HAFOD OWEN, PARC PADARN
- REPAIRS AND ALTERATIONS

Schedule of Work

Chambers Conservation Ltd, May 2025 – Issue 1

1.0 Introductory Information

1.1 This Schedule of Works has been prepared by Chambers Conservation Ltd for the repair of Hafod Owen which is within Parc Padarn at Gilfach Ddu, Llanberis. The building owner and client is Cyngor Gwynedd / Gwynedd Council.

1.2 This document must be read alongside the supporting drawings and other information, which includes:

- Hafod Owen 01 – Floor Plan as Existing Rev B
- Hafod Owen 02 – Elevations as Existing Rev A
- Hafod Owen 03 – Sections as Existing Rev A
- Hafod Owen 10 – Floor Plans as Proposed Rev H
- Hafod Owen 11 – Elevations as Proposed Rev H
- Hafod Owen 12 – Section A-A as Proposed Rev E
- Hafod Owen 13 – Section B-B as Proposed Rev D
- Hafod Owen 14 – Site Plan as Proposed Rev B
- Hafod Owen 15 – Roof Void Plan as Proposed Rev A
- Hafod Owen 30 – New Rear Door Details
- Hafod Owen 31 – New Annexe Door Details
- TRP – 23035-HO-01 North Elevation
- TRP – 23035-HO-02 West Elevation
- TRP – 23035-HO-04 East Elevation
- TRP – 23035-HO-06 Part Plan Proposed
- Hazard Identification and Risk Assessment

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2.0 Intention of Works

2.1 The intention of the works is to repair the building to stabilise its condition and improve its appearance. It is hoped that a second stage of work will be implemented at a later date (not included in this package) that will facilitate its partial reuse and access by visitors.

2.2 The work will, in summary:

- Carefully dismantle the existing roof of the annexe
- Stabilise and repair the annexe walls
- Reinstate the roof, retaining as much of the character as possible whilst making it structurally sound and weatherproof.
- Carry out other works to repair the remaining fabric
- Reinstate doors
- Provide new, more attractive boarding to the window openings
- Carry out some works for provide improved bat roosts in the upper floor area, to mitigate the disturbance to the existing habitats during works to the annexe roof.

3.0 Background History / Information

3.1 Hafod Owen is an unlisted building, but it is included within the 'Dinorwic Quarry: Hafod Owen Winding Engine, Locomotive Shed, Main Waterwheel and Housing' scheduled monument designation – this protects it a gives it a status as being a structure of very high importance.

3.2 The building is a detached structure, near the lake shore, off the main Parc Padarn car park. Adjacent is the associated lifting structure.

3.3 Hafod Owen was originally positioned near the shore of Llyn Peris at the far south-eastern end of the quarry, at the 'gallery' of a steep incline, with the excavation following a slate seam extending a long way below. As the slates needed to be lifted upwards (instead of the usual gravity-following downwards), powered equipment was needed, which was provided with the Hafod Owen building.

3.4 After that particular part of the quarry fell into dis-use, the pit became a deep lake. The lake was subsequently infilled using the excavated material from the underground power station. As part of this work, Hafod Owen and the adjacent structure were dismantled in 1974 before being re-erected in 1975 in the current position in 1975.

3.5 In recent years the building has gradually fallen into a state of partial dereliction. Vandalism has caused the loss of most of the windows and doors, and these are now boarded over to help prevent further unauthorised access and damage. Whilst the main roof is in relatively good condition (having had a modern structure in the 1970s), the annexe roof is collapsing as a result of long-term water leaks decaying the timber beams (which consist of relatively crude tree-trunks and roughly hewn planks).

4.0 General Matters:

4.1 The works will be carried out under a JCT intermediate contract with a one-year defects period.

4.2 The building is currently empty.

4.3 Prior to commencement, an area an area around the building will be agreed with the client as a working / compound area.

4.4 It should be expected that the rest of the land surrounding the site will remain accessible by the

public – during fine weather, weekends and school holidays the area becomes very busy.

4.5 Prior to commencement on site, the contractor must produce a programme for the works which should be updated and distributed to the client and architect on a weekly basis.

4.6 Noise, dirt and debris will need to be strictly minimised – the contractor will need to responsible for ensuring that dirt or debris will not unduly be spread into the surrounding area.

