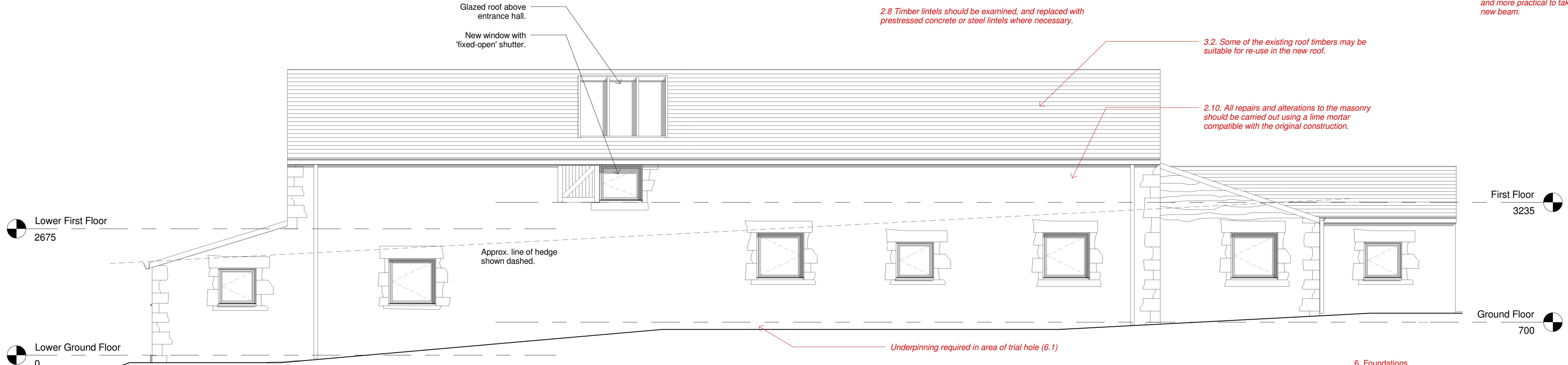
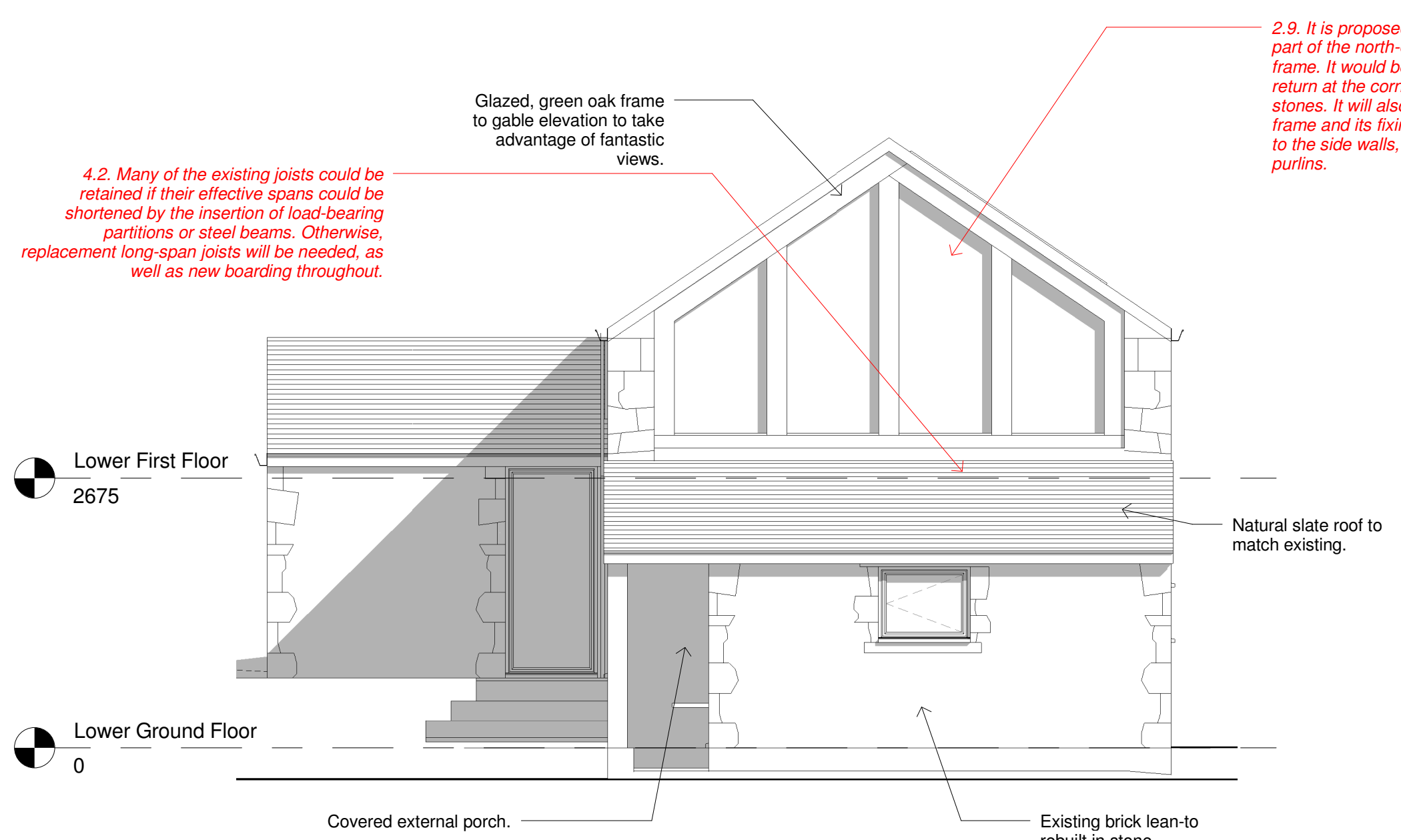


