

**BUILDING SPECIFICATION, DETAILED WORKS
AND PHOTOGRAPHIC RECORD**

**BARN CONVERSION AT LUTTON HOUSE
1 LOWGATE, LUTTON**

**Job Ref: 4081
February 2011**

CONTENTS

- A Specification of Building Works plus South Lines Consulting drawing 10-0231-01 dated October 2010 detailing repair and replacement works to individual floor and roof timbers.**
- B Photographs of current elevations and features, with detailed comments.**

**A. Specification of Building Works
plus repair and replacement of
individual floor and roof timbers.**

ENABLING WORKS

- Existing doors D1, D2, D9 and D12, plus all timber shutters to be carefully removed and stored for refurbishment and re-installation. Paint removed from existing key-stones and stone arch bases.
- Existing windows W1, W2, W3 and W9 to be removed as indicated on approved drawings. Paint removed from existing stone external cills, keystones and arch bases.
- Roofing slates to be carefully taken down and inspected for any damage or delamination. Slates to be stored and if necessary made available for inspection by South Holland District Council.
- Existing joists and rafters to be exposed by removal of all roof and first floor boarding. As detailed on South Lines Consulting approved survey drawing number 10-0231-01 dated October 2010, timbers where damaged due to "wet-rot" to be removed. Any further damaged timbers to be inspected by the Structural Engineer and reported to South Holland District Council.
- Existing concrete ground floor including garage slab to be broken-up. Block paviors within horse box area to be carefully taken up and stored for re-use.
- Existing internal brick wall between proposed ground floor office and staircase to be carefully taken down. Bricks to be cleaned and stored for rebuilding wall.
- Brick first floor external wall to northwest elevation to be propped and supported. Exposed timber beam and props to be removed to enable construction of new solid 330 mm thick brick ground floor wall and opening for window W5. Brick panel removed to form new window W4. All existing brick walls to be adequately supported. Bricks to be carefully cleaned and stored for re-use.
- Both internally and externally all redundant services, service cables etc to be removed.
- Existing damaged/holed plaster/lath ceiling to garage to be taken down to expose all floor timbers for inspection.
- Existing metal rainwater gutter, downpipes and brackets to be carefully removed and stored for possible cleaning and re-use.

2.00 EXCAVATIONS

Safety support/retain existing ground where removed for construction of new foundations to northwest elevation and internal wall between office and staircase. Establish routes for gas, water, electrical and drainage underground services. Protect where necessary throughout the contract period. Store topsoil for re-use.

3.00 NEW AND EXISTING FOUNDATIONS AND WALLS UP TO DPC

Existing foundations consist of spread brickwork to depth of approximately 1 metre below ground level as indicated on both Architects drawings and Structural Engineers investigations.

New walls to northwest elevation and internal between office and staircase to be 330mm thick solid, symmetrically constructed off 550mm wide concrete trench fill foundations at depths equal(1 metre) with existing spread brick foundations.

Note nearest Oak tree is a distance of 14m, and using NHBC Chapter 4.2 guides, depth is acceptable with high plasticity index soils. Depths however to be to the satisfaction of both Structural Engineer and Building Inspector.

Laid onto new walls and chased at 1 metre length intervals, full width across existing walls, install approved bituminous DPC to BS 6398, or polyethylene DPC to BS6515. Minimum 150mm above adjacent finished ground level or stepped one brick course down at door openings. DPC to have minimum 100mm overlaps.

4.00 GROUND FLOOR SLAB

In-situ concrete floor, consisting of 150mm thick well consolidated hardcore, checked for any timber, metal, glass or sharp edges. 50mm sand blinding, and 1200 gauge (300mu) Zedcor Visqueen polyethylene PIFA 300 sheet DPM laid with minimum 150mm overlaps, jointed using Visqueen double sided tape having sufficient to be turned up at perimeter and sealed/lapped with wall DPC. 150mm thick metal reinforced concrete slab to Structural Engineers specification. Finish surface of garage to be trowelled flush and smooth (no insulation).

Other than garage, new concrete floor to be overlaid with 75mm thick Celotex PIR GA4000 aluminium foil faced insulation board tightly butted together and covered with 250mu Zedcor Visqueen vapour barrier. Finished with 75mm thick fibrous or light mesh-reinforced, sand-cement screed with surface trowelled flush and smooth. Achieves 'U'-value of 0.2 W/msqK.

5.00 WALLS

Existing brick walls are approximately 330mm thick in Flemish bond, to be gently cleaned using a soft bristle brush and garden hose. Any unsound or missing lime mortar to be gently raked out by hand, and re-pointed using small quantities of high-lime mortar following the manufacturers recommendations. Compress new mortar using a striking tool to match the profile of the existing joint. Brush excess mortar off the brickwork as works proceed. New walls to northwest elevation and between office/staircase to be rebuilt using existing or exactly matching bricks, bond and lime mortar.

Existing timber lintels to be removed over window openings and be replaced with concrete lintels as Structural Engineers instructions.

Existing and new walls to be internally insulated using 70mm Celotex PIR GA4000 insulation board, held in position by 25 x 32mm treated sw timber battens or British Gypsum galvanised metal channels at 600mm centres. 12.5mm thick plasterboard with skim coat fixed to battens as manufacturers instructions. 20mm thick Celotex PIR GA4000 insulation board installed to window/door reveals and heads to prevent cold bridging. Achieves 'U'-value of 0.23 W/sqmK.

Internal non-loadbearing partition to consist of either 50x75mm sw treated studwork or British Gypsum 80mm wide galvanised metal channels, with 2 sheets of 12.5mm thick plasterboard with skim coat either side to give fire resistance of 60 minutes. Plasterboard minimum density of 10Kg/m cube. Sound deadening quilt installed between studs to have minimum thickness of 25mm and density of 10Kg/m cube.

