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Schedule of Works & Specification for Emergency Conservation Works to Cloonsellan Abbey, Ballymurray, Co Roscommon

November 2018

Schedule of Works

The detailed schedule below is a summary of works to be carried out. The appropriate programming of these works is the responsibility of the Contractor.
All works to be carried out fully adhering to the Architects Specification and Drawings and the Engineer's Specification and Drawings.

Preliminaries

		Description	Cost
		Carry out work on the basis of Architect's drawings and specification. Any discrepancies between drawings, specification and Schedule of Works to be resolved at the time of Tender.	
	Site Access	Access is only possible through the field.	
	Contract	To be decided	
	Possession	To be decided	
	Completion	To be decided	
	Risk to Health and Safety	The Contractor is obliged to comply with his obligations under the *Health and Safety at Work Act 2005* and the *Safety Health and Welfare at Work (Construction) Regulations 2013.*	
	Programme	The Contractor is to provide a programme for approval prior to commencement of works.	
	Supervision	Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.	
	Insurance	Documentary evidence: Submit details before starting work on site and/ or policy and receipts for the insurance required by the Conditions of Contract.	
	Conservation Methodology	The works are to be carried out strictly in accordance with the Conservation methodology and method statement given at the beginning of this document.	
	Stability of Works	Maintain the structural stability and integrity of the Works during construction.	
	Sub-Contractors	The Contractor to allow for necessary attendances. Any sub-contractors to be approved prior to appointment.	
	Samples	Where required provide samples of materials, workmanship or products in good time to allow approval within programme. The following samples will be required: • Sand aggregate • Pointing • Wall top pinning and pointing • Stone re-bedding	
	Photographic Record	Carry out a photographic survey of all stonework to be dismantled after they have been numbered.	
		TOTAL PRELIMINARIES	

Item	Description	No / Area	Rate	Cost
1.0	**General**			
1.1	Allow for getting three mortar samples analysed before work commences. Binder type and aggregate sizes to be determined. These results are to be sent to the conservation architect so that a suitable lime mortar mix can be designed.			
2.0	**North Wall**			
2.1	Vegetation to be carefully removed from the both faces of the wall. Removal to be carried out incrementally to ensure the integrity of the stonework is maintained. Design team to inspect during ivy removal works to record stonework behind.			
2.2	Stone to be reinstated to the north west corner to tie together the north and west walls. Stone to be built from the existing base stone and the facing stone is to be tied into the existing stone on each side. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. The core is to be built up with the facing stone ensuring there are no voids and the mortar is to be compacted wall around the core stone.			
2.3	A limited amount of stone is to be reinstated on the north east corner to tie the north wall to the low level east gable. Line of stonework to match architects drawings. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. The core is to be built up with the facing stone ensuring there are no voids and the mortar is to be compacted wall around the core stone.			
2.4	Pockets of facing stone to be reinstated where identified on the architects drawings. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. All voids in the core stone behind to be filled with lime mortar before bedding stone to ensure there are no voids behind. Ensure no original putlogs are blocked during the re-facing process.			
2.5	All organic material and roots to be carefully removed from the wall top. Any loose or disturbed stonework along the wall top to be re-bedded with a lime mortar mix as specified. Stonework to be recorded prior to removal and re-bedded in original location.			
2.6	Pin and point the wall top to ensure water runoff in all areas. If the core stonework is lower than the facing stone this may need to be built up to allow a fall but this can only be done after agreement with conservation architect. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large joints.			
2.7	The entire length of the north wall is to be re-pointed in a lime mortar as specified on both faces, as required; ensuring sound bedding mortar remains undisturbed. Deep point as required where			

