

ENGINEERING REPORT 9179

**ROBINSONS EQUESTRIAN CENTRE
HARWOOD FIELD FARM
CASTLE HILL ROAD
BURY
BL9 6UL**

CLIENT: STEPHEN ROBINSON

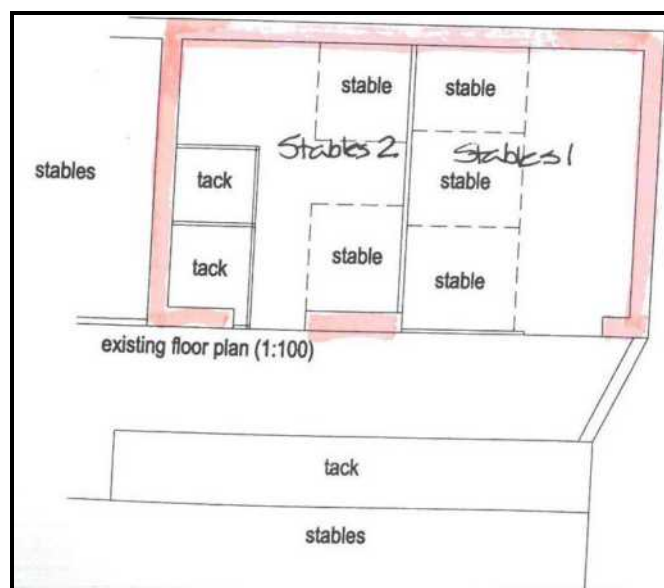
24.11.2023 MP/CH



1.0 INTRODUCTION

The purpose of this report is to comment on the existing structural condition of the existing Shippon unit with regard to restoring the height of the external walls to an original level to accommodate a change in use of the building from agriculture to domestic.

The report is based on a visual inspection only with no opening up of the fabric nor site investigations.



2.0 BACKGROUND

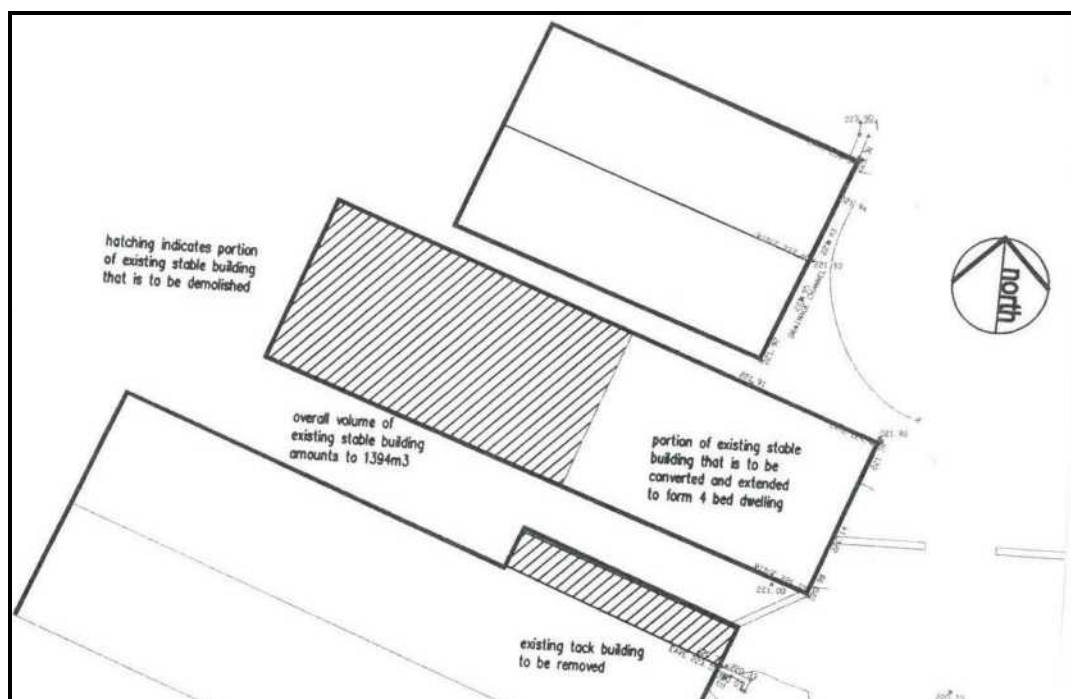
The property is a single storey stable block occupying a Southern facing slope within Harwood Field Farm. The stable block is aligned on an approximate East/West orientation access off Castle Hill Road, with the front elevation having a predominantly Southern aspect.

The property is constructed in 400mm – 450mm solid wall construction completed with a lean-to corrugated metal sheet roof, with vertical metal cladding to the front elevation with a sloping roof completed in profiled metal sheeting.

The unit is part of a larger stable complex (to be demolished in the overall scheme of the development). See plan.