New windows and doors to be painted timber, and be double glazed argon gas filled units with low-e glass to achieve weighted 'U'-value of 1.6W/sqmK. Concealed trickle ventilators to provide minimum 5000 sq mm background ventilation to habitable rooms and 2500 sq mm to kitchen and bathrooms.

Escape window W9 to bedroom to have unobstructed openable area of at least 0.33 sq m and at least 450mm wide and 450mm high. Existing cill height approximately 900mm above floor level. Window W8 to have restrictors preventing opening area no greater than 100mm deep.

Existing external garage door D1 and entrance door D2 to be refurbished, see drawing.

Entrance door D1 to have ramped approach and mobility threshold. This and all doors to have minimum 800mm clear opening width, allowing wheelchair access.

Doors indicated as FD30s to be half hour fire resisting with 3 number 75mm steel hinges and to the head and

6.00 ROOF

Existing roof slates to be re-used where possible, any new to be natural blue-grey (Capital Grade) 515 x 310mm by Alfred McAlpine source Ffestiniog with Hanson Red Bank Plain Angle Ridge tiles to BS.402.1990 colour slate bodymix. Slates to be fixed in accordance with British Standard Code of Practice for Slating and Tiling BS.5534:Part1:1990 and British Standard Code of Practice for Slating and Tiling of roofs and cladding "Workmanship of Building Sites" BS.8000:Part6:1990. Slates to be fully secured to battens using 2 number copper nails to BS.1202:Part 2 or aluminium alloy to BS.1202:Part 3. Nail holes to new slates should be pre-drilled and be at least 25mm from the head and 30mm from the edge. Slates should be laid with a broken bond and secured with nails to sw battens. Before fixing, perpendicular lines should be marked giving the correct bond and spacing. Approximately 4mm should be left between the vertical joints of each slate so that there is a free thoroughfare of water running down the roof. Slating should be started at the eaves and fixed diagonally across and up the roof slope. The ridge to be covered/finished with plain angle tiles bedded and pointed in a dark mortar 1.3pc/sand. Note mortar gaps for bat roost. The eaves course of slates to overhang the rafter ends by an amount sufficient to ensure that rain water discharges into the centre of the gutter.

Slates fixed to approved quality (BS.4471:1987) treated sw timber 50x 25mm battens, free of any sign of decay, insect attacks, splits, shakes, knots or knot holes greater in size than one third of the batten width, laid to suit slates and firmly secured down to rafters using galvanised wire nails. Battens to be at least 1200mm in length and be supported at each end and intermediately by at least 3 no. rafters. Butt joints over intermediate rafters should be staggered and ends of battens to be sawn square and fully supported.

Dupont Tyvek Supro vapour permeable underlay located under roof battens and draped over rafters as BBA Certificate No.04/4101 which meets the requirements of BS.5534:Part1:1990 and Code of Practice for the Control of Condensation BS.5250:1989. Fixed in accordance with manufacturers recommendations with corrosion resistant flat head/clout nails at a maximum of 300mm centres. At eaves Supro lapped over Tyvek Eaves Carrier by 150mm minimum. Carrier dressed into gutter. Where pipes and other components penetrate the underlay, cut neatly and accurately and turn flanges up to give a tight water-shedding fit. Take Tyvek Supro over full width over ridge.

Below Supro allow gap between rafters of 25mm for it to be draped. Existing rafters approximately 100 x 80mm at pitch of 25 degrees. Install first layer of 75mm thick Celotex PIR GA4000 insulation board cut tight between rafters. Spray seal insulation into any gaps between board and rafters. It is very important to seal any passages for cold/warm air. To underside of rafters install 50mm thick Celotex PIR GA4000 aluminium foil faced insulation board.

To underside of second layer of insulation fix 12.5mm thick aluminium foil backed plasterboard with skim coat, to British Gypsum recommendations. Roof achieves 'U'-value of 1.8 W/sqmK.

Trim roof structure for conservation roof lights by The Rooflight Company reference CR-7 (463mm wide by 622mm long). Frame finished in black (RAL 9005) with K glass 4mm toughened inner, 4mm toughened outer and 16mm argon filled gap, achieving an average installed 'U'-value of 1.35 W/sqmK. See drawing number 4081-104 for installation.

No eaves or ridge ventilation required as breathable felt specified.

Existing wallplates to be secured down to walls using 1000mm long by 30mm wide and 5mm thick galvanised metal straps screwed into the wall at 2000mm centres. 1000mm long by 30mm wide and 5mm thick galvanised lateral restraint ties screwed to wall and 3 number floor joists.

7.00 FIRST FLOOR

All floor joists to be checked by the Structural Engineer for damage, wet-rot, insect attack etc. Joists to be replaced as detailed on approved survey drawing number 10-0231-01 dated October 2010.

First floor to be 22mm moisture resistant, flooring grade chipboard to BS.5669 Type 2/3, min. mass 15Kg/sqm on existing/new rafters made level by hardwood packers.

50mm Roolwool sound deadening insulation quilt laid tight between rafters/beam. Two sheets of 12.5mm plasterboard with skim coat to underside installed to manufacturers recommendation s to achieve hour fire resistance.

Existing oak floor beams to be gently brushed clean, and treated with two coats of Thermoguard Fire Varnish and 1 coat Fire Varnish Overcoat. These to be clear matt, and provide a fire resistance to the beam of 30 minutes. (6mm surface loss).

8.00 STAIRCASE

Purpose made oak staircase. Total rise approximately 3000mm (to be checked on site before fabrication) of 15 number equal risers of 200mm, 230mm goings and 25mm thick nosings. Handrail to be fixed 900mm above pitch line of nosing and 900mm high on first floor. Square balusters and newel posts set out to ensure that no opening permit the passage of a 100mm dia. sphere and to be not readily climbable. 900mm wide stair.

