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14<sup>th</sup> August 2015  
ABMH Ref: F2114/AOB

Mr James Baird  
The Baird Farming Partnership  
Home Farm  
Climping  
Littlehampton  
West Sussex  
BN17 5RQ

By Email Only

Dear James,

**Kents Yard**  
**Structural Assessment Report of Existing Barn Buildings**

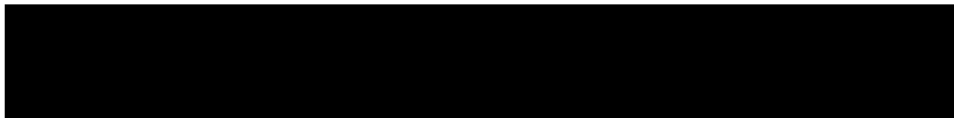
**1 Introduction**

As requested we attended the above site on Thursday 16<sup>th</sup> July 2015 to undertake a visual structural inspection of the existing barn buildings with the view of being converted/renovated into accommodation, and provide a report of our findings.

**2 Visual Inspection**

The existing barns were interlinked in a 'U' shape and were of different types of construction. The barn buildings to the front of the site (Barns 1, 2 & 4) were of a solid flint with brick construction whereas the barns to the rear of the site (Barn 3) were of a solid brick construction. The roof construction to Barn 1 was a traditional duo pitched timber trussed roof with a slate tile finish. Barns 2 & 3 had a duo pitched steel framed roof with a corrugated sheet (possibly asbestos) roof. Barn 4 had a mixture of a mono pitched timber framed roof with a corrugated (possibly asbestos) roof, and a timber framed flat roof finished with felt with chippings. The boundary wall to the front of the site was a solid flint wall with a wooden gated entrance (site entrance 2) (also refer to the attached site plan).

**Barn 1 -** The external walls (Ele.'s 1 & 4 indicated on the attached site plan) appear to be of a solid flint/brick construction. Both walls externally appear to be a little dilapidated with an area covered in vines. Also visible within Ele. 1 were a few cracks which we believe in our professional opinion could be some sort of movement ie: subsidence/thermal/lateral etc... The flints in some



parts of Ele. 1 do seem to have been re-pointed/re-bedded which we again believe could have been a sign that there has been some movement in the past at some point. When visually inspecting Ele. 4 the elevation appeared to be in good condition with no signs of structural failure, however a few areas will require re-pointing. We could not visually inspect Ele. 8 externally as it was fully covered by vegetation, however internally there were cracks visible within the face and at the corners which we believe, in our professional opinion, are due to the trees in very close proximity of the wall externally.

The condition of all other external walls internally reflect the same as mentioned above externally. However there was a considerable amount of cracks above the internal opening which is situated directly left as you enter the barn from the side entrance. These cracks appear to emanate from above the corners of the brick arched lintel to the opening and terminate locally above (in a triangle) within the masonry above. Generally Ele.'s 1, 4 & 8 internally appear to be a little dilapidated and will require strengthening/local repair to ensure the structural integrity of the Barn.

The ground floor construction was a mixture of solid concrete slab and bedded brick. The areas of concrete slab appear to structurally sound with no visible signs of movement or failure. However, in the areas of bedded brick there were visible signs of movement and vegetation growth within the brick joints which, in our professional opinion, is not suitable or structurally sound.

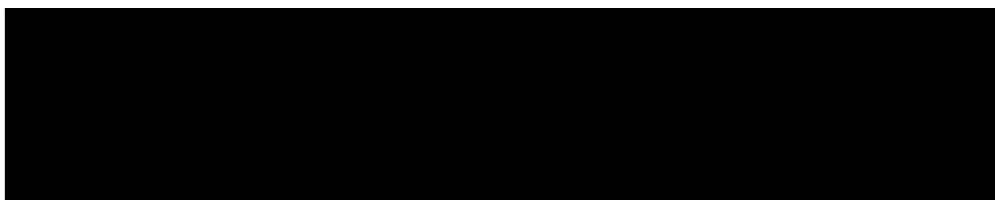
The roof as mentioned before is of a traditional timber framed construction with a slate finish. The roof itself appears to be in a relatively ok condition with no signs of structural failure visible, but we would suggest to further investigate of the rusted tension bars to the trusses and the timber structural elements to ensure that there is no insect attack present that could result in structural failure of the roof. Also where Barn 1 roof meets Barn 2 roof there is a small parapet wall visible, and from our visual inspection the parapet wall appears to be in poor condition. There are substantial cracks visible within the wall at both ends, together with considerable erosion to the mortar joints.

**Barn 2 -** The external walls (Ele.'s 2 & 5 indicated on the attached site plan) appear to be of a solid flint/brick construction. Ele. 2 is of a solid flint construction and visually appears to be in an ok condition. However there appears to be cracking formed at regular intervals along the length of the wall at eaves level which we believe has been caused by the metal trusses built into the external walls which have expanded due to corrosion.

Generally the condition of the external walls internally that were visible were ok, however in some areas it was hard to tell the condition due to either having a boarded or rendered finish. We would suggest further investigation to ascertain full condition of the external walls internally.

