Proposed Rear Split Level Extension at 3 Marsh Green Close Biddulph ST8 6TA

Scale 1-50 (A1) - proposed layout
Dwg ref MGC1b February 2020

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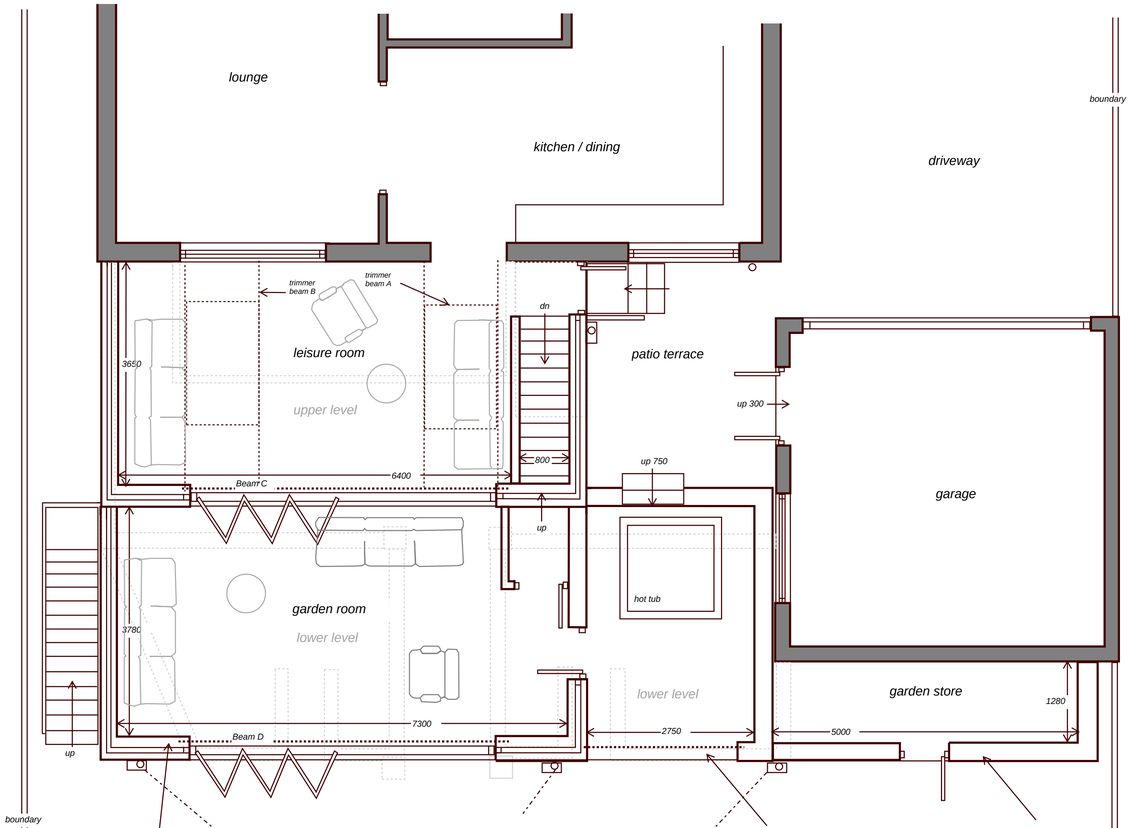
*Important Note:
This drawing has been prepared for submission to the inspecting authorities for necessary statutory approvals. Nominated contractor to verify all dimensions either written or scaled together with drainage lines and inverts etc. prior to commencement of formal construction work on this site and any discrepancies to be referred to the Client and Agent. All works to be carried out with full agreement of client and adjoining neighbours and any disturbance to existing structures to be made good to satisfaction of all parties.

