

Site Clearance:

Shrubs & hedging should be removed from the site in accordance with HSE/ Arboriculture and Forestry Advisory Group advisory guidance. Clear site of debris, general vegetation & paving. Note contamination requirements in reports authored by Humberside Materials Laboratories.

Excavation & Foundations:

Foundation trenches are to be excavated to a minimum depth of 1 m and as agreed with North Lincolnshire Building Control Department. The width of the foundations is to be consistent throughout the trench. Trenches should be clean and regular with any ground water being removed before concrete is placed. Should any soft ground or tree roots be encountered, these should be excavated as agreed with the Building Control Officer. Mud, rock projections, boulders and hard spots should be removed and replaced with well compacted granular fill. Gen 1 Concrete is to be placed in foundations to the prescribed mix in one pour and to a minimum thickness of 250mm. External walls to be founded on 600mm x 250mm deep strip foundations whilst internal load bearing walls are also to be taken down to 600mm x 250mm deep strip foundations.

If joints are required, then these should be formed using 16mm rebar starter bars as agreed with the Building Control Officer. Water should not be added to ready mix concrete unless previously agreed.

Walls below DPC:

Walls below DPC are to be constructed using dense concrete blocks in class 1:1:3 mortar. The blocks are to be laid in 2 skins with the cavity being filled with a lean mix concrete (alternatively trench blocks can be used). Walls exposed between ground level and DPC will be constructed using an engineering quality brick in a class 1:1:3 mortar.

Ground floor construction, DPM & DPC:

A pre-stressed concrete beam & block floor system complying with BS 8110 will be installed. Blocks used to infill should meet the requirements of BS EN 15037-3:2009. The spans & loadings leading to the ultimate design & layout are to be provided to the local authority on placement of order. Attention should be paid to preparing the ground over which the suspended floor will be laid with a thorough removal of topsoil & vegetable matter. A minimum ventilation void of 150mm should be maintained beneath the underside of floor beams. To prevent the build-up and passage of condensation and contaminated air the void should be adequately ventilated with telescopic vents housing an air brick on its outer face. Vents should be placed at no more than 3m centres and within 450mm of each end of any wall. Total ventilation should not be less than 600mm² per meter run of an external wall. Blocks are to be grouted as per manufacturers guidance. 1200 gauge Visqueen gas resistant DPM membrane laid over with Kingspan Kooltherm® K103 Floorboard 100 mm thick comprising a premium performance CFC/HCFc-free rigid phenolic insulation core with coated glass tissue facings on both sides manufactured to the highest standards under quality control systems approved to BS EN ISO 9001: 2000 'Wet' underfloor heating system to be laid in accordance with manufacturers guidelines. Floor to be completed with +65mm screed with fire reinforcement, dpc should be provided (150mm in width). Vertical insulation minimum 25mm thickness of phenolic foam should be installed to the vertical edge of the screed where these abut external walls. Actual performance of this floor construction type based on specification = 0.18W/m²k. The sub floor will perform to a minimum standard U- Value of 0.25W/m²K. The DPM should be dressed into the DPC's in all cases to ensure continuity. The DPM membrane should be overlapped and taped with the minimum amount of joints. Collars for service entries should be made with additional lengths of membrane with all joints being thoroughly taped.

Superstructure:

The external leaf of the cavity wall will be formed with 102.5mm masonry units (Heritage Blend- or similar). There will be a 100mm cavity filled with 100mm 32 Ultimate Dri-Therm cavity slabs. Top of concrete cavity fill maximum 75mm below ground. Cavity faces, ties and dpc's are to be kept free of mortar and debris. Stainless steel cavity wall ties are to be placed with minimum 75mm penetration into each leaf and sited at 450mm centres vertically and 750mm horizontally in joints. The number of ties is to be doubled around cavity closures such as door openings. Movement joints are to be located at maximum 12m centres in brickwork & 6m centres in blockwork. Joints to be min 10mm wide with Ancon Clark PPS (or similar) tie (200mm long) laid across joint with debonding sleeve on one end to allow movement. Installed at maximum 450 vertical centres. Install easily compressible filler strip within joint, with non-hardening mastic, 12mm deep to external face. The internal leaf of the cavity wall is to comprise of a 100mm thick 7n lightweight block (to BS 6073-2 or BS EN 771-3). The U value through the external walls will be a minimum of 0.3 W/m²K.

