1:100 0 1000 2000 3000 4000 5000

Building Regulations Notes:

House extension
Building Regulation Notes:

The design of the new extension and services shall be in accordance with the latest British Standards and Building Regulations. Figured dimensions only shall be accepted and no measurements shall be scaled from this drawing. For site and floor levels, drainage and external services see the appropriate layout plans.

The Contractor shall contact either the Client or Building Control Officer if in any doubt & prior to amending the proposals beyond the specifications contained on the proposed drawings.

General project description:
Approx. 1930s, 2 storey, 4 bedroom, detached house, in wide plot, is to have new single storey extension added to the North East gable elevation, to create larger Kitchen. The existing Kitchen is to have the modern lean-to porch and bay window extensions removed and the room converted into a Snug / Study, with a new bay window installed.

General superstructure:
It is intended to construct the new extension in traditional masonry cavity walls (rendered above projecting brick string line on gable). Existing foundations to be confirmed on site, subject to Structural Engineer's calculations and inspection by the Building Control Officer.

All new lintels, joists, rafters, purlins, etc., are to be in accordance with the Structural Engineer's details and specification.

Site clearance:
Existing demolition debris, i.e. lean-to porch and bay window to current rear Kitchen, etc. to be removed from site. The area adjacent to the North East elevation, where the extension is to be built is to be cleared of all vegetation, hardstanding surfaces etc. (Usable flagstones are to be retained for use in the reinstatement of the paths and patio. The contractor will be responsible for the protection of the works, the adjacent properties and the public during construction and for the removal of all debris and rubbish on completion. The contractor shall ensure that any redundant drainage is grubbed up / disconnected.

Foundations:
For new side extension, it is intended to construct 600mm wide x min. 150mm thick GEN 3 concrete strip (or trench fill) footings, min. 1000mm below F.F.L. to top of concrete, against existing house, stepping down in 200mm increments to min. 1800mm to gable wall. Widths and depths of foundations are dependant on type of subsoil and should be in accordance with Approved Document A; Table 10 and BS EN 1997-1:2004+A1:2013. Depth of trenches to be confirmed by the Structural Engineer, or Local Authority Building Control, prior to laying concrete. Concrete to BS 8500-2:2015 and BS EN 206:2013.

Cavity wall construction below DPC level:
Walls built in cavity construction up to minimum 150mm below finished ground level in 100mm thick 7N/mm² Celcon High Strength Grade 7, concrete blockwork externally (facing brickwork to match existing house - N.B. coursing measures approx. 86mm and will need to be matched), between 150mm below G.L. up to DPC, with nom. 95mm cavity (to match existing) and 100mm thick 7N/mm² Celcon High Strength Grade 7, concrete block internally, (both of max. 0.19 W/m•K dry thermal conductivity). 95mm cavity filled with weak mix concrete up to 300mm below finished ground level and finished level.
65mm thick Xtratherm® XT/CW T & G Thin-R Partial Fill Cavity Wall Insulation Board (which allows a min. 10mm residual cavity – detailing shows 30mm), is to continue down min. 300mm below finished floor level. Form weepholes in perpends of external leaf at max 900mm centres.

New side access door to have reconstituted stone cill threshold step, as shown on elevations.

Facing brick / block cavity wall above DPC level, up to render line.
U-value: not to exceed **0.22 W/m²•K**
External leaf: 102.5mm thick facing brick (to match existing - N.B. coursing measures approx. 86mm and will need to be matched);
Cavity: Nom. 95mm wide (to match existing);
Insulation: 65mm thick Xtratherm® XT/CW T & G Thin-R Partial Fill Cavity Wall Insulation Board (which allows a min. 10mm residual cavity – detailing shows 30mm), installed in accordance with manufacturer's recommendations.
100mm thick 7N/mm² Celcon High Strength Grade 7, concrete blockwork internally, (max. 0.19 W/m•K dry thermal conductivity).
Internal finish to be 12.5mm thick plasterboard on dabs with a skim plaster finish.
(The contractor may use an alternative wall insulation achieving the correct values, providing calculations to prove compliance).

Mortar to walls below G.F.L. to be cement : lime : sand 1 : 1 : 4.5 - 5 (group 1); and mortar to walls above G.F.L. to be cement : lime : sand 1 : 1 : 6 (group 3).

New walls to be keyed into existing with cavities run through and insulation extended through into existing cavity.

