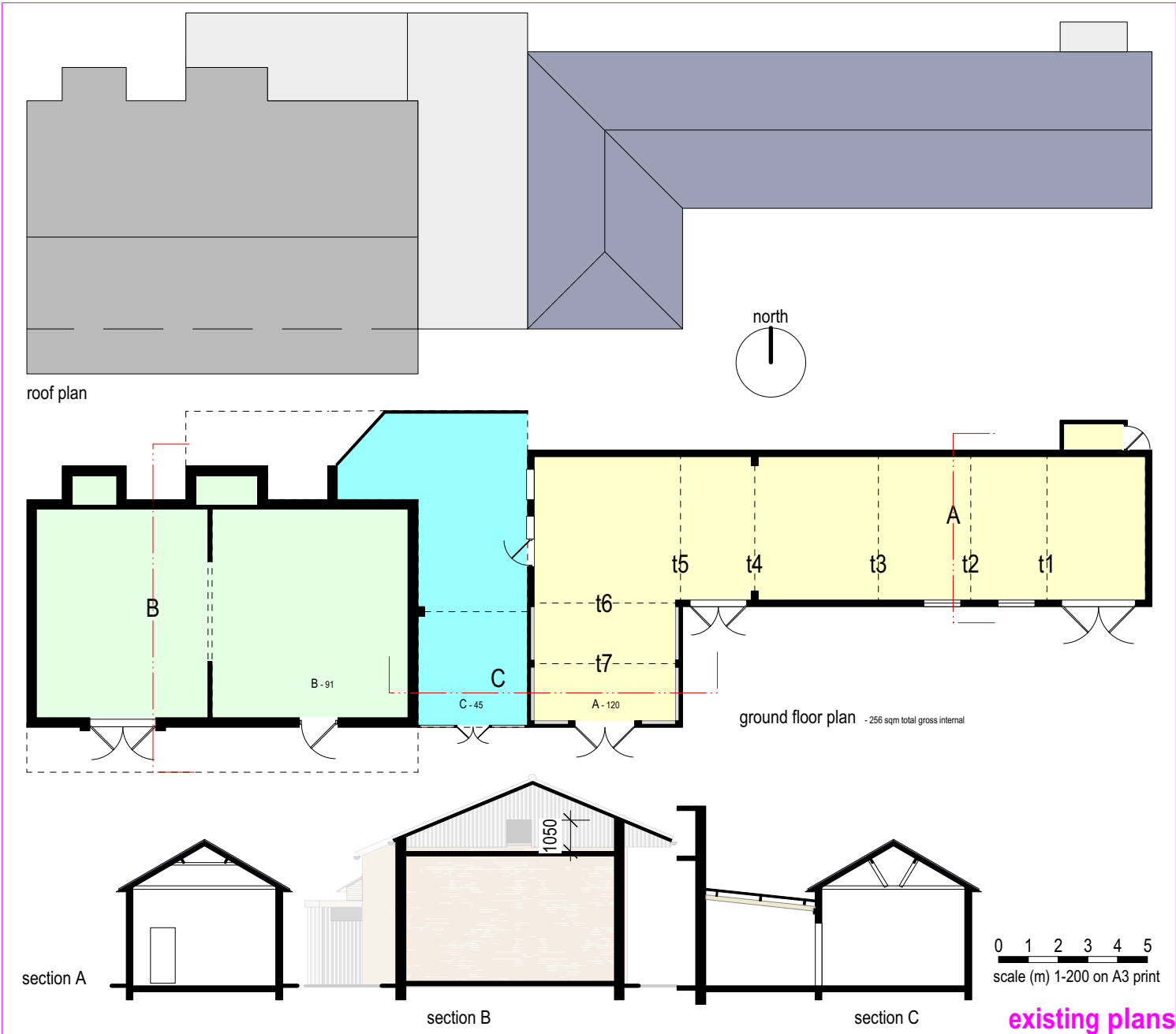




Structural & Constructional Method Statement

- to be read alongside the Structural Inspection Report by BdR

It was determined under application ref. 2023-0767 that Prior Approval is required for the conversion of the buildings from agricultural use to residential use:

1 The proposed development does not fall within the definition of permitted development set out in Schedule 2, Part 3, Class Q (b) of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended), as follows:

(a) Insufficient information has been submitted with the application to demonstrate that the extent of the works required to facilitate the change of use of the building to a dwelling do not extend beyond the limitations set out in Q.1 (i) (i) and (ii) and would not include the construction of new structural elements.

Consequently, the Prior Approval procedure is not applicable to this proposal.

