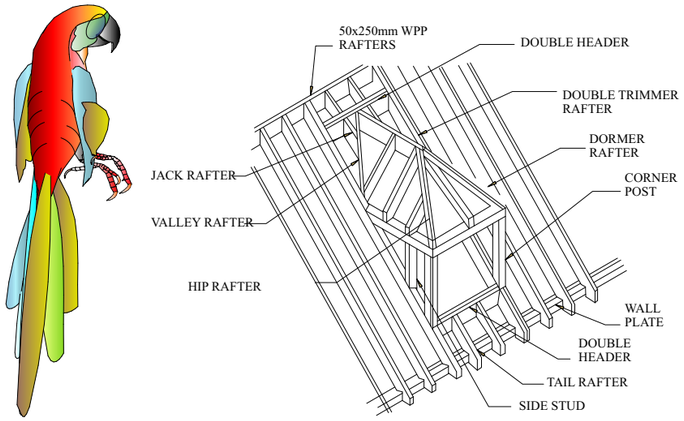


DORMER CONSTRUCTION

'Clipped' and bedded eaves detail as existing dormers

To achieve minimum U Value of 0.28W/m²K

Structure to engineer's details and calculations. Render finish (to comply with BS EN 13914-1:2005) - applied in 3 coats at least 20mm thick to stainless steel render lath. Render should be finished onto an approved render stop. Render lath fixed to vertical 25 x 50mm preservative treated battens to provide vented and drained cavity, fixed to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick W.B.P external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using 150mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation between and over studs; 100mm Kingspan Thermawall between TW55 plus VCL and 22mm Gyproc Thermaline Basic plasterboard with 3mm light weight skim of finishing plaster over.

*Render to match existing in colour and texture

All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally. Dormer walls built off existing masonry walls to have galvanised mild steel straps placed at 900 centres. Dormer cheeks within 1m of the boundary to be lined externally with 12.5mm Supalux and 12.5mm Gyproc FireLine board internally to achieve 1/2 hour fire resistance from both sides

Windows - as specified in JOINERY.001

Construct ceiling using sw joists at 400mm centres, finished internally with 12.5mm plasterboard and min 3mm thistle multi-finish plaster. Provide polythene vapour barrier between insulation and plasterboard. TYVEK breathable roofing felt. 100mm Kingspan Thermawall TW55 between ceiling joists plus VCL and 22mm Gyproc Thermaline Basic plasterboard with 3mm light weight skim of finishing plaster over.

Restraint strapping -100mm x 50mm wall plate strapped down to walls. Ceiling joists and rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. All straps to be 1000 x 30 x 5mm galvanized straps or other approved to BSEN 845-1 at 2m centres

PITCHED ROOF INSULATION WHERE CEILING FOLLOWS RAFTER LINE

Insulate between the rafters using two layers of Kingspan K7 rigid phenolic board (50mm layers) - no void ventilation is required - use Tyvek roofing felt throughout. Ceiling to be 12.5mm plasterboard and skim..

ROSEMARY CLAY CRAFTSMAN TILE
Colour - Hawkhurst with matching clay valley tiles

TIMBER FRAME EXTERNAL WALLING - DORMER CHEEKS

K REND

Preparation Coat:

First Coat: K Rend Basecoat, apply mesh with 100mm overlap and triangular reinforcement at corners/opening

HPX basecoat (3mm), key surface

Final Coat: K Rend Silicone K1 12mm

All in full accordance with manufacturers instructions inclucccding edge/corner fenestration opening detailing and expansion joints.