4.7 All waste must be removed on a daily basis unless placed in a locked skip in an agreed location.

4.8 The contractor may use the toilets within the public car park or provide their own portaloos.

4.9 For the purposes of pricing the contractor should assume that they need to provide their own power (it is possible that an electrical connection exists to the small lean-to on the side of the building – should the contractor wish to use this, they must make their own temporary connections and test its safety).

4.10 The contractor may use water within the yard across the car park (subject to metering) but there is no water provision in the building itself.

4.11 Site radios etc are not to be used externally.

4.12 It is expected that all people working on the building are experienced in working with historic buildings and within the National Park.

5.0 CDM

5.1 In accordance with the Construction (Design and Management) Regulations 2015, the contractor would undertake the role of Principle Contractor and therefore should:

- Plan, manage, monitor and coordinate the entire construction phase
- Take account of the health and safety risks to everyone affected by the work (including members of the public), in planning and managing the measures needed to control them
- Liaise with the client and architect for the duration of the project to ensure that all risks are effectively managed
- Prepare a written construction phase plan before the construction phase begins, implement, and then regularly review and revise it to make sure it remains fit for purpose
- Have ongoing arrangements in place for managing health and safety throughout the construction phase
- Consult and engage with workers about their health, safety and welfare
- Ensure suitable welfare facilities are available
- Check that anyone they appoint has the skills, knowledge, experience and, where relevant, the organisational capability to carry out their work safely and without risk to health
- Ensure all workers have site-specific inductions, and any further information and training they need
- Take steps to prevent unauthorised access to the site areas
- Liaise with the architect to share any information relevant to the planning, management, monitoring and coordination of the pre-construction phase

6.0 Preparatory Works:

6.1 Prior to the contract starting on site, the contractor should obtain Welsh slate samples to closely match the colours and textures of the existing materials.

6.2 Prior to the contract starting on site, the contractor should propose the timber type(s) to be used in repairs.

6.3 Immediately before starting work, the contractor should take a photographic record of the condition of the exterior and interior of the building and the immediate surrounding area that might be affected.

6.4 Before starting work the contractor should familiarise himself with the positions of all the site services – in particular wiring that may be affected.

6.5 The contractor is to agree with the client and architect the nature of any hoarding and temporary security measures which must be allowed for. The building's openings must be kept secure or attended at all times.

6.6 The contractor is to be responsible for the design, supply and maintenance of scaffolding and high-level access. Scaffold to be in accordance with methodology 1.

6.7 Prior to commencement the contractor must propose a method statement for the safe removal of the existing annexe roof – this must be achieved in a way that does not damage the existing walls or internal machinery / artefacts and would also preserve as much of the existing slate slabs for re-use as possible. It should be noted that the annexe space is currently not deemed safe for access – a safe way of working should be agreed with the structural engineer – it may mean accessing from one safer position and securing one bay at a time or removing the slate slabs and unstable roof structure components using external lifting equipment or a combination of the two.

6.8 The contractor may put up an advertising sign on a scaffold or elsewhere in agreement with the client.

6.9 Note: the contractor is responsible for taking measurements for any new components or materials.

6.10 The contractor must keep the architect and client up to date with current availability and lead-in times for key materials.

7.0 Dismantling Work

7.1 The contractor is to provide full scaffold access to the annexe roof in accordance with methodology 1

7.2 The contractor must erect further propping as necessary to safely carry out the works to the annexe roof.

7.3 The contractor must provide suitable protection for the existing equipment that is to remain in situ within the annexe – this may be a plywood clad box supported on a timber frame.

7.4 The contractor must provide any lifting equipment deemed to be needed in the method statement outlined in the above section.

7.5 The contractor is to provide any further measures needed to protect the remaining historic features from damage – these include the components of the main part of the building.

7.6 The contractor should allow for removing and disposing of the decayed timber steps as well as roofing members when agreed to have been incapable of re-use by the architect and engineer.

7.7 Using the agreed method, the contractor is to dismantle the existing annexe roof. Existing vegetation is to be removed and disposed of. Slate slabs are to be carefully set aside in an

agreed position for inspection and later reuse – the contractor must make his own assessment of any additional needed for the later reinstallation. Roof members are to be labelled and removed where unstable. All components must be kept in a secure location before reuse or agreed disposal.