Min 2000mm headroom over pitchline of nosing over full width of stair.

9.00 DRAINAGE

All plumbing to be in accordance with BS.5572. All wastes to have deep seal traps. 38mm dia wastes to sinks and shower, 32mm dia to basins.

100mm dia svp to be encased in two layers of 12.5mm thick plasterboard with skim coat, on 50x50mm sw timber frame. Rodding accesses where indicated. Wire terminals to svp minimum 900mm above window heads/rooflights.

New manhole constructed in pre-formed upvc, encased in 150mm thick concrete. Cast iron cover and frame. Connect to existing foul drainage system using 100mm internal dia upvc pipe, laid to minimum fall of 1:70.

Installed to Saint-Gobain PAM UK instructions, Classical cast iron rainwater gutters to be 100mm half round dia supported at every 900mm by GS872 spiked wall brackets. 75mm dia downpipes. Surface water taken by 100mm dia upvc underground pipe laid to fall 1:70 minimum, to soakaway 5 metres away from any building.

10.00 ELECTRICAL

All internal lighting to use energy efficient lamps, luminous efficiency more than 40 lumens per circuit-watt. External lighting to have automatic cut-offs in daylight and when not required at night, with maximum lamp capacity of 150W or should only take lamps with luminous efficiency of more than 40 lumens per circuit-watt.

All switches and socket outlets for lighting and power inhabitable rooms to be fixed at appropriate heights between 450mm and 1200mm above finished floor level.

All electrical work to meet the requirements of Part P (Electrical Safety) and be designed, installed, inspected and tested by a person competent to do so. Prior to completion the Building Inspector must be satisfied that Part P has been completed. This will require an appropriate BS.7671 electrical installation certificate to be issued for the works by a person competent to do so.

11.00 HEATING AND VENTILATION

All water and space heating is to be fed by a new wall-hung, gas fired condensing boiler with automatic ignition, Sedbuk rating of not less than 86%. Fully pumped or pressurised system located in the garage. Balanced flue terminal, guarded if less than 2m above ground level.

Boiler to be fitted with a control interlock to turn off boiler and pump when there is no demand. System designed to have three space heating zones, with independent temperature and timing controls, and a separate hot water service zone.

Hot water storage to be via a factory-insulated, vented, twin coil copper cylinder. Cylinder to be fully labelled as per Domestic Heating Compliance Guide.

All pipework and vessels to be installed to meet the standards set out in The Domestic Heating Compliance Guide.

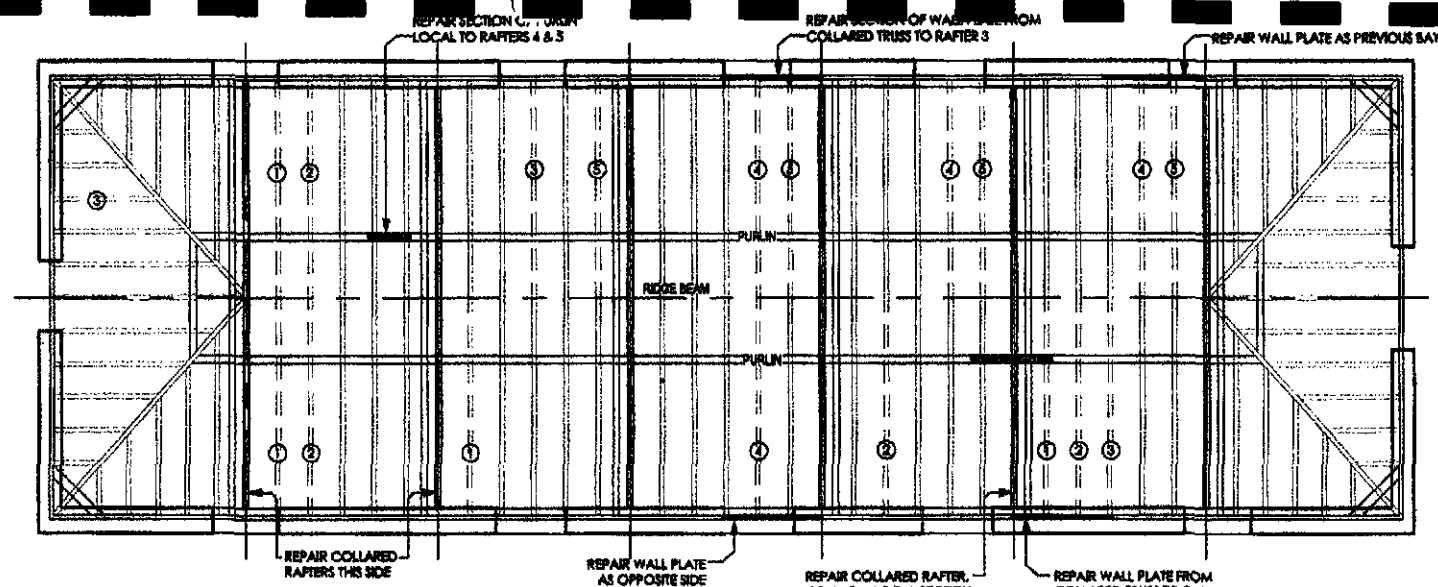
All heating and hot water systems need to be fully commissioned, to ensure they are operating at maximum efficiency and that all controls work as intended, by a "GasSafe" registered contractor.

En-suite, wc and tearoom to have Vent Axia through the wall heat recovery units reference HR25 Solo Plus.

These to provide 15 litres/sec to the en-suite and tearoom, 6 litres/sec to wc. Kitchen to have cooker hood to give 30 litres/sec ventilation.