12mm Multi-Rend - Render Carrier Board - mechanical fixing on DPM to external face of vertical 25 x 25mm Tanalised Laths on breather membrane on 12.5mm marine ply on 147mm wide structural timber frame insulated with Kingspan K112 (100mm) between studwork

9mm OSB to internal face, 12.5mm plasterboard and skim

UPGRADE OF PITCHED ROOF

(imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)

Vented roof – pitch 22-45°

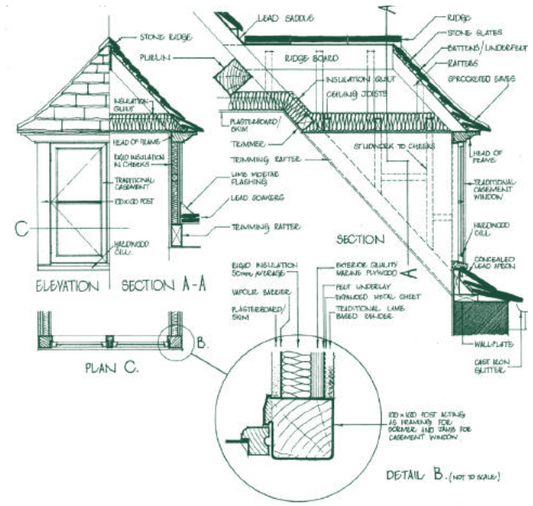
To achieve U-value 0.18 W/m²K

Existing roof structure to be assessed by a structural engineer and any alterations to be carried out in strict accordance with structural engineer's details and calculations which must be approved by building control before works commence on site. The existing roof condition must be checked and be free from defects as required by the Building Control Officer any defective coverings or felt to be replaced in accordance with manufacturer's details.

Roof construction - 47 x 100mm Grade C24 rafters at max 400mm centres max span 2.12m. Insulation to be 50mm Kingspan Kooltherm K7 between rafters and 80mm Kooltherm under rafters.

1 5

Scale Bar 1 :50



ESCAPE WINDOWS

Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms.

Windows to have an unobstructed openable area that complies with:

- minimum height of 450mm and minimum width of 450mm.
- minimum area 0.33m².
- the bottom of the openable area should be not more than 1100mm above the floor.

The window should enable the person to reach a place free from danger from fire.

Inspection of the Existing Roof

The contractor must inspect the existing timbers of the roof areas to be retained in order to ensure the structural integrity, and that the existing timbers are sufficient to be used for the new roof covering and that all Building Regulations are adhered to. Any defective timbers are to be reported to the Contract Administrator together with recommendations for any remedial works. Whilst the proposed Slates will impose less dead loading than the existing concrete interlocking tiles, the existing roof zone to be retained is to be strengthened.

Battens

Nail each batten to each timber support in straight horizontal lines ensuring:

a. No batten is less than 1200mm long

b. Butt joints are centred on supports and do not occur more than once in any group of four battens on any one support. Fix additional battens where necessary to prevent underlay being opened at laps by wind suction. Reduce the gauge equally in all courses.

c. Maximum gauge for the type of roof tile and roof pitch is not to be exceeded.

d. Fix securely to masonry in straight horizontal lines using nails at not more than 600mm centres.

Eaves

a. Dress underlay into gutter ensuring no water retaining troughs.

b. Fix each under-eaves and eaves course tile with 2 nails with tile projecting 50mm beyond fascia and in the same plane as all other courses.

Clipped Verges

With under cloak bedded:

a. Ensure that under cloak overlaps, under laps by at least 25mm.

b. Bed under cloak tile in mortar with 165mm edge showing, butt jointed and fair face down, to a true line and projecting 40mm from face of building.

c. Fix the last tile in each unfixed course with 2 nails each.

d. Fill the gap between under cloak and tiles with mortar, and strike off to give a neat flush Joint.

Ridges with Ridge Tiles Bedded in Mortar

a. Lay a length of underlay over ridge to overlap general underlay by not less than 150mm.

b. Finish tiling with a course of eaves tiles to maintain gauge.

c. Fix the last 2 courses of each slope with 2 nails per tile and or tile clips.

d. Securely fix ridge ventilation terminals in accordance with current Building Regulations Part F and to manufacturer's fixing instructions.

e. Make weather tight with ridge tiles laid to a true line with edges bedded and joints solidly bedded in mortar, neatly struck or flush as the work proceeds.

f. Fill ends of ridges at gables with mortar and dentil finished flush.