8.0 Annexe Repairs

8.1 Prior to starting work on the walls, reference photographs should be taken of the walling.

8.2 Allow to dismantle the top 500mm of the annexe walls – note: this is an average height - a greater amount will be needed above each of the openings as slate walling to be dismantled in these three locations to enable the replacement of the rusting lintels.

8.3 Inspect existing original rail/joists above openings – agree necessary work with structural engineer (treatment or replacement) – note a provisional sum for replacement is included at the end of this schedule. Replace / reinstate repaired lintels and plates above openings as agreed.

8.4 Reconstruct dismantled upper section of wall in accordance with methodology 2, reusing existing slate – any additional needed will be supplied from a stock owned and stored on site by the council. Allow for sockets etc for roof structural members. It is important that the existing nature and character of the walling is followed – reference should be made to the photos taken prior to dismantling.

8.1 Allow to supply and install 7 no. replacement 250 mm dia. round timber rafters (C24 grade timber or above) set within existing / rebuilt pockets to wall to match the original roof arrangement (in accordance with structural engineer's drawing 23035-HO-06. The ends of the timbers are to be wrapped in lead and the remnants of the sockets packed with mortar and small pieces of slate to suit.

8.2 Contractor is to allow for supply of 8 no. 152 x 152 UC30 galvanised steel sections in the event that suitable replacement rails girders cannot be obtained from the client's stock. Again, the remnants of the sockets should be packed with mortar and small pieces of slate to suit.

8.3 Allow to supply and install 900 x 75mm reinforced precast concrete planks to top of reinstated roof structure above welfare area (shown as grey area on structural engineer's drawing) with waterproofing membrane (bituminous 1F felt, due to presence of bats). Note: insulation and the ceiling finish will not be installed at this time.

8.4 To the area <u>not</u> shown as being above the welfare area, allow for intermediate support timbers - approx 75 x 225mm (total c. 25m in length)- in larch or other suitable durable timber to be agreed. Planks to be hand-split and / or left with a waney edge to best match the existing.

8.5 Following the completion of the structure, allow to reinstate the slate slabs, following the original arrangement as closely as possible – care must be taken to get a good overlap helping to ensure the weathertightness of the roof. The client will supply some slate for making up any shortfall, but some shaping of slates will be necessary and therefore must be allowed for.

8.6 To the top abutment allow for new code 6 lead flashing – the top edge is to be fixed into existing joints and wedged with lead every 450mm. The vertical upstand must be at least 75mm and the apron overlapping the slate by at least 200mm. The front edge should be clipped. The maximum length of each section should be 1.5m, with overlaps of at least 100mm. Details in accordance with the Lead Sheet Academy manual.

8.7 Allow for the provision of a new 100mm cast iron roof vent (installed ready- decorated) to be linked to a potential future extract system. The vent is to be fitted with a lead sleeve, welded onto a lead base, which should extend at least 200mm to the front, sides and rear, where it will go under slate slabs.

8.8 Allow to point any open areas to the verges or eaves

9.0 Main Roof Repairs

9.1 The contractor is to allow for repairing 20 missing or damaged slates to the main roof (in Welsh slate to match existing), including the provision of any temporary access as required.

10.0 Repointing and Masonry Repairs

10.1 Allow to rebuild chimney from 200mm below annex roof level in accordance with methodologies 2 and 3, reusing all existing slate blocks but replacing any ferrous metal work in stainless steel. The work will need to include the removal of the silver birch tree (growing out of the abutment between the chimney and the adjacent wall) and a small amount of making good to the gable wall. Note: it is vital that the roots are fully removed from the walls.

11.0 Rainwater Goods and Drainage

11.1 Allow for the provision of the following rainwater goods (provided by Hargraves Foundry and delivered in a black finish unless otherwise agreed) as follows:

11.2 Main building, lake-facing side: provide 150mm half round cast iron gutter with stop ends, joints and outlets. Gutters to be supported on rise and fall brackets. Provide 2 no. 100mm cast iron downpipes with appropriate swannecks, eared sockets and shoes (these will discharge over new gulleys).

11.3 Main building, rear side: provide 150mm half round cast iron gutter with stop ends, joints and outlets. Gutters to be supported on rise and fall brackets. Provide 2 no. 100mm cast iron downpipes with appropriate swannecks, eared sockets and shoes (these will discharge over the annexe roof).

