



**PROJECT SPECIFICATION
&
SCHEDULE OF WORKS
for**

REINSTATEMENT WORK

at

**DOBSON'S WINDMILL
HIGH STREET
BURGH LE MARSH
LINCOLNSHIRE**

for

**Lincolnshire County Council
County Offices
Newland
Lincoln
LN1 1YL**

WHITWORTH

Chartered Architects and Surveyors

**UNIT 12 PARK FARM
FORNHAM ST GENEVIEVE
BURY ST EDMUNDS
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**20th December 2023
PEO/cm/6700/3**

**REINSTATEMENT WORK
BURGH LE MARSH WINDMILL, LINCOLNSHIRE**

SPECIFICATION AND SCHEDULE OF WORK

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A10 PROJECT PARTICULARS

110 THE PROJECT

- Name: Reinstatement works
- Location: Dobson's Windmill
High Street
Burgh le Marsh
Lincs PE24 5JT
- Length of contract: contractor's best time.

120 EMPLOYER (CLIENT)

- Name: Lincolnshire County Council
- Address: Council Offices
Newland, Lincoln LN1 1YL
- Contact: Miss Michelle Owens
- Telephone: 01522 552222
- Email: Michelle.owens@lincolnshire.gov.uk

130 PRINCIPAL CONTRACTOR (CDM)

- Name:
- Address:
- Contact:
- Telephone:
- Email:

140 PERSON EMPOWERED BY THE CONTRACT TO ACT ON BEHALF OF THE EMPLOYER (CONTRACT ADMINISTRATOR) (CA)

- Name: Kier Business Services Ltd
- Address: County Offices
Newland, Lincoln LN1 1YL
- Contact: George Gaduzo
- Telephone: 07858 369039
- Email: George.gaduzo@kier.co.uk

145 PERSON EMPOWERED BY THE CONTRACT TO WRITE THE SPECIFICATION

- Title: Architect
- Name: Whitworth
- Address: Unit 12 Park Farm
Fornham St Genevieve
Bury St Edmunds
Suffolk IP28 6TS
- Contact: Philip Orchard
- Telephone: 01284 760421
- Email: porchard@whitworth.co.uk

150 CDM PRINCIPAL DESIGNER

- Name: Keir Business Services Ltd
- Address: County Offices
Newland, Lincoln LN1 1YL
- Contact: George Gaduzo
- Telephone: 07858 369039
- Email: George.gaduzo@kier.co.uk

155 MILLS CONSULTANT

- Name: Bonwick Heritage Consultancy Ltd
- Address: Stoneycroft
West End Road
Bursledon
Southampton SO31 8BP
- Contact: Luke Bonwick
- Telephone: 07733 108409
- Email: luke@bonwick.co.uk

A11 TENDER AND CONTRACT DOCUMENTS

110 TENDER DRAWINGS

- The tender drawings are: as listed at the end of the schedule of work.

120 CONTRACT DRAWINGS

- The Contract Drawings: The same as the tender drawings.

160 PRECONSTRUCTION INFORMATION

- Format: The Preconstruction information is issued separately by the CDM Principal Designer. It refers to information given elsewhere in the preliminaries and other tender documents.

A12 THE SITE/EXISTING BUILDINGS

110 THE SITE

- Description: Grade I listed windmill and associated buildings.

140 EXISTING UTILITIES AND SERVICES

- Electricity, water, foul drainage.

200 ACCESS TO THE SITE

- Description: by vehicle and on foot from High Street to north east of site; by vehicle on to hard surface to east of mill; grass surfaces close to mill on south side.
- Limitations: path/track widths and bearing capacity; grassed area bearing capacity. Maintain access to the Heritage Centre, café and WC's at all times.

210 PARKING

- Restrictions on parking of the Contractor's and employees' vehicles: park in car park to east of the building.

220 USE OF THE SITE

- General: Do not use the site for any purpose other than carrying out the Works.

230 SURROUNDING LAND/ BUILDING USES

- General: Adjacent or nearby uses or activities are as follows:
- domestic, commercial, museum, café.

240 HEALTH AND SAFETY HAZARDS

- General: The nature and condition of the site/ building cannot be fully and certainly ascertained before it is opened up. However the following hazards are or may be present:
- lead paints; brick dust; bird/bat/vermin debris; tar based paints; moving machinery; heights.
- Information: The accuracy and sufficiency of this information is not guaranteed by the Employer or the Employer's representative. Ascertain if any additional information is required to ensure the safety of all persons and the Works.
- Site staff: Draw to the attention of all personnel working on the site the nature of any possible contamination and the need to take appropriate precautionary measures.

250 SITE VISIT

- Assessment: Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
- Arrangements for visit: contact the employer, see A10/120.

A13 DESCRIPTION OF THE WORKS

110 PREPARATORY WORK BY OTHERS

- Works: Carried out under a separate contract and completed before the start of work on site for this contract.
- Description: the shades (shutters) will be available for collection from current storage at Dennington, Suffolk.

120 THE WORKS

- Description: renewal and reinstatement of kerb, cap, fly stage and sails and recommissioning of the windmill, repair of wall cracks.

130 WORK BY OTHERS CONCURRENT WITH THE CONTRACT

- Description: to be confirmed

A20 JCT INTERMEDIATE BUILDING CONTRACT (IC)

370 JCT INTERMEDIATE BUILDING CONTRACT

- The Contract: JCT Intermediate Building Contract 2016 Edition.
- Requirement: Allow for the obligations, liabilities and services described.

THE RECITALS

First

THE WORKS AND THE CONTRACT ADMINISTRATOR

- The work comprises: repairs and reinstatement.
- Contract Administrator: See clause A10/140.

Second

CONTRACT DOCUMENTS

- Contract drawings: As listed in the schedule of work.

Third

PRICED DOCUMENTS

- Documents to be priced or provided by the Contractor: the schedule of work.

THE ARTICLES

3

ARCHITECT/CONTRACT ADMINISTRATOR

Contract Administrator: See clause A10/140.

4

QUANTITY SURVEYOR

Not applicable

5

PRINCIPAL DESIGNER

- Principal Designer: See clause A10/150.

6

PRINCIPAL CONTRACTOR

- Principal Contractor: See clause A10/130.

CONTRACT PARTICULARS

Fourth Recital and Schedule 2

BASE DATE

- Base date: Tender return date

Fifth Recital and clause 4.6

CONSTRUCTION INDUSTRY SCHEME (CIS)

- Employer at the Base Date is a 'contractor' for the purposes of the CIS.

Seventh Recital

CDM REGULATIONS

- The project is notifiable.

Eighth Recital

DESCRIPTION OF SECTIONS not applicable

Ninth Recital

FRAMEWORK AGREEMENT not applicable

Tenth Recital

SUPPLEMENTAL PROVISIONS

- Collaborative working: Supplemental Provision 1 applies.
- Health and safety: Supplemental Provision 2 applies.
- Cost savings and value improvements: Supplemental Provision 3 applies.
- Sustainable development and environmental considerations: Supplemental Provision 4 applies.
- Performance indicators and monitoring: Supplemental Provision 5 does not apply
- Notification and negotiation of disputes: Supplemental Provision 6 applies Where Supplemental Provision 6 applies, the respective nominees of the parties are:
 - Employer's nominee: Dave {Pennington, Lincolnshire County Council Corporate Property Team (see A10/120)
 - Contractor's nominee: _____ .
 - Or such replacement as each party may notify to the other from time to time.

Article 8

ARBITRATION

- Article 8 and clauses 9.3 to 9.8 do not apply

1.1

BASE DATE

Tender return date

1.1

BIM PROTOCOL

Not applicable

1.1

DATE FOR COMPLETION OF WORKS

24th April 2026

- Completion by sections not applicable

1.7

ADDRESSES FOR SERVICE OF NOTICES

Employer: see A10/120

Contractor:

2.4
DATE OF POSSESSION OF SITE
8th April 2024
Dates of possession of sections not applicable

2.5
DEFERMENT OF POSSESSION OF THE SITE
Clause 2.5 does / does not apply
Deferment of possession of sections Clause 2.5 does not apply

Clause 2.23.2
LIQUIDATED DAMAGES
- At the rate of £925 per week.

Clause 2.30
RECTIFICATION PERIOD
- Period: 12 months from the date of practical completion.

Clause 4.3 and 4.9
FLUCTUATIONS PROVISION
Schedule 4 applies
The following fluctuations provision applies

4.7
ADVANCED PAYMENT
Clause 4.7 does not apply

4.8.1
ADVANCED PAYMENT BOND
An advanced payment bond is not required

4.8.1
INTERIM PAYMENTS
- Interim Valuation Dates:
- The first Interim Valuation Date is: 28 days after start on site
- Thereafter the same date in each month or nearest business day in that month-

4.9.1
INTERIM PAYMENTS - PERCENTAGES OF VALUE
- Where the works or those works in a section have not achieved practical completion:
- Percentage of total value of the work etc.: 95%.
- Where the works or those works in a section have not achieved practical completion:
- Percentage of the total amount to be paid: 97½%.

4.10.4
LISTED ITEMS uniquely identified
Not required

4.10.5
LISTED ITEMS not uniquely identified
Not required

6.4.1
CONTRACTOR'S PUBLIC LIABILITY INSURANCE – INJURY TO PERSONS OR PROPERTY
- The required level of cover for any one occurrence or series of occurrences arising out of one event:
- Not less than: £10,000,000.00.

6.5.1
INSURANCE - LIABILITY OF EMPLOYER
Insurance is not required

6.7 and schedule 1
WORKS INSURANCE – INSURANCE OPTION AVAILABLE
Schedule 1: insurance option C applies
- Percentage to cover professional fees: 15%.

6.10 and schedule 1
Terrorism cover- Not required

6.15
JOINT FIRE CODE
The Joint Fire Code does not apply

6.18
JOINT FIRE CODE – amendments / revisions
Not applicable

7.2.1 PERFORMANCE BOND
Is not required

7.2.2
GUARANTEE FORM THE CONTRACTOR'S PARENT COMPANY
Is not required – Not required

7.3
COLLATERAL WARRANTIES
Not required

8.9.2
PERIOD OF SUSPENSION
Not applicable

8.11.1.1 to 8.11.1.5
PERIOD OF SUSPENSION
Not applicable

9.2.1
ADJUDICATION
- The Adjudicator is: to be nominated
- Nominating body: President or a Vice president or Chairman or Vice Chairman of the Royal Institute of British Architects

9.4.1
ARBITRATION
- does not apply

EXECUTION
- The Contract: Will be executed as a deed

THE CONDITIONS

SECTION 1: DEFINITIONS AND INTERPRETATION

SECTION 2: CARRYING OUT THE WORKS

SECTION 3: CONTROL OF THE WORKS

SECTION 4: PAYMENT

SECTION 5: VARIATIONS

SECTION 6: INJURY, DAMAGE AND INSURANCE

SECTION 7: ASSIGNMENT, PERFORMANCE BONDS AND GUARANTEES
AND COLLATERAL WARRANTIES

SECTION 8: TERMINATION

SECTION 9: SETTLEMENT OF DISPUTES

SCHEDULE 1: INSURANCE OPTIONS

SCHEDULE 2: NAMED SUBCONTRACTORS

SCHEDULE 3: FORMS OF BONDS

SCHEDULE 4: FLUCTUATIONS- CONTRIBUTION, LEVY
AND TAX FLUCTUATIONS

SCHEDULE 5: SUPPLEMENTAL PROVISIONS

A30 TENDERING/SUBLETTING/SUPPLY

MAIN CONTRACT TENDERING

110 SCOPE

- General: These conditions are supplementary to those stated in the invitation to tender and on the form of tender.

160 EXCLUSIONS

- Inability to tender: Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
- Relevant parts of the work: Define those parts, stating reasons for the inability to tender.

170 ACCEPTANCE OF TENDER

- Acceptance: No guarantee is offered that any tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.
- Costs: No liability is accepted for any cost incurred in the preparation of any tender.

180 CDM PLANNING PERIOD

- Minimum: 4 weeks ending two weeks before start on site. weeks before start on site.
Submit the CPP 10 working days before Possession to give the CDM Adviser 2 weeks to review and chase down amendments

190 PERIOD OF VALIDITY

- Period: After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for 8 weeks after tender submission.

195X CONSTRUCTIONLINE REGISTRATION

The contractor must be a registered member of Constructionline. Constructionline Silver/ Principal Contractor Accredited as a minimum standard and SSIP registered before a contract is let.

200X TENDER QUESTIONNAIRE AND WEIGHTINGS

Provide responses to the following questions with the tender submission:

Question 1 – Provide a clear summary of the current problems with the cap frame and winding gear at Dobsons windmill.

Guidance:

The response should demonstrate to the evaluators that you have: Fully understood the structural and mechanical repair needs of this part of the building.

Question 2 – Describe in simple terms the methodology you would adopt to deliver a successful conservation repair of the cap and winding gear of the mill.

Guidance:

The response should demonstrate to the evaluators that you have: Devised an appropriate approach to the conservation of this element of the building that ensures the maximum preservation of historic fabric, ensures mechanical and structural integrity and takes into account modern methods of safe working and any anticipated logistical difficulties.

Question 3 – Explain the similarities and differences between the cap of X windmill and other windmills that you have worked on.

Guidance:

The response should demonstrate to the evaluators that you have: Understood how X Mill is similar to other local examples but also its unique characteristics in terms of design details, scale and level of technology employed.

Question 4 – Describe how your firm is uniquely positioned to add value to Lincolnshire County Council's windmill portfolio and why your firm should be selected above other candidates.

Weightings: Q1 20%, Q2 30%, Q3 20%, Q4 30%

PRICING/SUBMISSION OF DOCUMENTS

220 PRICING OF PRELIMINARIES

- Charges: If the Contractor requires interim payments to include fixed and time related charges for specific items in the Preliminaries those charges must be clearly shown against the items.

250 PRICED DOCUMENTS

- Alterations: Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.

- Measurements: Where not stated, ascertain from the drawings.

- Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.

- Submit: provide a fully priced schedule and prelims within 3 days of request

310 TENDER

- General: Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

500 TENDER STAGE METHOD STATEMENTS

- Method statements: Prepare, describing how and when the following is to be carried out:
- Cranage for works, including access to site and ground protection
- Statements: **provide method statement and estimated duration of cranage days / times with tender.**

510 ALTERNATIVE METHOD TENDERS

- General: In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction/installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered.
- Alternative tenders: Such alternatives will be deemed to be alternative tenders and each must include a complete and precise statement of the effects on cost and programme.
- Safety method statement: Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.
- Full technical data: Submit for each alternative together with details of any consequential amendments to the design and/or construction of other parts of the Works.
- Submit: with tender.

530 SUBSTITUTE PRODUCTS

- Details: If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions, which have not been notified at tender stage, may not be considered.
- Compliance: Substitutions accepted will be subject to the verification requirements of clause A31/200.

550 HEALTH AND SAFETY INFORMATION

- Content: Describe the organisation and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the works may affect.
- Include:
 - A copy of the contractor's health and safety policy document, including risk assessment procedures.
 - Accident and sickness records for the past five years.
 - Records of previous Health and Safety Executive enforcement action.
 - Records of training and training policy.
 - The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- Submit: on request.

570 OUTLINE CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

- Content: Submit the following information within one week of request:
 - Method statements on how risks from hazards identified in the pre-construction information and other hazards identified by the contractor will be addressed.
 - Details of the management structure and responsibilities.
 - Arrangements for issuing health and safety directions.
 - Procedures for informing other contractors and employees of health and safety hazards.
 - Selection procedures for ensuring competency of other contractors, the self-employed and designers.
 - Procedures for communications between the project team, other contractors and site operatives.
 - Arrangements for cooperation and coordination between contractors.
 - Procedures for carrying out risk assessment and for managing and controlling the risk.
 - Emergency procedures including those for fire prevention and escape.
 - Arrangements for ensuring that all accidents, illness and dangerous occurrences are recorded.
 - Arrangements for welfare facilities.
 - Procedures for ensuring that all persons on site have received relevant health and safety information and training.
 - Arrangements for consulting with and taking the views of people on site.

- Arrangements for preparing site rules and drawing them to the attention of those affected and ensuring their compliance.
- Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements.
- Review procedures to obtain feedback.

599 FREEDOM OF INFORMATION

- Records: Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- Determination: Submit requests received. Do not supply information to anyone other than the project participants without express written permission.
- Confidentiality: Maintain at all times.

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

110 DEFINITIONS

- Meaning: Terms, derived terms and synonyms used in the preliminaries/general conditions and specification are as stated therein or in the appropriate British Standard or British Standard glossary.

120 COMMUNICATION

- Definition: Includes advise, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.
- Format: In writing to the person named in clause A10/140 unless specified otherwise.
- Response: Do not proceed until response has been received.

130 PRODUCTS

- Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
- Includes: Goods, plant, materials, site materials and things for incorporation into the Works.

135 SITE EQUIPMENT

- Definition: All appliances or things of whatsoever nature required in or about the construction for completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
- Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.

140 DRAWINGS

- Definitions: To BSRIA BG 6 A design framework for building services. Design activities and drawing definitions.
- CAD data: In accordance with BS 1192.

145 CONTRACTOR'S CHOICE

- Meaning: Selection delegated to the Contractor, but liability to remain with the specifier.

