By Appointment to
Her Majesty The Queen
Building Facade Restoration
and Conservation

PAYE

St Giles Circus

TECHNICAL INFORMATION SHEET # 004

Ref Listed Building Consent Application to Discharge conditions 12 and14 of Application Reference 2015/6937/L

Project Information

This document covers the proposed methods of masonry repairs of the facades of 26 Denmark Street and 22 Denmark Street "Smithy". The objectives of the chosen methodologies are;

- Brickwork Repair

  Careful surveying will identify individual bricks or patches of brickwork in need of repair. The principle of minimum intervention means that only brickwork in current need is repaired and wholesale replacement for the sake of appearance should avoided. It can be difficult to match new work with old, often resulting in a patchwork effect. Particular attention should be given to matching the bond pattern and joint thickness.

  Where the deterioration has been caused by a clearly identified source, e.g. a leaking pipe, rising damp, rotten timbers, these matters will require attention at the same time. Remedying such defects will reduce the rate of deterioration.

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Methods of Brick repair will include:

- Replacing Whole Bricks
- Brick Slips
- Mortar Repairs
- Rebuilding where necessary
- Stitching where necessary.

- Lime Washing/ Brick Tinting

  Where new bricks have been fitted in replacement of defective or damaged bricks, these will be washed/tinted to match the existing brickwork should a colour matched brick not be available

- Render repairs

  Loose, defective and "blown" render will be removed, whilst retaining as much of the original fabric as possible. This render detail will be reinstated in materials to match the existing render and in line with Westminster City Council's Care and Maintenance Guide on Stucco (attached)

- Repainting of external facades

  New areas of render and areas of defective paint work will be prepared and painted with suitable paint to match the existing colour and finish of the current decorations.

Methodology

Brick Repair/Replacement

Brick Replacement

In locations as scheduled, carefully cut out and remove defective bricks using a combination of hand and power tools.

Carefully clean out void to receive new brick.

Dampen area to receive new brick and apply mortar bed of specified mortar.

Dampen new bricks and ease into correct position, ensuring all joints are fully filled.

Rake back new mortar 15 – 20 mm to point at a later date as agreed sample to match existing style and finish.

Ensure new brick and surrounding existing brickwork is left clean and free from mortar staining.

Leave area of scaffold in a clean and safe condition

Stitch Repairs

In locations scheduled, carefully drill through the external face of the unit and into the background, at an angle ensuring the drilled hole passes through the crack, with a 10mm diameter bit to facilitate the installation of stainless steel dowels and resin.

Stitches are to be at 150mm centres, vertically either side of the defect.

Once the hole is drilled, clear the area and hole of dust.

Stone grade epoxy resin shall be used.

Dowels are to be threaded and stainless steel.

Insertion of 8mm diameter threaded dowel shall allow for sufficient cover for the re-instatement of the external face.

Long nozzles shall be used to install the resin from the inside of the hole to the outside to ensure entrapment of air cannot occur.

Do not allow resin to overspill onto the face of the stone.

The dowels should be left approximately 15mm from the stone surface.

Following installation of the dowels and curing of the resin, make good the external hole using a restoration mortar to match the surrounding stone/brickwork.

Render Repair

All render which is cracked or damaged is to be removed without damaging the substrate using hand tools only.

The backing area will be inspected and works will commence to give the backing area a key for the new render. This may be achieved by raking a slight recess in the backing brickwork joints.

The surface is to be free from dust etc. Using a stiff bristle/wire brush the existing backing will be brushed down to remove all loose material and dust.

Any cracks in the brickwork are to be assessed with the architect prior to reinstatement of render.

Render mixes are to be batch by volume using clean gauge boxes. Mix proportions based on damp sand should be adjusted for dry sand. New render mix to be established post laboratory testing.

Mix specification is TBC

Sufficient water should be applied to brickwork to prevent excessive suction. Damp down dust clouds.

Render is to be built up in coats not exceeding 10mm. Ensure that undercoats are scratched to provide a sufficient key. Each coat should not be thicker than previous coats Plain areas are to be reinstated in 2 coats.

Dubbing out is to be agreed with the architect if required. S/S fixings and mesh is to be used in very deep hollows.

The initial application should be checked for shrinkage. If found, the surfaces should be lightly dampened with water, tightened back and re-keyed.

Do not use materials or apply coatings if temperatures are below 5ºC and falling or below 3ºC and rising.

Finish coat is to be 5mm thick. A smooth finish should be achieved using a cross grained wooden float in small circular motions (plastic float is not allowed). Do not apply water while working up. Avoid draw of excessive laitance which is caused by overworking or by use of steel trowel.

Small hairline cracks should be healed with a light water mist before the render has cured.

If weather conditions are such that they would cause quick drying, cure by water mist over 3 to 4 days.

Painting and decorations

Painting and decoration methodology will be developed in detail upon confirmation of what paint and preparation systems are to be specified for this project.