

Specification

NDA Properties Limited Herdus house Ingwell Drive Westlakes Science & Technology Park, Moor Row Cumbria CA24 3HU

Prepared By

Andrew Wren

On behalf of

Sunshine Skyway Structures Ltd Unit 4A Lakeland Business Park Lamplugh Road Cockermouth Cumbria CA13 0QT

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Web: N/A

Project Details

File Ref: Q-65 I

Date Issued: September 2022

For The Repair and Stabilisation of Pelham Walled Garden's Perimeter Wall and Outbuildings

At

Pelham House Calderbridge Cumbria CA20 IDB



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Section One

Client Details

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At

Pelham House Calderbridge Cumbria CA20 IDB

Section One -

Preliminaries

NDA Properties Ltd

Pelham Walled Garden Preliminaries

Repair/Stabilisation of Perimeter Wall and Outbuildings

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A10 Project particulars

Clauses

110 The Project

- 1. Name: Pelham Walled Garden
- 2. Nature: Repair and Stabilisation of the Garden Wall and Outbuildings all as per specification
- 3. Location: Pelham House, Calderbridge, Cumbria, CA20 1DB
- 4. Timescale for construction work: 12 Weeks

120 Employer (client)

- 1. Name: NDA Properties Ltd
- 2. Address: Westlakes Science & Technology Park, Herdus House, Ingwell Dr, Moor Row, CA24 3HU

120 Employers Representative Employer (client)

- 1. Name: Avison Young
- 2. Address: No4 St Pauls Square, Old Hall Street, Liverpool, L3 9SJ
- 3. Contact: Olivia Harker
- 4. Telephone: 07795806271
- 5. E-mail: olivia.harker@avisonyoung.com

130 Principal contractor (CDM)

1. Name: TBC

140 Contract Administrator

- 1. Name: Avison Young
- 2. Address: No4 St Pauls Square, Old Hall Street, Liverpool, L3 9SJ
- 3. Contact: Stephen Brown
- 4. Telephone: 077919980117
- 5. Email: stephen.w.brown@avisonyoung.com

150 Principal Designer

- 1. Name: Avison Young
- 2. Address: No4 St Pauls Square, Old Hall Street, Liverpool, L3 9SJ
- 3. Contact: Stephen Brown
- 4. Telephone: 077919980117
- 5. E-mail: stephen.w.brown@avisonyoung.com

160 Structural Engineer/Designer

- 6. Name: Sunshine Skyway Structures Ltd
- 7. Address: Unit 4a Lakeland Business Park, Lamplugh Road, Cockermouth, CA13 0QT
- 8. Contact: Andrew Wren
- 9. Telephone: 007521942324
- 10. E-mail: Andrew.wren@sunshineskywaystructures.co.uk

144.4-4 – Pelham Walled Garden – Preliminaries Client: NDA Properties Ltd

 Ω End of Section

A10 Project particulars Page 2 of 43

A11 Tender and contract documents

Clauses

110Tender Documents

- 1. The tender drawings are: Drawing No 5535-001, 002 and 003
- The tender documents are: The ITT Document The PCIP Draft copy of the JCT Minor Works Contract Selection Questionnaire Specification comprising of; Preliminaries; Preambles (workmanship and materials) and Pricing Schedule.

120 Contract drawings

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

160 Preconstruction information

1. Format: The Preconstruction information is described in these preliminaries in Section A34. It refers to information given elsewhere in the preliminaries and other tender documents.

A12 The site/ existing buildings

Clauses

110 The site

1. Description: The site is part of the Pelham House Estate and is a grade II Listed structure. The walled garden is set directly adjacent its neighbours and the garden abut directly to some of the neighbouring land and permissions will need to be approved before accessing these areas. The site may be accessed from a track form the main entrance past the House.

120 Existing buildings on/ adjacent to the site

1. Description: The walled garden encloses tenanted areas and is used for agricultural individual plots let out to local residents.

140 Existing utilities and services

1. The contractor will need to carry out local utility searches of the area as there were utilities present within the site.

200 Access to the site



- 1. Description: Access is shown above from the A595 to North Drive then a single-track road
- 2. Limitations: restricted access, which must not be blocked by the contractor.
- 3. Access for inspections: Provide access at reasonable times for both on-site and off-site work.

210 Parking

1. Restrictions on parking of the Contractor's and employees' vehicles: Limited parking

220 Use of the site

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

230 Surrounding land/ building uses

- 1. General: Adjacent or nearby uses or activities are as follows: Adjacent or nearby uses or activities are as follows:
 - 1.1. Farmland and woodland
 - 1.2. Pelham House

240 Health and safety hazards

- 1. General: The nature and condition of the site/ building cannot be fully and certainly ascertained before it is opened up. However, the following hazards are or may be present:
 - 1.1. Asbestos see asbestos R&D Report.
 - 1.2. Structural Collapse.
 - 1.3. Unidentified buried services:
 - 1.4. Dust, harmful substances and produces:
 - 1.5. Works at Height:
 - 1.6. Falling Objects from heights:
 - 1.7. Possible working in confined spaces:
 - 1.8. Vermin; Bird and animal droppings:
 - 1.9. working on uneven ground and surfaces:
 - 1.10. Legionella
- 2. Information: The accuracy and sufficiency of this information is not guaranteed. Ascertain if any additional information is required to ensure the safety of all persons and the Works.
- 3. Site staff: Draw to the attention of all personnel working on the site the nature of any possible contamination and the need to take appropriate precautionary measures.

250 Site visit

- 1. Assessment: Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
- 2. Arrangements for visit: A pre-arranged day for site visits will be arranged by Olivia Harker all will be informed during the tender process of times and dates.

A13 Description of the work

Clauses

120The works

 Description: The works are contained in the schedule and comprise of structural remedial works and repair works to include stabilization, rebuilding and relaying sections of the wall, the provision and installation of a new roofing system, rainwater goods replacement/repair and general repairs. Refer to schedule for full details. The works are subject to listed building consent and must not be carried out or varied from without listed consent. End of Section

A20 Contract

Building Contract

- The Contract: JCT Minor Works Building Contract 2016 Edition with subsequent amendments
- Requirement: A specimen contract is contained in the tender Pack.

Execution

• The Contract: Will be executed as a deed.

A30 Tendering/ subletting/ supply

Main contract tendering

110 Scope

1. General: These conditions are supplementary to those stated in the Invitation to Tender and on the form of tender.

145 Tendering procedure

- 1. General: In accordance with the principles of: The Public Contract Regulations via an Open Tender Process on the Govt. Contracts Finder Portal.
- 2. Arithmetical errors: Pricing document Pricing document is dominant.

160 Exclusions

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

170 Acceptance of tender

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

190 Period of validity

- 1. Period: After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for not less than 8 months
- 2. Date for possession/ commencement: TBC

Pricing/ submission of documents

210 Preliminaries in the specification

1. Measurement rules: Preliminaries/ General Conditions must not be relied on as having been prepared in accordance with SMM7 or RICS NRM.

250 Priced documents

- 1. Alterations: Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.
- 2. Measurements: Where not stated, ascertain from the drawings.
- 3. Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
- 4. Submit: as per specified in the ITT Document

310 Tender

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

480 Programme

- 1. Programme of work: Prepare a summary showing the sequence and timing of the principal parts of the Works and periods for planning and design. Itemize any work which is excluded.
- 2. Submit: In Gantt Chart Format showing proposed dates

530 Substitute products

- 1. Details: Do not substitute any product.
- 2. Compliance: any material samples and the like must be agreed with the listed officer prior to install.

540 Quality control resources

- 1. Statement: Describe the organisation and resources to control the quality of the Works, including the work of subcontractors.
- 2. QA staff: Identify in the statement the number and type of staff responsible for quality control, with details of their qualifications and duties.
- 3. Submit: Within one week of request

Subletting/ supply

630 Domestic subcontracts

- 1. General: Comply with the Construction Industry Board 'Code of Practice for the selection of subcontractors. All sub-contractors will be Domestic to the main contractor.
- 2. List: Provide details of all subcontractors and the work for which they will be responsible.
- 3. Submit: With tender

A31 Provision, content and use of documents

Definitions and interpretations

110 Definitions

1. Meaning: Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated here or in the appropriate referenced document.

120 Communication

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

130 Products

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

135 Site equipment

- 1. Definition: Apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
- 2. Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.
- 3. Excludes: Products and equipment or anything intended to form or forming part of the permanent works.

145 Contractor's choice

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

150 Contractor's Design

1. Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements.

155 Submit proposals

1. Meaning: Submit information in response to specified requirements.

160 Terms used in specification

- 1. Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes removal and disposal of associated pipework, wiring, ductwork or other services.
- 2. Remediate: Action or measures taken to lessen, clean up, remove or mitigate the existence of hazardous materials; in accordance with standards, or requirements as may be set out by statutes, rules, regulations or specification.
- 3. Fix: Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging. To include all labour, materials and site equipment for that purpose.

- 4. Supply and fix: As above, but including supply of products, components or systems to be fixed, together with everything necessary for their fixing. All products, components or systems are to be supplied and fixed unless stated otherwise.
- 5. Keep for reuse: Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, protect adequately and store until required by the employer/ purchaser, or until required for use in the works as instructed.
- 6. Keep for recycling: As 'keep for reuse', but relates to a naturally occurring material rather than a manufactured product.
- 7. Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- 8. Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
- 9. Repair: Execute remedial work to restore something to its original working state. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- 10. Refix: Fix removed products.
- 11. Ease: Adjust moving parts of designated products, or work to achieve free movement and good fit in open and closed positions.
- 12. Match existing: Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- 13. System: Equipment, accessories, controls, supports and ancillary items (including installation) necessary for that section of the work to function.

170 Manufacturer and product reference

- 1. Definition: When used in this combination:
 - 1.1. Manufacturer: the person or legal entity under whose name or trademark the particular product, component or system is marketed
 - 1.2. Product reference: the proprietary brand name and/ or identifier by which the particular product, component or system is described.
- 2. Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

200 Substitution of products

- 1. Products: If an alternative product to that specified is proposed, obtain approval from CA and ensure that listed consent has been approved before ordering the product.
- 2. Reasons: Submit reasons for the proposed substitution.
- 3. Documentation: Submit relevant information, including:
 - 3.1. manufacturer and product reference; Sample
 - 3.2. cost;
 - 3.3. availability;
 - 3.4. relevant standards;
 - 3.5. performance;
 - 3.6. function;
 - 3.7. compatibility of accessories;
 - 3.8. proposed revisions to drawings and specification;
 - 3.9. compatibility with adjacent work;
 - 3.10. appearance;
 - 3.11. copy of warranty/ guarantee.
- 4. Alterations to adjacent work: If needed, advise scope, nature and cost.

5. Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

210 Cross references

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

220 Referenced documents

1. Conflicts: Specification prevails over referenced documents.

230 Equivalent products

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

240 Substitution of standards

- 1. Specification to British Standard or European Standard: Substitution may be proposed 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.
- 2. Before ordering: Submit notification of all such substitutions.
- Documentary evidence: Submit for verification when requested as detailed in clause A31/200. Any submitted foreign language documents must be accompanied by certified translations into English.

250 Currency of documents and information

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

260 Sizes

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

Documents provided on behalf of employer

440 Dimensions

1. Scaled dimensions: Do not rely on.

450 Measured quantities

- 1. Ordering products and constructing the Works: The accuracy and sufficiency of the measured quantities is not guaranteed.
- 2. Precedence: The specification and drawings shall override the measured quantities.

460 The specification

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

Documents provided by contractor/ subcontractors/ suppliers

510 Design and production information

- 1. Master programme: Make reasonable allowance for completing design/ production information, submission (including information relevant to the CDM Regulations), comment, inspection, amendment, resubmission and reinspection.
- Design/ production information: Submit two copies, one could be returned with comments and this will be deemed to be a direction, notice or instruction under the Contract. Ensure that any necessary amendments are made without delay and resubmit unless it is confirmed that it is not required.
- 3. Contractor's changes to Employer's Requirements: Support request for substitution or variation with all relevant information.
- 4. Employer's amendments to Employer's Requirements: If considered to involve a variation, which has not already been acknowledged as a variation, notify without delay (maximum period 7 days), and do not proceed until instructed. Claims for extra cost, if made after it has been carried out, may not be allowed.
- 5. Final version of design/ production information: Submit one copy.

600 Contractor's Design information

- 1. General: Complete the design and detailing of parts of the Works as specified.
- 2. Provide
 - 2.1. Production information based on the drawings, specification and other information.
 - 2.2. Liaison to ensure coordination of the work with related building elements and services.
- 3. Master programme: Make reasonable allowance for completing design/ production information, submission (including information relevant to the CDM Regulations), comment, inspection, amendment, resubmission and reinspection.
- 4. Information required: As per contractors design in specification
 - 4.1. Format: Digital
 - 4.2. Number of copies: 1
- 5. Submit: Within one week of request.

620 As-built drawings and information

- 1. Contractor designed work: Provide drawings/ information:
 - 1.1. All as built drawings contractors design.
- 2. Submit: At least two weeks before date for completion.

630 Technical literature

- 1. Information: Place a copy in the Health and Safety File
 - 1.1. Manufacturers' current literature relating to all products to be used in the Works.
 - 1.2. Relevant British, EN or ISO Standards.

640 Maintenance instructions and guarantees

- 1. Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
- 2. Information location: In Health and Safety File

3. Emergency call out services: Provide telephone numbers for use after completion. Extent of cover: twenty four hours seven days a week.

A32 Management of the works

Generally

110 Supervision

- 1. General: The Main Contractor will accept responsibility for coordination, supervision and administration of the Works, including subcontractors and will provide a full time qualified, experienced site manager who has SMSTS qualifications for the full duration of the works. The site agent must be the same person and be present on site at all times to oversee the works
- 2. Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

115 Considerate Constructors Scheme

- 1. Registration: Before starting work, register the site and pay the appropriate fee.
- 2. Contact
 - 2.1. Address: Considerate Constructors Scheme Office, PO Box 75, Great Amwell, Ware, Hertfordshire, SG12 0YX.
 - 2.2. Tel: 01920 485959.
 - 2.3. Fax: 01920 485958.
 - 2.4. Free phone: 0800 7831423.
 - 2.5. Web: www.ccscheme.org.uk.
 - 2.6. E mail: enquiries@ccscheme.org.uk.
- 3. Standard: Comply with the scheme's Code of Considerate Practice.
 - 3.1. Minimum compliance level: Compliance

118 Vehicle safety requirements

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

120 Insurance

1. Documentary evidence: Before starting work on site submit details, and/ or policies and receipts for the insurances required by the Conditions of Contract.

130 Insurance claims

- 1. Notice: If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the employer/ client, the person administering the Contract on their behalf and the Insurers.
- 2. Failure to notify: Indemnify the employer/ client against any loss, which may be caused by failure to give such notice.

