



LONDON
ARCHITECTS

Conway

PCY - Conway- Staff Village

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S2

P01

29-07-2025

Notes

1.

Any aspects of these specifications that include elements that relate to, or could be interpreted as relating to, basement waterproofing or structure are provided for information only and either:

are taken directly from the relevant client-appointed specialist's design information/requirements and/or

state the minimum performance standards required for the contractor to comply with and take responsibility for as a Contractor's Design Portion element under the building contract.

Any aspects of these specifications that include elements that relate to, or could be interpreted as relating to, fire safety under statutory regulations are provided for information only and either:

are taken directly from relevant client-appointed specialist's design information/requirements and/or

state the minimum regulatory performance standards required for the contractor to comply with and take responsibility for as a Contractor's Design Portion element under the building contract.

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C40
Cleaning masonry/ concrete

Summary

Revision history

Date	No.	Title	Status	Revision	Note
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General/ preparation

110 Scope of work

1. Clean internal and external faces of existing brickwork and copings to remove biological growth and paint residues. Restore surfaces to their original condition; no restoration to a 'new' appearance is required.

120 Related repair and remedial works

1. Work to be carried out before cleaning work: Carefully remove vegetation as indicated on drawings, using methods appropriate to avoid damage to existing masonry.
2. Work to be carried out after cleaning work: Pointing to cracks in masonry, as section C41. Pointing to joints in masonry, as section C41.

142 Removal of fittings

1. Timing: Before commencement of cleaning work.
2. Disturbance to surfaces: Minimize.
3. Items for disposal: Refer to drawings for fixtures and fittings removal.
4. Items to be kept for reuse: Remove and set aside loose or unbound bricks and clay creasing tiles for potential reuse. Carefully remove timber doorsets to 2 no. existing openings and store securely on site for reinstatement following completion of masonry works. Dismantle redundant iron gate and gateposts; salvage reusable brickwork where possible. Store Iron gate on site for potential future use.

160 Protection

1. Surfaces not designated for cleaning: Prevent damage, including marking and staining.
2. Vegetation: Clear all vegetation as indicated on drawings. Erect Heras fencing and tree protection barriers to define the working zone and protect retained planting
3. Temporary mechanical fastenings
 - 3.1. In masonry: Locate in joints.
 - 3.2. In other surfaces: Seek instructions.

175 Control and disposal of wash water and detritus

1. Disposal: Safely. Obtain approvals from relevant Authority.
2. Control of wash water: Collect and divert to prevent ingress and damage to building fabric and adjacent areas.
3. Above and below ground drainage systems: Keep free from detritus and maintain normal operation.

180 Cold weather

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

190 Cleaning generally

1. Timing: Works may not start on site until all necessary approvals are received from the local planning authority.
2. Operatives: Appropriately trained and experienced for each type of cleaning work.
 - 2.1. Evidence of training: Submit on request.
3. Control of cleaning: Confine cleaning processes and materials to designated areas. Prevent wind drift.
4. Detritus: Remove regularly. Dispose of safely.

5. Monitoring
 - 5.1. Frequently check results of cleaning compared to approved trial samples. If results established by trials are not achieved, seek instructions.
 - 5.2. Works to be inspected and approved in accordance with the requirements of the local planning authority.
6. Modifications to cleaning methods and materials: Seek instructions.

230 Trial samples

1. Trial sample reference: Trial Area
 - 1.1. Surface: Clay brick and non-hydraulic lime mortar joints
 - 1.2. Location/ Size: Apply to a discreet trial area, including copings and heavily soiled areas - location to be agreed for approval prior to commencing.
 - 1.3. Type of soiling: Biological growths. Residual paint
 - 1.4. Cleaning methods: DOFF cleaning system or contractor's proposed equivalent
 - 1.4.1. Submit proposals, cleaning method statement (a none abrasive method) and sample panel of cleaning to be approved.
2. Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

Products/ equipment

300 Compatibility of chemical products

1. Products: Ensure all cleaning agents, treatments, and any associated chemical products are compatible with each other and with the existing building fabric.

312 Surface biocides

1. Types: Registered by the [Health and Safety Executive \(HSE\)](#) and listed on the HSE website under non-agricultural pesticides.
2. Compatibility with surface: Free from staining or other harmful effects.

352 Steam cleaning equipment

1. Manufacturer: Contractor's choice DOFF cleaning system or contractor's proposed equivalent
 - 1.1. Product reference: Submit proposals.

362 Chemical agents

1. Description: FOR PAINT REMOVAL - If required
2. Manufacturer: Contractor's choice Must be compatible with non-hydraulic lime mortar and masonry fabric.
 - 2.1. Product reference: Submit proposals.

