

# GENERAL NOTES

## SMOKE DETECTORS Mains operated smoke detectors, with battery back-up, with its own

wiring circuit fused at consumer unit. Detectors to be wired to each other so that in the event of any one detecting smoke, triggers all detectors.

Smoke alarms to BS 5446 Pt 1 2000. Heat alarms to BS 5446 Pt 2 2003

A smoke alarm will be required in each circulation route and in the principal habitable room. A heat alarm will be required in every kitchen. The max, permitted distance on alarm may be from

(A) Bedrooms is 3000mm (B) Living areas & kitchen is 7500mm.

Within the principal habitable room no point in the room shall be more than 7.5m from the smoke alarm. Within every kitchen no point in the kitchen shall be more than 5.3m from the nearest heat detector. If this particular dwelling exceeds 200msg then an automatic fire detection and fire alarm system to BS 5839-6:2004 must be provided.

WALLS Provide cavity construction, with 100mm internal concrete blockwork leaf (2100kg/m3) and an external leaf of 100mm blockwork

(2100kg/m3) as per elevations. A 100mm wide cavity to be maintained & insulated with 60mm Quinn

Therm QW Cavity Board applied in accordance with the manufacturer's instructions .Use S/steel cavity ties RT/2 by 'Strafix' conforming to BS 1243 1978, spaced at 750mm max. centres horizontally and 450mm max. centres vertically. At external openings, wall ties to be positioned at 225mm horz. & vert. crs. around openings

### to doors/windows. INTERNAL ELECTRICAL SWITCHES

Wall mounted socket outlets and switches shall be located within 450mm min. and 1200mm max. from floor level. Pull cord switch handle shall terminate not more than 1200mm above the floor level.

## LOW ENERGY LIGHTING

Internal low energy lighting is required in respect of at least 30% or 1 per 25msq of floor area(whichever is the greater) of fixed lighting

Fixed external lighting shall be either, only capable of accepting lamps having an efficiency greater than 40 lumens per circuit Watt or have naximum output of 150 Watt per fitting. External fixed lighting requires to be such that it will automatically switch off when there is adequate daylight or where not required at night.

OPEN WINDOWS, SKYLIGHTS OR

#### VENTILATORS Where any part of a window, skylight or ventilator, when open, could

project more than 100mm horizontally into a space less than 2m above the ground or floor it shall be fitted with a suitable device to restrict the projection in normal use to not more than 100mm.

SAFE OPENING AND CLOSING OF WINDOWS A control for a window, skylight or ventilator shall be not more than

1.9m from floor level if unobstructed. SAFE MEANS OF ACCESS FOR

## CLEANING GLAZING

Glazing which cannot be cleaned safely from a firm level surface both inside and outside, will be cleaned by a specialist firm, with specialist access equipment.

## ROOF INSULATION

ATTIC ROOF Insulation to ceilings to be 25kg/m3 2x200mm Knauf Loft Roll laid between and over ceiling joists.

## ROOF VENTILATION

Ventilation where required to roofspace area, to be provided along opposite sides of roof. Ventilation to be minimum 25mm continuous along each fascia, provided by GLIDEVALE FV250 vents. Ventilation also required at ridge to give an area equivalent to 10,000mmsg/m ventilation for length or ridge. Use Glidevale Premier in-line ventilated dry ridge system Provide 25mm deep air vent travs between rafter members to give

## ROOF STRUCTURE

an unobstructed air flow over quilt insulation.

All timbers used in roof to be stress graded C16 or C24 and stamped with this code to BS 5268 Pt 2 2002 with timber clearly marked 'Dry' or 'KD' (Kiln dried). All Roof timbers (pitched or flat roofs) to be impregnated with timber preservative. Wallplates to be given 2no. coats of preservative and to be strapped down with galv. anchor straps fixed at 1500mm c/c. Rafters and ceiling joists where running parallel to gables to be strapped across 3no, members & turned down inner leaf, positioned

at 900mm crs. Solid bridging provided under straps. Ends of all timbers where built into or resting onto walls to be treated with preservative Steel purlins where indicated on plans to be supported off conc.

padstones and 100x50mm timber bolted at 900mm crs to top flange with rafters notched over

Minimum end bearing of steel beam on support wall - 100mm code 6 lead to be laid on valley boards.

