Lean to Roof Construction: Unvented Cold Roof
Tiles as specified on 38 x 25mm tanalised battens on Du Pont Tyvek breathable roof membrane on rafters as per specification.
100 x 50 pole plate bolted to brickwork @ 600 centres.
ceiling joists @ as per specification
100 x 75 wall plates bedded on and strapped to blockwork @ 2000mm centres
1500 x 25mm pvc fascias with 6mm pvc soffits all round. 300mm quilt to roof void.
Total U value for new roof = 0.16W/M2k

Vaulted Roof Construction: Unvented Cold Roof
Tiles to match existing on 38 x 25mm tanalised battens on Du Pont Tyvek breathable roof membrane on rafters as per specification.
100 x 50 pole plate bolted to brickwork @ 600 centres.
Rafter feet to be fixed using galvanised truss shoes to
100 x 75 wall plates. Wall plates bedded on and strapped to blockwork @ 2000mm centres
200 x 25mm pvc fascias with 6mm pvc soffits with
175 x 25mm pvc barge boards
75mm Cellotex between rafers with Web Dynamix
Thinsulex to underside.Fix 25 x 50mm counterbattens across rafters over insulation.
Fix 12.5mm TEN plasterboard and skim to underside of new rafters.
Total U value for new roof = 0.20W/M2k

Flat Roof:
Solar reflective paint on 2no layers torch on elastomeric roofing membrane on 18mm sterling board decking on firrings to fall on 50mm counter battens on joists as per specification.
100mm Cellotex R insulation between joists, with 50mm clear ventilated cavity above, with 35mm Cellotex R below joists, foil taped joints & 12.5mm plasterboard and skim finish.
20mm UPVC fascia boards all round with min 25mm fly screened gap between fascia and tile hanging.
Total U value for new roof = 0.20W/M2k

External Walls:
102mm facing stone outer leaf to match existing
75mm cavity with 75mm dri-therm cavity slab 32.
100mm durox turbo block inner leaf with 12.5mm TEN plasterboard dot and dabbed provided with lightweight gypsum plaster skim finish.
Stainless steel wall ties @ 5 per square meter and doubled up at all window and door reveals.
Cavities to be closed at all reveals and at eaves - using Thermabate insulated cavity closers.
NB all masonry below ground level to be in concrete common brick.
DPC to be fixed at min 150mm above ground level (0.3 W/m2k minimum 'U' value required).

NB Existing foundations to be exposed prior to commencement and inspected by Local Authority Building Control Officer for suitability to receive additional loading.

Foundations:
600 x 600mm concrete trench fill taken down to firm bearing strata at min 900mm below ground level.
Foundations to be taken down to invert of any drain within 1000mm of excavation.

Lintols:
Catnic CG75/100 lintols to all openings with brickwork above - min 150mm end bearing.
Catnic CGE75/100 lintols to all openings at closed eaves - min 150 end bearing.

Structural Steel:
All structural steel to be encased in a minimum 18mm Gypsum plaster to give minimum half hour fire protection.

Existing lintols:
Check existing lintols for suitability, if required replace using Catnic CG50/100 open back lintols with minimum 150mm end bearing.

External Walls - Timber Frame
102mm facing brick outer leaf to match existing
50mm clear cavity - structural timber frame
YBS Breather foil FR stapled to 9mm sheathing ply on 100 x 50mm treated timber studding @ 400mm c/c
Cavities closed around all openings with 50 x 50mm treated cavity closers wrapped in dpc. Cavities to be fire stopped using 50 x 50mm treated cavity closers wrapped in dpc at first floor & eaves level. All horizontal cavity closers to have cavity trays over.150 x 100mm lintels over all openings with 100mm bearing supported on double cripple studs at reveals. 100mm fibreglass quilt insulation laid between all studs. 500g visqueen vapour check fixed inside face of timber frame, 12.5mm TEN plasterboard and skim finish internally.
Stainless steel wall ties @ 5 per square meter and doubled up at all window and door reveals.
NB Wall ties to be fixed into studs.
NB all masonry below ground level to be in concrete common brick.
DPC to be fixed at min 150mm above ground level (0.3 W/m2k minimum 'U' value required).