Application

412 Removal of loosely adhered deposits

1. Timing: Before commencement of other cleaning methods.
2. Surfaces: Prevent damage, including abrasion.

422 Biocide application

1. Preparation: Dampen dry growth.
2. Surfaces: Prevent damage, including abrasion.

3. Biocide treatment: Appropriate solutions to kill growths and inhibit further growths.
 - 3.1. Dead growths: Remove.

432 Tooling

1. Tooling of surfaces: Tool mortar joints to match existing profile and finish using appropriate tools once mortar is thumbprint hard.

462 Water spray cleaning (mounted nozzles)

1. Surfaces: Minimize water run-off. Prevent damage.
2. Adjustment of washing cycle and nozzle positions: Regularly to achieve optimum cleaning performance.

472 Pressurized water cleaning

1. Surfaces: Prevent damage, including abrasion.
2. Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.

482 Steam cleaning

1. Surfaces: Prevent damage, including abrasion.
2. Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.

495 Testing pH values for chemical cleaning

1. pH indicator: To distinguish pH values between 1-14.
2. Testing before cleaning
 - 2.1. Clean rinsing water, wetted surfaces and joints: Test for pH. Record as 'control' values.
3. Testing after water rinsing and neutralization
 - 3.1. Wetted surfaces and joints: Record pH values.
 - 3.2. Acceptance criteria: Seek Instructions

500 Chemical cleaning

1. Surfaces: Prevent damage, including discolouration, bleaching and efflorescence.
2. Product variables (including concentrations, dwell times and number of applications): Adjust for each surface to achieve optimum cleaning performance.
3. Application: To wetted surfaces.
 - 3.1. Drying out: Prevent unless recommended otherwise by cleaning product manufacturer.
4. Removal of chemicals and neutralization: As recommended by product manufacturer, including rinsing with clean water.
 - 4.1. Additional treatment: Where water rinsing is insufficient to neutralize surface, apply compatible neutralizing agent.
 - 4.2. Surfaces and joints: Minimize absorption of chemicals. Prevent damage, including abrasion.

Ω End of Section

C41
Repairing/ renovating/ conserving masonry

Summary

Revision history

Date	No.	Title	Status	Revision	Note
29/07/2025	00	PCY - Conway- Staff Village	S2	P01	

Generally/ preparation

110 Scope of work

1. **Schedule:** Removal of biological growth from internal and external brickwork; crack repairs and localised brick replacement where units are spalled or deteriorated, using reclaimed bricks to match existing; reinstatement of brick-on-edge copings and clay creasing tiles to match retained details; raking out and repointing of failed joints with compatible non-hydraulic lime mortar; temporary removal and on-site storage of timber doors during cleaning, with reinstatement on completion.

Refer to drawings for type and location of repair works as appropriate.

2. **Records of masonry to be repaired:** Before starting work, use measurements and photographs, as appropriate to record bonding patterns, joint widths, special features, etc.
3. **Identification of masonry units to be removed, replaced or repaired:** Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced. Transcribe markings to drawings/ photographs.

120 Site inspection

1. **Purpose:** To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
2. **Parties involved:** Contractor's representative, foreman mason, architect, structural engineer, contract administrator, client
3. **Timing:** At least 2 working days before starting each section of work
4. **Instructions issued during inspection:** Confirm in writing, with drawings and schedules as required, before commencing work

125 Removal of fittings/ fixtures

1. **Items to be removed, and reinstated on completion of repair work:** Timber door sets to be carefully removed, stored, and reinstated upon completion of works. Loose brickwork, creasing tiles, and redundant gate post sections to be salvaged and reused where suitable within the repair works. Dilapidated iron gates to be retained and set aside on site for potential future use.
 - 1.1. **Identification:** Attach labels or otherwise mark items using durable, non-permanent means, to identify location and describe refixing instructions, where applicable.
 - 1.2. **Treatment following removal:** Sort, assess, refurbish as needed. Handle and store with care.
 - 1.3. **Storage:** Protect against damage, and store until required.
 - 1.3.1. **Storage location:** Submit proposals
 - 1.4. **Reinstatement:** Reinstall timber doors in original locations using original installation methods. Reuse bricks where condition allows.
2. **Items unsuitable or not required for reuse:** Refer to drawings for metal fixings deemed not necessary. Remove redundant fixtures and fittings and retain internal plant vine wall hooks where outlined by Landscape Designers.
 - 2.1. **Disposal:** Obtain instructions
3. **Masonry fabric and surfaces:** Do not damage during removal and replacement of fittings/ fixtures.

