

Oakenshaw Cross

for

Kirklees Council

**Specification:
Structural Works**

Ref: Y19

November 2025

Blackett-Ord Conservation Engineering
33 Chapel Street
Appleby-in-Westmorland,
Cumbria, CA16 6QR
Tel: 017683 52572
Email: engineering@blackett-ordconservation.co.uk

Oakenshaw Cross

SPECIFICATION: Structural Works

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WORKS SPECIFICATION

To be read in conjunction with BOCE's drawings Y19/200 – Y19/203

1.00 EXCAVATING AND FILLING [NBS D20]

GENERALLY/ THE SITE

110 SITE INVESTIGATION

- Report: Individual trial pits have been undertaken to investigate the existing ground conditions. No soil testing, (geotechnical or environmental) has been undertaken and ground water was not encountered in the excavations. Remains of stone footings were found in 1no. trial pit.

150 EXISTING SERVICES, FEATURES AND STRUCTURES

- Services: Information as known on existing services can be found within the Pre-Tender Health and Safety Information pack.
- Site features to be retained: Boundary walls to the west of the site, highways pavements and roads, sub-station and 1no. tree to the south of the site.

CLEARANCE/ EXCAVATING

164 TREE ROOTS

- Protected area: Do not cut roots within precautionary protection area.
- Outside protected area: Give notice of roots exceeding 25 mm and do not cut without approval.
- Cutting:
 - Make clean smooth cuts with no ragged edges.
 - Pare cut surfaces smooth with a sharp knife.
- Backfill: As agreed with suitable excavated material.

242 EXCAVATIONS ADJACENT TO EXISTING BACKFILLED TRENCHES

- Proximity: When width of undisturbed ground between the two excavations will be less than 1000mm.
- Action: Assume that the ground between the trenches is unstable and provide side support accordingly.

250 PERMISSIBLE DEVIATIONS FROM FORMATION LEVELS

- Beneath ground bearing slabs and r.c. foundations: ± 15 mm.

260 INSPECTING FORMATIONS

- Give notice: Make advance arrangements for inspection of formations for exposed bearing strata and general formation level prior to pouring concrete or laying stone hardcore.
 - Notice (minimum): 7 working days.
- Preparation: Just before inspection remove the last 150 mm of excavation.
- Trim to required profiles and levels, and remove.
- Seal: Within 4 hours of inspection, seal formations with either a concrete blinding or a layer of stone.

270 FOUNDATIONS GENERALLY

- Give notice if:
 - A natural bearing formation of undisturbed subsoil is not obtained at the depth shown on the drawings.
 - The formation contains soft or hard spots or highly variable material.

EXCAVATING AND FILLING - Specification continued.

310 UNSTABLE GROUND

- Generally: Ensure that the excavation remains stable at all times.
- Give notice: Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
- Take action: If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

320 RECORDED FEATURES

- Recorded foundations, beds, drains, manholes, etc: including any artefacts encountered in the excavation.

330 UNRECORDED FEATURES

- Give notice: If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

337 OLD FOUNDATIONS OR WALLS BENEATH NEW GROUND SUPPORTED SLAB

- Break out: The old foundation/ wall to a depth below the slab formation level of at least 150mm.
 - Excavate: Soil that has softened on either side of the old wall/ foundation.
- Backfill: Obtain instructions if depth of fill will be greater than 600 mm, otherwise backfill with compacted hardcore.

DISPOSAL OF MATERIALS

441 SURPLUS SUBSOIL

- Excavated material: Stockpile in temporary storage heaps.
- Remaining material: Remove from site.

450 WATER

- Generally: Keep all excavations free from water until:
 - Formations are covered.
 - Below ground constructions are completed.
 - Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
- Drainage: Form surfaces of excavations and fill to provide adequate falls.
- Removal of water: Provide temporary drains, sumps and pumping as necessary. Do not pollute watercourses with silt laden water.