140 Climatic conditions

- 1. Information: Record accurately and retain:
 - 1.1. Daily maximum and minimum air temperatures (including overnight).
 - 1.2. Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 Ownership

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

Programme/ progress

210 Programme

- 1. Master programme: When requested and before starting work on site, submit in an approved form a master programme for the Works, which must include details of:
 - 1.1. Design, production information and proposals provided by the Contractor/ Subcontractors/ Suppliers, including inspection and checking (see section A31).
 - 1.2. Planning and mobilization by the Contractor.
 - 1.3. Earliest and latest start and finish dates for each activity and identification of all critical activities.
 - 1.4. Running in, adjustment, commissioning and testing of all engineering services and installations
 - 1.5. Work resulting from instructions issued in regard to the expenditure of provisional sums (see section A54)
 - 1.6. 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.
- 2. Exclusions: 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 and confirm this when submitting the programme.
- 3. Submit: in Digital format

260 Site meetings

- 1. General: Site meetings will be held to review progress and other matters arising from administration of the Contract.
- 2. Frequency: Pre contract then monthly.
- 3. Location: On Site
- 4. Accommodation: Ensure availability at the time of such meetings.
- 5. Attendees: Attend meetings and inform subcontractors and suppliers when their presence is required.
- 6. Chairperson (who will also take and distribute minutes): Employer's representative or Contract Administrator

265 Contractor's progress report

- 1. General: Submit a progress report at least 1 Week before the site meeting.
- 2. Content: Notwithstanding the Contractor's obligations under the Contract the report must include:
 - 2.1. A progress statement by reference to the master programme for the Works.
 - 2.2. Details of any matters materially affecting the regular progress of the Works.
 - 2.3. Subcontractors' and suppliers' progress reports.
 - 2.4. Any requirements for further drawings or details or instructions to fulfil any obligations under the Conditions of Contract.
 - 2.5. A suggested updated Contract Programme (this will need confirmation that the client agrees to the update to be binding in the contract)

270 Contractor's site meetings

1. General: Hold meetings with appropriate subcontractors and suppliers shortly before main site meetings to facilitate accurate reporting of progress.

280 Photographs

- 1. Number of locations: All areas to be used by the contactor to have Dilapidation Images
- 2. Frequency of intervals: Before Contract Commencement or Cabin Arrival.
- 3. Image format: JPEG max 3mg each image.
- 4. Number of images from each location: Sufficient to act as dilapidation images for the area.

285 Partial possession by Employer

1. Clause 2.25 of Conditions of Contract: Ensure all necessary access, services and other associated facilities are also complete.

290 Notice of completion

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

310 Extensions of time

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

Control of cost

410 Cash flow forecast

1. Submission: Before starting work on site, submit a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period. Base on the programme for the Works.

420 Removal/ replacement of existing work

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

430 Proposed instructions

- 1. Estimates: If a proposed instruction requests an estimate of cost, submit without delay, and in any case within seven days.
- 2. Include
 - 2.1. A detailed breakdown of the cost, including any allowance for direct loss and expense.
 - 2.2. Details of any additional resources required.
 - 2.3. Details of any adjustments to be made to the programme for the Works.
 - 2.4. Any other information as is reasonably necessary to fully assess the implications of issuing such an instruction.
- 3. Inability to comply: Inform immediately if it is not possible to comply with any of the above requirements.

440 Measurement

1. Covered work: Give 7 days notice to the Contract Administrator and Structural Engineer before covering works.

450 Daywork vouchers

1. No dayworks this is a fixed price contract and the contractor must allow adequate time to complete the works barring contractual relevant events.

470 Products not incorporated into the Works

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

475 Listed products stored off site

1.1. Cannot be claimed for. Proof via images and invoices must be supplies for products on site as part of any claim.

480 Labour and equipment returns

- 1. Records: Provide for verification at the beginning of each week in respect of each of the previous seven days.
- 2. Records must show
 - 2.1. The number and description of craftsmen, labourers and other persons directly or indirectly employed on or in connection with the Works or Services, including those employed by subcontractors.
 - 2.2. The number, type and capacity of all mechanical, electrical and power-operated equipment employed in connection with the Works or Services

A33 Quality standards/ control

Standards of products and executions

110 Incomplete documentation

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

120 Workmanship skills

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

130 Quality of products

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

135 Quality of execution

- 1. Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- 2. Colour batching: Do not use different colour batches where they can be seen together.
- 3. Dimensions: Check on-site dimensions.
- 4. Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- 5. Location and fixing of products: Adjust joints open to view so they are even and regular.

140 Evidence of Compliance

- 1. Proprietary products: Retain on site evidence that the proprietary product specified has been supplied.
- 2. Performance specification: Submit evidence of compliance, including test reports indicating:
 - 2.1. Properties tested.
 - 2.2. Pass/ fail criteria.
 - 2.3. Test methods and procedures.
 - 2.4. Test results.
 - 2.5. Identity of testing agency.
 - 2.6. Test dates and times.
 - 2.7. Identities of witnesses.
 - 2.8. Analysis of results.

150 Inspections

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

160 Related work

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

170 Manufacturer's recommendations/ instructions

- 1. General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- 2. Exceptions: Submit details of changes to recommendations or instructions.
- 3. Execution: Use ancillary products and accessories supplied or recommended by main product manufacturer.
- 4. Products: Comply with limitations, recommendations and requirements of relevant valid certificates.

180 Water for the works

- 1. Mains supply: Clean and uncontaminated.
- 2. Other: Do not use until:
 - 2.1. Evidence of suitability is provided.
 - 2.2. Tested to BS EN 1008 if instructed.

Samples/ approvals

210 Samples

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

220 Approval of products

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

230 Approval of execution

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

Accuracy/ setting out generally

320 Setting out

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

330 Appearance and fit

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

340 Critical dimensions

1. Critical dimensions: Set out and construct the Works to ensure compliance with the British or European tolerances.

360 Record drawings

1. Site setting out drawing: Record details of all grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion.

Services generally

410 Services regulations

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

420 Water regulations/ byelaws notification

- 1. Requirements: Notify Water Undertaker of any work carried out to (or which affects) new or existing services and submit any required plans, diagrams and details.
- 2. Consent: Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

430 Water regulations/ byelaws contractor's certificate

- 1. On completion of the work: Submit (copy where also required to the Water Undertaker) a certificate including:
 - 1.1. The address of the premises.
 - 1.2. A brief description of the new installation and/ or work carried out to an existing installation.
 - 1.3. The Contractor's name and address.
 - 1.4. A statement that the installation complies with the relevant Water Regulations or Byelaws.

- 1.5. The name and signature of the individual responsible for checking compliance.
- 1.6. The date on which the installation was checked.

435 Electrical installation certificate

- 1. Submit: When relevant electrical work is completed.
- 2. Original certificate: To be lodged in the Heath and Safety File.

440 Gas, oil and solid fuel appliance installation certificate

- 1. Before the completion date stated in the Contract: Submit a certificate stating:
 - 1.1. The address of the premises.
 - 1.2. A brief description of the new installation and/ or work carried out to an existing installation.
 - 1.3. Any special recommendations or instructions for the safe use and operation of appliances and flues.
 - 1.4. The Contractor's name and address.
 - 1.5. A statement that the installation complies with the appropriate safety, installation and use regulations.
 - 1.6. The name, qualification and signature of the competent person responsible for checking compliance.
 - 1.7. The date on which the installation was checked.
- 2. Certificate location:

445 Service runs

- 1. General: Provide adequate space and support for services, including unobstructed routes and fixings.
- 2. Ducts, chases and holes: Form during construction rather than cut.
- 3. Coordination with other works: Submit details of locations, types/ methods of fixing of services to fabric and identification of runs and fittings.

450 Mechanical and electrical services

- 1. Final tests and commissioning: Carry out so that services are in full working order at completion of the Works.
- 2. Building Regulations notice: Copy to be lodged in the Building Manual.

Supervision/ inspection/ defective work

510 Supervision

- 1. General: In addition to the constant management and supervision of the Works provided by the Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.
- 2. Evidence: Submit, including details of the person proposed, their relevant skills training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history, work related assessments and management structure.
- 3. Submittal date: Prior to appointment of the tradesperson
- 4. Replacement: Give maximum possible notice before changing person in charge or site agent. Give maximum possible notice before changing person in charge or site agent.

520 Coordination of engineering services

- 1. Suitability: Site organisation staff must include one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering and the Works generally.
- 2. Evidence: Submit when requested CVs or other documentary evidence relating to the staff concerned.

530 Overtime working

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

540 Defects in existing work

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

550 Access for inspection

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

560 Tests and inspections

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

610 Proposals for rectification of defective products/ executions

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

620 Measures to establish acceptability

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

630 Quality control

- 1. Procedures: Establish and maintain to ensure that the Works, including the work of subcontractors, comply with specified requirements.
- 2. Records: Maintain full records, keep copies on site for inspection, and submit copies on request.

3. Content of records

- 3.1. Identification of the element, item, batch or lot including location in the Works.
- 3.2. Nature and dates of inspections, tests and approvals.
- 3.3. Nature and extent of nonconforming work found.
- 3.4. Details of corrective action.

Work at or after completion

710 Work before completion

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

720 Security at completion

- 1. General: Leave the Works secure with, where appropriate, all accesses closed and locked.
- 2. Keys: Account for and adequately label all keys, and hand over together with an itemized schedule, retaining duplicate schedule signed as a receipt.

730 Making good defects

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

A34 Security/ safety/ protection

Security, health and safety

110 Preconstruction information

- 1. Location: Integral with the project Preliminaries, including but not restricted to the following sections:
 - 1.1. Description of project: Sections A10 and A11.
 - 1.2. Client's consideration and management requirements: Sections A12, A13 and A36.
 - 1.3. Environmental restrictions and on-site risks: Section A12, A35 and A34.
 - 1.4. Significant design and construction hazards: Section A34.
 - 1.5. The Health and Safety File: Section A37.

120 Execution hazards

- 1. Common hazards: Not listed. Control by good management and site practice.
- 2. Significant hazards: The design of the project includes the following:
 - 2.1. Hazard: See Designers Risk Assessment and Pre Construction Information

140 Construction phase health and safety plan

- 1. Submission: Present to the Employer/ Client no later than 2 weeks prior to commencement.
- 2. Confirmation: Do not start construction work until the Employer has confirmed in writing that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by the CDM Regulations and .is accepted as suitably developed by the client.
- 3. Content: Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan, clause A30/570, and the Pre-tender Health and Safety Plan/ Preconstruction information.

150 Security

- 1. Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
- 2. Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.
- 3. Special requirements:

160 Stability

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

210 Safety provisions for site visits

- 1. Safety: Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
- 2. Protective clothing and/ or equipment: Provide and maintain on site for visitors to the site.

Protect against the following

330 Noise and vibration

- 1. Standard: Comply with the recommendations of BS 5228-1, in particular clause 7.3, to minimize noise levels during the execution of the Works.
- 2. Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- 3. Restrictions: Do not use:
 - 3.1. Percussion tools and other noisy appliances without consent during the hours of before 8am and after 6pm.
 - 3.2. Radios: not allowed on site.
 - 3.3. Headphones or Ear phones: Not to be used apart from certified ear protectors as part of PPE.

340 Pollution

- 1. Prevention: Protect the site, the Works and the general environment including the atmosphere, land, streams and waterways against pollution.
- 2. Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

360 Nuisance

- 1. Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- 2. Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

370 Asbestos containing materials

- 1. Duty: Report immediately any suspected materials discovered during execution of the Works.
 - 1.1. Do not disturb.
 - 1.2. Agree methods for safe removal or encapsulation.

371 Dangerous or hazardous substances

- 1. Duty: Report immediately suspected materials discovered during execution of the Works.
 - 1.1. Do not disturb.
 - 1.2. Agree methods for safe removal or remediation.

375 Antiquities

- 1. Duty: Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the Works.
- 2. Preservation: Keep objects in the exact position and condition in which they were found.

380 Fire prevention

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

390 Smoking on site

1. Smoking on site: Not permitted.

400 Burning on site

1. Burning on site: Not permitted.

410 Moisture

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

420 Infected timber/ Contaminated materials

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

430 Waste

- 1. Includes: Rubbish, debris, spoil, surplus material, containers and packaging.
- 2. General: Minimize production. Prevent accumulations. Keep the site and Works clean and tidy.
- 3. Handling: Collect and store in suitable containers. Remove frequently and dispose of off-site in a safe and competent manner:
 - 3.1. Non-hazardous material: In a manner approved by the Waste Regulation Authority.
 - 3.2. Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.
- 4. Recyclable material: Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- 5. Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
- 6. Waste transfer documentation: Retain on site.

440 Electromagnetic interference

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

450 Laser equipment

- 1. Construction laser equipment: Install, use and store in accordance with BS EN 60825-1 and the manufacturer's instructions.
- 2. Class 1 or Class 2 laser equipment: Ensure laser beam is not set at eye level and is terminated at the end of its useful path.
- 3. Class 3A and Class 3B laser equipment: Do not use without approval and subject to submission of a method statement on its safe use.

460 Powder actuated fixing systems

1. Use: Not permitted.

470 Invasive species

1. General: Prevent the spread of species (e.g. plants or animals) that may adversely affect the site or Works economically, environmentally or ecologically.

- 2. Duty: Report immediately any suspected invasive species discovered during execution of the Works.
 - 2.1. Do not disturb.
 - 2.2. Agree methods for safe eradication or removal.

Protect the following

510 Existing services

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

520 Roads and footpaths

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

530 Existing topsoil/ subsoil

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

540 Retained trees/ shrubs/ grassed areas

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

550 Retained trees

1. Protected area: Unless agreed otherwise do not:

- 1.1. Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.
- 1.2. Sever roots exceeding 25 mm in diameter. If unintentionally severed give notice and seek advice.
- 1.3. Change level of ground within an area 3 m beyond branch spread.

555 Wildlife species and habitats

- 1. Protected habitats and species: Upon discovery immediately advise. Do not proceed until instruction is received.
- 2. Education: Ensure employees and visitors to the site receive suitable instruction and awareness training.

560 Existing features

1. Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

570 Existing work

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

580 Building interiors

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

600 Existing furniture, fittings and equipment

1. Protection: Prevent damage or move as necessary to enable the Works to be executed. Reinstate in original positions.

A35 Specific limitations on method/ sequence/ timing

Clauses

110 Scope

1. General: The limitations described in this section are supplementary to limitations described or implicit in information given in other sections or on the drawings.

140 Scaffolding

1. Scaffolding: Make available to subcontractors and others at all times.

160 Use or disposal of materials

1. Specific limitations: Ensure skips are removed in a timely manner.

170 Working Hours

1. Specific limitations: 8am - 6pm

180 Completion in sections or in parts

- 1. General: Where the Employer is to take possession of any Section or part of the Works and such Section or part will, after its practical completion, depend for its adequate functioning on work located elsewhere on the site: Complete such other work in time to permit such possession to take place.
- 2. Remainder of the Works: During execution, ensure that completed Sections or parts of the Works have continuous and adequate provision of services, fire precautions, means of escape and safe access.

A36 Facilities/ temporary work/ services

Generally

110 Spoil heaps, temporary works and services

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

Accommodation

210 Room for meetings

- 1. Facilities: Provide suitable temporary accommodation for site meetings, adequately heated and lit. The room may be part of the Contractor's own site offices.
- 2. Furniture and Equipment: Provide table and chairs for 6 people.