U Value Calculation:
External surface 0.04
Outer brick skin 0.31
Cavity Insulation 2.7
Internal Block 0.31
12.5mm plaster 0.09
Internal surface 0.12

Total Thermal Resistance 3.57

U Value= 0.28 W/m²k

Cavity Tray DPC's:

Timloc (such as Cavity 2000) or similar approved cavity tray systems are to be installed at all roof/ wall junctions. The cavity trays should be installed in conjunction with appropriate weep ducts through the facing brickwork purpends. These ducts should be formed immediately above base of cavity, at cavity trays and stepped dpc's. The provision of weep ducts should be at a maximum of 1m centres and at least 2 above each opening.

Lintels & Steelwork:

Lintels are to be of the pressed metal type suitable for cavity wall insulations. These lintels will have integral insulation and require a minimum 150mm end bearing (each end) unless larger spans are being bridged whereby the manufacturers guidance should be followed. Lintels used for internal openings such as doors can be solid pre-stressed concrete types conforming to BS EN 845-2. Manufacturers recommendations should always be followed with regards to suitability of loading, end bearings & installation methods. Any structural steelwork must be protected to a minimum standard of ½ hour. This can be achieved by wrapping with 25mm plasterboard & skim (or 12.5mm Gyproc fire line board) or painted with an intumescent paint system.

Window Reveals:

All cavity closures in external walls are to be insulated such as Kingspan 'Thermabate' or similar approved systems.

Intermediate Floor Construction:

Joists are to be an open webbed engineered type system with the design being passed to BC on placement of the order. Joists are to be doubled up/ noggins provided beneath partitions. Joists set in and bearing on the inner leaf blockwork are to be packed out and sealed with flexible sealant to minimise air leakage into the cavity. Joists which are supported on hangers should have heavy duty restraint type straps hooked over the inner skin of blockwork at max 2m centres to provide lateral restraint to the wall at intermediate floor level. Considerable care must be taken when passing services through floor joists. The weather deck is to be minimum thickness of 22mm and can either be V313 tongue and groove chipboard or t & g s.w boarding. Chipboard is to be fixed using screws at prescribed centres and s.w boarding is to be cramped and secret nailed through the tongues. Fix noggins between floor joists to carry joints on chipboard flooring. All structural timber is to comply with BS EN338.

Wallplate:

Wallplates are to be min section size of 100 x 50mm (tanalized) and bedded onto inner leaf of blockwork with half-joints min 150mm long. 30 x 5mm galvanized straps are to be provided at 2m centres to fix to blockwork and turned over the top of the wallplate to hold down.

Roof Structure:

The roof will be designed & manufactured in accordance with BS 5268 and braced in accordance with BS 5268. Rafters are to be fixed to wallplates using proprietary galvanised clips. Galvanised lateral restraint straps 30 x 5mm are to be provided to gable walls where roof trusses run parallel. These should be provided at each node point of the trusses and not exceeding 2m centres up the verge across the ceiling tie and across the first-floor joists.

Roof Tiling:

The roof is to be tiled using a Marley Edgemere roofing tile (finished in grey) fixed to 50 x 25 tanalized battens (BS5534 compliant) on a breather membrane such as Tyvec Supro (or similar approved), allow 10mm sag between rafters to aid drainage. Ridge to be tiled with a ridge tile to suit the roofing tile. Verge & ridge tiles to be mechanically fixed as per manufacturers guidance and in accordance with BS 8612 & BS5534- 2014. Verge tiles are to be bedded and clipped in accordance with manufacturers guidance.

Gutters & Downpipes:

The gutters shall be 112mm half round profile, black PVC supported on brackets to manufacturer's instructions. Downpipes are to be 68mm dia circular and secured as per manufacturers recommendations.

Roof Insulation:

Roof insulation at flat ceiling level is to comprise 450mm of mineral wool quilt insulation laid 100mm between ceiling joists and 350mm over joists at a 90deg angle to the joists.

Insulation to pitched ceilings will comprise 100mm Kingspan Kooltherm K107 Pitched roof board to be fitted between rafters allowing a min 25mm vent void to the underside of the tiles. 62.5mm Kingspan Kooltherm K18 insulated dry lining board mechanically fitted to underside of rafters (necessitating the need for a separate vapour control barrier) all joints taped and a 3mm plaster skim to finish. Alternatively 500mm Kingspan Kooltherm K107 can be mechanically fixed to underside of rafters with a separate vapour barrier to follow with PB fixed underneath. Decoration to client's specification. Minimum thermal performance through pitched ceilings to be 0.18W/m²k.

