

Bath Terrace
Main Street
Moville
County Donegal
Ireland

Phone: +353 (0)74 9385122
Fax: +353 (0)74 9385123
Email: dedalusarchitecture@eircom.net
Website: www.dedalusarchitecture.com



SPECIFICATION FOR CONSERVATION WORKS

City Hall, Quay Street, Sligo

TENDER

July 2026



Sligo County Council
Comhairle Chontae Shligigh

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Note – this specification is intended to be read in conjunction with the schedule of works used for pricing, and may include some clauses which may not apply to this project.

A10 PROJECT PARTICULARS

- 110 THE PROJECT:
Name: Conservation & Repair Works to Sligo City Hall, a Protected Structure of National Importance.
- 120 EMPLOYER (CLIENT): Sligo County Council
- 127 THE PRINCIPAL CONTRACTOR: The Contractor
- 140 ARCHITECT (hereinafter referred to as 'CA'):
Dedalus Architecture, Bath Terrace, Main Street, Co. Donegal
- 147 PROJECT SUPERVISOR DESIGN PROCESS (PSDP):
Dedalus Architecture, Bath Terrace, Main Street, Co. Donegal
- 148 PROJECT SUPERVISOR CONSTRUCTION STAGE (PSCS):
The contractor will be appointed to undertake this role
- 149 TEMPORARY WORKS DESIGNER:
The main contractor and their structural engineer will undertake the role of Temporary Works Designer; refer to Section C30
- 150 QUANTITY SURVEYOR:
Dedalus Architecture, Bath Terrace, Main Street, Co. Donegal
- 160 STRUCTURAL ENGINEER:
Design ID Consulting Engineers
23LR Workspace, 23 Lisburn Road, Hillsborough, Co. Down BT26 6AA
- 162 ARCHAEOLOGIST:
n/a

A11 TENDER AND CONTRACT DOCUMENTS

- 110 THE TENDER DOCUMENTS are: as drawing issue sheet
- 120 THE CONTRACT DRAWINGS will be the same as stated in the 'Instructions to Tenderers.
- 160 THE PRE-TENDER HEALTH AND SAFETY PLAN is attached to these preliminaries. It refers to information given in the preliminaries, specification and drawings.
- 180 INSPECTION: arrangements for access pre-tender to be made through registration on e-tenders

A12 THE SITE/EXISTING BUILDINGS

- 110 THE SITE/ THE EXISTING BUILDING(S):
City Hall is a working building and headquarters used by Sligo County Council. The buildings is a nationally important Protected Structure in ownership of Sligo County Council. The works described here must not be exceeded without further consultation. In addition to providing access to carry out the works that this contract comprises, the contractor is to allow for providing access for the design team to examine and record the works and to allow the future phases of work to be specified and tendered in due course.
- 120 EXISTING BUILDINGS ON/ADJACENT TO THE SITE:
Refer to Preliminary Safety Plan – the site is located within a dense urban city centre with ongoing public and work activities on all sides. The site layout drawing allows for a provisional arrangement for organisation of the proposed works. For the planning of the work will require close communication and cooperation with the client, who are responsible for the upkeep and care of the site. In addition to general health & safety requirements, particular care is needed in terms of ensuring that arrangements for vehicle circulation and parking are agreed at each stage of the work and that potential noise, activities that create dust & debris, and other similar activities are considered and flagged to the client so that any potential disruption can be managed.
- 140 EXISTING MAINS/SERVICES:
Refer to Preliminary Safety Plan
- 220 ACCESS TO THE SITE:
Refer to Preliminary Safety Plan
- 210 PARKING of the Contractor's and employees' vehicles will be restricted Refer to Preliminary Safety Plan.
- 220 USE OF THE SITE:
- Do not use the site for any purpose other than carrying out the Works.

- 240 RISKS TO HEALTH AND SAFETY:
- Refer to Preliminary Safety Plan
- The nature and condition of the site/building cannot be fully and certainly ascertained before areas are exposed. However the following risks are or may be present:
- Risk of concealed voids
 - Risk of falling/ erection of scaffolding and temporary protection to the works
 - Biological risk/ Covid-19 risk
- The accuracy and sufficiency of this information is not guaranteed by the Employer or the CA and the Contractor must ascertain for himself any information he may require to ensure the safety of all persons and the Works.
- 280 SITE VISIT: Before tendering, ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.

A13 DESCRIPTION OF THE WORK

- 120 THE WORK:
Described in outline in the "Schedule of Works" for pricing and in more detail in this specification.
- 140 WORK BY OTHERS CONCURRENT WITH THE CONTRACT is described in section A50 of the tender documents.
- 150 COMPLETION WORK BY OTHERS:
None specified to date.

A20 THE CONTRACT

- 310 Short Public Works Contract: The form of contract will be the Office of Government Procurement: PW-CF6 Short Public Works Contract

Allow for the obligations, liabilities and services described therein against the heading below:

The "Employer" will be: "Sligo County Council"

The Works comprise: Sligo City Hall Historic Towns Initiative 2026.

The Contract Drawings, specification and schedules will be as specified in section A11.

The "Employer's Representative" will be: Dedalus Architecture

THE CONDITIONS:

Will be as set out in the:
Short Public Works Contract PW-CF6 v1.15 25-11-2025

PRICING/SUBMISSION OF DOCUMENTS

- 211 PRELIMINARIES IN THE SPECIFICATION: The Preliminaries/General conditions sections (A10-A55 inclusive) must not be relied on as complying with SMM7 or the Agreed Rules of Measurement (ARM) as applicable.
- 240 PRICING OF PERFORMANCE SPECIFIED WORK:
- Tenders must include for all associated and ancillary work shown or clearly apparent as being necessary to meet the requirements for the Performance Specified Work and its completion and proper integration with the Works generally.
 - Tenderers must price on the work and quantities which they intend to provide and will be responsible for any error therein. Where provided, quantities are indicative only.
- 301 QUANTITIES IN THE SPECIFICATION & SCHEDULES:
- Must not be relied on as complying with SMM7 or Agreed Rules of Measurement (ARM).
 - Must be priced taking account of the information given elsewhere in the tender documents, including for all associated and ancillary work shown or clearly apparent as being necessary for the complete and proper execution of the work.
- 310 SPECIFICATION WITHOUT QUANTITIES: Where and to the extent that quantities are not included in the specification, 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.
- 320 PRICING OF SPECIFICATION: Alterations and qualifications to the specification must not be made without the written consent of the CA. Tenders containing unauthorised alterations or qualifications may be rejected. Costs relating to items in the specification which are not priced will be deemed to have been included elsewhere in the tender.
- 460 A CONTRACT SUM ANALYSIS must be submitted
The Analysis must comprise a breakdown of the Contract Sum into the following categories:
- To correspond to the breakdown listed in the "Schedule of Work"
- 472 ERRORS IN THE CONTRACT SUM ANALYSIS will be dealt with in accordance with the 'Instruction to Tenderers' issued with the tender package
- 480 PROGRAMME: The Contractor's proposed programme as specified in Section A32 or a summary thereof showing the sequence and timing of the principal parts of the Works, periods for planning and design, and itemising any work which is excluded must be submitted
- 510 ALTERNATIVE METHOD TENDERS:
- In addition to and at the same time as his tender for the Works as defined in the tender documents, the Contractor may, at his discretion, submit alternative method(s) of construction for consideration. Alternatives which would involve significant changes to other work will not be considered.
 - Such alternative(s) will be deemed to be alternative tender(s) and each must include a complete and precise statement of the effects on cost and programme.
 - Carry out a health and safety risk assessment for each such alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.

- 516 ALTERNATIVE TIME TENDERS:
- In addition to and at the same time as his tender based upon the date or period specified in section A20, the Contractor may, at his discretion, submit an alternative tender based upon a different date for completion or period.
 - If any such tender is accepted the date for completion inserted in the Appendix to the Contract will be the date stated in the alternative tender or determined from the period stated in the alternative tender.
- 535 SUBSTITUTE PRODUCTS: If the Contractor wishes to substitute products of different manufacture to those specified, details must be submitted with the tender giving reasons for each proposed substitution. Substitutions which have not been notified at tender stage may not be considered. Substitutions sanctioned by the CA will be subject to the verification requirements of clause A31/200.
- 540 QUALITY CONTROL RESOURCES: A statement must be submitted describing the organisation and resources which the Contractor proposes and undertakes to provide to control the quality of the Works, including the work of subcontractors. The statement must include the number and type of staff responsible for quality control, with details of their qualifications and duties.
- 551 HEALTH AND SAFETY INFORMATION: A statement must be submitted prior to tender at "Prequalification Stage" describing the organisation and resources which the contractor proposes and undertakes to provide to safeguard the health and safety of operatives, including those of subcontractors and of any person who may be affected by the works, including:
- A copy of the contractor's health and safety policy document, including risk assessment procedures.
 - Accident and illness records for the past five years.
 - Records of previous Health and Safety Executive/ Health & Safety Authority 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.
- 571 AN OUTLINE CONSTRUCTION PHASE HEALTH AND SAFETY PLAN must be developed and submitted immediately post tender for review at the first/ pre-contract meeting and is to include the following and items listed in the preliminary Safety Plan for the project:
- Management of the Covid-19 risk
 - Method statements related to the construction hazards identified in the pre-tender health and safety plan and/or statements on how the hazards will be addressed and other significant hazards identified by the contractor.
 - Details of the management structure and responsibilities.
 - Arrangements for issuing health and safety directions.
 - Standards of health and safety to be applied.
 - 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 co-operation and co-ordination between contractors.
 - Procedures for managing design work carried out during the construction phase.
 - 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 any 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.
- Arrangements for collecting and collating information for the health and safety file.
- Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements.
- Review procedures to obtain feedback.

SUBLETTING/SUPPLY

The Contractor must not sublet any item of work without prior approval.

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

- 110 DEFINITIONS: The meaning of terms, derived terms and synonyms used in the preliminaries/general conditions and specification is as defined below or in the appropriate European Standard, Irish Standard, British Standard or British Standard glossary.
- 120 CA means the person nominated in the Contract as Architect or “Employer’s Representative”.
- 130 IN WRITING: When required to advise, notify, inform, instruct, agree, confirm, obtain information, obtain approval or obtain instructions do so in writing.
- 140 APPROVAL (and words derived therefrom) means the approval in writing of the CA unless specified otherwise.
- 150 PRODUCTS means materials (including naturally occurring materials) and goods (including components, equipment and accessories) intended for permanent incorporation in the Works.
- 180 CROSS-REFERENCES TO THE SPECIFICATION:
- Where a numerical cross-reference to a specification section or clause is given on drawings or in any other document the Contractor must verify its accuracy by checking the remainder of the annotation or item description against the terminology used in the referred to section or clause.
 - Where a numerical cross-reference is not given the relevant section(s) and clause(s) of the specification will apply, cross-reference thereto being by means of related terminology.
 - Where a cross-reference for a particular type of work, feature, material or product is given, relevant clause(s) elsewhere in the referred to specification section dealing with general matters, ancillary products and workmanship also apply.
 - The Contractor must, before proceeding, obtain clarification or instructions in relation to any discrepancy or ambiguity which he may discover.

- 200 EQUIVALENT PRODUCTS:
- Where the specification permits substitution of a product of different manufacture to that specified and such substitution is desired, before ordering the product notify the CA and, when requested, submit for verification documentary evidence that the alternative product is equivalent in respect of material, safety, reliability, function, compatibility with adjacent construction, availability of compatible accessories and, where relevant, appearance. Submit certified English translations of any foreign-language documents.
 - Any proposal for use of an alternative product must also include proposals for substitution of compatible accessory products and variation of details as necessary, with evidence of equivalent durability, function and appearance of the construction as a whole. If such substitution is sanctioned, and before ordering products, provide revised drawings, specification and manufacturer's guarantees as required by CA.
- 201 EQUIVALENT PRODUCTS: Wherever products are specified by proprietary name and the phrase 'or equivalent' is not included, it is to be deemed included.
- 210 BRITISH STANDARD PRODUCTS: Where any product is specified to comply with a British Standard for which there is no equivalent European Standard it may be substituted by a product complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognised in the UK specifying equivalent requirements and assurances in respect of material, safety, reliability, function, compatibility with adjacent construction, availability of compatible accessories and, where relevant, appearance. In advance of ordering notify the CA of all such substitutions and, when requested, submit for verification documentary evidence confirming that the products comply with the specified requirements. Any submitted foreign language documents must be accompanied by certified translations into English.
- 270 SIZES: Unless otherwise stated:
- Products are specified by their co-ordinating sizes.
 - Cross section dimensions of timber shown on drawings are nominal sizes before any required planing.
- 280 FIX ONLY means all labours in unloading, handling, storing and fixing in position, including use of all plant.
- 290 SUPPLY AND FIX: Unless stated otherwise all items given in the schedule of work and/or on the drawings are to be supplied and fixed complete.

TERMS USED IN REFURBISHMENT/CONSERVATION

Please note the following are standard terms which should be moderated to account for the fact that works are to be undertaken in the context of a possible archaeological site where original material is to be retained to the maximum extent possible and any works are to be recorded. If there is any doubt refer to the architect for clarification.

- 311 REMOVE means disconnect, dismantle as necessary and remove the stated element, work or component and all associated accessories, fastenings, supports, linings and bedding materials, and dispose of unwanted materials if directed.
- 321 KEEP FOR REUSE means:
- During removal prevent damage to the stated components or materials, and clean off bedding and jointing materials.
 - Stack neatly, adequately protect and store until required by the Employer or for use in the Works as instructed.
- 331 REPLACE means:
- Remove the stated existing components, features and finishes.
 - Provide and fit in lieu new components, features or finishes which, unless specified otherwise, must match those which have been removed.
 - Make good as necessary.
- 341 REPAIR means carry out local remedial work to components, features and finishes as found in the existing building. Re-secure or refix as necessary and leave in a sound and neat condition. It does not include:
- Replacement of components or parts of components.
 - Redecoration.
- 351 MAKE GOOD means carry out local remedial work to components, features and finishes which have been disturbed by other, previous work under this Contract and leave in a sound and neat condition. It does not include:
- Replacement of components or parts of components.
 - Redecoration.
- The meaning of the term shall not be limited by this definition where used in connection with the defects liability provisions of the Contract.
- 361 EASE means make minor adjustments to moving parts of the stated component to achieve good fit in both open and closed positions and ensure free movement in relation to fixed surrounds. Make good as necessary.
- 371 TO MATCH EXISTING means use products, materials and methods to match closely all visual characteristics and features of the existing work, with joints between existing and new work as inconspicuous as possible, all to approval of appearance.

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

- 410 ADDITIONAL COPIES OF DRAWINGS: Two copies of drawings (not counting any certified copy of the Contract Drawings) will be issued to the Contractor free of charge. Additional copies will be issued on request but will be charged to the Contractor.
- 430 ADDITIONAL COPIES OF SPECIFICATION: After execution of the Contract, two copies of the Specification will be issued to the Contractor in accordance with the Contract. Additional copies will be issued on request, if available, but will be charged to the Contractor.

