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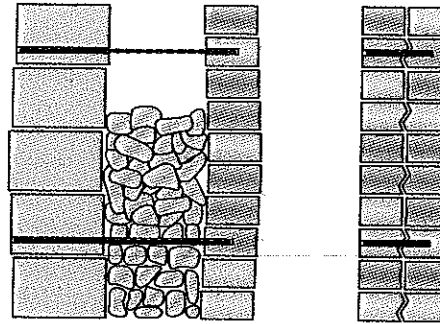
Install 8mm x 800mm CemTies at 450mm
Vertical c/s up full height of wall.

Project Name:	Park House Farm	Client:	Architectural Design Partnership	HELIFIX SUSTAINABLE STRUCTURAL SOLUTIONS
Drawing No:	001	Date:	11th March 2012	

Repair of Delaminated or Separating Masonry in a Rubble-Filled or Solid Wall using CemTies

Method Statement

1. Mark the positions for the holes on the outer face of the wall.
2. Drill a 14mm clearance hole (16mm if the CemTie is longer than 450mm) at the required location and to the specified depth.
3. Clean out ALL dust from the hole and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use Helifix WB Primer. Ensure the hole is damp or primed prior to commencing step 7.
4. Attach the required length of CemTie pinning nozzle to the gun.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun Kit HD.
6. Pump grout to fill the nozzle.
7. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
8. Insert the nozzle to the full depth of the drilled hole and pump the grout.
9. Make good all holes at the surface with matching mortar or leave ready for any decoration.



Recommended Tooling

For drilling: SDS rotary hammer drill 650/700w.

For mixing HeliBond: 3-jaw-chuck drill with mixing paddle.

For insertion of the CemTies: Helifix Pointing Gun Kit HD with pinning nozzle.

General Notes

If your application differs from this repair detail or you require specific advice on your particular project, call the Helifix Technical Sales Team on 020 8735 5222. Our Technical Department can provide you with a full support service including:

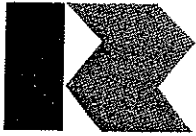
- Advice, assistance and recommendations on all structural repair matters
- Devising and preparing complete repair proposals for specific situations
- An insurance-backed warranty via our Approved Installers scheme

SPECIFICATION NOTES

The following criteria are to be used unless specified otherwise:

- A** CemTies are to be installed at a density of 2.5 ties/m² (i.e. 900mm horizontal and 450mm vertical spacing with alternate rows staggered).
- B** The density is increased around openings with ties placed at 300mm vertical spacing and 225mm back from the opening.
- C** Depth of hole to be CemTie length +25mm.
- D** In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally additional wetting of the hole should be carried out just prior to inserting the CemTie.
- E** Do not use HeliBond when the air temperature is +4°C and falling or apply over ice. In all instances the hole must be thoroughly damp or primed with Helifix WB primer prior to injection of the HeliBond grout.

The above specification notes are for general guidance only and Helifix reserves the right to amend details/notes as necessary.



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Robinsons Preservation Ltd.

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Our ref: JAC/TA/20054/13

7th February 2013

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Dear Sirs,

Re: Parkhouse Farm Gisburn Road Bolton-By-Bowland Clitheroe BB7 4LS

Following the recent communications the writer visited the above property on Tuesday 8th January 2013 for the purpose of inspecting the structural timbers and reporting on the areas of damp wallplaster at Ground Floor level.

We now have pleasure in submitting the following report and recommendations based on the visible evidence available at the time of the inspection.

Note: All directions taken looking towards the rear of the building from the front elevation.

Observations

A) Apex Roof Void

No inspection was made of this area owing to the restricted access.

B) First Floor

- 1) Front Right Hand Side**
- 2) Front Centre Room**
- 3) Front Left Hand Room**
- 4) Rear Left Hand Room**
- 5) Rear Centre Room**
- 6) Rear Right Hand Bathroom**

a) Floors

No inspection was possible owing to the items of furniture and fixed floor coverings.