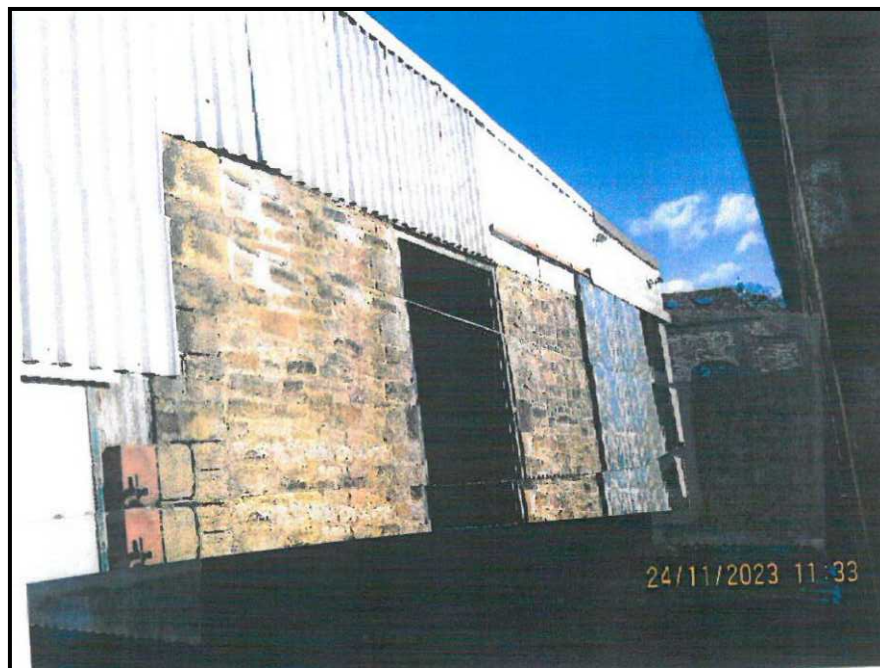
The original building was a two and a half storey barn in natural stonework completed with a pitched roof the structure estimated to be in the order of 150 years old.

The reduction in external stonework at first floor level is in the order of 3 metres on the front elevation and 4 metres on the rear elevation. The height reduction was carried out approximately 40 years ago to accommodate the existing stable block.



3.0 FRONT ELEVATION

- 3.1 The front elevation extends for a width in the order of 16 metres completed in coursed natural stonework of solid wall construction with a struck pointing, incorporating larger stone quoins on the original corners of the barn (chainage 0 – chainage 16 metres).
- 3.2 The stone facing extends for the full height of the front elevation overlain at eaves level with a variable 2 – 3 metre deep profiled metal cladding from roof level.
- 3.3 The front elevation incorporates a large timber sliding door located between chainage 1.5 – 4 metres with a further doorway to the East (left) at chainage 10 – 12 metres. (Photograph 024)



Photograph 024 Front elevation

- 3.4 On the front right hand corner of the doorway (0 – 1.5 metres) the stonework and pointing are in good order with good vertical alignment to the front face of the quoin detail with irregularities in the order of $\pm$ 5mm per metre. (Photograph 039).

- 3.5 The vertical alignment of the right hand door reveal (chainage 1.5 metres) is satisfactory. (Photograph 038).
- 3.6 The sliding door covers the main wall section between chainage 4 – 5 metres but overall vertical profile on either side of the doorway is satisfactory with good vertical alignment and satisfactory horizontal coursing. (Photographs 036, 037).
- 3.7 The adjoining stone panel (chainage 8 – 10 metres) is well pointing with satisfactory vertical alignment. (Photographs 032, 033, 034, 035).



Photograph 032 Plinth wall, chainage 10 – 7 metres

- 3.8 The vertical alignment to the right hand door reveal and the front elevation is good with irregularities less than 8mm per metre. (Photographs 029, 030).
- 3.9 The stonework and pointing on the end Western panel (10 – 15 metres) is good, isolated crazing is evident around the quoin details and some loss of pointing, but is not of any structural consequence with no evidence of any significant movement or rotation. (Photographs 023, 025, 026, 028).

4.0 EASTERN ELEVATION

- 4.1 The Eastern elevation is half gabled constructed in a randomly coursed stonework, with larger stone sections to the quoins on the front and rear corners, completed with a mono pitched roof.
- 4.2 The Eastern half gable elevation is completed in well maintained coursed stonework with quoin returns on the front and rear wall returns. The wall extends for a length in the order of 9 metres wide, sloping from 5 metres high on the front (South Eastern corner) to 2.5 metres high on the rear North Eastern corner.
- 4.3 The existing ground level rises approximately 1 metre from front to rear. (Photographs 001, 002, 004, 005).



Photograph 004 Chainage 0 – 5 metres

- 4.4 A 1.5 metre stone wall abuts the gable around chainage 5 metres with no evidence of any separation of movement between the two structures. (Photograph 006)
- 4.5 A former window opening has been infilled in matching stonework with the retention of the original stone lintel. The stonework and pointing are in very good condition.

- 4.6 The vertical alignment is good with irregularities in the order of $\pm$ 5mm per metre (4.3 metres to cross wall at chainage 5)
- 4.7 At chainage 6 – 7 metres there is a further infilled window with the retention of the original stone lintel and cill, the stonework and pointing in very good order.
- 4.8 The vertical alignment on the right hand Northern corner is good with irregularities less than 5mm per metre.

5.0 REAR ELEVATION (NORTH EAST)

- 5.1 The North Eastern elevation extends for a length in the order of 15 metres in regular stone course of solid wall construction, a height in the order of 3 – 3.2 metres. (Photographs 012, 013, 014, 020).