- 440 DIMENSIONS: The accuracy of dimensions scaled from the drawings is not guaranteed. Obtain from the CA any dimensions required but not given in figures on the drawings nor calculable from figures on the drawings.
- 450 THE MEASURED QUANTITIES: For purposes of ordering products and constructing the Works:
- The accuracy and sufficiency of the measured quantities is not guaranteed.
 - The specification and drawings shall take precedence over the measured quantities.
- 460 THE SPECIFICATION: All sections of the specification must be read in conjunction with Main Contract Preliminaries/General conditions.

A32 MANAGEMENT OF THE WORKS

GENERALLY

- 110 SUPERVISION: Accept responsibility for co-ordination, supervision and administration of the Works, including all subcontracts. Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for co-ordination of the work.
- 120 INSURANCE: Before starting work on site submit documentary evidence and/or policies and receipts for the insurance required by the Conditions of Contract.
- 130 INSURANCE CLAIMS: 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, forthwith give notice in writing to the Employer, the CA and the Insurers. Indemnify the Employer against any loss which may be caused by failure to give such notice.
- 140 CLIMATIC CONDITIONS: Keep an accurate record of:
- Daily maximum and minimum air temperatures (including overnight).
 - Delays due to adverse weather, including description of the weather, type(s) of work affected and number of hours lost.
- 150 OWNERSHIP: Materials arising from the alteration work are to become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

PROGRAMME/PROGRESS

- 211 PROGRAMME:
- As soon as possible and before starting work on site prepare in an approved form a master programme for the Works, which must make allowance for:
 - Work resulting from instructions issued in regard to the expenditure of provisional sums (see section A54)
 - Work by or on behalf of the Employer and concurrent with the Contract (see section A50) the nature and scope of which, the relationship with preceding and following work and any relevant limitations are suitably defined in the Contract Documents.
 - Where and to the extent that the programme implications for work which is not so defined are impossible to assess the Contractor should exclude it from his programme and confirm this when submitting the programme.
- 220 THE PROGRAMME must show earliest and latest start and finish dates for each activity, and identify all critical activities.
- 230 SUBMISSION OF PROGRAMMES will not relieve the Contractor of his responsibility to advise the CA of the need for further drawings or details or instructions in accordance with Clause 5.4.2 of the Conditions of Contract.
- 240 COMMENCEMENT OF WORK: Inform the CA at least 14 working days before the proposed date for commencement of work on site.
- 250 MONITORING: Record progress on a copy of the programme kept on site. If any circumstances arise which may affect the progress of the Works put forward proposals or take other action as appropriate to minimise any delay and to recover any lost time.
- 260 CA'S SITE MEETINGS:
- The CA will hold regular site meetings to review progress and other matters arising from the administration of the Contract. Meetings will normally be held weekly.
 - Ensure the availability of accommodation at the time of such meetings.
 - Attend all meetings and inform subcontractors and suppliers when their presence is required.
 - The CA will chair the meetings and take and distribute minutes.
 - The management and organisation of site inspections & meetings must form part of the Contractors safety plan. This may include proposals to hold progress meetings remotely using digital conferencing software.
- 264 CONTRACTOR'S PROGRESS REPORT: Submit a progress report to the CA 2 days prior to each CA's site meeting. 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.
 - Any requirements for further drawings or details or instructions to enable the CA to fulfill his obligations under Clause 5.4.2 of the Conditions of Contract.
- 270 CONTRACTOR'S SITE MEETINGS: Hold meetings with appropriate subcontractors and suppliers shortly before main site meetings to facilitate accurate reporting of progress.
- 300 ADVERSE WEATHER: Use all reasonable and suitable building aids and methods to prevent or minimise delays during adverse weather conditions.

- 460 **INSURANCE CLAIMS:** 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, forthwith give notice in writing to the Employer, the CA and the Insurers. Indemnify the Employer against any loss which may be caused by failure to give such notice.

CONTROL OF COST

- 410 **CASH FLOW FORECAST:** As soon as possible and before starting work on site submit to the CA a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period and based upon the programme for the Works.
- 420 **EXISTING WORK:** The extent and location of renewal of existing work must be agreed, at least on a provisional basis, with the CA before the work is started. Remove existing work in ways which will reasonably minimise the amount of removal and renewal.
- 440 **MEASUREMENTS:** Give reasonable notice to the Quantity Surveyor before covering up work which the Quantity Surveyor requires to be measured.
- 450 **DAYWORK VOUCHERS:** Give reasonable notice to the commencement of any work for which daywork vouchers are to be submitted. Before being delivered, each voucher must be:
- Referenced to the instruction under which the work is authorised, and
 - Signed by the person in charge as evidence that the workmen's names, the time spent by each, the plant and materials shown are correct.
- 460 **INTERIM VALUATIONS:** At least 3 days before the end of each established Period for interim valuations submit to the details of amounts due under the Contract together with all necessary supporting information.
- 470 **UNFIXED MATERIALS:** At the time of each valuation disclose which of the unfixed materials and goods on site are free from, and which are subject to, any reservation of title inconsistent with passing of property as required by Clause 16.1 of the Conditions of Contract, together with their respective values. When requested provide evidence of freedom from reservation of title.
- 475 **LISTED OFF-SITE MATERIALS OR GOODS:** The information submitted to the CA in accordance with the Conditions of Contract as reasonable proof that the property in 'listed items' is vested in the Contractor must include:
- For items purchased from a supplier:
A copy of the contract of sale and a written statement from the supplier that any conditions of the sale relating to the passing of property have been fulfilled and the listed items are not subject to any encumbrance or charge.
 - For items purchased from a supplier by a subcontractor or manufactured or assembled by any subcontractor:
A copy 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.
- 480 **LABOUR AND PLANT RETURNS:** At the beginning of each week provide for verification by the CA records showing, for each day of the previous week:
- The number and description of craftsmen, labourers and other persons employed on or in connection with the Works, including those employed by subcontractors.

- The number, type and capacity of all mechanical and power-operated plant employed on the Works.

A33 QUALITY STANDARDS/CONTROL

MATERIALS AND WORK GENERALLY

- 110 GOOD PRACTICE: Where and to the extent that materials, products and workmanship are not fully detailed or specified they are to be:
- Of a standard appropriate to the Works and suitable for the functions stated in or reasonably to be inferred from the project documents, and
 - In accordance with relevant good building practice.
- 120 GENERAL QUALITY OF PRODUCTS:
- Products to be new unless otherwise specified.
 - For products specified to a British or European Standard obtain certificates of compliance from manufacturers when requested by CA.
 - Where a choice of manufacturer or source of supply is allowed for any particular product, the whole quantity required to complete the work must be of the same type, manufacture and/or source unless otherwise approved. Produce written evidence of sources of supply when requested by CA.
 - Ensure that the whole quantity of each product required to complete the work is of consistent kind, size, quality and overall appearance.
 - Where consistency of appearance is desirable ensure consistency of supply from the same source. Unless otherwise approved do not use different colour batches where they can be seen together.
 - If products are prone to deterioration or have a limited shelf life, order in suitable quantities to a programme and use in appropriate sequence. Do not use if there are any signs of deterioration, setting or other unsatisfactory condition.
- 130 PROPRIETARY PRODUCTS:
- Handle, store, prepare and use or fix each product in accordance with its manufacturer's current printed or written recommendations/instructions. Inform CA if these conflict with any other specified requirement. Submit copies to CA when requested.
 - The tender will be deemed to be based on the products specified and recommendations on their use as described in the manufacturer's literature
 - Obtain confirmation from manufacturers that the products specified and recommendations on their use have not been changed since that time. Where such change has occurred, inform CA and do not place orders for or use the affected products without further instructions.
 - Where British Board of Agreement certified products are used, comply with the limitations, recommendations and requirements of the relevant valid certificates.
- 140 CHECKING COMPLIANCE OF PRODUCTS: Check all delivery tickets, labels, identification marks and, where appropriate, the products themselves to ensure that all products comply with the project documents. Where different types of any product are specified, check to ensure that the correct type is being used in each location. In particular, check that:
- The sources, types, qualities, finishes and colours are correct, and match any approved samples.
 - All accessories and fixings which should be supplied with the goods have been supplied.
 - Sizes and dimensions are correct. Where tolerances of components are critical, measure a sufficient quantity to ensure compliance.

- The delivered quantities are correct, to ensure that shortages do not cause delays in the work.
 - The products are clean, undamaged and otherwise in good condition.
 - Products which have a limited shelf life are not out of date.
- 150 PROTECTION OF PRODUCTS:
- Prevent over-stressing, distortion and any other type of physical damage.
 - Keep clean and free from contamination. Prevent staining, chipping, scratching or other disfigurement, particularly of products exposed to view in the finished work.
 - Keep dry and in a suitably low humidity atmosphere to prevent premature setting, moisture movement and similar defects. Where appropriate store off the ground and allow free air movement around and between stored products.
 - Prevent excessively high or low temperatures and rapid changes of temperature in the products.
 - Protect adequately from rain, damp, frost, sun and other elements as appropriate. Ensure that products are at a suitable temperature and moisture content at time of use.
 - Ensure that sheds and covers are of ample size, in good weatherproof condition and well secured.
 - Keep different types and grades of products separately and adequately identified.
 - So far as possible keep products in their original wrappings, packings or containers, until immediately before they are used.
 - Wherever possible retain protective wrappings after fixing and until shortly before Practical Completion.
 - Ensure that protective measures are fully compatible with and not prejudicial to the products/materials.
- 160 SUITABILITY OF RELATED WORK AND CONDITIONS: Ensure that all trades are provided with necessary details of related types of work. Before starting each new type or section of work, ensure that:
- Previous, related work is appropriately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive the new work.
 - All necessary preparatory work has been carried out, including provision for services, openings, supports, fixings, damp proofing, priming and sealing.
 - The environmental conditions are suitable.
- 170 GENERAL QUALITY OF WORKMANSHIP:
- Operatives must be appropriately skilled and experienced for the type and quality of work.
 - Take all necessary precautions to prevent damage to the work from frost, rain and other hazards.
 - Inspect components and products carefully before fixing or using and reject any which are defective.
 - Fix or lay securely, accurately and in alignment.
 - Where not specified otherwise, select fixing and jointing methods and types, sizes and spacings of fastenings in compliance with section Z20. Fastenings to comply with relevant British Standards.
 - Provide suitable, tight packings at screwed and bolted fixing points to take up tolerances and prevent distortion. Do not overtighten fixings.
 - Adjust location and fixing of components and products so that joints which are to be finished with mortar or sealant or otherwise left open to view are even and regular.
 - Ensure that all moving parts operate properly and freely. Do not cut, grind or plane prefinished components and products to remedy binding or poor fit without approval.
- 180 BS 8000: BASIC WORKMANSHIP:

- Where compliance with BS 8000 is specified, this is only to the extent that the recommendations therein define the quality of the finished work.
 - Where BS 8000 gives recommendations on particular working methods or other matters which are properly within the province and responsibility of the Contractor, compliance therewith will be deemed to be a matter of general industry good practice and not a specific requirement of the CA under the Contract.
 - If there is any conflict or discrepancy between the recommendations of BS 8000 on the one hand and the project documents on the other, the latter will prevail.
- 190 WATER FOR THE WORKS: Clean and uncontaminated. If other than mains supply is proposed provide evidence of suitability. Test to BS 3148 if instructed.

SAMPLES/APPROVALS

- 210 APPROVAL OF PRODUCTS: Where approval of a product is specified the requirement for approval relates to a sample of the product and not to the product as used in the Works. Submit a sample or other evidence of suitability. Do not confirm orders or use the product until approval of the sample has been obtained. Retain approved sample in good, clean condition on site. Ensure that the product used in the Works matches the approved sample.
- 220 SAMPLES OF FINISHED WORK: Where a sample of finished work is specified for approval, the requirement for approval relates to the sample itself (if approval of the finished work as a whole is required this is specified separately). Obtain approval of the stated characteristic(s) of the sample before proceeding with the Works. Retain approved sample in good, clean condition on site. Ensure that the relevant characteristic(s) of the Works match the approved characteristic(s) of the sample. Remove samples which are not part of the finished Works when no longer required.
- 230 APPROVALS: Where and to the extent that products or work are specified to be approved or the CA instructs or requires that they are to be approved, the same must be supplied and executed to comply with all other requirements and in respect of the stated or implied characteristics either:
- To the express approval of the CA or
 - To match a sample expressly approved by the CA as a standard for the purpose.
- 240 APPROVALS: Inspection or any other action by the CA must not be taken as approval of products or work unless the CA so confirms in writing in express terms 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.

ACCURACY/SETTING OUT GENERALLY

- 310 ACCURACY OF INSTRUMENTS: Use instruments and methods described in BS 5606, Appendix A
- 320 SETTING OUT: Submit details of methods and equipment to be used in setting out the Works.
- 340 APPEARANCE AND FIT:

- Arrange the setting out, erection, juxtaposition of components and application of finishes (working within the practical limits of the design and the specification) to ensure that there is satisfactory fit at junctions, that there are no practically or visually unacceptable changes in plane, line or level and that the finished work has a true and regular appearance.
- Wherever satisfactory accuracy, fit and/or appearance of the work are likely to be critical or difficult to achieve, obtain approval of proposals or of the appearance of the relevant aspects of the partially finished work as early as possible.
- Without prejudice to the above and unless specified otherwise, tolerances will (where applicable) be not greater than those given in BS 5606, Tables 1 and 2.

SERVICES GENERALLY

- 410 SERVICES REGULATIONS: Any work carried out to or which affects new or existing services must be in accordance with the Bye Laws or Regulations of the relevant Statutory Authority.

SUPERVISION/ INSPECTION/DEFECTIVE WORK

- 510 SUPERVISION: 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.
- 520 PERSON-IN-CHARGE: Give maximum possible notice to CA before changing the person-in-charge.
- 555 ACCESS FOR INSPECTION: Give CA not less than 7 days notice before removing scaffolding or other facilities for access.
- 560 TIMING OF TESTS AND INSPECTIONS: Agree dates and times of tests and inspections with CA several days in advance, to enable the CA and other affected parties to be present. On the previous working day to each such test or inspection confirm that the work or sample in question will be ready or, if not ready, agree a new date and time.
- 565 TEST CERTIFICATES: Submit a copy of each certificate to CA as soon as practicable and keep copies of all certificates on site.
- 570 PROPOSALS FOR RECTIFICATION OF DEFECTIVE WORK/PRODUCTS:
- As soon as possible after any part(s) of the work or any products are known to be not in accordance with the Contract or appear that they may not be in accordance submit proposals to CA for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
 - Such proposals may be unacceptable to the CA and he may issue contrary instructions.
- 580 MEASURES TO ESTABLISH ACCEPTABILITY: 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 be at the expense of the Contractor, and
 - will not be considered as grounds for extension of time.
- 590 QUALITY CONTROL: Establish and maintain procedures to ensure that the Works, including the work of all subcontractors, comply with specified requirements. Maintain

full records, keep copies on site for inspection by the CA, and submit copies of particular parts of the records on request. The records must include:

- Identification of the element, item, batch or lot including location in the Works.
- The nature and dates of inspections by the Contractor or CA, tests and approvals.
- The nature and extent of any nonconforming work found.
- Details of any corrective action.