220 Site Accommodation

1. Purpose: Contractor to provide welfare facilities in accordance with CDM 2015

260 Sanitary accommodation

1. Requirement: Provide sanitary accommodation for the Employer/ Purchaser, and other members of the consultant team, either separate or shared with the Contractor's supervisory staff. Maintain in clean condition and provide all consumables.

Temporary works

340 Name boards/ advertisements

1. Name boards/ advertisements: Not permitted.

Services and facilities

410 Lighting

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

420 Lighting and power

- 1. Supply: Electricity from the existing mains may be used for the Works as follows:
 - 1.1. Metering: Take reading before contractor uses the Electrical supply. Contractor to be responsible for all electricity payments after this date up until practical completion
 - 1.2. Point of supply: Distribution Board
 - 1.3. Available capacity: Contractor to test to ensure available capacity
 - 1.4. Frequency: Not Known
 - 1.5. Phase: Not Known
 - 1.6. Current: Alternating.
- 2. Continuity: No responsibility will be accepted for the consequences of failure or restriction in supply.
430 Water

- 1. Supply: The existing mains may be used for the Works as follows:
 - 1.1. Metering: Contractor may use the water at no cost.
 - 1.2. Source: Main House
 - 1.3. Location of supply point: Unknown
- 2. Continuity: No responsibility will be accepted for the consequences of failure or restriction in supply.

440 Mobile telephones

- 1. Direct communication: As soon as practicable after the start on site:
 - 1.1. provide the Contractor's person in charge with a mobile telephone.
 - 1.2. pay all charges reasonably incurred.

470 E-mail and internet facility

- 1. General: As soon as practicable after the start on site provide a suitable e-mail facility on site, with a dedicated broadband, for the use of the Contractor, Subcontractors and other members of the project team.
- 2. Use on behalf of Employer: Allow for the cost of a reasonable number of transmissions made by other members of the project team.

510 Temperature and humidity

- 1. Levels required by the Employer: Maintain the following:
 - 1.1. Temperature as per manufacturers recommendations for drying out works.

520 Use of permanent heating system

1. Permanent heating installation: May Not be used for drying out the Works/ services and controlling temperature and humidity levels. Contractor to source alternative means, the cost for which will be deemed included as part of the contract sum.

540 Meter readings

- 1. Charges for service supplies: Where to be apportioned ensure that: Where to be apportioned ensure that:
 - 1.1. Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
 - 1.2. Copies of readings are supplied to interested parties.

550 Thermometers

1. General: Provide on site and maintain in accurate condition a maximum and minimum thermometer for measuring atmospheric shade temperature, in an approved location.

560 Surveying Equipment

1. General: Provide on site and maintain in accurate condition: Dumpy Level (in test) and E Staff.

570 Personal protective equipment

- 1. General: Provide for the sole use of other members of the project team, in sizes to be specified:
 - 1.1. Safety helmets to BS EN 397, neither damaged nor time expired. Number required: 2
 - 1.2. High visibility waistcoats to BS EN ISO 20471 Class 3. Number required: 2.
 - 1.3. Disposable respirators to BS EN 149.FFP1S.

- 1.4. Eye protection to BS EN 166.
- 1.5. Ear protection muffs to BS EN 352-1, plugs to BS EN 352-2
- 1.6. Hand protection to BS EN 388, 407, 420 or 511, as appropriate.

A37 Operation/ maintenance of the finished works

Generally

110 The building manual

- 1. Purpose: The Manual is to be a comprehensive information source and guide for owners and users of the completed Works. It should provide an overview of the main design principles and describe key components and systems to enable proper understanding, efficient and safe operation and maintenance.
- 2. Scope
 - 2.1. Part 1: General: Content as clause 120.
 - 2.2. Part 2: Fabric: Content as clause 130.
 - 2.3. Part 3: Services: Content as clause 140.
 - 2.4. Part 4: The Health and Safety File: Content as clause 150.
 - 2.5. Part 5: Building User Guide: Content as clause 151.
- 3. Responsibility: The Building Manual is to be produced by the contractor and must be complete no later than 2 weeks before practical completion.
- 4. Information provided by others: Details: Contractor MUST include Electrical, Mechanical and drainage as fitted drawings and all test certificates.
- 5. Compilation
 - 5.1. Prepare all information for Contractor designed or performance specified work including asbuilt drawings.
 - 5.2. Obtain or prepare all other information to be included in the Manual.
- 6. Reviewing the Manual: Submit a complete draft. Amend in the light of any comments and resubmit. Do not proceed with production of the final copies until authorized.
- 7. Final copies of the Manual
 - 7.1. Number of copies: 1
 - 7.2. Format: PDF along with Autocad or Revit File formats for contractors design works.
 - 7.3. Latest date for submission: 2 weeks before the date for completion stated in the contract.
- 8. As-built drawings and schedules
 - 8.1. Number of copies: 1
 - 8.2. Format: PDF and DWG or Suitable BIM format e.g. Revit file

115 The Health and Safety File

- 1. Responsibility: the contractor
- 2. Content: Obtain and provide the following information: See PCIP.
- 3. Format: PDF
- 4. Delivery to: Stephen Brown in PDF Format: 2 weeks before practical completion.

Note; Practical Completion will not take place unless the Health and Safety file is accepted by the client as suitably developed.

120 Content of the building manual part 1: General

- 1. Content: Obtain and Provide the following, including all relevant details not included in other parts of the manual:
- 2. Index: list the constituent parts of the manual, together with their location in the document.
- 3. The Works

- 3.1. Description of the buildings and facilities.
- 3.2. Ownership and tenancy, where relevant
- 3.3. Health and Safety information other than that specifically required by the Construction (Design and Management) Regulations.
- 4. The Contract
 - 4.1. Names and addresses and contact details of all significant consultants, contractors, subcontractors, suppliers and manufacturers.
 - 4.2. Overall design criteria.
 - 4.3. Environmental performance requirements
 - 4.4. Relevant authorities, consents and approvals.
 - 4.5. Third party certification, such as those made by "competent" persons in accordance with the Building Regulations
- 5. Operational requirements and constraints of a general nature
 - 5.1. Maintenance contracts and contractors.
 - 5.2. Fire safety strategy for the buildings and the site. Include drawings showing emergency escape and fire appliance routes, fire resisting doors location of emergency alarm and fire fighting systems, services, shut off valves switches, etc.
 - 5.3. Emergency procedures and contact details in case of emergency.
 - 5.4. Other specific requirements:
- 6. Description and location of other key documents.
- 7. Timescale for completion:

130 Content of the building manual part 2: Building fabric

- 1. Content: Obtain and Provide the following, including all relevant details not included in other parts of the manual:
- 2. Detailed design criteria, including
 - 2.1. Floor and roof loadings.
 - 2.2. Durability of individual components and elements.
 - 2.3. Loading restrictions.
 - 2.4. Insulation values.
 - 2.5. Fire ratings.
 - 2.6. Other relevant performance requirements.
- 3. Construction of the building
 - 3.1. A detailed description of methods and materials used.
 - 3.2. As-built drawings recording the construction, together with an index.
 - 3.3. Information and guidance concerning repair, renovation or demolition/ deconstruction.
- 4. Periodic building maintenance guide chart.
- 5. Inspection reports.
- 6. Manufacturer's instructions index, including relevant COSHH data sheets and recommendations for cleaning, repair and maintenance of components.
- 7. Fixtures, fittings and components schedule and index.
- 8. Guarantees, warranties and maintenance agreements obtain from manufacturers, suppliers and subcontractors.
- 9. Test certificates and reports required in the specification or in accordance with legislation, including
 - 9.1. Air permeability.
 - 9.2. Resistance to passage of sound.

- 9.3. Continuity of insulation.
- 9.4. Electricity and Gas safety.
- 9.5.
- 10. Other specific requirements:
- **11.** Timescale for completion:

140 Content of the building manual part 3: Building services

- 1. Content: Obtain and Provide the following, including all relevant details not included in other parts of the manual:
- 2. Detailed design criteria and description of the systems, including
 - 2.1. Services capacity, loadings and restrictions
 - 2.2. Services instructions.
 - 2.3. Services log sheets.
 - 2.4. Manufacturers' instruction manuals and leaflets index.
 - 2.5. Fixtures, fittings and component schedule index.
- 3. Detailed description of methods and materials used.
- 4. As-built drawings for each system recording the construction, together with an index, including
 - 4.1. Diagrammatic drawings indicating principal items of plant, equipment and fittings
 - 4.2. Record drawings showing overall installation
 - 4.3. Schedules of plant, equipment, valves, etc. describing location, design performance and unique identification cross referenced to the record drawings.
 - 4.4. Identification of services a legend for colour coded services.
- 5. Product details, including for each item of plant and equipment
 - 5.1. Name, address and contact details of the manufacturer.
 - 5.2. Catalogue number or reference
 - 5.3. Manufacturer's technical literature, including detailed operating and maintenance instructions.
 - 5.4. Information and guidance concerning dismantling, repair, renovation or decommissioning.
- 6. Operation: A description of the operation of each system, including:
 - 6.1. Starting up, operation and shutting down
 - 6.2. Control sequences
 - 6.3. Procedures for seasonal changeover
 - 6.4. Procedures for diagnostics, troubleshooting and faultfinding.
- 7. Guarantees, warranties and maintenance agreements obtain from manufacturers, suppliers and subcontractors.
- 8. Commissioning records and test certificates list for each item of plant, equipment, valves, etc. used in the installations including
 - 8.1. Electrical circuit tests.
 - 8.2. Corrosion tests.
 - 8.3. Type tests.
 - 8.4. Work tests.
 - 8.5. Start and commissioning tests.
- 9. Equipment settings: Schedules of fixed and variable equipment settings established during commissioning.
- 10. Preventative maintenance: Recommendations for frequency and procedures to be adopted to ensure efficient operation of the systems

- 11. Lubrication: Schedules of all lubricated items
- 12. Consumables: A list of all consumable items and their source.
- 13. Spares: A list of recommended spares to be kept in stock, being those items subject to wear and tear or deterioration and which may involve an extended delivery time when replacements are required.
- 14. Emergency procedures for all systems, significant items of plant and equipment.
- 15. Annual maintenance summary chart.
- 16. Other specific requirements:
- 17. Timescale for completion:

150 Content of the building manual part 4: the Health and Safety File

- 1. Content: obtain and provide the following, including all relevant details not included in other parts of the manual, including:
 - 1.1. residual hazards and how they have been dealt with
 - 1.2. hazardous materials used
 - 1.3. information regarding the removal or dismantling of installed plant and equipment
 - 1.4. health and safety information about equipment provided for cleaning or maintaining the structure;
 - 1.5. the nature, location and markings of significant services,
 - 1.6. information and as-built drawings of the structure, its plant and equipment
 - 1.7. All information as requested in the PCIP.
- 2. Information prepared by others: Details: Include all details for contractors design.
- 3. Submit to: Stephen Brown (Avison Young) by e-mail in PDF and DWG/Revit formats

151 Content of the building manual part 5: the building user guide

- 1. Content: Obtain and provide the following:
 - 1.1. Building services information.
 - 1.2. Emergency information.
 - 1.3. Energy & environmental strategy.
 - 1.4. Water use.
 - 1.5. Transport facilities.
 - 1.6. Materials & waste policy.
 - 1.7. Re-fit/ re-arrangement considerations.
 - 1.8. Reporting provision.
 - 1.9. Training.
 - 1.10. Links & references.
- 2. Other specific requirements: Oil tank; kitchen appliance; boiler usage instruction manuals. Instructions relating to fixings to walls in rooms tanked with PAM Ties (under stairs room)

160 Presentation of building manual

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

190 Maintenance service

- 1. Scope; provide a comprehensive maintenance service for the following items of plant and equipment:Include all planned preventative maintenance, as set out within the maintenance schedule and replacement of all consumable items
 - 1.1. Oil Tank.
- 2. Commencement:
- 3. Duration:

220 Training

- 1. Objective: Before Completion, explain and demonstrate to designated maintenance staff the purpose, function and operation of the installations including items and procedures listed in the Building Manual.
- 2. Time allowance: Include a minimum of two days.

230 Spare parts

- 1. General: Before Completion submit a priced schedule of spare parts that the Contractor recommends should be obtained and kept in stock for maintenance of the services installations.
- 2. Content: Include in the priced schedule for:
 - 2.1. Manufacturers' current prices, including packaging and delivery to site.
 - 2.2. Checking receipts, marking and numbering in accordance with the schedule of spare parts.
 - 2.3. Referencing to the plant and equipment list in Part 3 of the Building Manual.
 - 2.4. Painting, greasing, etc. and packing to prevent deterioration during storage.
- 3. Latest date for submission:

250 Tools

- 1. General: Provide tools and portable indicating instruments for the operation and maintenance of all services plant and equipment (except any installed under Named Subcontracts) together with suitable means of identifying, storing and securing.
- 2. Quantity: Two complete sets.
- 3. Time of submission: At completion.

A40 Contractor's general cost items: management and staff

Clauses

110 Management and staff

1. Cost significant items:

A41 Contractor's general cost items: site accommodation

Clauses

110 Site accommodation

- 1. Details: Site accommodation required or made/ not made available by the Employer: See section A36.
- 2. Cost significant items:

A42 Contractor's general cost items: services and facilities

Clauses

110 Services and facilities

- 1. Details: Services or facilities required or made/ not made available by the Employer: See section A36.
- 2. Cost significant items:

A43 Contractor's general cost items: mechanical plant

Clauses

110 Mechanical plant

1. Cost significant items:

A44 Contractor's general cost items: temporary works

Clauses

110 Temporary works

- 1. Details: Temporary works required or made/ not made available by the Employer: See section A36.
- 2. Cost significant items:



Specification created using NBS Chorus



Section Two

Client Details

NDA Properties Limited Herdus house Ingwell Drive Westlakes Science & Technology Park, Moor Row Cumbria CA24 3HU

Prepared By

Andrew Wren

On behalf of

Sunshine Skyway Structures Ltd Unit 4A Lakeland Business Park Lamplugh Road Cockermouth Cumbria CA13 0QT

Telephone: 075219 42324

Email: andrew.wren@sunshineskywaystru ctures.co.uk

Web: N/A

Project Details

File Ref: Q-651

Date Issued: July 2022

For The Repair and Stabilisation of Pelham Walled Garden's Perimeter Wall and Outbuildings

At

Pelham House Calderbridge Cumbria CA20 IDB

Section Two -

Materials & Workmanship

2.0 Workmanship & Materials

2.0.1	The premiss must always be that all works are undertaken to minimise disruption to
	the NDA Offices located adjacent to the gardens.