	mortar has been completely washed out of joints ensuring no voids are left behind mortar.			
3.0	**East Gable**			
3.1	Vegetation to be carefully removed from the both faces of the wall. Removal to be carried out incrementally to ensure the integrity of the stonework is maintained. Design team to inspect during ivy removal works to record stonework behind.			
3.2	Allow for the careful removal of the small trees at the south west corner. Works only to take place when archaeologist is on site to monitor.			
3.3	Stone to be reinstated to the south corner to support the overhanging high level wall. Stone to be built from the existing wall below and the facing stone is to be tied into the existing stone on each side. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. The core is to be built up with the facing stone ensuring there are no voids and the mortar is to be compacted wall around the core stone.			
3.4	All organic material and roots to be carefully removed from the wall top. Any loose or disturbed stonework along the wall top to be re-bedded with a lime mortar mix as specified. Stonework to be recorded prior to removal and re-bedded in original location.			
3.5	Reinstate the collapsed stone on the inside face as outlined in architects drawings. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. The core is to be built up with the facing stone ensuring there are no voids and the mortar is to be compacted wall around the core stone.			
3.6	Pockets of facing stone to be reinstated where identified on the architects drawings. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. All voids in the core stone behind to be filled with lime mortar before bedding stone to ensure there are no voids behind. Ensure no original putlogs are blocked during the re-facing process.			
3.7	Pin and point the wall top to ensure water runoff in all areas. If the core stonework is lower than the facing stone this may need to be built up to allow a fall but this can only be done after agreement with conservation architect. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large joints.			
3.8	The entire length of the west gable is to be re-pointed in a lime mortar as specified on both faces, as required; ensuring sound bedding mortar remains undisturbed. Deep point as required where mortar has been completely washed out of joints ensuring no voids are left behind mortar.			
3.9	Pin and point the broken wall end. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large joints. Ensure no ponding can occur on completion.			

4.0	**South Wall**			
	NOTE: Particular care to be taken around the niche and piscina to ensure no loss of fabric occurs during conservation works.			
4.1	Vegetation to be carefully removed from the both faces of the remaining wall on the east side. Removal to be carried out incrementally to ensure the integrity of the stonework is maintained. Design team to inspect during ivy removal works to record stonework behind.			
4.2	A small amount of stone is to be reinstated to the south east corner to tie together the south and east walls. Stone to be built from the existing base stone and the facing stone is to be tied into the existing stone on each side. All detail in the wall including lift coursing and rows of larger stone are to be continued in the reinstated stone. All voids in the core stone behind to be filled with lime mortar before bedding stone to ensure there are no voids behind.			
4.3	All organic material and roots to be carefully removed from the wall top. Any loose or disturbed stonework along the wall top to be re-bedded with a lime mortar mix as specified. Stonework to be recorded prior to removal and re-bedded in original location.			
4.4	Pin and point the wall top to ensure water runoff in all areas. If the core stonework is lower than the facing stone this may need to be built up to allow a fall but this can only be done after agreement with conservation architect. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large joints.			
4.5	All remaining stone on the south wall is to be re-pointed in a lime mortar as specified on both faces, as required; ensuring sound bedding mortar remains undisturbed. Deep point as required where mortar has been completely washed out of joints ensuring no voids are left behind mortar.			
4.6	Pin and point the broken wall end. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large joints. Ensure no ponding can occur on completion.			
5.0	**East Wall**			
5.1	Vegetation to be carefully removed from the both faces of the very low level wall.			
5.2	All organic material and roots to be carefully removed from the wall top. Any loose or disturbed stonework along the wall top to be re-bedded with a lime mortar mix as specified. Stonework to be recorded prior to removal and re-bedded in original location.			
5.3	Pin and point the wall top to ensure water runoff in all areas. If the core stonework is lower than the facing stone this may need to be built up to allow a fall but this can only be done after agreement with conservation architect. Pinnings are essential on the wall top to reduce the size of mortar joints and are required in all large			

	joints.			
5.4	All remaining stone on the east gable is to be re-pointed in a lime mortar as specified on both faces, as required; ensuring sound bedding mortar remains undisturbed. Deep point as required where mortar has been completely washed out of joints ensuring no voids are left behind mortar.			
6.0	**Provisional Sums**			
6.1	Allow a provisional sum of €3,000 for unforeseen structural issues.			
	SUB-TOTAL			