Photograph 020 Rear elevation looking South East

- 5.2 At chainage 0.5 metres the vertical alignment is in the order of 8mm per metre with a 7mm per metre at chainage 4 metres. (Photographs 010, 011).

- 5.3 The vertical alignment at chainage 7 metres is good with irregularities in the order of 7mm per metre.
- 5.4 The rear wall terminates with a vertical joint between the North Eastern section and the North Western section. (Photographs 019, 020).
- 5.5 Between chainage 8 – 12 metres the wall is completed with a 25mm rendered panel extending for a height between 1 – 1.2 metres and the rendering is generally in a satisfactory sound condition with good vertical alignment. (Photographs 015, 017, 018).



Photograph 015 Chainage 8 – 12 metres

6.0 NORTH WESTERN ELEVATION

- 6.1 The North Western half gabled wall currently acts as an internal party wall between stable units 1 and 2 to the East, and stable units 5 to 4 in the Western section (to be demolished).
- 6.2 The inspection of the Western outside face of the proposed gable elevation is limited with the existing usage (limited access).
- 6.3 The stone wall is completed with a flat cement render supporting the lateral purlin members, spanning from East to West towards the front elevation. (Photographs 093, 094 and photograph 090 towards the rear elevation).



Photograph 093 Outside of West wall

- 6.4 The seating of the existing purlins onto the cross wall show no evidence of any lateral movement. (Photograph 090).

7.0 INTERNAL INSPECTION

- 7.1 Internally the proposed unit incorporates stable units 1 (East) unit 2 (West) with an internal blockwork cross wall to the underside of the roof.

Stable Unit 1

- 7.2 Stable No. 1 is sub-divided into three stalls adjoining the internal cross wall and the inside face of the Western half gable wall is completed with a random render finish. The render finish follows a satisfactory vertical profile, the wall supporting 400mm x 150mm rafters at wall plate level spanning from the rear elevation to the front elevation. The Eastern gable wall supports the lateral purlins spanning from East to West. (Photographs 040, 041, 042).



Photograph 042 Rear wall rafter beam

- 7.3 There are no signs of any separation where the rear wall adjoins the return half gable Eastern elevation. (Photographs 043, 044).

- 7.4 On the inside face of the gable elevation the infilled window opening as identified externally can be traced in the wall finishes with no evidence of any recent movement. (Photographs 053, 054, 055).



Photograph 053 Former window, internal corner South/East



Photograph 054 Gable elevation looking to rear

- 7.5 There are no signs of any separation where the purlins seat into the gable wall. (Photographs 045, 047, 50, 051).



(Photograph 045 Purlin seating Eastern gable



Photograph 050 Eastern gable roof support

- 7.6 In the front stall the roof incorporates 300mm x 150mm joists spanning longitudinally onto a blockwork seating.
- 7.7 The vertical and horizontal alignment of the internal cross wall is good and the blockwork and pointing in very good condition.
- 7.8 Parallel to the front wall there are suspended beams supporting a timber platform between the gable and the internal cross wall. (Photographs 056, 057, 058).



Photograph 056 Front elevation supporting timber detail

- 7.9 The internal party wall between stables 1 and 2 is completed in well maintained blockwork following a satisfactory line and level, with no evidence of any lateral movement where the purlins and rafters seat on the internal walls. (Photographs 061, 062, 065, 066).

Stable Unit 2

- 7.10 Stable No. 2 incorporates two Tack Rooms with limited access to the rear walls. (Photographs 070, 071).
- 7.11 The rear wall of the original building is finished with a weathered and stained render finish, with a reasonable vertical alignment, with the internal party wall completed in satisfactory blockwork.
- 7.12 There are no signs of any separation where the blockwork cross wall adjoins the original rear and front elevations. (Photographs 072, 073, 074).



Photograph 072 Rear wall and party wall North East corner

- 7.13 In the North Western corner the rendering to the rear wall shows evidence of weathering and deterioration but there are no signs of any separation or rotation of the purlin seatings onto the internal cross wall (proposed external wall). (Photographs 075, 076).
- 7.14 The blockwork party wall is completed with well maintained blockwork and pointing with good horizontal and vertical alignment to the wall supports, the structural purlin seatings onto the main roof rafters. There are no signs of any separation where the party wall adjoins the front masonry. (Photographs 083, 084).

8.0 SUMMARY

- 8.1 The existing single storey lean-to stable block at Harwood Field Farm is a former two to two and a half storey construction with a reduction in height to a single storey height for the purposes of the earlier conversion carried approximately 40 years ago.
- 8.2 The original structure is predominantly constructed in natural stonework of solid wall construction, with a wall thickness in the order of 450mm – 500mm thick with good vertical and horizontal stonework and pointing in good order.
- 8.3 Internally, the vertical profile of the wall has been maintained with no signs of any separation or rotation to internal cross walls.
- 8.4 In structural terms the overall profile is entirely consistent with the age and nature of the original construction and modifications, and there are no structural reasons to preclude satisfactory refurbishment and reinstatement of the external walls to first floor level, consistent with loading on the original 150 year old structure.
- 8.5 The lower wall sections show no evidence of significant structural irregularities, and providing normal good practice of crack stitching, and wall restraints at chamber and first floor are carried out, there is no reason to preclude satisfactory upgrading.
- 8.6 Providing external influences remain unaltered and subject to the appropriate Deeds and requirements at detailed Building Regulation Submission, there are no structural reasons why satisfactory refurbishment should not be carried out with any significant repairs to the existing structure.
- 8.4 Should you have any queries in respect of this report do not hesitate to contact the writer.