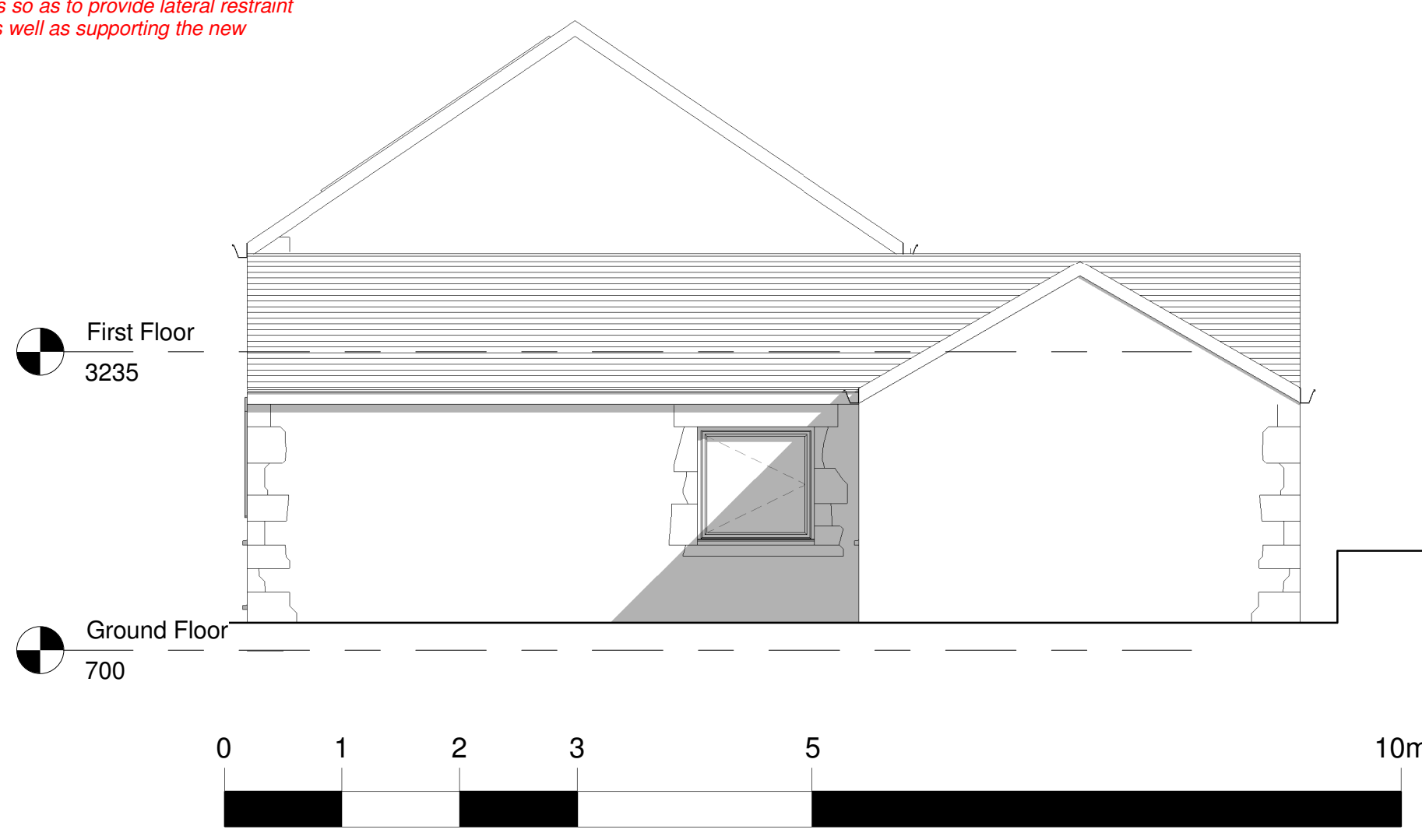
South East Elevation
1 : 50



North West Elevation
1 : 50



North East Elevation
1 : 50



South West Elevation
1 : 50

6. Foundations.
6.1 The trial holes have shown that the foundations are very shallow. The subsoil has adequate strength, but is vulnerable to softening by rainwater from the roof (in the absence of gutters), and to shrinkage and heave due to changes in moisture content, especially where trees are close. The only significant settlement appears to be at the south-west end as noted in 2.2 and 2.3 above.

6.2 The footings are damaged on the left side of the cartshed opening, and supported by loose brickwork.

6.3 There has been coal mining close to the site. Llay Hall Colliery was about 700m east of the site, and closed in 1947 according to <http://www.welshcoalmines.co.uk/NorthLlayMain.htm>. The Coal Authority interactive map shows a "development high risk area" and "surface mining" closer to the site. I understand there were opencast workings here in around 1948 to 1952, that the coal was at a shallow depth, and that the workings were within immediately across the lane to the north-west (i.e. about 15m from the barn) and also crossed the lane into the field south of the barn, and within about 30m of it. There does not appear to have been a history of associated ground movement over the intervening 60 years.

6.4 Consideration should be given to further investigation on the possible influence of past mining activities.