WORK AT OR AFTER COMPLETION

610 GENERALLY:

- Make good all damage consequent upon the work.
- Remove all temporary markings, coverings and protective wrappings unless otherwise instructed.
- Remove all splashes, deposits, efflorescence, rubbish and surplus materials consequent upon the execution of the work.

A34 SECURITY/SAFETY/PROTECTION

GENERALLY

110 THE PRELIMINARY HEALTH AND SAFETY PLAN is attached to and is integral with the project Preliminaries, including but not restricted to the sections set out below. The Contractor will be formally appointed to undertake the duties of Project Supervisor Construction Stage as defined in the Health & Safety & Welfare at Work (Construction) Regulations 2013; all costs arising will be deemed to be included within the Contract Preliminaries.

117 HEALTH HAZARDS arising from the specified construction materials include those identified below. Common place hazards which should be controlled by good management and good site practices are not listed.

- Hazard: Risk of damage to health through ingestion or inhalation
Material: localised use of herbicides to be use in the works
- Hazard: Risk of alkali burns to the skin and eyes
Material: Lime based materials for mortar

120 THE CONSTRUCTION PHASE HEALTH AND SAFETY PLAN, developed from the Preliminary Health and Safety Plan (see section A30) must be submitted to the CA not less than 2 WEEKS before the proposed date for start of construction work.

125 HSA APPROVED CODES OF PRACTICE: Comply with the following:

- Management of health and safety at work.
- Managing construction for health and safety.

520 PUBLIC SAFETY:

- Protect the land owner and farm animals by erection of temporary fences, hoardings, etc. before starting work.
- Ensure that means of escape from adjoining property in the event of fire are maintained for the duration of the Works.

130 SECURITY: Adequately safeguard the site, the Works, products, materials, plant, and any existing buildings affected by the Works from damage and theft. Take all reasonable precautions to prevent unauthorised access to the site, the Works and adjoining property.

- 140 **STABILITY:** Accept responsibility for the stability and structural integrity of the Works during the Contract, and support as necessary.

PROTECT AGAINST THE FOLLOWING:

- 221 **NOISE:**
- Comply generally with the recommendations of BS 5228: Part 1, clause 9.3 for minimising noise levels during the execution of the works.
 - Do not use pneumatic drills and other noisy appliances during without consent of the CA. In general only hand operated tools are appropriate for use on this site
 - Do not use or permit employees to use radios or other audio equipment in ways or at times which may cause nuisance.
- 230 **POLLUTION:** Take all reasonable precautions to prevent pollution of the site, the Works and the general environment including streams and waterways. If pollution occurs, inform the appropriate Authorities and the CA without delay and provide them with all relevant information.
- 235 **USE OF PESTICIDES:**
- Use only where specified or approved, and then only suitable products as listed in the UK Pesticide Guide.
 - Where work is near water, drainage ditches or land drains, comply with the MAFF 'Guidelines for the use of herbicides on weeds in or near water courses and lakes'.
 - Observe all precautions recommended by the manufacturer and remove containers from site immediately they have been emptied or are no longer required.
 - Operatives must hold a BASIS Certificate of Competence or equivalent, or work under the supervision of a Certificate holder.
- 240 **NUISANCE:** Take all necessary precautions to prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- 265 **BURNING ON SITE** of materials arising from the work or from any other source will not be permitted.
- 280 **MOISTURE:** Prevent the work from becoming wet or damp where this may cause damage. Dry out the Works thoroughly.
- 290 **WASTE:**
- Remove rubbish, debris, surplus material regularly and keep the site and Works clean and tidy.
 - Ensure that non-hazardous material is disposed of at a tip approved by a Waste Regulation Authority.
 - Remove all surplus hazardous materials and their containers regularly for disposal off site in a safe and competent manner as approved by a Waste Regulation Authority and in accordance with relevant regulations.
 - Retain waste transfer documentation on site.
- 305 **LASER EQUIPMENT:**
- Install, use and store construction laser equipment in accordance with BS EN 60825-1 and the manufacturer's instructions.
 - Use either Class 1 or Class 2 laser equipment ensuring that the laser beam is not set at eye level and is terminated at the end of its useful path.
 - The use of Class 3A and Class 3B laser equipment will not be permitted without the approval of the CA and subject to the submission of a method statement on its safe use.

PROTECT THE FOLLOWING:

- 410 **WORK IN ALL SECTIONS:** Adequately protect all types of work and all parts of the Works, including work carried out by others, throughout the Contract. Wherever work is of an especially vulnerable nature or is exposed to abnormal risks provide special protection to ensure that damage does not occur.
- 440 **RETAINED TREES/HEDGES/SHRUBS/GRASSED AREAS:**
- Adequately protect and preserve, except those which are to be removed.
- 450 **EXISTING FEATURES:** Prevent any damage whatsoever to existing buildings, fences, gates, walls, roads, paved areas and other site features. Include for provision of protection to protection sections of the monument that are likely to be damaged by abrasion during the course of the works; provide protection at the very least to the areas identified in the in the drawings and any other areas identified in the development of the contractor's method statement.
- 481 **ADJOINING PROPERTY:** Prevent trespass of workpeople. Take all reasonable precautions to prevent damage to adjoining property. Obtain permission as necessary from the owners if requiring to erect scaffolding on or otherwise use adjoining property, and pay all charges. Remove and make good on completion or when directed. Bear the cost of repairing any damage arising from execution of the Works.
- 490 **EXISTING STRUCTURES:**
- Provide and maintain during the execution of the Works all incidental shoring, strutting, needling and other supports as may be necessary to preserve the stability of existing structures on the site or adjoining, which may be endangered or affected by the Works.
 - Support existing structure as necessary during cutting of new openings or replacement of structural parts.
 - Do not remove supports until new work is strong enough to support the existing structure. Prevent overstressing of completed work when removing supports.

A35 SPECIFIC LIMITATIONS ON METHOD/SEQUENCE/TIMING

- 110 **SCOPE:** The limitations described in this section are supplementary to limitations described or implicit in information given in other sections or on the drawings. The site is very limited both in terms of working space and space for site facilities, preparation of storage and materials. The contractor should provide details of their proposals for the site set up and the extent to which this will be located off site.
- 130 **METHOD/SEQUENCE OF WORK:**
Refer to Site layout L01 for constraints on sequence of work
- 140 **ACCESS TO THE SITE:** See section A12.
- 150 **USE OF THE SITE:** See section A12.
- 155 **SCAFFOLDING:** Ensure that standing scaffolding is erected early enough and/or dismantled late enough to suit the programmes of all subcontractors and allow for inspection and recording by the architect and archaeologist. Note requirement to provide protection to isolated areas of the monument under repair for an extended period of time to allow drying out to occur under relatively controlled conditions.

A36 FACILITIES/TEMPORARY WORK/SERVICES

GENERALLY

- 110 LOCATIONS: Inform CA of the intended siting of all spoil heaps, temporary works and services.
- 120 MAINTAIN, alter, adapt and move temporary works and services as necessary. Remove when no longer required and make good.

ACCOMMODATION

- 210 ROOM FOR MEETINGS: ~~Arrange for suitable temporary accommodation for site meetings, adequately heated and lit, with table and chairs for up to 12 people.~~
- 260 SANITARY ACCOMMODATION & HAND WASHING FACILITIES Provide and maintain in a clean condition sanitary accommodation. The accommodation must include an adequate number of appliances, wash hand basin(s) with hot and cold water supply, with adequate heating, lighting and ventilation.

TEMPORARY WORK

- 346 TEMPORARY PROTECTION:
Stonework or features in close proximity to the work and which could be damaged should be protected.
- 350 TEMPORARY ROOF(S)/ SHEETING:
Where works are to be undertaken in particularly exposed locations on the building or works are being undertaken in areas where the existing structure is of a fragile nature allowance should be made Provide temporary enclosure in the form of scaffolding framework and weather protection comprising netting and sheeting.

A4 CONTRACTORS'S GENERAL COST ITEMS

A40 CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF

110 MANAGEMENT AND STAFF

A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION

110 SITE ACCOMMODATION

A42 CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES

110 POWER

120 LIGHTING

130 FUELS

140 WATER

150 TELEPHONE AND ADMINISTRATION

160 SAFETY, HEALTH AND WELFARE

170 STORAGE OF MATERIALS

180 RUBBISH DISPOSAL

190 CLEANING

200 DRYING OUT

210 PROTECTION OF WORK IN ALL SECTIONS

220 SECURITY

230 MAINTAIN PUBLIC AND PRIVATE ROADS

240 SMALL PLANT AND TOOLS

A43 CONTRACTOR'S GENERAL COST ITEMS: MECHANICAL PLANT

110 CRANES

130 PERSONNEL TRANSPORT

140 TRANSPORT

A44 CONTRACTOR'S GENERAL COST ITEMS: TEMPORARY WORKS

For details of temporary works required or made/not made available by the Employer see section A36.

- 120 TEMPORARY WALKWAYS
- 130 ACCESS SCAFFOLDING
- 140 SUPPORT SCAFFOLDING AND PROPPING
- 150 HOARDINGS, FANS, FENCING, ETC.
- 170 TRAFFIC REGULATIONS

A5 WORK BY OTHERS OR SUBJECT TO INSTRUCTION

A50 WORK/PRODUCTS BY/ON BEHALF OF THE EMPLOYER

- 110 SITE ARCHAEOLOGIST
- n/a.

A53 WORK BY STATUTORY AUTHORITIES/UNDERTAKERS

- 150 ELECTRICITY MAINS SERVICES by the Statutory Undertaker:
 - Description of work: temporary power supply (n/a)
- 510 INSURANCE AGAINST DAMAGE TO PROPERTY as referred to in Contract Clause

In addition to standard contract insurances: Provisional Sum for "Non-negligence insurance" to cover damage to the monument

C20 Demolition

Scope

Stripping out of modern floor tiles & bedding to ground floor hallway to expose substrate throughout, prior to installation of new floor covering.

1. Method statements: submit, describing:

- 1.1. 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 dust generated during deconstruction or demolition.
- 1.2. Identity and location of services above and below ground, including those required for the contractor's use, and arrangements for their disconnection and removal.
- 1.3. Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal.
- 1.4. Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage.
- 1.5. Proposed programme of work, including sequence and methods of deconstruction or demolition.
- 1.6. Details of specific pre-weakening required.
- 1.7. Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
- 1.8. Arrangements for control of site transport and traffic.

C30 SHORING/ENSURING STABILITY OF THE STRUCTURE

To be read with Preliminaries/General conditions.

The contractor will be responsible for appointing a competent Temporary Works Designer who will take overall responsibility for the stability of the structure during the envisaged construction process and also for employing a suitably qualified engineer. Both will be required to liaise with each other and the Project Supervisors; both roles may be undertaken by a single person if appropriate.

Initial proposals for temporary works are included as part of this documentation; these are intended to assist tenderers in pricing the proposed works; it will be the responsibility of the Contractor and for their engineer/ Temporary Works Designer to adopt proposals and develop them or to make alternative proposals as necessary to discharge their obligations in this regard.

110 GENERALLY: Before starting work:

- Examine all available information.
- Survey the structure, site and surrounding area.
- Submit method statements to the CA covering any relevant matters raised in the design brief.
- Ensure that all statutory notices have been given and licenses obtained.

140 EXTENT OF SUPPORT WORK:

- Provide support systems for support of the chancel East gable during the course of the work and any other areas that are identified as requiring temporary support.
- Design support systems in accordance with the design brief and BS 5975.
- Before starting work, submit detailed proposals including drawings and calculations for all systems to the CA, and resolve any amendments proposed.
- Accept responsibility for the adequacy and stability of support systems and thereby the integrity of supported structure for the period from commencement of erection to completion of dismantling of support systems.

- 160 CORROSION PROTECTION: Before starting work, submit corrosion protection proposals for support systems to the CA. Support systems will be located in a marine environment and will require protection both to ensure that the support system does not degrade but also to protect the existing stonework from damage due to rust staining.
- 210 WORKMANSHIP:
- Carry out work in accordance with the design brief, Health and Safety Executive Guidance Note GS51, BS 8004, section 9.7 and generally in accordance with BS 5975.
 - Operatives must be appropriately skilled and experienced for the type of work and hold or be training to obtain relevant CITB Certificates of Competence.
 - Site staff responsible for supervision and control of the work are to be experienced in the methods of erection and maintenance of support systems to be used.
- 220 ERECTING SUPPORT SYSTEMS:
- Locate positions of existing and new services which may be affected by support systems. Provide any necessary temporary diversions.
 - Prevent excessive loadings from foundations of support systems being imposed onto foundations of structure to be kept in place.
 - Erect support systems and connect to structure to be kept in place taking all necessary precautions to prevent damage, and taking due account of movement of structure which may occur before, during and after demolition.
 - Promptly repair any damage caused to adjoining property by erection or connection of support systems. Make good to ensure safety, stability, weather protection and security.
 - Report to the CA any damage caused to retained facades by erection or connection of support systems. Agree methods of repair with the CA.
 - Check support systems at agreed stages during erection for compliance with design proposals.
- 230 UNKNOWN HAZARDS: Inform the CA of any unrecorded voids, flues, services, etc. discovered during erection of support systems. Agree with the CA methods for infill, making good, relocation of support connections, etc.
- 310 MAINTAINING SUPPORT SYSTEMS:
- Provide safe access and safe places of work in the support systems for inspection and maintenance.
 - Regularly inspect and maintain support systems, making good ties, wedges, connections, corrosion protection, etc. as necessary.
 - Adequately protect support systems from impact damage by vehicles, plant and site operations.
 - Prevent access of unauthorised persons onto support systems. Leave safe outside working hours.
- 320 MAINTAINING SUPPORTED STRUCTURE:
- Regularly inspect and monitor supported structure to ensure stability. Report any significant movement or deterioration of the fabric of supported structure to the CA.
 - Agree any necessary remedial work with the CA.
 - Adequately protect supported structure from damage by site operations and from staining due to corrosion of support systems.
- 410 DISMANTLING SUPPORT SYSTEMS: When all permanent connections between supported structure and new construction have been made inform the CA and obtain any required permission to disconnect and dismantle support systems.
- 420 COMPLETION CONDITION SURVEY:

- After disconnection of support systems, survey and record the state of structure kept in place.
 - Ensure that all defects caused by or due to support systems have been remedied.
 - Agree the completion condition survey record with the CA.
- 440 COMPLETION: Clear away all support systems and leave the site and any working areas beyond the site boundary in a tidy condition on completion.