First Floor Walls:
102mm facing brick outer leaf to match existing
75mm cavity with 75mm dri-therm cavity slab 32.
100mm durox turbo block inner leaf with 12.5mm TEN plasterboard dot and dabbed provided with lightweight gypsum plaster skim finish.
Stainless steel wall ties @ 5 per square meter and doubled up at all window and door reveals.
Cavities to be closed at all reveals and at eaves - using Thermabate insulated cavity closers.

Gable Wall Strapping:
Gable wall to be strapped to first floor, first floor ceiling and up verge at minimum 2000mm centres using 1200 x 100 x 30mm galvanised straps fixed across minimum 3no joists/rafters

Garage Walls:
102mm facing brick to match existing with 215mm thick solid walls to front returns and to rear walls.
102mm side walls to have 225 x 440 buttressing pier at mid point of side wall.
All garage walls to be full height from floor to roof & fire stopped

Half Hour Fire Door:
Fit half hour fire door and frame in opening between utility room and garage - minimum 100mm step down from utility to garage.

Partitions:
Partitions to all floor levels formed in 75 x 50mm studding at 400 centres with 12.5mm TEN plasterboard and skim finish both sides. Provide 100mm sound deadening quilt between.

All new brickwork to be bonded to existing and cavities to be maintained - alternatively use proprietary bolted starter anchor system together with inserted insulated V.d.p.c (installed in strict accordance with manufacturers recommendations).
All return corners to be min 550mm unless otherwise indicated.

Drainage:
All new drainage to be 100mm diameter Polypipe Underground or similar drainage system.
Pipes laid to self cleansing fall on 150 bed pea shingle.
New gullys to be roddable with connection to existing drain.
Pipes passing through footings to be bridged using pre-stressed concrete lintols.
All new drainage passing under new extension to be encased in minimum 150mm concrete.

Rainwater Goods:
100mm gutters to be connected into existing and to discharge to existing rainwater outlets.
100mm gutters to lean to with 68mm rainwater pipe to discharge to new/ existing gullys.

Doors and Windows:
All new windows to be double glazed and have trickle vents not less than 8000mm2
All glazing to doors,windows ajoining a door or less than 800mm above floor to be in toughened glass.
Double glazing to be 4 - 20 - 4 with Pilkington 'K' glass to inner pane. Argon filled cavity.
Door and window to garage to single glazed in toughened glass.

Electrical Work:
All wiring and electrical work will be designed, installed inspected and tested by a "person qualified" to do so in accordance with the requirements of BS7671, the IEE 16th edition wiring guidance and Building Regulation Part P (Electrical Safety).
On completion of works a copy of the installers Electrical Installation Test Certificate compliant with BS 7671 is to be provided to the Client and Local Authority.
Prior to covering of all wiring / cables, the installation is to be inspected by Building Control. This could include a second check & testing of the installation by a Competent Person Scheme member. Any defective work found will have to be corrected at the owners expense.
Electrical sockets and switches to be positioned 450mm min, and 1200mm max from floor level.
Any new wiring system or when rewiring an existing lighting system - install energy efficient light fittings i.e.
Only pin based fitting to be provided to lights to ensure only energy efficient fittings can be attached.

Box Gutter:
Form boxed valley gutter in Code 5 lead on 18mm external ply decking laid to fall on 50 x 50mm framing
Lead laid in maximum lengths of 2400mm with movement joints. Lead dressed over roof tiles to discharge to new gutters.

Plumbing:
WC to have 100mm connection to soil pipe.
bath, shower to have 75mm deep seal anti vac traps with 38mm diameter wastes
basin to have 75mm deep seal anti vac trap with 32mm diameter waste.
All wastes bossed on to new soil and vent pipe.
Any Combined wastes to be in 50mm UPVC pipes.

Flashings:
Code 4 lead stepped and straight flashings with DPC cavity trays over at all abuttments.