454 GROUND WATER LEVEL, SPRINGS OR RUNNING WATER

- Give notice: If it is considered that the excavations are below the water table.
- Springs/ Running water: Give notice immediately if encountered.

457 PUMPING

- General: Do not disturb excavated faces or stability of adjacent ground or structures.
- Pumped water: Discharge without flooding the site or adjoining property.

FILLING

500 PROPOSED FILL MATERIALS

- Details: Submit full details of proposed fill materials to demonstrate compliance with specification, including:
 - Type and source of imported fill.
 - Proposals for processing and reuse of material excavated on site.
 - Test reports as required elsewhere.

EXCAVATING AND FILLING - Specification continued.

510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

- General: Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
 - Frozen or containing ice.
 - Organic.
 - Contaminated or noxious.
 - Susceptible to spontaneous combustion.
 - Likely to erode or decay and cause voids.
 - With excessive moisture content, slurry, mud or from marshes or bogs.
 - Clay of liquid limit exceeding 80 and/ or plasticity index exceeding 55.
 - Unacceptable, class U2 as defined in the Highways Agency 'Specification for highway works', clause 601.

520 FROST SUSCEPTIBILITY

- General: Except as allowed below, fill must be non frost-susceptible as defined in Highways Agency 'Specification for highway works', clause 801.8.
- Test reports: If the following fill materials are proposed, submit a laboratory report confirming they are non frost-susceptible:
 - Fine grained soil with a plasticity index less than 20%.
 - Coarse grained soil or crushed granite with more than 10% retained on a 0.063 mm sieve.
 - Crushed chalk.
 - Crushed limestone fill with average saturation moisture content in excess of 3%.
 - Burnt colliery shale.
- Frost-susceptible fill: May only be used:
 - At depths below the finished ground surface greater than 450 mm.
 - Within the external walls of buildings below spaces that will be heated. Protect from frost during construction.
 - Where frost heave will not affect structural elements.

530 PLACING FILL

- Surfaces of excavations and areas to be filled: Free from loose soil, topsoil, organic material, rubbish and standing water.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
- Adjacent structures, membranes and buried services:
 - Do not overload, destabilise or damage.
 - Submit proposals for temporary support necessary to ensure stability during filling.
 - Allow 14 days (minimum) before backfilling against in situ concrete structures.
- Layers: Place so that only one type of material occurs in each layer.
- Earthmoving equipment: Vary route to avoid rutting.

617 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE

- Fill: To Highways Agency 'Specification for highway works', clauses 810 and 803:
 - Crushed rock (other than argillaceous rock).
 - Crushed concrete.
 - Recycled aggregates.
 - Crushed non-expansive slag to clause 801.2.
 - Well-burned non-plastic colliery shale.
- Filling: To Highways Agency 'Specification for highway works', clause 802.

EXCAVATING AND FILLING - Specification continued.

626 COMPACTED GENERAL FILL

- Excavated material: Select suitable material and keep separate.
- Filling: Spread and level material in layers. As soon as possible thoroughly compact each layer.
- Required compaction: Wacker-plate due to restrictions on access for rolling.
- Proposals: Well in advance of starting work submit details of proposed:
 - Materials to be used, including quantities of each type.
 - Type of plant.
 - Maximum depth of each compacted layer.
 - Minimum number of passes per layer.

700 BACKFILLING AROUND FOUNDATIONS

- Under oversite concrete and pavings: Hardcore.
- Under grassed or soil areas: Material excavated from the trench, laid and compacted in 300 mm maximum layers.

710 HARDCORE FILLING

- Fill: Granular material, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111, and in any one layer only one of the following:
 - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - Crushed non-expansive slag.
 - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - Well-burned non-plastic colliery shale.
 - Natural gravel.
 - Natural sand.
- Filling: Spread and level in 150 mm maximum layers. Thoroughly compact each layer.