C41 Repairing/ renovating/ conserving masonry

Scope: Refer to schedule of work

Workmanship generally

150 Power tools

1. **Usage for the removal of mortar:** Permitted only with prior approval. Expert use of appropriate power tools to assist may only be considered in strictly controlled situations. Where power tools are required, impact power tools will not be permitted, only oscillating tools will be considered.

155 Putlog scaffolding

1. **Design::** Design Proposals for scaffold should aim to minimise any added load onto structure or fixings into existing fabric.
2. **Usage:** Permitted only with prior approval.
3. **Fixings::** A strategy for the insertion and removal of fixings should be devised before scaffolding is erected. Expanded ferrous anchor sockets left in masonry will cause staining and cracking as they rust and must be removed at the end of the work.

160 Protection of masonry units and masonry

1. **Masonry units:** Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
2. **Masonry:** Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

165 Structural stability

1. **General:** Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

170 Disturbance to retained masonry

1. **Retained masonry in the vicinity of repair works:** Disturb as little as possible. Where dountakings abut components to be retained, review with Architect.
2. **Existing retained masonry:** Do not cut or adjust to accommodate new or reused units.
3. **Retained loose masonry units and those vulnerable to movement during repair works:** Prop or wedge so as to be firmly and correctly positioned. Refer to C30 for requirements relating to shoring for forming of openings in masonry.

180 Workmanship

1. **Skill and experience of site operatives:** Appropriate for types of work on which they are employed.
- 1.1. **Documentary evidence:** Submit on request.

185 Adverse weather

1. **General:** Do not use frozen materials or lay masonry units on frozen surfaces.
2. **Air temperature:** Do not bed masonry units or repoint:
 - 2.1. In cement-gauged mortars when ambient air temperature is at or below 3°C and falling or

unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.

2.2. In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.

2.3. In non-hydraulic lime:sand mortars in cold weather, unless approval is given.

3. **Temperature of the work:** Ambient air temperatures must be 5°C and rising. Temperatures must be maintained above this until mortar has fully set.

4. **Rain, snow and dew:** Protect masonry by covering with hessian during precipitation, and at all times when work is not proceeding. During cold spells where temperatures are due to drop below 5°C heaters may be used to maintain suitable air temperatures.

5. **Hot conditions and drying winds:** Prevent masonry from drying out rapidly by spraying down with water at the beginning and end of the working day. Spraying down should not saturate the masonry, but dampen surface allowing mortar to cure. Maintain protection of damp hessian at all times, this should be positioned off the face of the masonry.

6. **New mortar damaged by frost:** Rake out and replaced when temperatures are sufficiently warmer to prevent frost damage.

190 Control samples

1. **General:** Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder: Render removal and replacement, Mortar removal and replacement, Plaster removal to internal face of external walls, lintel install or replacement, cill install or replacement.

Materials/ production/ accessories

215 Material samples

1. Representative samples of designated materials: Submit before placing orders.

1.1. Designated materials: Dressed stone for new or repaired openings. Rubble stone for infill to existing and construction of new masonry walls. Top and base coat for rendering external elevations. Sands for mortar repairs. Sands for grouting. Sands for bedding and pointing.

2. Retention of samples: Unless instructed otherwise, retain samples on site for reference. Protect from damage and contamination.

415 Stone pinnings for rubble stonework

1. Material for pinnings: Reclaimed sound pinnings of suitable matching stone specification.

2. Placing: Tamp pinnings firmly into fresh mortar. Ensure that mortar is thoroughly compacted into voids and that levelling and load distribution functions of pinnings are retained.

420 Temporary distance pieces for joints in ashlar stonework

1. Material: Lead or stainless steel.

2. Removal: When mortar/ grout is sufficiently strong to take loading without compression.

Tooling/ dressing stone in situ

450 Weathering ledges at joints

1. Locations: Where stones project or are recessed.

2. Requirement: Carefully weather the ledge, to approval.

3. Method: Suitably graded carborundum blocks or tooling, as appropriate

Pointing/ repointing

810 Preparation for repointing

1. Existing mortar: Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of: 40 mm, to a sound base.

1.1. Loose or friable mortar: Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.

2. Raked joints: Remove dust and debris.

820 Pointing to Existing Masonry

1. Description: To existing stonework generally
2. Preparation of joints: Rake out existing mortar. Carefully brush away loose mortar. Dampen joints, as necessary, to control suction
3. Mortar: As section Z21.
 - 3.1. Standard: IS EN 998-2
 - 3.2. Mix: To be assessed following reviewing of existing masonry with stonemason and architect. Allow provisionally for a 1:2 NHL 3.5 hydraulic lime:sand
 - 3.3. Sand source/ type: As Section Z21
4. Joint profile/ finish: Recessed back from weathered arrises to retain original joint widths. Brushed and beaten back finish.

840 Pointing with tools/ irons

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

C51 Repairing/ renovating/ conserving timber

General

110 Inspection

1. Purpose: To confirm nature and extent of repair/ renovation/ conservation work shown on drawings, and described in survey reports and schedules of work.

130 Opening up

1. Purpose: To reveal previously concealed areas of structure or fabric not recorded during initial surveys.
2. Extent: To reveal all floor joists that are to be retained

150 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with the chain of custody certification scheme requirements:
 - 2.1. documentary evidence (that has been or can be independently verified) regarding the provenance of all timber supplied; or
 - 2.2. evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of Custody Certification scheme: Forest Stewardship Council (FSC), Grown in Britain (GiB) or Programme for the Endorsement of Forest Certification (PEFC)

Products

310 Structural softwood (graded direct to strength class)

1. Description: FOR STRUCTURAL USE GENERALLY
2. Strength class to BS EN 338: To SE specification
3. Treatment
 - 3.1. Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8
 - 3.1.1. Design service life: 40 years
 - 3.2. Fire-retardant treatment: None required
4. Moisture content (maximum) at time of installation: To SE specification

350 Ungraded softwood

1. Description: For internal, non-structural use
2. Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
3. Surface finish: Sawn
4. Treatment
 - 4.1. Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8

380 Structural plywood

1. Description: For floor build ups
2. Standard: To BS EN 636.
3. Service class to BS EN 1995-1-1: Class 2
4. Use class: Use Class 2
5. Load duration class to BS EN 12369-2: To SE specification
6. Characteristic strength class to BS EN 12369-2: To SE specification
7. Characteristic modulus class to BS EN 12369-2: To SE specification
8. Appearance class to BS EN 635: To SE specification
9. Bonding quality to BS EN 314-2: To SE specification
10. Nominal thickness: 2x9.5mm
11. Finish: Sanded
12. Treatment:
 - 12.1. Preservative treatment:
 - 12.1.1. Design service life: 40 years
 - 12.2. Fire-retardant treatment: None required

390 Non-structural plywood

1. Description: For all non-structural uses
2. Standard: To an approved national standard.
3. Thickness: varies
4. Appearance class to BS EN 635: IV
5. Bond quality to BS EN 314-2: Class 1, 2 and 3 depending on use location
6. Finish: Sanded
7. Edges: Square
8. Treatment
 - 8.1. Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C11
 - 8.1.1. Design service life: 40 years
 - 8.2. Fire-retardant treatment: None required

430 Proprietary framing anchors and cleats

1. Manufacturer:
 - 1.1. Product reference:
2. Material/ finish:
3. Fasteners:

Execution

600 Workmanship

1. Skill and experience of site operatives: Appropriate for types of work on which they are employed.
 - 1.1. Documentary evidence: Submit on request.

610 Temporary supports/ propping

1. General: Provide adequate temporary support at each stage of repair work to prevent damage, oversteering or uncontrolled collapse of any part of the structure.
2. Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.

620 Protection of timber and wood components before and during installation

1. Storage: Keep dry, under cover, clear of the ground and with good ventilation. Support sections/ components on regularly spaced, level bearers on a dry, firm base.
2. Handling: Do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.

660 Cross section dimensions of structural softwood and hardwood

1. Dimensions: Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.
2. Tolerances: The tolerance indicators (T1) and (T2) specify the maximum permitted deviations from target sizes as stated in BS EN 336, clause 4.3:
 - 2.1. Tolerance class 1 (T1) for sawn surfaces.
 - 2.2. Tolerance class 2 (T2) for further processed surfaces.

665 Cross section dimensions of non-structural softwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1, clause 6 for sawn sections.

670 Cross section dimensions of non-structural hardwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-2:
 - 2.1. Clause 6 for sawn sections.
 - 2.2. Clause NA.3 for further processed sections.

680 Warping of timber

1. Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood

690 Processing treated timber

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

700 Wood components – as delivered finish

1. Components to be painted: Primed
2. Components to be clear finished: Natural

710 Reuse of timber sections/ wood components

1. Sections/ components scheduled to be removed but not reused in existing locations: Agree extent of retention for reuse elsewhere in the works.
 - 1.1. Treatment following removal: Refurbish and repair as necessary.
 - 1.2. Storage: Protect against damage, and store until required.
 - 1.2.1. Storage location: Adjacent to shed, refer to architects drawings
2. Reuse: Adapt sections/ components, as necessary, and install in agreed locations.

720 Temporary removal and reinstatement of fittings/ fixtures

1. Items to be removed, and reinstated on completion of repair work
 - 1.1. Identification: Attach labels or otherwise mark items using durable, non-permanent means, to identify location and refixing instructions, where applicable.
 - 1.2. Treatment following removal: Refurbish and repair as necessary
 - 1.3. Storage: Protect against damage, and store until required.
Storage location: Adjacent to Shed, refer to architects drawings.
 - 1.4. Reinstatement: Refit in original locations using original installation methods.
2. Items unsuitable or not required for reuse: Obtain instructions regarding disposal.

740 Removal of existing decorative/ protective finish

1. Description: To existing architectural joinery that is to be retained including doors, architraves, stair trims, floorboards
2. Extent: Remove completely back to bare wood.
3. Method: Finishes can be removed from small areas on important items by careful use of scrapers and abrasive paper. Alkaline paint strippers, applied manually, and hot air guns are the safest means of completely removing coatings without damage to the wood surface. The use of blow torches is not recommended on historically valuable items.

750 Cleaning dirty or stained wood

1. Generally: Scrub with neutral pH soap and clean, warm water.
2. Old varnish: Remove using mixture of turpentine (not turpentine substitute) and acetone in proportions determined by experiment, followed by washing down.

760 Repair of members – cutting out members

1. Extent of timber removal: Cut out full cross section of member where wood is defective or decayed, plus maximum shown on schedule of sound wood.
2. Distance from face of support to cut end of existing timber: Obtain instructions if dimension exceeds maximum shown on schedule.
3. Joint profile:

770 Repair of compression members – piecing in

1. Defective wood: Remove only decayed or defective wood. Finish cut-outs to clean, regular profiles.
2. Timber inserts: Cut accurately to fit. Glue and pin in place. Lie of grain to match as closely as possible that of parent timber.
3. Joint profile: As shown on drawings.

780 Repair of distorted timber members

1. Generally: Repair to shape that member has assumed.

790 Pegs for mortise and tenon joints in structural timber

1. Wood species: Oak.
2. Condition: Dry, preferably oven 'baked' before use.
3. Shape: Round and tapered.
4. Second hand pegs: Do not use.
5. Peg holes: Slightly offset such that when pegs are driven home, sections being joined are pulled together.

800 Condition of dowels to be bonded into timber

1. Condition at time of installation
 - 1.1. Dowels generally: Free from corrosive pitting, loose mill scale, loose rust and contaminants that may adversely affect dowels, adhesive, or bond between the two.
 - 1.2. Carbon steel dowels: As above, and free from corrosive pitting, loose mill scale and loose rust.

810 Bolted joints with connectors

1. Connector location: Where not otherwise shown, spacings, end and edge distances are to be not less than Standard values to BS EN 1995-1-1, section 8.9 for split ring and shear plate connectors, and BS EN 1995-1-1, section 8.10 for toothed plate connectors.
2. Centres of bolt holes: Not more than 2 mm from positions shown on drawings.
3. Assembly: Do not crush timber, deform washers or overstress bolts.

830 Critical dimensions for fasteners

1. Critical dimensions:

840 Fixing framing anchors and cleats

1. Before installation: Submit details if joint geometry prevents installation to manufacturer's recommendations.
2. Installation: Secure using not less than number of fasteners recommended by manufacturer.

850 Glued joints

1. Adhesive:

- 1.1. Compatibility: Where relevant, obtain manufacturer's confirmation that adhesive is compatible with preservative/ fire-retardant treatment.
2. Glued structural components: Fabricated to BS 6446 in clean, controlled workshop conditions.
3. Anticipated equilibrium moisture content of timber in service:

860 Moisture content checking

1. Procedure: Check moisture content of timber sections with an approved electrical moisture meter.
2. Test results: Keep records of all tests. If moisture content falls outside specified range, obtain instructions.

870 Moisture content testing

1. Procedure: Test timber sections with an electrical moisture meter with deep probes. (A meter that has been carefully calibrated against oven drying tests or otherwise guaranteed by an independent testing authority).
2. Test sample: Test 5% but not less than 10 lengths of each cross-section in the centre of the length.
3. Test results: 90% of values obtained to be within the specified range. Provide records of all tests.

Completion

910 Mechanically fastened joints

1. General: Inspect accessible bolted, coach screwed and timber pegged joints and tighten fasteners if necessary.
- 1.1. Timing: On Completion and at end of Defects Liability Period or Rectification Period.

C52 Fungus/ beetle eradication

Scope: as set out in Specialist report prepared by Stronghold

120 Associated work

1. Work shown to be necessary by survey: Carry out as part of main contract works

140 Opening up/ Cutting out/ Removal of building fabric

1. Extent: Submit proposals.
2. Retained building fabric: Maintain stability and do not damage.

150 Drying out of building fabric

1. Drying conditions: Establish as soon as possible.
2. Drying methods: Submit proposals for achieving effective permanent ventilation

162 Preparation generally for preservative/ Fungicide treatments to timbers/ Masonry

1. Furnishings/ components/ finishes within treated areas: Prevent staining and other adverse effects.
2. Water supplies: Do not contaminate.
3. Electrical equipment and supplies: Isolate circuits as required and prevent ingress of treatment fluids.
4. Cleanliness: Remove loose material, dust and debris from surfaces to be treated.

210 Dry rot

1. Fruiting bodies: Do not disturb. If heat treatment is not employed, spray with fungicide.
- 1.1. Removal: Remove carefully. Clean surfaces.
2. Infected material to be removed: Remove carefully, causing minimum disturbance and damage to adjacent building fabric; dispose of safely at a tip approved by a waste regulation authority. Prevent contamination of other parts of the building.
3. Infected material to be retained: Obtain instructions

220 Wet rot

1. Decayed timber to be removed: Cut out until sound timber is reached.
- 1.1. Disposal of previously treated timber: At a tip approved by a waste regulation authority.
2. Decayed timber to be retained: Obtain instructions

230 Beetle infestation

1. Infected timber: Cut, scrape and trim back to sound timber where heat treatment is not employed. Remove debris immediately and dispose of safely at a tip approved by a waste regulation authority. Prevent contamination of other parts of the building.