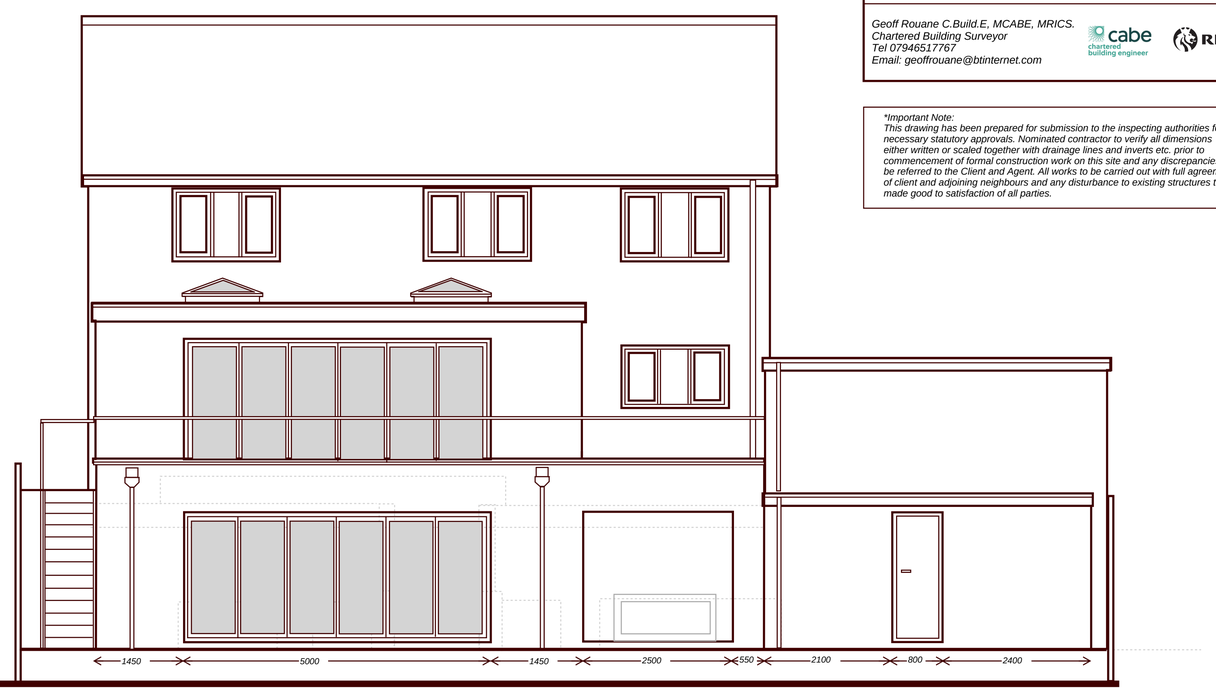


proposed layout plan at rear

*See structural notes for inner leaf of walls beneath bearings of Beams C and D to be constructed of 150mm thick heavy duty concrete blockwork beneath pad stone footprint

* Heavy duty catnic or similar combined lintel over opening to manufacturer spec.

* General construction of garden store to match main specifications. Insulate only if required by client.

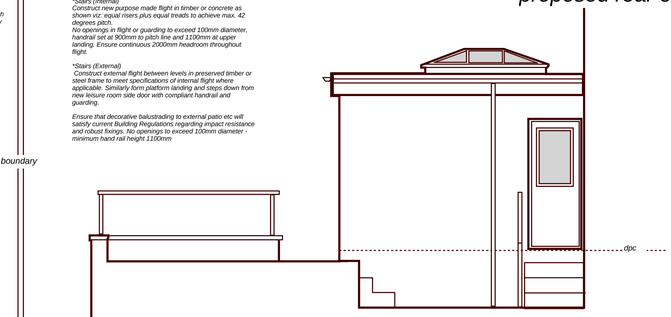


proposed rear elevation

*Stairs (Internal)
Construct new purpose made flight in timber or concrete as shown viz: equal risers plus equal treads to achieve max. 42 degrees pitch.
No openings in flight or guarding to exceed 100mm diameter, handrail set at 900mm to pitch line and 1100mm at upper landing. Ensure continuous 2000mm headroom throughout flight.

*Stairs (External)
Construct external flight between levels in preserved timber or steel frame to meet specifications of internal flight where applicable. Similarly form platform landing and steps down from new leisure room side door with compliant handrail and guarding.