730 BLINDING

- Surfaces to receive sheet overlays or concrete:
- Blind with:
 - Concrete where shown on drawings; or
 - Sand, fine gravel, or other approved fine material applied to fill interstices. Moisten as necessary before final rolling to provide a flat, closed, smooth surface.
- Sand for blinding: To BS EN 12620, grade 0/4 or 0/2 (MP).
- Permissible deviations on surface level: +0 -25 mm.

2.00 CONCRETE

GENERAL

2.01 Design of Structural Concrete

Structural Concrete Elements designed to BS EN 1992-1-1

Reinforcement Schedules to BS 8666.

Finished product should comply with the requirements of the design standard.

2.02 Concrete Specification

Concrete generally: To BS 8500-2.

Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

2.03 Tolerances

Level of structural concrete floors ± 10 mm tolerance.

MATERIALS

2.04 Designated Concrete for REINFORCED GROUND FLOOR SLABS

Designation: RC28/35

Reinforcement: A393 Mesh

Fibres: Not required.

Aggregates:

- Size (maximum): 20mm.
- Coarse recycled aggregates: Permitted

Special requirements for cement/ combinations: Not required.

Consistence class: S3.

Chloride class: Cl 0.40.

Admixtures: Contractors Choice

Additional mix requirements: None.

2.05 Designated Concrete for MASS CONCRETE INFILL

Designation: GEN3

Reinforcement: Not required.

Fibres: Not required.

Aggregates:

- Size (maximum): 20mm.
- Coarse recycled aggregates: Permitted

Special requirements for cement/ combinations: Not required.

Consistence class: S3.

Chloride class: Cl 0.40.

Admixtures: Contractors Choice

Additional mix requirements: None.

MATERIALS, BATCHING AND MIXING

2.06 Ready-Mixed Concrete

Production plant: Currently certified by a body accredited by UKAS to BS EN 45011 for product conformity certification of ready-mixed concrete.

Source of ready-mixed concrete: Obtain from one source if possible. Otherwise, submit proposals.

- Name and address of depot: Submit before any concrete is delivered.
- Delivery notes: Retain for inspection.

Declarations of nonconformity from concrete producer: Notify immediately.

CONCRETE - Specification continued.

2.07 Aggregates

Standard: To BS 8500-2, clause 4.3 and and BS EN 12620.

- Type: Submit proposals.
- Source: Submit Proposals.

Quality control: WRAP – ‘The quality control for the production of aggregates from inert waste’.

Limitations on use:

- Concrete strength class (maximum): Submit proposals.
- Permitted exposure classes: Submit Proposals.

Additional restrictions on content:

- Acid-soluble sulfate content (maximum): Submit proposals.
- Alkali-aggregate reactivity: Do not use aggregate containing reactive silica.

Test method:

- Determination of chloride content: To BS EN 1744-5.
- Determination of alkali content: Not applicable.
- Frequency of testing: Submit proposals.

2.08 Admixtures

Calcium chloride and admixtures containing calcium chloride: Do not use.

2.09 Reinforcement for In Situ Concrete

Reinforcement to be high yield 500MPa unless specified otherwise.

Reinforcement to the following standards:

- Generally BS 4449, BS 4482, BS 4483 or BS 6744
- Cutting and Bending BS 8666

During installation the contractor should protect the reinforcement, preventing any damage from dropping from height, mechanical damage and shock loading. The reinforcement bars should be free from corrosive pitting, loose millscale, loose rust and contaminants which may affect the reinforcement, concrete or bond between the two.

PROJECT TESTING / CERTIFICATION

2.10 Project Testing of Concrete

Tests:

- Compressive strength (regular integrity testing and integrity testing of suspect batches),
- Early age compressive strength testing to be proposed by and agreed with Contractor where necessary, at time to be agreed by Contractor.

Sampling:

- Point: At point of discharge from delivery truck.
- Rate:
 - o Reinforced concrete generally - one sample per 20 m3.