Mechanical Ventilation:
Provide manually controllable mechanical extract fans ducted to external air as indicated below:-
Kitchen to be mechanically extracted via fan capable of 60 ltr/sec extract rate or via cooker hood 30 ltr/sec extract rate ducted to external air.
Utility Room to be mechanically extracted via fan capable of 30 ltr/sec extract rate ducted to external air.
WC to be mechanically extracted via fan capable of 15 ltr/sec extract rate ducted to external air.
Bathroom to be mechanically extracted via fan capable of 6 ltr/sec extract rate ducted to external air.
Rooms with no windows or opening lights - fan to have 15min overrun and operate off main light switch.
Replacement air provided to rooms with fans by 10mm undercut gap at base of door.
Mechanical ventilation systems to be of an energy efficient type, ie specific fan power (SFP) for continuous supply only & continuous extract only to be 0.8 Watts / Litres/Sec

Works to Existing Thermal Elements:
Upgrading works to be agreed with LA BCO upon commencement of works.

Primary & Secondary Heating Systems (New & Replacement)
New installation or replacement for an existing system MUST comply with the provisions laid out in the "Domestic Heating Compliance Guide" published by the Department for Communities & Local Government.
Check boiler manufacturer as to appropriate controls to be used to achieve Approved Document L1 compliance.
Commissioning & Providing Information.
All fixed building services are to be commissioned in accordance with the "Domestic Heating Compliance Guide" by a suitably qualified person depending upon the type of installation eg Corgi (Gas), Helas(Solid Fuel),Oftec(Oil) registered installers.
On the completion of works:-
A copy of the commissioning notice is to be provided to Building Control, confirming that compliant systems commissioning has taken place.
The building owner must receive sufficient information about the building,the fixed building services & there maintenance requirements to allow the energy saving provisions to be maintained.
Instructions must show:- How to adjust timers/ temperature control settings & What routine maintenance is required.
Mode of healing to extension as yet unknown if a new boiler to be fitted this is to have a Class A SEDBUK 86% energy efficiency rating.

The design and construction of the proposals will satisfy the Governments Robust Construction Details in lieu of air testing the finished structure.

Lighting:
One third of the primary light fittings in the proposed extension (minimum one) to be of a type which will only receive high efficiency lamps.

First Floor Construction over Garage:
18mm tongue and groove moisture resisistant flooring grade chipboard or ply.
on floor joists as per specification.
Underdrawn joists in 12.5mm firelined board and skim.
100mm Cellotex insulation laid between joists.
(0.3 Wm2k minimum 'U' value required).

Ground Floor Construction:
18mm tongue and groove moisture resisistant flooring grade chipboard or ply.
on floor joists as per specification over
min 150mm air space over 100mm concrete oversite concrete. YBS Double foil insulation.
225 x 75 air bricks and liners at 1000mm to ventilate sub floor
(0.22 Wm2k minimum 'U' value required).

Main Roof Construction: Unvented Cold Roof
Tiles to match existing on 38 x 25mm tanalised battens on Du Pont Tyvek Supro breathable roof membrane on rafters as per specification.
Refer to spec for ridge board.
ceiling joists as per specification supported on binder spanning between cavity walls and hung from ridge at max 1200mm centres.
100 x 50 wall plates bedded on and strapped to blockwork @ 2000mm centres
1500 x 25mm pvc fascias with 6mm pvc soffits all round.
300mm Rockwool insulation laid in 2no layers between and across ceiling joists - pack eaves with insulation.
Ceiling joists underdrawn 12.5mm TEN plasterboard and skim.
Total U value for new roof = 0.16W/M2k

Insulation of Pipes, Vessels & Ducts
Heating or hot water services pipework, vessels & ducts are to be insulated with insulation labeled as complying with the "Domestic Heating Compliance Guide"
Heating & hot water circuits primary circulation pipes to be insulated wherever they pass into unheated spaces.
Domestichot water circuits primary circulation pipes to be insulated throughout their length, subject to practical constraints
All pipes connected to hot water storage vessels, including vent pipe, to be insulated for at least 1Mtr from their connection to the cylinder, or insulated up to a point where they become concealed. If secondary circulation is used, all pipes kept hot by that circulation should be insulated.
Replacement Systems..
Whenever a boiler or hot water storage vessels are to be replaced on an existing system, any pipes(in the situations above) that are exposed as part of the work or are otherwise accessible are to be insulated with insulation labelled complying with the "Domestic Heating Compliance Guide"
Typical insulation thickness (thermal conductivity min 0.045)

Pipe dia (mm)	Min Ins Thk	Min Ins (Extreme Freezing)
8mm	16mm	
10mm	20mm	
15mm	26mm	113mm
22mm	29mm	28mm
28mm	31mm	16mm

Extra provisions should be provided against freezing of pipes as heat loss reductions in unheated areas.