12.00 FIRE PRECAUTIONS

Self-contained smoke alarms and heat detector mains powered with secondary supply and interlinked, to be installed on landing, entrance hall and maximum 3 metre from bedroom doors. Heat detector in kitchen area.



FIRST FLOOR PLAN (roof timbers considered)

NOTE: Numbered & noted timbers require repair

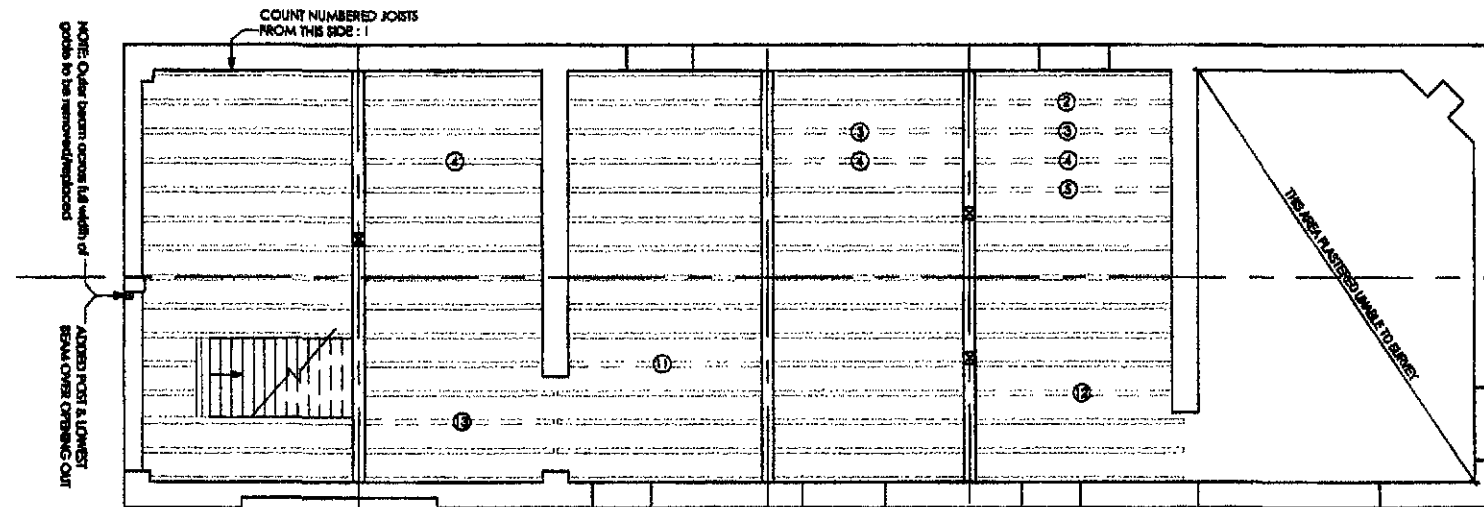
NOTE: See structural approval for section sizes

NOTES:-

1. All dimensions are in mm unless otherwise stated.
Do Not Scale.

2. For all set out dimensions refer to Architects Drawings.
This drawing should be read in conjunction with all relevant Architects drawings, Engineers Structural Approval and all other relevant contract specification. Any discrepancies should be reported back to South Linx Consulting.

REV	DATE	DESCRIPTION	BY
SOUTH LINX CONSULTING 10 Bear Lane Pinhook Spalding Linx PE11 3XA T: 01775 768 883 F: 01775 710 786 E: enquiries@southlinxconsulting.com W: www.southlinxconsulting.com			
CLIENT: J DODD			
PROJECT TITLE: Barn Adjacent to Lutton House 1 Lowgate, Lutton			
DRAWING TITLE: First Floor & Ground Floor Timber Repair Plan			
ISSUE: PRELIMINARY			
PROJECT REF:		DWG NO:	REVISION:
10-0231		01	
DRAWN:	DATE:	CHECKED:	DATE:
AK	OCT 10	SK	OCT 10
SCALE: 1:50			
© COPYRIGHT OF SOUTH LINX CONSULTING			



GROUND FLOOR PLAN (Ceiling timbers & opening at stair end considered)

NOTE: Numbered & noted timbers require repair

**B. Photographs of current elevations
and features with detailed comment.**

Photograph Ref.

Comment

A	Current Northeast elevation
B	Current Southwest elevation
C	Current Southeast elevation
D	Current Northwest elevation
E	Projecting keystone over arch to garage door D1 and W4. Paint to be removed. New stone replicated over proposed window W5 on Northwest elevation.
F	Current window W1 to garage. New timber window and cill proposed.
G	Window W2 and W3. Paint to be removed from keystone, stone arch base and cill. New window with glazed half-round top panel proposed. Extended from timber frame to be retained and window located behind. See drawing 4081-103.
H	Door D1. Paint to be removed from keystone and stone arch base. Plank door to be refurbished, new timber stop added to extended timber frame. Lipping to door edges added behind face and new vertical planks added to internal. See drawing 4081-108.
I	Existing door between garage and workshop corridor to be refurbished.
J	Existing external door D12. New window to be installed into existing opening. Door to be refurbished and reused as external shutter. See drawing 4081-104.
K	Internal view of windows W2 and W3. See item G.
L	Internal view of braced and ledged garage door D1. Door retained and refurbished.
M	Current Northwest elevation, indicating existing timber beam, props and "recent" ground floor brickwork which is to be demolished. Opening formed in ground floor for window W5. Window W14 installed to existing wall opening at first floor.
N	Timber ladder and first floor opening adjacent Northwest wall elevation. To be removed, walls and ceiling lined with insulation and plasterboard. Timber floor beam to be exposed.
O	First floor door D12 to Southeast elevation, with cantilevered timber landing structure. Window to be installed into existing opening and existing door refurbished and re-used as external shutter.