Windows:

Windows will be of upvc construction (foil wrapped RAL 9010 externally- off white, white internally) and will perform to a minimum U value of 2.0 W/m²k (A Rated glazing throughout). Doors to perform to a minimum standard of 1.8W/m²K. Windows to habitable rooms should have 1/20th openable area for rapid ventilation and be fitted with trickle ventilation of min area 8000mm². Windows serving non-habitable rooms should provide minimum trickle ventilation area of 4000mm². Trickle ventilation should be both adjustable and fully closable. All glass falling below 800mm of finished floor level should be either toughened or laminated and should be identified as such. Any windows at first floor level should have a minimum opening area of 0.33m² and measuring at least 450mm x 450mm. The bottom edge of the window should be no higher than 1.1m above finished floor level. Windows & external doors are to meet the security requirements of British Standards publication PAS 24:2012.

Access Doors:

External doors will be composite uPVC in construction finished in. The doors should be fitted with 5 lever locking and bolts or 3-point locking. All frames should be fully draught stripped and the principle entrance should carry a low profile 'disabled access' threshold. The principle doorway should have a minimum opening width of 775mm. Glazing in doors and side screens should be toughened or laminated safety glass.

1st Fix Joinery:

Door casings should be in mdf ready for painting. Linings are to have moulded planted stops to form rebates, the linings should be fixed using mechanical fixings. 100 x 50 noggins to all ceiling joists to suit plasterboard sizes. Window boards are to be bullnosed 25mm mdf fixed using screws & expanding foam. Stud walls will be formed out of 4"x2" cls studwork. Attached to head & sole plates fixed to the floor & ceiling via wood screws. Studs to be set at 400 centres with appropriate staggered noggins.

Ventilation:

Mechanical extraction is to be provided as described here;

Kitchen: 60 l/ sec extraction manual operation.
Utility: 30 l/ sec extraction manual operation.
W.C's: 15 l/sec extraction, to be light switch operated with a variable overrun timer.
Bathrooms: 15 l/sec extraction, to be light switch operated with a variable overrun timer.
Under regulation 20AA flow rates must be proven with evidence of passing these minimum flow rates being passed to building control on completion.

Plumbing & Heating Installation:

The system will be installed by a suitably qualified person and certified on completion. Gas fired boilers can only be installed by a Gas Safe registered engineer. The heating system will be fed from a condensing combination boiler achieving an A rating (in excess of 91% efficient) as offered by Sedbuk. Full Time and Temp. Zone Control, Weather Compensator & flue gas heat recovery. The system will provide heat through UF heating to the ground floor and panelled radiators to the first floor. Radiators are to be fitted with thermostatic radiator valves for control of heat whilst the UF heating system will benefit from room stats giving independent control of each room. Separate water heating timer. All pipe work carrying hot and cold water is to be insulated with suitable pipe lagging to BS 5422 001

Suitable notices shall be provided adjacent the boiler installation providing information for the end user of the system. Wholesome water supply to be provided by the local water supply undertaker (Anglian Water). All baths are to be fitted with a suitable device to limit the hot water temperature to a maximum of 48 deg C (typically a thermostatic mixing valve (TMV)). Hot water taps must be installed on the left-hand side. Deep seal traps fitted throughout.

Sound Insulation:

Intermediate timber floors will be provided with mineral wool insulation 100mm thickness of minimum density 10kg/m³, laid between floor joists. Plasterboard ceilings to the first floor are to be of minimum thickness 15mm with a 3mm skim finish.

Partition walls between bathrooms and bedrooms are to be provided with 100mm mineral wool insulation of minimum density 10kg/m³ draped and supported between studs. Studding will be a minimum of 75mm wide and plasterboard fixed here will be a minimum of 15mm thickness.

Plasterwork:

12.5mm plasterboard fixed on top of studwork to provide 30 min fire protection by way of galvanized plasterboard clout nails at 6" centers (min 25mm penetration into timber). All joints to be appropriately scrim taped and a 3mm skim plaster applied on top ready to receive decoration to the clients' specification. All angle and stop beads are to be stainless steel. Walls are boarded with 15mm plasterboard on dabs with a 3mm plaster skim on top.

2nd Fix Joinery:

Skirting boards and architraves will be mdf ready to be painted secured using mechanical fixings. Internal doors are to be give a clear minimum opening width of 750mm. Doors are top be hung on stainless steel hinges. Allow minimum 10mm air gap between finished floor level (including coverings) and underside of all doors (20mm gap where no final floor finishing is installed.

Staircase:

Min width 850mm
Max rise 220mm
Min going 220mm
Min headroom 2000mm
Handrails at 900mm high.
Max pitch 42 deg.
Ballustrades max 100mm space between
Min 50mm dimension at narrow end of tapered (winding) treads where installed.