150 CONTRACTOR'S DESIGN

- Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements. This will include the scaffolding and the temporary public access stair and viewing platform.

155 SUBMIT PROPOSALS

- Meaning: Submit information in response to specified requirements.

160 TERMS USED IN SPECIFICATION

- Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes taking out and disposing of associated pipework, wiring, ductwork or other services.
 - Fix: Receive, unload, handle, store, protect, place and fasten in position and disposal of waste and surplus packaging including all labour, materials and site equipment for that purpose.
 - Supply and fix: As above, but including supply or products to be fixed. All products to be supplied and fixed unless stated otherwise.
 - Keep for reuse: Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer/Purchaser or for use in the Works as instructed.
 - Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/or replacement.
 - Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
 - Repair: Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and/or replacement.
 - Refix: Fix removed products.
 - Ease: Adjust moving parts of designated products or work to achieve free movement and good fit in open and closed positions.
 - Match existing: Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- CA: contract administrator.
- System: Equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.

170 MANUFACTURER AND PRODUCT REFERENCE

- Definition: When used in this combination:
- Manufacturer: The firm under whose name the particular product is marketed.
- Product reference: The proprietary brand name and/or reference by which the particular product is identified.
- Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

200 SUBSTITUTION OF PRODUCTS

- Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
- Reasons: Submit reasons for the proposed substitution.
- Documentation: Submit relevant information, including:
 - manufacturer and product reference;
 - cost;
 - availability;
 - relevant standards;
 - performance;
 - function;
 - compatibility of accessories;
 - proposed revisions to drawings and specification;
 - compatibility with adjacent work;
 - appearance;
 - copy of warranty/guarantee.
- Alterations to adjacent work: If needed, advise scope, nature and cost.
- Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

210 CROSS REFERENCES

- Accuracy: Check remainder of the annotation or item description against the terminology used in the section or clause referred to.
- Related terminology: Where a numerical cross-reference is not given the relevant sections and clauses of the specification will apply.
- Relevant clauses: Clauses in the referred to specification section dealing with general matters, ancillary products and execution also apply.
- Discrepancy or ambiguity: Before proceeding, obtain clarification or instructions.

220 REFERENCED DOCUMENTS

- Conflicts: Specification prevails over referenced documents.

230 EQUIVALENT PRODUCTS

- Inadvertent omission: Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

250 CURRENCY OF DOCUMENTS

- Currency: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

260 SIZES

- General dimensions: Products are specified by their co-ordinating sizes.
- Timber: Cross section dimensions shown on drawings are:
 - Target sizes as defined in BS EN 336 for structural softwood and hardwood sections.
 - Finished sizes for non-structural softwood or hardwood sawn and further processed sections.

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

410 ADDITIONAL COPIES OF DRAWINGS/DOCUMENTS

- Copies: Two of each contract drawing and contract document will be issued free of charge (not counting any certified copies).
- Additional copies: Issued on request and charged to the Contractor.

440 DIMENSIONS

- Scaled dimensions: Do not rely on.

460 THE SPECIFICATION

- Coordination: All sections must be read in conjunction with Main Contract Preliminaries/General conditions.

470 DIVERGENCE FROM THE STATUTORY REQUIREMENTS

- Divergence: Between the drawings or specification and the requirements of the Building Regulations, other Statutes, statutory undertakers and other regulatory authorities.
- Action: Inform immediately.

DOCUMENTS PROVIDED BY CONTRACTOR/SUBCONTRACTORS/SUPPLIERS

600 CONTRACTOR'S DESIGN INFORMATION

- General: Complete the design and detailing of parts of the Works as specified.
- Provide:
 - Production information based on the drawings, specification and other information.
 - Liaison to ensure coordination of the work with related building elements and services.
 - Master programme: Make reasonable allowance for completing design/production information, submission (including to the CDM Principal Designer), comment, inspection, amendment, resubmission and reinspection.
- Information required:
 - Format: A3 paper.
 - Number of copies: two.

- Submit: Within one week of request and at least within one week after confirmation of order works / placing of the order

620 AS BUILT DRAWINGS AND INFORMATION

- Contractor designed work: Provide drawings/information:
- Submit: At least two weeks before date for completion.

630 TECHNICAL LITERATURE

- Information: Keep on site for reference by all supervisory personnel:
- Manufacturers' current literature relating to all products to be used in the Works.
- Relevant British, EN or ISO Standards.

A32 MANAGEMENT OF THE WORKS

GENERALLY

110 SUPERVISION

- General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
- Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

115 CONSIDERATE CONSTRUCTORS SCHEME

- Registration: Before starting work, register the site and pay the appropriate fee:
- Contact:
- Address: Considerate Constructors Scheme Office, PO Box 75, Great Amwell, Ware, Hertfordshire, SG12 0YX.
- Tel: 01920 485959.
- Fax: 01920 485958.
- Freephone: 0800 7831423.
- Web: www.ccscheme.org.uk
- Email: enquiries@ccscheme.org.uk
- Standard: Comply with the Scheme's Code of Considerate Practice.
- Minimum compliance level: Company Registration

117 CONSTRUCTING BETTER HEALTH SCHEME

- Membership: Register and submit evidence of registration.
- Contact:
- Constructing Better Health, B&CE Building, Manor Royal, Crawley, West Sussex, RH10 9QP.
- Tel: 0845 873 7726.
- Email: info@cbhscheme.co.uk
- Website: www.cbhscheme.co.uk

118 FREIGHT VEHICLE SAFETY REQUIREMENTS

- Vehicle equipment: Ensure that all freight vehicles have the following:
- Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation.
- Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
- Properly adjusted class VI mirror/s or Fresnel lens to eliminate the nearside blind spot.
- Side under run guards.
- Driver training:
- Drivers must be trained on vulnerable road user safety through an approved course and hold a current valid Certificate of Competence.
- Drivers must have a valid driving licence and be legally able to drive the vehicle.
- Registration Scheme membership: Submit evidence of registration with and accreditation to the Freight Operator Registration Scheme (FORS).

120 INSURANCE

- Documentary evidence: Submit details before starting work on site and/or policies and receipts for the insurances required by the Conditions of Contract.

130 INSURANCE CLAIMS

- Notice: If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person named in clause A10/140 and the Insurers.

- Failure to notify: Indemnify the Employer against any loss, which may be caused by failure to give such notice.

140 CLIMATIC CONDITIONS

- Information: Record accurately and retain:

- Daily maximum and minimum air temperatures (including overnight).

- Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 OWNERSHIP

- Alteration/clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

PROGRAMME/PROGRESS

210 PROGRAMME

- Master programme: Immediately when requested and before starting work on site submit in an approved form a master programme for the Works, which must include details of:

- Planning and mobilisation by the Contractor.

- Subcontractor's work.

- Running in, adjustment, commissioning and testing of all engineering services and installations.

- Work resulting from instructions issued in regard to the expenditure of provisional sums.

- Work by others concurrent with the Contract.

- Submit: by two weeks before start on site.

230 SUBMISSION OF PROGRAMME

- Further information: Submission of the programme will not relieve the Contractor of the responsibility to advise of the need for further drawings or details or instructions in accordance with the Contract.

240 COMMENCEMENT OF WORK

- Notice: Before the proposed date for commencement of work on site give minimum notice of 2 weeks.

250 MONITORING

- Progress: Record on a copy of the programme kept on site.

- Avoiding delays: If any circumstances arise which may affect the progress of the Works submit proposals or take other action as appropriate to minimize any delay and to recover any lost time.

255 NOTIFICATION OF COMPENSATION EVENT

- Content: Notwithstanding the Contractor's obligations under the Contract, written notice must also be given of all other causes which apply concurrently.

260 SITE MEETINGS

- General: Site meetings will be held to review progress and other matters arising from administration of the Contract.

- Frequency: monthly.

- Location: at the site.

- Accommodation: Ensure availability at the time of such meetings.

- Attendees: Attend meetings and inform subcontractors and suppliers when their presence is required.
- Chairperson (who will also take and distribute minutes): the CA.

265 CONTRACTOR'S PROGRESS REPORT

- General: Submit a progress report at least 24 hours before the site meeting.
- Content: Notwithstanding the Contractor's obligations under the Contract the report must include:
A progress statement by reference to the master programme for the Works.
Details of any matters materially affecting the regular progress of the Works.
Subcontractors' and suppliers' progress reports.
Any requirements for further drawings or details or instructions.

290 NOTICE OF COMPLETION

- Requirement: Give notice of the anticipated dates of completion of the whole or parts of the Works.
- Associated works: Ensure necessary access, services and facilities are complete.
- Period of notice (minimum): one week.

310 EXTENSIONS OF TIME

- Notice: When a notice of the cause of any delay or likely delay in the progress of the Works is given under the contract, written notice must also be given of all other causes which apply concurrently.
- Details: As soon as possible submit:
- Relevant particulars of the expected effects, if appropriate, related to the concurrent causes.
- An estimate of the extent, if any, of the expected delay in the completion of the Works beyond the date for completion.
- All other relevant information required.

CONTROL OF COST

420 REMOVAL/REPLACEMENT OF EXISTING WORK

- Extent and location: Agree before commencement.
- Execution: Carry out in ways that minimize the extent of work.

430 PROPOSED INSTRUCTIONS

- Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.
- Include:
expense. Information necessary to fully assess the implications of issuing such an instruction.
- Inability to comply: Inform immediately if it is not possible to comply with any of the above requirements.

440 MEASUREMENT

- Covered work: Give notice before covering work required to be measured.

450 DAYWORK VOUCHERS

Specific limitations: The Contractor is not prevented from recording any Works on a Daywork basis, but if he wishes to do so, reasonable notice must be given to the Clerk of Works of the commencement, completion and covering up of such Works

The recording of work on a Daywork basis (and any subsequent endorsement via the signature of the Clerk of Works on any vouchers, sheets etc) shall not in itself obligate the Contract Administrator to value the work on that basis

Financial provision for the cost of work executed on a daywork basis is made in the Dayworks and Contingencies Section of these documents.

- Content: Before delivery, each voucher must be:
- Referenced to the instruction under which the work is authorized.
- Signed by the Contractor's person in charge as evidence that the operatives' names, the time daily spent by each and the equipment and products employed are correct.
- Submit: to the CA.

460 INTERIM VALUATIONS

- Applications: Include details of amounts requested under the Contract together with all necessary supporting information.
- Submission: At least seven days before established dates.

470 PRODUCTS NOT INCORPORATED INTO THE WORKS

- Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- Evidence: When requested, provide evidence of freedom of reservation of title.

475 PRODUCTS STORED OFF SITE

- Evidence of Title: Submit reasonable proof that the property in items stored off site to be included in valuations is vested in the Contractor.
- Include for products purchased from a supplier:
 - A copy of the contract of sale.
 - A written statement from the supplier that any conditions of the sale relating to the passing of property have been fulfilled and the products are not subject to any encumbrance or charge.
- Include for products purchased from a supplier by a sub contractor or manufactured or assembled by any subcontractor:
 - Copies of the subcontract with the subcontractor and a written statement from the subcontractor that any conditions relating to the passing of property have been fulfilled.

A33 QUALITY STANDARDS/CONTROL STANDARDS OF PRODUCTS AND EXECUTIONS

110 INCOMPLETE DOCUMENTATION

- General: Where and to the extent that products or work are not fully documented, they are to be:
 - Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
 - Suitable for the purposes stated or reasonably to be inferred from the project documents.
- Contract documents: Omissions or errors in description and/or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 WORKMANSHIP SKILLS

- Operatives: Appropriately skilled and experienced for the type and quality of work.
- Registration: With Construction Skills Certification Scheme.
- Evidence: Operatives must produce evidence of skills/qualifications when requested.

130 QUALITY OF PRODUCTS

- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works: Consistent in kind, size, quality and overall appearance.
- Tolerances: Where critical, measure a sufficient quantity to determine compliance.
- Deterioration: Prevent. Order in suitable quantities to a programme and use in appropriate sequence.

135 QUALITY OF EXECUTION

- Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Without defects, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

140 COMPLIANCE

- Compliance with proprietary specifications: Retain on site evidence that the proprietary product specified has been supplied.
- Compliance with performance specifications: Submit evidence of compliance, including test reports indicating:
 - Properties tested.
 - Pass/fail criteria.
 - Test methods and procedures.
 - Test results.
 - Identity of testing agency.
 - Test dates and times.
 - Identities of witnesses.
 - Analysis of results.

150 INSPECTIONS

- Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to:
 - Date of inspection.
 - Part of the work inspected.
 - Respects or characteristics which are approved.
 - Extent and purpose of the approval.
 - Any associated conditions.

160 RELATED WORK

- Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:
 - Appropriately complete.
 - In accordance with the project documents.
 - To a suitable standard.
 - In a suitable condition to receive the new work.
- Preparatory work: Ensure all necessary preparatory work has been carried out.

170 MANUFACTURER'S RECOMMENDATIONS/INSTRUCTIONS

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Changes to recommendations or instructions: Submit details.
- Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
- Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

SAMPLES/APPROVALS

210 SAMPLES

- Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either:
 - To an express approval.
 - To match a sample expressly approved as a standard for the purpose.

220 APPROVAL OF PRODUCTS

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

230 APPROVAL OF EXECUTION

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

ACCURACY/SETTING OUT GENERALLY

320 SETTING OUT

- General: Submit details of methods and equipment to be used in setting out the Works.
- Levels and dimensions: Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- Inform: When complete and before commencing construction.

330 APPEARANCE AND FIT

- Tolerances and dimensions: If likely to be critical to execution or difficult to achieve, as early as possible either:
 - Submit proposals; or
 - Arrange for inspection of appearance of relevant aspects of partially finished work.
- General tolerances (maximum): To BS 5606, tables 1 and 2.

340 CRITICAL DIMENSIONS

- Critical dimensions: Set out and construct the Works to ensure compliance with the tolerances stated.
- Location: Detailed on drawings
- Relating to levelling of the curb and setting out levels, are expected to be provided for authorisation by Architect.

SERVICES GENERALLY

410 SERVICES REGULATIONS

- New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.

445 SERVICE RUNS

- General: Provide adequate space and support for services, including unobstructed routes and fixings.
- Ducts, chases and holes: Form during construction rather than cut.
- Coordination with other works: Submit details of locations, types/methods of fixing of services to fabric and identification of runs and fittings. 450X - Maintain integrity of telephone line (used for fire alarm) under site to building and electricity supply. Check and temporarily mark routes of electricity supply and telephone line before setting up on site, protect from damage from above.

460X FIRE ALARM:

- Amend before cap is removed and reinstate; ensure working at all times. Maintenance contractor is Sonata Security, Norwich.

470X LIGHTING AND POWER:

- Amend as necessary for cap and other work, reinstate at completion. Emergency lighting system to remain in operation at all times.

SUPERVISION/INSPECTION/DEFECTIVE WORK

510 SUPERVISION

- General: In addition to the constant management and supervision of the Works provided by the Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.
- Replacement: Give maximum possible notice before changing person in charge or site agent.

525 ACCESS

- Extent: Provide at all reasonable times access to the Works and to other places of the Contractor or subcontractors where work is being prepared for the Contract.

530 OVERTIME WORKING

- Notice: Prior to overtime being worked, submit details of times, types and locations of work to be done.
- Minimum period of notice: one week.
- Concealed work: If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense.

540 DEFECTS IN EXISTING WORK

- Undocumented defects: When discovered, immediately give notice. Do not proceed with affected related work until response has been received.
- Documented remedial work: Do not execute work which may:
 - Hinder access to defective products or work; or
 - Be rendered abortive by remedial work.

550 ACCESS FOR INSPECTION

- Removal: Before removing scaffolding or other facilities for access, give notice of not less than 1 week

560 TESTS AND INSPECTIONS

- Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.
- Confirmation: One working day prior to each such test or inspection. If sample or test is not ready, agree a new date and time.
- Records: Submit a copy of test certificates and retain copies on site.

610 PROPOSALS FOR RECTIFICATION OF DEFECTIVE PRODUCTS/EXECUTIONS

- Proposals: Immediately any execution or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
- Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

620 MEASURES TO ESTABLISH ACCEPTABILITY

- General: Wherever inspection or testing shows that the work, materials or goods are not in accordance with the contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures:
 - will not be counted as grounds for revision of the completion date.

WORK AT OR AFTER COMPLETION

710 WORK BEFORE COMPLETION

- General: Make good all damage consequent upon the Works.
- Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.
- Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all splashes, deposits, efflorescence, rubbish and surplus materials.
- Cleaning materials and methods: As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- COSHH dated data sheets: Obtain for all materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- Moving parts of new work: Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

720 SECURITY AT COMPLETION

- General: Leave the Works secure with, where appropriate, all accesses closed and locked.
- Keys: Account for and adequately label all keys and hand over to Employer with itemised schedule, retaining duplicate schedule signed by Employer as a receipt.

730 MAKING GOOD DEFECTS

- Remedial work: Arrange access with the employer.
- Rectification: Give reasonable notice for access to the various parts of the Works.
- Completion: Notify when remedial works have been completed.

- 750X - At the expiry of the maintenance period, the Contractor is to be responsible for making good both excessive and normal shrinkage cracks in finishes.

