

Excavation:  
Existing sewers must not be undermined. Any soft spots in formation level to be dug out and filled with mass concrete or granular material compacted in 225mm layers. Any major tree root activity to be dealt with in line with N.H.B.C. guidance notes.

Foundation:  
To be a minimum of 1.2m (to local Authority approval) below ground level or to depth of existing, or any adjacent drains, whichever is deeper and to go an additional 600mm below any local root activity in trench. Foundations to be a minimum of 500min wide trench fill using C35 concrete mix with sulphate resisting cement if necessary. Bridge over any drains with PC lintels. Provide 100mm claymaster boards to inside face of any foundation deeper than 1.5m to local Authorities approval. Stop claymaster 500mm above bottom of foundation.

New external walls:  
Hardie Plank Cedral Grey C05 on 100mm Thermalite Turbo inner blockwork 100mm cavity, 100mm cavity with Celeotex Thermaclass Cavity wall 21 90mm (to extend 225mm below DPC), 100mm Thermalite Turbo inner blockwork leaf finished with 12.5mm lightweight plaster. Provide stainless steel wall ties at 750mm horizontal & 450mm vertical centres, staggered and doubled up at reveals. Provide engineering bricks below DPC for outer leaf. Provide DPC a minimum of 150mm above ground level. Fill cavity with lean mix concrete to within 225mm of DPC, sloping towards external leaf. Blockwork to have a minimum compressive strength of 4N/mm² using 1:1:6 mortar. At abutment to existing walls provide stainless wall tie system, Furfix or similar in strict accordance with manufacturer's instructions and a vertical DPC. Provide vertical render stop and flexible mastic on completion. At sides of windows and doors provide Thermabate or similar insulated cavity closers with vertical DPC. Provide lateral restraint straps on elevations parallel to floor joists, ceiling joists & rafters as per typical detail. Expansion joints at 12m centres for brickwork and 6m centres for blockwork. (Wall to achieve a 'U' value of 0.18w/m²k)

New Ground floor construction:  
New floor to be 70mm sand cement screed on 500 gauge vapour control on 100mm layer Celotex insulation on Visqueen damp proof membrane on beam and block floor by Supreme or similar. 300 minimum under floor void. Ventilate void with periscope air bricks at 2m centres. Beam and block floor to be fitted strictly in accordance with manufacturers instructions. Screed to be reinforced with chicken wire 20mm minimum cover. 30mm wide EPS insulation strip at edge of screed on top of floor insulation. Do not use Tetriss system. (Floor to achieve a 'U' value of 0.18w/m²k)

New porch floor construction:  
New floor to be 65mm sand cement screed on 100mm Celotex insulation on 150mm grade C35 concrete slab on 1200 gauge polythene/bituthene damp proof membrane (150mm minimum laps) on 25mm sand on 150mm clean well compacted hardcore. Floor DPM to be lapped with wall DPC. Screed to be reinforced with chicken wire 20mm minimum cover.

Pitched Roof:  
Concrete interlocking tiles to suit pitch and to match tiles on 38x25mm softwood battens to suit rafters at 450mm centres on breathable roof membrane such as Tyvek by Dupont. Provide appropriate eaves carrier to breathable membrane. Rafters connected to 75x100 wide wall plate, fixed to wall using 100x900x30x2.5 thk galvanised M.S. straps at 1800mm centres and a minimum of 400mm from end of wall. 100mm mineral wool insulation laid between joists & 200mm to loft area. Ceilings of 12.7mm plasterboard and set. Provide eaves and roof ventilation tiles. Fix truss to wall plate with truss clips.

Flat roof warm deck:  
Pour and roll Roof master Superflex 250/350 slate surfaced cap sheet on Superbase underlay on BS747 type 3G Rubervent manufactured by Ruberoid building Products Ltd (Fire rated AC). At walls top sheet taken up minimum 150mm and dressed into mortar joint on existing wall, at existing roof top sheet taken up minimum 300mm under tiles. Laid on- 150mm deep Kingspan Thermaroom TR24 on a vapour barrier on 18mm WBP plywood to BS5268 part 2 on timber firings on joists (size as noted on plan). Plywood deck to be screwed at 100mm maximum centres to all supporting joists. Roof to achieve 'U' value of 0.18w/m²k. All roof products fitted strictly in accordance with the manufactures instructions. Ceiling of 500 gauge polythene on 12.7mm plaster board with skim coat, noggings as required. 1:80 minimum fall. Rafters/joists connected to 75x100 wide wall plate, fixed to wall using 100x900x30x2.5 thk galvanised M.S. straps at 1800mm centres and a minimum of 400mm from end of wall.