- 2.0.2 The Contractor will be held responsible for damage beyond fair wear and tear, occasioned to any access / service road, car park or compound area and shall indemnify the Employer against any claim arising from such damage.
- 2.0.3 The Contractor shall not interfere with the operation of existing services such as gas, water, electricity, telephones, buried cables, sewers or drains without the permission of the Employer and in the case of services of Statutory Authorities and Private Owners, without their permission.
- 2.0.4 Any damage to existing mains or services on the site shall be reported by the Contractor to the Contract Administrator in writing, giving details of the damage and, where known, how and by whom the damage was caused. Any damage not reported to the Contract Administrator, which results in disputes of liability at a later date, will be deemed to have been caused by the Contractor. These will then be made good at their expense; therefore, it is strongly recommended that the Contractor should be particularly vigilant when other Contractors are working on or in the vicinity of the works.
- 2.0.5 The Contractor shall observe and comply with all bylaws and recommended safety precautions whether standard publication or specifically related to the sites.

The Contractor shall allow for protecting, keeping free from damage and clean all areas to the entire satisfaction of the Contract Administrator and Employer.

The Contractor, upon completion, is to clean all the works thoroughly, removing all splashes, efflorescence, rubbish and surplus materials.

- 2.0.6 The Contractor shall be responsible for the offloading and handling of all materials delivered to site for installation as part of the project.
- 2.0.7 Unless otherwise stated, all items marked as being removed should be carted away from site and taken to a licensed refuse site for disposal.
- 2.08 The Contractor, where necessary, shall provide scaffolding around the exterior of the building providing a safe working environment, in accordance with latest legislation and provide Risk Assessments and Method Statements for their method of working as to how the works will be accessed.
- 2.09 When used as access between places of work must be secured to prevent slipping or falling.
- 2.0.10 Must protrude, at access points, far enough to provide a safe hand hold or an alternative hand hold must be provided.

When extending in runs of 9m or more must be provided with rest platforms at suitable intervals.

Ladders must be removed at the end of each working day and the scaffold made

inaccessible.

All of the above must be installed or erected only when supervised by a competent person.

2.0.11 For internal works where no scaffolding is required the following rules for the use of access equipment must be applied:

The Work at Height Regulations 2005 specially require the Risk Assessment of all work at height and where this work cannot be avoided, as in this case, the method of access must be considered within the hierarchal approach thereby eliminating the equipment presenting the highest level of risk until the optimal balance reached presenting the lowest level of risk. It is essential that **all** other risks associated to the use of access equipment are also taken into consideration not just falls from height, but also security of the premises and the health and safety of the residents and their visitors. As in most cases on this particular contract, after the Risk Assessment there is a range of access equipment that could be selected. This equipment includes either fixed scaffold, tower scaffold, MEWPS, steps or finally ladders, or a combination of several of these. If any ladders are used they must always be both footed and secured.

Suitable Risk Assessments and Method Statements will be required for scaffolding, tower scaffolds or laddered access to these areas.



Client Details

NDA Properties Limited Herdus house Ingwell Drive Westlakes Science & Technology Park, Moor Row Cumbria CA24 3HU

Prepared By

Andrew Wren

On behalf of

Sunshine Skyway Structures Ltd Unit 4A Lakeland Business Park Lamplugh Road Cockermouth Cumbria CA13 0QT

Telephone: 075219 42324

Email: andrew.wren@sunshineskywaystructu res.co.uk

Web: N/A

Project Details

File Ref: Q-65 I

Date Issued: July 2022

Section Three

For The Repair and Stabilisation of Pelham Walled Garden's Perimeter Wall and Outbuildings

At

Pelham House Calderbridge Cumbria CA20 IDB

Section Three -

Schedule of Work (Pricing Schedule)

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
1.00	PRELIMINARIES AND GENERAL CONDITIONS					
	All Prices in this document must be NETT (without VAT):		Note			
	Practical completion will not be awarded and a 2.5% retention		Contract			
	will be held back until the completed Health and safety File and		Condition			
	O&M manual has been approved by the Clients CDM					
	representative.					
	Note this schedule MUST be read and priced in conjunction with		Note			
	the preliminaries, preambles, drawings, appendices and PCIP.					
	Any discrepancy or inconsistency between these documents					
	MUST be brought to the attention of the clients representative					
	and contract administrator during the tender period.					
	This is a FIXED PRICE CONTRACT. These works are on a listed		Note			
	property and require listed consents, no substitute products are					
	to be used unless specifically allowed for in the tender					
	documents, the contractor will not substitute materials and/or					
	suppliers. Do not alter or qualify this document in any way.					
	Qualified or altered documents will not be considered. All					
	variations, which can only be instructed by the Contract					
	Administrator, will be priced in accordance with the rates					
	contained within this document unless the works are of a nature					
	that is not contained within this and the accompanying tender					
	documents. Unless expressly stated all items must be priced. Full					
	priced breakdown is required therefore, if the contractor states					
	INC against an item they must also stipulate, which item they are					
	included against or this will constitute an improperly priced					
	document and therefore will not be considered.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	The contractor's tender sum must factor in all ratified out of		Note			
	normal hours or weekend work to complete the required					
	elements of work as a FIXED PRICE within their tendered					
	contract programme. The contractor must also include for all					
	costs on a FIXED PRICE Contract basis and ensure they have fully					
	inspected the site of the works and assessed all measurements					
	and extents involved. They should be fully satisfied that they					
	understand the requirements. No claims for extra works will be					
	entertained unless this is clearly an additional work requirement					
	instructed by the Contract Administrator. All works to be					
	measured and verified by the contractors in order to ascertain					
	the full extent of the works. Prior to tender return the					
	manufacturer's contractor will visit site for this purpose. Where					
	any measured works may be indicated these will be approximate					
	indications. It is a tender requirement that this statement is not					
	qualified or changed or the tender submitted will be disallowed.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Site Management		Note			
	It is the contractors responsibility to manage their element of					
	the works on-site by the appointment of a full time site					
	agent/foreman working or none working to oversee the works					
	on site for the duration of the project and to supervise the					
	Quality of the works, operatives and sub contractors. This					
	person will not be replaced and will be the same person for the					
	duration of the project. This person will not attend other sites					
	not forming part of the contract unless agreed with the contract					
	administrator and will attend all site meetings. This person will					
	hold the qualification of SMSTS or other approved and					
	recognized by CITB site managers course. The client reserves the					
	right to instruct the contractor that this person is replaced,					
	therefore please include this persons CV as part of the					
	submission.					
1.01	Listed Building		Item			
	The successful tenderer must allow for liaising with the listed					
	building officer and make the necessary arrangements with					
	Copeland Building Control for site visits during the course of the					
	works when required or requested to do so by the CA or the					
	listed building officer.					
1.02	Allow for all temporary works and protection of the structure		ltem			
	and remaining building elements/items for the duration of the					
	project					
1.03	Allow for the protection of the surrounding area and the works		Item			
	for the duration of the project to include all necessary supports.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
1.04	The works are subject to The CDM Regulations 2015, which are a		Item			
	statutory requirement as such the successful contractor must					
	adhere to these regulation, to include, inter alia reading through					
	the PCIP; Production of a construction phase plan, assessing					
	risks pertaining to the site and the works, producing all					
	necessary RAMS throughout the project and providing As built					
	information and drawings within 2 weeks before the anticipated					
	programmed practical completion date and this must be					
	included in the contactors programme. The contractor must					
	ensure that the health and safety file is produced and updated					
	weekly on site as the works progress and will be inspected					
	during client representative site visits. Note Practical completion					
	will not take place until the health and safety file has been					
	suitably developed and handed over to the Principal Designer.					
	The Principal Designer will deem if the file is suitably developed,					
	if not the contractor will make all and any necessary adjustments					
	as instructed by the CA/PD.					
	All work, where the material, products and workmanship are not		Note			
	fully detailed or specified are to be of a standard appropriate to					
	the works and suitable for functions stated in or reasonably to					
	be inferred from the project documents and in accordance with					
	all relevant good building practice to include British Standards					
	and codes of practice. If not specified, materials to be approved					
	by the CA and the specialist material representative prior to use.					
	All operatives to be suitably qualified and trained to carry out					
	the tasks in hand with proof of their certified training.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	All glass, debris and materials to be disposed of at the end of		Include in			
	each working day info the waste skips. Under no circumstances		prelims			
	will debris to be disposed, be left on or around the site whilst					
	works are unattended. All works, at the end of each working					
	day, to be left in a secure and safe state. All skips must be					
	contained within a Secured Heras fenced area.					
	The contractor must submit a programme of works in weeks and		Note			
	dated outlining the sequence of the works with the tender to					
	match the contractors weekly prelims period.					
	Items in this Specification are deemed to be inclusive of all		Note			
	labour, materials and builder's work.					
	Ecology (European Protected Species)		Note			
	Ecology survey will be carried out by the client and any					
	subsequent restrictions must be complied with. Any bats, birds,					
	reptiles or animals identified in the structures of the working					
	areas will result in the contractor stopping works immediately					
	and report the matter to the Contract Administrator; All works					
	on site must comply with the restrictions or any applicable					
	licences imposed.					
	Any queries with respect to the meaning of descriptions shall be		Note			
	raised at the time of pricing this document during the tender					
	queries stage					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Contractor to provide a separate sheet breakdown of		Note			
	preliminaries costs submitted with tender to include for all					
	necessary safety; scaffold; plant equipment and the like to					
	facilitate a completed contract and include all preliminary items					
	described in this document. Waste, Admin, Management,					
	Welfare facilities, site services and any additional item ancillary					
	to items within this project but are deemed required by the					
	contractor for the delivery of the project and to uphold the					
	contractors statutory duties e.g. Health and Safety.					
	All incidentals work such as moving and re-positioning		Note			
	appendages, isolation and diversion of services including lighting					
	and ventilation along with other electrical, telephone and data					
	are to be included to achieve the required scheme. The work is					
	to be carried out on an all-inclusive "Fixed Price Contract" basis.					
1.05	On completion of all works the contractor is to allow for a full		Item			
	clean down to the complete satisfaction of the client.					
	The successful contractor must allow for supplying and erecting		Include in			
	for duration of the contract:		Prelims			
	Heras fencing with gates and relevant signage to all working					
	areas					
	Storage container(s)					
	Mess and welfare facilities					
	A Site Managers office with table and 6no chairs for meetings					
	WC Male and Female with Wash Facilities to include hot and cold					
	running water: Contractor will need to include provision for					
	cranage of the units from the access track as there is restrictive					
	access if required. These units are to be separate units apart					
	from welfare which may include a separate drying room.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
1.06	Preliminaries Cost (contractor to include in weeks). Provide a		Weeks			
	programme to reflect the proposed contract period. [Put all					
	preliminaries cost against this item and provide a full cost					
	breakdown with a summary of weekly cost to match proposed					
	programme].					
1.07	Allow to undertake a detailed photographic record and schedule		Item			
	of condition of the access roads to the site / proposed					
	compound areas and all working areas and provide this to the CA					
	prior to commencing works on site and as necessary as works					
	progress through each area of works. The Contractor is to					
	maintain the condition of the existing access road for the					
	duration of the contract and allow for any necessary repairs to re-					
	instate any damage caused by the contractor or the contractors					
	sub-contractors, ensuring the access road is left in a similar or					
	better condition than existing.					
1.08	Provide the Health & Safety File / O&M Manuals, inter allia,		Item			
	Mechanical & Electrical test and commissioning certificate,					
	building control certificates including As Installed and as fitted					
	built Drawings are to be provided to the Principal Designer. The					
	files / manuals are to include a full description of all systems, all					
	maintenance requirements, manufacturers data, test and					
	commissioning results, guarantees etc. all in the format as					
	detailed in the pre-construction information pack.					
1.09	Ensure any services are protected during the works. Carry out a		Item			
	CAT scan survey to determine if there any service systems,					
	cables, pipes to any excavation works prior to excavation taking					
	place and mark on a drawing and submit to Contract					
	Administrator before proceeding with the works as per					
	preambles P30					
2.00	Masonry					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
2.01	Include allowance for re pointing brickwork wall's after cleaning	75	m2			
	joints back to a minimum depth of 20mm and or to a depth of					
	sound substrate. Mix to be one of 1:½:2½ nonhydraulic lime					
	putty: pozzolanic admixture: sand. All to be agreed with the local					
	Conservation Officer in advance					
2.02	Include allowance for re pointing stonework wall's after cleaning	75	m2			
	joints back to a minimum depth of 20mm and or to a depth of					
	sound substrate. Mix to be one of 1:½:2½ nonhydraulic lime					
	putty: pozzolanic admixture: sand. All to be agreed with the local					
	Conservation Officer in advance.					
	Lift, repair & rebed existing sandstone copings stones to the					
	following areas;					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
2.03	The Contractor is to allow for the lifting of displaced	277	m			
	copingstones from the top of the walls (270m Linear), which					
	must be stored safely on site for re-use. The copingstones that					
	are already broken or that are damaged in the removal process					
	must be replaced with like for like sandstone copingstones.					
	Where possible copings are to be salvaged as long as 500mm in					
	length can be used.					
	With all due care & attention the contractor is to allow for					
	carefully dislodging & taking out the vegetation/ roots/ branches					
	that are damaging the walls.					
	The Contractor is to include the removal and sarting away of all					
	tree branches and vogetation from underpeath the conjugations					
	along the top of the wall					
	To prevent further damage to the wall, where full removal of					
	tree stumps and vegetation is not possible, the contractor must					
	apply an appropriate specialist supplied products to the tree					
	stumps and vegetation to prevent further growth. Before use all					
	products used must be agreed with an ecologist, listed officer					
	and tenant					
	The Contractor should allow for repairing and stabilising the wall					
	heads, which have been disrupted by the tree branches,					
	vegetation, and the removal of the copingstones. A1.5 Natural					
	hydraulic lime mortar mix should be used for all work carried out					
	on the wall heads. The finished wall heads must be flat and level,					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
2.04	Allow for 20% (54m) of the copingstones to be deemed unusable	54	m			
	and will require replacing. Where practical the contractor should					
	cut down and re-use copingstones for re-use in the wall.					
	Approval to be sought from listed officer prior to works					
	commencing. (New Coping Stones to match existing)					
	Take down and Rebuild section of the damaged and/or					
	defected walling- Rebuilding Brick Walls					
	Allow for carefully removing the bricks from the identified					
	damaged area of wall and storing them safely on site for re-use.					
	These must be stored in a suitable location on site, and are not					
	to be stored on top of any allotments plots.					
	All bricks removed from the wall must be gently scrubbed					
	cleaned with a wire brush and water to ensure they are free					
	from any vegetation. Where applicable old mortar must be					
	carefully chipped away, to leave a clean brick suitable for re-use.					
	Prior to re-building the affected area of wall, the contractor must					
	carefully remove all vegetation tree stymps/ branches old					
	mortar and all deleterious matter to ensure the bricks can be re-					
	bedded correctly.					
	Using the bricks previously set aside from the wall, the					
	contractor is to use a 1.5 Natural hydraulic lime mortar mix to re-					
	build the wall back to its original height, to a level and plumb					
	finish. The contractor must take care when mixing and loading					
	the mortar on site, to ensure they do not damage the allotments					
	piots.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	The contractor must take care when mixing and loading the					
	mortar on site, to ensure they do not damage the allotments					
	plots.					
	Where applicable the contractor must allow for the supply of					
	matching bricks to ensure the wall can be rebuilt back to original					
	height. The drawings and photos provided will highlight which					
	areas of wall are missing.					
	Approval to be sought and gained from listed officer for all brick					
	supplied by the contractor prior to installation.					
	Where the wall has been re-built, the contractor is to allow for					
	flush pointing the joints to a smooth and tidy finish, using the					
	same 1.5 lime mortar mix. Approval to be sought and gained					
	from listed officer prior to works commencing					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Where large sections of masonry are removed the contractor is					
	to include for the supply and installation of a proprietary					
	stainless steel remedial wall tie system, drilled & chemically					
	anchored to the retained wall structure. To provide a suitable tie					
	between the existing & repaired walling masonry. Approval to					
	be sought and gained from listed officer prior to works					
	commencing					
	As the wall is located in a coastal area and is exposed to the					
	elements, the contractor should cover the newly built section of					
	walls using hessian fabric to protect the new mortar.					
	To prevent further damage to the wall, where full removal of					
	tree stumps and vegetation is not possible, the contractor must					
	apply an appropriate specialist supplied products to the tree					
	stumps and vegetation to prevent further growth. Before use all					
	products used must be agreed with an ecologist, listed officer					
	and Landlord.					
	All the above to the following areas;					
2.05	Wall/Outbuilding 1 (approx. 250mm thick)	1	m2			002
2.06	Wall/Outbuilding 1a (approx. 250mm thick)	1	m2			025
2.07	Wall/Outbuilding 4 (approx. 500mm thick)	1	m2			016
2.08	Wall/Outbuilding 5 (approx. 250mm thick)	27	m2			018
2.09	Include for the supply of reclaimed imperial clay bricks to replace	6	m2			
	lost material – circa 20% (6m).					
	Repair damaged sections of the wall and outbuildings,					
	including infilling voids - Rebuilding Sandstone Walls					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Allow for carefully removing the identified sandstone walling					
	stone from the damaged area of wall and storing them safely on					
	site for re-use. These must be stored in a suitable location on					
	site, and are not to be stored on top of any allotments plots.					
	All sandstone removed from the wall must be gently scrubbed cleaned with a wire brush and water to ensure they are free from any vegetation. Where applicable old mortar must be carefully chipped away, to leave a clean brick suitable for re-use. Approval to be sought and gained from listed officer prior to works commencing.					
	Prior to re-building the area of wall, the contractor must remove all vegetation, tree stumps/ branches and old mortar to ensure the sandstone can be correctly re-laid.					
	Using the sandstone previously removed from the wall, the contractor is to use a 1.5 Natural hydraulic lime mortar mix to rebuild to wall back to its original height, line and level to match existing.					
	The contractor is to ensure that when rebuilding the wall that it is re-laid in a similar method to the existing wall and matches in appearance.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Through stones are to be laid at a Density 2.5 ties/m2 and at					
	unbonded edges 3-4 ties/m.					
	Where persons 8 energy is the pipping stopes are used to					
	where necessary & appropriate the pinning stones are used to					
	provide structural support to the wall by holding the facing					
	stones in place.					
	The contractor must take care when mixing and loading the					
	mortar on site, to ensure they do not damage the allotments					
	plots.					
	Where applicable the contractor must allow for the supply of					
	matching sandstone to ensure the wall can be rebuilt back to					
	original height. The drawings and photos provided highlight the					
	areas of the wall that are missing. Approval to be sought and					
	gained from listed officer for all sandstone supplied by the					
	contractor prior to installation.					
	Where a void has been re-built, the contractor is to allow for re-					
	pointing the joints to a smooth and tidy finish, using the flush					
	point method. The using the same 1:5 lime mortar mix, to a					
	minimum depth of 30mm. Approval to be sought and gained					
	from listed officer prior to works commencing.					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	As the wall is located in a coastal area and is exposed to the					
	elements, the contractor should cover the newly built section of					
	walls, using hessian sacking to ensure the mortar new mortar					
	cures slowly without cracking.					
	To prevent further damage to the wall, where full removal of tree stumps and vegetation is not possible, the contractor must apply an appropriate specialist supplied products to the tree stumps and vegetation to prevent further growth. Before use all products used must be agreed with an ecologist, listed officer and tenant.					
	To the following areas					
2.10	Wall Outbuilding 1 (approx. 500mm thick)	1	m2			022
2.11	Wall Outbuilding 2 (approx. 250mm thick)	1	m2			005
2.12	Wall Outbuilding 2 (approx. 250mm thick)	1.5	m2			007
2.13	Wall Outbuilding 2 (approx. 250mm thick)	3.5	m2			009
2.14	Wall Outbuilding 3 (approx. 250mm thick)	1	m2			011
2.15	Wall/Outbuilding 2 (approx. 250mm thick)	1	m2			021
2.16	Additional Stone Work Repairs (250mm) as directed by the CA	50	m2			
2.17	Additional Stone Work Repairs (500mm) as directed by the CA	20	m2			
2.18	Additional Stone Work Repairs (250mm) as directed by the CA	50	m2			
2.19	Additional Stone Work Rebuilding (250mm) as directed by the CA	50	m2			
2.20	Additional Stone Work Rebuilding (500mm) as directed by the CA	20	m2			
2.21	Additional Stone Work Rebuilding (225mm) as directed by the CA	50	m2			