A34 SECURITY/SAFETY/PROTECTION SECURITY, HEALTH AND SAFETY

110 PRECONSTRUCTION INFORMATION

- Location: Issued by the Principal Designer but to be read with the project Preliminaries, including but not restricted to the following sections:
- Description of project: Sections A10 and A11.
- Client's consideration and management requirements: Sections A12, A13 and A36.
- Environmental restrictions and on-site risks: Section A12, A35 and A34.
- Significant design and construction hazards: Section A34.
- The Health and Safety File: Section A37.

120 EXECUTION HAZARDS

- Common hazards: Not listed. Control by good management and site practice.
- Significant hazards: The design of the project includes the following:

- Hazard precautions assumed:	Fall Scaffolding, access machinery, harness	Dust PPE	Caustic burn PPE	Sharps PPE	Lead paint PPE
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130 PRODUCT HAZARDS

- Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Workplace Exposure Limits.
- Common hazards: Not listed. Control by good management and site practice.
- Significant hazards: Specified construction materials include the following:
 - Hazard: Caustic burns.
 - Material: lime.
 - Hazard: poisoning
 - Material: lead paint; timber treatment chemicals

140 CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

- Submission: Present to the Principal Designer no later than 2 weeks before start on site date.
- Confirmation: Do not start construction work until the Employer has confirmed in writing that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by CDM Regulations.
- Content: Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan, clause A30/570, and the Pre-tender Health and Safety Plan/Preconstruction information.

150 SECURITY

- Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
- Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.
- Special requirements: During the works emergency access may be needed to the Mill, key arrangements should be made for site personnel (emergency access only)

160 STABILITY

- Responsibility: Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- Design loads: Obtain details, support as necessary and prevent overloading.

170 OCCUPIED PREMISES

- Extent: Existing buildings will be occupied and/or used during the Contract as follows: the car park, Heritage Centre, granary and other buildings to the north of the mill will remain in public use.

The contractor shall give a minimum of 3 weeks' notice when access will not be permitted due to sequencing of the works relating to repairs, removal and refitting of elements or internal works, erection or dismantling of scaffolding or other work which will cause a hazard due to public.

The contractor shall provide segregated routes externally for public use which should be in the form of Heras fence corridors as necessary, although public access to the WC's to the north east of the mill.

It is predicted that for the duration of the contract, that no public access will be permitted to the windmill floor.

The contractor

- Works: Carry out without undue inconvenience and nuisance and without danger to adjacent occupants and users. Liaise weekly with the employer to advise the employer of any days when the public cannot gain access to the site
- Overtime: If compliance with this clause requires certain operations to be carried out during overtime, and such overtime is not required for any other reason, the extra cost will be allowed, provided that such overtime is authorized in advance.

190 OCCUPIER'S RULES AND REGULATIONS

- Compliance: Conform to the occupier's rules and regulations affecting the site (to be issued with the PCI).

These will be agreed with the Contractor at the Pre-contract meeting,
No Hot Works in/on or near the buildings or flammable materials.

210 EMPLOYER'S REPRESENTATIVES SITE VISITS

- Safety: Submit details in advance, to the Employer or the person identified in clause A10/140, of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.

- Protective clothing and/or equipment: Provide and maintain on site for the Employer and the person stated in clause A10/140 and other visitors to the site.

PROTECT AGAINST THE FOLLOWING

330 NOISE AND VIBRATION

- Standard: Comply with the recommendations of BS 5228-1, in particular clause 7.3, to minimize noise levels during the execution of the Works.

- Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.

- Restrictions: Do not use:

- Percussion tools and other noisy appliances without consent during the hours of 6.00 p.m. to 9.00 a.m.

- Radios or other audio equipment or permit employees to use.

340 POLLUTION

- Prevention: Protect the site, the Works and the general environment including the atmosphere, land, streams and waterways against pollution.

- Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

350 PESTICIDES

- Use: Not permitted.

360 NUISANCE

- Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.

- Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

370 ASBESTOS CONTAINING MATERIALS

- Duty: Report immediately any suspected materials discovered during execution of the Works.

- Do not disturb.

- Agree methods for safe removal or encapsulation.

371 DANGEROUS OR HAZARDOUS SUBSTANCES

- Duty: Report immediately suspected materials discovered during execution of the Works.

- Do not disturb.

- Agree methods for safe removal or remediation.

375 ANTIQUITIES

- Duty: Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the works.

- Preservation: Keep objects in the exact position and condition in which they were found.

- Special requirements: Notify the Project manager to allow recording of items found. Specific reference is made to Makers Marks on timber, items found under wall plates.

380 FIRE PREVENTION

- Duty: Prevent personal injury or death, and damage to the Works or other property from fire.
- Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by the Construction Confederation and The Fire Protection Association (The 'Joint Fire Code').

390 SMOKING ON SITE

- Smoking on site: Not permitted.

400 BURNING ON SITE

- Burning on site: Not permitted.

410 MOISTURE

- Wetness or dampness: Prevent, where this may cause damage to the Works.
- Drying out: Control humidity and the application of heat to prevent:
- Blistering and failure of adhesion.
- Damage due to trapped moisture.
- Excessive movement.

420 INFECTED TIMBER/CONTAMINATED MATERIALS

- Removal: Where instructed to remove materials affected by fungal/insect attack from the building, minimize the risk of infecting other parts of the building.
- Testing: Carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particle, toxins and other micro-organisms are within acceptable levels.

430 WASTE

- Includes: Rubbish, debris, spoil, surplus material, containers and packaging.
- General: Minimize production. Prevent accumulations. Keep the site and Works clean and tidy.
- Handling: Collect and store in suitable containers. Remove frequently and dispose off site in a safe and competent manner:
- Non-hazardous material: In a manner approved by the Waste Regulation Authority.
- Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.
- Recyclable material: Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
- Ensure dust, debris, paint, fuel for plant etc. does not contaminate land or watercourses.
- Waste transfer documentation: Retain on site.

440 ELECTROMAGNETIC INTERFERENCE

- Duty: Prevent excessive electromagnetic disturbance to apparatus outside the site.

470 INVASIVE SPECIES

- General: Prevent the spread of species (e.g. plants or animals) that may adversely affect the site or Works economically, environmentally or ecologically.
- Duty: Report immediately any suspected species discovered during execution of the Works.
- Do not disturb.
- Agree methods for safe eradication or removal.

PROTECT THE FOLLOWING

510 EXISTING SERVICES

- Confirmation: Notify all service authorities, statutory undertakers and/or adjacent owners of proposed works not less than one week before commencing site operations.
- Identification: Before starting work, check and mark positions of utilities/services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- Work adjacent to services:
- Comply with service authority's/statutory undertaker's recommendations.
- Adequately protect, and prevent damage to services: Do not interfere with their operation without consent of service authorities/statutory undertakers or other owners.
- Identifying services:
- Below ground: Use signboards, giving type and depth;
- Overhead: Use headroom markers.
- Damage to services: If any results from execution of the Works:
- Immediately give notice and notify appropriate service authority/statutory undertaker.
- Make arrangements for the work to be made good without delay to the satisfaction of service authority/statutory undertaker or other owner as appropriate.
- Any measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- Marker tapes or protective covers: Replace, if disturbed during site operations to service authority's/statutory undertakers recommendations.

520 ROADS AND FOOTPATHS

- Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

530 EXISTING TOPSOIL/SUBSOIL

- Duty: Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
- Protection: Before starting work submit proposals for protective measures.

540 RETAINED TREES/SHRUBS/GRASSED AREAS

- Protection: Preserve and prevent damage, except those not required.
- Replacement: Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

560 EXISTING FEATURES

- Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.
- Special requirements: The contractor will be responsible for undertaking a full photographic survey of the building (interior and exterior), all paths, paved surfaces, roads and grassed areas. A CD copy shall be provided to the CA prior to commencement.

570 EXISTING WORK

- Protection: Prevent damage to existing work, structure or other property during the course of the work.
- Removal: Minimum amount necessary.
- Replacement work: To match existing.

580 BUILDING INTERIORS

- Protection: Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the course of the work.

600 EXISTING FURNITURE, FITTINGS AND EQUIPMENT

- Protection: Prevent damage or move as necessary to enable the Works to be executed. Reinstall in original positions.
- Extent: in all work areas.

625 ADJOINING PROPERTY RESTRICTIONS

- Precautions:
 - Prevent trespass of workpeople and take precautions to prevent damage to adjoining property.
 - Pay all charges.
 - Remove and make good on completion or when directed.
- Damage: Bear cost of repairing damage arising from execution of the Works.

630 EXISTING STRUCTURES

- Duty: Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- Supports: During execution of the Works:
 - Provide and maintain all incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site, or adjoining, that may be endangered or affected by the Works.
 - Do not remove until new work is strong enough to support existing structure.
 - Prevent overstraining of completed work when removing supports.
- Adjacent structures: Monitor and immediately report excessive movement.
- Standard: Comply with BS 5975 and BS EN 12812.

640 MATERIALS FOR RECYCLING/REUSE

- Duty: Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- Storage: Stack neatly and protect until required by the Employer or for use in the Works as instructed.
- materials from the works including packaging should be disposed of by the contractor,

A35 SPECIFIC LIMITATIONS ON METHOD/SEQUENCE/TIMING

130 METHOD/SEQUENCE OF WORK

- Specific Limitations: Include the following in the programme: site set up and security fencing; site surface protection, remove sails, fly stage etc to ground level; protect sails at ground level if work to be on site or remove sails from site; carry out kerb and other high level works; carry out floor investigations / renewals and window renewals; remove scaffolding and reinstall sails etc; commission fan and winding gear; hang sails and commission; decorate internal walls at top level; fit machinery guarding; refit existing interpretation panels; remove site fencing and facilities; make good landscape.

140 SCAFFOLDING

- Scaffolding: Make available to subcontractors and others at all times.
- Installed and maintained by a member of the NASC only
- Scaffold will need to be lightning protected, allow for specialist sub-contractor to attend site to carry out earth bonding

Access :

- Contractor risk assessment will be necessary for public access.

160 USE OR DISPOSAL OF MATERIALS

- Specific limitations: re-use materials only on the instructions of the Architect. Remove all debris and unwanted materials regularly from site. Ensure dust, debris, fuel for plant etc. does not contaminate land or watercourses.

170 WORKING HOURS

- Specific limitations: 8.00 a.m. – 6.00 p.m. Monday – Saturday.

Allow generally for carrying out the Works during normal working hours. No overtime shall be worked without the prior written consent of the Architect/Contract Administrator.

Unscheduled overtime: Should the Contractor find it necessary to work overtime or at night as necessary to ensure the completion of the Works within the contract period he shall pay all extra costs thereby incurred without any charge to the Employer. In this event the Contractor's attention is drawn to the directions on noise/nuisance, and giving notice of intention to work overtime elsewhere in the preliminaries

A36 FACILITIES/TEMPORARY WORKS/SERVICES GENERALLY

110 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES

- Location: Give notice of intended siting.
- Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

ACCOMMODATION

230 TEMPORARY ACCOMMODATION

- Proposals for temporary accommodation and storage for the Works: Submit two weeks prior to starting on site.
- Details to be included: Type of accommodation and storage, its siting and the programme for site installation and removal.

230 TEMPORARY ACCOMMODATION

- Facilities: the contractor must provide his own sanitary accommodation for the duration of the Contract with flushing toilet and hot water:
- Agree details and siting of the additional facility.

The Contractor shall make proper provision for the welfare of his own staff as required under Schedule 2 of the CDM Regulations 2015 including;

- Sanitary conveniences
- Washing facilities with hot water
- Drinking water
- Changing rooms if applicable under Schedule 2
- Facilities for rest

Details to be submitted: Type of accommodation and storage, its siting and the programme for site installation and removal. The tender shall include delivery, siting, maintenance, temporary connection to services as required, together with subsequent removal and any making good arising upon completion.

280 EXISTING ACCOMMODATION

- Restrictions on use: Temporary accommodation is prohibited in the following:
- in the windmill tower or other buildings on site.

TEMPORARY WORKS

310 ROADS

- Permanent roads, hard standings and footpaths on the site: The following may be used, subject to clause A34/520:
- Details: existing roads and path.
- Restrictions on use: for access only.
- Protective or remedial measures: protect edges and surface against wear or damage with temporary matting.

320 TEMPORARY WORKS

- Employer's Specific Requirements: Provide: calculations for scaffold.

340 NAME BOARDS/ADVERTISEMENTS

- Name boards/advertisements: permitted on scaffolding only.

340 NAME BOARDS/ADVERTISEMENTS

- General: Obtain approval, including statutory consents, and provide a temporary name board displaying:
- Title of project:
- Name of Employer:
- Names of Contractor:
- Special requirements: completion date(s).

SERVICES AND FACILITIES

410 LIGHTING

- Finishing work and inspection: Provide temporary lighting, the intensity and direction of which closely resembles that delivered by the permanent installation.

420 LIGHTING AND POWER

- Supply: Electricity from the Employer's mains may be used for the Works as follows:
- Metering: provide temporary meter and reimburse employer.
- Point of supply: in tower.
- Current: Alternating.
- Continuity: The Employer will not be responsible for the consequences of failure or restriction in supply.

430 WATER

- Supply: The Employer's mains may be used for the Works as follows:
- Source: main.
- Location of supply point: Standpipe, location to be agreed
- Continuity: The Employer will not be responsible for the consequences of failure or restriction in supply.

440 TELEPHONES

- Direct communication: As soon as practicable after the Date of Possession provide the Contractor's person in charge with a mobile telephone.

530 BENEFICIAL USE OF INSTALLED SYSTEMS

- The following permanent systems may be used for the Works: water, electricity.

540 METER READINGS

- Charges for service supplies: Where to be apportioned ensure that:
 - Meter readings are taken by relevant authority at possession and/or completion as appropriate.
 - Copies of readings are supplied to interested parties.
- ### **550 THERMOMETERS**
- General: Provide on site and maintain in accurate condition a maximum and minimum thermometer for measuring atmospheric shade temperature, in an approved location.

570 PERSONAL PROTECTIVE EQUIPMENT

General: Ensure there is adequate protective equipment retained on site for the use of personnel and visitors

A37 OPERATION/MAINTENANCE OF THE FINISHED WORKS

GENERALLY

115 THE HEALTH AND SAFETY FILE

- Responsibility: the principal contractor.
- Format: A4 ring file. (2 copies to be provided) and data stick.
- Delivery to: the CDM Principal Designer By (date): 1 week before practical completion.

160 PRESENTATION OF HEALTH AND SAFETY FILE

- Format: A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled.
- Selected drawings needed to illustrate or locate items mentioned in the file: Where larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings.
- As-built drawings: The main sets may form annexes to the file.

A40 CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF

110 MANAGEMENT AND STAFF

- Cost significant items: at schedule item 1.3.

A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION

110 SITE ACCOMMODATION

- Details: Site accommodation required or made/ not made available by the Employer: See section A36.
- Cost significant items: at schedule item 1.3.

A42 CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES

110 SERVICES AND FACILITIES

- Details: Services or facilities required or made/ not made available by the Employer: See section A36.
- Cost significant items: at schedule item 1.3.

A43 CONTRACTOR'S GENERAL COST ITEMS: MECHANICAL PLANT

110 MECHANICAL PLANT

- Cost significant items: at schedule item 1.3.

A44 CONTRACTOR'S GENERAL COST ITEMS: TEMPORARY WORKS

110 TEMPORARY WORKS

- Details: Temporary works required or made/ not made available by the Employer: See section A36.
- Cost significant items: at schedule item 1.3.

AX STATUTORY AUTHORITIES

050 RADIOS

- The use of radios and other audio equipment will not be permitted on site.

C20 DEMOLITION

To be read with Preliminaries/General conditions.

05 SURVEY

- Scope: Before starting deconstruction/demolition work, examine available information, and carry out a survey of:
 - the structure or structures to be deconstructed/demolished,
 - the site on which the structure or structures stand, and
 - the surrounding area.
- Report and method statements: Submit, describing:
 - Form, condition and details of the structure or structures, the site and the surrounding area.
- Extent: mill and cap
 - Type, location and condition of features of historical, archaeological, geological or ecological importance.
 - Type, location and condition of adjoining or surrounding premises that might be adversely affected by removal of the structure or structures or by noise, vibration and/or dust generated during deconstruction/demolition.
 - Identity and location of services above and below ground, including those required for the Contractor's use, and arrangements for their disconnection and removal.
 - Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal.
 - Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage.
 - Proposed programme of work, including sequence and methods of deconstruction/demolition.
 - Details of specific pre-weakening required.
 - Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
 - Arrangements for control of site transport and traffic.

10 EXTENT OF DECONSTRUCTION/DEMOLITION

- General: Subject to drawings and retention requirements specified elsewhere, deconstruct/demolish structures down to gravel level.

25 LOCATION OF SERVICES

- Services affected by the Works: Locate and mark positions.
- Mains services marking: Arrange with the appropriate authorities for services to be located and marked.

30 SERVICES DISCONNECTION ARRANGED BY CONTRACTOR

- Responsibility: Before starting deconstruction/demolition arrange with the appropriate authorities for disconnection of services owned by those authorities and removal of associated fittings and equipment.

50 WORKMANSHIP

- Standard: Demolish structures in accordance with BS 6187.
- Operatives: Appropriately skilled and experienced for the type of work. Holding, or in training to obtain, relevant CITB Certificates of Competence.
- Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction/demolition to be used.

55 SITE HAZARDS

- Dust: Reduce by periodically spraying with an appropriate wetting agent, or contain.
- Lead dust: Submit method statement for control, containment and clean-up regimes.
- Site operatives and general public: Protect from vibration, dangerous fumes and dust arising during the course of the Works.