	PRELIMINARIES			
	SUB-TOTAL			
	VAT			
	TOTAL INCL VAT			

Preliminaries

Conservation Experience

- The contractor must have extensive experience in working with medieval structures especially in working with lime mortars, and stabilisation of historic stonework.
- Only contractors with a proven track record in carrying out quality conservation works will be considered for this contract. Contractors will be required to provide examples and references for three previous jobs where conservation works to medieval masonry was carried out. CV's of all masons must be provided highlighting experience of working on medieval stonework.

Acceptance of Tender

- The Employer and Employer's representatives:
  - Offer no guarantee that any tender will be recommended for acceptance or be accepted.
  - Will not be responsible for any cost incurred in the preparation of any tender.
  - Are not obliged to accept the lowest, or any tender

Period of Validity

- Period: After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for not less than 6 Months.

Priced Documents

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

Dimensions

- All dimensions to be as per drawings and checked on site. DO NOT SCALE FROM DRAWINGS.

Documents Provided by Contractor / Sub-Contractor / Suppliers

- Information: Keep on site for reference by all supervisory personnel: Manufacturers' current literature relating to all products to be used in the Works.
- Relevant BS Codes of Practice.
- Maintenance Instructions and Guarantees
- Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before Practical Completion.
- Emergency call out services: Provide subcontractors telephone numbers for use after completion.

Insurance

Documentary evidence: Submit details before starting work on site and/ or policies and receipts for the insurance required by the Conditions of Contract.
Minimum Requirements:

Minimum Sum for Employer's Liability:	€13 m
Minimum sum for Public Liability Insurance:	€6.5 m

Insurance Claims

- 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, the person named in clause A10/140 and the Insurers.

Failure to notify: Indemnify the Employer against any loss, which may be caused by failure to give such notice.

Ownership

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

Site Meetings

- **Site meetings** will be held to review progress and other matters arising from administration of the Contract, every two weeks, on-site.
  Attendees: Attend meetings and inform subcontractors and suppliers when their presence is required.
  Chairperson (who will also take and distribute minutes): The Architect
- **Notice of Completion:** Give notice of the anticipated dates of completion of the whole or parts of the works. Period of notice (minimum): one month.

Proposed Instructions

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

Interim Valuations

- Application by Contractor: One interim payment only

Defects Liability Period

Defects Liability Period: 12 Months

Retention

Percentage of Certified Value Retained: 10%

Quality Standards / Control

Incomplete Documentation

- Where and to the extent that products or work are not fully documented, they are to be:
  - Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
  - Suitable for the purposes stated or reasonably to be inferred from the project documents.

Manufacturers' Recommendations & Instructions

- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
- Changes to recommendations or instructions: Submit details.
- Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
- Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

Protection against Danger and Nuisance

Provide Protection against the following:-

- Noise: Comply generally with the recommendations of BS 5228 – 1, clause 9.3 to minimize noise levels during the execution of the Works. Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- Do not use or permit employees to use radios or other audio equipment in ways or at times that may cause nuisance.
- Nuisance: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- Asbestos: Report immediately any suspected materials discovered during the works.
- Fire Prevention: Prevent personal injury, death, and damage to the Works or other property from fire. No burning or smoking permitted on site

Facilities, Temporary Works and Services

Power

- Supply: To be provided by contractor.

Water

- Supply: To be provided by contractor.

Specification

Generally

- Three mortar samples to be taken from the wall core and analysed prior to works commencing. Binder type and aggregate sizes to be determined.
- Unstable stonework to be dismantled carefully after being fully recorded by contractor to ensure reinstatement in original positions.
- Only stones that are loose or endangered are to be re-bedded at high level.
- A hot lime mortar mix to be used for all bedding mortar and for re-pointing the wall tops.

Mortar

Bedding Mortar

- Mix: Hot lime mortar mix to match mortar analysis results
- Building up: In layers where necessary, each layer not exceeding 12 mm.