6.5 Underpinning of the existing footings is required in the areas referred to in 6.1 and 6.2 above. The underpinning, and the new footings for the extension, will need to be deepened where influenced by tree roots, including the roots of trees being removed. Plasticity tests should be carried out on soil samples in order to determine the extent of deepening required.

6.6 Elsewhere, the existing footings are likely to be adequate to carry the additional loading due to raising the walls, subject to agreement with Building Control. However it may be judged necessary to underpin throughout. In this case, solutions such as mini-piling and needle beams may be more economic than conventional excavation and mass concrete fill.

6.7 The brickwork retaining wall against the driveway has failed, and is leaning outwards.

6.8 This wall should be rebuilt, and designed to cope with the roots of nearby trees.

H	Notes from structural report added.	GE 05.10.15
G	Study extended and plans amended to client request.	GE 24.09.15
F	Outbuilding removed and plans amended to client request.	GE 27.08.15
E	Outbuilding added.	GE 07.08.15
D	'Minimal extension' scheme.	GE 27.06.15
C	Amendments following client meeting.	GE 24.05.15
B	Alterations following Pre-App comments from MP.	GE 26.03.15
A	Alterations to client's drawing.	GE 15.11.14

Rev.	Revision description	Drawn	Checked	Date

Project
Windy Hill Farm

Title
Proposed Elevations

Scale @ A1 1 : 50	Scale @ A3 1:100	Drawn By GE	Checked By -	Date 06/05/14
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Drawing Number 14-13	Job No. A300	Sheet No. A300	Rev. H
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