Allow for top course of facing brick to project nom. 12mm, at transition to render finish, to match existing house.

Windows and doors to have soldier course detailing over as indicated on elevations.

Rendered block / block cavity wall above projecting brick course.
U-value: not to exceed **0.24 W/m²•K**

External leaf: 100mm thick 7N/mm² Celcon High Strength Grade 7, concrete blockwork externally, (max. 0.19 W/m²K dry thermal conductivity). External face of blockwork to receive a weak 10:1 mix of SBR latex prior to rendering with an 8-10mm thick K Rend Standard UF Base Coat layer, followed by a 6-10mm thick Silicone Dash Receiver 'butter coat', to receive clean dry aggregate dash, applied in accordance with manufacturer's details, by Kilwaughter Chemical Co Ltd, www.K-Rend.co.uk.
Cavity: 95mm wide (minimum 30mm clear cavity between insulation and external leaf);
Insulation: 65mm thick Xtratherm® XT/CW T & G Thin-R Partial Fill Cavity Wall Insulation Board, installed in accordance with manufacturer's recommendations;
100mm thick 7N/mm² Celcon High Strength Grade 7, concrete blockwork internally, (max. 0.19 W/m²K dry thermal conductivity).
Internal lining of 12.5mm thick plasterboard on adhesive dabs with a skim finish.
(The contractor may use an alternative wall insulation achieving the correct values, providing calculations to prove compliance).
Mortar to walls below G.F.L. to be cement : lime : sand 1 : ¼ : 3 (group 1); and mortar to walls above G.F.L. to be cement : lime : sand 1 : 1 : 6 (group 3).

Insulation to be taken up as high as the roof eaves and verges and linked to roof insulation.

New wall leaves at this level can be fixed to existing house using proprietary wall starter system, e.g. Ancon Staifix, or similar.

The brickwork / blockwork outer leaf is to have bedding reinforcement mesh at the positions of all structural openings.

Jambs and cills to new external windows and doors in masonry walls are to be closed with Kingspan Kooltherm® Cavity Closers, or similar approved proprietary insulated cavity closers, suitable for 95mm wide cavities.

The outer and inner leaves of the cavity wall are to be tied together using stainless steel wall ties at 450mm vertical centres and 750mm horizontal centres. Ties at 225mm vertical centres adjacent to openings and to wall ends; allow for stainless steel cavity ties incorporating insulation restraint disks.

Lintels:
Lintels are to be provided at all new window positions, sized appropriate to the opening width, in accordance with the Structural Engineer's recommendations and notes on the drawings, with 150mm end bearings and to include thermal insulation. Allow for Naylor R6, or similar RC lintels over new / altered openings through original end gable wall, to Structural Engineer's details.

Wall lining:
Existing facing brick (at ground floor) and render finish (at first floor), of existing gable end wall, to become internal, to be lined with 12.5mm thick plasterboard on adhesive dabs.

Masonry internal partitions:
Existing stairs landing window in end gable wall to be repositioned (to avoid new extension roof), with existing opening infilled, using 100mm thick blockwork, compressive strength of 4.0N/mm², to 'inner' and 'outer' leaf. To be plastered internally with two-coat plaster or plasterboard on dot and dabs, including skim coat. Rendered externally to match adjacent wall finishes.

Damp proof courses / cavity trays:
Zedex D.P.C.s and cavity trays to be provided to all openings to new windows, installed in accordance with manufacturer's recommendations & including weep holes at required centres with proprietary plastic inserts @ 450 centres generally and above lintels max. 2 No. per lintel.

DPCs to be laid on a smooth mortar bed, lapped and sealed at junctions and provided in the following locations:-
- Min. 150mm above adjacent ground level in outside leaf of external walls.
- Below all cills.
- At all horizontal and vertical cavity closings to jambs and cills of openings.
- As cavity trays over lintels to doors, window openings and roof / wall junctions.

DPCs at ground level are to be Visqueen Gas Resistant (GR) DPC, installed in accordance with BS 8215 : 1991, BS 8000 : Part 3, 1989 and BS 5628 : Part 3, 1985; bedded on both sides with fresh mortar and project through the full width of the wall and 5mm beyond the finished external face.

Cavities are to extend min. 150mm below lowest DPC level with weep holes at base and weak concrete fill up to underside of (GR) DPC.

Cavity trays are to have a min. 150mm rise across the cavity, min 75mm purpose made stop ends and shall extend at least 150mm beyond ends of lintels.

