PIPES PASSING THROUGH WALLS
Walls above pipes passing through substructure walls to be supported on suitable lintel on semi-engineering bricks. Pipe to be provided with a 50mm clearance all round, opening to be masked with granular backfill (pea shingle) around pipe. DPC to be provided as required by BCO.
Alternatively
Where new pipework passes through external walls the pipe work is to be provided with 'rocker pipes' at a distance of 150mm either side of the wall face. The 'rocker pipes' must have flexible joints and be a maximum length of 600mm.

SOLID FLOOR INSULATION UNDER SLAB
To meet min U value required of 0.18 W/m²K
P/A ratio 0.5
Solid ground floor to consist of 150mm consolidated well-rammed hardcore, blinded with 50mm sand blinding. Provide a 1200 gauge polythene DPM, DPM to be lapped in with DPC in walls. Floor to be insulated over DPM with 90mm thick Kingspan Kooltherm insulation.
25mm insulation to continue around floor perimeters to avoid thermal bridging. A VCL should be laid over the insulation boards and turned up 100mm at room perimeters behind the skirting, all joints to be lapped by 150mm and sealed, provide 100mm ST2 or Gen2 ground bearing slab concrete mix to conform to BS 8500-2:2023 and BS EN 206 over VCL. Finish with 65mm sand/cement finishing screed with light mesh reinforcement.
Where drain runs pass under new floor, provide A142 mesh 1.0m wide within bottom of slab min 50mm concrete cover over length of drain.
Where existing suspended timber floor air bricks are covered by new extension, ensure cross-ventilation is maintained by connecting to 100mm dia UPVC pipes to terminate at new 65mm x 215mm air bricks built into new cavity wall with 100mm concrete cover laid under the extension. Ducts to be sleeved through cavity with cavity tray over.

WALLS BELOW GROUND
All new walls below ground to be constructed using blockwork compliant with BS EN 771 and suitable for below ground level or semi engineering brickwork. Walls to be built using 1:4 masonry mortar mix or equal approved specification to BS EN 1996-1-1. Cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. Or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

FULL FILL CAVITY WALL
To achieve minimum U Value of 0.18 W/m²K (actual U Value achieved 0.16 W/m²K)
New cavity wall to comprise of 103mm suitable facing brick. Full fill the cavity with 115mm Celotex Thermaclass Cavity Wall 21 as manufacturer's details. Inner leaf to be 100mm medium block, 0.45 W/m²K. Internal finish to be 12.5mm plasterboard on dabs. Walls to be built with 1:1:6 cement mortar.
Vertical joints in the board must be staggered and all joints tightly butted.
All details including corner and junction to be as relevant BBA certificate.
Location to be assessed for suitability of insulation boards.
10mm cavity to be provided if required.

DPC
Provide horizontal strip polymer (hyload) damp proof course to both internal and external skins, DPC to be placed a minimum 150mm above external ground level. New DPC to be made continuous with existing DPC's and with floor DPM. Vertical DPC to be installed at all reveals where cavity is closed.

WALL TIES
All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally, 450mm vertically and 225mm ctrs at reveals and corners in staggered rows. Wall ties to be suitable for cavity width and in accordance with BS EN 845-1:2013.
Wall ties for cavities over 150mm to be suitable for cavity width, and installed as manufacturer's details.

CAVITIES
Provide cavity trays over openings and where roofs abut walls. All cavities to be closed at eaves and around openings using Thermabate or similar non combustible insulated cavity closers. Provide vertical DPCs around openings and abutments. All cavity trays must have 150mm upstands and suitable cavity weep holes (min 2) at max 900mm centres.

EXISTING TO NEW WALL
Cavities in new wall to be made continuous with existing, where possible, to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

CAVITY BARRIERS
30 minute fire resistant cavity barriers to be provided around openings, at tops of walls, gable end walls, vertically at junctions with separating walls and horizontally at separating floors. Cavity trays to be provided over barriers where required. Trays and cavity barriers to be installed according to manufacturer's details.

WARM PITCHED ROOF
Pitch 22-45° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)
To achieve min U-value required of 0.15 W/m²K
Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design. Calculations to be based on BS EN 1995-1-1:2004 Eurocode 5: Design of timber structures (+A2:2014). Roofing tiles to match existing fixed to tile battens secured over breathable felt to relevant BBA Certificate allowing the breather felt to sag at least 10mm over preservative-treated counter battens (min 38mm x 50mm). Provide 100mm Celotex GA4000 insulation boards under the counter battens and 40mm Celotex TB4000 between 47 x 150mm timber rafters strength class C24 at 400 c/c – to give a max 3.47m span. A vapour control layer should be provided to the underside of the rafters. Finish with 12.5mm plasterboard and skim. Provide cavity tray where roof meets existing wall.
Restraint strapping - Ceiling joists tied to rafters (if raised collar roof consult Structural Engineer). 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 1200 x 30 x 5mm galvanized straps or other approved to BS EN 845-1 (+A1:2016) at 2m centres.

LEAD WORK AND FLASHINGS
All lead flashings, any valleys or soakers to be Code 5 lead and laid in accordance with BS 5534 and BS EN 12588. Flashings to be provided to all jambs and below window openings with welded upstands. Joints to be lapped min 150mm and lead to be dressed 200mm under tiles, etc.

INTERNAL STUD PARTITIONS
100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm c/cs. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (e.g.100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions to be built off doubled up joists where partitions run parallel or provide noggins where at right angles, or to be built off DPC on thickened concrete slab if solid ground floor. Walls faced throughout with 12.5mm plasterboard with skim plaster finish. Plasterboard to be taped and jointed complete with beads and stops.

ELECTRICAL
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a Competent Person registered under a Competent Person Self Certification Scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work by a person competent to do so. A copy of a certificate will be given to Building Control on completion.

INTERNAL LIGHTING
Install low energy light fittings that only take lamps having a luminous efficiency better than 80 lumens per circuit watt. All fixed to have lighting capacity (lm) 185 x total floor area, to comply with Part L of the current Building Regulations and the Domestic Building Services Compliance Guide.

HEATING
Extend all heating and hot water services from existing and provide new TRVs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.
The energy performance of the new components to be assessed. The results should be recorded and given to the building owner.
All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L.

SMOKE DETECTION
Provide a linked smoke alarm detection system to BS EN 14604 and BS 5839-6:2019 to at least a Grade D2 category LD3 standard. System to be mains powered with battery back up. At least one smoke detector to be provided in each hallway and landing. In hallways exceeding 7.5m in length, no point within the hallway should exceed 7.5m from the nearest detector and no bedroom door should be further than 3m from the nearest smoke alarm. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.
Mains-wired, interlinked heat detector to be provided to the kitchen and smoke detectors to principal living rooms, if required by Building Control.

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Client:
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Newton Le Willows, WA12 9UY

Project / Title:
Proposed Single Storey Side / Rear Extension at 17 Red Cedar Close
Blackley, M9 7GS

AutoCAD Location	D:\BentleyP&PM\Planning Apps\		
Drawn: MJD	Scale: As Shown @ A3	Date: 23.04.24	

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