Plain Tiles - where shown new

To be clay plain tiles to BS 680 Part 2 or equivalent approved.

All tiles are to be fixed as per manufacturer's specification and to the latest British Standards/Regulations.

Fixings

BS 1202 Part 1 Group 7 nails, Part 2 Group 5 copper nails, Part 3 Group 5 aluminium nails.

All roofing work shall be left watertight to the Supervising Officer's satisfaction.

Scaffolding

Erect scaffold in order to facilitate works. Strip existing roof coverings, felt, battens, leadwork and dispose off site.

Replace roofing felt with air permeable membrane.

Re-batten roofs to specification requirements and in accordance with type of tile covering.

Re-plastering ;

Use Safeguard Europe Ltd's Replastering Specification or equivalent

Renderguard Gold is a combined waterproofing, salt retardant and plasticiser additive for use in sand/cement replastering mixes applied after the removal of the existing contaminated plaster and insertion of a remedial dampproof course.

Installation

General - The standard of installation of the product should comply with BS 8000-10 : 1995.

Where existing plaster has been removed at the same time as the installation of the remedial dpc, then the treated walls should be left for as long as possible (traditionally at least 14 days) to allow initial drying out before replastering.

Details such as timber skirting should be removed.

Mortar joints are raked out to a depth of 15 mm.

Timber fixing grounds present in the masonry are removed.

If the background offers little suction, a bonding aid may be applied to the surface and the wall replastered immediately.

Where masonry is unstable this must be made good prior to the application of the render. Where it is not possible to obtain a proper bond between the wall fabric and render, eg with cob walling, expanded metal lath must be fixed to the wall surface before application.

TIMBER TREATMENT

Remove debris and clear obstructions (such as floorboards or insulation materials) sufficiently to ensure access for the cleaning of dust etc, and effective inspection and treatment of timbers.

Check the timbers by probing, and in the case of heavy Death watch beetle (if found) infestation in large section timbers, check the internal condition of the timber by drilling or other means.

Where necessary, expose the built-in ends of structural timbers for investigation and treatment.

Carry out all repairs and replacements. Replacement timbers should be pre-treated in accordance with BS8417 2003 (Use Class 2 or 3) or when this is not possible or practical timbers should be treated on site with a wood preservative recommended by the manufacturer as meeting the requirements of BS8417 2003 when applied as a surface treatment. If cutting to size, notching etc is required, any freshly-cut surfaces should be treated as detailed above. It is desirable for replacement timbers to be protected against dampness especially where they are in contact with masonry walls

Cleaning of dust and debris from timbers scheduled for treatment should be undertaken prior to treatment, sufficiently, properly and safely so as to apply preservative it is important to:-

Allow thorough inspection Ensure adequate treatment Minimise the absorption of active ingredients into the dust particles so as to prevent contaminated materiel becoming a health risk

Reduce the risk of slips, trips and falls during the treatment

Note: one method of cleaning which ensures the above risks are controlled is by the use of suitable industrial vacuum machines.

Apply the wood preservative specified in the survey report in the manner and at the rate specified by the manufacturer.

Preservative formulations commonly used for the control of wood destroying insects currently include:-

Water based emulsions insecticides Solvent based insecticides Oil based pastes Paste spray or fog applied formulations using Disodium octaborate as the active.

Each formulation may have different properties, modes of action, ability to penetrate timber and safety risks associated with their use. Application methods and choice of preservative formulations will be influenced by the insect being treated, the accessibility of the timber and indeed the type of timber that is being treated. These factors must be considered by the surveyor when formulating and undertaking treatments to control wood destroying insects.

Reinstate or make arrangement for the reinstatement of any materials that have been removed prior to treatments.

Special care must be taken to deal effectively with Death watch beetle and House longhorn beetle infestation. Any control strategy should take into account the inherent difficulty of treating such infestations and the limitations of the chemical treatments that are available.