130 Removal of plant growths from masonry

1. **Plants, root systems and associated soil/ debris:** Carefully remove from joints, voids and facework. Refer to drawings for related tree protection and removal methods
2. **Removal of roots:** Where growths cannot be removed completely without disturbing masonry, seek instructions.
3. **Unwanted plants close to masonry:** Where removal of the root system is not possible or desirable, cut through the stem as close to the ground as possible. Remove bark from stump and apply herbicide paste. Leave stump to wither.

140 Record of work

1. **General:** Record work carried out to masonry clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
2. **Specific records:** Photogrammetric survey drawings to be marked up to clearly show areas of brick replacement, repointing, and repairs to cracked bricks.
3. **Documentation:** Submit on completion of the work.

Workmanship generally

150 Power tools

1. **Usage for the removal of mortar:** Permitted only with prior approval

155 Putlog scaffolding

1. **Usage:** Do not use - Permitted only with prior approval

160 Protection of masonry units and masonry

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

165 Structural stability

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

170 Disturbance to retained masonry

1. **Retained masonry in the vicinity of repair works:** Disturb as little as possible.
2. **Existing retained masonry:** Do not cut or adjust to accommodate new or reused units.
3. **Retained loose masonry units and those vulnerable to movement during repair works:** Prop or wedge so as to be firmly and correctly positioned.

180 Workmanship

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

185 Adverse weather

1. **General:** Do not use frozen materials or lay masonry units on frozen surfaces.
2. **Air temperature:** Do not bed masonry units or repoint:
 - 2.1. In cement-gauged mortars when ambient air temperature is at or below 3°C and falling or unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.
 - 2.2. In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.
 - 2.3. In non-hydraulic lime:sand mortars in cold weather, unless approval is given.
3. **Temperature of the work:** Maintain above freezing until mortar has fully set.

4. Rain, snow and dew: Protect masonry by covering during precipitation, and at all times when work is not proceeding.
5. Hot conditions and drying winds: Prevent masonry from drying out rapidly.
6. New mortar damaged by frost: Rake out and replace.

190 Control samples

1. General: Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder: (1) a 900 × 900 mm sample of brickwork rebuilt in reclaimed salvaged bricks to match existing Flemish bond, including representative bed and perpend joints with mortar matching existing (subject to analysis); and (2) a sample of brick-on-edge coping with clay creasing tile detail to match retained coping sections.

Materials/ production/ accessories

215 Material samples

1. Representative samples of designated materials: Submit representative samples of designated materials prior to placing orders or commencing works.
 - 1.1. Designated materials: Sands for bedding, pointing and mortar repairs.
2. Retention of samples: Unless instructed otherwise, retain samples on site for reference. Protect from damage and contamination.

220 Recording profiles

1. Profiles: Take measurements from existing masonry units, as instructed, to allow accurate matching of replacements.
2. Recording in situ: If there are no suitable joints to allow use of inserts, seek instructions.
3. Drawings and templates: Prepare as necessary. Templates must be clearly and indelibly marked to identify use and location.

265 Salvaged and second-hand bricks

1. Source: Contractor's choice - submit samples.
2. Condition
 - 2.1. Free from matter such as mortar, plaster, paint, bituminous materials and organic growths.
 - 2.2. Sound, clean and reasonably free from cracks and chipped arrises.
 - 2.3. Salvaged bricks to reflect the existing range of colour, texture, and weathering.

266 Salvaged and second-hand clay creasing tiles

1. Source: Contractor's choice - submit samples.
2. Condition
 - 2.1. Free from matter such as mortar, plaster, paint, bituminous materials and organic growths.
 - 2.2. Sound, clean and reasonably free from cracks and chipped arrises.
 - 2.3. Salvaged tiles to reflect the existing range of colour, texture, and weathering.

281 Fixings

1. Description: Heli bar resin anchor system to tie areas of cracking. Refer to Structural Engineers specification.
2. Standard:
3. Type:
4. Material:

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5. Size, strength and number:

285 Bed joint reinforcement to masonry

1. Description: FOR REBUILDING DISMANTLED WALLS
2. Standard: To [BS EN 845-3](#)
3. Manufacturer: Ancon
 - 3.1. Product reference: AMR-X
4. Material: Galvanised Steel
5. Width: Approximately 40–50 mm less in width than wall or leaf.
6. Laying: On an even bed of mortar in a continuous strip with 225 mm laps at joints and full laps at angles. Keep back 20 mm from face of external work, 12 mm back from face of internal work and finish mortar joint to normal thickness.