240 Salvaged materials

1. Sound, uninfected materials: Give notice before reusing/ recycling.

310 Timber preservatives/ Masonry fungicides generally

1. Products: Registered by the Health and Safety Executive (HSE) and listed on the HSE website under non-agricultural pesticides.
2. Application: In accordance with statutory conditions of approval given on product labels and as manufacturers' recommendations.

318 Timber preservative treatment

1. Description: Generally
2. Preservative type: Submit proposals
3. Tint: Not required
4. Treatment method: As manufacturer's recommendations

338 Masonry fungicide treatment

1. Fungicide type: Submit proposals
2. Tint: Not required
3. Treatment method: As manufacturer's recommendations

355 Drilling timber for injection of preservatives

1. Sizes and location of holes: Submit proposals.
2. Sealing holes after treatment: Submit proposals
3. Approval of appearance: Obtain approval of first few holes before completing remainder.

390 Guarantee

1. Type: Insurance protection. Administered by an independent insurance protection company.
- 1.1. Guarantee period from completion of installation (minimum): 20 years
2. Documentation: Provide certificates/ guarantees at completion of installation.

D20 Excavating and filling

240 Adjacent excavations

1. **Requirement:** Where an excavation encroaches below a line drawn at an angle from the nearest formation level of another higher excavation, the lower excavation, all work within it and backfilling thereto, must be completed before the higher excavation is made.
2. Angle of line below horizontal: 45°
3. Backfill material: As clause 248 when upper excavation will contain a foundation. Otherwise, compacted general filling as clause 626

244 Excavations adjacent to existing foundations

1. Prior to commencing excavation
 - 1.1. Excavate trial pits adjacent to existing foundations to determine extent and formation levels.
 - 1.2. Allow for inspection of trial pits.

710 Hardcore filling

1. Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any

direction: to SE specification.

2. Material

2.1. Permitted materials in any one layer

2.1.1. Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.

2.1.2. Crushed concrete, crushed brick or tile, free from plaster, timber and metal.

2.1.3. Crushed non-expansive slag.

2.1.4. Gravel or hoggins with not more clay content than is required to bind the material together, and with no large lumps of clay.

2.1.5. Well-burned non-plastic colliery shale.

2.1.6. Natural gravel.

2.1.7. Natural sand.

3. Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer

730 Blinding

1. Surfaces to receive sheet overlays or concrete:

2. Blind with

2.1. Concrete where shown on drawings; or

3. Sand, fine gravel, or other approved fine material applied to fill interstices. Moisten as necessary before final rolling to provide a flat, closed, smooth surface.

4. Sand for blinding: To BS EN 12620, grade 0/4 or 0/2 (MP).

5. Permissible deviations on surface level: to SE specification

F20 REPAIRS TO NATURAL STONE RUBBLE WALLING

To be read with Preliminaries/General conditions.

General

Stone cleaning & repair work is only to be carried out by experienced and approved (by Architect) specialist masonry contractors. The name and details of relevant experience of the specialist subcontractor must be submitted to the Architect before awarding of the contract.

The specialist subcontractor will be responsible for development an appropriate methodology for cleaning and repair work based on the requirements set out in in the tender documents and schedule of works. The methodology is required to be submitted for agreement with the project architect. This document will also be submitted to Sligo County Council conservation section for approval.

The tender pricing schedule sets out the elements of work that are required. Works involving removal of failing earlier cement repairs are difficult to quantify accurately. A full restoration of the façade is not strictly necessary at this stage, however an allowance of 75% of pointing is specified in order to determine the cost of restoration work. Whatever the extent of works that are instructed by the employer, the stonework contractor will be required to review the areas with the architect and confirm quantities at the earliest possible stage during the works in order that a fixed price for these works can be agreed. Emphasis of the work is stabilising the existing fabric. All work to the masonry must be recorded both before and after the works are carried out. Each type of repair will require a separate approach and considered method of execution; the contractor will be required, in consultation with the design team, to prepare a simple method statement for execution of each type of work for agreement.

TYPE(S) OF WALLING

- 110 LOCAL REPOINTING TO EXISTING STONE WALLING:
- Stone: existing stonework.
 - Mortar: As section Z21.
Sand: Graded crushed stone, colour matched to approval.
 - Joints: flush pointed and finished as clause 390.
 - Other requirements: following local removal of vegetation, allow architect to photograph area, provide traced drawing with exact areas of work to be annotated. Additional areas of pointing should not be carried in order to preserve patina of the historic structure

GENERAL REQUIREMENTS

- 210 RELATED WORK is specified in the following sections:
F30 Accessories/Sundry items for brick/block/stone walling.
- 230 OPERATIVES: Cutting, dressing, laying and jointing of stone to be carried out by skilled masons. Provide evidence of previous experience and details of work previously carried out. Allow for training in use of lime mortars as noted in Z21/100.
- 240 APPEARANCE: Make arrangements for the CA to inspect samples.

LAYING AND JOINTING

- 305 PROTECTION:
- Store stone clear of the ground, protect from inclement weather and keep dry. Prevent soiling, chipping and contamination by salts and other deleterious substances.
 - Prevent timber bearers, protective boards, etc. from staining facings in wet conditions by wrapping with polyethylene.
 - Prevent damage and disfigurement to stonework during the course of the works. Ensure that arrises and projecting features are protected using securely fixed slats, boards, etc. Remove at Practical Completion.
- 315 ADVERSE WEATHER:
- Do not use frozen materials and do not lay on frozen surfaces.
 - Do not lay stones when air temperature is at or below 3 degC. unless mortar has a minimum temperature of 4 degC when laid and walling is protected.
 - Maintain temperature of the work above freezing until mortar has fully set.
 - Adequately protect newly erected walling against rain and snow by covering when precipitation occurs and at the completion of each days work.
 - Rake out and replace mortar damaged by frost and where instructed, rebuild damaged work.
 - Lime mortars require protection from frost for at least 3 months; note requirement for temporary hoardings to facilitate this
- 325 LAYING:
- Lay stones on their natural bed on a full even bed of mortar with all joints filled and between 12-18 mm wide. Evenly distribute different shapes, sizes and colours throughout the face of the wall to give a consistent overall appearance and good bond with no long continuous vertical joints.
 - Accurately plumb all wall faces, angles and features. Set out carefully to ensure satisfactory junctions and joints with adjoining or built-in elements and components.
 - Keep stonework clean during construction and until Practical Completion. Ensure that no mortar encroaches on face when laying. Turn back scaffolding boards at night and during heavy rain. Rubbing to remove marks or stains will not be permitted.
- 370 BONDERS: In walls which are faced both sides build in bonding stones of a length two thirds the thickness of the wall, one to every square metre of each side of the wall and staggered.
- 380 COURSED WORK: Keep courses true to line and level.
- 390 JOINTING: Finish exposed joints neatly and consistently as the work proceeds. After the initial set has taken place, stipple joints with a stiff brush to expose aggregate.
- 410 SUPPORT OF EXISTING WORK: Where walling is to support existing structure, completely fill top joint with semidry mortar, hard packed and well rammed to ensure full load transfer after removal of temporary supports.

L10 Windows

General

115 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations, in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
 - 2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - 2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: In accordance with UK Timber Procurement Policy (UKTPP), i.e. FSC, GiB or PEFC
 - 3.1. Other evidence: UK Timber Procurement Policy (UKTPP), Category B

120 Pre-construction survey

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. Designated items: Refer to Architect's drawings for all designated items to be surveyed and or retained for matching to original details.

140 Control samples

1. Procedure
 - 1.1. Finalize component details.
 - 1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
 - 1.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
2. Designated items: Profiles of all window components. Full sash and case window.

252 New timber sash and case windows

1. Refer to Architect's Drawings
2. Standard: To BS 644.
3. Manufacturer: A firm currently registered under a third party quality assurance scheme.
4. Exposure category to BS 6375-1/ Design wind load: Contractor Determined as clause B50/470
5. Operation and strength characteristics: To BS 6375-2.
6. Timber: Generally to BS EN 942.
 - 6.1. Species: Douglas fir to frame and European Oak to sills
 - 6.2. Appearance class: J2 for drip mouldings and the like. J30 or better for all other members. Finger jointing and knots on arrises not permitted where exposed to view.
 - 6.3. Moisture content on delivery: 12-19%.
7. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years
8. Finish as delivered: Prepared and primed as section M60
9. Thermal performance (U-value maximum): 1.4 W/m²K
10. Glazing details: Trinity Glazing Ltd, Unit 4A, Stewartfield Industrial Estate, Edinburgh, sales@trinityglazing.co.uk, www.trinityglazing.co.uk
- Product Reference: Heritage Slimline Double Glazed Units
11. Sealant: Linseed oil and burnt sand mastic
12. Ironmongery/ Accessories: Ironmongery and draught sealing as as P21
13. Fixing: Fixed to timber frame reveal as 780 and Built in with cramps as clause 780
14. Sample: To be provided for sign off / client approval of window before general fabrication.
15. Ironmongery/ Accessories: Brass cord plug, heavy duty clutch system and heavy duty hinges,

easyclean system, thumb turn to removable bead, sash fastener, lifting draught proofing strips and nylon sash rope. Trickle ventilator. Refer to Ironmongery schedule for lifting handles etc.

15.1. Weatherbar: Solid Drawn Brass Weather Bar by A&H Brass.

15.88 x 6.35mm Flat Section, finished in Applied Bronze Waxed (BZW).

252A New timber fixed and casement windows

1. Refer to Architect's Drawings
2. Standard: To BS 644.
3. Manufacturer: A firm currently registered under a third party quality assurance scheme.
4. Exposure category to BS 6375-1/ Design wind load: Contractor Determined as clause B50/470
5. Operation and strength characteristics: To BS 6375-2.
6. Timber: Generally to BS EN 942.
 - 6.1. Species: Douglas fir to frame and European Oak to sills
 - 6.2. Appearance class: J2 for drip mouldings and the like. J30 or better for all other members. Finger jointing and knots on arrises not permitted where exposed to view.
 - 6.3. Moisture content on delivery: 12-19%.
7. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years
8. Finish as delivered: Prepared and primed as section M60
9. Thermal performance (U-value maximum): 1.2 W/m²K
10. Glazing details: Double glazed units
11. Bead: Internal Timber bead
12. Ironmongery/ Accessories: Ironmongery and draught sealing as as P21
13. Fixing: Fixed to timber frame reveal as 780 and Built in with cramps as clause 780
14. Sample: to be provided for sign off / client approval of window before general fabrication.
15. Configuration: Fixed and Top Hung open out - see drawing and schedule for details
16. Ironmongery/ Accessories: Refer to ironmongery schedule
 - 16.1. Weatherbar:: Solid Drawn Brass Weather Bar by A&H Brass.
- 15.88 x 6.35mm Flat Section, finished in Applied Bronze Waxed (BZW)

Products

205 Materials selection

1. Third-party certification: Submit proposals
2. Verification: Provide to Architect ahead of fabrication
 - 2.1. Timing: Before placement of orders.

Execution

710 Protection of components

1. General: Do not deliver components to site that cannot be installed immediately or placed in clean, dry-floored and covered storage.
2. Stored components: Stack them vertically or near-vertically on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

740 Corrosion protection

1. Surfaces to be protected:
2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic-impregnated tape.
 - 2.1. Timing of application: Before fixing components

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
 - 2.1. Requirement : Compressive insulation should be installed around openings to close any gap between frame edge and construction.
 - 2.2. Minimum: 3mm
 - 2.3. Maximum: 5mm
3. Distortion: Install windows without twist or diagonal racking.

770 Damp-proof courses in prepared openings

1. Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

780 Fixing of wood frames

1. Standard: As section Z20.
2. Fasteners: Stainless steel wood screws

810 Sealant joints

1. Description: To Rooflight/cupola manufacturer's recommendations.
2. Sealant
 - 2.1. Manufacturer: Submit proposals
 - 2.1.1. Product reference: Submit proposals
 - 2.2. Colour: To match surrounding materials
 - 2.3. Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

1. Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. Checking/ adjusting/ lubricating: Carry out at completion and ensure correct functioning.

895 Verification on completion

1. Requirement: Check completed system and provide assurance of compliance with specification.
2. Method: Inspection of completed areas of glazing.
3. Submittals
 - 3.1. Format: Photographic record
 - 3.2. Timing: At completion of installation

L40 General glazing

General requirements

150 Workmanship and positioning generally

1. Glazing generally: In accordance with BS 6262 series.
2. Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
3. Dimensional tolerances: Panes/ sheets to be within +/-2 mm of specified dimensions.
4. Materials
 - 4.1. Compatibility: Glass/ plastics, surround materials, sealers, primers and paints/ clear finishes to be used together to be compatible. Avoid contact between glazing panes/ units and alkaline materials such as cement and lime.
 - 4.2. Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

152 Preparation

1. Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing; ensure compliance with any certified installation requirements

155 Glass generally

1. Standards: To BS 952-1 and the relevant parts of:
 - 1.1. BS EN 572-9 for basic soda lime silicate glass.
 - 1.2. BS EN 1748-1-1 for borosilicate glass.
 - 1.3. BS EN 1748-2-1 for ceramic glass.
 - 1.4. BS EN 1863-2 for heat-strengthened soda lime silicate glass.
 - 1.5. BS EN 12150-2 for thermally toughened soda lime silicate safety glass.
 - 1.6. BS EN 12337 for chemically strengthened soda lime silicate glass.

1.7. BS EN 13024-2 for thermally toughened borosilicate safety glass.

1.8. BS EN 14449 for laminated glass and laminated safety glass.

Panes/ sheets:

2.1. Edges:

165 Heat-soaking of thermally toughened glass

1. Standard: To BS EN 14179-1 and BS EN 14179-2.

1.1. Holding period (minimum): Three hours.

2. Certified evidence of treatment: Submit.

3. Designated locations: BS 6262 Part 4: 2005, where all or part of the pane is: within 800mm of floor level; or part of a door leaf; or within 300mm of a door leaf and within 1.5m of floor level.

Where safety glazing is installed, all other glass within that door or window should be of the same specification to ensure a consistent appearance.

180 Bead-fixing with pins

1. Pin spacing:

2. Exposed pin heads:

181 Bead-fixing with screws

1. Screw spacing:

Types of glazing

210 Putty-fronted glazing

1. Description: To windows and external doors generally

2. Manufacturer: Submit proposals

3. Pane material: Clear float / toughened to suit BS 6262 Part 4: 2005

4. Surround: Timber

5. Type of putty: Linseed oil

6. Glass installation

6.1. Glass: Located centrally in surround using setting and location blocks, and secured with glazing sprigs/ cleats/ clips at 300 mm centres.