Michael Pooler M. Sc. C. Eng. M.I.C.E. F. Cons. E.

November 2023

PHOTOGRAPH LIST

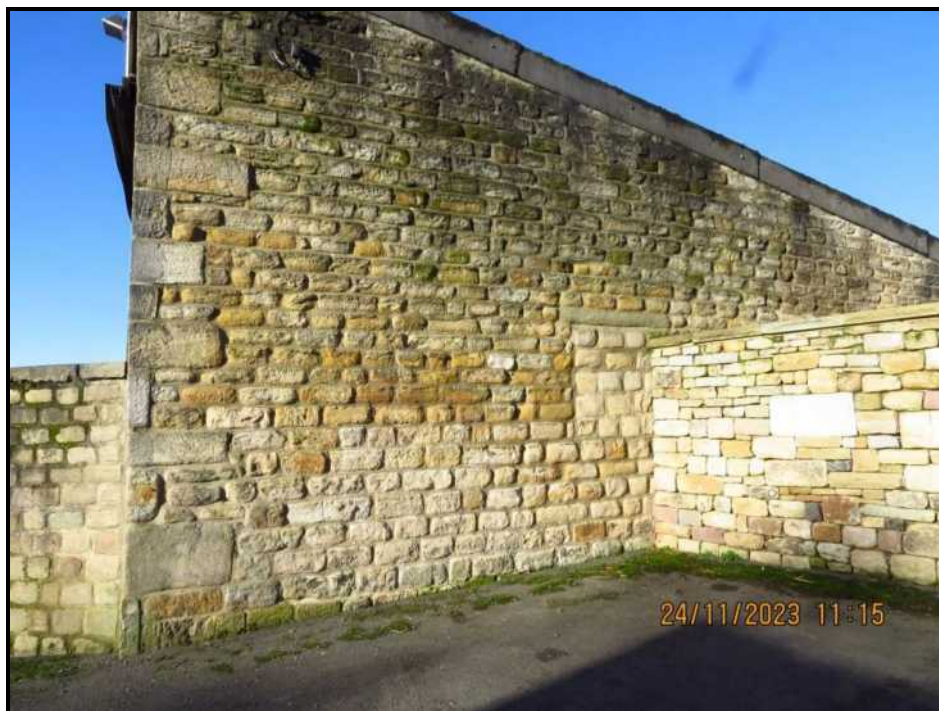
- 001 South East elevation
- 002 Chainage 0 – 8 metres
- 003 Satisfactory vertical alignment
- 004 Chainage 0 – 5 metres
- 005 Chainage 5 metres
- 006 No signs of separation between wall structures
- 007 Satisfactory vertical alignment 5mm per metre
- 008 Not used
- 009 Vertical alignment $\pm$ 6mm per metre
- 010 Good vertical alignment 8mm per metre
- 011 Chainage 4 metres, 7mm per metre
- 012 Rear wall, chainage 0 – 4 metres
- 013 Chainage 4 – 8 metres
- 014 Chainage 4 – 8 metres
- 015 Chainage 8 – 12 metres
- 016 Satisfactory vertical alignment, chainage 12 metres
- 017 Lower rendering, chainage 8 – 12 metres
- 018 Chainage 12 – 15 metres
- 019 Chainage 12 – 16 metres looking East
- 020 Rear elevation looking South East
- 021 Satisfactory vertical alignment, $\pm$ 5mm per metre
- 022 Front elevation
- 023 Front elevation
- 024 Front elevation
- 025 Chainage 15 – 10 metres
- 026 Chainage 10 – 0 metres
- 027 Ground floor, chainage 5 – 10 metres
- 028 Chainage 15 – 12 metres
- 029 Good vertical alignment, 2mm per metre
- 030 Good vertical alignment to right hand reveal
- 031 Good vertical alignment
- 032 Plinth wall, chainage 10 – 7 metres
- 033 Upper wall, chainage 10 – 7 metres
- 034 Upper wall, chainage 16 – 7 metres
- 035 Upper wall, chainage 8 metres
- 036 Not used
- 037 Front elevation
- 038 Eastern shippon
- 039 South Eastern corner, chainage 1.2 – 0 metres
- 040 Northern inner gable
- 041 Gable wall
- 042 Rear wall rafter beam

043	Roof, Northern corner
044	Lower wall, Northern corner
045	Purlin seating, Eastern gable
047	Not used
049	Eastern gable, roof support
050	Eastern gable, roof support
051	Eastern gable, front corner
052	Upper gable, East
053	Internal corner South/East (former window)
054	Gable elevation looking to rear
055	Gable elevation looking to rear
056	Front elevation supporting timber detail
057	Internal cross wall to Stable No. 2
058	Front elevation and internal cross wall
059	Front elevation, upper roof and cross wall
060	Front elevation, upper roof and cross wall
061	Internal party wall with Stable No. 2
062	Internal party wall with Stable No. 2
063	Party wall
064	Party wall
065	Party wall
066	Rear wall
067	Entrance – Stable No. 2
068	Not used
069	Roof detail
070	Tack Rooms
071	Stable No. 2 rear wall
072	Rear wall and party wall, North East corner
073	Rear wall and party wall, North East corner
074	Party wall with Unit No. 1
075	Rear wall Unit No. 2
076	Western cross wall/rear wall
077	Party wall Unit 2/1
078	No used
079	Party wall front corner
080	Party wall front
081	Not used
082	Front stall, party wall No. 1
083	Party wall front
084	Party wall/front wall
085	Front wall
087	Not used
088	Roof, front elevation
090	Outside of Western wall
091	Not used