Dismantling/ rebuilding

310 Dismantling masonry for reuse

1. Masonry units to be reused: Remove carefully and in one piece.
 - 1.1. Treatment: Clean off old mortar, organic growths and dirt, and leave units in a suitable condition for rebuilding.
 - 1.2. Identification: Mark each unit clearly and indelibly on a concealed face, indicating its original position in the construction. Transcribe makings to drawings/ photographs.

320 Rebuilding

1. Description: BRICKWORK
2. Replacement materials: Bricks as clause 265 & 266
3. Mortar: As section Z21
 - 3.1. Standard: [BS EN 998-2](#)
 - 3.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 3.3. Sand source/ type: Colour to match existing - submit control sample panel for approval sufficiently in advance
4. Fixings: Clause 281 & 285
5. Rebuilding: To match existing face and joint lines, joint widths and bonding. Adequately bonded to retained work/ backing masonry, as appropriate.
6. Joint surfaces: Dampen, as necessary, to control suction.
7. Laying masonry units: On a full bed of mortar; perpend joints filled.
8. Exposed faces: Remove mortar and grout splashes immediately.
9. Joints: To match existing
10. Other requirements: Bed joint reinforcement

Replacements and insertions

330 Preparation for replacement masonry

1. Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.
2. Existing metal fixings, frame members, etc.: Report when exposed.
3. Redundant metal fixings: Remove.

4. Recesses: Remove projections and loose material; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.

365 Replacement of bricks

1. Description: WHERE DEFECTIVE, SPALLED OR MISSING
2. Bricks: as clause 265 & 266
3. Mortar: As section Z21
 - 3.1. Standard: [BS EN 998-2](#)
 - 3.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 3.3. Sand source/ type: To match existing
4. Fixings: not required Not required
5. Joints: Match existing
6. Other requirements: None

385 Laying replacement masonry units

1. Exposed faces of new material: Keep to agreed face lines.
2. Faces, angles and features: Align accurately. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
3. Joint surfaces: Dampen to control suction as necessary.
4. Laying units: On a full bed of mortar, all joints filled.
5. Exposed faces: Keep clear of mortar and grout.

390 Grouting joints

1. Grout mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
2. Joints that cannot be fully filled with bedding mortar: Grout thoroughly around replacement masonry units.
3. Grouting: Keep grout back from exposed face to allow for the depth of pointing, using an approved temporary sealing material. Prevent grout staining exposed face.

410 Corroded metal fixings

1. Removal: Cut out carefully, causing the least possible disturbance to surrounding masonry. Remove associated rust debris.
2. Replacement: Compatible fixings as clause: Compatible fixings as clause 281/285

Tooling/ dressing stone in situ

450 Weathering ledges at joints

1. Locations: Where stones project or are recessed.
2. Requirement: Carefully weather the ledge, to approval.
3. Method: Suitable bristle brushes or carborundum blocks. Do not use wire brushes.

Mortar repairs

510 Preparation for mortar repairs

1. Repair area: Scribe area of masonry to be removed using straight horizontal and vertical lines parallel to joints. Where repair area abuts joints, maintain existing joint widths and do not bridge joints.

2. **Decayed masonry:** Cut back carefully to a minimum depth of 20 mm to a sound background. Where the depth of removal exceeds 50 mm, seek instructions.
3. **Precautions:** Do not weaken masonry by removing excessive material. Do not damage adjacent masonry.
4. **Top and vertical reveals of repair area:** Undercut.

515 Reinforcement for mortar repairs

1. **Material:** Austenitic stainless steel, phosphor bronze or copper alloy wire, 3 mm diameter.
2. **Armatures:** Form to suit profiles of mortar repair and provide effective reinforcement.
3. **Cover to reinforcement:** Not less than 18 mm.
4. **Installation:** Drill holes into background to receive reinforcement, and bond firmly with a suitable epoxy resin.

520 Mortar repairs

1. **Description:** Generally
2. **Undercoats:** As section Z21.
 - 2.1. **Mix:** 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 2.2. **Sand source/ type:** To match existing
 - 2.3. **Building up:** In layers where necessary, each layer not exceeding 12 mm.
3. **Reinforcement:** Submit approvals

540 Applying mortar

1. **Surfaces to receive mortar:** Clean, and free from dust and debris. Dampen to control suction.
2. **Applying coats:** Build up in layers to specified thickness. Apply mortar firmly, ensuring good adhesion with no voids. Form a mechanical key to undercoats by combing or scratching to produce evenly spaced lines.
3. **Allow each layer to achieve an initial set before applying subsequent coats.** Prevent each layer from drying out rapidly by covering immediately with plastics sheeting and/ or dampening intermittently with clean water.
4. **Finishing mortar coat:** Form accurately to required planes/ profiles, and finish flush with adjacent masonry.
5. **Protection:** Protect completed repairs from adverse weather until mortar has set.