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b) Roof Timbers

It was not possible to inspect or comment on the roof rafters and wallplates owing to the plaster under claddings.

c) Exposed Roof Trusses And Purlins

It would appear that some movement has taken place over the years, which has resulted in open joints on the trusses.

The lower section of an exposed roof which bears onto a timber lintel displays evidence of severe cracking, however we understand that the Structural Engineer will make recommendations regarding this problem.

There is evidence of old and apparently inactive Common Furniture Beetle (*Anobium punctatum*) emergence holes evident in the sapwood of several exposed timbers.

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d) Window Frames

It was not possible to inspect the window frames owing to the restrictions.

7) Staircase

It was not possible to inspect all the treads and resin board owing to the fixed carpet on the top surface and lack of access to the understairs area.

However we noted severe fungal decay evident in the string timbers, treads and riser boards at Ground Floor level.

C) Ground Floor

1) Front Left Hand Room

2) Rear Left Hand Room

3) Front Centre Room

4) Rear Link Passageway

5) Right Hand Room (Rear Annexe)

6) Left hand Staircase Area

7) Right Hand Entrance Hall

Rooms C1, 2, 3 & 4. These areas appear to be one large room which has been subdivided by timber partition walls.

a) Floors

A timber suspended floor was located within C1 and all other rooms have floors constructed from solid materials.

It was not possible to inspect or comment on the condition of the floor timbers within C1 owing to the items of furniture and fixed floorcoverings.

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Attempts should be made to lift many floorboards to report on the condition of the floorjoists however, from past experience in decayed timber, damp oversites and the lack of through sub floor ventilation it may be prudent to replace all the timber floor with solid materials.

b) Exposed Ceiling Beams

With the exception of one beam which appears to be softwood all the exposed beams are oak.

Several longitudinal splits and shakes were noted and evidence of old and apparently inactive woodworm beetle emergence holes are visible in sections of the sapwood.

We are concerned about the condition of the bearing ends of all the beam seatings which bear into the thick external stone walls.

c) Joinery/Timbers

Attacks by the Wet Rot fungi were noted in several skirting boards many window frames and the timbers of the window seat within C5.

d) Walls

It was not possible to test each and every wall for indications of damp owing to the restrictions caused by fixed units and stored items.

Visual inspection of the wallplaster would indicate that several areas have been damaged by rising or penetrating damp.

Tests made using a Protimeter electrical moisture meter confirmed high than normal damp readings.

Percussion tests on sections of the wallplaster revealed that some of the plaster is live (lost its key) and it is for this reason that if damp proofing treatments were to be considered it may be prudent to carry out treatments to the full height of all external walls, however internal walls only need treatment to 1000mm above floor level.

Remedy

Modern day techniques allow us to attach a vertical damp proofing membrane to the face of the wallplaster or stonework then overlay with new plasterwork leaving the existing to dry naturally without causing any damage to the new wall surfaces.

The system which will be described later in this report is a tried and tested solution which when completed by our technicians would be guaranteed for a period of 20 years.

In addition to the basin system we can design the wall lining to incorporate Kingspan or similar insulation which could be beneficial.

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Our initial recommendations will be for damp proofing the walls without the insulation, however should you wish us to quote for an insulated system please do not hesitate to contact us.

D) External Inspection

A general inspection of the external fabric revealed that the roof coverings, gutters and fallpipes are in need of attention . A large vertical fracture in the stonework on the Rear Right hand corner is being commented on by the Structural Engineer.

There are sections of the stonework where the mortar joints would benefit from raking out and re-pointing.

We have checked the window frames at Ground floor level, however we have NOT been able to gain access to check or report on the window frames at First Floor level.

Responsibility For Works

In an attempt to curtail the expenditure we would recommend that local contractors carry out the preparatory and reinstatement works and Robinsons Preservation Ltd concentrate on treatments of a specialist's nature.

