings to surfaces that will be concealed when fixed in place.
  - Additional coatings: One undercoat.
  - Components:
  - sash windows
  - V jointed boards.

770 EXTERNAL DOORS

- Bottom edges: Prime and coat before hanging doors.

780 BEAD GLAZING TO COATED TIMBER

- Before glazing: Apply first two coats to rebates and beads.

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# Q40 FENCING

100 To be read with Preliminaries / General Conditions

110 NOTE:

- Retention of existing posts and gates, site inspection to confirm the items to be retained and to be tagged / marked for confirmation.
- Setting out exercise, the SE requires allowance for an exercise of setting out and marking up screw pile or pad foundation locations, to mitigate against clashes with tree roots etc. Alongside this an additional setting out exercise should be carried out to confirm the fencing panel sizes, number of intermediate / joiner posts required and number of corner / end posts required. This may require 2 stages, stage 1 prior or immediately following removal of the existing fencing and stage 2 following the completion of the foundation works so that top of foundation levels and therefore post heights can be confirmed. To be coordinated with the main contractors programme requirements.
- Black painted finish is a requirement of the planning & listed building consents.

220 MILD STEEL FENCING / MILD STEEL VERTICAL BAR FENCING TO OUTER MOAT BOUNDARY DETAIL 01 OVER LOW LEVEL BRICK WALL

- Standard To BS 1722-8 / BS 1722-9
- Corner / end posts: Retain existing, confirm requirement for additional corner / end posts at setting out exercise. 1220mm high as proposed overall height of fence.
- Intermediate / joiner posts: 1070mm high 50 x 50 x 5mm RHS posts at nominal 2670mm centres (subject to sit set out exercise) with sealed cap at the top.
- Horizontal rails: 50 x 10mm.
  Option A: Base horizontal rail to be 250mm above top of wall level continuously for badger movement.
  Option B: Base horizontal rail to typically be 100mm above top of wall level with intermediary sections 250mm above ground level for badger movement.
  Top horizontal rail shall be 150mm from the top of the fence in accordance with BS 1772-9
- Verticals: 20mm square bar with pointed top, 120mm centres. Verticals to span from base horizontal rail (and not extend below) through top horizontal rail and extend by 150mm.
- Centre of posts (maximum)
  - intermediate / joiner posts: BS 1722-9 recommends panel size of 2.72m,
  Option A: panel size to be confirmed following setting out exercise but typically 2620mm.
  Option B: panel size to be alternative 2620mm and 250mm – the smaller panels to be set with a higher horizontal base rail (250mm above ground) to allow for badger movement.
- Method of setting posts: as SE details
- Horizontals shall be joined at the posts with fish plates or cleats and minimum 10mm bolts.
- Material grade of all elements to be confirmed by the manufacturer and to comply with BS 1722-9 (note: S185/S235JR for 20mm square bar)
- Fabrication: welded.
- Finish: galvanized for black painted finish.
- Supports: see SE details.

Conformity: On delivery the manufacturer of the fence & gates shall provide the installer with a certificate of conformity. On completion the fence installer shall provide the end user with a certificate of conformity all in accordance with BS 1722-9.

225 MILD STEEL FENCING / MILD STEEL VERTICAL BAR FENCING TO OUTER MOAT BOUNDARY DETAIL 02

- Standard To BS 1722-8 / BS 1722-9
- Corner / end posts: Retain existing, confirm requirement for additional corner / end posts at setting out exercise. 1220mm high as proposed overall height of fence.

- Intermediate / joiner posts: 1070mm high 50 x 50 x 5mm RHS posts at nominal 2670mm centres (subject to sit set out exercise) with sealed cap at the top.
- Horizontal rails: 50 x 10mm.
  Option A: Base horizontal rail to be 250mm above ground level continuously for badger movement.
  Option B: Base horizontal rail to typically be 100mm above ground level with intermediary sections 250mm above ground level for badger movement.
  Top horizontal rail shall be 150mm from the top of the fence in accordance with BS 1772-9
- Verticals: 20mm square bar with pointed top, 120mm centres. Verticals to span from base horizontal rail (and not extend below) through top horizontal rail and extend by 150mm.
- Centre of posts (maximum)
  - intermediate / joiner posts: BS 1722-9 recommends panel size of 2.72m,
  Option A: panel size to be confirmed following setting out exercise but typically 2620mm.
  Option B: panel size to be alternative 2620mm and 250mm – the smaller panels to be set with a higher horizontal base rail (250mm above ground) to allow for badger movement.
- Method of setting posts: as SE details
- Horizontals shall be joined at the posts with fish plates or cleats and minimum 10mm bolts.
- Material grade of all elements to be confirmed by the manufacturer and to comply with BS 1722-9 (note: S185/S235JR for 20mm square bar)
- Fabrication: welded.
- Finish: galvanized for black painted finish.
- Supports: see SE details.