550 Scraped finish to mortar repairs

1. **Procedure:** Finish final coat of repair mortar proud of existing masonry face. When mortar is set, but not too hard, scrape back to required face line using fine saw blade or other suitable means, to achieve required finish.

555 Float finish to mortar repairs

1. **Procedure:** Use a wood float and/ or a felt-faced float to give an even overall texture. Do not use steel floats.

Crack repairs/ ties/ reinforcement

610 Mortar repair of cracks

1. **Description:** Generally
2. **Mortar:** As section Z21.
 - 2.1. **Standard:** [BS EN 998-2](#)
 - 2.2. **Mix:** 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 2.3. **Sand source/ type:** To match existing

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3. **Preparation:** Clean out cracks to remove debris, dust and dirt. Dampen recesses, as necessary, to control suction.
4. **Applying mortar:** Press well into cracks so that they are fully filled. Ensure that mortar does not encroach upon exposed faces. Finish mortar flush with masonry face.
5. **Other requirements:** None

675 Joint reinforcement

1. **Description:** FOR STITCHING ACROSS CRACKS
2. **Existing construction:** Solid brick wall
3. **Joint width:** 10 +/-2 mm
4. **Reinforcement system**
 - 4.1. **Manufacturer:** Refer to Structural Engineers Specification
 - 4.1.1. **Product reference:** Submit proposals
5. **Grout:** Submit proposals
6. **Installation:** Remove existing mortar without damaging adjacent masonry or widening joints. Form recess to depth recommended by reinforcement manufacturer. Remove dust and debris. Install reinforcement using methods recommended by manufacturer.
7. **Joints:** Repoint, as clause 820.

690 Making good to injection and insertion holes

1. **Preparation:** Clean out holes thoroughly.
2. **Repair mortar:** To match existing masonry units/ joints in colour and texture. Fill holes and finish mortar neatly and flush with surrounding masonry.
3. **Finished appearance:** Obtain approval for first holes before completing the remainder: One

692 Making good to tie and dowel insertion holes using core drilled plugs

1. **Plugs:** Cut plug from masonry face before drilling hole for each tie/ dowel. Where resulting plug is unusable, prepare plug from matching material.
 - 1.1. **Plug diameter:** Smallest practicable.
2. **Holes:** Clean.
3. **Method of securing plug:** A spot of epoxy resin and non-hydraulic lime:sand mortar
4. **Joints:** Fine and flush.
5. **Finished appearance:** Obtain approval for first holes before completing the remainder: One

Grouting rubble filled cores - Not Used

Pointing/ repointing

810 Preparation for repointing

1. **Existing mortar:** Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of: 40 mm
 - 1.1. **Loose or friable mortar:** Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.
2. **Raked joints:** Remove dust and debris.

820 Pointing

1. **Description:** BRICKWORK GENERALLY
2. **Preparation of joints:** Carefully brush away loose mortar

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3. Mortar: As section Z21.
 - 3.1. Standard:
 - 3.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 3.3. Sand source/ type: To match existing
4. Joint profile/ finish: To match existing
5. Other requirements: none

840 Pointing with tools/ irons

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

Ω End of Section

F10
Brick/ block walling

Summary

Revision history

Date	No.	Title	Status	Revision	Note
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Types of walling

230 Reclaimed brick facing brickwork

1. Description: FOR GARDEN WALL
2. Reclaimed bricks: To match existing
 - 2.1. Condition: Sound, free from mortar and deleterious matter.
 - 2.2. Supplier/ Source: Contractor's choice
 - 2.3. Format: To match existing
3. Mortar: As section Z21.
 - 3.1. Standard: To BS EN 998-2
 - 3.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 3.3. Additional requirements: Coloured mortar to match existing - sample mortar to be agreed on site
4. Bond: To match existing.
5. Joints: To match existing
6. Features: None