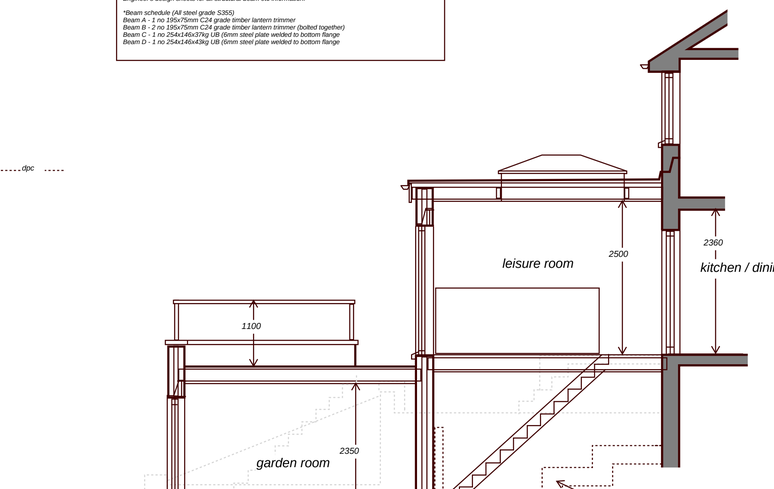
Ensure that decorative balustrading to external patio etc will satisfy current Building Regulations regarding impact resistance and robust fixings. No openings to exceed 100mm diameter - minimum hand rail height 1100mm



side elevation to garage

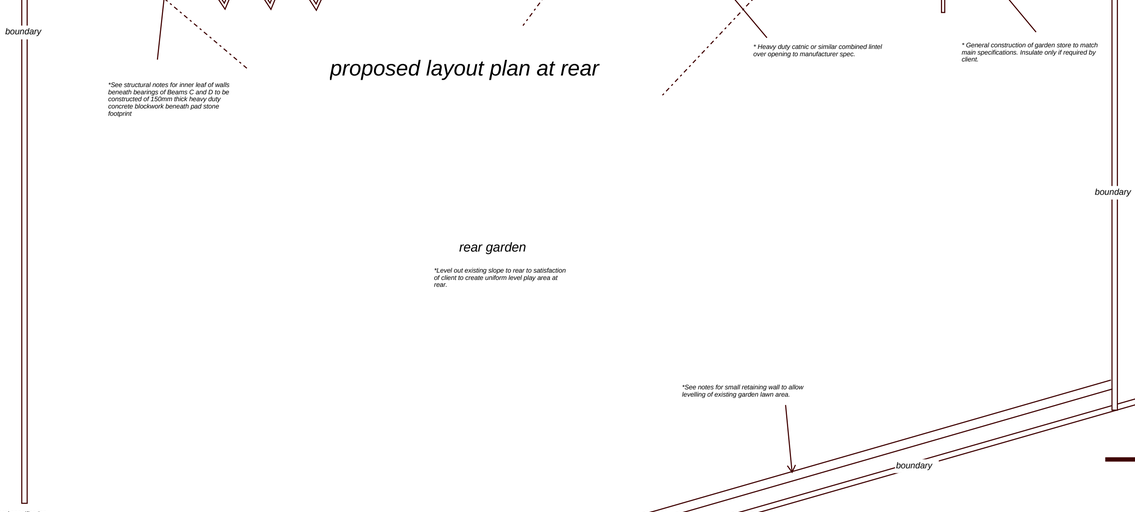
*Structural Works
Check bearing capacity of existing walls in line with design limits to receive new pad stones etc. Rebuild existing walls where necessary in fully bonded concrete brick or block to provide adequate bearing.
*Install steel beams all encased in gyproc fire line board to achieve min. 30 minutes fire resistance. See Engineer's design sheets for all structural beam etc information.

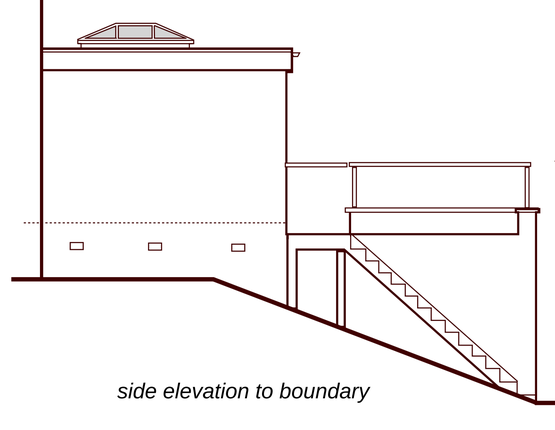
*Beam schedule (All steel grade S355)
Beam A - 1 no 195x75mm C24 grade timber lantern trimmer
Beam B - 2 no 195x75mm C24 grade timber lantern trimmer (bolted together)
Beam C - 1 no 254x146x37kg UB (6mm steel plate welded to bottom flange
Beam D - 1 no 254x146x43kg UB (6mm steel plate welded to bottom flange