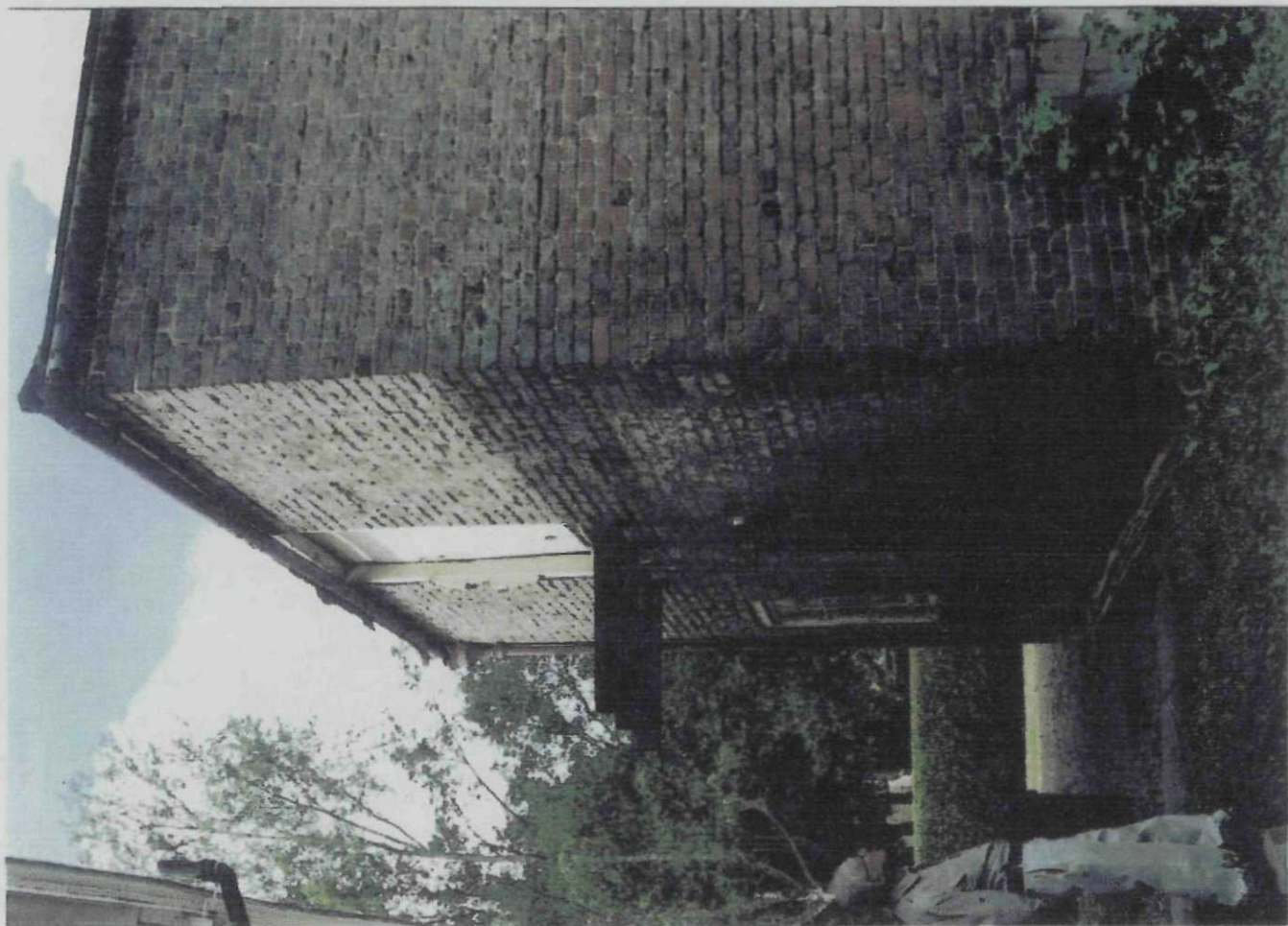
P	Shutter to opening W10 (typical of other first floor windows) with probably concrete cill. Window installed into existing opening and shutters refurbished.
Q	Stone base to arch over garage door D1. Paint to be cleaned off surface.
R	Window and either concrete or stone cill. New timber window and external shutter to exactly match adjacent.
S	Ground floor timber beam within proposed office supported on external brick wall and securing metal bracket. Beam to be cleaned, rust removed from bracket and be exposed to underside of ceiling. Walls and ceiling to be insulated and lined with plasterboard.
T	External wall opening W6 and W7. Plywood and frame to be removed and new timber window installed. Sloping cill retained as feature.
U	Internal view of first floor opening with shutter. New window installed and shutters refurbished.
V	First floor beam cut over timber wallplate. Redundant cables and roof boarding to be removed.
W and X	First floor beam, roof rafters and wallplate. Beam secured to wallplate with metal bracket.
Y	First floor opening and shutters. New window installed into existing opening and shutters refurbished.
Z	Brick opening on Northeast elevation. New windows W6 and W7 to be installed.
AA	First floor opening to Northwest elevation. New window W14 to be installed into existing opening.
BB	View of current Northeast elevation.
CC	Brick infill panel within arch to be removed and W4 with doors to be installed.
DD	Ground floor horse box with timber panelling at low level and metal railing above. All to be refurbished and retained within proposed workshop area.
EE	Internal view of first floor showing existing timber structure, wall and roof openings.
FF	Internal view of existing opening for window W12. Base rail to shutter to be reinstated.