Conformity: On delivery the manufacturer of the fence & gates shall provide the installer with a certificate of conformity. On completion the fence installer shall provide the end user with a certificate of conformity all in accordance with BS 1722-9.

230 MILD STEEL FENCING / MILD STEEL VERTICAL BAR FENCING TO INNER MOAT BOUNDARY DETAIL 03

- Standard To BS 1722-8 / BS 1722-9 and to dimensionally match like for like the existing fencing.
- Corner / end posts: Retain existing, confirm requirement for additional corner / end posts at setting out exercise. 900mm high as proposed overall height of fence. Note height of fence to be checked on site so as to be continuous with height of the existing to be retained.
- Intermediate / joiner posts: 790mm high 50 x 50 x 5mm RHS posts at nominal 2700mm centres with sealed cap at the top
- Horizontal rails: TBC
  Option A: Base horizontal rail to be 250mm above top of wall level continuously for badger movement.
  Option B: Base horizontal rail to typically be 100mm above top of wall level with intermediary sections 250mm above ground level for badger movement.
  Top horizontal rail shall be 150mm from the top of the fence in accordance with BS 1772-9
- Verticals: 20mm square bar with bow top alternated with finial top, 120mm centres. Verticals to span from base horizontal rail (and not extend below) through top horizontal rail and extend by 150mm.
- Centre of posts (maximum)
  - intermediate / joiner posts: BS 1722-9 recommends panel size of 2.72m,
  Option A: panel size to be confirmed following setting out exercise but typically 2620mm.
  Option B: panel size to be alternative 2620mm and 250mm – the smaller panels to be set with a higher horizontal base rail (250mm above ground) to allow for badger movement.
- Method of setting posts: as SE details
- Horizontals shall be joined at the posts with fish plates or cleats and minimum 10mm bolts.
- Material grade of all elements to be confirmed by the manufacturer and to comply with BS 1722-9 (note: S185/S235JR for 20mm square bar)
- Fabrication: welded.
- Finish: galvanized for black painted finish.
- Supports: see SE details.

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Conformity: On delivery the manufacturer of the fence & gates shall provide the installer with a certificate of conformity. On completion the fence installer shall provide the end user with a certificate of conformity all in accordance with BS 1722-9.

**GATES, POSTS AND STILES**

570 NEW GATES

- Gates shall be of comparable quality and provide a comparable degree of security to the adjacent fencing. The overall height of the gates when fixed shall not be less than the adjacent fencing height.
  The top and bottom rails of the gate shall be at the same level as the fence rails.
  The spacing of vertical bars on the gates shall not be greater than that used on the fencing.
  All gate frames and posts shall be constructed of RHS.
- To provide rigidity and limit deflection all vertical bars shall be fully welded.
- Hinges shall be designed so that it is impossible to remove the gates by lifting at the hinges when they are in the shut and locked position. The hinges shall be provided with a simple and easy applied system of adjustment for correction during installation and service.
  The bottom hinge shall be attached to the gate frame and the gatepost.
- Gate posts: min 70 x 70 x 4mm as BS 1772-9
- Finish as delivered: galvanized for black painted finish.
- The locking bar shall shoot into a socket on the gatepost. Locking bars to be holed to receive a padlock.

570 EASING OF EXISTING VEHICLE GATE ACCESS TO MOAT

- Site assessment to determine possibility of re-aligning of vertical posts and easing hinges to stop gate clashing with hardstanding.

590 BADGER GATES TBC

- Manufacturer / product reference:
- Sizes:
  - posts
  - verticals
- Finish as delivered
- Fittings:
- Method of fixing:

**PROTECTIVE TREATMENT**

610 PROTECTIVE TREATMENT

- After fabrication of gates and fencing components, including the punching or drilling of any holes and all welding, the fencing and gates shall be hot dip galvanized in accordance with BS EN ISO 1461, unless otherwise agreed.

**EXECUTION**

710 INSTALLATION GENERALLY

- Set out and erect
  - Alignment: Straight lines or smoothly flowing curves.
  - Tops of posts: Following profile of the ground.
  - Setting posts: Rigid, plumb and to SE details
- Fixings: All components securely fixed.
- Take care not to damage protective treatments during installation.
  Minor damage to galvanized surfaces: low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BD 4652. Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

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790 SITE PAINTING

- Prepare surfaces and apply finishes as soon as possible after fixing.
- Refer to M???

**COMPLETION**

910 CLEANING

- Leave the works in a clean, tidy condition. Clean all surfaces immediately before handover.

920 FIXINGS

- Tighten all components before handover.