Smoke Alarm:
Fit mains wired smoke alarm to all 3 floors of existing house inc loft. Alarms to be self contained with battery back up. Locate within 3m of all bedroom doors.

Guard Rails:
Guard rail to balcony and french doors to be minimum 1100mm from floor level with vertical balustrades at maximum 100mm spacing.

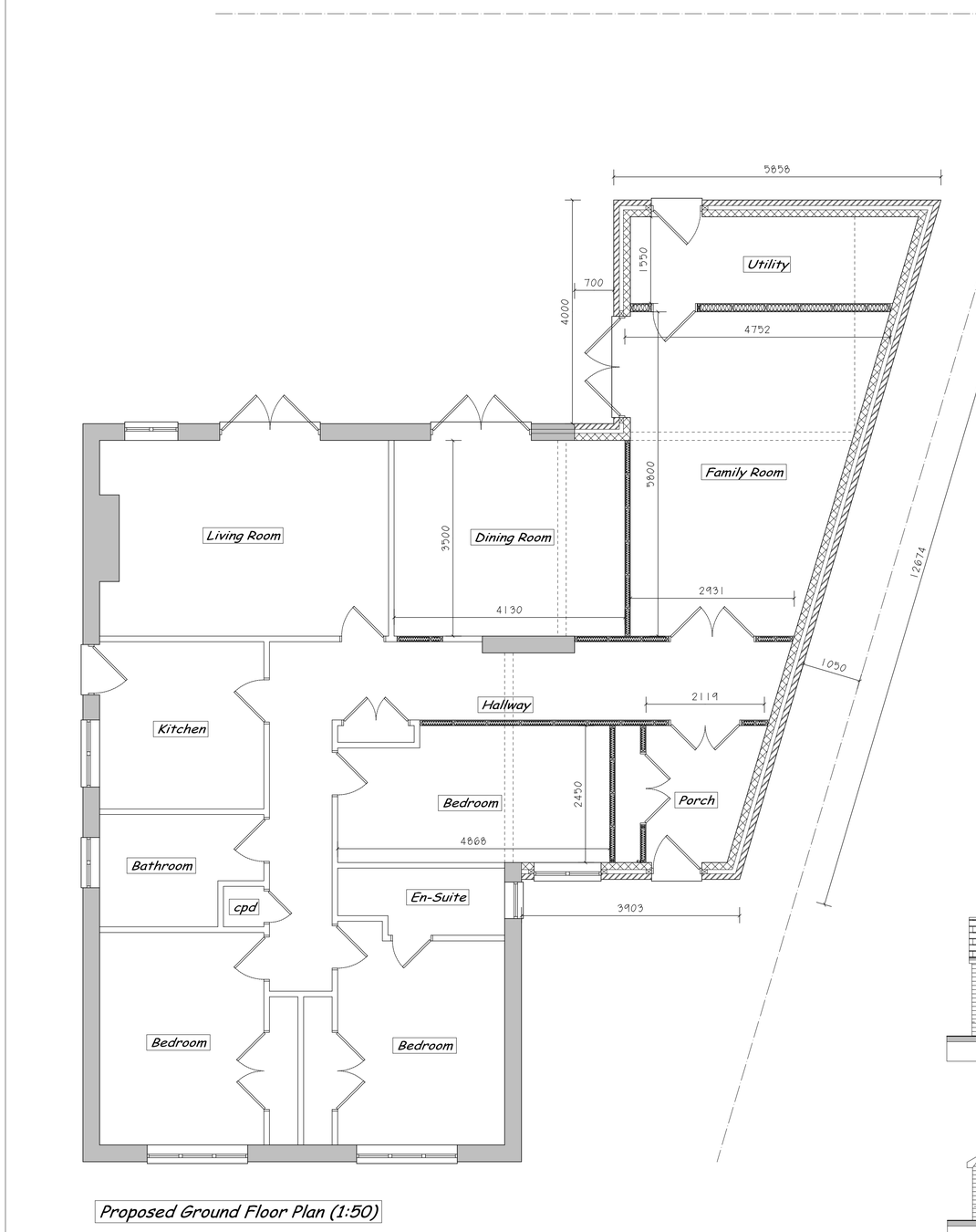
Plumbing to new en suite:
WC to have 100mm connection to soil pipes.
shower to have 75mm deep seal anti vac traps with 38mm diameter wastes
basin to have 75mm deep seal anti vac trap with 32mm diameter waste.
All wastes bossed on to soil and vent pipe.