The ground floor construction visually appeared to be a solid concrete slab. The slab appears to be in good condition with no signs of movement or structural failure present.

The roof was constructed of steel truss sections with steel purlins, which was finished with corrugated sheeting (assumed as asbestos). The structural steel trusses and purlins were visibly corroded and in our professional opinion were not structurally sound and should be replaced in their entirety.



**Barn 3 -** The external walls (Ele.'s 3 & 6 indicated on the attached site plan) appear to be of a solid brick construction, however Ele. 3 was difficult to fully access and assess due to overgrown vegetation and should be confirm with further investigations. Both Ele.'s 3 & 6 which were visible appear to be in good condition with no signs of movement or structural failure present.

The external walls internally were difficult to fully access and assess due to debris, and we would suggest further investigations are undertaken following the removal of the debris to fully ascertain the integrity of the walls. However, the areas of the walls internally which were visible appear to be in good condition with no signs of movement or structural failure present.

The ground floor construction visually appeared to be a solid concrete slab. The slab appears to be in good condition with no signs of movement or structural failure present.

The roof was constructed of steel truss sections with steel purlins, which was finished with corrugated sheeting (assumed as asbestos). The structural steel trusses and purlins were visibly corroded and in our professional opinion were not structurally sound and should be replaced in their entirety.

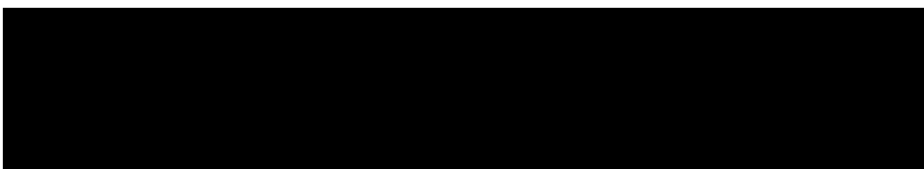
**Barn 4 -** The external wall (Ele. 7 indicated on the attached site plan) consists of approximately 70% solid flint on the left hand side and 30% brick masonry on the right. The brick built part of the external wall appears to be in good condition with no signs of movement or structural failure present. However from our visual inspection the flint built part of the external wall appears to be dilapidated and/or suffered from slight movement which has been remediated in the past at some point however very poorly.

Generally the condition of the external walls internally that were visible were ok, however in some areas it was hard to tell the condition due to either having a boarded or thick painted finish. We would suggest further investigation to ascertain full condition of the external walls internally. It was noted that in areas of the walls that were visible there were cracks in some areas which we believe, in our professional opinion, is due to slight subsidence/lateral/thermal movement.

The ground floor construction was a mixture of solid concrete slab and bedded brick. The areas of concrete slab appear to structurally sound with no visible signs of movement or structural failure. However, in the areas of bedded brick there were visible signs of movement and vegetation growth within the brick joints which, in our professional opinion, is not suitable or structurally sound.

The roof was of a traditional timber flat roof construction with either a corrugated sheeting (assumed as asbestos) or felt with chippings finish. The timber structure itself was in a poor state and in our professional opinion was not structurally sound and should be replaced in its entirety.

**Boundary Wall -** The boundary wall to the front of the site is a solid flint wall. The wall in its entirety is in fairly good condition considering its age. However, from our visual inspection it we noticed 2 cracks within the wall emanating from ground level and terminating at the top of the wall. The first crack appears just to the side of Barn 1 and the second crack appears approximately 5m away from the gated entrance (looking within the site out). Both cracks appear to be due to slight subsidence movement within the wall.



### 3 Recommendations of Proposed Remediation

**Barn 1 -** All external walls require underpinning as there are signs of subsidence movement. It is also recommended that all vegetation in close proximity of the external walls is removed in its entirety. The external walls themselves require re-pointing/re-building in most areas to continue the structural integrity of the walls in their entirety, in addition to this we would recommend providing a reinforced render to the inside of the wall to bind and hold the wall together.

The ground floor, in our professional opinion, is not structurally sound and we recommend that the whole floor is replaced with a suitable reinforced slab/suspended floor construction.

The structural roof timbers are to be further assessed for adequacy, however if not adequate we recommend that they are replaced where required. Roof parapets are to be de-constructed carefully and re-built in their entirety making sure that they are fully tied into the existing walls/roof.

**Barn 2 -** Existing roof finishes and structural steel trusses/purlins, in our professional opinion, are not structurally sound and are to be removed in their entirety, with a new traditional timber framed roof (or similar) constructed in its place.

External walls to be re-pointed/re-built where required, especially in the positions of where the existing steel framed trusses bearing on top of the walls. Existing foundations to be checked for adequacy, if not adequate local underpinning will be required.

**Barn 3 -** Existing roof finishes and structural steel trusses/purlins, in our professional opinion, are not structurally sound and are to be removed in their entirety, with a new traditional timber framed roof (or similar) constructed in its place.

**Barn 4 -** The flint part of the external wall area is to be re-pointed/re-built where required, in addition to this we would recommend providing a reinforced render to the inside of the wall to bind and hold the wall together. Existing foundations are to be checked for adequacy, if not adequate local underpinning will be required.