Re-Pointing Mortar for Walltops

- Mix: Hot lime mortar mix to match mortar analysis results as closely as possible. Magnesium Stearate to be added to mix to decrease water penetration. Architect and stone mason to decide on size and colour of aggregate before work commences.

Re-Pointing Mortar for Wall Faces

- Mix: Hydraulic Lime mix to match mortar analysis results as closely as possible. Architect and stone mason to decide on size and colour of aggregate before work commences.

Storage

All mortars, lime and other materials shall be stored in a dry well ventilated shed, used exclusively for this purpose. The different types of mortars shall be separated by partitions and arranged so that they may be used in order of delivery. Stocks shall be completely turned over by use in periods under three months. All sands shall be stored separately according to type on clean, hard, dry standings and shall be protected from contamination.

Hydraulic Lime:

NHL 3.5 and NHL 5 in accordance with

- BS 890 : 1995 Specification for Building Limes
- ENV 459-1: 1995 Building lime - part 1: Definitions, specifications and conformity criteria.
- ENV 459-2 Building lime - part 2: Test methods

Manufacturer

- Otterbein Natural Hydraulic Lime.

Acceptable suppliers:

- Hugh Dorrian, Stoneware Studios Ltd., Pillmore, Youghal, Co. Cork, www.stonewarestudios.com, tel 024 90117
- Traditional Lime Company, Rath, Shillelagh Road, Tullow, Co. Carlow, tel:00353 599 151 750

Alternative suppliers may be used, provided architects are satisfied with quality and source.

Quicklime:

Crushed quicklime in accordance with

- BS 890 : 1995 Specification for Building Limes
- ENV 459-1: 1995 Building lime - part 1: Definitions, specifications and conformity criteria.
- ENV 459-2 Building lime - part 2: Test methods

Acceptable Supplier:

- Clogrennane Lime Ltd, Clogrennane, Co. Carlow, tel: +353 (0)59 913 1811

  Alternative suppliers may be used, provided architects are satisfied with quality and source.

Sand aggregate

- The colour of sand aggregate to be chosen to match the existing mortar as closely as possible. Sands shall consist of natural sand, crushed stone sand, crushed gravel sand, or a combination of any of these. They shall be hard, durable, clean and free from adherent coatings such as clay. They shall not contain harmful materials in such a form or in sufficient quantity as to affect adversely the hardening, strength, durability, or the appearance of the mortar.
- Clean well-washed aggregate is to be used which shows as small volume of voids as possible. It must be well graded. If it stains excessively or balls up in the fingers when rubbed it should be avoided. Test aggregate by adding a solution of one tablespoon of table salt to half a litre of cold water to a sample of aggregate in a clean jar. Shake up the contents and then leave to stand for a half an hour. The silt layer on top of the sand should not exceed on tenth of the depth of sand in the jar; if it does it must not be used.

  The main requirements for aggregates are:
  - Well graded sand ranging from fine to coarse.
  - Low percentages of clay and limestone.
  - Aggregate to be thoroughly washed and clean.
  - Avoid sea-dredged sand because of the salt content
  - Avoid sands with very large particles often-called "concreting sands" or sands containing very fine particles.

- To achieve well-graded sand it may be necessary to mix aggregates from different sources. Adding rounded grains to predominantly angular-grained sand improves workability.

- Limit on clay, silt or dust content: Silt particles size should be less than 60µm; 5% by mass (decantation test)

- Limit on crushed stone: 10% by mass (Sediment test)
  Grading limits for sands for different purposes to comply with
  - BS 1199: 1995 Sands for rendering and plastering
  - BS 1200: 1976 Sand for mortar
  - Sieve size and tests to comply with BS 410

Samples

- Before placing orders, submit for approval representative samples of sand and aggregate to be used in all mixes.