Drainage:

Foul water pipework is to be 110mm plastic system with push fit joints laid and surrounded in 10mm pea gravel and laid to a fall of 1 in 40. Manholes are to be provided at changes of direction or fall and will be glass reinforced plastic in construction with lids suitable for the traffic expected. Gullies are to be plastic and roddable back inlet type. Relieving lintels are to be placed in walls above drainage penetrations into the dwelling. Foul drainage is to discharge into a package treatment plant. Minimum falls to be observed (1 in 40) with invert levels to be agreed on site with BCI.

Surface water pipe work is to also be 110mm dia plastic system bedded and surrounded in 10mm pea gravel to a gradient of 1:60. The size of the soakaways will be determined by a percolation test in accordance with BRE digest 365 as will construction.

External Works & Access for Disabled:

The principle entrance door will be provided with a ramped approach to a max gradient of 1:12.

Service Connections:

Electricity:
Power will be ducted to the property by the local supplier and terminate in an external meter box.

Water:
Water will be provided in 25mm MDPE pipe and enter the dwelling through the floor slab in an insulated duct. The main will be provided with a stop tap at this point.

Telephone:
Telephone cabling shall be ducted to the property and terminate on an external wall in a BT weatherproof terminal block.

Physical Insfrastructure for high-speed electronic communications networks: In accordance with Approved document R provision shall be made within the new dwelling so as to allow for the connection to such networks. Ducting shall be agreed on site and provided to allow such networks to enter the building in a satisfactory manner.

Chimney Stack:

Code 4 lead will be used where the chimney stack breaches the roof line, stepped flashing will be pointed so as to provide a continuation of the roofs weather shield. The chimney stack will be terminated with a suitable pot and cowl, suitable flaunching will be used to secure the pot. Observe maximum chimney height above house eaves four and a half times least width (as per drawing).

Flue system:

A Class 1 concrete flue liner will be used with an internal diameter of no less than 225mm (or an insulated twin wall flue system secured as per manufacturers instructions and installed as compliant with BS 4543). The system will be started with a proprietary throated starter block with the flue liners installed socket up and pointed with suitable fire cement. Any voids around the flue are to be filled with a lightweight concrete comprising 1 part ordinary Portland cement to 6 parts vermiculite.

Other flues used are to be matched up to the appliance to be fitted, this flue system will be installed by a qualified installer and certified on completion by way of a clear robust notice attached to the wall adjacent the flue giving the following information.

- The location of the beginning of the flue.
- The category of the flue and the types of appliances that can be safely accommodated.
- The type and size of the flue along with the manufacturers name.

Hearth & Heating Appliance:

Construction hearth upon which the appliance will stand to project a minimum of 300mm front the front edge of the appliance. Mantles should be constructed from robust materials, in the case of a combustible material being used then a minimum distance of 450mm should be observed from the stove and any single skin flue pipe. Where an appliance fuelled by solid fuel is installed then a carbon monoxide detector must be installed. Complying with BS EN 50291:2001 the monitor may be powered by batteries (the battery must be able to last the full life of the detector & alert users when it needs replacing) or be mains wired with a sensor failure warning device. The detector must be fitted in the same room as the appliance (on the ceiling) a minimum 300mm from a wall and between 1 & 3m horizontally from the appliance.

Electrical Installation:

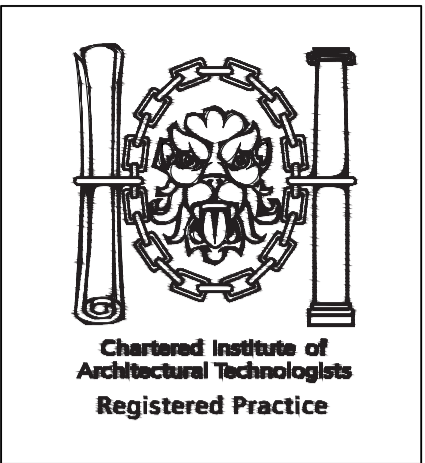
Any electrical installation is to be carried out by a suitably qualified person and certified on completion. The installation should be carried out in compliance with the latest edition of the IEE regulations, also in accordance with Approved Document P / BS 7671.