Ground floor suspended beam and block floor:
U-value: not greater than **0.22 W/m²-K.**

Reduce site levels to suit floor build up and treat ground with weedkiller. Hardcore: Well compacted clean Type 6F recycled hardcore laid in layers maximum 150mm thick, to found on sound bearing non-biological soil formation (all soft spots dug out).
100mm thick oversite concrete.
Min. 150mm void to underside of concrete beams. Allow for proprietary 'periscope' vents at max. 2m cts on all sides to provide 1500m² equivalent opening per metre run of wall, to void below beam and block floor, with clay airbrick in external wall and cavity tray over.
Proprietary beam and block floor, to comply with BS EN 1992-1-1:2004 + A1:2014, by specialist manufacturer / installer, using 150mm thick beams and 7N/mm² dense concrete blocks. Joints to be fully grouted with GEN3 concrete, 6mm max. aggregate size.
Visqueen 2000g DPM with all joints lapped and taped. DPM to be dressed up face of inner leaf and in below Hyload DPC. DPM & DPC to be sealed as per manufacturer's instructions.
100mmm thick Xtratherm Thin-R XT / UF floor insulation, with min. 25mm thickness returned up internal wall face.
500 gauge polythene sheet or builders' paper separating layer.
Overlay with 'wet-system' underfloor heating, linked to existing water heating / boiler, via manifold, attached using fixing strips in accordance with manufacturer's details and instructions and wired back to agreed switching / thermostat control position;).
Screed: Nom. 75mm thick 1:3 cement / sand screed, with proprietary reinforcement laid over insulation / underfloor heating cables.
Natural timber board floor finish, glue fixed to finished screed surface.

Internal doors:
New internal doors to Kitchen (FD30S), to be solid timber panel doors to match existing / client's choice.

External windows, doors & glazing:
New windows are to be white uPVC framed and glazed with 24mm double-glazed sealed units with 4mm thick Pilkington 'Optitherm™ S1' glass inner pane, 16mm thick argon gas-filled cavity, 4mm thick clear float outer pane to achieve a min. U-Value of **1.6 W/m²K.**

Any glazing less than 800mm above floor level in windows is to be in accordance with Part 'K' Section 4 of the current Building Regulations and is to be toughened or laminated as defined in BS EN 12600 Section 4 and BS: 6206 1981 Clause 5.3.

Area of opening lights in new windows are to be min 10% of floor area when opening lights open less than 30° & min 5% of floor area when opening lights open more than 30°. All opening lights are to have locking handles.

New side door to North East gable elevation to be white uPVC framed door, with double-glazed upper panel.

All gaps around perimeter of frames are to be filled with proprietary expanding foam and pointed externally with polysulphide sealant and backing strip.

External doors to achieve a min. U-value of **1.0W/m²-K.**

Roof construction:
The new extension roof is to be constructed as nom. 47 x 125mm C16 rafters @ 400mm cts, at pitch to match existing roof (approx. 32°), 'birdsmouthed' over and secured to wall plates and 100 x 300mm C24 ridge beam, to Structural Engineer's details.

Rafters to be secured to internal masonry leaf via 75 x 100mm treated C16 wall plate. Wall plate secured using galvanised M.S. 30 x 2.5 x 1000 mm restraint straps at 2m centres, plug & screw fixed to blockwork, not nailed.

The new extension roof is to be insulated at ceiling joist level, with 150mm thick Knauf Earthwool 44 laid between 47 x 170mm joists, fixed between existing and new gable walls (at 90° to rafters), at 600mm centres, with 1 layer of 150mm thick and 1 layer of 100mm thick Knauf Earthwool 44 laid over at 90° or similar to achieve a 'U' value of 0.16 W/m²K, underdrawn with 12.5mm thick plasterboard with a plaster skim finish. The sloped sections of the roof are to have 100mm thick Kingspan Kooltherm® K7 Pitched Roof Board laid between rafters and flush to underside (to retain min. 25mm air gap to underside of Nilvent, or similar breather membrane). Underdraw rafters with 62.5mm thick Kingspan Kooltherm® K18 Insulated Plasterboard and a skim finish. Fix Lakeland Green natural slates (to match existing roof) on 50 x 25mm fully tanalised tiling battens to BS: 5534, Pt. 1 at a gauge to suit slates.

Flashings are to be Code 4 and fixed in accordance with the lead sheet association approved details. All lead work is to be coated in patination oil & applied in accordance with manufacture instructions.