60 ADJOINING PROPERTY / BUILDINGS ON SITE

- Temporary support and protection: Provide. Maintain and alter, as necessary, as work proceeds. Do not leave unnecessary or unstable projections.
- Defects: Report immediately on discovery.
- Damage: Minimize. Repair promptly to ensure safety, stability, weather protection and security.
- Support to foundations: Do not disturb.

65 STRUCTURES TO BE RETAINED

- Extent: see drawings.
- Parts which are to be kept in place: Protect.
- Interface between retained structures and deconstruction/demolition: Cut away and strip out with care to minimize making good.

70 PARTLY DECONSTRUCTED/DEMOLISHED STRUCTURES

- General: Leave partly in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Make secure outside working hours.
- Temporary works: Prevent overloading due to debris.
- Access: Prevent access by unauthorized persons.

71 DANGEROUS OPENINGS

- General: Provide guarding at all times, including outside of working hours. Illuminate during hours of darkness.
- Access: Prevent access by unauthorized persons.

75 ASBESTOS-CONTAINING MATERIALS - KNOWN OCCURRENCES

- General: Materials containing asbestos are not known to be present in the structure(s) (see survey report prepared on behalf of the employer).

76 ASBESTOS-CONTAINING MATERIALS - UNKNOWN OCCURRENCES

- Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction/demolition work. Avoid disturbing such materials.
- Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

78 UNFORESEEN HAZARDS

- Discovery: Give notice immediately when hazards, such as unrecorded voids, tanks, chemicals, are discovered during deconstruction/demolition.
- Removal: Submit details of proposed methods for filling, removal, etc.

90 CONTRACTOR'S PROPERTY

- Components and materials arising from the deconstruction/demolition work: Property of the Contractor except where otherwise provided.
- Action: Remove from site as work proceeds where not to be reused or recycled for site use.

91 EMPLOYER'S PROPERTY

- Components and materials to remain the property of the Employer:
- Protection: Maintain until these items are removed by the Employer or reused in the Works, or until the end of the Contract.

95 RECYCLED MATERIALS

- Materials arising from deconstruction/demolition work: Can be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.

FX1 MATERIALS FOR CONSERVATION

100 LIME PUTTY

- Shall be matured lime putty as manufactured by Bleaklow Industries Ltd, Bakewell, Derbyshire, Tel: 01246 582284, fax: 01246 583192, complying with BS EN 459-1:2010.

101 HYDRATED LIME

- Where specified shall be fresh, dry hydraulic lime, as clause FX1/103.

103 HYDRAULIC LIME

- Shall be either Singleton Birch lime, strength NHL 2.0, 3.5 or 5.0 as specified in the schedule of work, BS EN 459-1:2010 and supplied by:

- Anglia Lime Company, P.O. Box 6, Sudbury, Suffolk, CO10 6TW
Tel: 01787 313974.

- Between Time, Bachelors Hall, Stanstead Abbot, nr. Ware, Herts, SG1 8AB
Tel: 01920 877822.

- Bulmer Brick & Tile Co Ltd, Brickfields, Bulmer, Sudbury, Suffolk, CO10 7EF
Tel: 01787 269232.

- Hendry & Sons: Station Road, Foulsham, Dereham, Norfolk, NR20 5RG
Tel: 01362 683249.

120 SAND

- Naturally occurring washed and graded clean sharp iron rich pit sand, free from impurities and in accordance with BS 1199 & 1200: 1996 table 1.

130 AGGREGATE

- Natural aggregates will be added to the sand to improve match with the existing material. Aggregates may be obtained from natural sands, gravels, brick, shells, chalk or flint, as appropriate.

140 WATER

- Must be clean, fresh and from the piped main.

150 COARSE STUFF MORTAR

- Must be carefully batched as coarse stuff gauged and mixed in accordance with best current practice. Additives shall not be used. Coarse stuff must be left for a minimum of 48 hours before knocking up for use and gauging with additives where specified. Mixing shall preferably be carried out by one man to produce consistent results.

FX2 REPOINTING BRICKWORK

200 RAKING OUT

- Rake out joints to twice the thickness of the joint or 30mm, whichever is the greater, using pointing chisels. Backing is to be kept square and clean, and the brick arises are to be clean and proud of the mortar joint.

210 PREPARATION

- Wet the backing to clean out the joint and prevent suction, using clean water.

220 MORTAR MIXES

- Shall be specified from one of the following:

- 1:3 – hydraulic lime NHL 3.5/coarse sand.

FX3 REBUILDING BRICKWORK

300 RE-USE OF BRICKS

- The type of bricks required are specified in the Schedule of Works. In facework, the re-use of existing bricks will be permitted only if these are sound and fit for their purpose.

310 BOND

- All brickwork is to be rebuilt in the existing bond and with matching coursing.

G12 ISOLATED STRUCTURAL METAL MEMBERS

10 STEEL SECTIONS AND PLATE

- Section properties and dimensions: To BS 4-1, BS EN 10055, BS EN 10056 or BS EN 10210, as appropriate.
- Steel: To BS EN 10025-2 or BS EN 10210-1, as appropriate.
- Surface condition: Free from heavy pitting and rust, burrs, sharp edges and flame cutting dross.
- Cuts and holes: Accurate and neat.
- Welding: Metal arc method to BS EN 1011-2.
- Welded joints: Fully fused, with mechanical properties not less than those of the parent metal.
- Site welding: Obtain approval when planning operations, observe hot working procedures and provide certificates at close of operations; work to be remote from buildings and flammable materials.

20 SHOP PRIMING

- Preparation: To BS EN ISO 12944-4. Remove fins, burrs, sharp edges and weld spatter, clean out crevices
- Surface finish: Manually cleaned to BS EN ISO 8501-1, grade St 2.
- Prepared surfaces: Keep in a dry atmosphere and apply first coating without delay.
- Priming:
- Primer: One coat zinc phosphate modified alkyd, minimum dry film thickness 40 micrometres.
- Application: To BS EN ISO 12944-7.

40 INSTALLATION

- Accuracy: Members positioned true to line and level using, if necessary, steel packs of sufficient area to allow full transfer of loads to bearing surfaces.
- Fixing: Use washers under bolt heads and nuts.
- Tapered washers: Provide under bolt heads and nuts bearing on sloping surfaces. Match taper to slope angle and align correctly.

G20 CARPENTRY/TIMBER FRAMING/FIRST FIXING

02 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests/plantations in accordance with:
- The laws governing forest management in the producer country or countries.
- International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
- Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
- Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.

05 STRUCTURAL SOFTWOOD

- Species: douglas fir heart wood.
- Grading standard: To BS 4978, BS EN 14081-1, or other national equivalent and so marked.
- Timber of a target thickness less than 100mm and not specified for wet exposure: Graded at an average moisture content not exceeding 20% with no reading being in excess of 24% and clearly marked as 'DRY' or 'KD' (kiln dried).
- Timber graded undried (green) and specified for installation at higher moisture contents: Clearly marked as 'WET' or 'GRN'.
- Treatment: none for heartwood.

07 STRUCTURAL HARDWOOD

- Species and origin: European Oak.
- Grading standard: To BS 5756 and so marked.
- See GX1/110.
- Finish: Planed for painting.
- Treatment: none.

08 OUTER BOARDING FOR CAP: new boarding for the Mill cap outer layer shall be "clear" grade Western Red Cedar air dried and with a moisture content not exceeding 20%.

10 UNGRADED SOFTWOOD

- Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
- Surface finish: planed for painting.
- Treatment: see Z12/45.

30 SELECTION AND USE OF TIMBER

- Timber members damaged, crushed or split beyond the limits permitted by their grading: Do not use.

32 NOTCHES, HOLES AND JOINTS IN TIMBER

- Notches and holes: Position in relation to knots or other defects such that the strength of members will not be reduced.
- Scarf joints, finger joints and splice plates: Do not use without approval.

35 PROCESSING TREATED TIMBER

- Cutting and machining: Carry out as much as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
- Surfaces exposed by minor cutting/drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

40 MOISTURE CONTENT

- Moisture content of wood and wood based products at time of installation: Not more than:
- Covered in generally unheated spaces: 24%.
- Covered in generally heated spaces: 20%.
- Internal in continuously heated spaces: 20%.

41 BOLT/SCREW ASSEMBLIES

- Nuts and washers: Material grade and finish to suit bolts
- Washer dimensions: Diameter/side length of washers in contact with timber faces to be minimum 3 times bolt diameter, with a thickness not less than 0.25 times bolt diameter.

43 BOLTED JOINTS

- Bolt spacings (minimum): To BS EN 1995-1-1, section 8.5.
- Holes for bolts: Located accurately and drilled to diameters as close as practical to the nominal bolt diameter and not more than 2mm larger.
- Washers: Placed under bolt heads and nuts that would otherwise bear directly on timber. Use spring washers in locations which will be hidden or inaccessible.
- Bolt tightening: So that washers just bite the surface of the timber. Ensure that at least one complete thread protrudes from the nut.
- Checking: At agreed regular intervals. Tighten as necessary.

50 ADDITIONAL SUPPORTS

- Provision: Position and fix additional studs, noggings and/or battens to support edges of sheet materials, and wall/floor/ceiling mounted appliances, fixtures, etc. shown on drawings.
- Material properties: Timber to be of adequate size and have the same treatment as adjacent timber supports.

GX1 Conservation Carpenter

MATERIALS

100 PRESSURE IMPREGNATION

- With the exception of boxed oak and pine heartwood, all new wood is to be pressure impregnated against attack by wood boring beetle and wet and dry rot fungi, using the "Protim 418" or equivalent, double vacuum method, high hazard cycle for roof timbers (medium hazard cycle for joinery and works accessible from ground level). Comparable treatments may be acceptable subject to written confirmation of comparability.
- Treatment to all timbers to be decorated (eg: exposed roof boarding) must be non-water repellent grade and steps must be taken to protect from weather on site.
- All cut ends must be treated with similar preservative prior to fixing in position.
- Certificates of pressure impregnation are to be retained for inspection by the architect.
- All timber is to be air dry (25%) before incorporation in the work.

110 OAK

- Unless otherwise specified, oak shall be minimum 5 year seasoned English oak with a maximum moisture content of 12% to comply with BS 7359 1991. Two to five year seasoned material will only be permitted with the express approval of the CA; allow for 5 year oak in tender. All oak is to be free from shakes, splits, dead knots and other natural defects and fit for its purpose.

120 SOFTWOOD : Softwood for Mill parts and structural works should comply with BS 7359 1990 and shall be Baltic pine (*Pinus sylvestris*) or Siberian Larch air dried and with a moisture content not exceeding 20%, slow grown with minimum 12no growth rings per inch, free from natural defects and fit for its purpose. Select the timber and convert logs for end use specified. Stress grade SS.

125 BOARDING FOR CAP: new boarding for the Mill cap shall be "clear" grade Western Red Cedar air dried and with a moisture content not exceeding 20%.

130 OLD TIMBERS

- The re-use of any timbers in new positions shall not be permitted without the express consent of the CA. No timber is to be rejected from the site without the CA approval.

140 BOLTS

- Nuts, bolts and timber connectors etc. shall be stainless steel.

150 SCREW FASTENINGS

- Screw fastenings shall be brass or stainless steel natural finish in tower and concealed areas, and polished where visible in all other areas or stainless steel, as specified BS1210.

160 NAIL FIXINGS

- Nail fixings shall be stainless steel or non-ferrous, as specified BS 1202 and BS EN 150 3506-1:2009.

WORKMANSHIP

170 TREATMENT OF EXISTING TIMBERS

- Where specified in the schedule of works or by CA's instruction clean by natural bristle brush and drench all timbers with "Protim 418" or equivalent preservative fluid using a low pressure high volume spray and applying it in strict accordance with the manufacturer's instructions.
- Check all timbers for signs of beetle infestation, dry rot and wet rot and notify the architect. No timbers are to be removed without the CA's consent.
- Where existing timbers are decorated, no treatment is to take place without the CA approval.

190 SCARF JOINTS

- Scarf new ends to defective rafters where specified using new matching timber. Length of scarf to be two and a half to three times the depth of the timber member. Saw cuts to be straight and level, returned each end as shown in sketch detail. Bolt through joint at least four times, perpendicular to the scarf, staggering holes to even out the stress on the grain. All cut ends to be brushed or sprayed with timber preservative to the point of saturation.

200 TENONS

- Shape new tenons to allow slight play, whilst forming shoulders to make a tight fit in the morticed member. Tenons are to be drilled separately from mortices to allow for tightening of the joint as the peg is inserted.

210 PEGS

- Re-peg exposed joints where specified using new beech or oak octagonal tapered pegs dry, dry to 10% moisture content, at least one and a half times the length of the peg hole and cut flush only where necessary to fix overlying timbers.

220 ROOF BOARDING AND DECKING

- Board size to match existing, all nails to be punched below the surface of the boards to prevent damage to coverings.

HX1 Conservation Leadwork

MATERIALS

100 FLASHINGS AND SOAKERS AT JUNCTIONS

- Shall be code 2 (red colour coding) milled lead strip to BS 1178: 1982, unless otherwise specified in the schedule of work.

140 COPPER CLIPS

- Copper clips for fixing should be min 50mm wide, cut from min 0.6 gauge sheet to BS 2870 (1980) temper grade ¼mm. Exposed faces to be tinned.

150 NAILS AND SCREWS

- Nails shall be copper clout nails with jagged shanks to BS 1202 (1974) part 2 table 2, not less than 25mm long or 10 SWG shank diameter.
- Screws shall be brass or stainless steel to BS 1210 (1963) not less than 25mm long or 10 SWG.

240 SURFACE TREATMENTS AND CLEANING

- No surface treatment shall be given to any leadwork unless specified.
- If specified, by CA's instruction patination coat shall be applied immediately leadwork is complete and cooled from any leadburning, to Lead Development Association's specification.

250 LEADBURNING, SAFETY AND HOT WORKING

- No leadburning or other welding of metalwork is to be done anywhere within 5m of any building or flammable material on the site.

MX5 Specialist Paint Systems

MATERIALS

100 BITUMINOUS PAINTS (COLD APPLIED)

Bituminous paint for cold application shall be to BS 3416: 1991.

110 UNDERCOATS

- Undercoats shall in all cases be those recommended by the manufacturers for use in the relevant paint system and must be used as directed by the manufacturer.

120 PRIMERS

- Primers shall be those recommended by the manufacturer for use on a particular surface in a particular location. Metal primers containing red lead shall comply with BS 2523: 1966, those containing aluminium with BS 4756: 1971, and calcium plumbate with BS 3698: 1964.

140 SPECIAL PAINT SYSTEMS

- Special paint systems shall be as specified and applied in strict accordance with the manufacturer's instructions.

150 BOILED LINSEED OIL

- Boiled linseed oil where specified shall be to BS 259: 1982.

WORKMANSHIP

160 - The CA will give specific instructions relating to any particular items not covered below.

- Preparation of backgrounds and applications of all materials must be strictly in accordance with the manufacturer's recommendations.

170 PREPARATIONS

- Painting must not be carried out during rain, fog, temperatures below 10°C or in humid conditions or when these are expected.
- All surfaces must be free from structural and superficial damp, condensation and efflorescence.
- Remove all rust, mill scale, weed, mould growth, fat / grease and loose paint films from metal surfaces. Apply rust inhibitor to heavily rusted areas. Ensure surfaces are pH neutral.
- No priming is to take place until preparation works have been completed and inspected by the CA.
- Protect all surfaces to prevent paint staining adjacent wall surfaces.
- Priming and undercoats must be allowed to harden before application of subsequent coats but not exposed for an undue period before applying finishing coats.
- All finishes must be applied by brush, except where otherwise specified or agreed.
- Thin paints only as recommended by the manufacturers.
- All finishing is to be in accordance with BS 6150:1991 or BS 5493: 1977, as applicable to the work.
- All painted edges of doors and windows are to be repainted.

FINISHING

270 TIMBER: PAINT ON TIMBER AND CANVAS SURFACES

- Preparation of existing surfaces in accordance with use of lead paints as advised by paint manufacturer (do not use wire wool).
- Kreidezeit Naturfarben GmbH Standoil or equal and approved (<http://www.kreidezeit.de/EnglischeVersion/ProdukteENG/MerkblaetterPDFeng/Stand%20Oil%20Paint-new.pdf>).
- Filler: use linseed oil putty where required.
- Ensure wood is thoroughly dried out before painting. Fill any cracks, holes or open joints. Knots should be treated with lead primer after removal of dust.
- After removal of dust and other loose particles, the surface should be primed with Kreidezeit Base Oil.
- Apply undercoat Stand Oil Paint Half Rich, white.
- Apply two coats Stand Oil Paint Rich, white.
- Allow for drying and curing times as advised in manufacturer's literature.
- Apply under cover in dry conditions, in temperatures not lower than 10 degrees Celsius maintain minimum temperature until paint finish has reached a dry but pliable state.