Other requirements: Cubes for early age strength testing to be stored under same, protected internal conditions. Sampling to be carried out and tests to be carried out at least once for every day that concrete is poured on site.

Recording: Maintain complete correlated records including:

- Concrete Designation
- Sampling, site tests, and identification numbers of specimens tested in the laboratory
- Locations of the parts of the structure represented by each sample

CONCRETE - Specification continued.

Project Testing of Concrete.... continued.

- Location in the structure of the batch from which each sample is taken.

Non conformity should be reported and instructions obtained immediately.

2.11 Testing Laboratory and Results

Testing laboratory to be accredited by UKAS or other national equivalent. The name and UKAS reference number of the chosen laboratory should be submitted for approval well in advance of making trial mixes or concrete for use in the works.

Reports should be submitted within one day of completion of each test. The number of copies to be provided should be three (as default unless requested otherwise).

A complete set of reports should be retained on site and made available for inspection.

PLACING / COMPACTING / CURING AND PROTECTION

2.12 Formwork

Formwork should be designed and constructed to withstand the total weight of the formwork, reinforcement and concrete; or the construction loads (including dynamic effects of placing, compacting and construction traffic), whichever is more critical.

The formwork should be constructed accurately and robustly to produce finished concrete in the required positions and to the required dimensions. The formed surfaces should be free from twist and bow (other than any required cambers) and any intersections, lines and angles should be square, plumb and true.

Striking formwork should be undertaken in a manner that prevents any disturbance, damage or overloading of the permanent structure.

2.13 Premature Water Loss

Water loss from concrete laid on absorbent substrates should be prevented.

Provide appropriate underlay (polyethylene sheet: 250micrometers thick ; or Building paper: to BS 1521, grade B1F). Edges to be lapped 150mm (minimum) during installation.

2.14 Surfaces to Receive Concrete

Prior to placing concrete, it should be ensured that surfaces are clean with no debris, tying wire clippings, fastenings or free water.

2.15 Placing

Concrete should be placed as soon as practicable after mixing and while sufficiently plastic for full compaction. The thickness of the layers should be chosen to suit the methods of compaction and to achieve efficient amalgamation during compaction. The concrete should be placed in final position in one continuous operation up to the specified construction joints. Avoid formation of cold joints. Uneven dispersal, segregation or loss of ingredients, or any adverse effect on the formwork or formed finishes should be prevented.

Poker vibrations should not be used to make concrete flow horizontally into position, except where necessary to achieve full compaction under void formers, and cast-in accessories, and vertical joints.

Temperature limitations: 30°C (maximum) and 5°C (minimum), unless otherwise specified. Do not place against frozen or frost covered surfaces.

CONCRETE - Specification continued.

Placing.... continued.

Records should be produced and maintained, documenting the time, date and location of all pours.

2.16 Compacting

Concrete should be fully compacted to full depth to remove entrapped air. Continue until air bubbles cease to appear on the top surface. Particular attention should be paid around reinforcement, under void formers, cast-in accessories, into corners of formwork, and at joints.

The method of compaction should be chosen to suit consistence class and use of concrete.

Compaction of concrete should be done in a way to prevent damage to any adjacent partly hardened concrete.

2.17 Curing

The surface layers of concrete should be kept moist throughout the curing period, including perimeters and abutments, by either restricting evaporation or continuously wetting surfaces of concrete. The surface temperature above 5°C should be maintained throughout the specified curing period or four days, whichever is longer.

The curing period should be in accordance with the minimum curing periods specified in BS 8110-1, Table 6.1

For surfaces covered by formwork, the formwork should be retained in position and, where necessary to satisfy curing period, cover surfaces immediately after striking. The top surfaces should be covered immediately after placing and compacting. If the covering is to be removed for finishing operations, it should be replaced immediately afterwards.