Fascias, soffit boards and verges to be white uPVC on s.w. framing, to match existing house.

Below ground drainage:
The contractor, on setting up the site is to check the size, invert & line of the existing drainage system and confirm to Building Control if different from the drawings.

Generally, 100mm Ø Hepworth PlastiDrain® Drainage System, with rodable back inlet gullies to all RWP / foul gulleys & PPIC inspection chambers at all direction changes. All to discharge into existing combined drain. All drainage laid to manufacturers instructions to a min. 1:80 fall; or otherwise calculated, surrounded in pea gravel bedded in layers. All run directions & levels to be confirmed on site by the contractor and approved L.A. Building Control.

Generally, pipes to be bedded on granular material conforming to BS EN 1610 Annex B Table B15, and should be single size material or graded material from 5mm up to a maximum size of 10mm for 100mm pipes, 14mm for 150mm pipes, 20mm for pipes from 150mm up to 600mm diameter and 40mm for pipes more than 600mm diameter. Trenches backfilled with selected fill: free from stones larger than 40mm, lumps of clay over 100mm, timber, frozen material and vegetable matter, all in accordance with manufacturer's instructions.

Pipes passing under buildings where crown of pipe is less than 300mm below underside of slabs, are to be encased in 150mm concrete in the same mix as the slab. Where pipe trenches are within 1.0m of any foundation, surround pipe in concrete up to the underside of the foundation.

Pipes passing through structures to have min 50mm clearance and be provided with a concrete lintel over, a suitable rigid sheet material to be closely fitted around pipe each side of structure to prevent entry of vermin and fill. Void filled with compressible sealant. Where it is not possible to provide an opening i.e. Manholes, a 600mm long 'Rocker' pipe with flexible joints should be provided at 150mm from external wall face. Manholes in positions indicated on the plans, to be PPICs - invert levels to be calculated back from invert level of mains sewer to be connected into. PPICs in soft landscape to be surrounded in well-compacted backfill, PPICs in driveways to have 225mm thick concrete surround as manufacturer's standard detail. Manholes in heavy duty areas to be surrounded in 150mm concrete. Light duty galvanised steel covers and frames provided in footpaths and landscaped areas, medium to heavy duty ductile iron in roads etc. All gullies to be roddable access gullies. 200mm radius rest bends provided at base of all soil stacks.

All excessively steep drainage runs to have slow bends incorporated at lowest point prior to junctions to reduce velocity of flow.

The contractor shall test the new drainage installation to the Local Authority's satisfaction during/prior to the completion of project.

On completion of works, all drainage is to be properly rodded & washed thoroughly removing all construction debris, including any debris left by subcontractors.

Access shall be provided throughout the whole drainage system to allow the cleansing of drains, all to the Local Authority's approval, including rodding points internally & externally.

Above ground drainage:
Generally, push fit PVC-U Hepworth, or similar, soil & waste to BS: 5254 / 5255 / 4514 or solvent weld ABS; pipe sizes to be 40mm Ø from sinks, washing machines, etc. up to 3.0m and 50mm Ø over 3.0m, or when combined. All with 75mm deep seal traps. Rodding access is to be allowed to all branches. All waste/drain pipe Øs are to be as shown on the drawings.

R.W.P.s & gutters:
Rainwater gutters to the new extension are to be 115mm wide ogee profile PVC-U to match the existing, supported on brackets secured to the new PVC-U fascia boards fixed to rafter ends below the roof finish - include for all stopends, unions, outlets, etc. RWPs to be 70mm round PVC-U to match existing - include for all brackets, connections, spigots, adapters, etc. All new rainwater goods are to be in black to match existing.

RWPs are to discharge into rodable back-inlet gulleys, all by Hepworth drainage.

Services installation:
The design, installation, inspection and testing of any new electrical installation will be carried out in accordance with Part 'P' of the Building Regulations and to BS: 7671:2008 and also comply with the current I.E.E. Regulations. Prior to the building being occupied, Building Control will be provided with an electrical installation certificate in accordance with BS: 7671:2008 and the I.E.E. model forms.

The Contractor / Electrical Contractor will be responsible for the designing, agreeing the proposed electrical layout with the Client.

The Contractor / Electrical Contractor is also responsible for submitting all relevant information to the Building Control Officer for approval.