280 FERROUS METALS; IN YARD

- Preparation: blast clean to BS4232 second quality
- Galvanising: hot dip galvanise as specification clause Z11/58 where required by schedule of works.
- Prepare surfaces (do not use wire wool) to paint manufacturer's specification, thoroughly wash off and allow to dry.
- Apply Rustoleum Surfa-Etch 108 Etching solution to galvanized surfaces and wash off, allow to dry.
- Prime. Dulux red oxide primer.
- Finishing system: apply one undercoat no 1060/1080 and two topcoats Alkythane 7500 white or black as schedule of works by Andrews Coatings Ltd, Carver Building, Littles Lane, Wolverhampton, West Midlands WV1 1JY tel 01902 429190.
- Apply under cover in dry conditions, in temperatures not lower than 5 degrees Celsius maintain minimum temperature until paint finish has reached a dry but pliable state.

285 FERROUS METALS; IN SITU

- Preparation and priming: degrease the surfaces, wash down and allow to dry and powder or hand tool clean to Swedish Standard ST3 (do not use wire wool).
- Prime. Dulux red oxide primer.
- Finishing system: apply one undercoat no 1060/1080 and two topcoats Alkythane 7590 white or black as schedule of works by Andrews Coatings Ltd, Carver Building, Littles Lane, Wolverhampton, West Midlands WV1 1JY tel 01902 429190.
- Apply under cover in dry conditions, in temperatures not lower than 5 degrees Celsius maintain minimum temperature until paint finish has reached a dry but pliable state.

290 EXTERNAL WALLING

- Preparation renew all loose finishes and organic material, remove dust and ensure are clean and sound to take new paint, to paint manufactures specification.
- Apply priming coat to all base masonry surfaces and two coats generally of Marl Coatings High Opacity masonry paint, colour black <https://www.marlcoatings.co.uk/high-opacity-external-masonry-coatings.html>

300 BELZONA MEMBRANE AND PAINT SYSTEM INFORMATION SHEETS

310 See information on the following pages.

PRODUCT SPECIFICATION SHEET

BELZONA 3111

FN10162



GENERAL INFORMATION

Product Description:

A single component formulated acrylic ester copolymer emulsion. It is used in conjunction with **Belzona 3911** (PSC Surface Conditioner), **Belzona 3912** (Water Based PSC Surface Conditioner) or **Belzona 3921** (GSC Surface Conditioner) and **Belzona 9311** (Reinforcing Sheet).

This liquid base binds to the **Belzona 9311** to form a tough, flexible and elastic polymeric film which can tightly follow all roof contours. For preventive maintenance and repairs, the system provides long term weatherproofing and water-proofing of almost all types of roof substrate and offers outstanding protection against infrared and ultra-violet radiation, and natural and industrial pollutants. It is impermeable to liquid water, but permeable to water vapor, thus allowing a moist roof to breathe. Also used to water and weather proof non-roof structures such as storage tank bases.

Application Areas:

When applied as detailed in the Belzona Instructions for Use (IFU), the system is ideally suited for application to the following:

- Gutters
- Joints
- Ponded Areas
- Parapet Walls
- Seams
- Flat Roof Areas
- Glazing Bars
- Flashings
- Complex Roofs and Domes
- Tank Base Sealing

APPLICATION INFORMATION

Drying Time

Applied under good drying conditions, will be water resistant within 30 minutes of application. Under cool or humid conditions, this time will be extended. The product should not be applied when the relative humidity is above 90% or the surface temperature is below 41°F (5°C).

Coverage Rates

The first layer is applied to a dry film thickness of 10 mil (250 micron). This dry film thickness measurement includes the synthetic reinforcing sheet. The second layer should be applied to a dry film thickness of 6 mil (150 micron), giving an overall film thickness of approximately 16 mil (400 micron). Refer to the IFU for a guide to practical coverage rates.

Properties

Appearance

Color

Odor

Density

Gel strength at 77°F (25°C)

Freezing point

Volatile by volume

Thixotropic liquid
Available in Gray, White and Sand
Very slight ammoniacal
1.235 - 1.275 g/cm³
80 - 110 g/cm
32°F (0°C)
38.0%

The above application information serves as introductory guide only. For full application details including the recommended application procedure/technique, refer to the Belzona IFU which is enclosed with each packaged product.

PRODUCT SPECIFICATION SHEET

BELZONA 3111

FN10162



ELONGATION PROPERTIES

The elongation of the reinforced system after 7 days cure at 68°F (20°C) when tested against BS 2782 or similar test method is typically:

20% lengthwise,
100% crosswise.

TEAR STRENGTH

The Tear Strength of the reinforced system after 7 days cure at 68°F (20°C), when tested in accordance with ASTM D624, will typically be:

188 pli (33.0 N/mm) lengthwise,
188 pli (33.0 N/mm) crosswise

TENSILE PROPERTIES

Tensile Strength
The tensile strength of the reinforced system after 7 days at 68°F (20°C) when tested against BS 2782 or similar test method is typically:

1450 psi (10.0 N/mm²) lengthwise,
580 psi (4.0 N/mm²) crosswise

VAPOR RESISTANCE

The vapor resistance of the reinforced system after 7 days cure at 68°F (20°C) is typically 33 MN/sg

WATER VAPOR PERMEABILITY

When tested in accordance with ASTM E96 the fully reinforced system after 7 days cure at 68°F (20°C) will have the following typical values:

Water vapor permeability 30g/m²/24hrs
Permeance 2.16 US Perms

SHELF LIFE

When stored in unopened containers between 41°F (5°C) and 86°F (30°C), this material is expected to have a shelf life of at least 5 years.

APPROVALS/ACCEPTANCES

The material has received recognition from organizations worldwide including:

FORD
GENERAL MOTORS



CHANGE FOR THE BETTER WITH ENERGY STAR



0836

Belzona Polymers Ltd
Harrigate HG1 4DS
UNITED KINGDOM

05
ETA-05/0075

External fire performance - NPD⁽¹⁾
Reaction to fire - Euroclass F

PRODUCT SPECIFICATION SHEET

BELZONA 3111

FN10162



WARRANTY

Belzona guarantees this product will meet the performance claims stated herein when material is stored and used as instructed in the Belzona Information For Use leaflet. Belzona further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognised standards (ASTM, ANSI, BS, DIN, ISO etc.). Since Belzona has no control over the use of the product described herein, no warranty for any application can be given.

AVAILABILITY AND COST

Belzona 3111 is available from a network of Belzona Distributors throughout the world for prompt delivery to the application site. For information, consult the Belzona Distributor in your area.

MANUFACTURER

Belzona Polymerics Ltd.
Claro Road, Harrogate,
HG1 4DS, UK

Belzona Inc.
2000 N.W. 88th Court,
Miami, Florida, USA, 33172

HEALTH AND SAFETY

Prior to using this material, please consult the relevant Material Safety Data Sheets.

TECHNICAL SERVICE

Complete technical assistance is available and includes fully trained Technical Consultants, technical service personnel and fully staffed research, development and quality control laboratories.

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Belzona 3111 - Product Specification Sheet

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Printed in England Publication No. 15-01-14
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Belzona® 3921

(GSC SURFACE CONDITIONER)



INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

- a) **MANUALLY PREPARED STEELWORK**
All loose adherent and flaking rust should be removed by scraping and wire brushing, wherever possible with the aid of mechanical equipment, until a firm edge is obtained. Where the steel to be treated is contaminated by chemicals, it must first be thoroughly cleaned. In the case of water soluble materials, e.g. metal salts, this can be done by repeated washing by water jet. In the case of oils, grease or other solvent soluble contaminants, the steel should be washed repeatedly with **Belzona® 9111** or other suitable cleaner such as MEK, and must be allowed to completely evaporate prior to application of the **Belzona® 3921**.

- b) **GRIT BLASTED STEELWORK**
Steel contaminated by chemicals should first be thoroughly cleaned using a high pressure water jet whilst steel contaminated by oil, grease etc. must first be thoroughly washed down with **Belzona® 9111** or other suitable cleaner such as MEK. Select an abrasive to give the necessary standard of cleanliness and a minimum depth of profile of 3 mils (75 microns). Use only an angular abrasive

Blast clean the metal surface to achieve the following standard of cleanliness:
ISO 8501-1 Sa 2½ very thorough blast cleaning.
American Standard near white finish SSPC SP 10.
Swedish Standard Sa 2½ SIS 05 5900.

- c) **GLASS, SLATE, LEAD, COPPER, ALUMINIUM and other NON-POROUS SURFACE EXCEPT PLEXIGLAS and other PLASTICS.**
Brush away loose contamination and degrease with a rag soaked in **Belzona® 9111** (cleaner/degreaser) or any other effective cleaner which does not leave a residue e.g. methyl ethyl ketone (MEK).

2. COMBINING THE REACTIVE COMPONENTS

Stir the contents of the Base container thoroughly to reincorporate any settlement. Shake the Solidifier container. Pour the contents over the Base in the mixing unit. Mix thoroughly together to achieve a uniform material free of any streakiness.

WORKING LIFE

Use mixed material within 48 hours, as after this time it will begin to solidify.

MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 3921** use:
5 parts Base to 2 parts Solidifier by volume.

3. APPLYING BELZONA® 3921

FOR BEST RESULTS

Do not apply when:

- i) Rain, snow, fog or mist is present.
- ii) The temperature is below 41°F (5°C) or the relative humidity is above 80%.
- iii) A combination of high relative humidity and low temperature occurs.
- iv) Any of the above conditions is likely to occur within 45 minutes.

Brush the **Belzona® 3921** well into the surface, not exceeding the recommended coverage rate.

Clean brushes immediately after use with a suitable solvent such as **Belzona® 9121**, MEK, acetone or cellulose thinners.

THINNING

Thinning may be necessary in warm, dry or windy conditions. **Belzona® 3921** may be thinned by adding 10% by volume of **Belzona® 9121**. Standard coverage rates apply, regardless of whether or not thinning takes place.

Substrate	Coverage rate
Iron / Steel	5.6 m ² / kg.
Galvanised Steel	6.5 m ² / kg.
Non-ferrous metals	7.4 m ² / kg.
Slate	4.6 m ² / kg.
Glass	7.4 m ² / kg.

Belzona® 3921 may be spray applied only to grit blasted steelwork.

A typical spray set-up for **Belzona® 3921** using a Pressure Feed spray gun is:-

DeVibloss JGA 502-1, No 54 air cap,
Atomising pressure 40-50 p.s.i. (2.8-3.5 kg/cm²)
Pot pressure 10-20 p.s.i. (0.7-1.4 kg/m²)
with air supply 9.7 cu.ft./min (0.27 m³/min).

CLEANING

Clean all application equipment immediately after use with **Belzona® 9121**. It is not satisfactory to simply soak equipment in **Belzona® 9121** as **Belzona® 3921** continues to harden chemically even when immersed.

OVERCOATING

Belzona® 3921 may be overcoated after leaving for at least 4 hours, but no longer than 48 hours. If left longer than 48 hours a further coat of **Belzona® 3921** should be applied and left for the previously recommended times.

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Belzona® 3921 - Instructions For Use - (2)

Printed in England Publication No. 39-3-04



World leaders in the conservation of man-made resources and the environment

PRODUCT
SPECIFICATION
SHEET
BELZONA® 3921

1. PRODUCT NAME
Belzona® 3921
(GSC Surface Conditioner)

2. MANUFACTURER

Belzona Inc.,
2000 NW 88th Court,
Miami, Florida 33172.

Belzona Polymerics Ltd.,
Claro Road, Harrogate,
HG1 4AY, England.

3. PRODUCT DESCRIPTION

A two part reduced zinc epoxy system providing corrosion protection to steel-work. Adheres to a wide range of non-porous surfaces. Part of the **Belzona® 3111** and **Belzona® 3211** system when application is to non-porous surfaces. Also used as a holding primer on steel prior to application of coating such as **Belzona® 5811**.

Use on:

- Iron/steel
- Galvanised steel
- Non-ferrous metals
- Slate
- Glass
- GRP/FRP

4. TECHNICAL DATA

Base Component:

Appearance Semi-thixotropic liquid
Color Gray
Odor
Solvent
Viscosity 2.5 - 4.5 poise
Density 2.24 - 2.28 g/cm³

Solidifier Component

Appearance Mobile liquid
Color Cream
Odor Solvent
Density 0.99 - 1.03 g/cm³
Viscosity (flow cap) 55 - 85 sec.
77°F (25°C)

Mixed Components

Mixing Ratio by Volume
(Base : Solidifier) 2.235 : 1
Mixing Ratio by Weight
(Base : Solidifier) 5 : 1
Density 1.87 g/cm³
Appearance Liquid
Color Gray
Odor Solvent

• **VOC Content:**

	lbs/US gal	g/liter
Base	3.41	408
Solidifier	5.37	643
Mixed	3.96	475

• **Shelf Life:**

Separate base and solidifier components will have a guaranteed minimum shelf life of 3 years when stored between 32°F (0°C) and 86°F (30°C).

• **Working Life:**

Once mixed the usable life will vary with temperature.
50°F (10°C) 72 hours
68°F (20°C) 48 hours
86°F (30°C) 24 hours

• **Coverage Rate:**

The practical recommended coverage rates are as follows:

Substrate	Coverage rate
Iron / Steel	60 sq.ft. (5.6 m ² /kg)
Galvanised Steel	70 sq.ft. (6.5 m ² /kg)
Non-ferrous metals	80 sq.ft. (7.4 m ² /kg)
Slate	50 sq.ft. (4.6 m ² /kg)
Glass	80 sq.ft. (7.4 m ² /kg)

• **Overcoating Times:**

Belzona® 3921 may be overcoated after leaving for at least 4 hours, but no longer than 48 hours. If left longer than 48 hours a further coat of **Belzona® 3921** should be applied and left for the previously recommended times.

5. PHYSICAL / MECHANICAL PROPERTIES

Determined after 7 days cure at 77°F (25°C).

• **dhesion**

Cross Hatch

When tested in accordance with BS 3900 Part E6 a 100% pass is obtained.

Tensile Shear

When tested in accordance with ASTM D1002 the typical tensile shear adhesion obtained is 1150 psi (80 kgs/cm²).

• **Chemical Resistance:**

If the **Belzona® 3921** system is likely to come into contact with aggressive chemicals, **Belzona® 5111** or **Belzona® 5811** should be used to overcoat the **Belzona® 3921**.

For further details contact your Local Belzona Technical Consultant.

• **Impact Resistance :**

When tested in accordance with BS 3900 Part E3 a pass is obtained up to 1/20 inch (1.25 mm).

6. SURFACE PREPARATION AND APPLICATION PROCEDURES

For proper technique, refer to Belzona® Instructions For Use Leaflet which is enclosed with each packaged product.

7. AVAILABILITY AND COST

Belzona® 3921 is available from a network of Belzona® Distributors throughout the world for prompt delivery to the application site. For information, consult the Belzona® Distributor in your area.

8. WARRANTY

Belzona® guarantees this product will meet the performance claims stated herein when material is stored and used as instructed in the Belzona® Instructions For Use leaflet. Belzona® further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognised standards (ASTM, ANSI, BS, DIN, etc.). Since Belzona® has no control over the use of the product described herein, no warranty for any application can be given.

9. TECHNICAL SERVICES

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10. HEALTH AND SAFETY

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Belzona® 3921 - Product Specification Sheet - (2)

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Belzona 3111

FN10162 (FLEXIBLE MEMBRANE)



INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO STRUCTURALLY SOUND SURFACES

- a) Remove mineral chippings of ¼ in. (6mm) or more and sweep the area clean before proceeding to (b).
- b) All surfaces should be made clean, dry and firm. Cut out blisters and bulges in asphalt. Treat substrates where moss, lichens and vegetation have been removed with a fungicidal wash (e.g. Nuodex or similar) applied to the manufacturers' instructions to kill off residual spores.
- c) Degrease galvanized steel and glass with **Belzona® 9111** (Cleaner/Degreaser) or any other effective cleaner which does not leave a residue, e.g. methyl ethyl ketone (MEK). Wash all non-porous surfaces with a mild detergent solution and allow to dry before commencing application.

- d(i) **ROOFING FELT, ASPHALT, BRICK, CONCRETE and OTHER POROUS OR BITUMINOUS SURFACES.**
Condition with **Belzona® 3911** (PSC Surface Conditioner). Shake the unit and then brush the **Belzona® 3911** well into the surface, not exceeding the coverage rates shown. Allow to become touch dry (30 minutes - 4 hours depending on weather conditions) before applying **Belzona® 3111**. Under no circumstances should the **Belzona® 3911** be left longer than 2 days* before overcoating with **Belzona® 3111**.

- d(ii) **GLASS, SLATE, LEAD, COPPER, ALUMINIUM and other NON-POROUS SURFACE EXCEPT PLEXIGLAS AND OTHER PLASTICS.**
Condition with **Belzona® 3921** (GSC Surface Conditioner) which is supplied in 2 parts, Base and Solidifier. Stir the contents of the Base can until smooth and then add the entire contents of the Solidifier can, stirring continuously to achieve an even color and smooth consistency. Use mixed material within 48 hours, as after this time it will begin to solidify. For mixing small quantities, use a ratio of 7 parts of Base to 2 parts of Solidifier by volume. Brush the **Belzona® 3921** well into the surface, not exceeding the recommended coverage rate. Leave for at least 4 hours but no longer than 2 days* before overcoating with **Belzona® 3111**.

- d(iii) **Refurbishment of existing Belzona® 3111.**
Wash down with water to remove all surface dirt before conditioning with **Belzona® 3921**, as before, and applying **Belzona® 3111**.