11.4 Annexe: provide 150mm half round cast iron gutter with stop ends, joints and outlets. Gutters to be supported on rise and fall brackets. Provide 2 no. 100mm cast iron downpipes with appropriate swannecks, eared sockets and shoes (these will discharge over new gulleys).

11.5 Prepare a trial hole in the proposed position of the soakaway – allow to dig 300 x 300 x 300mm cube below the proposed invert level of the incoming drainage pipe (approx. 1.5m). Carry out the percolation test as described in section H2 of the building regulations and provide the information to the architect.

11.6 Subject to final agreement, make an allowance to create a 2.5m3 crate soakaway and to provide 75m of drainage pipes and 4 no. sumps / gulleys with cast iron grilles on the surface.

11.7 Contractor to make a provisional allowance for making good existing ground following above drainage installations (e.g. reseeding grassed areas).

12.0 Windows, Doors and Openings

12.1 To the west facing door, the contractor is to allow for raising the height of the existing opening to 2.1m. The contractor should allow for installing new lintels and a steel plate. A provisional sum should be provided at the end of the schedule for their supply. The contractor must allow. For making good the surrounding stonework.

12.2 To the rear door opening allow to install new door and frame in accordance with detail 30.

12.3 To the annexe door opening allow to install new door and frame in accordance with detail 31.

12.4 To all ground floor window openings (7 no) allow to remove and dispose of existing metal security sheets. Replace with 18mm marine ply sheeting to be painted primer / undercoat and

2 coats of eggshell. These panels are to have equally spaced rows of 25mm holes drilled top and bottom to allow for ventilation with insect mesh fixed to the rear side. Note that the window remnants must be retained behind. Boarding to be fixed with anti-tamper bolts / screws. Allow to add new temporary frames where needed.

12.5 To all ground floor window openings (7 no) allow to install printed images supplied by the client on the plywood panels.

12.6 To the two large upper-level openings, allow to install 18mm marine ply sheeting set back at least 100mm from the face of the wall. These panels are to have equally spaced rows of 25mm holes drilled top and bottom for ventilation with further holes created to suit the needs of any species as required by the ecologist. The panels are to be supported on a new treated softwood frame, secured in the mortar joints of the walls.

13.0 Miscellaneous Works

13.1 Allow to install 2 no. half height timber hinged barriers in the two openings – barrier to consist of a simple triangle formed out of treated 75 x 50mm softwood with the top member at a height of 1100mm.

14.0 Ecology

14.1 Note: to install works for bats in the roof / first floor space, safe assess will be needed. As the condition of the floor surface is not known it is advised that temporary boarding is laid across areas as needed during the construction process. The contractor should allow for temporary vertical access into the space, determining whether the most safe or secure way is though the circular hole in the floor or through either of the two side openings.

14.2 To the existing roof void, allow to construct a full height partition, consisting of 100 x 50mm treated softwood studs spaced at 450mm intervals. The frame is to be clad in 12mm marine ply. A simple door / hatch is to be created within the partition – approx. height 1250mm (made from marine ply with suitable hinges and bolts).

14.3 Allow to create a hole in the corner of the existing first floor / ceiling and build a vertical bat tunnel approx. 975 x 450mm constructed of studwork with t&g boarding (note, timber must be durable and FSC certified but untreated – contractor to confirm proposed type at pricing stage). Height approx. 4m.

14.4 An allowance is also to be made for making a new softwood frame and plywood hinged hatch for the circular opening in the ceiling / first floor (detail confirmed when full access available).

14.5 Allow to fix 20m length of battens onto the inside of the roof structure for roosting in accordance with ecologist instructions (to be finalised) -for pricing purposes aloe for 25 x 38 roughened / split larch or other durable but untreated timber.

14.6 Allow for 5m2 of crawl boards to be fitted to top side of ceiling - detail confirmed on site but for pricing assume 18mm marine plywood is used with a 600mm width to the walkway.

15.0 Upon Completion:

15.1 The contractor is to remove all waste from the site. All facilities are to be left clean and ready to be used. A copy of relevant material should be passed to the architect for insertion into a Health and Safety File.

16.0 Provisional Sums

16.1 The following costs should be included in the overall tendered sum for the summary of the following specialist items (these will be confirmed at a later date (the contractor must include separately any overheads for managing the supply of these items):

16.2 £1,000 for new steel lintels and head plates to the west elevation door opening

16.3 £2,000 for new steel lintels and head plates to the door and window openings to the east elevation

A.1 Methodology 1 – Scaffold and Protection

Scaffold and Protection

A.1.1 The contractor should provide, erect and maintain (including altering as required) all scaffolding necessary to carry out and complete the works.