Sheet coverings for curing should be a suitable impervious material. Curing compounds should have a curing efficiency of not less than 75% (or for surfaces exposed to abrasion 90%). They should be readily removable without disfiguring the surface when applied to concrete exposed in the finished work, and should not impede subsequent bonding of specified bonded constructions/finishes.

Interim coverings to top surfaces of concrete should be provided until surfaces are in a suitable state to receive coverings in direct contact. The concrete should be covered with impervious sheeting held clear of the surface and sealed against draughts at the perimeter and junctions.

Records should be produced and maintained documenting details of location and timing of casting of individual batches, removal of formwork and removal of coverings. They should be kept on site and made readily available for inspection.

2.18 Protection

Prevent damage to concrete, including;

- Surfaces generally: From rain, indentation and other physical damage.
- Surfaces to exposed visual concrete: From dirt, staining, rust marks and other disfiguration.
- Immature concrete: From thermal shock, physical shock, overloading, movement and vibration.
- In cold weather: From entrapment and freezing expansion of water in pockets, etc.

3.00 MASONRY WORKS

MATERIALS

3.01 Original Stone

The original stone for the monument is stored at Headlands Road Depot, Headlands Road, Liversedge, West Yorkshire, WF15 6PR.

3.02 Stone Type - New

Where there are insufficient stone available for reuse at the storage unit or new stone is identified on the drawings, new stone can be obtained from an approved source.

New stone is to be Elland Flag (pale buff)

Rand & Asquith (Aceblade Ltd)
Tuck Royd Quarry,
Halifax Road, Brighouse,
West Yorkshire HD6 2PE
info@randandasquith.co.uk
Tel: 01484 719263

The stone is to be selected to achieve the best colour and texture match to the existing stones. A sample of new stone showing all natural variations of the material shall be agreed with the Contract Administrator in advance of ordering, and kept on site as a reference standard throughout the Contract.

3.03 Lime Mortar Generally

Pointing is to be carried out in the traditional manner, not using commonly used techniques for mortars gauged with cement.

The work programme should allow for acquiring or producing the appropriate materials and training in the required techniques and producing the required standards of workmanship.

No pointing is to be carried out in frosty weather and generally no work is permitted except from mid April to November. Work must be shielded from direct sun and rain. All materials are to be stored well protected from frost.

As the contract start date is February / March 2026 winter working will be permitted subject to approval of a method statement provided by the Contractor.

The most important factors are :

- mortar to be well knocked up before use;
- wall to be well dampened immediately before pointing;
- mortar never to exceed 10 mm or size of "little finger" in cross section;
- packing to be used extensively and covered with not more than 10 mm mortar cover;
- working over the mortar in the joint to make sure it is well compacted after initial set.
- covering up and protection on completion. Hessian sacking kept damp for minimum period of 21 days.

A sample area of pointing of minimum size 2 square metres is to be approved before work commences.

The work programme shall allow for the slow setting quality of the lime mortar. Under no circumstances should pointing take place when there is a risk of frost attacking lime mortar prior to curing.

MASONRY - Specification continued.

Lime Mortar Generally.... continued.

Pointing of newly built, indented or mortar repaired stonework to be carried out in a single operation together with re-pointing of existing work.

The specification clauses are the required standards for the materials and workmanship and are based on sound traditional practice. Compliance with these standards alone will not necessarily guarantee acceptable finished work.

3.04 Mortar Mix

For repointing masonry, bedding and general re-building, the mortar shall be 1 part NHL 2 to 2½ parts sand.

Lime shall be hydraulic lime, Otterbein NHL 2

Sand to be a well-graded, coarse washed concreting sand from Nosterfield, or an equivalent approved supplier.

A sample of the aggregate is to be approved by the Contract Administrator in its constituent parts and in its final mixed form. Pointing samples must also be approved before the aggregate sample can be fully appreciated and approved.