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Prior to re-building the contractor is to remove all vegetation,					
	tree stumps/ branches, old mortar and all deleterious matter					
	from the voids to ensure the sandstone/brick can be re-laid					
	correctly.					
	To re-build the void the contractor is to bed the brick/sandstone					
	using a 1:5 Natural hydraulic lime mortar, to a level and plumb					
	finish. The table in 3.6 indicates whether void should be built					
	using clay bricks or sandstone.					
	Where a void has been re-built, the contractor is to allow for					
	flush pointing the joints to a smooth and tidy finish using the					
	same 1.5 lime mortar mix to a minimum denth of 30mm					
	The contractor must take care when mixing and loading the					
	mortar on site, to ensure they do not damage the allotments.					
	Approval to be sought and gained from listed officer for all brick					
	/ sandstone supplied by the contractor prior to installation.					
2.22	Wall Outbuilding 2 (approx. 250mm thick)	1	m2			002
2.23	Wall Outbuilding 4 (approx. 250mm thick)	1	m2			021
2.24	Wall Outbuilding 5 (Rafter Pockets)	17	No			016
2.25	Wall Outbuilding 5 (approx. 250mm thick)	27	m2			018
2.26	Wall Outbuilding 5e (approx. 250mm thick)	1	m2			032
		25	Nr			
3.00	Vegetation					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Cutting back and removing overgrown vegetation from inside/around/perimeter of the garden wall and outbuildings. Controlled use of chemicals to kill off vegetation. The contractor to consider that they are near a water course, agricultural land and plotted land containing food for human					
	consumption, when selecting the appropriate product.					
3.01	The contractor is to include for the removal of all vegetation, tree stumps/ branches and all deleterious matter from the walls of the outbuildings.		Item			
	To prevent further damage to the wall, where full removal of tree stumps and vegetation is not possible, the contractor must apply an appropriate specialist supplied products to the tree stumps and vegetation to prevent further growth. Before use all products used must be agreed with an ecologist, listed officer and tenant.					
	Where vegetation has been removed from wall and where visible loss of mortar is present the contractor is to allow for re- pointing the joints. The joints are to raked back no less than 50mm and flush pointed to a smooth and tidy finish using a 1:5 Natural hydraulic lime mortar.					
4.00	Reinweten Calada					
4.00	Kainwater Goods					

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
4.01	Repair and re-point the Finlock concrete gutter system, to all		Item			
	buildings where this system exists. Include for re-lining the					
	gutters using a proprietary bitumen product, ensure all joints are					
	sealed.					
4.02	Clear out and ensure free running all rainwater goods and gullies.		Item			
4.03	Replace all existing downpipes (some have Asbestos containing		Item			
	materials refer to asbestos survey report) with Cast Iron profile					
	to match existing					
5.00	Drainage					
5.01	Carry out a complete CCTV Drainage survey to assess the		Item			
	condition of the below ground surface water discharges					
6.00	Roof Works					
6.01	Form roof structure to outbuilding 5a as per the engineer's		Item			
	specification and drawing as sheet no. SK630.05 and SK630.06					
ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
------	--	------	------------	--------	---------	----------
6.03	Replace all rooflights with Steadman's roof lights or similarly		Item			
	approved. Approval to be sought and gained from listed officer					
	prior to works commencing.					
	Provide lead flashings using Code 4 lead, achieving a minimum					
	150mm up stand at all times. The lead flashings must be installed					
	into the existing wall and be lapped over the newly installed roof					
	coverings. All weathering details are to be in strict accordance					
	with Lead Sheet Association standard details and Codes of					
	Practice.					
7.00	Concrete Works					
7.01	Replacement of various timber lintels to doors and windows	25	Nr			
	associated with some outbuildings with new Non Composite Pre-					
	cast concrete lintels of size 150x100 by 1200mm long.					
0.00						
8.00	Concrete Repairs		Nalintolo			
	The contractor is to allow for hacking off debonded and loose	2	NO LINTEIS			
	areas of concrete, preparing the areas, exposing the metal					
	reinforcement back to sound areas, removing all corrosion from					
	existing remorcement to clean sound metal, applying a					
	protective coating to the remorcement then applying a repair					
	using Sike MonoTon® 4012 or similar approved product. All					
	using Sika Monorop ² -4012 of similar approved product. All					
	works are to be undertaken in line with the manufacturers					
	technical specification has been provided in the appendices					
	Anticipated concrete repair depths yang from approx 50-100mm					
	in depth. Penair to match colour and texture of existing concrete					
8 01	Outhuildings 5h-5i Lintel 1 (only front shown in image)	5000	cm3			032
8.02	Outbuildings 5b-5i Lintel 2	5000	cm3			0.52

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
8.03	Concrete repairs to precast concrete lintels.	5000	cm3			
	defects associated with the outbuilding 5e.					
9.00	Windows and Doors					
9.01	Remove all Glazing windows and doors to the outbuildings and		Item			
	remove from site. Supply and fix Sitex security screens or equal					
	and approved by CA, fixed in accordance with the manufacturers					
	recommendations.					
40.00						
10.00						
10.01	The contractor is to allow for a full clean down of all areas and to		Item			
	reinstate areas disturbed as was prior to the commencement of					
	the works e.g. reinstate groundworks and the like where cabins					
	have been removed.					
11.00	External Works					
11.01	Removal of trip hazards by lifting and rebedding paved areas;		PROV	£10,000.00	£0.00	
	removal of cracked concrete and concrete					
12.00	Plaster Works					
12.01						
12.01	Remove defective/addled/dehonded_render and replace to					
	areas as instructed by the CA or Engineer in mix 1.1.6 clean sand	100	m2			
12 02	Remove and replacement of Lime Sand render to area's around	100				
12.02	lintel replacement locations					
	Undercoat Mix 2(Lime):5 (Sand) First undercoat 8–12 mm					
	thickness. Second undercoat 6–8 mm thickness.					
	Final Coat (As undercoat) 3–6 mm thickness.	25	m2			
13.00	Provisional Sums					
13.01	Include for additional pointing	75	m2			
13.02	Additional Concrete Repairs as instructed by the CA	5000	cm3			

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Provisional allow for remedial structural works to the outbuilding		PROV	£10,000.00	£10,000.00	
	roofs					
	State OHP (include in the rates)		%			
14.00	Contingency Sum					
	Include a contingency of 20% from the contract sum (excluding	20	%			
	preliminaries)					
			Sub Total			
	VA					
			Total			

ITEM	DESCRIPTION	QTY	UNIT	Rate £	Total £	Image Nr
	Summary					
1.00	PRELIMINARIES AND GENERAL CONDITIONS					
2.00	Masonry/Stonework					
3.00	Vegetation					
4.00	Rainwater Goods					
5.00	Drainage					
6.00	Roof Works					
7.00	Concrete Works					
8.00	Concrete Repairs					
9.00	Windows and Doors					
10.00	Clean Down					
11.00	External Works					
12.00	Plaster Works					
13.00	Provisional Sums					
14.00	Contingency Sums					
	note all prices are excluding VAT					



Section Four

Client Details

NDA Properties Limited Herdus house Ingwell Drive Westlakes Science & Technology Park, Moor Row Cumbria CA24 3HU

Prepared By

Andrew Wren

On behalf of

Sunshine Skyway Structures Ltd Unit 4A Lakeland Business Park Lamplugh Road Cockermouth Cumbria CA13 0QT

Telephone: 075219 42324

Email: andrew.wren@sunshineskywaystru ctures.co.uk

Web: N/A

Project Details

File Ref: Q-65 I

Date Issued: July 2022

For The Repair and Stabilisation of Pelham Walled Garden's Perimeter Wall and Outbuildings

At

Pelham House Calderbridge Cumbria CA20 IDB

Section Four -

- Photographs
- Project Drawings













			Entrance Gate	
WALL 1	INTERNAL ELEVATIO	<u>DN Part 1</u>	_	External section of with wall 2. Plus tro
	SCALE 1:100		7	Specification C Photo - 022 Priority - 1
			Entrance Gate	
WALL	1 EXTERNAL ELEVA	TION Part 1		Work Area 1B
	SCALE 1:100			
Tree growing out of th Specification C Photo - 005 Priority - 1	e top of the wall.			
Work Area 2				
FIGHT STREET STR		NAL ELEVATION Part 1		
	:	SCALE 1:100		
				(
WALL 2 PART 2 WAL	L 2 PART 1	WAU	2 EXTERNA	
			SCA	LE 1:100
				Significant evide loss of Sandstor Specification C Photo - 008 Priority - 2
WALL 2 PART 1	WALL 2 PART 2			
Here is the end of wall 2 as it comes into wall 3 Sandstone missing from the top of the wall Specification B Photo - 021 Priority - 2		<u>VVALL 2 IN</u>	SCALE 1:100	<u>= VATION P</u>
Work Area 6				
			WA	ALL 2 EXTE



<u>Part 2</u>

ERNAL ELEVATION Part 2





WALL 4 EXTERNAL ELEVATION



WALL 5 EXTERNAL ELEVATION Part 1

SCALE 1:100

WALL 5 EXTERNAL ELEVATION Part 2

SCALE 1:100



SCALE 1:100

SCALE 1:100



Along the last section of this wall (approx 10m) we have sandstone beds introduced



RI

002

Q-651



NOTE: All dimensions to be checked on site.

All dimensions in millimetres unless stated otherwise.

Rev:

R2

Drawing No:

003

Project No:

Q-651

10m

Outbuilding	Construction	Approx Int' Dimesions Lenght x Width
la	Clay Brick 215mm	2.4 x 2.4m
lb	Clay Brick 215mm	2.4 x 2.4m
lc	Clay Brick 215mm	2.4 × 4.0m
١d	Clay Brick 215mm	2.2 x 4.0m
le	Clay Brick 215mm	2.0 × 4.0m
lf	Clay Brick 215mm	2.5 x 4.0m
5a	Sandstone 450mm	2.5 x 4.0m
5b	Sandstone 450mm	7.6 x 3.7m
5c	Clay Brick 100mm	2.4 x 2.2m
5d	Sandstone 450mm	5.4 x 2.6m
5e	Sandstone 450mm	5.8 x 2.2m
5f	Sandstone 450mm	5.9 x 2.1m
5g	Sandstone 450mm	8.0 x 2.4m
5h	Clay Brick 215mm	3.1 x 2.4m
5j	Clay Brick 100mm	1.8 x 2.6m

Scale Bar 1:100



Sunshine Skyway Structures Ltd.