- d(iv) Clean brushes immediately after use with a suitable solvent such as **Belzona® 9121**, MEK, acetone or cellulose thinners.

* If these times are exceeded, a further application of the relevant Surface Conditioner should be made before applying the **Belzona® 3111**.

2. APPLYING BELZONA® 3111

DO NOT APPLY WHEN:

- i) There is a risk of rain, snow, fog or frost.
- ii) Surface temperature is 41°F (5°C) and falling, or relative humidity rises above 80%.
- iii) A combination of high relative humidity and low temperature occurs.
- iv) Any of the above conditions is likely to occur within 45 minutes.

A fully reinforced two-coat system must be applied at problem areas such as joints and seams, gutters, flashings and glazing bars, areas subject to ponded water or pedestrian traffic and on all unstable roof surfaces such as mineral felt, asphalt or bitumen based materials. On inclined or stable roof surfaces, e.g. concrete, which are not subject to ponding or pedestrian traffic, single or two coat unreinforced applications are acceptable.

- a) Lay out **Belzona® 9311** (Reinforcing Sheet) over the conditioned area to be treated. Apply **Belzona® 3111** with a soft bristled, good quality brush over the **Belzona® 9311**. Smooth over with the brush to ensure complete wetting, and to leave a finish free from stretches or creases in the **Belzona® 9311**. Do not exceed the quoted coverage rate. Allow to dry thoroughly (2 - 4 hours).

In areas subject to standing water, allow to dry for a minimum 24 hours. In no instance must more than 5 days elapse before application of the second coat. Should this occur, treat the surface with **Belzona® 3921** prior to applying the second coat of **Belzona® 3111**. Where **Belzona® 3111** white is being used, two coats will be required to obliterate the color of the **Belzona® 3921**.

- b) Apply the second layer of **Belzona® 3111** to give a smooth finish, free from pinholes, not exceeding the quoted coverage rate.
- c) Clean brushes immediately after use with cold water.
- d) If, during the 24 hours following application of the second layer, rainfall causes standing water, sweep this clear to minimize any blistering between the layers. Cut out any blisters, and treat affected areas with a two coat reinforced system, as detailed above.

NOTES:

1. BRIDGING JOINTS AND CRACKS

Use plastic backed adhesive tape to bridge joints in gutters, expansion cracks on flat roofs or any other surface irregularities, to provide a smooth surface.

Apply the tape to the conditioned surface and make sure that it is pressed down firmly.

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2. DRYING TIMES

Under good drying conditions **Belzona® 3111** will be water resistant 30 minutes after application, but under cold or humid conditions, this time will be extended.

3. THINNING

Thinning may be necessary in warm, dry or windy conditions. Add clean water to **Belzona® 3111**, up to a maximum of 5% by volume, while continuously stirring. **Belzona® 3911** and **Belzona® 3921** may be thinned by adding 10% by volume of **Belzona® 9121**. Standard coverage rates apply, regardless of whether or not thinning takes place.

An alternative method of application under quick drying conditions is to wet the rolls of **Belzona® 9311** in a bucket of clean water prior to laying out on the roof section.

A film of water can be poured onto the surface of the **Belzona® 3111** to prevent skinning during hot conditions. This also has the effect of thinning as the brush is passed through this film.

4. UNEVEN FINISH

If an uneven finish results from overbrushing, correct this by lightly brushing over the partially dried area with a clean, wet, soft bristled brush.

5. SPRAY APPLICATION

On suitable surfaces **Belzona 3111** can be applied by airless spray.

Tip pressure (minimum)	2000 psi (142 bar)
Tip size (minimum)	23 thou (0.57mm)
Thinner	Up to 5% Clean water
Cleaning	Water
Note:	Remove filters

3. COVERAGE RATES

Theoretical Coverage Rates

Belzona® 3911 - 110 sq.ft. (10.2 sq.m.)/liter at 1 mil d.f.t.

Belzona® 3921 - 67 sq.ft. (6.3 sq.m.)/kg at 1.3 mil d.f.t.

Belzona® 3111

1st Layer - 23 sq.ft. (2.1 sq.m.)/liter at 10 mils d.f.t.

Belzona® 3111

2nd Layer - 35 sq.ft. (3.2 sq.m.)/liter at 6.0 mils d.f.t.

These coverage rates can be achieved on smooth surfaces. In practice, many factors influence the exact figure achieved. Practical coverage rates are quoted below.

	Surface Conditioner		Belzona® 3111 (Reinforced System)	
	Belzona® 3911 Per Liter	Belzona® 3921 Per Kg	1st Layer Per Liter	2nd Layer Per Liter
New Asbestos Cement	100.0 sq.ft. 9.3 sq.m.		21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Old Asbestos Cement	50.0 sq.ft. 4.6 sq.m.		16.0 sq.ft. 1.5 sq.m.	33.0 sq.ft. 3.0 sq.m.
Plaster/Wood	75.0 sq.ft. 7.0 sq.m.		19.0 sq.ft. 1.7 sq.m.	33.0 sq.ft. 3.0 sq.m.
Concrete/Brick	45.0 sq.ft. 4.2 sq.m.		14.0 sq.ft. 1.3 sq.m.	33.0 sq.ft. 3.0 sq.m.
Breeze Block/Tyroleam	25.0 sq.ft. 2.3 sq.m.		11.0 sq.ft. 1.0 sq.m.	22.0 sq.ft. 2.0 sq.m.
Asphalt	100.0 sq.ft. 9.3 sq.m.		21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Smooth Felt/Bitumen	75.0 sq.ft. 7.0 sq.m.		21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Mineral Felt/Small Chippings	45.0 sq.ft. 4.2 sq.m.		14.0 sq.ft. 1.3 sq.m.	33.0 sq.ft. 3.0 sq.m.
De-chipped Surfaces (1)	25.0 sq.ft. 2.3 sq.m.		14.0 sq.ft. 1.3 sq.m.	33.0 sq.ft. 3.0 sq.m.
Glazing Bars (Wood)		38.0 sq.ft. 3.5 sq.m.	14.0 sq.ft. 1.3 sq.m.	33.0 sq.ft. 3.0 sq.m.
Glazing Bars (Metal)		60.0 sq.ft. 5.6 sq.m.	21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Slate		38.0 sq.ft. 3.5 sq.m.	12.0 sq.ft. 1.1 sq.m.	24.0 sq.ft. 2.2 sq.m.
Galvanized Steel		54.0 sq.ft. 5.0 sq.m.	21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Non-Ferrous Metals		60.0 sq.ft. 5.6 sq.m.	21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Iron or Steel		45.0 sq.ft. 4.2 sq.m.	21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.
Recoating Belzona® 3111		60.0 sq.ft. 5.6 sq.m.	21.0 sq.ft. 1.9 sq.m.	33.0 sq.ft. 3.0 sq.m.

(1) Large chippings, if not removed, will substantially reduce the coverage rates given above.

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ISO 9001:2008
Q 09335
ISO 14001:2004
EMS 509612

Manufactured under an ISO 9000
Registered Quality Management System



Z10 PURPOSE MADE JOINERY

10 FABRICATION

- Standard: To BS 1186-2.
- Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
- Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
- Joints: Tight and close fitting.
- Assembled components: Rigid. Free from distortion.
- Screws: Provide pilot holes. Heads of countersunk screws sunk at least 2mm below surfaces visible in completed work.
- Adhesives: Compatible with wood preservatives applied and end uses of timber.

20 CROSS SECTION DIMENSIONS OF TIMBER

- General: Dimensions on drawings are finished sizes.
- Maximum permitted deviations from finished sizes:
- Softwood sections: To BS EN 1313-1.
- Hardwood sections: To BS EN 1313-2.

30 PRESERVATIVE TREATED WOOD

- Cutting and machining: Completed as far as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
- Surfaces exposed by minor cutting and/or drilling: Treat as recommended by main treatment solution manufacturer.

40 MOISTURE CONTENT

- Wood and wood based products: Maintained within range specified for the component during manufacture and storage.

50 FINISHING

- Surfaces: Smooth, even and suitable to receive finishes.
- Arrises: Eased unless shown otherwise on drawings.
- End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.

Z11 PURPOSE MADE METALWORK

31 METAL PRODUCTS

- Grades of metals, section dimensions and properties: To the appropriate British Standards and suitable for the purpose.
- Fasteners: Generally, same metal as component, with matching coating and finish.

FABRICATION

50 PREPARATION FOR APPLICATION OF COATINGS

- General: Complete fabrication, and drill fixing holes before applying coatings.
- Paint, grease, flux, rust, burrs and sharp arrises: Remove.

51 FABRICATION GENERALLY

- Contact between dissimilar metals in components: Avoid.
- Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
- Moving parts: Free moving without binding.
- Corner junctions of identical sections: Mitre.
- Prefinished metals: Do not damage or alter appearance of finish.

52 COLD FORMED WORK

- Profiles: Accurate, with straight arrises.

53 WELDING AND BRAZING GENERALLY

- All welding must be off site: hot working on site is strictly prohibited.
- Surfaces to be joined: Clean thoroughly.
- Tack welds: Use only for temporary attachment.
- Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
- Surfaces of materials that will be self-finished and visible in completed work: Protect from weld spatter.
- Flux residue, slag and weld spatter: Remove.

54 WELDING OF STEEL

- Method: Metal arc welding to BS EN 1011-1 and -2.

56 FINISHING WELDED AND BRAZED JOINTS VISIBLE IN COMPLETE WORK

- Butt joints: Smooth, and flush with adjacent surfaces.
- Fillet joints: Neat.
- Grinding: Grind smooth where indicated on drawings.

58 GALVANIZING

- Standard: To BS EN ISO 1461.
- Vent and drain holes:
- Location: agree with the CA before manufacture.
- Sealing after galvanizing: Required. Submit proposals.

Z12 PRESERVATIVE TREATMENT

10 TREATMENT APPLICATION

- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
- Certification: For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

20 COMMODITY SPECIFICATIONS

- Standard: Current edition of the Wood Protection Association (WPA) publication 'Industrial wood preservation specification and practice'.

25 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/TREATMENT CYCLES

- General: Select to achieve specified service life and to suit treatability of specified wood species.

45 ORGANIC SOLVENT PRESERVATIVE TREATMENT

- Solution:
- Manufacturer: Protim
- Product reference: 418
- Application: Double vacuum + low pressure impregnation for sections under 50 x 50mm, or immersion.
- Moisture content of wood:
- At time of treatment: As specified for the timber/component at time of fixing.
- After treatment: Timber to be surface dry before use.

70 MAKING GOOD TO PROTECTION TREATMENT ON SITE

- Preservative solution: Compatible with off-site treatment.
- Application: In accordance with preservative manufacturer's recommendations.

Z20 FIXINGS AND ADHESIVES

10 FIXINGS AND FASTENERS GENERALLY

- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers or sleeves to avoid bimetallic corrosion.
- General usage: To recommendations of fastener manufacturers and/or manufacturers of components, products or materials fixed and fixed to.
- Fixings: To be in straight lines, at regular centres.

25 FASTENER DURABILITY

- Materials: To have:
 - Bimetallic corrosion resistance appropriate to items being fixed.
 - Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

30 FIXINGS THROUGH FINISHES

- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

35 PACKINGS

- Materials: Noncompressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

40 CRAMP FIXINGS

- Fasteners: Fix cramps to frames with screws of same material as cramps.
- Fixings in masonry work: Fully bed in mortar.

50 PELLETED COUNTERSUNK SCREW FIXINGS

- Finished level of countersunk screw heads: Minimum 6mm below timber surface.
- Pellets: Cut from matching timber, grain matched, glued in to full depth of hole.
- Finished level of pellets: Flush with surface.

55 PLUGGED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6mm below timber surface.
- Plugs: Glue in to full depth of hole.
- Finished level of plugs: Projecting above surface.

60 APPLYING ADHESIVES

- Surfaces: Clean. Regularity and texture to suit bonding and gap filling characteristics of adhesive.
- Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Z21 MORTARS

10 MORTAR MIXES

- Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

20 SAND FOR SITE MADE MASONRY MORTARS

- Standard: To BS EN 13139.
- Grading: 0/2 (FP or MP).
- Fines content where the proportion of sand is specified as a range (e.g. 1:1: 5-6):
Lower proportion of sand: Use category 3 fines.
Higher proportion of sand: Use category 2 fines.
- Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

40 CEMENTS FOR MORTARS (CAP KERB BRICKWORK ONLY)

- Cement: To BS EN 197-1 and CE marked.
- Types: Portland cement, CEM I.
- Strength class: 32.5

60 MAKING MORTARS GENERALLY

- Batching: By volume. Use clean and accurate gauge boxes or buckets.
- Mix proportions: Based on dry sand. Allow for bulking of damp sand.
- Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
- Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
- Contamination: Prevent intermixing with other materials.

70 MAKING HYDRAULIC LIME: SAND MORTARS

- Mixing hydrated hydraulic lime: sand: Follow the lime manufacturer's recommendations for each stage of the mix.
- Water quantity: Only sufficient to produce a workable mix.

SCHEDULE OF WORKS

PROJECT: REINSTATEMENT WORK, BURGH LE MARSH WINDMILL
6700/3

NOTES:

- 1 Location: The schedule of work is a separate Excel document, to be read in conjunction with this specification
- 2 Specification: All items are to be carried out in accordance with specification even where not expressly mentioned.
- 3 Preliminaries: The cost of preliminaries is to be shown at the relevant items and is assumed to include Contractor's profit
- 4 Prices to be all-in: Prices for items of work in the Schedule must include for all site operations, materials and workmanship, to complete the work in accordance with good current building practice.
- 5 Problems, discrepancies: Preliminaries, pre-amble trade clauses, Schedule of Works and drawings are to be read together. The Contract Administrator (CA) is to be notified immediately of any discrepancy found before work is put in hand.

TENDER DATE:

BURGH LE MARSH WINDMILL, LINCOLNSHIRE: REINSTATEMENT WORK

SCHEDULE OF WORKS

- | | | |
|-----|--|------|
| 1.0 | PRELIMINARIES: | |
| 1.1 | The contractor (millwright) will be the Principal Contractor under the CDM Regulations. Allow for all associated costs including the site phase Health and Safety plan, providing information for the Health and Safety file to the satisfaction of the CDM Principal Designer and carrying out all functions of the Principal Contractor under the regulations. | ITEM |
| 1.2 | Clear site: clear all plant, debris etc. and leave the site clean and tidy on completion of works. | ITEM |
| 1.3 | Recording: allow to provide "as built" record drawings of the works. These may take the form of updates of the contract drawings where relevant. | ITEM |
| 1.4 | 3D model: liaise with specialist survey company Surveyline Geomatics www.surveylinegeomatics.co.uk and provide information to inform an update of the existing 3D model to "as built" status, to a level 5 Revit model. | ITEM |
| 1.5 | Yard visits: allow for costs for monthly visits to the millwright's yard by the Contract Administrator's representatives to review progress, quality of work, discuss queries and agree extent of salvage and reuse of surviving parts. | ITEM |
| 1.6 | Other preliminaries: allow for all other preliminaries necessary to carry out the work: note that the contractor must make his own welfare arrangements including wc facilities. | ITEM |
| 1.7 | Contingency sum: allow the provisional sum of £20,000 for contingencies and unforeseen repairs to be spent in part or in whole solely on the written instructions of the contract administrator. | ITEM |

TO COLLECTIONS

- 2.0 **ACCESS AND PROTECTION:**
- 2.1 **Access for existing roof/cap removal and other removals:** allow for equipment for the removal of the existing roof. Assess all ground and other surfaces for safe bearing for the cranes and provide protection for the ground surfaces in bearing locations and over which vehicles will pass. Remove at close of working day. If cranes etc. remain on site overnight remove to one corner of the site and enclose in Heras fence. **ITEM**
- 2.2 **Access for reinstatement:** allow for two cranes and associated cherry picker as necessary for the reinstatement of the cap, sails, striking rod, fan etc. with ground protection. **ITEM**
- 2.3 **Scaffolding:** erect scaffolding for access and safety for work to the curb and the external walling. All pole ends to be pvc capped, scaffolding to be self supporting and self braced, clad lower 3m in corrugated steel sheet with entrance door on east side with secure padlocks. Return scaffolding close to adjacent buildings to prevent unauthorised access. Provide boarded lifts at cap level and at intermediate levels for repairs and for the redecoration of the exterior generally, with boarded lifts, toe boards, knee rails and guard rails; fix raking ladders above 3m height with ladder gates or traps. Provide ladders for daily access up to 3m from ground level, securely fix when in use. Remove ladders and lock in mill when not in use. Maintain during the course of the work and clear away on completion. **ITEM**
- 2.4 **Structural engineer's calculations:** provide calculations as specification clause A36/320 for the scaffolding by a suitably qualified structural engineer to demonstrate adequacy of design, with evidence of the engineer's professional liability insurance, as specification clause A36/320. **ITEM**
- 2.5 **Inspection:** allow for weekly scafftag inspections during the course of the work and provide copies (digital). **ITEM**
- 2.6 **Site fencing:** erect Heras fence to cordon off the site during working days with working Heras at ground level as necessary, to be agreed with the client. Access must be maintained at all times to the outbuildings, cafe etc. for the public and for staff except on pre-arranged crane days (for safety). Maintain during the course of work and clear away on completion. **ITEM**
- 2.7 **Lightning protection:** after installing ground electrodes, connect the scaffolding to the lightning protection system and provide an interim test certificate to show adequacy of earthing. Earth on two sides, opposite sides of the mill. Remove when scaffolding is removed and the cap, sails etc protection is functioning. See also items 6.4 and 9.13 (permanent lightning protection). **ITEM**