6.2. Finished thickness of back bedding after inserting glazing (minimum): 1.5 mm.

6.3. Front putty: Finished to a smooth, neat triangular profile stopping 2 mm short of sight line. Surface lightly brushed to seal putty to glass, and left smooth with no brush marks.

7. Sealing putty: Seal as soon as sufficiently hard, but not within seven days of glazing. Within 28 days, apply either:

7.1. The full final finish, suitably protected until completion and cleaned down and made good as necessary, or

7.2. Two coats of primer applied locally to the compound, to be followed nearer completion with the full specified finish.

8. Opening lights: Keep in closed position until putty has set sufficiently to prevent displacement of glazing when opened.

230 Bead-fixed single glazing – Internal

1. Description: Single glazing to internal doors and windows

2. Pane material: Clear float / toughened to suit BS 6262 Part 4: 2005

3. Surround/ bead: Linseed Oil Putty

3.1. Bead location: Inside

Glazing compound: Non-setting compound

5. Glazing installation

5.1. Glass: Located centrally in surround using setting and location blocks and distance pieces.

5.2. Finished thickness of back bedding after inserting glazing (minimum): 1.5 mm.

5.3. Front bedding: Finished to a smooth, neat triangular profile stopping 2 mm short of sight line.

M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

Types of tiling/ mosaic

110 Tiling

1. Description: To tiled floor in entrance hall where scheduled
2. Tiles: As scheduled
 - 2.1. Manufacturer/ supplier: As scheduled
 - 2.1.1. Product reference: As scheduled
 - 2.2. Colour: TBC
 - 2.3. Finish: TBC
 - 2.4. Size: TBC
 - 2.5. Thickness: TBC
3. Background/ base: Cement backer board
 - 3.1. Preparation: To suit tile adhesive
4. Bedding: Adhesive bed – notched trowel method to tile manufacturer's recommendations, as clause 650.
 - 4.1. Adhesive: Contractor's choice to [BS EN 12004-1](#)
5. Joint width: 3mm
6. Grout: To [BS EN 13888-1](#). Colour TBC Cement:lime:sand, as clause 865

111 Stone Steps

1. Description: To stone steps where scheduled
2. Stone: To [BS EN 771-6](#).
 - 2.1. Name (traditional): TBC by stonemason on site. To match existing and to Architect's approval.
 - 2.2. Unit dimension tolerances: Length +1 mm, width (bed) +1 mm, height +1 mm
 - 2.3. Compressive strength
 - 2.3.1. Mean value (minimum): To SE specification
 - 2.3.2. Characteristic value (minimum): To SE specification
 - 2.3.3. Category: To SE specification
 - 2.4. Additional requirements: All stone shall be dressed by hand to finishes specified by Architect. No sawn faces or arises, or any machine markings will be permitted on the finished faces of stone. Bedding faces should be tooled to ensure sufficient key.
- 2.5. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
3. Mortar: As section Z21.
 - 3.1. Standard: To IS EN 998-2
 - 3.2. Mix – for site-batched and site-mixed mortar, select from: To be assessed following reviewing of masonry specification with stonemason and architect. Allow provisionally for a 1:2 NHL 3.5 hydraulic lime:sand
 - 3.3. Sand: TBC with stonemason and architect on site following assessment of stone specification.
4. Bond: As shown on drawings
5. Joints: Flush.
 - 5.1. Width: 4 mm
 - 5.2. Pointing: As clause 390
6. Other requirements: Refer to SE specifications for structural requirements. Sample to be provided ahead of ordering of materials.

112 Stone Entrance Platts

1. Description: To stone entrance platts externally and internally where scheduled
2. Stone: To [BS EN 771-6](#).
 - 2.1. Name (traditional): TBC by stonemason on site. To match existing and to Architect's approval.
 - 2.2. Unit dimension tolerances: Length +1 mm, width (bed) +1 mm, height +1 mm
 - 2.3. Compressive strength
 - 2.3.1. Mean value (minimum): To SE specification
 - 2.3.2. Characteristic value (minimum): To SE specification
 - 2.3.3. Category: To SE specification
 - 2.4. Additional requirements: All stone shall be dressed by hand to finishes specified by Architect. No sawn faces or arises, or any machine markings will be permitted on the finished faces of stone. Bedding faces should be tooled to ensure sufficient key.
- 2.5. Quality: Free from vents, cracks, fissures, discolouration, or other defects deleterious to

strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.

3. Mortar: As section Z21.

3.1. Standard: To IS EN 998-2

3.2. Mix – for site-batched and site-mixed mortar, select from: To be assessed following reviewing of masonry specification with stonemason and architect. Allow provisionally for a 1:2 NHL 3.5 hydraulic lime:sand

3.3. Sand: TBC with stonemason and architect on site following assessment of stone specification.

4. Bond: As shown on drawings

5. Joints: Flush.

5.1. Width: 4 mm

5.2. Pointing: As clause 390

6. Other requirements: Refer to SE specifications for structural requirements. Sample to be provided ahead of ordering of materials.

115 Natural stone covering

1. Description: To floor in entrance hall where scheduled

2. Type: Calibrated modular tiles to [BS EN 12057](#)

3. Stone

3.1. Name (traditional): TBC

3.2. Petrological family: TBC

3.3. Colour: TBC

3.4. Origin: TBC

3.5. Finish: TBC

3.6. Supplier: Submit proposals

3.7. Quality: Free from vents, cracks, fissures, discoloration, or other defects deleterious to strength/ colour.

3.8. Size: TBC

3.9. Thickness: TBC

3.10. Slip potential

3.10.1. Slip resistance value (SRV) (minimum) to BS EN 14231: 45 wet

3.10.2. Surface roughness (Rz) (minimum) to BS 1134: Manufacturer's standard

4. Background/ base: Proprietary board

4.1. Preparation: To board manufacturer's recommendations

5. Bedding:

5.1. Reinforcement:

5.2. Adhesive: Contractor's choice to [BS EN 12004-1](#)

6. Joint width: 5mm

7. Grout: Cement:lime:sand, as clause 865

8. Accessories: TBC

115 Natural stone covering Stone Slabs

1. Description: To ground floor generally

2. Type: Reclaimed stone slabs to match existing hallway

3. Stone

3.1. Name (traditional): TBC

3.2. Petrological family: TBC

3.3. Colour: TBC

3.4. Origin: TBC

3.5. Finish: TBC

3.6. Supplier: Submit proposals

3.7. Quality: Free from vents, cracks, fissures, discoloration, or other defects deleterious to strength/ colour.

3.8. Size: TBC

3.9. Thickness: TBC

3.10. Slip potential

3.10.1. Slip resistance value (SRV) (minimum) to BS EN 14231: 60 dry

3.10.2. Surface roughness (Rz) (minimum) to BS 1134: 30 micrometres

4. Background/ base: Screed/dry mix - Refer to Architect's drawings

4.1. Preparation: To board manufacturer's recommendations

5. Bedding: Semi-dry bed, as clause 730.

6. Joint width: 5mm

7. Grout: Cement:lime:sand, as clause 865

8. Accessories: None

General

210 Suitability of backgrounds/ bases

1. Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
2. New background drying times (minimum)
3. New base drying times (minimum)
- 3.1. Cement:sand screeds: Three weeks.

215 Falls in the bases

1. General: Give notice if falls are inadequate.

250 Samples

1. General: Submit representative samples of the following: Each type of tile.

252 Natural stone samples

1. General: Submit samples in accordance with [BS EN 12057](#), clause 4.2.3.2 and [BS EN 12058](#), clause 4.2.3.2.

260 Control samples

1. General: Complete sample areas, being part of finished work, in locations as follows: to be agreed with Architect.
- 1.1. Approval of appearance: Obtain before proceeding.
2. Floor covering slip resistance testing: to be agreed with Architect

Preparation

310 Existing backgrounds/ bases generally

1. Efflorescence, laitance, dirt and other loose material: Remove.
2. Deposits of oil, grease and other materials incompatible with the bedding: Remove.
3. Tile, paint and other nonporous surfaces: Clean.
4. Wet backgrounds: Dry before tiling.

390 Plasterboard backgrounds

1. Boards: Dry, securely fixed and rigid with no protruding fixings and face to receive decorative finish exposed.

400 Backgrounds

1. Description: To showers generally
2. Boards: James Hardie Hardiebacker Tile Backing Board 1200 x 800 x 12mm
3. Surfaces to be tiled: Seal or prime if recommended by adhesive manufacturer.

410 Hacking for key

1. Keying: Roughen backgrounds thoroughly and evenly to a depth of 3 mm.
2. Backgrounds to be keyed: For tiling generally

438 Preparing concrete bases for fully bonded bedding

1. Surface cement:sand matrix: Remove to expose coarse aggregate.
2. Surface preparation: Suitable to achieve a full bond with bedding. Select from:
 - 2.1. Keep well wetted for several hours. Remove free water then brush in a slurry bonding coat.
 - 2.1.1. Slurry: Neat cement
 - 2.2. Prepare, prime as necessary and apply a bonding agent.
 - 2.2.1. Bonding agent: [BBA](#)-certified SBR bonding agent

450 Preparing concrete bases for unbonded bedding – without separating layer

1. Surface finish: Smooth.
2. Surface preparation: Dampen lightly before laying mortar bed.

Fixing

510 Fixing generally

1. Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
 - 1.1. Variegated tiles: Mix thoroughly.
2. Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
3. Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
4. Cut tiles: Neat and accurate. Min 100mm in any direction.
5. Fixing: Provide adhesion over entire background/ base and tile backs.
6. Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
7. Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

530 Setting out

1. Joints: True to line, continuous and without steps.
 - 1.1. Joints on walls: Horizontal, vertical and aligned round corners.
 - 1.2. Joints in floors: Parallel to the main axis of the space or specified features.
2. Cut tiles: Minimize number, maximize size and locate unobtrusively.
3. Joints in adjoining floors and walls: Align.
4. Joints in adjoining floors and skirtings: Align.
5. Movement joints: Where locations are not indicated, submit proposals.
6. Setting out of All ceramic tiling and stone slabs : Drawing references: 42-series Architect's drawings.

540 Level of floor tiling

1. Permissible deviation in level from datum 5mm.

550 Flatness/ Regularity of tiling/ mosaics

1. Sudden irregularities: Not permitted.
2. Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm-thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 6 mm, i.e. a tolerance of +/- 3 mm.

560 Level of tiling across joints

1. Deviation (maximum) between tile surfaces either side of any type of joint
 - 1.1. 1 mm for joints less than 6 mm wide.
 - 1.2. 2 mm for joints 6 mm or greater in width.

570 Lime Mortar bedding

1. Bedding mix
 - 1.1. Lime: St. Astier Hourdex
 - 1.2. Sand: TBC by stonemason and architect. Clean, well graded 0-3mm (general). Lower or higher granulometries can be adopted. Avoid monogranular sands.
 - 1.3. Lime:Sand Mix : Ratio of 1:3
2. Mixing: To Manufacturer's requirements
3. Application: To Manufacturer's requirements
4. Other requirements:: Adequately dampen materials or background if too dry or with high suction. Do not work in temperatures below 5 °C or above 35 °C. The building materials or background should not be frosty or too hot or water saturated. Protect fresh mortars from frost, rain or strong direct sun. Storage: in dry store. Reseal open bags

578 Crack control reinforcement

1. Type to BS 4483: As required to BS 5385-5 - D49 or D98
2. Installation: Place centrally in depth of bed. Lap not less than 100 mm and securely tie together with steel wire.
3. Corners: Avoid a four-layer build at corners.

580 Porous tiles

1. Tiles to be bedded in cement:sand: Soak in clean water for at least 30 minutes. Fix as soon as surface water has drained.

650 Adhesive bed – notched trowel method (walls)

1. Application: By 3 mm floated coat of adhesive to dry background in areas of approximately 1 m². Comb surface.
2. Tiling: Press tiles firmly onto float coat.

710 Adhesive bed – notched trowel and buttering method (floors)

1. Application: Floated coat of adhesive to dry base and comb surface.
2. Tiling: Apply coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.
3. Finished adhesive thickness: Within range allowed by manufacturer.

730 Semi-dry cement:sand bedding (floors)

1. Mortar bedding mix: 1:8 cement:sand.
 - 1.1. Water content: A film of water must not form on surface of bed when fully compacted.
2. Preparation: Dampen base.
3. Laying: Lay suitably small working areas of screeded bed. Compact thoroughly to level.
 - 3.1. Finished bed thickness (minimum): 25 mm-43mm
 - 3.2. Finished bed thickness (maximum): 25 mm-43mm
4. Tiling: Within two hours and before bedding sets, evenly coat backs of tiles with neat cement slurry. Beat tiles firmly into position.

Movement joints/ grouting/ completion

865 Cement:lime sand grouting mix

1. Grout mix
 - 1.1. Cement: Portland cement to [BS EN 197-1](#), Type CEM I/42.5
 - 1.2. Hydrated non-hydraulic lime: To [BS EN 459-1](#), [BS EN 459-2](#) and [BS EN 459-3](#)
 - 1.3. Sand
 - 1.3.1. Joint widths of 6 mm or greater: To [BS EN 13139](#), grading designation 0/2 (FP or MP), Category 2 fines.
 - 1.3.2. Joint widths of 3-6 mm:
 - 1.4. Proportions (cement:lime:sand):
 - 1.5. Pigment:
 - 1.6. Admixture:
2. Mixing:

875 Grouting

1. Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
2. Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
3. Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
 - 3.1. Profile: Flush
4. Polishing: When grout is hard, polish tiling with a dry cloth.