Testing - Not Used

Workmanship generally

430 Conditioning of clay bricks and blocks

1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

460 Mortar designations

1. Mix proportions: For a specified designation select a mix from the following:
 - 1.1. Designation (i) (BS EN 998-2 M12 equivalent)
 - 1.1.1. 1:0-¼:3 (Portland cement:lime:sand with or without air entraining additive).
 - 1.1.2. 1:3 (Portland cement:sand and air entraining additive).
 - 1.2. Designation (ii) (BS EN 998-2 class M6 equivalent)
 - 1.2.1. 1:½:4-5 (Portland cement:lime:sand with or without air entraining additive).
 - 1.2.2. 1:3 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1.2.3. 1:2½-3½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1.2.4. 1:3-4 (Portland cement:sand and air entraining additive).
 - 1.3. Designation (iii) (BS EN 998-2 class M4 equivalent)
 - 1.3.1. 1:1:5-6 (Portland cement:lime:sand with or without air entraining additive).
 - 1.3.2. 1:3½-4 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1.3.3. 1:4-5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1.3.4. 1:5-6 (Portland cement:sand and air entraining additive).
 - 1.4. Designation (iv) (BS EN 998-2 class M2 equivalent)
 - 1.4.1. 1:2:8-9 (Portland cement:lime:sand with or without air entraining additive).

- 1.4.2. 1:4½ (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
- 1.4.3. 1:5½-6½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
- 1.4.4. 1:7-8 (Portland cement:sand and air entraining additive).
- 2. **Batching:** Mix proportions by volume.
- 3. **Mortar type:** Continuous throughout any one type of masonry work.

500 Laying generally

- 1. **Mortar joints:** Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- 2. **AAC block thin mortar adhesive and gypsum block adhesive joints:** Fill vertical joints. Lay blocks on a full bed.
- 3. **Clay block joints**
 - 3.1. **Thin-layer mortar:** Lay blocks on a full bed.
 - 3.2. **Interlocking perpend:** Butted.
- 4. **Bond where not specified:** Half-lap stretcher.
- 5. **Vertical joints in brick and concrete block facework:** Even widths. Plumb at every fifth cross joint.

520 Accuracy

- 1. **Courses:** Level and true to line.
- 2. **Faces, angles and features:** Plumb.
- 3. **Permissible deviations**
 - 3.1. **Position in plan of any point in relation to the specified building reference line and/ or point at the same level:** ± 10 mm.
 - 3.2. **Straightness in any 5 m length:** ± 5 mm.
 - 3.3. **Verticality up to 3 m height:** ± 10 mm.
 - 3.4. **Verticality up to 7 m height:** ± 14 mm.
 - 3.5. **Overall thickness of walls:** ± 10 mm.
 - 3.6. **Level of bed joints up to 5 m (brick masonry):** ± 11 mm.
 - 3.7. **Level of bed joints up to 5 m (block masonry):** ± 13 mm.

535 Height of lifts in walling using cement-gauged or hydraulic lime mortar

- 1. **Quoins and advance work:** Rack back.
- 2. **Lift height (maximum):** 1.2 m above any other part of work at any time.
- 3. **Daily lift height (maximum):** 1.5 m for any one leaf.

540 Height of lifts in walling using thin-layer mortar

- 1. **Quoins and advance work:** Rack back.
- 2. **Lift height (maximum):** 1.3 m above any other part of work at any time.

545 Levelling of separate leaves

- 1. **Locations for equal levelling of cavity wall leaves:** As follows:
 - 1.1. Every course containing vertical twist type ties or other rigid ties.
 - 1.2. Every third tie course for double triangle/ butterfly ties.
 - 1.3. Courses in which lintels are to be bedded.

560 Coursing brickwork

1. Gauge: Four brick courses including bed joints to 300 mm.

561 Coursing brickwork with existing

1. Gauge: Line up with existing brick courses.

580 Laying frogged bricks

1. Single frogged bricks: Frog uppermost.
2. Double frogged bricks: Larger frog uppermost.
3. Frog cavity: Fill with mortar.

595 Lintels

1. Bearing: Ensure full length masonry units occur immediately under lintel ends.

610 Support of existing work

1. Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

620 Block bonding new walls to existing

1. Pocket requirements: Formed as follows:
 - 1.1. Width: Full thickness of new wall.
 - 1.2. Depth (minimum): 100 mm.
 - 1.3. Vertical spacing
 - 1.3.1. Brick to brick: 4 courses high at 8 course centres.
 - 1.3.2. Block to block: Every other course.
2. Pocket joints: Fully filled with mortar.

635 Jointing

1. Profile: Consistent in appearance.

645 Accessible joints not exposed to view

1. Jointing: Struck flush as work proceeds.

665 Pointing

1. Description: TO EXPOSED BRICKWORK
2. Joint preparation: Remove debris. Dampen surface.
3. Mortar: As section Z21.
 - 3.1. Standard: To BS EN 998-2
 - 3.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 3.3. Additional requirements: Coloured mortar to match existing - sample mortar to be agreed on site
4. Profile: To match existing

690 Adverse weather

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature requirements: Do not lay bricks/ blocks:

- 2.1. In cement-gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
- 2.2. In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
- 2.3. In thin-layer mortars when outside the limits set by the mortar manufacturer.
3. Temperature of walling during curing: Above freezing until hardened.
4. Newly erected walling: Protect at all times from:
 - 4.1. Rain and snow.
 - 4.2. Drying out too rapidly in hot conditions and in drying winds.