New Internal loadbearing walls:  
100mm thick blockwork finished with 12.5mm gypsum plaster with precast lintels over doors. 0.5 hour fire resistance.

Internal non loadbearing walls:  
75x50 timber studwork with 12.7mm plaster board with skim coat. Fill wall cavity with mineral wool insulation. 0.5 hour fire resistance.

Steel beams:  
New steel beams to have 150mm minimum end bearing laid on fresh mortar on concrete padstones. Provide 2No M12 location bolts through beams into each padstone. Floor beams to be painted prior to erection with Nullifire System S intumescent paint to 0.45mm thick for 0.5 hour fire protection. Connections between steel beams refer to calculations but to be formed using 10mm welded (6mm fillet weld) fin plate connections with 6No M16 grade 8.8 black bolts. All concrete padstones to be reinforced with 2 T12 reinforcing bars top and bottom.

Ventilation:  
Minimum opening window size to be 1/20th of floor area to all rooms. Provide minimum background ventilation by means of trickle ventilation of 8000sqmm and 4000sqmm provided to habitable and non-habitable rooms respectively in all new windows. Provide (if not already provided) an electric extractor fan 1750mm above floor level in new bathroom and utility room to extract 15 litres per second switched by light with timed over run. Provide an electric extractor fan 1750mm above floor level in kitchen to extract 60 litres per second (30 litres per second if incorporated in cooker hood) switched by light with timed over run.

Windows and Doors:  
Windows and doors to clients approval and to be double glazed (Low-E coating, 16mm Argon gas filled gap - to achieve a 'U' value of 1.4w/m²k WER band b and c or above for PVC or wood frames in accordance with Approved Document L1) with doors, windows within 300mm of doors and windows with sills below 800mm high to have safety glass to BS.6206 1981. Provide draught stripping and ventilators as required.

In all new bedrooms 1, 3 & 4 provide fire escape window opening of 0.33m², 450mm minimum width and height with bottom of opening between 850 & 1100mm above finished floor level.

Drainage:  
Above ground drainage to be uPVC push fit. 40mm dia. for

sinks, washing machines etc., 110mm dia. for soil pipes. All traps to be 75mm deep sealed type. Rodding access required to waste pipes at all changes of direction. Down pipes to match existing and BS.4576 to run to soakaway. 1:40 minimum falls to all drainage and installed in accordance with manufacturer's instructions.  
New RWP to run to new soakaway to be 1.5x1.5x1m deep below invert level of incoming pipe and to be built more than 5m from the house. Soakaway to be a clear void crate system with excavation lined with a geotech membrane all to BRE365.

Heating:  
Heating and hot water to be taken off existing gas boiler. Provide thermostatic valves to all new radiators and insulate all pipework in ceiling and fill any holes in walls.  
Timber: All timber to be C24 grade pressure impregnated with preservatives unless noted.

Flashings: Provide 150mm code 4 lead or Ubiflex.  
New electrical works must be installed by a competent person, one registered with an approved self certification scheme to BS7671.