Aggregate is to be angular well graded sand ranging in size from 2.36 mm to 150microns to match the existing aggregate. This is to minimise slump and shrinkage crazing during the cure.

Aggregates are to be supplied from an approved source. It shall comply with gradings Type C or Type M of BS 882, 1983. and to be clean sharp sand, colour and maximum size to match existing sand in existing mortar agreed with the CA. *[Note:- Mixing from different sources may be required to achieve a match with the existing adjacent mortar.]*

Water used in the preparation of mortar, for dampening walls, or washing work is to be clean and fit for drinking.

3.05 Metal Fixings

Type 1 - Stainless steel dowels are to be inserted between stones units at the top of the cross and shaft, refer to drawings.

Fixings:

- Type: Solid Pin
- Material: Austentic stainless steel. Grade 316 (1.4401).
- Diameter: 12mm
- Length: Varies
- Spacing: Varies
- Resin: Fully grouted with lime mortar.
- Holes: Drill clearance hole carefully and accurately to required depth using diamond core drill bit. Remove drilling dust and debris, and keep dry.
- Filling holes:
 - o Check that dowel lengths are correct before filling with mortar.
 - o Use sufficient mortar so that the dowel is inserted the mortar is dispersed to achieve and effective repair.

MASONRY - Specification continued.

Metal Fixings.... continued.

Type 2 - Stainless steel pins are to be inserted between new and indented stones to the stone steps.

Fixings:

- Type: Solid Pin
- Material: Austenitic stainless steel. Grade 316
- Diameter: 8mm
- Length: 200mm
- Spacing: 2 no. per stone indent.
- Resin: Fully grouted with 2 part epoxy resin.
- Holes: Drill clearance hole carefully and accurately to required depth using diamond core drill bit. Remove drilling dust and debris, and keep dry.
- Filling holes:
 - o Check that dowel lengths are correct before filling with resin.
 - o Use sufficient resin so that the dowel is inserted the resin is dispersed to achieve and effective repair.

METHODOLOGY

3.06 Recording and Marking Stone Positions

The stone has been recorded and allocated a reference number, refer to WYAS Archaeological Report and BOCE Recording drawings.

3.07 Preparing Original Stones

Old mortar, lead and organic growth to be cleaned off and units left in a suitable condition for rebuilding.

Any iron cramps, or metalwork and their lead surround are to be carefully removed from each stone.

3.08 Transporting Stones

Stones to be transported from the storage unit to site. Method to be agreed with CA.

The stones are to be stored at ground level on pallets or similar to keep them off the ground, undercover in weather proof tents or enclosures in an orderly manner so that they can easily be sorted, identified and retrieved for rebuilding.

3.09 Setting Out – Trial

The Contractor should set out each stone ring that forms a step (Level D, C and B) in a suitable dry location to determine the position and fit of each ring. Location for this exercise to be agreed.

Contract Administrator to inspect the trials, confirm the method of rebuilding and any additional works, such as stone repairs or new stone.

3.10 Rebuilding

Mechanical lifting is to be by an approved method, which does not damage the stone in any way.

Stone coursing and mortar joints should replicate the existing, with strict referencing to the results of the trial, including photographic records and drawings. All chalk marks are to be removed from stones upon rebuilding.

Stonework should be rebuilt using an approved lime mortar mix.

MASONRY - Specification continued.

3.11 Leadwork

The shaft of the monument is let into a slot within the two upper stone steps, Levels A and B. The 5mm gap around the perimeter of the shaft base is to be filled with lead. Contractor to provide specification for approval by the CA.

Any leadwork will require a Hot Works Permit. Contractor to allow for all suitable permits within their risk assessments and method statements.

3.12 Individual Replacement Stones

New stones are to be fully bedded in lime mortar and to be adequately tied back to adjacent stones. The pattern of existing joint lines is to be maintained unless otherwise specified.