Additional requirements for facework

710 The term facework

1. Definition: Applicable in this specification to brick walling finished fair.
 - 1.1. Painted facework: Not permitted

740 Finished masonry work reference panels

1. General: Before proceeding to construct the following walling types, construct panels as specified. Give notice when panels are dry.
2. Selection of masonry units: Use a representative mix of salvaged and resourced bricks reflecting the proposed range of colour, texture, and weathering. Selection to be approved prior to laying.
3. Panel types
 - 3.1. Walling type: Garden Wall
 - 3.1.1. Location: External facing - South Elevation
 - 3.1.2. Size: 1.5 x 1.5m
 - 3.1.3. Other requirements: Panel to demonstrate bond pattern, mortar mix, joint profile, and brick blend. Must be approved by Contract Administrator before continuation. Panel to remain in place as reference.

750 Colour consistency of masonry units

1. Colour range: Submit proposals demonstrating how salvaged and resourced bricks will be selected and blended to achieve a consistent and appropriate visual match with the existing walling. Include methods for sorting and laying to ensure a balanced distribution of colour, texture, and weathering.
2. Conformity: Check each batch of salvaged and resourced bricks for compatibility with the existing wall and approved reference panels or sample areas. Do not use bricks where colour, size, or surface condition differs excessively, unless agreed as part of the desired character.
3. Facing bricks should be blended on site from a minimum of three packs to ensure an even distribution of colour and texture variation.
4. Finished work: The completed brickwork is to show a visually unified appearance with the original construction, free from abrupt colour changes, obvious patching, or racking-back marks. Transitions between new and old areas must be handled carefully to maintain architectural integrity.

760 Appearance

1. Brick/ block selection: Select bricks with faces and arrises suitable for use in visible facework. Minor chips or weathering may be acceptable where consistent with existing character and approved sample panel.
2. Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
3. Quality control: Lay masonry units to match relevant reference panels.
 - 3.1. Setting out: To produce satisfactory junctions and joints with built-in features and components.
 - 3.2. Coursing: Evenly spaced using gauge rods.

4. Lifts: Complete in one operation.
5. Methods of protecting facework: Submit proposals.

780 Ground level

1. Commencement of facework: Match existing facework

790 Putlog scaffolding

1. Use: Not permitted in facework.

800 Toothed bond

1. New and existing facework in same plane: Bond together at every course to achieve continuity.

830 Cleanliness

1. Facework: Keep clean.
2. Mortar on facework: Allow to dry before removing with stiff bristled brush.
3. Removal of marks and stains: Rubbing not permitted.

Ω End of Section

F30

Accessories/ sundry items for brick/ block/ stone walling

Summary

Revision history

Date	No.	Title	Status	Revision	Note
29/07/2025	00	PCY - Conway- Staff Village	S2	P01	

Cavities - Not Used**Reinforcing/ fixing accessories****241 Wall starters/ connectors**

1. Standard: To [BS EN 845-1](#)
2. Manufacturer: Contractor's choice
 - 2.1. Product reference: Contractor's choice
3. Material/ finish: Austenitic stainless steel – [BS EN 845-1](#) material/ coating reference 1
4. Sizes:
5. End type:
6. Additional requirements: Final detail to maintain clear visual distinction between new and existing work while ensuring structural compatibility. Construction of pillar/column to determine separation line TBC

Flexible damp-proof courses/ cavity trays - Not Used**Installation of dpcs/ cavity trays - Not Used****Joints - Not Used****Proprietary sills/ lintels/ copings/ dressings****760 Coping units**

1. Standard: To [BS 5642-2](#).
2. Material: Salvaged/reclaimed clay bricks and 30 mm thick clay creasing tiles to match existing.
3. Manufacturer: Contractor's choice - Salvaged from site where suitable, otherwise to be sourced from supplier of contractors choice
 - 3.1. Product reference: Match existing; submit samples where salvage is not possible.
4. Dimensions: To match existing coping detail
5. Finish: Repair and make good here necessary. Finish to match existing retained sections; bricks to be cleaned of mortar and paint residues before reuse.
6. Mortar for bedding/ jointing: To match existing coping detail
 - 6.1. Standard:
 - 6.2. Mix: 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand. Refer to Sandberg consulting engineers report - 79807/K
 - 6.3. Additional requirements:
7. Joints: Match existing
8. Placement: 1 1/2 brick on edge coping with 30mm thick clay creasing tile - match existing

Miscellaneous items**830 Building in frames**

1. Preparation: Remove any projecting remnants from previous frame fixing. Clean out joints and surfaces to receive new or reinstated frames. Reinstall salvaged and repaired timber gates in original locations. Align plumb, level, and square. Ensure full bearing and compatibility with surrounding masonry.
2. Fixing cramps: Fully bed in mortar.