930 GATES

- Before handover adjust all hinges, latches and closers where required to ensure smooth operation. Lubricate where necessary. Ensure operation of an padlocks / locks.

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# R10 DRAINAGE SYSTEMS

## 100 GENERAL

110 GRAVITY RAINWATER DRAINAGE SYSTEM

- The existing gutters are in poor condition to areas but difficult to assess from ground level. The scope of works includes a high level inspection to confirm the materials, condition, defects, sizing and detailing of the existing gutters.
- Rainwater outlets: Proprietary.
- Gutters: Cast iron - sand cast.
- Pipework: Cast iron, spigot and socket.
- Below ground drainage: As SE's specification, TBC following drainage survey.
- Disposal: To surface water drainage.

115 ABOVE GROUND FOUL DRAINAGE SYSTEM

- Sanitary drainage outlets: Proprietary.
- Waste pipework: Proprietary, taking waste from WC, wash hand basin & teapoint sink
- Discharge stack and branch pipework: Proprietary
- Separate ventilating pipework: stub stack
- Disposal: Pumped to existing soil location within courtyard, subject to drainage survey to confirm invert levels. Existing soil pipe is cast iron & therefore allowance should be made for replacement to full height.

**GRAVITY RAINWATER DRAINAGE SYSTEM PERFORMANCE**

210 DESIGN

- Design: High level roof inspection required to confirm condition, defects, sizing & detailing of existing gutters.
- Following inspection confirm details of replacements.
  Standard: To BS EN 12056-3, clauses 3-7 and National Annexes.

221 COLLECTION AND DISTRIBUTION OF RAINWATER

- General: Complete, and without leakage or noise nuisance.

230 DESIGN PARAMETERS - GENERAL

- Roof and gutter construction and finish: Sand - cast, cast iron gutters with round, cast iron rainwater pipes. All gutters and pipework to be painted as M60.
- Design rate of rainfall: As BS EN 12056-3, National Annex NB.2.
- Category: TBC
- Design life of building: 60 years.
- Available capacity of existing below ground drainage (maximum): TBC

**ABOVE GROUND FOUL DRAINAGE SYSTEM PERFORMANCE**

210 DESIGN

- Design: Complete the design of the above ground foul drainage system.
- Standards: To BS EN 12056-1 and BS EN 12056-2, and in accordance with BS EN 12056

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-2 National Annexes NA-NG.
- System type to BS EN 12056-2: System III.

• Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

220 COLLECTION AND DISTRIBUTION OF FOUL WATER

• General: Quick, quiet and complete, self-cleansing in normal use, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.
• Pressure fluctuations in pipework (maximum): ±38 mm water gauge.
Water seal retained in traps (minimum): 25 mm.

**PRODUCTS**

315 CAST IRON GUTTERS

- Standard: To BS 460, except for shape.
- Manufacturer: J+JW Longbottom Ltd, Bridge Foundry, Holmfirth, Nr Huddersfield HD9 7AW Tel: 01484 682141.
- Product reference: TBC following inspection
- Profile: TBC following inspection
- Jointing type: TBC following inspection
- Nominal size: TBC following inspection
- Finish as supplied: Anti rust primer, to receive paint finish as section M60.
- Brackets: As existing.
- Fixings: Stainless steel screws.

Size: Refer to Manufacturer's Specification.

- Accessories: Stop ends.

316 TIMBER GUTTERS

- Manufacturer: Contractor's choice.
- Product reference: Contractor's choice.
- Profile: Half round ogee profile - to match existing.
- Nominal size: 4" dia.
- Species: Heartwood from dense & slow movement class, such as Sweet Chestnut
- Treatment: [CCA impregnation to NBS section Z12 and British Wood Preserving and Damp- proofing Association Commodity Specification C2, Service life: 40 years
- Jointing: As recommended by manufacturer.
- Finish as supplied: Natural.
- Brackets: Metal brackets fixed back to masonry.
- Fixings: Stainless steel screws.

Size: Refer to Manufacturer's Specification.

- Accessories: None.

380 CAST IRON PIPEWORK - SPIGOT AND SOCKET EXTERNALLY

- Standard: To BS 460.
- Manufacturer: J+JW Longbottom Ltd, Bridge Foundry, Holmfirth, Nr Huddersfield HD9 7AW Tel: 01484 682141
- Product reference: TBC
- Type: With projecting ears.
- Nominal size: TBC
- Finish as supplied: Water based primer, to receive paint finish as section M60.
- Brackets: Cast iron two legged type.
- Fixings: Stainless steel screws.

Size: Refer to Manufacturer's Specification.
- Accessories: TBC

450 INSULATION TO INTERNAL PIPELINES

- Material: Preformed flexible mineral fibre split tube.
- Thermal conductivity (maximum): 0.045 W/m·K.
- Manufacturer: Contractor's choice.
- Product reference: Submit proposals.
- Thickness: 50 mm.
- Fire performance: Class 1 spread of flame when tested to BS 476-7 or Class C to BS EN 13501.