- 2.8 **Ground protection:** provide temporary matting/ track material as necessary for cranes and other equipment during lifting operations. Maintain during the course of work and clear away on completion. **ITEM**
- 2.9 **Existing mill parts / remains:** collect all elements of the former cap, sails, fantail and other elements from current storage in Dennington, Suffolk and transport to the millwright's yard. Include all loading /unloading costs, transportation hire/fuel/labour costs/cranage, escort costs for large elements. Make an inventory of parts removed before leaving Dennington to be countersigned as handed over, take detailed photos of items loaded before transportation on arrival and when unloaded and placed in workshop ready for work. Provide a copy of the inventory and photographs to the CA. **ITEM**
- 2.10 **Existing mill parts / remains at end of work:** return all unused metal parts to the mill for display as museum items. Dispose of timber parts not reused. Note that all parts must be reviewed with the Contract Administrator's representatives before decisions are taken not to reuse in the work. **ITEM**

TO COLLECTIONS

- 3.0 **CURB WORK**
- 3.1 **Cap temporary roof:** release the existing temporary roof; provide timber framing off the top floor to raise the roof above the kerbs high enough for curb work; rearrange holding down straps to suit. Form holes in floor for strapping as necessary and make good. Maintain during the course of work and clear away on completion. **ITEM**
- 3.2 **Temporary roof removal:** remove by crane in association with cap re-fitting and dispose of all parts off site. Make good all fixing locations. **ITEM**
- 3.3 **Existing curb:** release the existing iron curb, clean and salvage for inspection by CA and consultants. Machine the upper face of the track flat and level. Machine radial ends of segments to ensure radial fit and constant tooth pitch Machine lower face of segments flat and level. Machine inner face to accept centring wheels. **ITEM**
- 3.4 **Upper ring segments:** prepare patterns, cast provisional 4 no. new segments of curb in cast iron, set up at ground level in workshop and fettle to give precise and level circle. Allow credit of scrap value of iron to contract after new segments have been made. **ITEM**
- 3.5 **Curb support blocks (lower ring segments):** release existing cast iron blocks, salvage, for patterns, allow credit of scrap value of iron to contract after new curb has been made. Prepare patterns, cast new curb support blocks to give continuous 360-degree circle in cast iron, set up at ground level in workshop and fettle to give precise level circle: machine as item 3.3. Refix with new stainless steel holding down bolts. See items 6.4 and 9.16 for lightning protection works in association. **ITEM**
- 3.6 **Bolts:** provide 20 no. new bolts between upper and lower curb ring segments. **ITEM**
- 3.7 6 no. bolts upper curb end to end joints and fish plates. **ITEM**
- 3.8 6 no. bolts lower curb end to end joints. **ITEM**
- 3.9 20 no. upper ring fish plate bolts. **ITEM**
- 3.10 12 no. lower ring to tower bolts. **ITEM**
- 3.11 **Existing hold down bolts:** remove, liaise with CA and consultants for inspection; remove grease, rust and any paint finish, hot dip galvanize. **ITEM**
- 3.12 **Hold door bolt renewal:** allow extra over cost to renew the 6 no. hold down bolts in stainless steel if not capable of reuse. **ITEM**
- 3.13 **Brickwork between cast iron blocks:** dismantle existing brickwork, dispose off site. **ITEM**

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|------|--|------|---|
| 3.14 | Curb brickwork: remove provisional 2 courses of brickwork above the existing offset and renew in handmade red clay brick in 1:3 Portland cement /graded sand mix to give early and reliable strength for new curb support. Cut brickwork to suit levels of remaining courses below and to give level bedding of the curb. | ITEM | |
| 3.15 | Tower top brickwork: dismantle and rebuild provisional 4 no. courses of brick from offset downwards as may be needed after removal of the curb etc. Rebed, form new holes for tie rods and recesses for the kerb support blocks as necessary all in 1:3 Portland cement /graded sand mix mortar, bond as existing. | ITEM | |
| 3.16 | Brick renewal: renew provisional 50% of bricks removed at item 3.14 – 3.15, to match existing in size, texture and colour. | ITEM | |
| 3.17 | Hold down bolt brick work: allow provisional sum of £300 for additional work to the existing brickwork in association with the hold down bolt work. | ITEM | <div style="background-color: black; width: 60px; height: 20px; margin: 0 auto;"></div> |

TO COLLECTIONS

- 4.0 **CAP FRAME**
- 4.1 Return the cap frame after renewal and assemble for lifting. Make good any lifting positions through the boarding after lifting. **ITEM**
- 4.2 Transport the new fly stage, brake wheel, wind shaft and other gear inside the cap (see below), with the horns/puncheons at the sides of the frame, to site with all liaison with the police, provision of accompanying out riders etc. **ITEM**
- 4.3 **Review of parts at millwright's yard:** dismantle the parts, marking all parts for location. Review condition with CA before rejecting any parts. **ITEM**
- 4.4 **Sheers (AR and AL):** renew sheers in European oak, 315mm wide x 320mm high. Cut mortices for joints, drill holes for bolts and other fixings. Reassemble with other parts, wedge joints and fix wedges, refix tie bars etc. Cut sloping rebate in the front ends of the sheers to take new road baulk (weather beam) and restrict future rotation of the road baulk with new sword irons to shears. Prime and paint all parts of sheers outside the cap boarding. **ITEM**
- 4.5 **Road baulk (weather beam) (B) :** renew with mortices and fixings in European oak, cut rebates to engage with sheers (see 4.4) and restrict rotation. **ITEM**
- 4.6 **Internal tie irons (TT):** renew in mild steel with 2 no. coats red oxide primer. **ITEM**

TO COLLECTIONS

5.0	CAP ROOF AND FAN STAGE	
5.1	Pillow block (C): renew in European oak.	ITEM
5.2	Mullions (D, I): provisionally renew 2no. front mullions and 1no. rear mullion in European oak, tenon fix and peg.	ITEM
5.3	Sprattle beam, (F) headstock, (E) (inner tail beam) and tail beam (H): renew in European oak.	ITEM
5.4	Cap “horns” (puncheons) (G): renew in European oak.	ITEM
5.5	Rear threshold beam (J): renew in oak.	ITEM
5.6	Fan stage decking (K): renew in oak, sections as existing.	ITEM
5.7	Fan stage ladder (L,ZZ): renew ladder and both balustrades complete in oak heartwood, to revised details on drawings with stainless steel screws.	ITEM
5.8	Fan tail posts (spears) (M): renew in European oak with code 2 milled lead flashings at junctions with the cap; supply and fix 35mm diameter tie rods in stainless steel.	ITEM
5.9	Fan struts (spurns) (N): renew the two fan struts in oak heartwood, tenoned into the timberwork at head and foot, renew support blocks for gear drive.	ITEM
5.10	Lower tie beam (O): renew in oak heartwood, housed into the fan spears, paint joints before fixing.	ITEM
5.11	Pully rigger (chain pulley spar) (P): renew in European oak heartwood.	ITEM
5.12	Pulley rigger bracket (Q): renew beam below the chain pulley spar in oak heartwood jointed as existing, paint before fixing.	ITEM
5.13	Pulley: provisionally renew in cast iron; allow for new pattern; fettle before fixing.	ITEM
5.14	X braces (R): release and review, provisionally renew in oak heartwood, lapped/notched and bolted at crossing.	ITEM
	TIMBER REPAIRS	
5.15	Cap circle (S) : renew in European oak as drawings; paint the outer face only.	ITEM
5.16	Cap rafters (T): renew 26 no. (100%) sets rafters, in European oak, max. 2 no. sections jointed and glued at mid point to form curved profile. Tenon into finial, notch and screw to cap circle.	ITEM
5.17	Cap finial (U): provisionally renew in European oak. Colour for the neck: white; colour for the ball: black; colour of neck moulding: white.	ITEM

5.18	Balustrades (V,W,X): renew the two upstand balustrades with their handrails and diagonal bracing in European oak.	ITEM
5.19	Upper tie beam (Y): renew in oak heartwood, tenoned into the fan spears, paint joints before fixing.	ITEM
5.20	Sarking boarding (Z): renew provisional 100% sarking boarding in redwood.	ITEM
5.21	Sarking layer: supply and fit Tyvek vapour permeable sarking felt between the sarking boarding and the outer layer of boarding, lap sheets to ensure watertight finish.	ITEM
5.22	Cap boarding (AA): provide 100% new boards in western red cedar as specification clause G20 / 08, feather edged as existing, steamed and bent to profile (take templates before bending), fix with stainless steel screws and fill holes.	ITEM
5.23	Lead flashings: provide lead flashings where braces, tie rods etc pass through the cap boarding, in Code 2 milled lead fixed with copper nails. Welt joints away from weather direction.	ITEM
5.24	Cap finish: clean down and prepare all parts generally for decoration, prime and undercoat external surfaces as specification clause MX5/270.	ITEM
5.25	Belzona finish: complete preparation of the external cap surfaces generally including lead flashings and the two hatches, apply Belzona 3111 emulsion and bed in Belzona 9311 reinforcing sheet, ensure reinforcing sheet is tucked into the angles of the boards to preserve the external appearance, cut/mitre the sheets and lap as necessary. Allow to dry thoroughly and within 5 days, apply a second coat of Belzona 3111.	ITEM
GUIDE SHEAVES AND PIGS		
5.26	Guide sheaves (centring wheels) (BB-FF): provide 9 no. new sheaves in SG iron, fettle ready for fixing, red oxide paint as specification clause MX5/285.	ITEM
5.27	Guide (centring) wheel spindles (GG): renew in BDMS fettle ready for fixing (no finish).	ITEM
5.28	Pigs (skid blocks) (HH): supply and fit 9 no. new grey iron pigs, press fit to sheers, mullions and puncheons.	ITEM
5.29	Windshaft (JJ): carry out strength test to check condition. Remove remains of sail cross, clean and paint in red oxide primer and black gloss.	ITEM
5.30	Windshaft renewal: provisionally renew in grey iron. Take patterns, cast and fettle ready for painting.	ITEM
5.31	Sail cross (KK): take pattern, renew in grey iron, fettle ready for painting, red oxide and black gloss finish.	ITEM

BRAKE WORKS

- 5.32 **Brake wheel (LL):** renew in grey iron; form pattern, cast, fettle, bolt parts together, red oxide prime, top coat paint the hub in light blue, teeth black; rim in white gloss as the remains of the existing. **ITEM**
- 5.33 **Brake band (MM):** renew in BDMS to match remains of existing (no finish). **ITEM**
- 5.34 **Brake lever stanchion (NN):** dismantle existing, clean, reshape to fit new cap and refix. **ITEM**
- 5.35 **Brake lever (OO):** renew in European oak. **ITEM**
- 5.36 **Brake pulley and bollard (PP):** provisionally renew to match existing salvaged parts. **ITEM**
- 5.37 **Brake hook (QQ):** provisionally renew to match existing salvaged parts. **ITEM**
- 5.38 **Brake chain and guide pulley (RR):** provisionally renew to match existing salvaged parts. **ITEM**
- 5.39 **Brake generally (MM – RR):** adjust for proper working on completion of the works. **ITEM**

WIND SHAFT BEARINGS

- 5.40 **Windshaft bearings (JJ,SS):** clean away grease for inspection and regrease before resetting. Repaint the ironwork and renew fixings. **ITEM**
- 5.41 Allow to renew the front bearing bush/shell (SS) in LG2 gun metal. **ITEM**
- 5.42 **Neck bearing tie rod (TT):** clean, prepare and repaint with red oxide primer, black gloss topcoat. **ITEM**
- 5.43 **Windshaft turning:** Check wind shaft for smooth turning in the new bearings. **ITEM**
- 5.44 **Windshaft tail bearing (UU):** open up bearing box and reinstate, clean out and regrease, check detail condition and running before and after repairs. **ITEM**
- 5.45 **Tail bearing bush:** allow to renew in gun metal for the tail bearing, fettle as necessary before fitting. **ITEM**
- 5.46 **Provisional sum:** allow a provisional sum of £200 for additional works to the guide wheels and adjustment after cap fitting. **£200**
- 5.47 **New tie rods (VV):** renew 2no in galvanised mild steel tie rods bolted to the fan spars at the top running through the cap and fitted over the rode balk (weather beam), with code 2 lead flashings where passing through the cap boarding; etch prime and black gloss paint. **ITEM**


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| 5.48 | Cap flashings (WW): renew in Code 2 milled lead fixed with copper nails. Dress down at edges minimum 100mm. Any hot works for the forming of angles etc to be carried out at ground level remote from the buildings, leave leadwork for 1 hour to cool before fixing, maintain 2 hour fire watch over the site of the burning works. Prime and paint the leadwork white as specification clause MX5/285. | ITEM |
| 5.49 | Neck bearing box: fabricate and fix aluminium box over the neck bearing as weather protection behind the sail cross. | ITEM |
| 5.50 | Storm hatch (XX): salvage, provisionally renew to match existing. | ITEM |
| 5.51 | Tail hatch (YY): salvage, provisionally renew to match existing. | ITEM |
| 5.52 | Fan stage boarding: provisionally supply and fix new decking boards ex 50 x 75 oak heartwood, stainless steel screw fix with 25mm gaps between boards. Paint before fixing as specification clause MX5/270. | ITEM |
| 5.53 | Greasing gear: remove existing greasing gear and dispose off site. Allow to renew automatic greasing gear, to be operable from inside the cap for safety | ITEM |
| 5.54 | Gear adjustment: allow 8 hours millwright's time for additional adjustments to fan gear as may be needed in commissioning. | ITEM |
| 5.55 | Rear guard rails: release, repaint as item 6.24 and refix. | ITEM |
| 5.56 | Redecoration generally: where not specifically scheduled above, paint all timberwork as specification clause MX5/270 and metalwork as MX5/285. | ITEM |

TO COLLECTIONS

6.0	WINDING GEAR WORK	
6.1	Release, dismantle the spur gear complete, reinstate and reset, adjust to fit and perform fully.	ITEM
6.2	Return the fan from millwright's yard to site after repairs, lift and reset on fan stage and adjust gearing to engage with the drive.	ITEM
6.3	Decoration: clean all remaining grease etc from the parts of the gear and repaint as specification clause MX5/285.	ITEM
6.4	Lightning protection: extend from the sail tapes (see item 9.16) with connections to string gear and fit a new sprung connection onto the kerb metalwork for smooth working. Fit 2no down tapes outside connected to the curb, with black pvc sheathing and 2no earth rods into ground with test points. Locate tapes on opposite sides of the tower. Test system on completion and provide certificate.	ITEM
6.5	Fan blades (3A) : renew 8no blades in joinery grade redwood, with battens on edge of fan blades, lapped as existing. Paint and assemble wet.	ITEM
6.6	Fan stocks (3B): renew 8no stocks in European oak heartwood including dismantle and reassemble the associated blades.	ITEM
6.7	Straps: renew all blade straps in stainless steel bent to suit blade angles, with threaded rod ends square ends and square headed bolts. Paint as specification clause MX5/285.	ITEM
6.8	Fan hub and cover plates, fan spindle (3C, 3D): redecorate as 7.2, renew fixings.	ITEM
6.9	Bearings (3F): renew the bearings from the fly frame, in grey iron and gun metal as drawings, repaint as specification clause MX5/285. Renew bushes in phosphor bronze. Refix all and adjust for smooth working.	ITEM
6.10	Gears 3G, 3H, 3J: clean, red oxide prime and black gloss finish.	ITEM
6.11	Bearings shaft 2 (3K, 3L): renew in grey iron and gunmetal, fettle (no finish).	ITEM
6.12	Fan gear (3M-3O): salvage the parts. Clean, prepare and paint parts as specification clause MX5/285, red oxide prime and black gloss topcoat. Provide new phosphor bronze bushes. Re-machine shafts at bearing positions as necessary for smooth working. Assemble and refix the fan gear.	ITEM
6.13	Shaft 3 bearing (3P): clean and lubricate.	ITEM
6.14	Gearbox (3Q): take pattern, recast in SG iron, fettle, red oxide and black gloss paint.	ITEM

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| 6.15 | Gears E, F and vertical shaft 4 (3R – 3T): clean and repaint existing parts, black gloss topcoat. | ITEM |
| 6.16 | Shaft 4 bearings (3U): renew in grey iron and gunmetal, red oxide prime and black gloss topcoat. | ITEM |
| 6.17 | Gear G (3V) spur pinion: renew, with new pattern and casting, fettle before fitting. | ITEM |
| 6.18 | Spur wheel (gear H) (3W): clean and redecorate, red oxide primer, black gloss topcoat. | ITEM |
| 6.19 | Final drive shafts (3X): clean and redecorate, red oxide primer, black gloss topcoat. | ITEM |
| 6.20 | Shaft 5 bearings: salvage existing parts and check condition. Clean, repaint in red oxide with black gloss topcoat. | ITEM |
| 6.21 | Gear J (curb pinion) (3Z): renew, with new pattern and casting, fettle before fitting; finish in red oxide and black gloss. | ITEM |

TO COLLECTIONS

- 7.0 **REAR STRIKING GEAR**
- 7.1 **Striking rod (4A):** renew the striking rod in BDMS, hot dip galvanised. Decorate projecting elements of the striking rod at the front in black gloss. **ITEM**
- 7.2 **Onion box (4B):** dismantle, clean, inspect, lubricate and reassemble. Provisionally renew phosphor bronze bearing inside the onion (rear) box to support the end striking rod. **ITEM**
- 7.3 **Roller guides and push rods (4C, 4D) :** dismantle, check, lubricate and reassemble. **ITEM**
- 7.4 **Rocking lever assembly (4E, 4F, 4H):** dismantle, prepare and paint the painted surfaces as specification clause MX5/285, regrease and reassemble the remaining parts and refix. Adjust to give smooth operation of striking gear. **ITEM**
- 7.5 **Rocking lever hangers (4G):** renew 2no in grey iron, red oxide prime, black gloss finish. **ITEM**
- 7.6 **Striking chain (4J):** supply new galvanised iron chain with D shackles (no finish). **ITEM**
- 7.7 **Nesting weights (4K):** clean, red oxide and black gloss finish. **ITEM**
- 7.8 **Brake chain:** provisionally supply and hang new galvanised steel chain for brake. **ITEM**
- 7.9 **Provisional sum:** allow a provisional sum of £500 for additional adjustment of the striking gear after fitting of sails and fan gear. 