section view

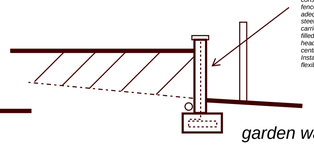
** subject to Consulting Engineer recommendation for foundation design etc - stepped foundation to in accord with Building Regulations re continuous reinforcement and correct overlap between steps





side elevation to boundary

* Level out existing rear garden to client requirements and construct new small retaining wall behind existing boundary fence line comprising 600x300mm concrete strip laid on to adequate bearing strata and reinforced with 2no layers B503 steel fabric with cranked 10mm steel bars at 600mm centres carried up through 150mm heavy duty hollow concrete blocks filled with lean mix concrete. Provide pre cast coping stone at head and build in drainage weep holes to concrete at 1000mm centres.
Install 1200g dpm behind blocks and incorporate 100mm flexible land drains to base of wall



garden wall section view

*General specification

*Preliminary Works :
Carefully dismantle existing conservatory structure shown dotted and assess existing foundations to verify if suitable to retain in situ.
Plan extension programme to ensure minimum disturbance and exposure to rear living space. Remove all rubble from site to approved tip facility. Expose existing house foundation to assess type of base and ground conditions prior to commencement of building work. Carefully expose garage side wall foundation to assess required underpinning to stepped levels.
Examine and expose as necessary existing drainage lines and inverts etc to assess location and prepare for extension excavation work.

*Walls (External):
Selected faced brickwork to match existing, min 100mm cavity enclosing Dritherm 32 insulation fill to manufacturer specification and internal leaf of 100mm load bearing thermal blockwork (eg: Celcon Solar) faced internally with plasterboard on treated battens or cement dabs (Note 150mm thick dense concrete block beneath door beam bearings). Also see Engineer's design for retaining walls throughout.
Cavity walls to be closed at periphery with Thermabate or similar approved cavity closures to avoid cold bridging.
This or similar construction to achieve max 0.28 w/m2 k U-Value
*Note: new walling to be effectively bonded to existing structure to satisfaction of inspecting authority surveyor and wall ties to be stainless steel suitable for 100mm cavity width and compliant with DD140.
*Install Catnic or similar lintels over openings to manufacturer spec. ensuring min 150mm end bearings.

*New Flat Roof : (Upper Leisure Room):
Approved AA rated single ply membrane by specialist contractor on min 18mm ext ply deck over Celotex TD4000 (126mm) or similar approved insulation and composite deck incorporating vapour control layer and bonded 5mm deck ply face. Ensure all joints are tight with vapour sealant to manufacturer spec. Secure Td 4000 with helical fixings to correct spec. and lay to fall 1:60 across 195x50mm sw C16 joists at 400mm max centres (see notes for roof lantern trimming using double joists). Joists to be secured at house wall on heavy duty galvanised ms joist hangers with min 90mm bearing and to manufacturer specification.
* Note roof membrane to have 150mm upstand over treated sw fillet at junction with existing masonry with Code 4 lead cover flash over linked to 2000g dpc cavity tray installed to existing wall subject to approval and recommendation of inspecting authority
*This or similar construction to achieve max 0.18 w/m2K U-Value
*Note install built up fascia shown in pvc cladding.

*Roof over Lower Leisure Room / Patio:
External paving to satisfaction of Client laid to manufacturer spec on reinforced concrete screed laid allowing for suitable falls on 1200g dpm over Celotex or similar approved insulation board. Lay further dpm over clean and level surface of approved pre-stressed flooring beams and block inserts designed and manufactured by specialists in accordance with BS 8110: parts 1 and 2:1997.
*U-Value max 0.18 w/m2k

*Foundation Detail:
Subject to prior exposure of existing house foundation and Engineer's foundation check lay trench filled concrete strip foundation at depth to to suit site conditions and to satisfactory bearing strata and to approval of inspecting authority. Reinforce throughout with 2 no layers B503 steel mesh or as otherwise required.
*New foundation to create no surcharge on drainage lines at any point. Also see Engineer's foundation design for retaining walls throughout

*Floor (Lower Garden Room):
Floor finish to client requirement on min 60mm screed or power float finish to 100mm concrete slab reinforced with A193 steel fabric on 1200g dpm over Celotex FR5000 (90mm) or similar approved insulation board turned up in 25mm thickness at floor perimeter to avoid cold bridge. Lay further dpm over well blinded compacted natural stone sulphate free hardcore in max.150mm layers. See detail to link dpm with horizontal and vertical wall dpc application.
*U-Value max 0.22 w/m2k