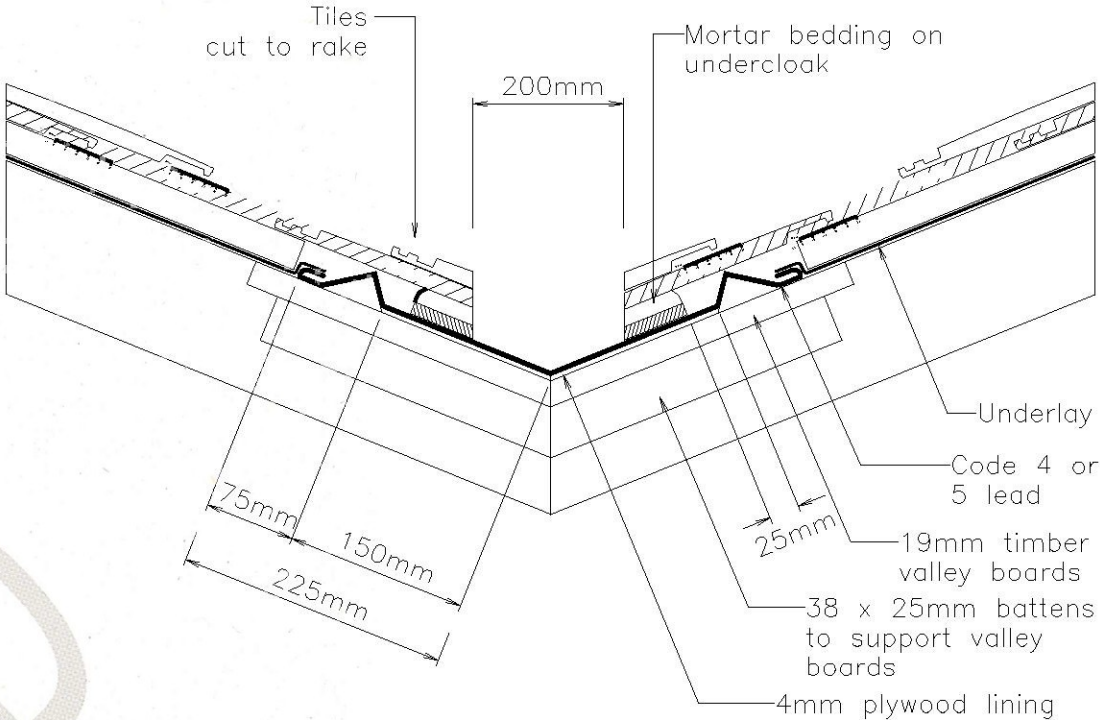
Provide (If not already present) new mains powered heat detector and alarm in kitchen, optical smoke detector in hall interlinked. Located 300mm from walls & light fittings & within 7.5m of habitable rooms. Alarms/detectors to comply with BS5446:6-1:2000, fixed in compliance with BS5839-6:2013 and wired to BS7671:2008.

Cold water supply:  
Wholesome water to be supplied to any place where drinking water is drawn off and to any sink where food is prepared (i.e. new kitchen sink and bathroom/en-suite wash basin locations).

Drawings have been prepared assuming a competent contractor will be carrying out the work.

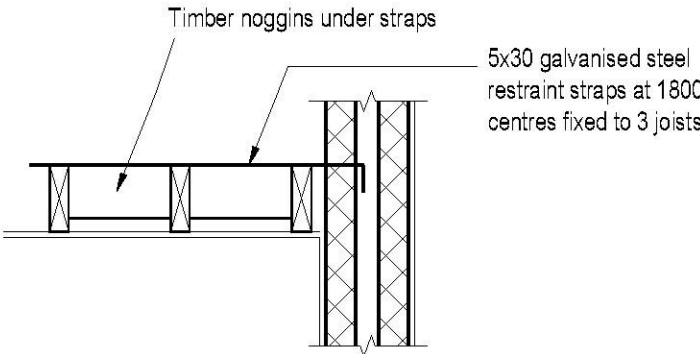
Drawings have been prepared without the benefit of intrusive surveys with some existing details being assumed, any discrepancy between the drawings and conditions found on site to be reported to the Architect/Engineer immediately.

At least 75% of all new light fittings to be low energy i.e. light fittings only capable of excepting lamps having a luminous efficiency greater than 45 lumens per circuit watt eg. Fluorescent tubes or compact fluorescent lamps (not GLS tungsten lamps with bayonet cap or Eddison screw bases). No down lighters to be used unless LED.



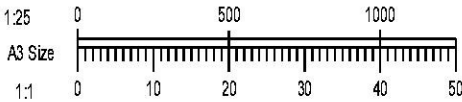
## LEAD VALLEY GUTTER

1:25



## LATERAL RESTRAINT DETAIL

1:25



PROPOSED EXTENSION AT  
39 LOUIS DRIVE EAST,  
RAYLEIGH, SS6 9DU  
DRG. No. 008 Rev. B