885 Coloured grout

1. Staining of tiles: Not permitted
2. Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

M60 Painting/clear finishing

Coating systems

100 External Lime Paint

1. Description: External lime paint where scheduled.
2. Manufacturer: TBC
3. Surfaces: All lime render externally
 - 3.1. Preparation: Surfaces clean, free of contamination, dirt & oily stains, organic growth. Any flaky material to be brushed off
4. Initial coats: Mixed with 1/3rd additional water
 - 4.1. Number of coats: 1
5. Finishing coats: Diluted to manufacturers recommended levels
 - 5.1. Number of coats: 4
6. Other requirements:: 12 hours minimum to be allowed between coat applications.
7. Samples: Allow for two sample pots of alternative colours & for 2 No site samples of two coats each and not less than 1m2 in area

110 Emulsion paint

1. Description: To internal plastered surfaces generally where scheduled
2. Manufacturer: Refer to schedule
3. Surfaces: Primed and sealed
 - 3.1. Preparation: Ensure surfaces are clean and dry
4. Initial coats: As recommended by manufacturer
5. Number of coats: As recommended by manufacturer
6. Undercoats: As recommended by manufacturer
 - 6.1. Number of coats: As recommended by manufacturer
7. Finishing coats: As recommended by manufacturer
 - 7.1. Number of coats: As recommended by manufacturer

130 Gloss paint

1. Description: To architraves, skirtings, panelled shutters etc where scheduled.
2. Manufacturer: Refer to schedule
3. Surfaces: Preprimed and sealed
 - 3.1. Preparation: Degrease and provide key
4. Initial coats: As recommended by manufacturer
 - 4.1. Number of coats:
5. Undercoats: As recommended by manufacturer

- 5.1. Number of coats:
- 6. Finishing coats: Full gloss
- 6.1. Number of coats:

150 Eggshell/ satin paint

- 1. Description: To TnG linings, kitchen cabinets, internal doors where scheduled
- 2. Manufacturer: Refer to schedule
- 3. Surfaces: Preprimed and sealed
- 3.1. Preparation: Degrease and provide key
- 4. Initial coats: As recommended by manufacturer
- 4.1. Number of coats: As recommended by manufacturer
- 5. Undercoats: As recommended by manufacturer
- 5.1. Number of coats: As recommended by manufacturer
- 6. Finishing coats: As recommended by manufacturer
- 6.1. Number of coats: As recommended by manufacturer

160 Decorative woodstain/ varnish/ preservative

- 1. Description: To stair handrails and balustrades where scheduled
- 2. Manufacturer: Osmo
- 2.1. Product reference: Submit proposals
- 3. Surfaces: Handrail, Balustrade and Balusters
- 3.1. Preparation: Ensure surfaces are clean and dry
- 4. Initial coats: As recommended by manufacturer
- 4.1. Number of coats: As recommended by manufacturer
- 5. Finishing coats: As recommended by manufacturer
- 5.1. Number of coats: As recommended by manufacturer

172 Flame-retardant coating system

- 1. Description: To all internal timber linings where scheduled
- 2. Manufacturer: Envirograf
- 2.1. Product reference: Fire Retardant Coating for Timber QVFR
- 3. Reaction to fire rating: To BS EN 13501-1, Class B-s1, d0
- 4. Surfaces: TnG timber linings
- 4.1. Preparation: As recommended by manufacturer
- 5. Initial coats: As recommended by manufacturer
- 5.1. Number of coats: As recommended by manufacturer
- 5.2. Application: As recommended by manufacturer
- 6. Undercoats: As recommended by manufacturer
- 6.1. Number of coats: As recommended by manufacturer
- 6.2. Application: As recommended by manufacturer
- 7. Finishing coats: As recommended by manufacturer
- 7.1. Number of coats: As recommended by manufacturer
- 7.2. Application: As recommended by manufacturer

180 Floor coating

- 1. Description: To all timber floors
- 2. Manufacturer:
- 2.1. Product reference:
- 3. Surfaces:
- 3.1. Preparation:
- 4. Initial coats:
- 4.1. Number of coats:
- 5. Finishing coats:
- 5.1. Number of coats:
- 5.2. Slip resistance value - water wet (minimum):

Generally

215 Handling and storage

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

220 Compatibility

- 1. Coating materials selected by contractor
- 1.1. Recommended by their manufacturers for the particular surface and conditions of exposure.
- 1.2. Compatible with each other.

1.3. Compatible with and not inhibiting performance of preservative/fire-retardant pretreatments.

240 Surfaces not to be coated

1.

250 Surfaces to be cleaned but not coated

1.

280 Protection

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

300 Control samples

1. Sample areas of finished work: Carry out, including preparation, as follows:

2. Types of coating Location

3. M60/ 110, 130, 150, 160.

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

320 Inspection by coating manufacturers

1. General: Permit manufacturers to inspect work in progress and take samples of their materials from site if requested.

Preparation

400 Preparation generally

1. Standard: In accordance with BS 6150.

2. Refer to any pre-existing CDM Health and Safety File.

3. Refer to CDM Construction Phase Plan where applicable.

4. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.

5. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.

6. Substrates: Sufficiently dry in depth to suit coating.

7. Efflorescence salts: Remove.

8. Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.

9. Surface irregularities: Remove.

10. Joints, cracks, holes and other depressions: Fill flush with surface, to provide smooth finish.

11. Dust, particles and residues from preparation: Remove and dispose of safely.

12. Water based stoppers and fillers

12.1. Apply before priming unless recommended otherwise by manufacturer.

12.2. If applied after priming: Patch prime.

13. Oil based stoppers and fillers: Apply after priming.

14. Doors, opening windows and other moving parts

14.1. Ease, if necessary, before coating.

14.2. Prime resulting bare areas.

420 Fixtures and fittings

1. Removal: Before commencing work remove: Coverplates, grilles, wall clocks, and other surface mounted fixtures.

2. Replacement: Refurbish as necessary, refit when coating is dry.

425 Ironmongery

1. Removal: Before commencing work: Remove ironmongery from surfaces to be coated.

2. Hinges: Remove

3. Replacement: Refurbishment as necessary; refit when coating is dry.

430 Existing ironmongery

1. Refurbishment: Remove old coating marks. Clean and polish.

440 Previously coated surfaces generally

1. Preparation: In accordance with BS 6150, clause 11.5.

2. Contaminated or hazardous surfaces: Give notice of:

2.1. Coatings suspected of containing lead.

2.2. Substrates suspected of containing asbestos or other hazardous materials.

2.3. Significant rot, corrosion or other degradation of substrates.

3. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.

4. Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.

5. Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
6. Alkali affected coatings: Completely remove.
7. Retained coatings
 - 7.1. Thoroughly clean to remove dirt, grease and contaminants.
 - 7.2. Gloss-coated surfaces: Provide key.
8. Partly removed coatings
 - 8.1. Additional preparatory coats: Apply to restore original coating thicknesses.
 - 8.2. Junctions: Provide flush surface.
9. Completely stripped surfaces: Prepare as for uncoated surfaces.

461 Previously coated wood

1. Degraded or weathered surface wood: Take back to provide suitable substrate.
2. Degraded substrate wood: Repair with sound material of same species.
3. Exposed resinous areas and knots: Apply two coats of knotting.

471 Preprimed wood

1. Areas of defective primer: Take back to bare wood and reprime.

481 Uncoated wood

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

490 Previously coated steel

1. Defective paintwork: Remove to leave a firm edge and clean bright metal.
2. Sound paintwork: Provide key for subsequent coats.
3. Corrosion and loose scale: Take back to bare metal.
4. Residual rust: Treat with a proprietary removal solution.
5. Bare metal: Apply primer as soon as possible.
6. Remaining areas: Degrease.

500 Preprimed steel

1. Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.

511 Galvanized, sherardized and electroplated steel

1. White rust: Remove.
2. Pretreatment: Apply one of the following:
 - 2.1. Mordant solution to blacken whole surface.
 - 2.2. Etching primer recommended by coating system manufacturer.

521 Uncoated steel – manual cleaning

1. Oil and grease: Remove.
2. Corrosion, loose scale, welding slag and spatter: Remove.
3. Residual rust: Treat with a proprietary removal solution.
4. Primer: Apply as soon as possible.

560 Uncoated concrete

1. Release agents: Remove.

570 Uncoated masonry/ Rendering

1. Loose and flaking material: remove.

580 Uncoated plaster

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled 'polished' areas: Key lightly.

590 Uncoated plasterboard

1. Depressions around fixings: Fill with stoppers/ fillers

622 Organic growths

1. Dead and loose growths and infected coatings: Scrape off and remove from site.
2. Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
3. Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

Application

711 Coating generally

1. Application standard: In accordance with BS 6150, clause 9.
2. Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats

- 6.1. **Thickness:** To suit surface porosity.
- 6.2. **Application:** As soon as possible on same day as preparation is completed.
7. **Finish**
 - 7.1. Even, smooth and of uniform colour.
 - 7.2. Free from brush marks, sags, runs and other defects.
 - 7.3. Cut in neatly.
8. **Doors, opening windows and other moving parts:** Ease before coating and between coats.
- 720 Priming joinery**
 1. **Preservative treated timber:** Retreat cut surfaces with two flood coats of a suitable preservative before priming.
 2. **End grain:** Coat liberally allow to soak in, and recoat.
- 730 Workshop coating of concealed joinery surfaces**
 1. **General:** Apply coatings to all surfaces of components.
- 731 Site-coating of concealed joinery surfaces**
 1. **General:** After priming, apply additional coatings to surfaces that will be concealed when fixed in place.
 - 1.1. **Components:** External door frames. Built in window frames. Kitchen Cabinetry.
 - 1.2. **Additional coatings:** One undercoat
- 751 Staining wood**
 1. **Primer:** Apply if recommended by stain manufacturer.
 2. **Application:** Apply in flowing coats and brush out excess stain to produce uniform appearance.
- 760 Varnishing wood**
 1. **First coat:** Thin with plant oil-based thinner
 - 1.1. Brush well in and lay off avoiding aeration.
- 770 External doors**
 1. **Bottom edges:** Prime and coat before hanging doors.
- 780 Bead glazing to coated wood**
 1. **Before glazing:** Apply first two coats to rebates and beads.
- 790 Linseed oil putty glazing**
 1. **Setting:** Allow putty to set for seven days.
 2. **Sealing**
 - 2.1. Within a further 14 days, seal with a solvent-borne primer.
 - 2.2. Fully protect putty with coating system as soon as it is sufficiently hard.
 - 2.3. Extend finishing coats on to glass up to sight line.
- 800 Glazing**
 1. **Etched, sand blasted and ground glass:** Treat or mask edges before coating to protect from contamination by oily constituents of coating materials.
- 810 Water-repellent**
 1. **Application:** Liberally flood surface, giving complete and even coverage.

Q23Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays

Types of surfacing

120 Blinded gravel

1. **Description:** To driveway
2. **Manufacturer:** Submit proposals
3. **Subgrade improvement layer:** Submit proposals
 - 3.1. **Compacted thickness:** Min 150mm Submit proposals
4. **Geotextile:** Required under hardcore
5. **Granular sub-base:** Type 1 unbound mixture, as section Q20
 - 5.1. **Compacted thickness:** 160 mm
6. **Blinding to sub-base:** Required
7. **Base course:** Angular gravel.
 - 7.1. **Size:**
 - 7.2. **Compacted thickness:**
8. **Surface course:** Blinding layer of gravel.
 - 8.1. **Type:** TBC

- 8.2. Source: Submit proposal
- 8.3. Colour: TBC
- 8.4. Size: TBC
- 8.5. Compacted thickness 40 mm.
9. Completion: Compact to produce a firm, regular surface, stable in use.

Laying

315 Materials

1. Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.

320 Samples

1. Submit: Representative samples of all chippings.

325 Blinding to sub-base

1. Type: Coarse sand
2. Laying: Compact. Seal interstices. Provide free drainage.
3. Compacted thickness: 25 mm

340 Laying generally

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
 - 2.1. Lines and levels: To prevent ponding.
 - 2.2. Overall texture: Even.
 - 2.3. State at completion: Clean.

350 Cold weather working

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings
- . Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
4. Other dressings or overlays: As manufacturers' recommendations.

360 Drainage falls

1. Sealed surfaces
 - 1.1. Falls and cross falls (minimum): 1:40.
 - 1.2. Camber (minimum): 1:50.
2. Unsealed surfaces (minimum): 1:30.

370 Laying granular surfaces in vehicular areas

1. Permissible deviation from required levels, falls and cambers (maximum): ± 20 mm.
2. General: Spread and level in 150 mm maximum layers. As soon as possible compact each layer.
3. Dry weather: Lightly water layers during compaction.

390 Protection from traffic and plant

1. Paved areas: Restrict access to prevent damage.

R10 Rainwater drainage systems

650 Jointing pipework and gutters

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

660 Jointing external pipework

1. Jointing: To RWP manufacturer's recommendation.

675 Cutting coated pipework and gutters

1. Cutting: Recoat bare metal.

690 Electrical continuity - pipework

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

695 Electrical continuity - gutters

1. Joints in metal gutters: Purpose made links supplied by the gutter manufacturer to ensure electrical continuity.

700 Access for testing and maintenance

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

Completion

900 Testing generally

1. Dates for testing: Give notice.
 - 1.1. Period of notice (minimum): 5 days
2. Preparation
 - 2.1. Pipework: Complete, securely fixed, free from defects, obstruction and debris before testing.
3. Testing
 - 3.1. Supply clean water, assistance and apparatus.
 - 3.2. Do not use smoke to trace leaks.
4. Records: Submit a record of tests.

910 Gutter test

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

915 Maintenance instructions

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

920 Immediately before handover

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

R13 Land drainage **Generally**

100 Existing drains and watercourses

1. Pre-commencement checking:
2. Drains to be retained:

103 Sequence of work

1. General:

106 In situ concrete (general)

1. Standard: To BS 8500-1 and BS 8500-2 .
 - 1.1. Concrete:
2. Verification:
 - 2.1. Submittals:

2.2. Timing:

Drains

220 Filter drains with pipe and geotextile trench lining

1. Trench size
 - 1.1. Depth:450mm
 - 1.2. Width: 450mm
2. Geotextile trench lining
 - 2.1. Manufacturer:
 - 2.1.1. Product reference:
3. Pipe bedding:
 - 3.1. Recycled content of granular material:
4. Pipes:
 - 4.1. Manufacturer:
 - 4.1.1. Product reference:
 - 4.2. Sizes:
 - 4.3. Recycled content of plastics pipes:
 - 4.4. Perforations:
5. Pipe surround and backfill
 - 5.1. Material:
 - 5.2. Recycled content of granular material:
 - 5.3. Level:
 - 5.4. Filling to finished ground level:

Z Building fabric reference specification

Z10 Purpose made joinery

To be read with Preliminaries/ General conditions.

110 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.
 - Screws of 8 gauge (4 mm diameter) or more and screws into hardwood: Provide clearance holes.
 - Countersink screws: Heads sunk at least 2 mm below surfaces visible in completed work.
- Adhesives: Compatible with wood preservatives applied and end uses of timber.

120 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:-
 - Clause 6 for sawn sections.
 - Clause NA.2 for further processed sections.
 - Hardwood sections: To BS EN 1313-2:-
 - Clause 6 for sawn sections.
 - Clause NA.3 for further processed sections.

130 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 with two flood coats of a solution recommended by main treatment solution manufacturer.

140 MOISTURE CONTENT

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

250 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

To be read with Preliminaries/ General conditions.

- 310 METAL PRODUCTS
- Standards: Generally, as specified in the following clauses.
 - Fasteners: Generally, same metal as component, with matching coating and finish.
- 510 PREPARATION FOR APPLICATION OF COATINGS
- General: Complete fabrication, and drill fixing holes before applying coatings.
 - Paint, grease, flux, rust, burrs and sharp arrises: Remove.
- 515 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.
- 520 COLD FORMED WORK
- Profiles: Accurate, with straight arrises.
- 535 WELDING AND BRAZING GENERALLY
- 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.
- 540 WELDING OF STEEL
- Method: Metal arc welding to BS EN 1011-1 and -2.
- 545 WELDING OF STAINLESS STEEL
- Method: TIG welding to BS EN 1011-3.
 - Butt welds: Double bevel.
- 565 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.