The installation will include mains wired smoke and heat alarms independently wired and fused with all alarms wired to sound together. The system will benefit from battery backup should power fail. The whole installation shall comply with BS 5446 & BS 5839. Sockets and light switches shall be mounted between 450mm and 1200mm measured from the finished floor level. The lighting installation shall include low energy fittings throughout. The fittings will have a luminous efficacy of 40 lumens/ circuit watt. External lighting will either be controlled by photocells or manually operated, low energy bulbs will have a luminous efficacy of 40 lumens/ circuit watt.

Dormer:

Dormer construction will comprise 50 x 150 softwood studs to dormer framing @ 400mm centres doubled up at window jambs. 150mm Kingspan rigid insulation board between studs. Insulation in dormer roof to be 100mm mineral wool insulation between & 50mm over studwork. 19mm WBP plywood fixed to face of studs & dressed in code 4 lead.

Breather membrane such as Tyvec or similar approved laid over dormer rafters, 50 x 25 tanalized battens secured to dormer rafters with Marley 'Duo' interlocking roofing tiles secured on top. Valley construction is to comprise 18mm exterior quality ply and valley boards 300mm wide, supported on 75x50mm noggins set between rafters. A minimum 25mm weathered batten is to run the length of the valley to proved a weather break under the tile line. The valley will be completed with code 4 lead in lengths not exceeding 1.5m long. Alternatively the valley may be completed with a preformed GRP valley trough manufactured to BS 476 for fire resistance. In this instance manufacturers guidelines should be followed for correct installation.



Reserved Matters Application –
Mendle Farm, Holme Lane, Holme, DN16 3RF

Client: Mr. J. Richardson

Issue Status	
Consultation	
Planning	
B. Regs	X
Construction	

Title:	
Written Specification	
1. To be completed and certified by a suitably qualified person and certified on completion. The installation should be carried out in compliance with the latest edition of the IEE regulations, also in accordance with Approved Document P / BS 7671.	
2. The installation will include mains wired smoke and heat alarms independently wired and fused with all alarms wired to sound together. The system will benefit from battery backup should power fail. The whole installation shall comply with BS 5446 & BS 5839. Sockets and light switches shall be mounted between 450mm and 1200mm measured from the finished floor level. The lighting installation shall include low energy fittings throughout. The fittings will have a luminous efficacy of 40 lumens/ circuit watt. External lighting will either be controlled by photocells or manually operated, low energy bulbs will have a luminous efficacy of 40 lumens/ circuit watt.	
3. Dormer: Dormer construction will comprise 50 x 150 softwood studs to dormer framing @ 400mm centres doubled up at window jambs. 150mm Kingspan rigid insulation board between studs. Insulation in dormer roof to be 100mm mineral wool insulation between & 50mm over studwork. 19mm WBP plywood fixed to face of studs & dressed in code 4 lead.	
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6. Sound Insulation: Intermediate timber floors will be provided with mineral wool insulation 100mm thickness of minimum density 10kg/m ³ , laid between floor joists. Plasterboard ceilings to the first floor are to be of minimum thickness 15mm with a 3mm skim finish.	
7. Partition walls between bathrooms and bedrooms are to be provided with 100mm mineral wool insulation of minimum density 10kg/m ³ draped and supported between studs. Studding will be a minimum of 75mm wide and plasterboard fixed here will be a minimum of 15mm thickness.	
8. Plasterwork: 12.5mm plasterboard fixed on top of studwork to provide 30 min fire protection by way of galvanized plasterboard clout nails at 6" centers (min 25mm penetration into timber). All joints to be appropriately scrim taped and a 3mm skim plaster applied on top ready to receive decoration to the clients' specification. All angle and stop beads are to be stainless steel. Walls are boarded with 15mm plasterboard on dabs with a 3mm plaster skim on top.	
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10. Staircase: Min width 850mm Max rise 220mm Min going 220mm Min headroom 2000mm Handrails at 900mm high. Max pitch 42 deg. Ballustrades max 100mm space between Min 50mm dimension at narrow end of tapered (winding) treads where installed.	
11. Drainage: Foul water pipework is to be 110mm plastic system with push fit joints laid and surrounded in 10mm pea gravel and laid to a fall of 1 in 40. Manholes are to be provided at changes of direction or fall and will be glass reinforced plastic in construction with lids suitable for the traffic expected. Gullies are to be plastic and roddable back inlet type. Relieving lintels are to be placed in walls above drainage penetrations into the dwelling. Foul drainage is to discharge into a package treatment plant. Minimum falls to be observed (1 in 40) with invert levels to be agreed on site with BCI.	
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Total Thermal Resistance 3.57	
U Value= 0.28 W/m ² k	
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Drawn by: HO/RI/MF/10
Scale: as indicated @ A1
Date: 18/08/2020

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