The argument put forward by the planners in making this assessment was:

The structural survey appears to only address whether strengthening of the existing structure is required to support the existing roof. The Design and Access Statement confirms that the corrugated asbestos roofing will be replaced with black bitumen sheet and areas of slate are to be replaced with slate. Without a Structural Method Statement fully detailing the method of construction and the required works for the development, it is not possible to assess that the extent of the works required to facilitate the change of use of the building to a dwelling do not extend beyond the limitations set out in Q.1 (i) (i) and (ii).

This Structural Method Statement details the method of construction to demonstrate that required works are within the limitations of Class Q, and therefore allow the planners to reassess the requirement for Prior Approval.

The insertion of internal wall and floor partitions which either add to or have no impact on the existing structure are reasonably necessary for a conversion, and are elements that have been accepted as such in numerous past conversions not requiring prior approval.

Building A - shown in yellow on plan

this is converted to form all of plot 1 and most of plot 2.

ground floor

existing concrete slab to be broken up and removed, and base consolidated and topped with sand blinding to form 225mm firm and level platform. 1000g DPM added over, to be lapped and sealed to new wall membrane. 100mm PIR placed below new 100mm concrete slab reinforced with A142 mesh and with floated and trowelled finish (P/A = 0.5, u value = 0.15). 30mm PIR strip to slab edges against existing brickwork.

ground floor partitions

120 x 50mm timber studs and noggins with 15mm plasterboard & skim to exposed faces. 110mm PIR and 15mm plasterboard & skim to external wall linings (u value = 0.18).

first floor

170 x 50mm timber joists supported on existing external wall linings and new internal walls. 15mm plasterboard & skim ceilings and 22mm chipboard flooring.

first floor partitions

100 x 50mm timber studs and noggins with 15mm plasterboard & skim to exposed faces.

exterior walls

110mm PIR and 15mm plasterboard & skim to external wall linings (u value = 0.18).

SE advice: *'solid 215mm thick brickwork, apart from the upper section of the southern projection which is in timber stud. There are brick piers internally built into the north wall. The walls are structurally sound, though some repointing will be required externally, but this will not affect the stability of the building'*

windows & external doors

Existing openings ref. W1/1, W1/2, W1/3, W1/5, W2/1 & W2/3 are to have replacement doors & windows as the elevations. New openings are formed to create windows and doors ref. W1/4, W2/4, W2/5, W1/6, W1/7, W1/8 & W1/9. The existing brickwork is cut neatly to form the required widths with reinforced concrete lintols over.



roof

The existing roof is of a vaulted construction with timber cross ties at intervals and no ceiling joists. The existing timber rafters (50mm x 100mm at 400mm centres) and boarding (where existing) over to be treated with preservative (any boarding below to be removed). Existing battens and slates removed to allow installation of breathable membrane over boarding and below new treated battens of equal size to existing, with slates over, using all undamaged slates from existing with replacements to match where required. 25mm continuous ventilation gap (or equivalent) formed at eaves and ridge to vent the space between the rafters. Existing timber ties retained. To allow the formation of bed 3 and study in plot 1, new purlins are added 900mm below ties t3 and t4 and posts bolted to them 3m apart. Ply bracing is then screwed to both new and existing struts over the outer 900mm both sides, before the centre parts of the existing ties are cut away. Collars t1, t2, and t5 are to remain as they are. A 50mm gap is retained below the membrane, 50mm PIR insulation added between lower half of rafters, and 100mm PIR added below rafters (u value = 0.16).

SE advice: *'Internally the roof is in a good condition, externally the roof line has a few dips in it but has been recovered previously. At present the rafters and purlins are capable of taking the existing roof covering with added roof insulation'*

services (water, electricity, gas)

new water and electricity supplies will be brought to site by the relevant utility companies.

No gas is to be used.

drainage

new underground drainage will lead to a new shared septic tank below the proposed car parking area.



CLIENT: Richard Batchelor
PROJECT: Buildings north of Hill Farm, Taylors Lane, Higham
TITLE: Structural Method Statement page 1
SCALE: 1-200 on A3 DATE: 09/23 DWN: GB
DRAWING NUMBER 22-36-SMS 01





existing elevations



proposed elevations

Building B - shown in green on plan
this is converted to form all of plot 3

ground floor
existing concrete slab to be overlaid with 100mm PIR placed below 22mm moisture resistant T & G chipboard (P/A = 43/91= 0.5, u value = 0.15).
ground floor partitions
120 x 50mm timber studs and noggins with 15mm plasterboard & skim to exposed faces. 110mm PIR and 15mm plasterboard & skim to external wall linings (u value = 0.18).

first floor
170 x 50mm timber joists supported on external wall linings and new internal walls. 15mm plasterboard & skim ceilings and 22mm chipboard flooring.

first floor partitions
100 x 50mm timber studs and noggins with 15mm plasterboard & skim to exposed faces.
exterior walls
110mm PIR and 15mm plasterboard & skim to external wall linings (u value = 0.18).