*Floor (Upper Leisure Room) :
Floor finish to client requirement on reinforced concrete screed on 1200g dpm over Celotex or similar approved insulation board turned up in 25mm thickness at floor perimeter to avoid cold bridge. Lay further dpm over clean and level surface of approved pre-stressed flooring beams and block inserts designed and manufactured by specialists in accordance with BS 8110: parts 1 and 2:1997.
Ensure that all organic material is removed from new floor void and that space is suitably ventilated at perimeter to satisfaction of inspecting authority and that sufficient compacted fill remains in situ to ensure full restraint and support to main house foundation spread to satisfaction of inspecting authority.
*Note subject to client requirements allow for under floor heating system compatible with floor slab and insulation bed.
*U-Value max 0.22 w/m2k

*Drainage:
See preliminary work notes - expose existing drain runs at rear at outset of work. Replace any existing pipework across rear yard in long length 100mm pvc on granular bed and surround at falls to match existing if required subject to prior assessment of condition of pipe work.
Ensure adequate support and protection to all pipes passing through walls and under new floor to complete satisfaction of inspecting authority.
Hot Tub wastes to discharge to new accessible trapped gulley with air tight double sealed screw down plate and connected to approved liquid pump system by specialists with required small bore robust flexible pvc pipework carried up to discharge to existing foul water system at upper level in strict accord with manufacturer spec and adequately frost protected - all to satisfaction of inspecting authority surveyor
As necessary provide new rainwater connection via trapped gullies to existing drainage system or provide honeycomb block garden soakaway chambers at rear (minimum1m3) subject to percolation test and sited to approval of inspecting authority.

*Heating:
Any extended space heating to be to the full requirements of a suitably qualified heating engineer and assessment of existing heating system plus compliant with current Part J Building Regulations. Install thermostatic control valves as necessary.

*Electrical Work:
All notifiable electrical work to be carried out by a suitably qualified contractor registered with an approved national body. A formal completion certificate to be issued in compliance with current Part P building regulations and to satisfaction of inspecting authority surveyor
All lighting to be low energy type to client spec.
* Note install sockets to extension area to requirements of client and provide co-axial and satellite ports if needed.

*Fenestration:
Install high performance double glazed aluminium framed bifold doors to Client requirements using Pilkington Low E 'k' glass or similar quality glazing – max 1.20 w/m2 k U-Value
Opening casements to represent minimum 5% of adjacent floor (including enclosed kitchen etc) as natural vent plus min 10000mm2 trickle ventilators to head of frame.
Ensure that all doors and critical window areas are fitted with laminated or toughened safety glazing compliant with current BS;EN;12150.
*Install double hip type lantern light (2000x1200mm) in pvc/aluminium frame by specialists with thermally broken frame arrangement and double glazed safety glass as general spec. above. Form aperture to receive lantern frames (with 195x75mm sw C16 grade joist trimmers to short side (1200mm) and double 195x75mm sw C16 joists to long side (2000mm)) bolted together at max 600mm centres with M18 bolts and dog tooth steel connector washers with approved steel joist hangers to trimmed members.
Follow manufacturer spec. for installation and weathered up-stand from roof membrane.

*Foundation
Foundation and retaining wall design subject to Consulting Engineer recommendations for A) protection against effects of adjoining trees to side boundary and B) due regard to required underpinning of existing detached garage stepped foundation adjoining hot tub room.

*Vertical Dpc to Retaining Walls :
Subject to recommendations of Consulting Engineer for foundation/retaining wall design lay 1200 gauge continuous floor dpm turned up to link with horizontal 2000g dpc cavity tray bedded on external leaf and linked with Bituthene or similar approved vertical membrane applied to external wall face - all in accord with manufacturer schedule of instructions. Head of Bituthene turned in to brick course and capped with Code 4 lead cover flashing protection. Install 2000g dpc cavity tray at higher level to discharge over cover flash to external leaf. Subject to manufacturer recommendations continue Bituthene or similar approve tanking under floor areas.
Carefully backfill retained ground with clean, round pea gravel to assist drainage and lay perforated plastic land drain to base of wall.
If practical lay paving or concrete to retained ground to fall away from extension wall with cement fillet at wall junction set below discharge of cavity tray sytem..