CONSULTING STRUCTURAL ENGINEERS







Sunshine Skyway Structures Ltd.

CONSULTING STRUCTURAL ENGINEERS







<u>Appendix</u>

Client Details

NDA Properties Limited Herdus house Ingwell Drive Westlakes Science & Technology Park, Moor Row Cumbria CA24 3HU

Prepared By

Andrew Wren

On behalf of

Sunshine Skyway Structures Ltd Unit 4A Lakeland Business Park Lamplugh Road Cockermouth Cumbria CA13 0QT

Telephone: 07521942324

Email: andrew.wren@sunshineskywaystru ctures.co.uk

Web: N/A

Project Details

File Ref: Q-65 I

Date Issued: July 2022

For The Repair and Stabilisation of Pelham Walled Garden's Perimeter Wall and Outbuildings

At

Pelham House Calderbridge Cumbria CA20 IDB

Appendix -

A. Structural Engineers Surveys B. Manufacturers Literature C. Designers Risk Assessment Appendix A: Structural Engineers Report

Sunshine Skyway Structures Ltd

CONSULTING STRUCTURAL ENGINEERS



- CLIENT: NDA Properties Ltd Client Avison Young 4 St Paul's Square Old Hall Street Liverpool
- PROJECT TITLE: Structural Survey Report

L3 9SJ

- SITE ADDRESS: Pelham Walled Garden Pelham House, Calderbridge, Cumbria CA20 1DB
- PROJECT REF: Q-630 Peelham Walled Garden
- DATE(s) OF INSPECTION: 18th October 2021



Content

- 1) Introduction
- 2) Assessment Form
- 3) Findings
- 4) Recommendations

Appendix 1 Historic Maps

- OS County Series Map Cumberland 1860-1863 (Centred Ponsonby Hall Calderbridge)
- OS County Series Map Cumberland 1899 (Centred Ponsonby Hall Calderbridge)
- OS County Series Map Cumberland 1969-1970 (Centred Pelham House Calderbridge)

Appendix 2 Wall Garden Key Plan and wall construction form.

• Q-630 Sk 01

Appendix 3 Drawings with photo records

- Q-630 DRG 001 Wall 01
- Q-630 DRG 002 Walls 02 & 03
- Q-630 DRG 003 Walls 04 & 05

Appendix 4 Wall Defect Action Plan

Report Revisions

Rev	Description	Date	Author	Checker
No				
-	Initial Issue	24/10/2021	A J Wren	K Routledge

1 Introduction:

On behalf of the client NDA Properties Ltd, SSS were contacted by Avison Young to perform a structural survey on the Pelham Walled Garden located within the grounds of Pelham House Calderbridge, Cumbria CA20 1DB.

The site was visited on 18th October 2021 at which time the weather was fair but overcast, air temperature around 14^oC. We were met on site by representatives of Avison Young and the local Allotment Association who currently tend plots within the walled garden.

The current walled garden has five separate walls of unique lengths and form. The face of each wall is either clay brick or sandstone. The walls have been capped with sandstone coping stones. The structure predates Ordnance Survey Maps and over time the walled garden extent has changed (See Appendix 1 of this report).

The average wall height along the structure's perimeter is approximately 3.2m, and the average wall thickness is approximately 300mm.

Prior to us commencing a detailed assessment we walked the length of the internal and external perimeter of the structure to gain a understanding of its general condition of the structure.

2 Assessment Form:

The structure was visually assessed from ground level and wherever possible from as close as possible to the wall face. The external face of wall 2 and much of the external face of wall 4 could not be accessed due to the ground in front of these walls being extremely overgrown. This despite we understand a scheme of work being undertaken 3 years ago to the walls which included forming access to the perimeter of the structure in full.

Starting with Wall 1 and working clockwise we walked round the structure recording defects or other taking photo and notes. The internal wall face was undertaken first and then the external face. Our findings are recorded in Appendix 3 of this report

3 Findings:

The general condition of the structure is good less a number of repeat defects and the results of a general lack of maintenance over a significant period of time we would suggest.

The structure displays no evidence of settlement or movement and all bar one section of wall noted (of the walls inspected) are plumb. Nearly all the defects are associated with the coping stones not being bedded or being missing. Evidence exists that part of the works undertaken 3 years ago was to kill the vegetation that was previously growing out of the wall tops. However, much of the roots of trees or other shrubs have been left and the coping stones are in nearly all areas loose with open joints allowing water to penetrate the wall's core and thus accelerate deterioration of the structure.

In a number of local area's the sandstone facing was seen to have weathered worse than others, Wall 2 internal face being the worst. As perhaps expected, the clay brickwork wall faces have performed well and show little to no weathering.

An observation is that we see little evidence of modern repairs (cement mortar use or other) and thus suggest little to no works has been performed on the structure for some considerable time.

It has to be said that our report is based on a visual inspection only and involves no opening up and some sections of the structure's perimeter were not accessible at the time of the visit. Thus, this must be born in mind when considering reading this report and planning works.

4 Conclusions

We have put together a defect action plan for the structure including the recommendation that the structure be recorded of an Asset Care Plan and thus have a maintenance budget allocated and a regular inspection plan introduced going forward. See Appendix 4 for the defect action plan.

Signed

A J Wren BEng CEng MIStructE

Allrer

24/0/2021

Page **4** of **17**

APPENDIX 1

Historic Maps



Figure 1 OS County Series Map Cumberland 1860-1863 (Centred Ponsonby Hall Calderbridge)



Figure 2 OS County Series Map Cumberland 1899 (Centred Ponsonby Hall Calderbridge)



Figure 3 OS County Series Map Cumberland 1969-1970 (Centred Pelham House Calderbridge)

APPENDIX 2

Wall Garden Key Plan and wall construction form



APPENDIX 3

Drawings with photo records



WALL 1 EXTERNAL ELEVATION Part 1 SCALE 1:100

GENERAL NOTES

- 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DOCUMENTS. INCLUDING ALL ENGINEERING DOCUMENTS IN PARTICULAR THE SURVEY REPORT. ANY AMBIGUITIES OR DISCREPANCIES BETWEEN THIS DOCUMENT AND ANY OTHER PROJECT DOCUMENT SHALL BE REFERRED TO THE STRUCTURAL ENGINEER FOR CLARIFICATION.
- 2. WHERE PROPRIETARY PRODUCTS ARE SPECIFIED, ALTERNATIVE MANUFACTURERS' PRODUCTS MAY BE USED SUBJECT DEMONSTRATION OF EQUAL PERFORMANCE AND DURABILITY.
- 3. DO NOT SCALE THIS DRAWING
- 4. ALL SIZES/DIMENSIONS TO BE CONFIRMED ON SITE.
- THIS DRAWING HAS BEEN PREPARED FOR THE PURPOSE OF CONVEYING DESIGN INFORMATION FOR DEFECT IDENTIFICATION AND APPROXIMATE LOCATION OF SAME.
- 6. THIS DRAWING MAY BE SUITABLE FOR TAKE OFF PURPOSES HOWEVER, IT MAY BE NECESSARY TO AUGMENT OR AMEND THE INFORMATION FOR CONSTRUCTION PURPOSES. NO LIABILITY WILL BE ACCEPTED FOR ANY CONSTRUCTION WITHOUT REFERRAL TO SUNSHINE SKYWAY STRUCTURES LTD.
- ONLY MATERIALS OR PRODUCTS WITH A CE MARK SHALL BE 7. INCORPORATED INTO THE CONSTRUCTION, EXECUTION CLASS FOR FABRICATION 2, SUNSHINE SKYWAY STRUCTURES TO BE INFORMED IF NO HARMONIZED STANDARD EXISTS FOR ANY PROPOSED MATERIAL OR PRODUCTS.

REV.		DESCRIPTI	ON.	BY&DATE		
	Sunshine Skyway Structures LTD. Cockgate Gowrie, WIGTON Cumbria CA7 3PZ Tel: 07521942324					
TITLE						
Wal Wal	led Garo I 1	len Survey				
CLIEN	IT		SITE			
AVIS No.4 Street	SON YO St Pauls S t, Liverpoo	UNG quare, Old Hall ol, L3 9SJ	Pelham Walled Pelham House, Cumbria, CA20	Garden Calderbridge 1DB		
SCAL	E at A1	DRAWN	DATE	CHECKED		
AS SH	IOWN	A J Wren	21/10/21	K Routledge		
PROJE	ECT DRAV	VING. No	1	REV.		
Q-	Q-630 DRG 001 P1					
This of Ltd. of the o	This drawing remains the property of Sunshine Skyway Structures Ltd. and may not be reproduced in part or whole without the owners consent					



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- 2. WHERE PROPRIETARY PRODUCTS ARE SPECIFIED, ALTERNATIVE MANUFACTURERS' PRODUCTS MAY BE USED SUBJECT DEMONSTRATION OF EQUAL PERFORMANCE AND DURABILITY.
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REV.		DESCRIPTI	ON.	BY&	DATE	
Sunshine Skyway Structures LTD. Cockgate Gowrie, WIGTON Cumbria CA7 3PZ						
		Tel: 0752	21942324			
TITLE						
Wal Wal	led Garo ls 2 & 3	den Survey				
CLIEN	T		SITE			
AVIS No.4 Street	SON YO St Pauls S t, Liverpoo	UNG Gquare, Old Hall ol, L3 9SJ	Pelham Walled Garden Pelham House, Calderbridge Cumbria, CA20 1DB			
SCAL	E at A1	DRAWN	DATE	CHECKED		
AS SHOWN A J Wren			21/10/21	K Routled	ge	
PROJECT DRAWING. No				REV.		
Q-	Q-630 DRG 002 P1					
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WALL 5 EXTERNAL ELEVATION Part 3

SCALE 1:100

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APPENDIX 4

Wall Defect Action Plan

Q-630

Pelham Walled Garden Defect Action Plan

October 2021

Defect No	Wall No.	Related Photo No.	Defect	Recommended repair time frame
Priority	1	0		
1	5	03—06 Inc.	Significant bulge to the inner skin of this wall for a section approximately 8m long from the level 1.6m above ground level. The wall section above this level should be taken down locally and rebuilt over the 8m length noted.	0-12 Months
2	1	02	In the middle of the Photo growing out of the top of the wall we have a tree or other. Remove tree along with root bulb and make good wall and coping stones.	0-12 Months
3	1	03 & 15	As defect 2 but 2 trees observed.	0-12 Months
4	1 -	09 & 10	Clean out vegetation to wall zone rebuild wall installing coping stones to section.	0-12 Months
5	2	03 & 04	As defect 2	0-12 Months
6	2	13	We have missing coping stones to the end of this wall and wall section loss in the corner. Re-build corner removing local vegetation and installing coping stones.	0-12 Months
7	3	01 & 03	This is an extension of defect No. 6 extending into this wall	0-12 Months
8	3	02	Missing coping stones. Make good top of wall removing vegetation locally and bedding coping stones.	0-12 Months
9	5	08	Cut back vegetation seen to be growth out of the wall in the middle of the photo (approximate level 2.2m above ground) and apply stump killer or other such product.	
10	5	10	Remove trees growing out of face and top and wall and make good repair. Treating all remaining roots with approved root killing product.	0-12 Months
Priority	2			
11	ALL	N/A	The external perimeter of the walled garden has become overgrown. As such access to the wall perimeter is currently limited along its length preventing inspection. Further it is likely that without a separation zone between vegetation and the wall, the wall will deteriorate at an accelerated rate. Create separation/access area along the length of the wall.	1-3 years
12	ALL	N/A	As defect 11 above but applicable to the internal perimeter clean back vegetation from wall face and create separation area.	1-3 years
13	ALL	N/A	The coping stones to nearly the full length of the walled garden are not bedded and have open joints allowing water to track into the wall. Re-bed all coping stones along the full wall length cleaning out all vegetation and other such deleterious matter before repairing wall heads and re-bedding coping stones.	1-3 years



Sunshine Skyway Structures Ltd

Q-630

Pelham Walled Garden Defect Action Plan

October 2021

Defect No	Wall No.	Related Photo No.	Defect	Recommended repair time frame
Priority	2 Conti	nued		
14	2	09-10	Sandstone weathering and significant section loss to upper 600mm of wall locally. Rebuild and make good wall re-bed coping stones.	1-3 years
15	2	12	Facing stones loose and missing immediately under coping stones. Re-build and make good.	1-3 years
16	3	03	Remove suspected soil mound covered in vegetation which prevents access to the corner of walls 3 and 4.	1-3 years
17	4	07	Make good void to inner face brickwork.	1-3 years
18	4	06	Remove tree root bulb and associated roots to wall section and make good	1-3 years
Priority	3			
19	2	09-10	Monitor sandstone weathering (See Defect 14 above)	2-5 years
20	N/A	N/A	With defects in priority groups 1 and 2 actioned undertake new asset care inspection of wall.	2-5 years
Priority	4			C
21	2	01	Monitor sandstone weathering	5-10 years
22	2	09-10	Monitor sandstone weathering (See Defect 14 above)	5-10 years
22	2	11	Monitor sandstone weathering	5-10 years



Sunshine Skyway Structures Ltd

Appendix B: Manufacturers Literature


SITEX SCREENS

Overview

Our rapid response security team can fit our screens in a matter of hours. Our Steel Screens are the ideal way to secure your vacant property

Visible deterrent to criminals

Creates a steel barrier over your window

Perforation lets light through to allow internal viewing and ventilation

Resistant to arson attack

Fitted from the inside so no damage to your building

Available for Hire or Purchase

Address:

Unit 1, Martello Enterprise Centre, Courtwick Lane Littlehampton, West Sussex, BN17 7PA

Telephone: 0845 463 5421 E-mail: info@safesitefacilities.co.uk





CI/SfB (4-) Rf9 October 2012



Choosing & using AS3 & AS6

Manufacturers of Cladding Products for the Construction Industry

Nanufacturers of Cladding (1988) PROFILED FIBRE CEMENT SHEETING



INTRODUCTION

Why choose Eternit fibre cement profile sheeting from Steadmans?

- Highly cost effective weatherproofing
- Virtually maintenance free
- No rust, rot or corrosion
- Resistant to chemical attack
- Vapour permeability reduces condensation
- Excellent noise and thermal insulation
- Quick and easy to install and fix
- Wide product and colour range
- 30 year guarantee (on request)
- Unbeatable after sales service

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Profile AS6 and Profile AS3

Steadmans are distributors of AS6 and AS3 profiles from Marley Eternit, the Country's largest manufacturer of fibre cement products and the producers of profiled sheeting for over 90 years. The products are differentiated by the size of corrugation in the sheets; the AS3 profile having smaller corrugations than the AS6 profile.