Kitchen Layout:
New kitchen by others, new sink to have 75mm deep seal anti vac trap with 38mm waste to discharge to new roddable gully below grate but above water level.
Combined 50mm waste pipes.

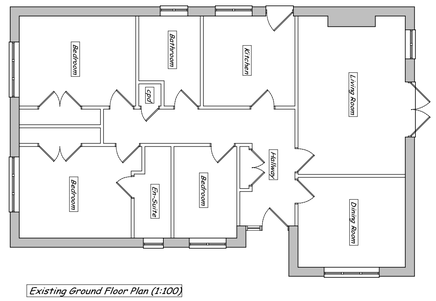
Soil Pipe:
New 100mm diameter soil and vent pipe with connection to new drain run. Terminate using sturdy wire cage min 900mm above any opening light.

First Floor Construction:
18mm tongue and groove moisture resisistant flooring grade chipboard or ply.
on joists as per written specification.
Underdrawn joists in 9.5mm plasterboard and skim.
100mm Rockwool sound deadening quilt laid between joists.

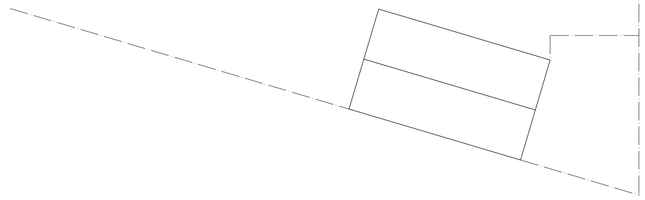
Ground Floor Construction:
18mm asphalt screed on 100mm concrete slab on 80mm Cellotex R insulation on 1200 gauge DPM lapped into DPC on 25mm sand blinding on consolidated hardcore.
Solid Ground floor construction
(0.22 Wm2k minimum 'U' value required).

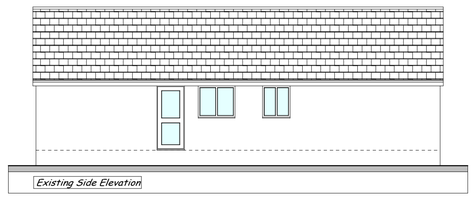


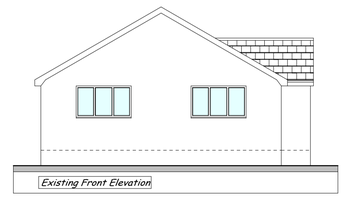
Proposed Ground Floor Plan (1:50)

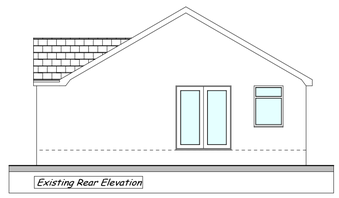


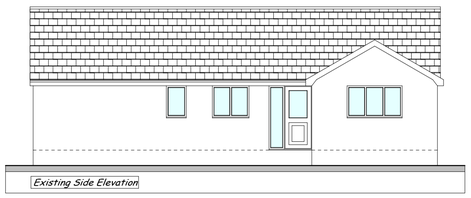
Existing Ground Floor Plan (1:100)