A.1.1 Any fixings into the slatework must be agreed in advance and must be filled and made good on completion.

A.1.2 All tube ends to be protected with soft nylon caps or equivalent.

A.1.3 The scaffold is to be strong enough for its purpose and erected and dismantled with great care. The contractor is responsible for the design of the scaffold – if needed he should consult with a structural engineer.

A.1.4 Scaffold fittings and fixtures must not be thrown from the scaffold during erection, dismantling and alteration.

A.1.5 The means of securing and stabilising the scaffold is the responsibility of the contractor. However, before commencement the contractor should agree with the architect / principal designer:

- The overall design of the scaffold
- Its loading capacity (i.e. confirming that it is suitable for the purpose intended)
- Access arrangements
- Means of securing the scaffold when not in use
- Any sheeting / other methods of preventing items from falling

A.1.6 The contractor should provide adequate warning signage and tape to ensure the general public are kept away from the work area.

A.1.7 All rubbish and debris are to be removed from site as soon as possible – on a daily basis as a minimum.

A.2 Methodology 2 – Stonework Repairs

Stonework Repair Generally:

A.2.1 Prior to appointment, the mason will be asked to give evidence of their experience in using lime mortars.

A.2.2 If it is necessary to work in the spring / autumn / winter, additional time should be factored in so repointing would not be carried out during periods where the temperature is likely to drop below 5°C. Whilst the mortar goes off, it is important that it is protected with hessian. The majority of the work should be programmed for the milder months.

A.2.3 All works must be carried out by a time-served mason with a high level of experience in working with historic buildings and lime mortar.

A.2.4 A photographic record is to be made before commencing.

A.2.5 No cleaning agents or fungicides are to be used either before or after repair works, except on the agreement of the Architect.

A.2.6 Whilst replacing several stones at once, larger units or structural items, the structural integrity of the surrounding wall must be protected – this will remain the responsibility of the contractor but the methods of doing this should be discussed with the architect.

Replacement of Stones

A.2.7 Stones are to be replaced only where agreed with the architect. All removal / dismantling is to be carried out by hand, using the minimum necessary force so to avoid unnecessary damage to surrounding stone. Where stones require replacement, matching reclaimed bricks should be sourced of the same dimensions, colour, texture and grade (i.e. ability to withstand weathering).

A.2.8 Stones should generally be cut out to a depth of at least 100mm or to the original depth if smaller.

A.2.9 Generally, stones should be replaced to the original bedding plain, however, in some rare instances this may be thought to have been the cause of failure – if this is the case a difference approach should be agreed in advance with the architect.

A.2.10 Sawn faces can me positioned within the wall, but the original surface type should be replicated on the external face – this will take an experienced eye and should be agreed with the architect – if in doubt a simpler surface is preferred to a heavily tooled one.

A.2.11 Joints where piecing into a larger surviving stone should be as slim as possible.

A.2.12 Before installing the new stone, the cavity should be cleaned out ad well dampened before applying a bed of mortar to the base, sides and back. The new stone unit should also be dampened. The top joint can be completely filled with a drier mortar. For finer jointed repairs a lime grout should be used. Any required packers can be removed after 24 hours, when final pointing should take place.

Rebuilding Stone Walling

A.2.13 All removal / dismantling is to be carried out by hand with stones carefully cleaned, removing all mortar, plant growth etc. Stones are to be carefully stacked in an agreed manner with pallets etc labels with the location origin marked.

A.2.14 The extent of dismantling would be agreed in advance of the work with the architect – these sections should be carefully photographed. When the agreed level has been reached, the contractor should notify the architect if the remaining wall is not in satisfactory condition and therefore he feels that more work is needed.

A.2.15 Rebuilding should reuse the using stone, closely matching the original character of the arrangement of the stones in the original masonry and in surrounding areas. Voids greater than 25mm should be infilled with small pieces of stone.

A.2.16 Any new slate required to supplement the existing should be selected to match the existing.