Water

- The proportion of water to binder shall be the least possible required giving mortar of adequate workability. Water shall be free from deleterious materials and should not contain any materials, either in solution or in suspension, in quantity sufficient to have harmful effect on mortar or materials used.
  Water shall be reasonably clean and conform to BS 3148: 1990.
  NB: Seawater is not to be used.

Admixtures

- Do not use without approval, except those specified.

Mortar Composition

- To be specified once mortar analysis has been carried out. A hot lime mix to closely match the original mortar to be used.

Mixing Mortars

Hot Lime Mortar Mixed by Hand

- Measure out required quantity of quick lime, water and aggregate using batching boxes or appropriately sized buckets, *Ensure that separate buckets are used for each material and that the quick lime bucket is kept dry, ensure that only small quantities of quick lime are taken from the store as required and that the lid is replaced on the container when not in use.*
- Place ply sheets on ground to provide clean level mixing area or use concrete base.
- Mix aggregate and hydraulic lime dry, ensuring it is thoroughly mixed.
- Place aggregate and hydraulic lime mix in a circular pile with a hole left in the centre to form a ring, place the quick lime into the centre of the ring leaving a gap between the outside of the quicklime pile and the inside of the aggregate ring
- Carefully pour a measured quantity of water into the gap between the quicklime and aggregate.
- Using a long handled hoe start to move the quick lime through the water, as the quicklime begins to slake draw the aggregate through the quicklime moving around the pile in a circular motion.
- As the slaking process continues more water may be needed to control the slake and provide the desired consistency.
- As the slaking quicklime and the aggregate start to bind together it may be necessary to use a long handled shovel to turn over and agitate the mix to allow a thorough bonding of lime to the aggregate.
- Following the completion of the mixing the mortar can be covered with some form of insulation to keep the heat in until used*. (inexpensive synthetic duvets are a useful means of holding in the heat of a mix)*

Hot Lime Mortar mixed Mechanically

- Measure out required quantity of quick lime, water and aggregate using batching boxes or appropriately sized buckets, *Ensure that separate buckets are used for each material and that the quick lime bucket is kept dry, ensure that only small quantities of quick lime are taken from the store as required and that the lid is replaced on the container when not in use.*
- Add half the hydraulic lime and half the sand to the running mixer and allow to mix thoroughly.
- Add half the water to this mix.
- Add half the quick lime to the mix and allow to run for about 5 mins. *Take care when adding the quick lime to ensure that the minimum amount of dust is created*, *please note that careful and efficient use of all tools will result in a safer process. Keep tool handles clean and do not allow materials to be thrown into the mixer or dropped into the buckets from a height*.
- During this time keep a careful watch on the slaking lime to ensure the mix is not too dry should the mix start to dry out add additional water to control the slaking process. *Only add small quantities at a time in order to avoid drowning the lime also note that a wet mix will splash*.
- Add the remaining aggregate, hydraulic lime and quicklime.
- Again control the slaking process by adding small quantities of water. *Depending on the type of quicklime the reaction can be very rapid with the mixture drying out and choking the mixer (particularly drum type mixers) should this happen the mixer should be stopped and the mixture loosened up with a long handled hoe.*
- Allow the mix to run until all traces of quicklime have broken down and the mix is of the desired consistency.
- Empty the mix out into a barrow or tub taking care to avoid splashes, Should smaller quantities be required at a time (pointing) the mix can be left in the mixer and the required quantity

trowelled out. This allows the mix to be knocked up by running the mixer should it start to stiffen up.

Hydraulic Lime Mortar

- Site Prepared Hydraulic Lime: Sand Mortar: Thoroughly mix hydraulic lime powder with sand, first in the dry state and then with water. Add only sufficient water to produce a workable mix. Do not re-temper or use mortar that has begun to stiffen.

Stonework

Dismantling Stonework for Reuse

- Stonework to be reused: Number, record and remove carefully and in one piece.
- Old mortar, dirt and organic growths: Clean off and leave stonework in a suitable condition for rebuilding.