A

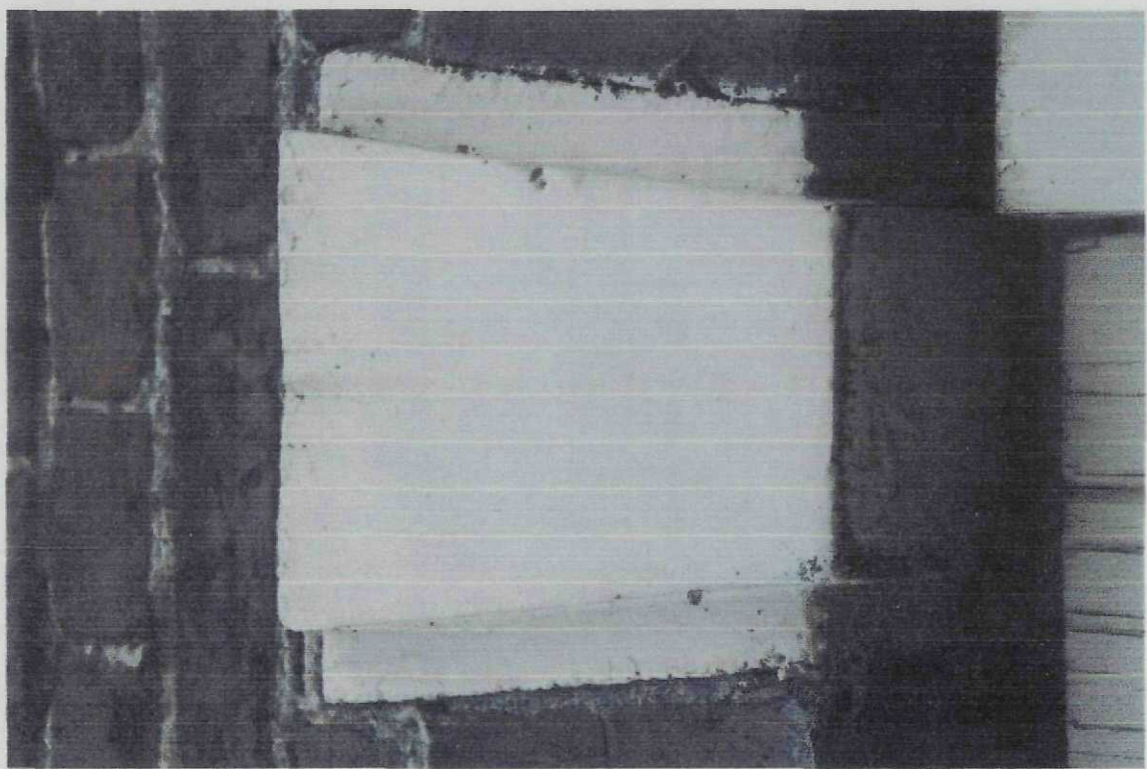


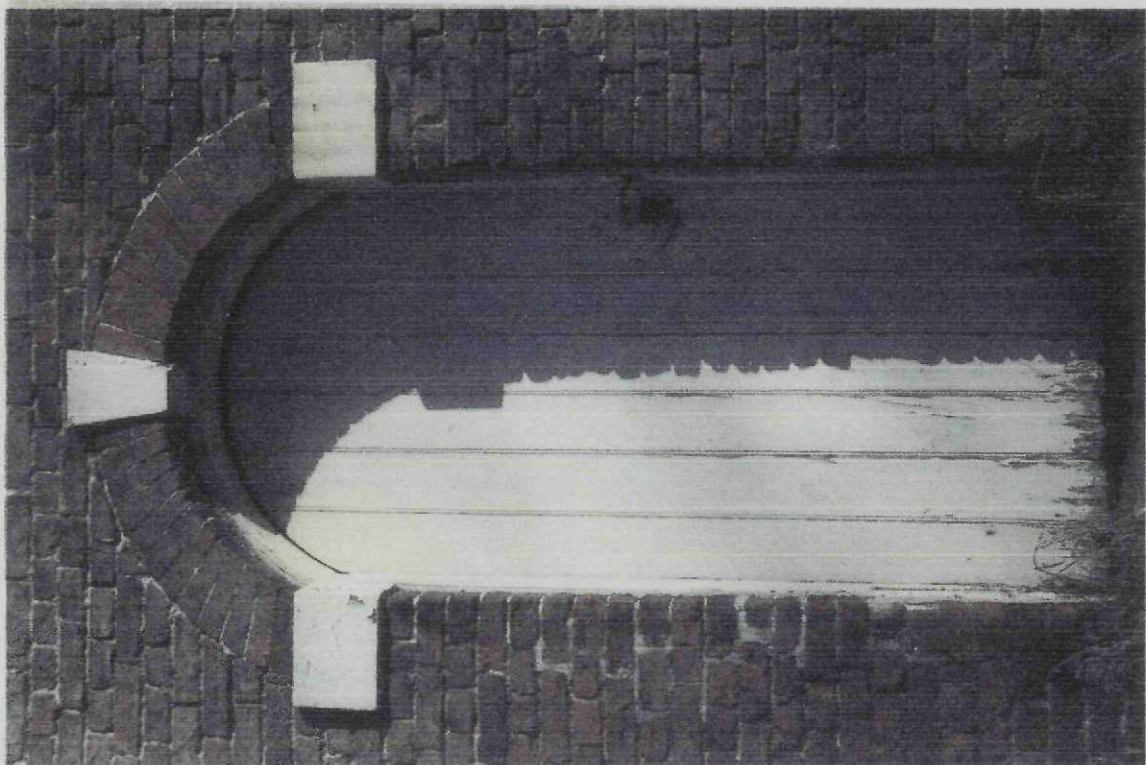
B



C





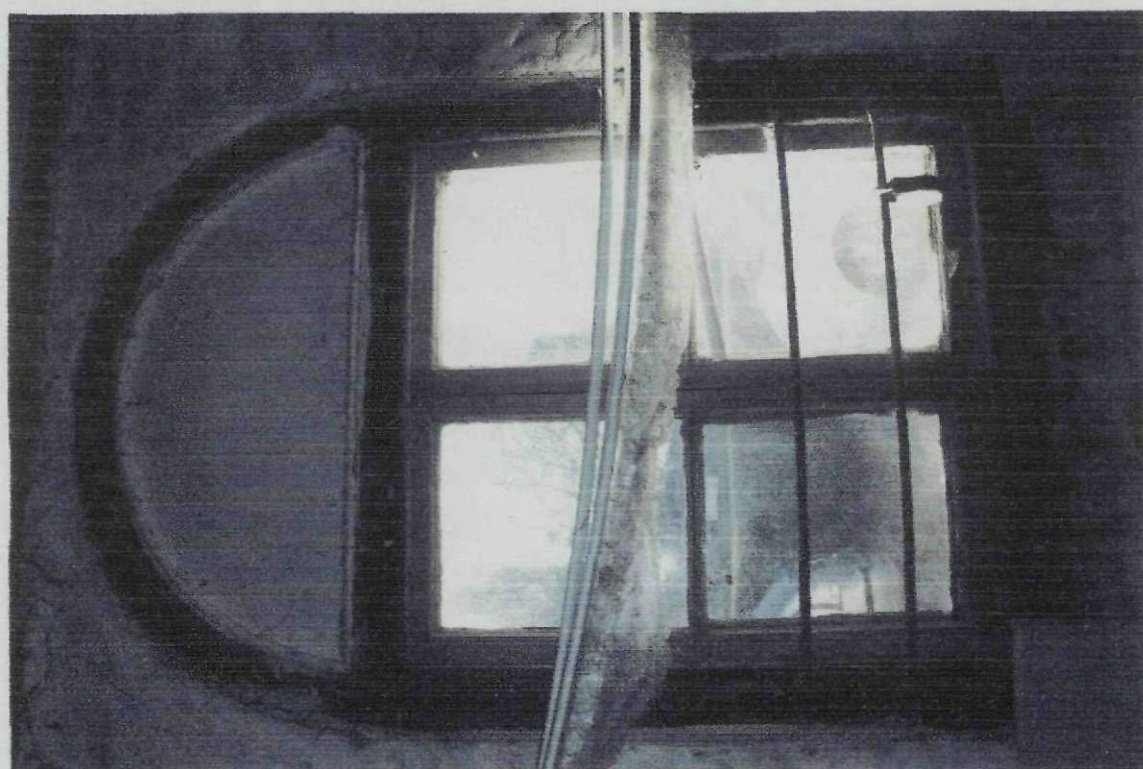