The following specification is appropriate for domestic installations in houses and extensions, ring main power circuits can include sockets to Client's requirements up to a max. 100m² floor area.

The Contractor / Electrical Contractor to assess whether the existing consumer unit has adequate capacity for the new extension; if not an appropriately sized consumer unit of a multi - way R.C.D. with split load boards fitted with miniature circuit breakers (M.C.B.) of appropriate ratings to suit the individual situation. Any new unit is either to be installed in its existing location, or a location to be agreed with the Client.

Lighting circuits will be installed with 1.0 or 1.5mm cable protected with 6 Amp M.C.B.

Cables will be positioned in suitable safe zones running vertically or horizontally from switches and power points or within 150mm of corners of rooms.

Earthing and bonding will be provided to all metalwork in the new Kitchen, wired back to an agreed earthing point eliminating voltage differentials.

One third of all internal lighting points to be fitted with C.F.L. compliant fittings.

New mains wired heat detector to be fitted in Kitchen.

Note:
Socket outlets must be positioned to comply with Part 'M', between 450mm and 1200mm above floor level and light switches a max. 1200mm high.

Cables passing through timber joists will be located on the centreline of the joist to avoid mechanical damage.

In undertaking the work, the electrical installer will comply with Part 'P' and with all other Building Regulations, guidance can be found in the Electrical Installers Guide to the Building Regulations, particularly having regard to:

Approved Document A - Structure (forming of holes, etc.).
Approved Document B - Fire Safety (compliance of wiring and fitting with latest regulations).
Approved Document F - Ventilation (wiring of extract fans, etc.).
Approved Document L - Conservation of fuel & power in dwelling (efficiency of fittings, etc.).
Approved Document M - Access to and Use of Buildings (heights of sockets and switches, etc.).

Background ventilation:
Total equivalent area of background trickle ventilation is to be of min. 105,000mm², based on a floor area of approx. 177m². The total equivalent area is to be dispersed throughout the property, following the following criteria:

· all rooms are to have background ventilation.
· habitable rooms to have min 5,000mm² equivalent area of background ventilation.
· ventilators should be located at least 1700mm from floor level and 500mm away from any extract fan.
· to ensure good air transfer throughout the dwelling, a 10mm gap should be formed under all internal doors above the proposed floor finishes.

Size of ventilators to new windows and doors is to be confirmed by the window manufacturer/contractor prior to installation.

Kitchen to have extract ventilation of 30 litres / second (if adjacent to hob) or 60 litres / second (if elsewhere).

Space & water heating:
The heating of the new extension will be via a separate underfloor heating system to each floor (as before described), wired back to thermostat / timer / controllers in agreed positions. Any new underfloor heating system to be installed in accordance with BS EN 1264-2:1997.

The existing chimney flue in the Kitchen (becoming Snug / Study), is to be reinstated, with liner installed to suit installation of multi-fuel stove (to Client's choice) and capped off with appropriate flue terminal. Allow for laying rivened slate hearth.

Existing boiler in Utility Room to be assessed for capacity to cope with extending the current hot water system to new Kitchen (as branches off pipework going to existing Kitchen).

The current gas supply to the existing Kitchen oven is to be capped off, below floor level and made safe.

A Gas Safe® registered gas installer must carry out any works to the existing boiler or new gas feed to appliances.

Part 'L' notes:
Lighting - internal: 30% of all new lighting points - having the most use - are to be provided with fittings which will only accept lamps with a luminous efficacy greater than 40 lumens per circuit watt.

Insulation:
The construction details provided are to provide the following min. values:

Floors	'U' value max.	W/m²K 0.22
Walls	'U' value max.	W/m²K 0.25
Pitched roofs		
(with insulation at ceiling level)	'U' value max.	W/m²K 0.16
(with insulation at rafter level)	'U' value max.	W/m²K 0.18
Windows	'U' value max.	W/m²K 1.60

Hard landscaping:
Decorative paving slabs affected by the works are to be stored in a safe place on site for re-use within the re-landscaping scheme. Supplement with any additional matching stone flags, where there is a shortfall, to enable patio and path to side of extension, to be laid up to line of tarmac driveway.