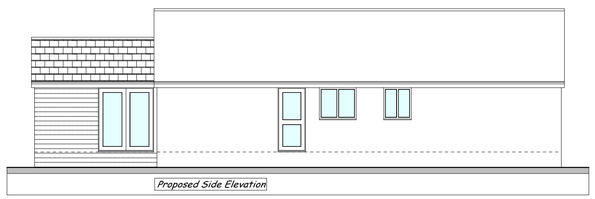


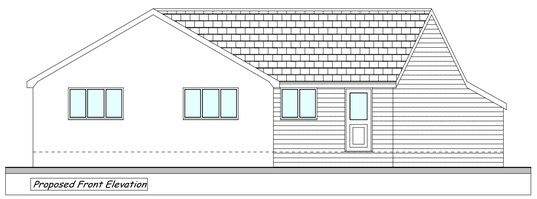

Existing Side Elevation

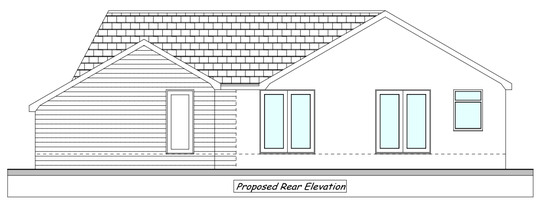

Existing Front Elevation

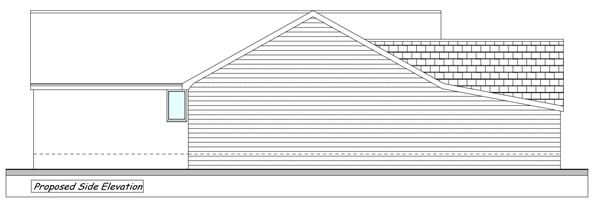

Existing Rear Elevation


Existing Side Elevation


Proposed Side Elevation


Proposed Front Elevation


Proposed Rear Elevation


Proposed Side Elevation

Timber Sizes - All Softwood C16

Rafters -

Ceiling Joists -

Flat Roof Joists -

Hipped Rafters -

Purlins -

Hangers and Binders -

Ridge Size - 150 x 50mm

Ground Floor Joists -

First Floor Joists -

Internal Studs - 100 x 50mm @ 400c/cs

APPLICABLE NOTES | NONE APPLICABLE NOTES

GENERAL NOTES

Current Confirmation of Order Date -

ELECTRICAL

New LV Lights
Colour to be confirmed.
New Pendant Lights
New Wall Lights
New 2 Way Pendant light
New Mechanical Extractor
LL Denote low level socket approx 200mm off floor
HL Denote High level socket approx 1050mm off floor

PLUMBING

New Radiator
TRV Thermostatic Radiator Valve - to all radiators
Pipe Diameter - 15mm

INTERNAL DOORS

Internal Door Type - tba
Internal Door Handle Type - tba
Glass Type -

EXTERNAL WINDOWS

Type - PVCu
Colour - Light Oak
Glass Type - DG Clear
Handle Colour - Gold
Beading - chamfered
Spacers Colour - Gold

This denotes new self closers.
SD This denotes new hard wired smoke detectors

Skirting Type - Lambs Tongue
Skirting Size - 150mm

Architrave Type - Lambs Tongue
Architrave Size - 75mm

SKIP LOCATION - Driveway

THIS DRAWING HAS BEEN EXAMINED AND APPROVED AND I/WE ARE AWARE THAT ANY CHANGES WILL BE CHARGEABLE.

APPROVED **DATE**

During the construction process of carrying out loft conversions and alteration works to existing properties there is slight risk that cracks may appear in existing ceilings. Additionally "nail pops" (which is the detachment of plaster from the existing nail heads) can also be experienced. Extend Design & Build Ltd will take all reasonable precautions to prevent such occurrences and will carry out reasonable repairs to such cracks. However, the company cannot be held responsible for defects in the ceilings, such as existing ceilings which are out of level or are already cracked.

Extend Design & Build Ltd suggest that the Customer arranges for the removal of all carpets adjacent to the proposed works for the duration of the contract. Whilst we will undertake reasonable protection measures we can not be held responsible for any renewal or cleaning of carpets left in-situ.

The company does not undertake external paving, landscaping or steps.

The company will not be liable for any decoration works to new or existing ceilings, walls & woodwork.

This drawing is the copyright of Extend Design & Build Limited and any reproduction in whole or part is strictly forbidden.
Extend Design & Build reserve the right to modify and make necessary alterations dependant on site conditions.

Plotted on 02/07/2009

REV	DATE	DESCRIPTION
D		
C		
B		
A		

SCALE 1:50 and 1:100 | DATE july 2009
DRAWN S Jones | P.P B.R

CUSTOMER
Mr & Mrs Rutland

PROJECT
Proposed Single Storey Extension

LOCATION
10 Buttercross Drive, S72 0HS

LOCAL AUTHORITY
Barnsley MBC

EXTEND
Design and Build Ltd
www.extenddesign.co.uk

DR 2017