SE advice: *'The walls to the building are constructed in minimum 215mm thick brickwork and possible 330mm brickwork in places. There are two large door openings to the south elevation. The walls are structurally sound.'*

windows & external doors
Existing openings ref. W3/2 and W3/3 are to have replacement doors & windows as the elevations. New openings are formed to create windows and doors ref. W3/1 to W3/14. The existing brickwork is cut neatly to form the required widths with reinforced concrete lintols over.

roof
The roof of the building consists of cranked steel portal frames resting on concrete padstones. They support steel angle purlins which in turn support the fibre cement roof sheets. There are circular tie rods at the base of the portal legs. Further steel angles and straps fixed to the frames support ties over the existing ceiling. This is positioned slightly below the padstones, about 1050mm below the top of the wall on the south elevation and 300mm below the top of the wall on the north elevation. To the southern elevation, the roof cantilevers over the wall to form a canopy to the cold store doors. Any surface rust is to be retained structural steel is to be wire brushed and treated with a rust inhibitor paint. The existing ceiling and support strcture is to be removed. Steel universal beams (UB) are to be bolted to the existing portal frame legs extending 1.6m below the existing ceiling, and bolted to new UBs which will replace the existing steel tie rods. The existing asbestos-cement sheeting is to be replaced with new corrugated bitumen cement sheets of a similar profile and in the same position as those removed, with a breathable membrane added over the purlins. Tmber battens at 600mm centres are strapped to the existing purlins to leave a 50mm ventilation gap. 50mm PIR inslation is added between the battens, and 100mm PIR and 15mm plasterboasrd & skim added below (u value = 0.16).

SE advice: *'At present the rafters and purlins are capable of taking the existing roof covering with added roof insulation'*
services (water,electricity, gas)
new water and electricity supplies will be brought to site by the relevent utility companies. No gas is to be used.

drainage
new underground drainage will lead to a new shared ceptic tank below the proposed car parking area.





looking at the north elevation from inside



looking at the east elevation from inside, towards building A



looking at the south elevation from outside

Building C

this is converted to form part of plot 2

ground floor

100mm PIR placed over existing concrete slab and below new 100mm concrete slab reinforced with A142 mesh and with floated and trowelled finish (P/A = 0.5, u value = 0.15). 30mm PIR strip to slab edges against existing brickwork. Finished floor level to match that of building A.

ground floor partitions and wall linings

120 x 50mm timber studs and noggins with 15mm plasterboard & skim to exposed faces.

110mm PIR and 15mm plasterboard & skim to external wall linings (u value = 0.18).

first floor

none

exterior walls

brick plinth to north & south elevation to be repaired and extended where required to form continuous base for 100 x 50mm timber sole plate. New treated timber studs and noggins added between those existing, and vertical boarding to replace the existing horizontal boarding in the same position, with breathable membrane below.

15mm ply sheathing internally, 150mm PIR insulation and 15mm plasterboard & skim finish. Doors and windows inserted as elevations.

SE advice: *'The walls to the building are constructed in solid 215mm thick brickwork to the east and west. To the south elevation, there is a double timber door, either side of which used to be a timber stud wall on a dwarf brick wall. Unfortunately, poor maintenance has meant the studwork is missing and the dwarf wall has partially collapsed. However, this wall is not structural and does not support the roof. To the north elevation, the wall consists mainly of a large timber sliding door, with timber posts and beams supporting the roof timbers above and clad in metal sheeting. The wall is covered in vegetation and this will need to be carefully removed. It would appear that one of the corner posts to this wall is missing and some localized strengthening works will be required.'*

windows & external doors

New openings are formed in the repaired stud walls to create windows and doors ref. W2/2 and W2/3.

roof

The steel sheeting is to be replaced in the same position, with breathable membrane below. A 50mm gap is retained below the membrane, 50mm PIR inslation added between lower half of the existing rafters, and 100mm PIR added below rafters (u value = 0.16). New noggins are to be added to allow support for insulation and 15mm plasterboard & skim. New abutments to the west and east walls (buildings A and B) will include a 25mm continuous ventilation slot below a 150mm flashing to ensure any moisture around the existing timber roof beams is removed.

SE advice: *'The roof of the building consists of timber purlins at approximately 800mm centres, which in turn are supported on timber joists at 1200mm to 2200mm centres. The timbers are covered in metal roof sheets, with a fall from building B to building A. The timber joists are supported on timber plates which are bolted to the walls. Where the roof abuts building A and forms a valley, poor maintenance over the years has meant that some of the roof timbers are suffering from rot and will need strengthening. At present the roof timbers will be capable of taking the existing roof covering with added roof insulation after some localized strengthening has been carried out'*

services (water,electricity, gas)

new water and electricity supplies will be brought to site by the relevent utility companies.

No gas is to be used.

drainage

new underground drainage will lead to a new shared ceptic tank below the proposed car parking area.