Both types of sheet are manufactured from a selected blend of Portland cement and water. This is reinforced with a mixture of both natural and synthetic fibres. The longevity of this formulation has enabled Marley Eternit to offer a 30 year guarantee on our sheets and fittings (available on request).

Marley Eternit have always worked to improve safety when using our range of roofing and cladding products. Building upon over 90 years experience in the UK roofing industry we have developed a purpose designed, reinforced fibre cement sheet - AS6 - that meets the high standards of safety in roofing work set out in the Health and Safety Executive document 'Health and Safety in Roof Work' (HSG 33). In addition to the AS6 sheet, we are proud to be able to offer a complementary range of accessories that meet the same high standards of safety.

Eternit fibre cement profiled sheeting is manufactured in accordance with a quality system registered under BS EN ISO 9001. They also hold British Board of Agrément Certificate No. 00/3700.

Which profile?

The decision to use AS6 or AS3 sheets will depend largely upon the following four criteria:

- 1 The scale of the building in question.
- 2 Compatibility with any existing materials.
- **3** The distance from centre to centre of the horizontal fixing rails or purlins.
- **4** Whether or not the roofing material is to be classified as non-fragile.

Reference should therefore be made to the sheet sizes, fixing details and product data provided in this leaflet before deciding which type of profiled sheeting to use.



AS6 and safety in roof work

When correctly installed, AS6 has been tested and classified as nonfragile, and must be considered when working to the roof safety requirements of HSG 33. In addition, AS6 has also passed the French and Danish standards with flying colours.

AS6 is a high strength fibre cement sheet with polypropylene reinforcement strips inserted along precisely engineered locations which run for the full length of the sheet in each corrugation. This provides maximum reinforcement strength with no loss of durability in service.

AS6 sheet lengths (mm)

1525, 1675, 1825, 1975, 2125, 2275, 2440, 2600, 2750, 2900, 3050.

Farmscape sheet lengths (mm)

1525, 2440, 2900



The cut-away illustration above shows the location of the polypropylene reinforcement strip inserted in a precisely engineered position in each corrugation of the AS6 sheet.



Other products

In order to ensure full compliance with HSG 33, ridges and rooflights must also be upgraded. Marley Eternit can supply a full range of fittings to ensure that the complete roof is non-fragile - see pages 8 to 11 for details.

AS3

AS3

The lower profile of this product makes it particularly suitable for a range of domestic, agricultural and light industrial buildings. It can be laid to a minimum roof pitch of 10°.



	TOTOIIIII	050.01111
Thickness (nominal)	6.7mm	5.8mm
Density (nominal)	1450kg/m³	1450kg/m ³
Pitch of corrugations (nominal)	146.5mm	72.3mm
Depth of profile	47.6mm	19.8mm
Profile height category	С	А
Side lap	70mm	131.2mm
Minimum end lap	150mm	150mm
Maximum purlin centres	1375mm	925mm
Maximum rail centres	1825mm	1525mm
Maximum unsupported overhang	350mm	250mm
Approx. weight of roof as laid, with 150r end laps, single skin including fixings	nm 17kg/m²	14.5kg/m²
Minimum roof pitch	5°	10°

WINDLOADINGS

When using profiled sheeting the windloadings of a location are critical to ensure the optimal sealing requirements.

Exposure zones

Approximate wind driven rain (litres/m² per spell)

less than 56.5

equal to or greater than 56.5

Notes

Map based on BS 5534: Part 1: 1997, Figure 1

When buildings stand above their surroundings or are situated in open country with no windbreaks within 1 km, they should be considered subject to severe exposure conditions.

Lap

This describes how much one sheet overlaps another at either the end (end lap) or the side (side lap).

Pitch

This describes the degree to which the roof slopes.

Guidance procedure

Step 1: Exposure

Determine the expected degree of exposure by examining the adjacent map.

Step 2: Centres of support

Support centres for roof sheeting should be a maximum of 1375mm for AS6, or 925mm for AS3, for a superimposed load of up to 1.89kN/m². There should be two fixings per sheet, per purlin. Where windloadings exceed this level, please contact the Marley Eternit Technical Department for advice before proceeding.

Step 3: Lap and seal

Establish requirement for lapping and sealing by reference to the exposure zones map of the UK and the table below. See page 13 for sealing details.

Step 4: Fixings

Sheltered and moderate sites

Less than 56.5 l/m² wind driven rain per spell

Minimum Roof pitch	End lap (mm)	p Lap treatment End laps Side la		
22.5° and over	150	Unsealed	Unsealed	
15° and over	300	Unsealed	Unsealed	
15° and over	150	Sealed	Unsealed	
10° and over	150	Sealed	Sealed	

Moderate and severe sites

More than 56.5 l/m² wind driven rain per spell

Minimum	End lap	Lap tre	atment
Roof pitch	(mm)	End laps	Side laps
25° and over	150	Unsealed	Unsealed
17.5° and over	150	Sealed	Unsealed
15° and over	150	Sealed	Sealed
10° and over	300	Sealed	Sealed

Note

On roofs over 10° pitch where parapets might allow snow build up, 300mm double sealed end laps and single seal side laps are recommended. The minimum pitch for Profile 6 is 5°. Where slopes are between 5° and 10° the maximum slope length should be 15m with double sealed end laps and single sealed side laps.

ACCESSORIES

	Profile 3	Profile 6
Cranked crown sheet	N/A	Girth: 750 or 900mm
		Sizes: 5°, 7.5°, 10°,12.5°, 15°, 17.5°, 20°, 22.5°
Ventilating crank crown	N/A	Girth: 750mm
		Sizes: 5°, 7.5°, 10°,12.5°, 15°, 17.5°, 20°, 22.5°
Two piece close fitting ridge	Cover width: 650.8mm (adjustable)	Cover width: 1016mm (adjustable)
Two piece ventilating ridge	Cover width: 650.8mm (adjustable)	Cover width: 1016mm (adjustable)
Two piece plain wing ridge	Cover width: 650.8mm (adjustable)	Cover width: 1016mm (adjustable)
Hooded two piece ridge finial	N/A	Available

Note: Cover widths indicated make allowance for overlap

PRODUCT SELECTOR









10 Hooded two piece ridge finial

Made to suit roll top bargeboards with two-piece adjustable ridge only. AS6R only

11 Two piece ventilating ridge cover

Adjustable over range of roof pitches providing natural ventilation

12 Two piece close fitting ridge cover

With profile wings adjustable over range of roof pitches



	AS3	AS6
Eaves corrugation closure	Cover width: 650.8mm	Cover width: 1016mm
	Size: 75mm (effective leg length) (e	Sizes: 65, 100 150, 250mm effective leg length)
	Handed left and right	Universal
Eaves filler	Cover width: 650.8mm	Cover width: 1016mm
AMAME	Handed left and right	Universal
Apron flashing	Cover width: 650.8mm	Cover width: 1016mm
	Size: 120°	Size: 124°
Carry	Handed right	Handed left
Roll top barge board	Cover widths (1800mm (16 2440mm (22 3000mm (28	200mm wing): 50mm cover) 50mm cover) 50mm cover)
	Farmscape: 1	525, 2440mm
External corner	Cover widths (1800mm (16 2440mm (22	200mm wing): 50mm cover) 50mm cover)
	Cover width (: 3000mm (28	300mm wing): 50mm cover)
Horizontal flashing piece	Cover 2080mm (20	widths: 32mm cover)
	75mm projection	for single cladding
	140mm projection	for double cladding

INSTALLATION

Whilst Eternit profiled sheeting is easy to install, the following guidelines should be observed:

- The sheets should be installed smooth surface up.
- The sheets should be cut with a hand saw or slow speed reciprocating power saw.
- All fixing holes should be drilled, not punched, and should provide adequate clearance for the fastener shank (minimum 2mm).
- There should be two fixings per purlin or rail covered at the fixing points shown on pages 4 and 5.
- When using power tools in a confined area, dust extraction equipment is advisable.
- The dust and swarf generated when working with the sheets does not require any special handling requirements other than normal good housekeeping to maintain a clean working area.

Fixing

The correct fixing of a sheet is important in order to avoid premature failure, corrosion or leaks in a roof. Many factors influence the fixing of a roof, such as the purlin or rail type and the nature of the roof in question. Particularly important is the type of fastening system used and compliance with the manufacturer's recommendations.

When fixing AS6 fibre cement profiled sheeting on roof slopes up to 30° (double skin up to 15°) we recommend the use of topfix fasteners from SFS Stadler Limited. These fasteners provide a quick and effective one step fixing operation. However, they must be installed using the recommended depth locating powertool to prevent under or over tightening, which can damage the roof sheets.

When topfix fasteners are not used, the recommended fastener diameter is 8mm, which requires a clearance hole of 8mm + 2mm = 10mm. If using drive screws, the holes should be located centrally on the timber purlins; for hook bolts or similar the hole should be located 4mm upslope from the back edge of the purlin. 6mm diameter fasteners can be used for AS3.

Note

In all instances the Sela washers and protective caps manufactured by SFS Stadler Ltd should be utilised to ensure adequate weather protection.

Checking the topfix fasteners for tightness



Overhangs

Sufficient overhangs must be allowed at the eaves to ensure that rainwater discharges into the gutter. Verges must be overhung by one complete corrugation unless a bargeboard is used.



Side Laps

Sealing

Where appropriate, 8mm diameter butyl strips should be positioned as shown.



End Laps

The minimum end lap for either Profile 3 or Profile 6 is 150mm, fixed as shown in the section below.

Where double sealing is necessary, the second butyl strip should be positioned 100-200mm below the fixing.



TEN EASY STEPS To fixing

The fixing of a fibre cement roof can be accomplished by most people if they follow these ten easy steps in conjunction with the illustrations opposite. In order to weatherproof the roof, the butyl strip must be installed as described on page 13, and mitres cut to avoid having four thicknesses of sheeting in the same plane at the junctions of sides and end laps.

- 1 Lay sheet number 1 at the eaves without mitring.
- **2** Lay sheet number 2, mitring bottom right hand corner as per the illustration opposite.
- **3** Lay sheet number 3, mitring as per step 2. Continue up the roof slope to complete the first tier.
- **4** Lay sheet number 4 at the eaves of the next tier, mitring the top left hand corner as per the illustration opposite.
- 5 Lay sheet number 5, mitring both top left hand and bottom right hand corners as per illustration opposite, and continue up the slope until ready to lay sheet number 6 at the ridge.
- 6 Lay sheet number 6 at the ridge, mitred as per step 2.
- 7 Repeat the procedure from and including step 4, working across the roof from eaves to ridge, until there is room for only one more tier to be laid, on the right hand edge.
- 8 Lay sheet number 7, mitring the top left hand corner. If necessary, reducing the sheet width by cutting down the right hand edge. All subsequent sheets in this final tier should be cut accordingly.
- **9** Lay sheet number 8 as per step 7, continuing up the roof slope until ready to lay the final sheet at the ridge.
- **10** Lay sheet number 9 at the ridge without mitring to complete the roof.

Notes

- 1 On a duo pitch roof start both slopes from the same end of the building. One slope will therefore be sheeted left to right, the opposite slope will be sheeted right to left.
- 2 The corrugations of sheets must line up at the apex to ensure that the ridge accessories will fit.
- 3 When cranked crown sheets are used, both top courses of roofing sheets and the cranked crowns themselves must be mitred.
- 4 Always lay sheets with the correct end and side laps , as detailed elsewhere in this booklet.
- 5 Do not cut mitres in situ.

Mitring plan single slope roof







Mitring Profile 6



WORKING WITH ETERNIT FIBRE CEMENT ROOFING Sheets

Storage and handling

- When handling sheets, lift by the ends only.
- Stack sheets on firm, level ground to a maximum height of 1m. If on bearers, use at least 2 bearers for sheets up to 1.5m long and at least 3 bearers for longer sheets.
- Protect from damage. Store as close as possible to fixing site, allowing room for handling.
- Stack smooth face up.
- Protect from wind by stacking in a sheltered position or by holding down top sheets with ropes, weights or clips.
- A separate stack should be made of each length of sheet. If this is not possible, stack with the smallest on top and the longest at the bottom.
- If the sheets have been delivered in shrink-wrapped polythene, this should be retained for as long as possible. Partially used stacks should be protected from the weather by extending the top sheets 200mm at each end.
- After installation please note that due to the vapour permeability of Eternit fibre cement profile sheeting, dampness may appear on the underside of the sheet.
 This is a well known temporary phenomenon and will disappear following successive wet and dry periods.

It in no way affects the weatherproof quality of the sheets.

Safety

- The structure should be adequately prepared for the sheets.
- The position and fixing of all purlins and rails should be checked before starting sheeting.
- Ensure there is proper access to the roof.
- Workmen should not work directly beneath the area being sheeted.
- Provide a scraper at the bottom of all ladders to remove mud from boots.
- Sheeters should wear suitable clothing: wear boots or shoes (not Wellington boots), avoid loose, flapping clothing, avoid trousers with turn-ups.
- Treat as a fragile roof and always use crawling boards, roof ladders or walkways.

- Workmen should not be allowed to use the roof as a working platform during sheeting.
- Materials should not be stacked on the roof.
- It is possible for one man to safely handle smaller sheets at roof level on a calm day. However, safe handling of profiled sheets on a roof may require two men in certain circumstances.
- Two men are always required to lay the eaves course and the sheets above rooflights.
- Always lay the sheets in accordance with the approved sequence.
- Do not cut the sheets in a confined space since nuisance dust will be created.
- Remove all loose material from the roof as the work proceeds.
- Always fully fix the sheets as the work proceeds.
- Do not leave tools on the roof surface.
- Avoid deflecting a sheet whilst attempting to force a bearing.
- Sheets should be laid in tiers from the eaves to the ridge, thereby allowing easier use of crawling boards.
- Correct staging should always be laid over the purlins ahead of the sheeting.
- Where regular access is required to reach roof lights, ventilation and service ducts, properly constructed walkways should be provided.
- Take extra care on a roof during windy, wet or frosty weather.
- Take extra care on painted sheets whose surface will be more slippery than natural grey sheets.
- Do not step on side lap corrugations.

In addition to the Construction (Design and Management) Regulations 1994 (CDM), always observe the relevant provisions of the Health and Safety at Work legislation currently in force.



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riba





Profiled Sheeting Description, properties and performance

www.eternit.co.uk

TECHNICAL NOTE Et-01/08/en/v0

Identification

Eternit offers a comprehensive range of products fabricated from a man-made fibre formulation, including profiled sheets and fittings. The range of profiled sheeting products allows design flexibility and speedy construction with overall economy for the roofing and vertical profiled sheeting of all types of buildings, including industrial, commercial, and agricultural. It is a material that will comply with the Building Regulations and the Building Standards (Scotland) Regulations.

Quality

Profiled sheeting is manufactured in accordance with a quality system registered under BS EN ISO 9001 and to the European BS EN 494 product specification for Class 1X sheets. Eternit also operates in accordance with Environmental Management System BS EN 1SO 14001.