Would you therefore please arrange for:

- The necessary repairs to stitch pin and make good the fractured stonework.
- Check, renew or repair as necessary the roof claddings, gutters and fallpipes and re-point any areas of external stonework.
- The removal of the items of furniture, floorcoverings, wall mounted shelves, cupboards, pictures and worktop units.
- Disconnect and remove the heating radiators and feed pipes.
- Remove and make safe the 13amp socket outlets and in the case of the timber dry lining system release the cable from the wall to enable the new socket to be fixed at the higher level.
- Remove the large stone slabs and brick piers from within the larder to facilitate our treatments then re-instate same if practical.
- Reinstall and make good all disturbed items on completion of our treatments.

The foregoing works have NOT been allowed for in our quotation.

Recommendations – Robinsons Preservation Ltd

Note: In an attempt to simplify the reading of the following method statement we have taken copies of the plan you kindly provided and with the aid of coloured inks we have highlighted specific areas and against each colour is a brief description of the proposed remedial works.

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Damp Proofing Treatments
Orange

- Remove the skirting boards, fixing plugs and wallplaster, cutting the wallplaster 1000mm up from the floor.
- Supply and fix a damp proofing membrane with mesh to the face of the exposed brickwork and masonry.
- Overlay the membrane with a backing coat of Carlite Bonding and leave to cure. Dub out with a further coat of bonding then apply a high impact skim coat finishing plaster.
- Provide fit and fix new pre-treated 175 x 25mm softwood skirting boards.

Red

- Carry out the identical treatment as previously described however in this area between the floor and the ceiling.

Brown

- These are timber partition walls lined both sides with plasterboard sheeting and as such do not require damp proofing treatments at this stage.

Green

- Lift the floorboards to determine the true condition of the floorjoists on completion of this work a decision will have to be made on the necessary solutions available.

Black Cross

- During the course of the damp proofing treatments (Red) our technician will hack off the wallplaster and break out the stonework as necessary to enable an inspection to be made of the carrier beam seatings.
- Probe and percussion tests will be made of the bearing ends and if sound apply liberally woodtreat fungicidal paste as a precautionary measure then re-instate the disturbed stonework.

Special Note: If during the course of these works we discover serious problems of decay you will be notified of the necessary remedial treatments and repairs together with the cost of the additional works.

Yellow

- Remove the chipboard window bottoms and dispose of same.
- Machine shape and fix new softwood window bottoms using pre-treated timber.

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Turquoise

- Remove all the existing timbers of the decayed window seat and dispose of same.
- Reconstruct a new window seat from pre-treated softwood.

Purple

- Remove the existing decayed window frames and dispose of same.
- Produce new pre-treated softwood window frames to match the existing incorporating new single glazing.

Note: If double glazed units are preferred then additional charges would be incurred.

Grey Hatching

- Cut and remove the lower 4 No treads and 4 No riser boards setting aside small sections as patterns for replacement.
- Cut and remove the right and left hand wall string timber between the No4 tread and No5 riser board.
- Transfer all sections to the joiners shop where an identical replacement section of staircase will be produced.
- Collect the new sections of staircase from the workshop, then fit and fix to the original.
- Provide additional support below the repaired staircase by installing a short dwarf wall in timber studding overlaying with plasterboard sheeting.

On completion of all the foregoing works remove all the off cuts and spoils and leave the area of operations clean and tidy.

Estimates

For the provision of all labour, materials and equipment required to implement the foregoing recommendations under the terms of a suitable guarantee.

Orange	£ [REDACTED]
Red	£ [REDACTED]
Green	£ [REDACTED]
Black Cross	£ [REDACTED]
Yellow	£ [REDACTED]
Turquoise	£ [REDACTED]
Purple	£ [REDACTED]
Grey Hatching	£ [REDACTED]

Any or all of these figures are open for acceptance and no allowance has been made for any principal contractor's discounts.

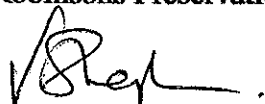
To this figure VAT must be added at the standard rate of 20%.

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Please find attached our invoice for site survey and detailed report as requested.