840 Openings for frames

1. **Formation:** Carefully form new openings in existing masonry to receive timber gates, as shown on drawings. Ensure clean, plumb reveals and level beds. Take care not to disturb adjacent retained masonry. Provide temporary propping or lintels where required.

Ω End of Section

Z21
Mortars

Summary

Revision history

Date	No.	Title	Status	Revision	Note
29/07/2025	00	PCY - Conway- Staff Village	S2	P01	

Cement gauged mortars - Not Used

Lime:sand mortars

310 Lime:sand mortar mixes

1. **Specification:** Mortar composition is to match existing as determined by sample analysis. Refer to mortar analysis report for full details.

The binder to aggregate ratio is 1:0.4 non-hydraulic/fat lime: crushed chert and siliceous sand.

320 Sand for lime:sand masonry mortars

1. **Type:** Blend of crushed chert (or flint) and siliceous sand, to replicate existing.
 - 1.1. **Quality, sampling and testing:** To BS EN 13139.
 - 1.2. **Grading/ Source:** Crushed chert/flint (approx. 70%) and siliceous sand (approx. 30%) as per mortar analysis.
Source to be approved and closely match appearance and grading of original.

330 Ready prepared lime putty

1. **Type:** (if not hot-mixed) Slaked directly from CL 90 quicklime to BS 890, using an excess of water.
 - 1.1. **Maturation:** In pits/ containers that allow excess water to drain away.
 - 1.2. **Density of matured lime putty:** 1.3 - 1.4 kg/litre.
2. **Maturation period before use (minimum):** 30 days

340 Pozzolanic additives for nonhydraulic lime:sand mortars

1. **Manufacturer/ Supplier:** Submit proposals
 - 1.1. **Product reference:** Submit proposals
2. **Mixing:** Mix thoroughly into mortar during knocking up.

345 Admixtures for hydraulic lime:sand mortars

1. **Air entraining (plasticizing) admixtures:** To BS EN 934-3 and compatible with other mortar constituents.
2. **Prohibited admixtures:** Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

350 Storage of lime:sand mortar materials

1. **Sands and aggregates:** Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
2. **Ready prepared nonhydraulic lime putty:** Prevent drying out and protect from frost.
3. **Nonhydraulic lime:sand mortar:** Store on clean bases or in clean containers that allow free drainage. Prevent drying out or wetting and protect from frost.
4. **Bagged hydrated hydraulic lime:** Store off the ground in dry conditions.

360 Making lime:sand mortars generally

1. **Batching:** By volume. Use clean and accurate gauge boxes or buckets.
2. **Mixing:** Mix materials thoroughly to uniform consistency, free from lumps.
3. **Contamination:** Prevent intermixing with other materials, including cement.

370 Site prepared nonhydraulic lime:sand mortars

1. **Mixing:** Mix materials thoroughly by compressing, beating and chopping. Do not add water.

- 1.1. Equipment: Roller pan mixer or submit proposals.
2. Maturation period before use (maximum): Seek instructions

380 Ready to use nonhydraulic lime:sand mortars

1. Manufacturer: Contractor's choice
 - 1.1. Product reference: Contractor's choice (only applicable if not hot-mixed on site) ensure compatible with existing. Refer to mortar analysis report for full details.
2. Materials: Select from:
 - 2.1. Lime putty slaked directly from quicklime to BS EN 459-1 and mixed thoroughly with sand.
 - 2.2. Quicklime to BS EN 459-1 slaked directly with sand.
3. Maturation period before use (maximum): Seek instructions

390 Knocking up nonhydraulic lime:sand mortars

1. Knocking up before and during use: Achieve and maintain a workable consistency by compressing, beating and chopping. Do not add water.
 - 1.1. Equipment: Roller pan mixer or submit proposals.

Ω End of Section



LONDON
ARCHITECTS

LA London Architects LLP

38 Southwark Street

London

SE1 1UN

www.la.london

020 7403 1000

info@la.london