Description

Profiled sheeting is manufactured from Portland cement and water, reinforced with natural and synthetic fibres.

Thickness tolerance

Profiled sheeting thickness tolerance is }10%, but not exceeding 0.6mm, as laid down in BS EN 494.

Impact resistance

The Test for Non-Fragility of Large Element Roofing Assemblies, ACR(M)001, consists of a 45kg bag being dropped from a height of 1200mm onto a fixed sample of roofing. It is intended to provide information about whether the roof can support the instantaneous loads imposed on it by persons stumbling or falling onto it. A roof is classified as fragile if the bag passes through the roof assembly. If the bag is retained on the test assembly and no other drop tests are carried out, the assembly shall be classified as Class C non-fragile assembly. Profile 6 sheets meet this requirement. The reinforcing

strips within Profile 6 only become effective when the sheet is fully fixed.

Sound insulation

The average sound reduction index over the usual measurement frequency range of 100 to 3150Hz has been calculated to be:

- Profile 6 single skin 28 decibels
- Profile 3 single skin 27 decibels

Breaking strength

The minimum breaking strength for profiled sheeting is defined under BS EN 494. The minimum against grain breaking load (purlin to purlin) for Profile 6 is 4250N/m. The minimum with grain bending moment at rupture (ridge to ridge) for Profile 6 is 55Nm/m.

The minimum against grain breaking load (purlin to purlin) for Profile 3 is 1400N/m. The minimum with grain bending moment at rupture (ridge to ridge) for Profile 3 is 40Nm/m.





Installed weight

The approximate installed dry weight of single skin profiled sheeting with fixings and the required side and end laps is as follows:

- Profile 6 single skin 17.0kg/m2
- Profile 3 single skin 14.5kg/m2

Fire

Fibre cement sheets are designated SAA rating for roof coverings and Class O for wall and ceiling linings in accordance with the Building Regulations. Under the European Fire Test Standards, Eternit fibre cement profiled sheets are classified A2 to BS EN 13501-1:2002 and are considered to fulfil all requirements for external fire performance of roof coverings without the need for testing, in accordance with Commission Decision 2000/553/EEC. Fibre cement profiled sheeting can be classified as non-combustible under the Building Standards (Scotland) Regulations.

Moisture content

When new, fibre cement sheeting has a relatively high moisture content. If humid conditions prevail, damp patches (without formulation of droplets) may appear on the underside of the sheets. This phenomenon is in no way detrimental to performance and will disappear within 12 months, during natural exposure. There are two types of fibre cement: fully compressed and semi compressed. While both meet the same strength requirements, semi-compressed is more suitable for livestock buildings due to its ability to absorb 40% more moisture than fully compressed.

Condensation control

Whilst Profile 6 and Profile 3 are watertight, the sheets have the ability to absorb up to 25% of their dry weight in moisture and dissipate it in more favourable conditions. This material characteristic has a significant effect in reducing condensation occurrence.

Effects of chemicals

Over the years chemical and industrial atmospheric pollution will cause a slight softening of the surface of natural finish fibre cement sheets. The acrylic paint finish provides added protection against many acids, alkalis and solvents normally found in the atmosphere. Where fibre cement is to be used in particularly aggressive atmospheres, with higher than normal concentrations of acids, alkalis, fats or salts, please contact the Eternit Technical department for advice.

Biological

Profiled sheeting is vermin and rot-resistant, but lichen may grow on the outer surface. For advice on removal, please contact the Eternit Technical department.

Light reflectance

Mean results for natural grey sheets are 40% dry and 16% wet, using magnesium carbonate as 100%.

Effects of low and high temperature

Profiled sheeting is designed to be minimally affected by frost or climatic temperature changes. For buildings in which higher than normal temperatures occur, or in areas which are expected to be subjected to sudden changes in temperature, special considerations may be necessary. (Consult the Eternit Technical department for recommendations).





Thermal and other movements

The amount of movement is negligible, but it is necessary to provide movement joints in association with the structural framework. (For details of movement joints, see pages 66-67 of the design guide). The co-efficient of linear expansion for profiled sheeting is 8 x 10-6m/mK.

Thermal conductivity

Profiled sheeting has only low thermal conductivity when compared with other sheet roofing products. This serves to reduce heat build-up in summer and heat loss in winter. Thermal conductivity = 0.48 W/mK.

Durability

In normal atmospheric conditions, profiled sheeting may be regarded as having a normal life of at least 50 years, but the durability of the fixing accessories should be considered.

Atmospheric pollution is not normally sufficiently concentrated to be harmful. Measures should be taken to prevent corrosion of the fixing accessories, e.g. using plastic washers and caps. Profiled sheeting is resistant to most forms of atmospheric attack but, with age, becomes less elastic and a small deflection will be experienced, which may make it less resistant to impact. Its transverse strength, however, is maintained.

Maintenance

Profiled sheeting in natural grey finish requires no routine maintenance. Decorative or preservative treatment should be renewed or treated, as necessary.

Fixings and washers may, however, deteriorate and should be inspected at intervals according to the type of fixing and degree of exposure.

Appearance

When a painted finish is applied, the colour intensity will reduce due to weathering, but when the roof is viewed from a reasonable distance the colour intensity will appear harmonious.

Disclaimer

The information in this Material Information Sheet is correct at time issuing. However, due to our committed program of continuous material and system development we reserve the right to amend or alter the information contained therein without prior notice. Please contact your local Etex Exteriors Sales Organization to ensure you have the most current version.

All information contained in this document is copyrighted ©.

All figures contained in this document are illustrations and should not be used as construction drawings.

This information is supplied in good faith and no liability can be accepted for any loss or damage resulting from its use.

DECLARATION OF PERFORMANCE

CE/P6/001

Unique identification code of the product type: Profile 6 and Farmscape fibre cement profiled sheets and fittings, NT.

Intended use: Roofing and internal/external wall covering.

Manufacturer: Etex Exteriors Ltd, Wellington Road, Burton on Trent, DE14 2AP

www.eternit.co.uk

System of assessment and verification of constancy of performance:: System 3.

Notified testing laboratory No 0833 performed the Reaction to Fire tests, Report No 151962

Declared performances:

Essential Characteristic	Performance	Harmonised Technical
		Specification
Mechanical resistance	C1X	EN494:2012+A1:2015
Impact resistance	Pass at 1380mm span	
External fire performance	Broof	_
Reaction to fire ^a	A2-s1,d0	_
Water impermeability	No water drops	
Dimensional variations ^a	Sheets	
	Length: ±10mm	
· · · · · · · · · · · · · · · · · · ·	Width: +10 / -5mm	
	Thickness: ±0.6mm	
	Fittings	
	Length and width: ±10mm	
	Thickness: ±1mm	
Release of dangerous substances ^a	NPD	
Durability against		
- warm water	RL ≥ 0.7	
- soak dry	RL ≥ 0.7	
- freeze thaw	RL ≥ 0.7	
- heat rain	Pass	

^a Characteristics which apply to fittings. All characteristics apply to profiled sheets.

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Jayne Arkell, Country Manager.

At	on 7.8.19

Appendix C: Designers Risk Assessment



Designers Risk Assessment

Project:	Repair and Stabilisation of Pelham Walled Garden's Perimeter
	Wall and Outbuildings
Reference:	Q-651
Date:	7/06/2022
Produced By:	Sunshine Skyway Structures Ltd

Risk Evaluation							
	(1) Negligible	(5) Fatality					
(1) Rare	1	2	3	4	5		
(2) Remote	2	4	6	8	10		
(3) Occasional	3	6	9	12	15		
(4) Likely	4	8	12	16	20		
(5) Almost Certain	5	10	15	20	25		
		Risk Fa	actor				
Ver	y high Risk		Do r	not start wor	·k		
Н	ligh Risk		Work can comm	nence with r	eassessment		
of the risk levels and direct supervision							
Medium Risk Reduce where practicable					icable		
Low Risk Safe condition							

Persons Affected: Contractors, authorised and unauthorised visitors, members of the public and others beyond site.



Risk Assessn	nent							
Hazard	Risk	Likelihood	Severity Factor	Risk Level Before Controls	Control Measure	Revised Likelihood	Revised Severity	Revised Risk Level
Manual Handling Lifting, pulling, pushing, carrying, moving a load by bodily force. Repetitive strain injuries. Poor posture during a lift, dropping a load and sharp edges of the loads.	Muscular- skeletal injuries, sprains and strains, back injuries. Cuts, bruising & abrasions. WRULD	4	4	16	 Where appropriate materials to be handled by mechanical means. Works to be undertaken in a logical sequence to avoid manual-handling operations so far as is reasonably practicable. Debris shall be safely stockpiled and transported to the main skips by mechanic means thus removing the need for manual handling. Adequate lighting is essential along with clear and unobstructed pedestrian routes. Correct selection and use of PPE. Gloves BSEN388. Manual Handling trained operatives will utilise good lifting technics adopted assessing the lift using Aids where possible, moving only small manageable sizes at a time. Apply suitable Gloves for grip and rest periods where appropriate. Staff provided with Information, Instruction, Training and Supervision. Toolbox talks and team briefings. 	2	2	8



Risk Assessment							
Hazard Risk	Likelihood	Severity Factor	Risk Level Before Controls	Control Measure	Revised Likelihood	Revised Severity	Revised Risk Level
General Health HazardsCement burns, dermatitis, Liver & kidney failure, sensitised, respiratory disease, inflammation of eyes, nose & throat. Asthma. Skin disorders, cancer and Pneumonia.	5	5	25	 Where appropriate materials to be handled by mechanical means. Works to be undertaken in a logical sequence to avoid manual-handling operations so far as is reasonably practicable. Debris shall be safely stockpiled and transported to the main skips by mechanic means thus removing the need for manual handling. Adequate lighting is essential along with clear and unobstructed pedestrian routes. Correct selection and use of PPE. Gloves BSEN388. Manual Handling trained operatives will utilise good lifting technics adopted assessing the lift using Aids where possible, moving only small manageable sizes at a time. Apply suitable Gloves for grip and rest periods where appropriate. Staff provided with Information, Instruction, Training and Supervision. Toolbox talks and team briefings. 	1	5	5



Risk Assessme	ent							
Hazard	Risk	Likelihood	Severity Factor	Risk Level Before Controls	Control Measure	Revised Likelihood	Revised Severity	Revised Risk Level
Asbestos Removal Exposure to hazardous materials.	Cancer, mesothelioma, serious injury, death.	4	5	20	Site team to regularly consult and Check R+D surveys. If hidden ACM's are found then works must stop, segregate the work area inform your Supervisor and Site management and await further instructions until an assessment can be made. Clear zones to be set up around work areas with relevant signage. Works to take place in accordance with The Control of Asbestos Regulations 2012 and other statutory provisions.	1	5	5



Risk Assessme	ent							
Hazard	Risk	Likelihood	Severity Factor	Risk Level Before Controls	Control Measure	Revised Likelihood	Revised Severity	Revised Risk Level
Use of ladders (fixed / portable) - Continued	Sprains, back injury. Cuts & lacerations, bruised bones and death	5	5	20	 The top of the ladder MUST be secured to avoid the ladder slipping sideways. Note: the ladder must be secured by the stiles not by the rungs. Avoid standing on the top three rungs of the ladder Staff to wear appropriate footwear i.e. clean, in good condition and without dangling laces. Rungs to be kept clean and free from excess dirt / debris. User to maintain three point contact at all times when ascending / descending, using both hands to grip the ladder whenever possible. Tool-belts should be used for carrying tools when using a ladder. Avoid carrying equipment up / down a ladder. Use mechanical aids whenever possible. Staff should avoid over-reaching, and should reposition the ladder where necessary to avoid this. 	1	5	5



Risk Assessment Risk Likelihood Severity Risk Level **Control Measure** Revised Revised Hazard Revised Factor Before Likelihood Severitv Risk Controls Level 5 25 The top of the ladder MUST be secured to avoid the ladder Hand demolition Sprains, 5 1 5 5 slipping sideways. Note: the ladder must be secured by the Use of hand tools strains, back stiles not by the rungs. and manual injury. Cuts & Avoid standing on the top three rungs of the ladder handling. lacerations, Staff to wear appropriate footwear i.e. clean, in good Falling materials. electric condition and without dangling laces. Slips, trips and shock/burns. Rungs to be kept clean and free from excess dirt / debris. falls on the level. Respiratory User to maintain three point contact at all times when Sharps i.e. glass, disease. ascending / descending, using both hands to grip the Unauthorised Temporary ladder whenever possible. threshold access. Injury Tool-belts should be used for carrying tools when using a from impact with shift. ladder. Avoid carrying equipment up / down a ladder. Use masonry, hand Dermatitis. mechanical aids whenever possible. injuries from tools inflammation Staff should avoid over-reaching, and should reposition the etc. Masonry of body parts, ladder where necessary to avoid this. Particles striking dust related operatives, eye respiratory and facial injuries problems. etc. Contact with Cuts, bruises abrasive surfaces burns, broken and substances bones, death,



Risk Assessment

Hazard	Risk	Likelihood	Severity Factor	Risk Level Before Controls	Control Measure	Revised Likelihood	Revised Severity	Revised Risk Level
Emergency and First aid provision Injuries resulting from untreated accidents /injuries. Lack of first aid provision including first aiders, eye wash stations not present, first aid box not sufficiently stocked.	Deterioration of injured person, possibility of life threatening injury.	3	5	15	All projects must have in place emergency procedures with the names of the first aiders posted on site notice boards along with details of the nearest A&E. In the event of an accident the injured party shall be escorted where possible out of harm's way and the site supervisor will contact the relevant emergency services where applicable. Medicines and home remedies, aspirin, & paracetomal must not be kept in the first aid box. First aiders must not give medicine to anyone. Eye wash to be found within Site office.	2	4	8



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Collapse of structure. Uncontrolled collapse. Falling / flying objects.	Serious injury, explosion, crushing & death.	4	5	20	Works carried out by experienced Competent & trained workforce. Where adverse weather conditions may affect the works then works must stop immediately. Supervisor to monitor weather forecast prior to commencing. If any structural elements within the building look unstable then works must stop until a structural report/survey is carried out. Structure to be left in a stable and safe condition at the end of each working shift.	1	5	5



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Falling objects Debris falling from height	Fractures, head injury due to objects & debris falling from height. Serious injury and death.	5	5	25	Where adverse weather conditions may affect the works then works must stop immediately. Supervisor to monitor weather forecast prior to commencing. Task area predicted debris/drop/exclusion zones, Zones to be secure at all times and banksman to monitor area preventing un-authorised entry to the zone. Controlled drop of materials using specific demolition tools and managed by the Supervisor and banksman using clear communications' via Visual, verbal contact and two way radios when necessary. The Structure will be left in a safe condition at the end of each working shift. Waste materials are to be removed from site at the earliest opportunity or segregated where necessary using fencing away from the site boundary, preventing a build-up causing further hazards such as Arson attack/fire Stockpiled materials will be secured and weighted down where necessary preventing loose materials from blowing around.	1	5	5