Preparation for Replacement Stonework

- Carefully remove defective or loose fabric to the extent agreed. Do not disturb, damage or mark adjacent retained stonework.
- Remove redundant metal fixings completely.
- Thoroughly clean to remove loose material and leave joint surfaces in a suitable condition to receive replacement stonework. Protect from adverse weather.

Re-Laying Stonework

- Exposed faces of new material to be kept to existing face lines or agreed lines as shown on tender drawings.
- Accurately align faces, angles and features. Set out carefully to ensure satisfactory junctions with existing stonework and maintain existing joint widths. Dampen joint surfaces to control suction as necessary. Lay on a full bed of mortar, all joints filled. Keep exposed faces clear of mortar and grout.

Stone Pinnings for Rubble Stonework

- Use reclaimed sound pinnings. Place pinnings firmly into fresh mortar. Ensure mortar is thoroughly compacted into voids and that leveling and load distribution functions of pinnings are retained.

Pointing

Raking out of Joints

- Sample of raking out to be made and approved prior to proceeding to general works. Procedure: Starting from the top down, carefully rake out loose mortar to ensure good bond for new pointing.
- Minimise damage to stonework. If damage exceeds agreed acceptable level, consult with architect before proceeding.
- Rake out loose material from joints using hand tools. Joints should be raked out on average to a depth of twice the joint width, or a minimum of 15mm, but without removing bedding mortar or causing stones to become dislodged.

Preparation of Surfaces for Pointing

- Surfaces to receive pointing shall be free of any ferrous items and dry-brushed starting from the top to remove all loose particles, dust, laitance, efflorescence, etc. All traces of mould oil shall be removed from surfaces by scrubbing with water containing detergent and rinsed with fresh water.
- Surfaces should be free of organic growth before commencing.
- All surfaces must be well dampened as required to equalise suction before pointing. Particular attention must be paid to more absorbent areas. Surfaces must be wetted and re-wetted as work proceeds.

Pointing of Stonework

- Background: Clean thoroughly to remove all dust and debris and dampen to control suction.
- Apply firmly and ensure good adhesion with no voids.
- Prevent from drying out too rapidly by covering immediately with plastics sheeting and/ or dampening intermittently with clean water.
- Pointing: Form accurately to required planes/ profiles and flush with adjacent masonry.

Finishing of Pointing

- Only to be carried out when pointing is sufficiently hard.
- Surface of mortar to be beaten with a churn brush to close any shrinkage cracks and expose aggregate.

Note: It is essential that the pointing is beaten and not brushed as this will leave unsightly lines and only cover the surface of shrinkage cracks rather than closing them.

General Requirements for Workmanship

- Only experienced operatives should be employed to carry out this work.
- The mix should not be too wet. The proportion of water to binder to be the least possible required to give mortar adequate workability.
- The mortar is to be very well mixed, balling must be avoided. Mortar must be used within 2 hrs. Do not use if the temperature is below 5°C.
- Pointing mortar to be compressed into the pre-dampened joints, applied with a flat bar of suitable width and brought out flush to the face of the stone, or slightly recessed where arises are rounded. Very deep joints should be filled in stages.
- Building work should progress at a pace appropriate for mortar to set. When hard but still lightly plastic, joints to be carefully beaten with a stiff nylon brush to close shrinkage cracks and expose aggregate.

Protection

- Work should be carefully covered at the end of day's work with damp hessian and polythene to ensure that mortar does not dry out too quickly. Extra care must be taken with porous masonry.
- Work must be protected from heavy rain with polythene sheets to prevent the masonry getting saturated and washing out the pointing mortar or lime from the mortar mix. Protection only to be used for heavy rains and remove afterwards to ensure carbonation can continue.
- To ensure adequate setting, work must be protected at all times from frost, rain, sunlight and drying winds for 6 weeks minimum in summer and winter (use tarpaulin and straw).

Samples

- It will be necessary to provide samples of pointing for approval of the architect. Mixes may vary from those given. Colour, methodology and workmanship to be approved.