NOTE: If it is not possible to inspect or treat all the surfaces of timber infested by wood destroying insects, or where other factors may limit the effectiveness of a control strategy, the client should be informed and the risk of continued infestation must be made clear, preferably in writing.

Flooring Timbers

Except where adequate access exists (e.g. in sub-floor voids at ground level and other cellars) or where not required for effective application of the specified wood preservative it will be necessary to open up to clean and treat joists and wall-plates. This consists of the lifting of sufficient boards at intervals across the room and boards should be lifted adjacent to the walls to give access to joists ends.

Carry out all repairs and replacements, ensuring that all replacement timbers are adequately treated after cutting to size. Such replacement timbers must be protected against dampness especially where they are in contact with masonry walls.

Carry out treatment as previously outlined above under roof voids

Reinstate lifted floorboards. Ensure that any timber or other organic debris is removed from the oversite / solum beneath suspended ground floors.

Fungal Decay

Fungal decay affecting building timbers can be divided into two categories:-

Dry Rot – this applies only to True dry rot (Serpula lacrymans)

Wet Rot – this applies to a wide range of fungi, the most common of which are Coniophora puteana and Fibroporia vaillantii

All active fungal attacks result from the presence of excess water within the fabric of a building. The identification and rectification of this water ingress and the removal or control of existing water within the structure must be regarded as the most important element of a successful long term treatment for fungal decay.

Dry rot

Obtain indications of the possible extent of the outbreak by testing timbers in the vicinity by prodding, preferably with a tool with a screw- driver type point.

Note: Guidance as to the possible extent and direction of spread of fungus within walls can sometimes be obtained by observations aided by the use of an electronic moisture meter. Alternatively, moisture content measurement can be made by inserting timber dowels into holes set into damp masonry. These must be left in the wall for a period to ensure that they reach equilibrium with the surrounding masonry.

The extent of growth of dry rot mycelium should be determined in order to ascertain the extent of risk of infection of adjacent timber. This usually requires opening up of the affected area by removal of joinery, stripping of plaster and lifting of floors.

Note: In areas of the building in which it is known from previous experience that no woodwork is embedded in walls, it may not be necessary to strip large areas of such plaster even though it may be thought to overlie fungus strands. It may then suffice to remove plaster for some 300mm adjacent to woodwork at risk to confirm that no fungus has reached it. Alternatively, the spread of fungus can be determined by removal of plaster samples at intervals. Special considerations must be given to areas of solid flooring which are in contact with dry rot attack.

At the discretion of the surveyor cut out and remove from site all decayed timber. Up to 600mm of sound timber beyond the visible limits of fungal growth may also be removed as a safety margin.

Note: Whilst it is usually economic to cut away the full extent of even lightly affected building softwoods, there are special cases, for example durable timbers both hard and soft woods in which the removal of lightly affected members would be disproportionately costly or would destroy historically important features. In such cases clients should be advised of the possibilities of alternative in situ treatments. Alternatives to complete removal may be particularly appropriate when the affected members are still structurally adequate and will readily dry out after being isolated from damp walls e.g. at first floor level and when effective ventilation can be arranged.

The suggested safety margin may be inadequate in the case, for example, of a wall plate or alternatively it can be excessive in the case of a floorboard where it should normally be necessary only to cut away to the next joist.

NOTE: The extent of the exposure work, strip out, chemical treatments and timber replacement will always be subject to variation and will be dictated by the prevailing site conditions and must ultimately be the responsibility of the surveyor.

Isolate existing sound timbers from dampness.

Note: Isolation of timber in direct contact with damp and infected walls can be effected by means of physical isolation, for example for joist ends, removal of the ends embedded in the walls and re-supporting independently. A variety of support methods are available, suitable for a range of situations (e.g. sleeper walls at ground level, joists hangers RSJ's, concrete lintels, cellar brackets, steel plates etc). The choice will depend on the position of the timbers affected, space availability and, in some cases, providing continuity or lateral restraint to the wall in question.