- 092 Outside of Western wall
- 093 Outside of Western wall
- 094 Rear elevation



001 South East elevation



002 Chainage 0 – 8 metres



003 Satisfactory vertical alignment



004 Chainage 0 – 5 metres



005 Chainage 5 metres



006 No signs of separation between wall structures



007 Satisfactory vertical alignment 5mm per metre



009 Vertical alignment $\pm$ 6mm per metre



010 Good vertical alignment 8mm per metre



011 Chainage 4 metres, 7mm per metre



012 Rear wall, chainage 0 – 4 metres



013 Chainage 4 – 8 metres



014 Chainage 4 – 8 metres



015 Chainage 8 – 12 metres



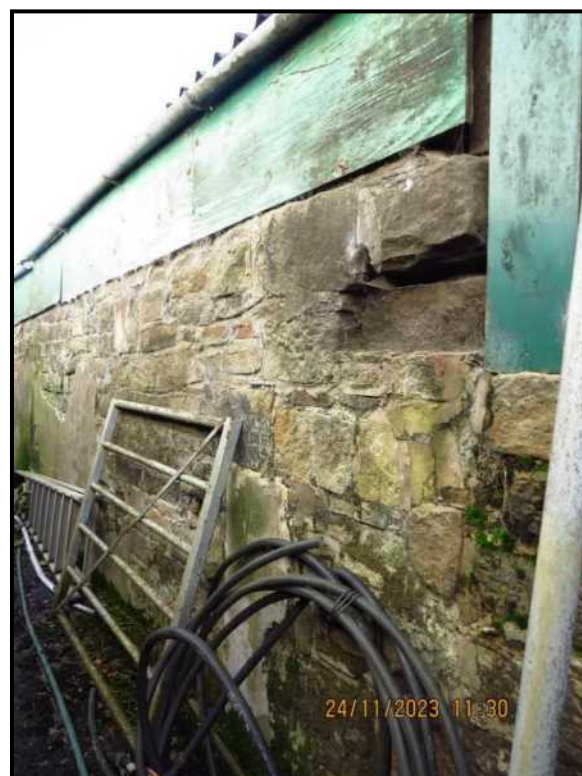
016 Satisfactory vertical alignment, chainage 12 metres