H



G









0





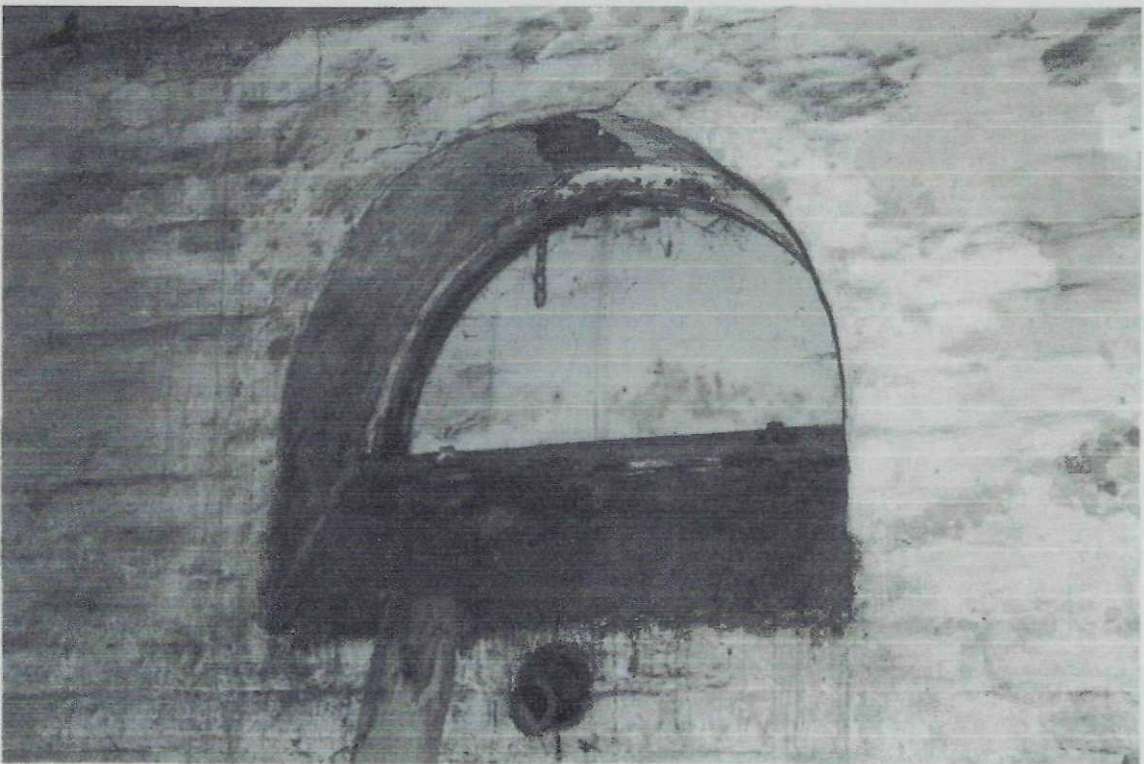
Q



R



S



T



U



V