The new stones shall be profiled to suit the void identified. Stones are to be completely free of chips or cracks, vents, shakes, cleavage planes, softbeds, clay pockets, excessive iron or other defects, whether caused naturally or by rough handling, which may affect the performance or appearance of the stone adversely.

All new stones shall have their exposed plane faces hand-tooled by working over the sawn surface in a single pass. The tooling is to be closely spaced to break up the sawn finished of the stone. The precise pattern of the tooling is to match exactly the original and the required finish shall be submitted for approval. Saw and machine markings on finished faces will not be acceptable.

Stone with damaged faces or arrises will not be acceptable. The Contractor is to allow for protection of built-in stonework to prevent such damage occurring. All arrises and mouldings are to be sharp, true and square.

3.13 Mixing Mortar

Mortar can be mixed in a mechanical mixer. Ideally this should be a paddle mixer, although a bell mixer can be used successfully for small quantities if used with some care. The hydraulic lime powder and the aggregates should then be added, together with the correct amount of water. This will depend on the dryness of the sands and aggregates. The mortar should then be mixed for a minimum of 20 minutes. The mixer should be stopped two or three times during mixing to scrape off material, which has accumulated on the blades and the back of the mixer.

The mix should be kept as stiff as possible without becoming unworkable. If the mortar is ready and suitable for use it should be in a plastic state and of the consistency to form a ball in the hand and, when thrown up, should stick to the soffit of a scaffolding board.

Any mix that is too wet after thorough mixing shall be left overnight and then thoroughly knocked up prior to use. Mortar is not to be kept if the initial set has taken place.

3.14 Knocking up Lime Mortar

All mortar is to be knocked up just before use. This may be done in a mechanical mixer to make it more workable but no water should be added. Small quantities may be done in a bucket or on a board on the scaffold. The mix should be kept as stiff as possible without becoming unworkable. If the mortar is ready and suitable for use it should be in a plastic state and of the consistency to form a ball in the hand and, when thrown up, should stick to the soffit of a scaffolding board.

MASONRY - Specification continued.

3.15 Repointing Stone Masonry

The immediate area to be pointed is to be damped down and resprayed as necessary as the work progresses. Work from the top of the area of repointing towards the bottom. The mortar shall be brought out to the edge of the stone, taking care not to smear the face. All pointing is to be well tamped back and lightly sprayed with clean water to seal the joint between the mortar and the stone when it has been applied. Press back the joint the following day, and subsequent days until the mortar is firm but not hard (i.e. in a "green" or leathery state), to prevent cracking occurring and lightly spray with water.

When the surface of the mortar is firm but still green a surface finish will be applied to the mortar joint by stippling with a bristle brush as directed by the CA.

All pointing is to take place in a single operation after the monument has been rebuilt and all stonework repairs have been completed.

3.16 Cleaning and Protection

All stonework is to be left clean of mortar after pointing. The use of hydrochloric acid for cleaning off mortar stains will not be permitted without the express permission of the Architect.

Pointing is to be fully protected for a minimum of three weeks after the mortar work has been completed. This should be done by placing hessian drapes or boards against the surface of the freshly mortared work immediately after completion. These are to be kept damp, an additional layer of plastic sheeting may be necessary to prevent the wall from drying out. In addition sheets of debris netting should be fixed to the outside of the scaffold to protect the work from wind and sun and the top of the scaffold should be sheeted to prevent damage from rain. Protection shall be kept in place until the surface of the mortar has hardened.

On completion the wall and any adjacent areas are to be washed clean of mortar etc. to the satisfaction of the CA.

The work programme should allow for providing and arranging for the protection of the structure throughout the course of repairs.

No pointing or rendering work is to be carried out when the temperature falls below 3°C or during heavy rain unless suitable precautions are taken. No pointing is to be carried out in frosty weather and generally no work is permitted except from mid April to November, unless a methodology for winter working has been approved, as noted in clause 3.03. Work must be shielded from direct sun and direct rain.