017 Lower rendering, chainage 8 – 12 metres



018 Chainage 12 – 15 metres



019 Chainage 12 – 16 metres looking East



020 Rear elevation looking South East



021 Satisfactory vertical alignment, $\pm 5\text{mm}$ per metre



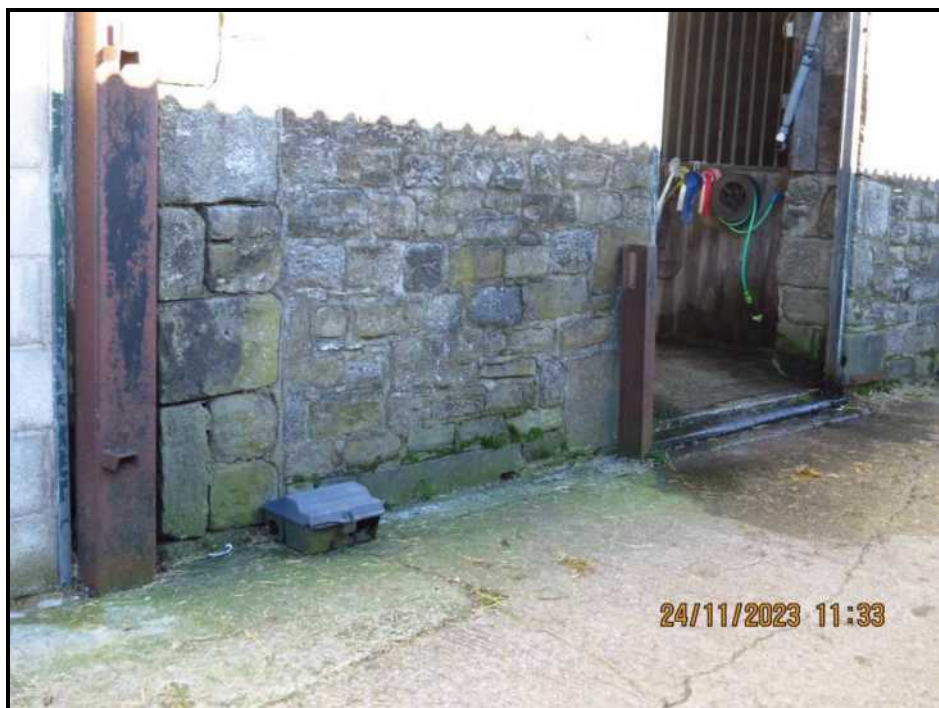
022 Front elevation



023 Front elevation



024 Front elevation



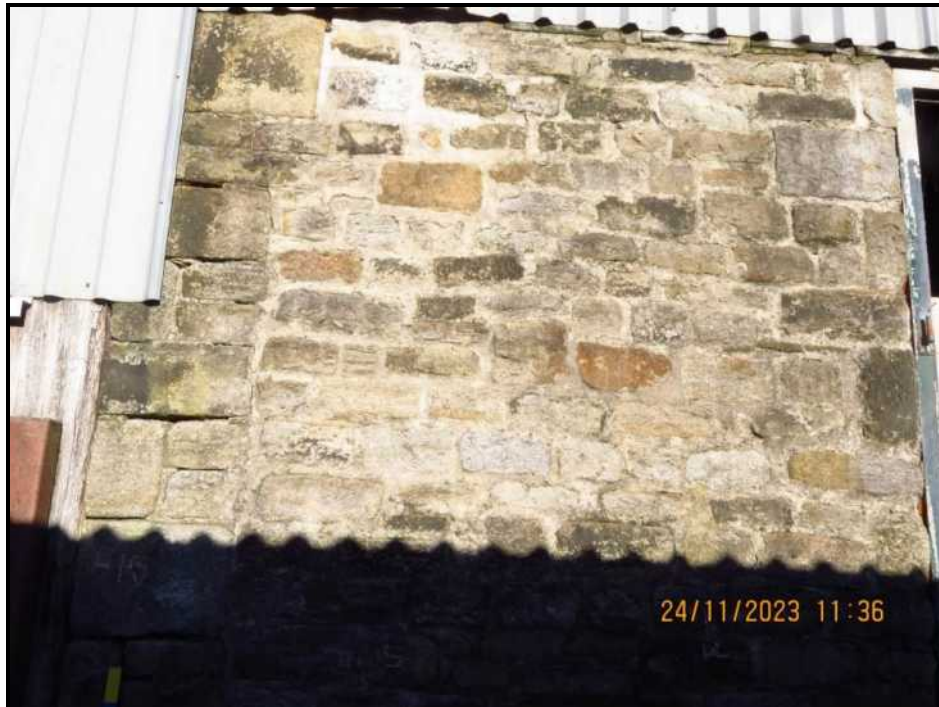
025 Chainage 15 – 10 metres



026 Chainage 10 – 0 metres



027 Ground floor, chainage 5 – 10 metres



028 Chainage 15 – 12 metres



029 Good vertical alignment, 2mm per metre



030 Good vertical alignment to right hand reveal



031 Good vertical alignment



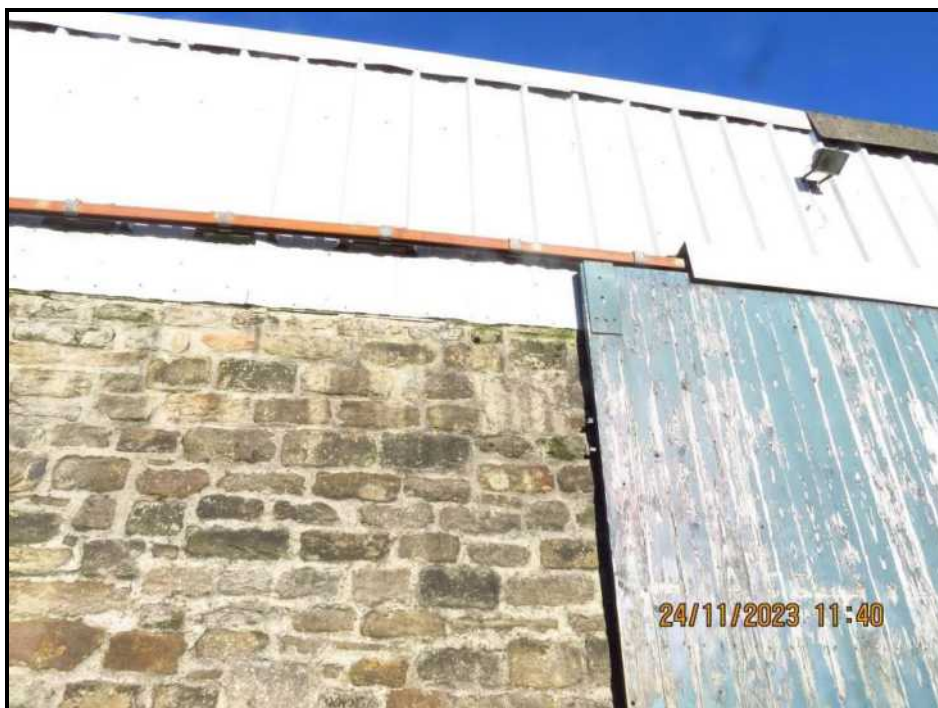
032 Plinth wall, chainage 10 – 7 metres



033 Upper wall, chainage 10 – 7 metres



034 Upper wall, chainage 16 – 7 metres



035 Upper wall, chainage 8 metres



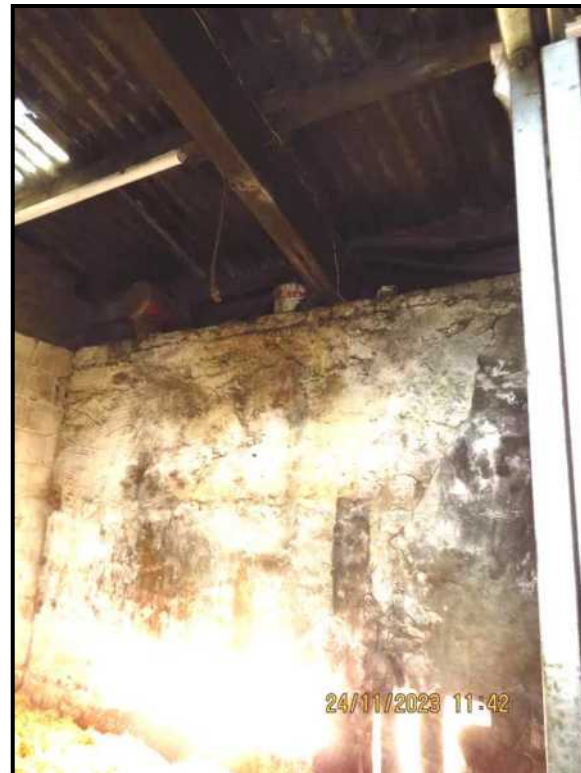
