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METHOD STATEMENT

IN RESPECT OF

PROPOSED DE & RE-CONSTRUCTION
OF ASHLAR CHIMNEY STACK

AT

THE STABLES
TURKDEAN MANOR, TURKDEAN, CHELTENHAM,
GLOUCESTERSHIRE, GL54 3NU



Date: 5th May 2023

Our Ref: 1069/MST/FINAL/1.0

1.0 Introduction & Proposal

This method statement has been prepared to outline the proposed methodology for the careful de and re-construction of a gable end ashlar chimney stack to The Stables at Turkdean Manor.

As per the submitted Heritage Design & Access Statement, this stack is required to be de and re-constructed to enable the removal of two existing integrated non-compatible flues – that require to be replaced in conjunction with the installation of new, modern, condensing boilers – and with the existing flues found to be impossible to remove without resorting to the careful de-construction of the existing stack.

The stack is to be carefully temporarily taken down and re-built on a like-for-like basis, re-using all existing stone and with all detailing to match existing.

2.0 Preliminaries & General Conditions

2.1 Protection

Provide adequate protection to all parts of the immediate works area, adjacent works areas and the overall general structure prior to and throughout the works, especially from wind, rain and frost. Provide a weather-proof/covered materials storage area and masons work area.

2.2 Scaffolding

Provide a full scaffold/means of access with ladders, gangways, etc. to TG20:21 and BS EN 12811-1 and as necessary to complete the works and to comply with the Construction (Design and Management) Regulations 2015 for the full duration of the works.

The scaffolding is to include for the supply and installation of sheet protection to prevent falling masonry, reduce dust/debris, and provide weather protection throughout the works.

Extreme care must be taken when the scaffolding is erected, altered, adjusted and dismantled to protect the existing historic fabric and any fixtures or fittings from any damage caused by scaffold poles, boards and the like.

The scaffolding must be designed to be free standing and under no circumstances should it be fixed to the masonry structure. Scaffolding tubes/poles must finish at least 50mm from the walls and all pole ends must be protected with plastic end caps. All poles must be seated on timber pads to protect the ground/floor from damage.

2.3 Temporary Protection of Stone

Following the removal of each stone unit, ensure this is stored on level bearers clear of the ground, separated with resilient spacers.

Ensure all stone is kept dry and protected from adverse weather. Equally ensure all stone is adequately protected to prevent: soiling, chipping and contamination by salts and other deleterious substances; damage, particularly arrises, projecting features and delicate, friable surfaces; and, mortar/grout splashes and other staining and marking of masonry.

2.4 Disturbance to Adjacent Stone

Ensure that retained masonry in the vicinity and particularly around the base of the stack is disturbed as little as possible.

Prop or wedge retained loose masonry units or those that are vulnerable to movement during repair works, so that they are firmly and correctly positioned.

2.5 Adverse Weather & Protection of Mortar

Do not use frozen materials and do not lay masonry units on frozen surfaces.

Where it is anticipated that the temperature may fall to 5°C, or lower, the re-built masonry should be protected with damp hessian to preserve the moisture and with sufficient cover, using bubble wrap or insulating material, to protect the structure itself and the mortar against frost.

Maintain temperature of the work above freezing until mortar has fully set.

Protect masonry against rain and snow by covering when precipitation occurs and at all times when work is not proceeding.

Prevent masonry from drying out too rapidly in both hot conditions and from the effects of the wind by covering with damp hessian as soon as possible to maintain moisture and then with additional cover to prevent the hessian drying out.

For best results the moist conditions should be maintained, whilst allowing air movement over the mortar, for as long as is practicable.

2.6 Cleaning/Clearing-up

Remove debris, rubbish etc., and clean up etc. on a daily basis as works proceed with particular attention to leaving the site clean and tidy and in a presentable manner.

3.0 Methodology (De-Construction)

1. Photographs of the existing chimney stack – from all aspects – are to be taken to ensure a complete and clear photographic record of the existing configuration of the overall chimney stack, mouldings and the individual Ashlar stones, which are to be referenced in conjunction with the prepared drawings.
2. Dismantling is to be completed entirely by hand – power tools for removal of mortar is **not** permitted. Extreme care is to be taken even with the choice of hand tools, given the fine nature of the joints.
3. Carefully pick/rake out mortar joints with a thin steel hook and/or easing out the old material by inserting a handheld hacksaw blade into the joint and pulling gently to ensure the joints are not widened or the stone damaged during the process.
4. Ease each stone out of position, carefully removing any dowels/cramps, cleaning off old mortar, organic growth and dirt, and leave units in a suitable condition for re-construction.
5. Make sure each removed stone is free from vents, cracks, fissures, or other defects which may adversely affect strength or durability, reporting any defects to the client.
6. Mark each unit clearly and indelibly on a concealed face, indicating its original position in the construction. Transcribe markings to drawings / photographic record to ensure subsequent re-instatement in their original configuration.
7. Units are to be carefully lifted – by multiple individuals/plant as necessary for larger or moulded stone sections – and be carefully transported to a safe, dry and protected storage area for the period of their temporary removal.
8. The above sequence is to be repeated until all stones have been carefully removed.

4.0 Methodology (Re-Construction)

1. Ensure existing masonry base to receive ashlar stone is sound and levelled as required to ensure stack can be reconstructed level and true.
2. Brush off surfaces of each salvaged stone to remove all dirt, dust and debris and dampen joint surfaces with clean water to control suction as necessary.
3. Commence re-building of the stack around replaced flues via reference to the marked-up, cross-referenced record drawings and photographs to replicate existing detailing, re-using original stones in their original locations in re-building – respect the original joint size, bonding and alignment and joint finish.
4. Lay each stone on a full bed of lime mortar, ensuring each stone is finished perfectly level, true and in plane on external face, or faces, with surrounding stones. Ensure that all joints are filled and that no mortar encroaches upon exposed faces – any mortar splashes to faces of exposed stone are removed immediately, ideally lightly sponging down the whole stone.
5. Insert new Grade 316 austenitic stainless steel dowels/cramps at joints/corners at every course level to match previous fixings; or, allow to form and insert new to ensure stones are adequately tied to resist movement.
6. Carefully repoint to match the previous pointing finish, using a suitably thin tool that easily fits into the joints, like a pointing key or steel blade; or, by pressing the lime mortar in from the face of the stone – again, any mortar splashes to faces of exposed stones are removed immediately, ideally lightly sponging down the whole stone. Tamp back the setting mortar with the tip of a bristle brush to remove/guard against shrinkage cracks. Once suitably firm, lightly scrape the mortar surface with a small wooden spatula or similar tool.

***NOTE:** At the discretion of the mason, the arrises of stones can equally be covered with heavy duty tape to protect them from staining and damage during repointing – although with care taken in selection of the tape to ensure it does not leave an adhesive residue on the stone's surface following removal.*

7. Ensure the stack is protected from the elements during and immediately post re-construction and with all necessary precautions in place to control the satisfactory curing of the mortar.