A.3 Methodology 3 – Pointing and Mortar

Mortar Generally:

A.3.1 All mortar used on the project shall be hot-lime, slaked on site in a pre-agreed location. The specification below is given as a guide and the final mix will be agreed following site trials. The contractor should allow to produce approx. 3 no. different mixes. These should be pre-agreed (in terms of mix and sands) then prepared and worked in the presence of the architect (and conservation officer if required).

A.3.2 Generally pointing is not required due to the nature of the existing walls where the mortar is generally set back from the surface.

A.3.3 Hot mix mortars are those where quicklime, sand or aggregate, and water are mixed together at the same time. The quicklime is therefore slaked and mixed in the same operation. Much heat is produced when the quicklime is added to water, hence the name "hot mix". Contractors shall follow appropriate & relevant H&S guidance for the preparation of, and working with, hot-lime mortars, including protective clothing, goggles and separation from public areas.

A.3.4 Specification/Mix:

- 1:2.5 (Quicklime : Sand) to be calculated by weight when dry not by volume.
- Quicklime: Quicklime to be granulated to a maximum of 6mm in size.
- Sands: Mix of Brynkir, Bangor Dredged plus others suggested by the contractor shall be used in the trials for the preferred mix. Sands to combine a mix of coarse grit sand (c 5 mm and less), plastering and finer sharp sand (c. 2 mm and less), well sieved and graded. Integrating smaller sands helps reduce initial shrinkage, but the final apperance is still quite coarse to match the original mortar.

A.3.5 Method: Preparation: Heap sand and hollow the heap. Add lump or kibbled quicklime at proportions noted above. Add the water necessary to effect the slake (typically about two to two-and-a-half volumes of water for each volume of quicklime) before mounding the sand over the quicklime. As the quicklime expands, cracks will appear in the sand covering which will being to dry out. These cracks should be closed to retain the necessary heat of the slake. The sand and lime may then be mixed together whilst still very hot, more water being added to bring the mix to a mortar consistency.

General Pointing (not generally needed)

A.3.6 Samples of mortar mix and pointing should be prepared for architect's approval and retained on site as a control sample for the duration of the works. Again, mortar for repointing is to be a hot lime mix strictly without the use of cement. The required colour and texture will be achieved through careful selection of different sand / aggregate types and will be agreed between the mason and architect.

A.3.7 The exact scope of repointing will be agreed with the architect prior to commencing.

A.3.8 In preparation for re-pointing works, rake out all loose jointing material to a depth of not less than twice the joint width. All raking/cutting shall leave a clean, square face at the back of the joint.

A.3.9 The prepared face and joint should be carefully cleaned out with a bristle brush and thoroughly flushed out with clean water. All dust and loose material must be removed, working from top to bottom of the wall.

A.3.10 It is essential to thoroughly dampen the masonry before pointing commences. In dry conditions the wall may need to be wetted down two or three times. No water should be left lying within the prepared joints.

A.3.11 The mortar should be pushed into the joint and firmly ironed in with the maximum possible pressure and minimum over-working. Pointing irons should be used, not trowels. The pointing irons should be of a width which will fit into the joint and ensure full compaction is achieved throughout the depth of the joint each time mortar is placed rather than from the surface alone. The Contractor should be aware that it may be necessary to fabricate pointing irons to undertake the works.

A.3.12 Re-pointing work should begin at the uppermost section of the wall and proceed downwards, ensuring that all the mortar is pressed well into the joints to achieve good compaction. Fill all the joints solidly with the approved mortar mix finishing either flush or very slightly back from the masonry, in accordance with the approved sample.

A.3.13 The mortar should be left to take its initial set and then be worked over with a stiff bristle brush. This should counteract shrinkage and provide a suitable finish. The bristles should not be dragged across the face but tapped against it. Timing is critical. If this technique is applied too early the mortar will be removed too easily, if too late, it will be difficult to make the required impression. The timing will depend on the weather. The aim should be to produce a joint brushed back 1-2mm from the arriss of the bricks or stone.

A.3.14 Any slight fractures due to shrinkage must be cut and re-made.

A.3.15 In warm weather lime mortar should be protected from drying out too quickly with damp hessian. In cold weather lime mortar work should only be carried out when temperature is min. 5 degrees and rising. Protect overnight and until fully cured.

Repointing of Deep Holes

A.3.16 Where indicated holes larger than 50mm are to be packed out with smaller stones, slates or tile fragments (type to be agreed)