037 Front elevation



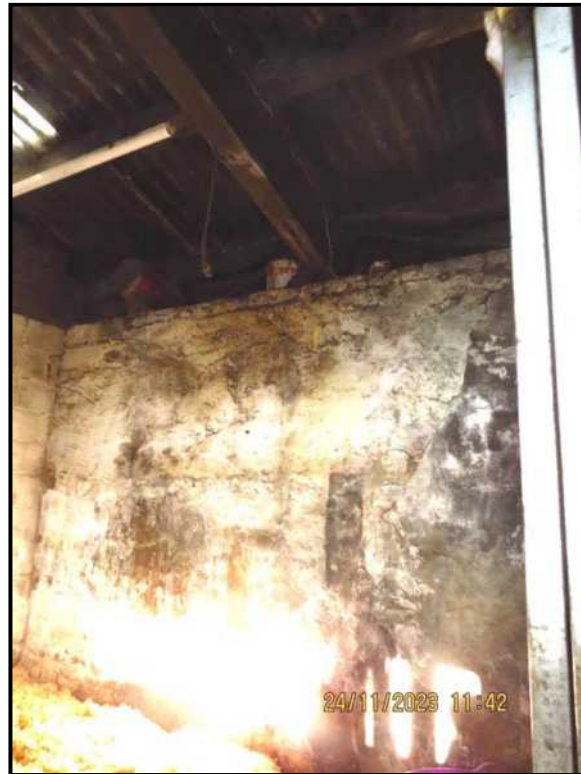
038 Eastern shippon



039 South Eastern corner, chainage 1.2 – 0 metres



040 Northern inner gable



041 Gable wall



042 Rear wall rafter beam



043 Roof, Northern corner



044 Lower wall, Northern corner



045 Purlin seating, Eastern gable



049 Eastern gable, roof support



050 Eastern gable, roof support



051 Eastern gable, front corner



052 Upper wall, East



053 Internal corner South/East (former window)



054 Gable elevation looking to rear



055 Gable elevation looking to rear



056 Front elevation supporting timber detail



057 Internal cross wall to Stable No. 2



058 Front elevation and internal cross wall



059 Front elevation, upper roof and cross wall



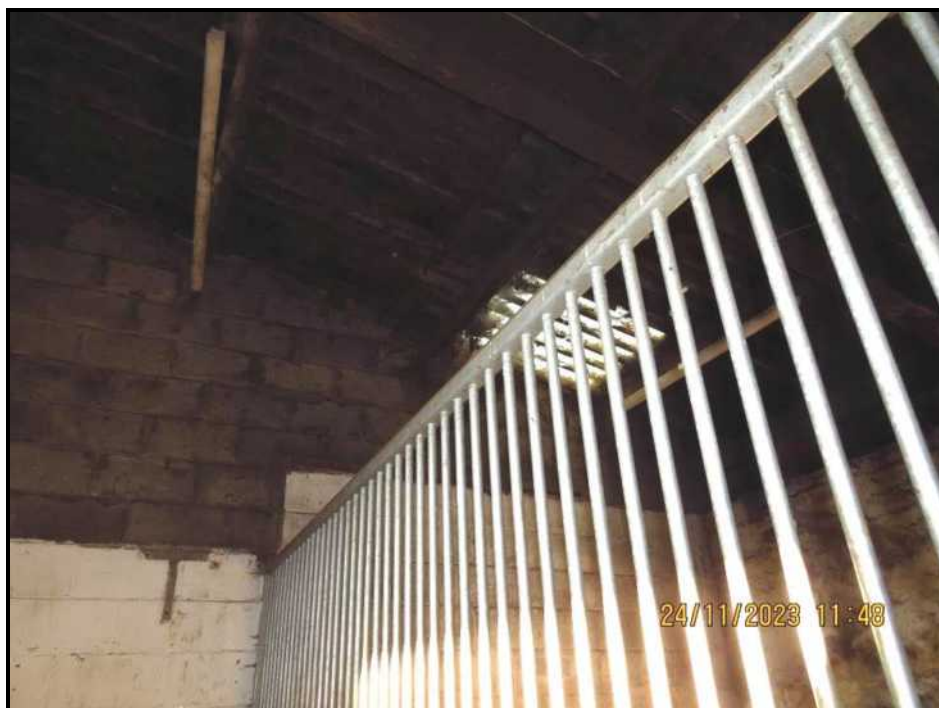
060 Front elevation, upper roof and cross wall