**EXECUTION**

600 PREPARATION

- Work to be completed before commencing work specified in this section:
- Below ground drainage. Any works confirmed to be required following the survey.
- Painting of surfaces which will be concealed or inaccessible.

605 INSTALLATION GENERALLY

- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Protection:
- Fit purpose made temporary caps to prevent ingress of debris.
- Fit access covers, cleaning eyes and blanking plates as the work proceeds.

610 FIXING AND JOINTING GUTTERS

- Joints: Watertight.
- Brackets: Securely fixed.
- Fixings: Plugged and screwed into masonry. Fixing centres: To manufacturer's specification.
- Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
- Roofing underlay: Dressed into gutter.

615 SETTING OUT EAVES GUTTERS - TO FALLS

- Setting out: To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Outlets: Align with connections to below ground drainage.

616 SETTING OUT EAVES GUTTERS - LEVEL

- Setting out: Level and as close as practical to the roof.
- Outlets: Aligned with connections to below ground drainage.

635 FIXING PIPEWORK

- Pipework: Fix securely, plumb and/ or true to line.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.

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- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes:
  - Provide a loadbearing support at least at every storey level.
  - Tighten fixings as work proceeds so that every storey is self supporting.
  - Wedge joints in unsealed metal pipes to prevent rattling.
- Wall and floor penetrations: Isolate pipework from structure.
  - Pipe sleeves: As section P31.
  - Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint pipe sockets: Fix rigidly to buildings. Elsewhere, provide brackets and fixings that allow pipes to slide.

640 FIXING VERTICAL PIPEWORK

- Bracket fixings: Plugged and screwed into masonry - bracket to be mounted on proprietary bobbins.
- Distance between bracket fixing centres (maximum): To manufacturer's specification.

650 JOINTING PIPEWORK AND GUTTERS

- General: Joint with materials and fittings that will make effective and durable connections.
- Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
- Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove.

660 JOINTING EXTERNAL PIPEWORK

- Jointing: Cold caulking compound.

675 CUTTING COATED PIPEWORK AND GUTTERS

- Cutting: Recoat bare metal.

690 ELECTRICAL CONTINUITY - PIPEWORK

- Joints in metal pipes with flexible couplings: Clips (or suitable standard pipe couplings) supplied for earth bonding by pipework manufacturer to ensure electrical continuity.

700 ACCESS FOR TESTING AND MAINTENANCE

- General: Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance, including painting where necessary.
- Access fittings and rodding eyes: Position so that they are not obstructed.

800 ABOVE GROUND FOUL PIPE ROUTES

- General: The shortest practical, with as few bends as possible.
  - Bends in wet portion of soil stacks: Not permitted.

Routes not shown on drawings: Submit proposals before commencing work.

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810 FIXING ABOVE GROUND FOUL PIPEWORK

- Pipework: Fix securely plumb and/ or true to line. Fix discharge stack pipes at or close below socket collar or coupling.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes: Provide a load bearing support not less than every storey level. Tighten fixings as work proceeds so that every storey is self supporting.
- Wall and floor penetrations: Isolate pipework from structure, e.g. with pipe sleeves.
  - Masking plates: Fix at penetrations if visible in the finished work.

Expansion joint sockets: Fix rigidly to the building.

**COMPLETION**

900 TESTING GENERALLY

- Dates for testing: Give notice.
- Period of notice (minimum): Min 7 days.
- Preparation:
- Pipework: Complete, securely fixed, free from defects, obstruction and debris before testing.
- Testing:
- Supply clean water, assistance and apparatus.
- Do not use smoke to trace leaks.
- Records: Submit a record of tests.

905 INTERNAL PIPEWORK TEST - ENGLAND, WALES, IRELAND AND NORTHERN IRELAND

- Preparation: Temporarily seal open ends of pipework with plugs.
- Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug.
- Testing: Pump air into pipework until gauge registers 38 mm.
- Required performance:
- Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for at least 3 minutes.

910 GUTTER TEST

- Preparation: Temporarily block all outlets.
- Testing: Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

915 MAINTENANCE INSTRUCTIONS

- General: At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation, including full details of recommended inspection, cleaning and repair procedures.

920 IMMEDIATELY BEFORE HANDOVER

- Construction rubbish, debris, swarf, temporary caps and fine dust which may enter the rainwater system: Remove. Do not sweep or flush into the rainwater system.
- Access covers, rodding eyes, outlet gratings and the like: Secure complete with fixings.

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# Appendix A: Asbestos Management Plan

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# Appendix B: Fire Plan

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# Appendix C: Risk Management Register

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