TO COLLECTIONS

8.0	SAILS	
	DISMANTLING AND PREPARATION	
8.1	Dismantling: dismantle sails, salvage bolts, cramps, etc.	ITEM
8.2	Recording: allow access for recording of the sails by measuring and photography, by others.	ITEM
8.3	Dimensional survey: allow safe access for mills consultant to measure the sail parts and record details for accurate reinstatement/reproduction/repair. Provide copies of any survey notes taken by the millwright.	ITEM
8.4	Sail cross: make up plywood template of the “sail cross” for use in making new sail frames and to ensure correct fit of stocks.	ITEM
8.5	Sail cross decoration: clean the cross front disc (5M) and associated parts including removal of all grease, loose finishes and rust, apply one coat primer, one coat undercoat and two top coats as specification clause MX5/285 ensuring coverage on all faces and in fixing holes and joints.	ITEM
	SAILS	
8.6	Sail renewal: allow for 5 no. new sails as follows: dismantle and salvage parts to guide renewals.	ITEM
8.7	Whips (5A): renew the whips in laminated Siberian larch heartwood, tapered and profiled as existing with mortices to receive sail bars, drill for fixings to the sail cross and for other fixings, ensure all mortices are fully painted before assembly (see 3.11 below). Form the jamphas at the inner ends to fit the sail cross.	ITEM
8.8	Sail bars (5B): renew in joinery grade redwood chamfered, with tapered wedges.	ITEM
8.9	Inside rules (uplongs) (5C): renew inside rules, bolted to sail bars with battens between sail bars drilled to take shutter pins, all in Siberian larch heartwood. Ensure all timber is painted, including fixing holes under pivot holes, before fixing.	ITEM
8.10	Outside rules (hemlaths) (5D): renew in Siberian larch heartwood prime and undercoat before fixing to the whips. Drill holes for pivots for shades and paint.	ITEM
8.11	Backstays (5E): renew in joinery grade redwood chamfered.	ITEM
8.12	Firring pieces (thimble strips) (5F): renew in joinery grade redwood chamfered, with profiled ends as surviving existing parts.	ITEM

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| 8.13 | Weather boards (wind boards) (5G): renew weather boards in joinery grade redwood, profile as drawings. Paint before fixing including fixing holes. | ITEM |
| 8.14 | Shackles (5H): renew in BDMS, hot dip galvanize, with oak blocks to the front of the whips to suit; mordant prime the galvanised steel and black gloss finish; white finish the oak blocks. | |
| 8.15 | King bolts (5J): renew in BDMS, hot dip galvanise and paint fixing bolts for item 8.14 above before fixing. Touch up after fixing. | ITEM |
| 8.16 | Hoops (whip bands) (5K) : supply and fix 4no sets hoops per sail, driven onto the whip form the narrow end, after shaping and before morticing in BDMS, hot dip galvanise and mordant prime, paint in with the whips. | ITEM |
| 8.17 | Bolt and nut renewal (5L): provisionally renew all bolts and nuts in stainless steel, etch primed before decoration. | ITEM |
| 8.18 | Front disc (5M): clean the existing, red oxide prime and black gloss finish. | ITEM |
| 8.19 | Sail cross back oaks (5N): renew the existing sail cross back boards in oak heartwood. Fix to whips after painting on all faces ready for lifting into position and hanging. | ITEM |
| 8.20 | Shackle blocks: renew blocks on whips for shackles in oak, profiles to suit clamps, paint attached faces in lead paint before fixing, paint as general specification and fix wet. | ITEM |
| 8.21 | Decorating: prepare surfaces, prime, undercoat and apply two topcoats as specification clause MX5/270. Paint the tenons and the mortices in lead paint and allow to dry before fixing. Obtain licence for use of lead paint and observe safe working practices. Apply specified paint to parts and assemble wet when fixing. Touch up after transport to site and after hanging as necessary. | ITEM |

TO COLLECTIONS

9.0	STRIKING GEAR	
	FRONT STRIKING GEAR	
9.1	Cross iron (spider) (6A): renew in grey iron, repaint in black over red oxide as specification clause MX5/280, refix to sails when refitted. Reconnect to the other spider parts.	ITEM
9.2	Rein irons (BB): renew rein irons to match existing, take patterns and make up new castings in grey iron to match existing, fettle, red oxide paint and black gloss paint as item 9.1.	ITEM
9.3	Harp irons (6C, 6D): renew in grey iron to match existing, paint as 9.1.	ITEM
9.4	Harp iron spindles (6E): dismantle, inspect, repaint as 9.1, provisionally renew bushes.	ITEM
9.5	Stump iron renewal (6F): renew stump irons, take patterns and make up new castings in grey iron to match existing, fettle, and paint as item 9.1.	ITEM
9.6	Fork irons renewal (6G): provisionally renew in BDMS, hot dip galvanised; mordant prime, black gloss finish.	ITEM
9.7	Striking rules (working uplongs) (6H): supply new working striking rules in Siberian larch heartwood, drill for fixings including shutter cranks and paint all fixing holes and cranks etc before fixing.	ITEM
	SHADES (SHUTTERS)	
9.8	Shade crank irons (6J): provide new pattern, cast 100% new cranks in grey iron. Fettle and prepare for fixing, white finish.	ITEM
9.9	Shade pivots (6K): renew in grey iron with stainless steel screw fixings, decorate with sails.	ITEM
9.10	Shade renewals (6L): renew shades with new 7mm stainless steel wire frames, joinery grade redwood, strong backs in larch heartwood and 12 oz "Loomstate" unproofed canvas coverings (stitched in man-made thread); paint timber and canvas as specification clause MX5/270; paint metalwork as specification clause MX5/280, all in white.	ITEM
9.11	Shades installation: install shades in sails and inside rules during sail reassembly. Connect to striking rules (shutter bars) before hanging the sails.	ITEM
9.12	Reassembly: assemble all the parts on site ready for fixing and touch up paintwork. Lift with the shades in place and fix to sail cross. Ensure even balancing of sails, with additional weighting as necessary.	ITEM

9.13 **Sails lightning protection:** supply and fix new lightning protection tapes to the backs of the whips, white finished, screw fix to the central star and test before completion of lightning installation, provide test certificates. See also item 6.4.

ITEM

9.14 **Provisional sum:** allow a provisional sum of £500 for additional balancing and other works needed for the smooth operation of the sails.



TO COLLECTIONS

10.0 **WALLING AND EXTERNAL REPAIRS**

EXTERNAL WALLING DECORATION

- 10.1 **Wall finish sample panels:** no later than 4 weeks before start on site prepare provisional 2no panels 1.2 x 1.2m size 12mm plywood, prime one panel and apply 3no coats finish as specification clause MX5/290; prime second panel and apply 2no coats black bituminous paint, followed by 3no coats finish as specification clause MX5/290. This is to fulfil potential conditions on the listed building consent, for the Local Authority to inspect and agree **ITEM**
- 10.2 **Trial panel on wall:** clean down and prepare 1 sq m of the external walling at ground level at the start of the works, apply two coats masonry paint as specification clause MX5/290 **ITEM**
- 10.3 **Preparation:** clean down the external walling, remove all loose finishes, moss and other plant growths etc, bag up and remove debris from site. **ITEM**
- 10.4 **Wall pointing:** rake out and point **PROVISIONAL** 50 linear metres run external brick joints 30mm deep in hydraulic lime mortar NHL 3.5, brush up face after set. Carry out in small lengths up to 500mm each. **ITEM**
- 10.5 **Walling repainting:** prepare surfaces and apply two coats masonry paint to all existing external wall surfaces, as specification clause MX5/290. **ITEM**
- 10.6 **Ground level handrails:** provisionally prepare the handrails around the steps on the east side and redecorate in white as specification clause MX5/285. **ITEM**

EXTERNAL WALLING REPAIRS

- 10.7 **Northwest elevation stitching between windows 2W and 3W (2nd to 3rd floors):** cut out tar finish on site of brick bed joints and across cracked perpend joints; dispose of debris off site. Cut out walling at every 4th brick course vertically and install 5 sets of stitches comprising: cut brick joints to 75mm deep from surface 1500mm length on wall arc; point back of joint 12mm deep in hydraulic lime mortar NHL 5, insert 4mm stainless steel threaded rod / helibar pushed back into soft mortar and wedge in place; point up joints flush packing the mortar back into the joints and around the bar; brush up face when mortar is set. Remove wedges and point up wedge positions. Point the cracked vertical perpend joints between the stitch courses. **ITEM**
- 10.8 **Northwest wall crack grouting:** allow 8 hours craftsman time for localised grouting of the stitched brickwork.
- 10.9 **Grout materials:** allow provisional sum of £100 for grout materials.

ITEM

- 10.10 **Southeast wall quadrant / elevation stitching between windows 3E and 4E (3rd to 4th floors):** cut out tar finish on site of brick bed joints and across cracked perpend joints; dispose of debris off site. Cut out walling at every 4th brick course vertically and install 4 sets of stitches comprising: cut brick joints to 75mm deep from surface 3500mm length on wall arc; point back of joint 12mm deep in hydraulic lime mortar NHL 5, insert 4mm stainless steel threaded rod / helibar pushed back into soft mortar and wedge in place; point up joints flush packing the mortar back into the joints and around the bar; brush up face when mortar is set. Remove wedges and point up wedge positions. Point the cracked vertical perpend joints between the stitch courses. **ITEM**
- 10.11 **Southeast wall quadrant /elevation stitching above window 4E (4th floor / under cap):** cut out tar finish on site of brick bed joints and across cracked perpend joints; dispose of debris off site. Cut out walling at every 4th brick course vertically and install 3 sets of stitches comprising: cut brick joints to 75mm deep from surface 900mm length on wall arc; point back of joint 12mm deep in hydraulic lime mortar NHL 5, insert 4mm stainless steel threaded rod / helibar pushed back into soft mortar and wedge in place; point up joints flush packing the mortar back into the joints and around the bar; brush up face when mortar is set. Remove wedges and point up wedge positions. Point the cracked vertical perpend joints between the stitch courses. Note suspected cement mortar above window 4E and report progress in cutting out at an early stage to allow variation in repair techniques if mortar is too hard to cut out. **ITEM**
- 10.12 **East wall crack grouting:** allow 8 hours craftsman time for localised grouting of the stitched brickwork **ITEM**
- 10.13 **Grout materials:** allow provisional sum of £100 for grout materials **ITEM**
- 10.14 **Window 2N brick renewals:** cut out and renew provisional 10no bricks in soft reds to match existing to the west jamb of the window, bed and point in hydraulic lime mortar NHL3, point up against window frame, brush up joints when set. **ITEM**
- 10.15 **Window 3N brick renewals:** cut out and renew provisional 10no bricks in soft reds to match existing to the west jamb of the window, bed and point in hydraulic lime mortar NHL3, point up against window frame, brush up joints when set. **ITEM**
- 10.16 **General brick renewals:** cut out and renew provisional 50no individual bricks in soft reds to match existing, bed and point in hydraulic lime mortar NHL3, point up against window frame, brush up joints when set **ITEM**
- INTERNAL WALLING REPAIRS**
- 10.17 **4th floor brickwork:** rake out the cracked bed joint south of window E4 3no courses below the ceiling joist bearings provisional 3500mm length on wall arc, pack with hydraulic lime mortar NHL5 and point up to surface, brush up when set. **ITEM**

- | | | |
|-------|---|------|
| 10.18 | Window E4 head: cut out bed joint above the south jamb in 3 rd course above window head springing level, insert stitch 500mm long as specification in item 10.8. | ITEM |
| 10.19 | General wall pointing: allow 8 hours craftsman time for pointing of open joints in the internal walling at 4 th floor level. | ITEM |
| 10.20 | Walling over holding down bolts (6no): provisionally cut out the cement bedded brickwork inside at 5 th floor level down to the 4 th course below the 4 th floor ceiling joist bearings to expose the holding down bolts for inspection or renewal. Reinststate in red brick to match the existing walling, tooth into existing but bed and point in cement mortar as existing. | ITEM |
| 10.21 | 5th floor brickwork: provisionally cut out and form 2m long stitch as item 10.5 on inner face of wall on east side. | ITEM |
| 10.22 | Provisional sum: allow provisional sum of £1,500 for additional brickwork repairs. | ITEM |



TO COLLECTIONS

11.0 **GENERAL**

11.1 Adjust tie rods, tighten bolts and fixings generally throughout the cap, sails and fly stage, check balance of all parts for smooth operation including turning of the cap to wind. Provide a written report on the general state of the mill following repairs. **ITEM**

11.2 **Additional works to bed in the mill:** allow for provisional two working weeks' time for millwright and two assistants to adjust and amend the cap and all other machinery after completion, to ensure smooth operation by volunteers. **ITEM**

11.3 **Brake beams:** provide brake beams/ sprags for securing the brake wheel in position when not in use. **ITEM**

11.4 **Electrical work:** disconnect and reconnect electrical systems for the top part of the mill for safe working. Maintain lighting on floors below the working level for emergency lighting etc. Provide temporary LED lighting within the cap and the top stage of the mill during the work (battery powered or connected to the mains supply). **ITEM**

INTERNAL REPAIRS

11.5 **Floor repairs:** renew provisional 5 m² softwood boarding in small areas up to 0.5m² each, at top floor level and in front of gallery door. **ITEM**

11.6 **Provisional sum:** allow provisional sum of £1,000 for additional internal floor and wall repairs. **ITEM**



TO COLLECTIONS

BURGH LE MARSH WINDMILL, LINCOLNSHIRE: REINSTATEMENT WORK

DRAWINGS LIST

Whitworth drawings

1	Site location plan	A3
2	Site block plan	A3
3	External walling repairs NE and NW elevations	A3
4	External walling repairs SE and SW elevations	A3
5	4 th floor internal walling repairs	A3
6	5 th floor curb and internal walling repairs	A3
18	Curb / wall top sections existing and proposed	A3

Surveyline Geomatics drawings as existing

J3033-02-00		Ground floor plan	A3
J3033-02-01		First floor plan	A3
J3033-02-02		Second floor plan	A3
J3033-02-03		Third floor plan	A3
J3033-02-04		Fourth floor plan	A3
J3033-02-05		Fifth floor plan	A3
J3033-03-01	rev3	Elevation- 01 (northwest)	A3
J3033-03-02	rev3	Elevation- 02 (northeast)	A3
J3033-03-03	rev3	Elevation- 03 (southwest)	A3
J3033-03-04	rev3	Elevation- 02 (southeast)	A3
J3033-04-01		Section (looking northwest)	A3

Bonwick Heritage Consultancy drawings

DMB01		Sails elevations	A3
DMB02		Sails sections	A3
DMB03		Brake wheel	A3
DMB04		Cap frame underside	A3
DMB05		Cap frame plan	A3
DMB06		Cap roof side elevation	A3
DMB07		Cap roof front and section	A3
DMB08		Cap roof section	A3
DMB09		Cap frame plan showing rafters	A3
DMB10		Windshaft and cross	A3
DMB11		Fantail elevations	A3
DMB12		NW elevation	A3
DMB13		SE elevation	A3
DMB14		NE elevation	A3
DMB15		SW elevation	A3
DMB16		Perspective views of curb as existing	A4
DMB17		Perspective views of curb as proposed	A4

Whitworth
Unit 12 Park Farm
Fornham St Genevieve
Bury St Edmunds
Suffolk IP28 6TS

PEO/cm/6700/3
20th December 2023

BURGH LE MARSH WINDMILL, LINCOLNSHRE: REINSTATEMENT WORK

COLLECTIONS

1	Preliminaries	£
2	Access and protection	£
3	Curb work	£
4	Cap frame	£
5	Cap roof and fan stage	£
6	Winding gear work	£
7	Rear striking gear	£
8	Sails	£
9	Striking gear	£
10	External repairs	£
11	General	£
	Subtotal	£ _____
	VAT @ 20%	£ _____
	TOTAL	£ _____

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