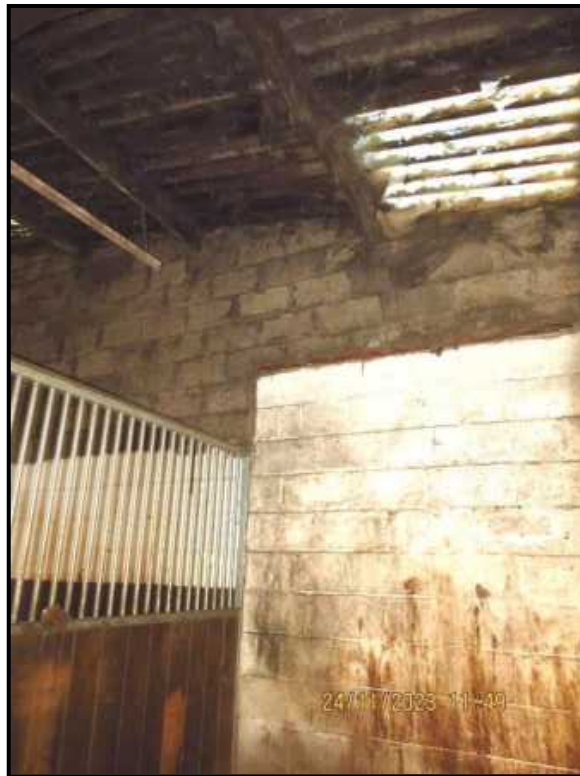
061 Internal party wall with Stable No. 2



062 Internal party wall with Stable No. 2



063 Party wall



064 Party wall



065 Party wall



066 Rear wall



067 Entrance – Stable No. 2



069 Roof detail



070 Tack Rooms



071 Stable No. 2 rear wall



072 Rear wall and party wall, North East corner



073 Rear wall and party wall, North East corner



074 Party wall with Unit No. 1



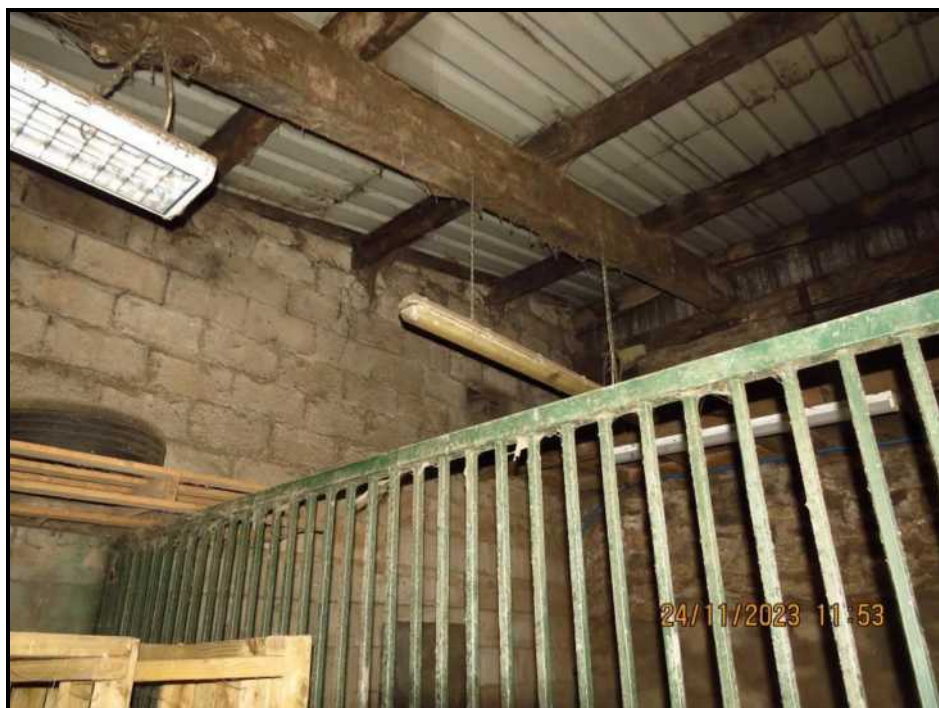
075 Rear wall Unit No. 2



076 Western cross wall/rear wall



077 Party wall Unit 2/1



079 Party wall front corner



080 Party wall front



081 Front stall, party wall No. 1



083 Party wall front



084 Party wall/front wall



085 Front wall



088 Roof, front elevation



090 'Outside' of Western wall



092 'Outside' of Western wall



093 'Outside' of Western wall



094 Rear elevation

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DATE OF INSPECTION: 24th November 2023

REPORT NUMBER: 9179

ENGINEERING REPORT: Robinsons Equestrian Centre
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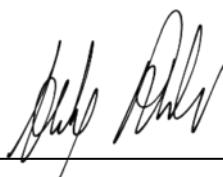
Partner

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