Z12 Preservative/ fire retardant treatment

To be read with Preliminaries/ General conditions.

- 110 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.
- 120 COMMODITY SPECIFICATIONS
- Standard: Current edition of the British Wood Preserving and Damp-proofing Association (BWPDA) Manual.

- 130 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/ TREATMENT CYCLES
- General: Select to achieve specified service life and to suit treatability of specified wood species.
- 167A BORON COMPOUND PRESERVATIVE TREATMENT
- Solution:
 - Manufacturer: Safeguard Chemicals; supplier: Irish Building Chemicals, Unit 143, Baldoyle Industrial Estate, Baldoyle, Dublin 13.
Tel: (01) 832 1005 Fax: (01) 839 3539 Web: www.ibcltd.net.
Product reference: Probor.
 - Application: Paste.
 - Moisture content of wood at time of treatment: Not more than 28%. After treatment, allow timber to dry before using.

Z20 Fixings and adhesives

To be read with Preliminaries/ General conditions.

PRODUCTS

- 310 FASTENERS GENERALLY
- Materials: To have:
 - Bimetallic corrosion resistance appropriate to items being fixed.
 - Atmospheric corrosion resistance appropriate to fixing location.
 - Appearance: Submit samples on request.
- 320 PACKINGS
- Materials: Noncompressible, corrosion proof.
 - Area of packings: Sufficient to transfer loads.
- 340 MASONRY FIXINGS
- Light duty: Plugs and screws.
 - Heavy duty: Expansion anchors or chemical anchors.
- 350 PLUGS
- Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.
- 390 ADHESIVES GENERALLY
- Standards:
 - Hot-setting phenolic and aminoplastic: To BS 1203.
 - Thermosetting wood adhesives: To BS EN 12765.
 - Polyvinyl acetate thermoplastic adhesive: To BS 4071.
- 410 POWDER ACTUATED FIXING SYSTEMS
- Types of fastener, accessories and consumables: As recommended by tool manufacturer.

EXECUTION

- 610 FIXING 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/ sleeves to avoid bimetallic corrosion.
 - Appearance: Fixings to be in straight lines at regular centres.
- 620 FIXING THROUGH FINISHES
- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

- 630 **FIXING PACKINGS**
- Function: To take up tolerances and prevent distortion of materials and components.
 - Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
 - Locations: Not within zones to be filled with sealant.
- 640 **FIXING CRAMPS**
- Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
 - Fasteners: Fix cramps to frames with screws of same material as cramps.
 - Fixings in masonry work: Fully bed in mortar.
- 670 **PELLETED COUNTERSUNK SCREW FIXING**
- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
 - Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
 - Finished level of pellets: Flush with surface.
- 680 **PLUGGED COUNTERSUNK SCREW FIXING**
- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
 - Plugs: Glue in to full depth of hole.
 - Finished level of plugs: Projecting above surface.
- 690 **USING POWDER ACTUATED FIXING SYSTEMS**
- Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
 - Operatives: Trained and certified as competent by tool manufacturer.
- 700 **APPLYING ADHESIVES**
- Surfaces: Clean. Adjust 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

To be read with Preliminaries/General conditions.

General

Mortar mixes are to be based on analysis of samples; location and number as shown on the drawings and schedule of works agreed with the National Monuments Service. Samples to be taken and issued for analysis immediately following the first site meeting.

Careful consideration must be given to preparation and handling of mortars on and off site and the lead-in time required for each mix. The Contractor is to provide a method statement at the outset of the project for review with the architect.

LIME: SAND MORTARS

The following are provisional mix specification for indicative purposes only. Mixes are to be agreed following sampling and analysis. The contractor should allow for a variety of mortar mixes designed to suit each location. The following is a selected list of the main types of mortar mix which may be required:

- Mortar for securing by packing/ consolidation of stone facework or pointing – NHL2
- Mortar for use in consolidation of stonework by hand grouting – hydraulic lime based with addition of casein to assist in plasticity

- Mortar for rebuilding localised sections of stonework – hydraulic lime based NHL2 or NHL3.5
- Mortar for capping and consolidation of wall head following – NHL 3.5

100 TRAINING:

Ideally all members of the Contractor's team will have experience of working with lime mortars; the contracts manager/ person responsible for programming the work should have experience of the use of these mortars and the likely impact their use will have on the duration of the works. Even where team members already have experience the Contractor is to include for arranging project specific training, for all those who are to be responsible for preparation and using mortar. The training needs analysis should be undertaken following sampling and agreement of the detail design of the mortar to allow "hands on" experience of use of the specific mortars to be used in the project.

310 MIX PROPORTIONS FOR LIME: SAND MORTARS and other particular requirements are to be determined by sampling and analysis.

320 SAND FOR LIME: SAND MORTARS:

- Sharp, well graded and conforming to the methods of sampling and testing and quality requirements of BS 882 or BS 1200, unless specified otherwise.
- Source(s)/type(s) of sand are to be agreed following sampling and analysis.

335 READY PREPARED LIME PUTTY:

- Manufacturer and reference:

Heritage Building Products, 19 Kildowney Road, Ballymena Co. Antrim, BT44 9E
Tel: 028 2568 5055. Contact: Mark Patterson

The Traditional Lime Company, Rath, Shillelough Road, Tullow, Co. Carlow.
Tel: 05351750. Contact: Edward Byrne

The National Trust, Crom, Newtownbutler, Co. Fermanagh. Tel: (048) 67738118

Conservation Technology, Davitt Road, Dublin 12. Tel: 01-455 9511
Web: <http://www.conservationtech.ie> Email: info@conservationtech.ie

Stoneware Studios, Pillmore, Youghal, Co. Cork, Ireland. Tel: 024 90117
Web: <http://www.stonewarestudios.com>. Email: mail@stonewarestudios.com

- Maturity of lime putty before use: Not less than 3 MONTHS after slaking.

340 POZZOLANIC ADMIXTURES FOR NONHYDRAULIC LIME:SAND MORTARS:

- Type: brick dust, pulverised fuel ash
- Proportions: to suit mix to be agreed
- Mix thoroughly into lime:sand mortar during knocking up stage.

340 ADMIXTURES FOR NONHYDRAULIC LIME:SAND MORTAR GROUTS

- Type: bentonite clay, casein
- Proportions: to suit mix to be agreed
- Mix thoroughly into lime:sand mortar during knocking up stage.

350 SITE STORAGE OF LIME:SAND MORTAR MATERIALS:

- Store different sands and aggregates in different stockpiles on hard clean bases that allow free drainage.

- Store bags of hydrated hydraulic lime powder in dry conditions, raised off the ground and not touching damp surfaces. Do not use hydrated hydraulic lime affected by damp.
 - Store ready prepared nonhydraulic lime putty in conditions that prevent drying out and protect from frost.
 - Store nonhydraulic lime:sand mortar either on clean bases or in clean containers that allow free drainage. Keep covered to prevent drying out or wetting and protect from frost.
 - Avoid intermixing and contamination between stored materials and other building materials, debris or other deleterious matter.
- 360 MAKING LIME:SAND MORTARS GENERALLY:
- Use operatives who are skilled and experienced in the making and use of lime:sand mortars. Provide evidence of their experience to the CA on request.
 - Keep plant and banker boards clean at all times. Avoid contamination of lime:sand mortar by other materials or by any set material (including Portland cement).
 - Measure materials accurately by volume using clean gauge boxes or clean undamaged buckets.
 - Do not mix mortar when the air temperature is at or below 5°C and falling or below 3°C and rising.
- 370 SITE PREPARATION OF NONHYDRAULIC LIME:SAND MORTAR:
- Lime putty: As clause 335
 - Thoroughly mix the lime putty and sand together by compressing, beating and chopping using a roller pan mixer, or other approved mixing method. Do not add water.
 - Store mortar in conditions that prevent drying out or wetting. Allow to mature for not less than 30 days before use.
- 380 READY-MIXED NONHYDRAULIC LIME:SAND MORTAR:
- Manufacturer and reference: from a recognised supplier as clause 225
 - Ready-mixed mortar to comprise:
 - Lime putty slaked directly from quicklime to BS 890 and sand, or
 - Quicklime to BS 890 slaked directly with sand.
 Do not use hydrated nonhydraulic lime powder.
 - Maturity of mortar before use to be not less than 30 days.
Provide evidence of maturity, for each batch of mortar at time of delivery to site, to the CA on request.
 - Store mortar in conditions that prevent drying out or wetting.
- 390 KNOCKING UP NONHYDRAULIC LIME:SAND MORTAR:
- When required for use, thoroughly knock up mortar to a workable consistency by compressing, beating and chopping using a roller pan mixer, or other approved mixing method. Do not add water.
 - During use, prevent drying out or wetting. Retain workability by chopping and beating.
- 400 SITE PREPARATION OF NATURALLY HYDRAULIC LIME (NHL):SAND MORTAR:
- Hydraulic lime:
 - Manufacturer and reference: to be confirmed by supplier
 - Thoroughly mix hydrated hydraulic lime powder with sand, first in the dry state and then with water. Follow the lime manufacturer's recommendations for each stage of the mix. Add only sufficient water to produce a workable mix.
 - Use mortar within time limits recommended by the lime manufacturer. Do not use mortar that has begun to stiffen.

HOT LIME MORTARS

Hot lime mortars for masonry consolidation & bedding purposes are to be an approved sample comprising: quicklime, naturally hydraulic lime NHL 3.5, and sand aggregate. Hot lime mortar process developed in consultation with the BLFI:

- Mix proportions: Quicklime: NHL3.5: Sand 1:1:6 – Provisional subject to analysis of mortar samples; note addition of mussel shell for work to chimneys
- Quicklime: Crushed quicklime in accordance with
 - o BS 890 : 1995 Specification for Building Limes
 - o ENV 459-1: 1995 Building lime - part 1: Definitions, specifications and conformity criteria.
 - o ENV 459-2 Building lime - part 2: Test methods
 - o Supplier: Clogrennane Lime Ltd, Clogrennane, Co. Carlow
Tel: +353 (0)59 913 1811

310 HOT LIME MORTAR MIXED BY HAND:

- Measure out required quantity of quick lime, water and aggregate using batching boxes or appropriately sized buckets, Ensure that separate buckets are used for each material and that the quick lime bucket is kept dry, ensure that only small quantities of quick lime are taken from the store as required and that the lid is replaced on the container when not in use.
- Place ply sheets on ground to provide clean level mixing area or use concrete base.
- Mix aggregate and hydraulic lime dry, ensuring it is thoroughly mixed.
- Place aggregate and hydraulic lime mix in a circular pile with a hole left in the centre to form a ring, place the quick lime into the centre of the ring leaving a gap between the outside of the quicklime pile and the inside of the aggregate ring
- Carefully pour a measured quantity of water into the gap between the quicklime and aggregate.
- Using a long handled hoe start to move the quick lime through the water, as the quicklime begins to slake draw the aggregate through the quicklime moving around the pile in a circular motion.
- As the slaking process continues more water may be needed to control the slake and provide the desired consistency.
- As the slaking quicklime and the aggregate start to bind together it may be necessary to use a long handled shovel to turn over and agitate the mix to allow a thorough bonding of lime to the aggregate.
- Following the completion of the mixing the mortar can be covered with insulation to keep the heat in until used.

320 HOT LIME MORTAR MIXED MECHANICALLY

- Measure out required quantity of quick lime, water and aggregate using batching boxes or appropriately sized buckets, Ensure that separate buckets are used for each material and that the quick lime bucket is kept dry, ensure that only small quantities of quick lime are taken from the store as required and that the lid is replaced on the container when not in use.
- Add half the hydraulic lime and half the sand to the running mixer and allow to mix thoroughly.
- Add half the water to this mix.
- Add half the quick lime to the mix and allow to run for about 5 mins. Take care when adding the quick lime to ensure that the minimum amount of dust is created, please note that careful and efficient use of all tools will result in a safer process. Keep tool

handles clean and do not allow materials to be thrown into the mixer or dropped into the buckets from a height.

- During this time keep a careful watch on the slaking lime to ensure the mix is not too dry should the mix start to dry out add additional water to control the slaking process. Only add small quantities at a time in order to avoid drowning the lime also note that a wet mix will splash.
- Add the remaining aggregate, hydraulic lime and quicklime.
- Again control the slaking process by adding small quantities of water. Depending on the type of quicklime the reaction can be very rapid with the mixture drying out and choking the mixer (particularly drum type mixers) should this happen the mixer should be stopped and the mixture loosened up with a long handled hoe.
- Allow the mix to run until all traces of quicklime have broken down and the mix is of the desired consistency.
- Empty the mix out into a barrow or tub taking care to avoid splashes, Should smaller quantities be required at a time (pointing) the mix can be left in the mixer and the required quantity trowelled out. This allows the mix to be knocked up by running the mixer should it start to stiffen up.

Z22 Sealants

Products

310 Joints

1. Description: External sealant between timber framed doors and windows to masonry
2. Manufacturer: Submit proposals
- 2.1. Product reference: Burnt sand and linseed oil mastic
3. Mixing:: Burnt Sand Mastic is supplied in two parts (Burnt Sand and Linseed oil) to be mixed as required. Once mixed the mastic will begin to harden, so it is advisable to only mix the required amount for a couple of hours work.
4. Application:: Using a small trowel shape the mastic into the required shape before pressing into the gap. Start at the bottom of the joint and work upwards to maintain the necessary compaction. It may be helpful to keep the trowel clean with an oiled cloth during application

311 Joints Doors and Windows

1. Description: Seal between structural opening and door/window frame.
2. Manufacturer: Masons Mortar
- 2.1. Product reference: Burnt Sand/ Linseed Oil mastic
3. Application:: haired lime mortar sized to suit joint.
4. Primer, backing strip, bond breaker: rolled newspaper backing rod.
5. Fire performance

312 Timber floorboard sealant

1. Description: Joints at wall perimeters where no skirting board present.
2. Manufacturer: Osmo
- 2.1. Product reference: Gap Sealer
3. Application:: To manufacturer's recommendations

Execution

610 Suitability of joints

1. Presealing checks
- 1.1. Joint dimensions: Within limits specified for the sealant.
- 1.2. Substrate quality: Surfaces regular, undamaged and stable.
2. Joints not fit to receive sealant: Submit proposals for rectification

620 Preparing joints

1. Surfaces to which sealant must adhere
- 1.1. Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
- 1.2. Clean using materials and methods recommended by sealant manufacturer.
2. Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
3. Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
4. Protection: Keep joints clean and protect from damage until sealant is applied.

630 Applying sealants

1. Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
2. Environmental conditions: Do not dry or raise temperature of joints by heating.
3. Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
4. Sealant profiles
- 4.1. Butt and lap joints: Slightly concave.
- 4.2. Fillet joints: Flat or slightly convex.
5. Protection: Protect finished joints from contamination or damage until sealant has cured.