In some areas of the ground floor, in our professional opinion, is not structurally sound and we recommend that these problem areas are replaced with a suitable reinforced slab/suspended floor construction.

Existing roof finishes and structural timber members, in our professional opinion, are not structurally sound and are to be removed in their entirety, with a new traditional timber framed roof (or similar) constructed in its place.

**Boundary Wall -** Possible underpinning to existing wall (following further intrusive investigation) in its entirety. In the positions of the cracks we recommend that the wall is de-constructed locally and re-built.

## 4 Summary

In light of the above mention and noting that in most areas we had limited access due to vegetation and/or debris it is recommended that further intrusive investigations are undertaken to confirm/ascertain our visual assessment and recommendations.

However, with the exception of the above and in view of the proposed conversion works, our overall professional opinion from our visual structural assessment would suggest that the existing barn buildings are robust and structurally sound to convert into living accommodation.

I trust that you find the above to be in order and meet with your immediate requirements. However, should you have any comments or queries please do not hesitate to contact me.

Yours sincerely

ABM Ltd



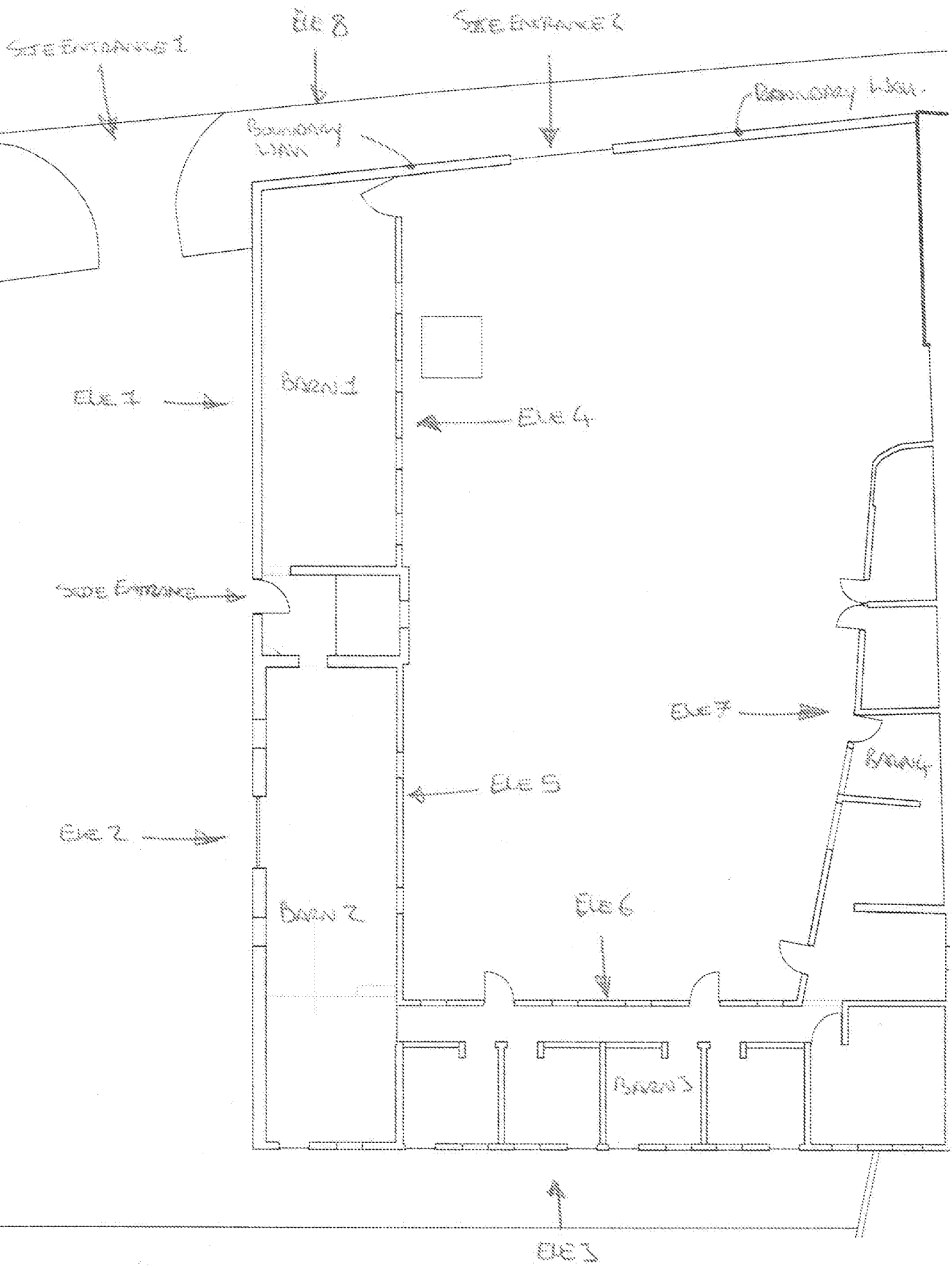
Alun Blow

Mob: 

Email: 

Inc. Indicative Site Layout Plan Sketch

KENTS YARD



SEE LAYOUT PLAN.