Remove all identified built-in timbers, lintels, plates, bonding timbers etc. within the affected wall area and replace in accordance with Building Regulations, in a suitable material which may be treated timber, steel, concrete, or brickwork.

In order to reduce the risk of further decay, clean all wall areas and oversites / solum to remove visible surface fungal growth and other cellulose rich materials that may be at risk of decay.

The surveyor must be aware that the long term solution to the eradication of decay in buildings is the elimination of excessive water in the buildings fabric. The use of masonry biocides must therefore be seen as a control that will allow rapid or cost effective reinstatement. Wood preservatives should not be relied upon to provide long term protection against dry rot in conditions where timbers are persistently wet.

Unless otherwise recommended in the survey report and agreed by the client, treat exposed wall surfaces identified as showing evidence of mycelium by one of, or a combination of, the following ;

1. surface application of a masonry biocide;
2. localised treatment of specific areas by insertion of preservative plugs or pastes into holes drilled in the masonry.
3. irrigation with fungicidal solution via holes drilled in the wall

The use of controlled heat may be an alternative method of dry rot control however this form of treatment falls outside this document.

Carry out all repairs and replacements. Replacement timbers should be pre-treated in accordance with BS8417 2003 (Use Class 2 or 3) or when this is not possible or practical timbers should be treated on site with a wood preservative recommended by the manufacturer as meeting the requirements of BS8417 2003 when applied as a surface treatment. If cutting to size, notching etc is required, any freshly-cut surfaces should be treated as detailed above. It is desirable for replacement timbers to be protected against dampness especially where they are in contact with masonry walls

Where no alternative solution exist and timbers are to be reinstated into a persistently damp area, only pre-treated timber should be used. In these circumstances the client must be put on notice preferably in writing that the new timbers will continue to be at risk of decay

Residual sound timbers in the vicinity of the outbreak should be thoroughly cleaned and treated with a fungicidal wood preservative. (the limited value of surface application of preservative in the face of sustained damp conditions must be understood by the surveyor).

Wet Rot - if discovered

Open up the affected area, cut out and discard structurally unsound timbers

Replace removed timbers preferable with timbers pre-treated in accordance with BS8417 2003 ensuring that any cut ends are retreated, and that there is adequate isolation from the damp walls.

When controlling dry rot and wet rot it is essential that necessary steps to eliminate the source(s) of moisture causing the decay are carried out as part of the overall specification of repairs. This must be included in the specialist contractor's or the responsibility placed on others (e.g. a general builder). In either case, this work should be carried out concurrently, or within a specified period. Particular emphasis should be laid on efficient ventilation, particularly subfloor and roof voids.

Existing Wall Plates

Expose all ex wall plates throughout and apply Sovereign Deep Kill or equivalent. Repair/replace plate as necessary

All ex timbers to be treated for infestation. Strap all ex wall plates to external walls with 30 x 5mm x 1000mm MS straps at 900mm centres - the turn-down should be on a substantial piece of masonry, preferably the centre of an uncut/robust block.

Work During Frosty Weather

No paintwork, brickwork or other work liable to become damaged by frost may be carried out during frosty weather.

The Contractor will be held solely responsible for such action and will make good at his own expense any damage resulting.

CONDITION 3 DISCHARGE APPLICATION DRAWING

John Dickie Associates
Chartered Building Engineers
5, Victor Way, Cherry Holt Road,
Bourne, Lincs PE10 9PT
Tel 07778 297733 jda@ndirect.co.uk

Proposed Alterations and Extensions at Mill Cottages, Mill Lane Empingham LE15 8QE

Drawing Title : Dormer Details

Client : Mrs. R. Griffin

Date APRIL 2024

Scales 1 to 100 and 1 to 50 at A3

Drawing No JDA/2024/20.2100.DORMER/001