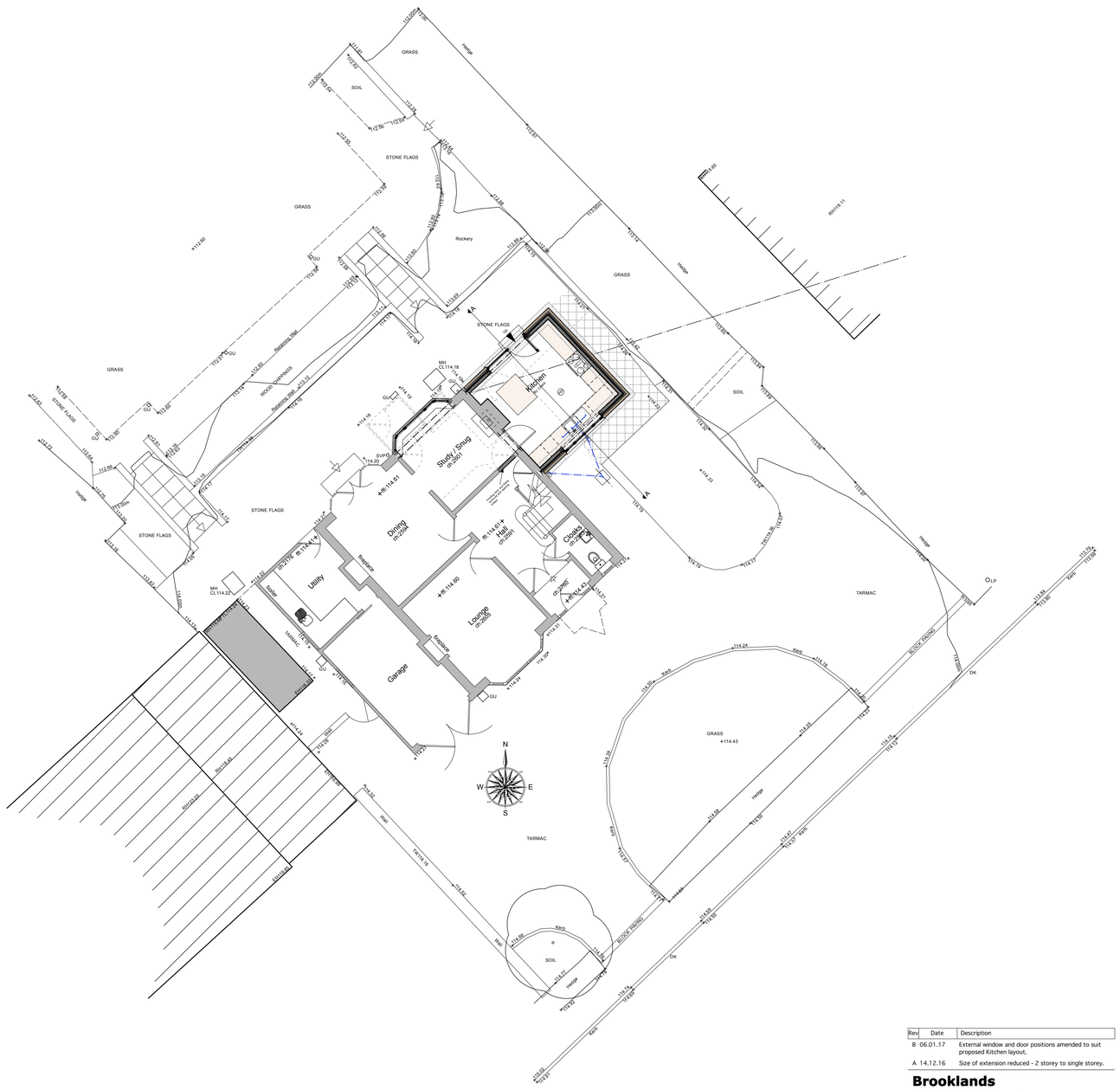
Allow for patch repairs to tarmac driveway, where affected by site clearance, foundation and drainage works.

Allow for forming stone flag steps, on facing brick walls to match extension, to new side access door.

GENERAL NOTES FOR CONTRACTOR.

Allow for drainage connection points and electrical positions only, for 'plumbing in' by Kitchen Specialists installation.

New floor finish in Kitchen / Dining Area is to be laid once Kitchen installation is complete.



Rev	Date	Description
B	06.01.17	External window and door positions amended to suit proposed Kitchen layout.
A	14.12.16	Size of extension reduced - 2 storey to single storey.

Brooklands
61 Whalley Road
Langho

Proposed Site Layout and Construction Notes

Drwg. No.: 2308.BR.01 Rev.: B

Date: Sept '16 Scale: 1:100@A1

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