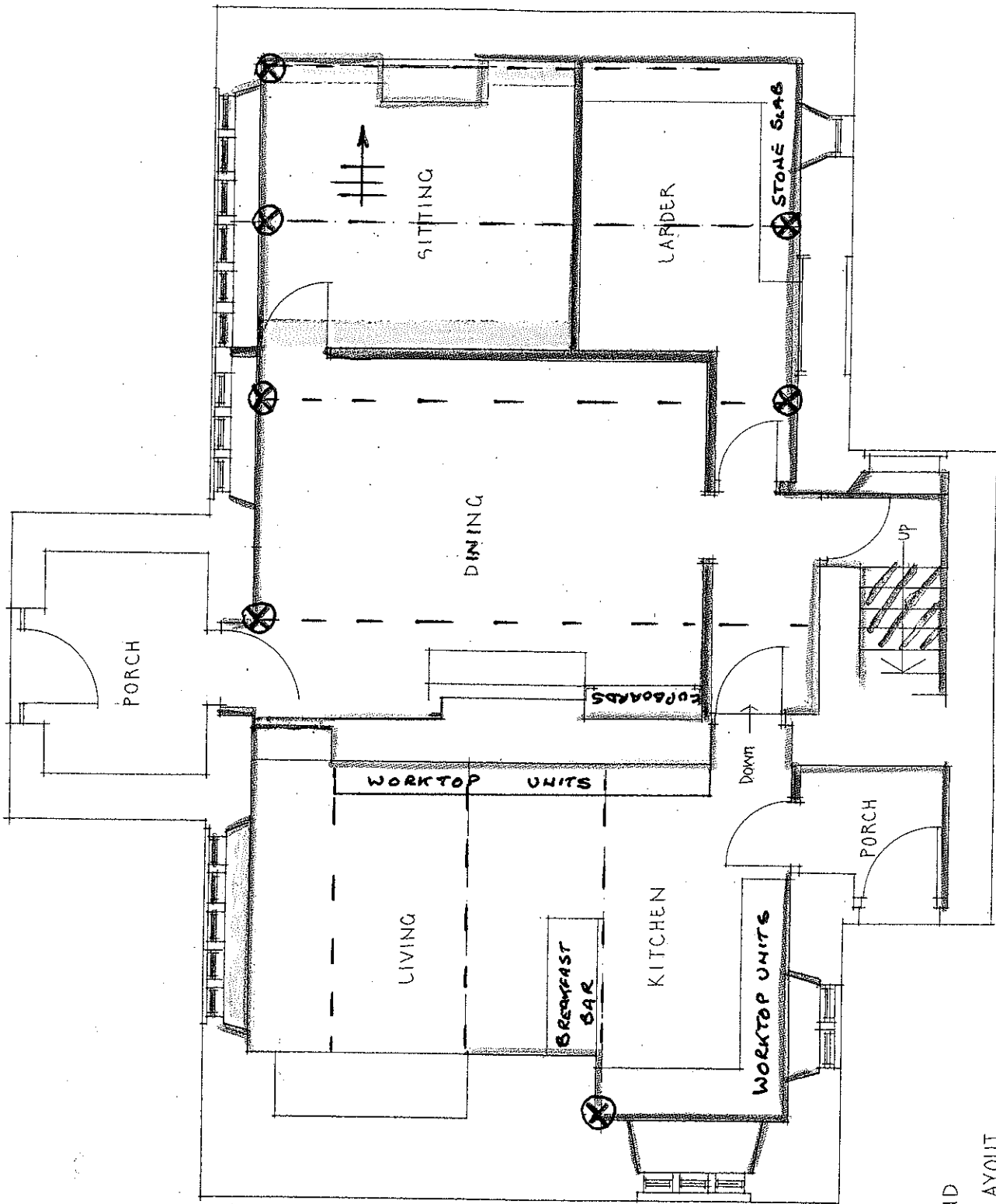
Assuring you of our best attention at all times and looking forward to being of further assistance in the very near future.

Yours faithfully
Robinsons Preservation Ltd



J A Cocker HA Inst RTS
Technical Consultant
JAC/VS
07/02/13

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PARKHOUSE FARM
BOLTON BY BOWLAND
GROUND FLOOR LAYOUT
SCALE 1:50 @ A3