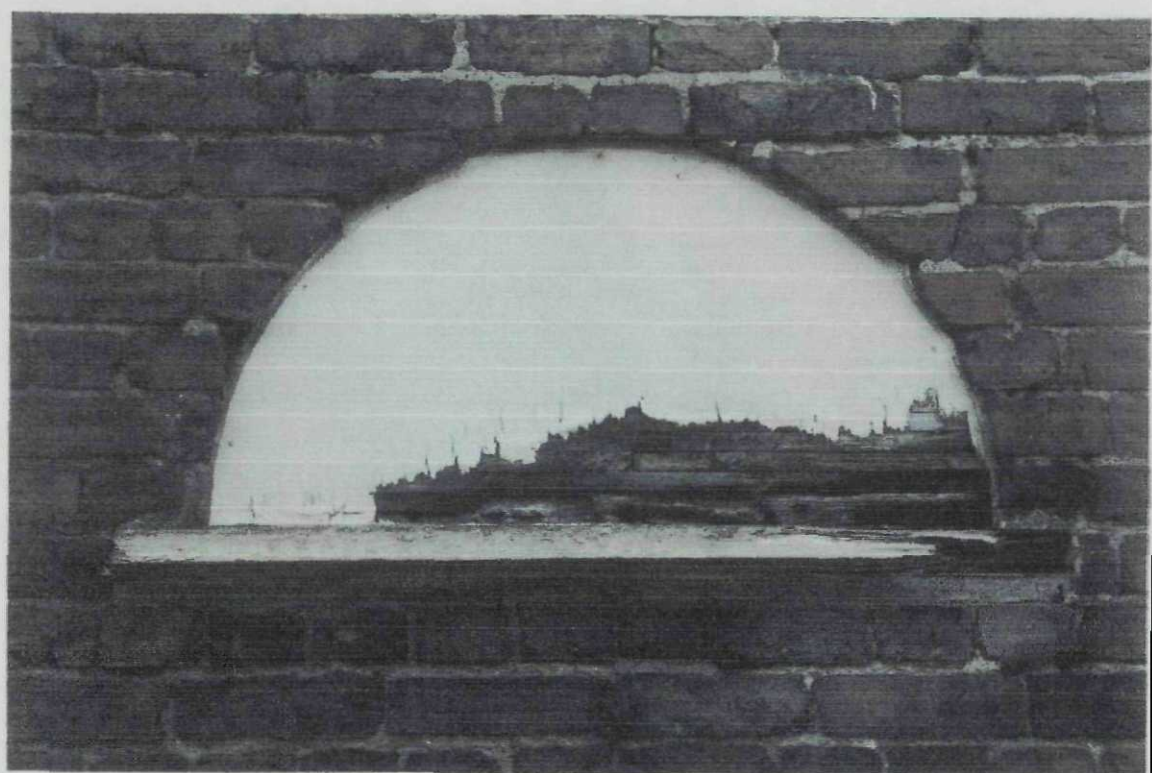
W



X



Y



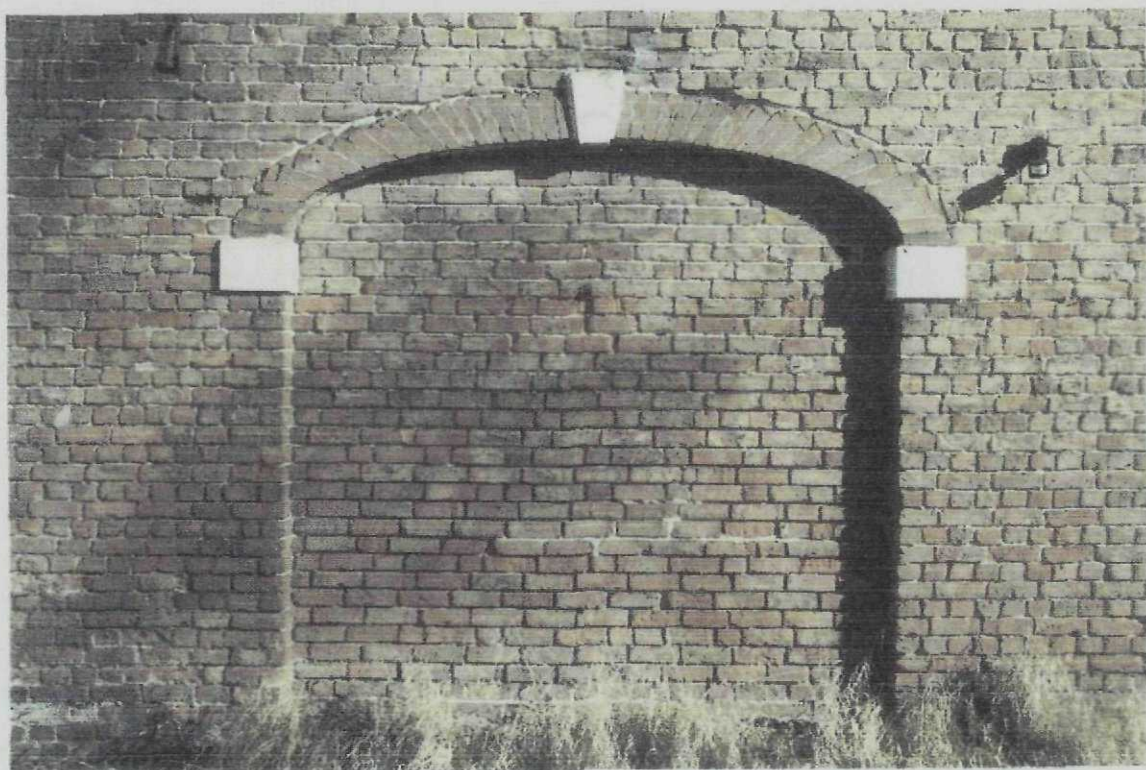
Z



AA



BB



CC



DD



EE



FF