#### DAMP-PROOFING

Provide a vertical dpc at all window & door jambs, in external cavity walls, with a 40mm expanded polystyrene insulation at rear of dpc. Provide a stepped dpc over lintels in external cavity walls. Provide dpc under, at rear and ends of all precast cills. Horizontal dpc in external leaf to be not less than 150mm above finished ground

Provide a dpc course to chimneys at 150mm above roof surface stepped as required at roof line.

Dpm in floors to be 1200 gauge Visgueen, lapped & bonded to wall dpc. Stepped dpc cavity trays to wall and roof junctions.

### HEATING SYSTEM

Heating to this dwelling to be Oil fired boiler with radiators and full zone control. Secondary heating to be closed room dual fuel heater. Central heating and hot water systems to be designed, installed and commissioned for the purposes of conservation of fuel and power and handed over in efficent working order. Central heating and hot water systems to be commissioned in accordance with the procedure given in the DCLG publication "Domestic Heating Compliance Guide"

## SAP RATING & CARBON DIOXIDE EMISSIONS RATE

SAP, TER and DER for the dwelling will be submitted to Building Control with initial submission. An energy rating for the completed dwelling will be calculated, using the same software that is used to calculate the DER & TER, and a notice stating the energy rating will be fixed in the dwelling.

#### **GROUND FLOORS**

Floor finishes as per specification laid onto 100mm concrete screed, screeds laid on 75mm Quinn Therm QF floorboard insulation on 1200 gauge dpm overlapped & bonded to wall dpc's, 150mm min. concrete subfloor laid on 1200 guage DPM/radon barrier on blinded & compacted hardcore laid in max. 225mm

#### AIR INFILTRATION

To reduce air infiltration of cold air through the building the following methods must be applied. (A) Seal gaps between dry-lining and masonry walls at the edges of opening such as windows and doors at at junctions with walls, floors & ceilings.

(B) Seal gaps between frames, openings & draughproofing the openable elements of windows, doors and rooflights. (C) Seal hatches to unheated floor & roof voids.

(D) Seal service penetrations & at floor and ceiling junctions where services are not boxed in. (E) Seal around joist ends where joists are built into the

external wall. (F) Seal vapour control membranes in timber framed construction.

Note: Buildings will generally be subject to an appropriate air permeability test when constructed.

## DRAINAGE

Drains located within 1000mm of foundations and below level of foundations to be surrounded & backfilled in concrete up to level of foundations. All drainage pipework to be in uPVC to conform to BS 4660

Manholes where indicated to be built in engineering brick 215mm thick, built off 100mm mass conc. base. Concrete haunching to h.r. channel. Medium duty galv. manhole cover and frame provided, loading to suit location of cover. Minimum cover to drainage pipework to be 450mm. Where pipes pass through walls provide lintel over. Where pipes pass through walls also provide movement sleeve. Where pipes are located under floors pipes to be wrapped in polythene and surrounded in pea gravel min. 150mm all around Storm water drainage from roof to be collected via 150mm<sup>2</sup> rainwater gullies with trapped outlets, galv. covers. Internal sanitary pipework in grey uPVC with 90° bends to have roddable access points, showers to have removable access traps and whb's to have 75mm min. deep seal traps. Tracey Bio Klenze package plant' or equal approved uPVC standard septic tank to be provided min. capacity 2.7MCu. with nspection chamber for sampling treated effluent. Sub soil dispersal pipework to be laid as per site plan to constant fall surround in graded stone.

## All vertical inlet storm gullys be roddable DIMENSIONING

All dimensions are not to be taken as noted in preference to scaling. Architect to be consulted where variations in dimensions

are proposed. CEILINGS

Ground floor ceilings in 12.5mm plasterboard bonded and Carlite skim finished smooth, all joints to be filled and edges scrim cloth reinforced cornices to be provided to rooms as indicated supplied by client and fitted by Contractor.

#### EXTERNAL DOORS AND WINDOWS Refer to elevation drawings & specification for detailed information.

Window frames to be as noted on elevations and if hardwood frames are used they must be 1st quality mahogany and manufactured by specialist. Double glazing units supplied and manufactured by specialist with 16mm air gap. Areas within 800mm from floor level in glazing to be safety glass ie. laminated/toughened. Windows to be Argon filled and have soft Low E

Areas of glazing in doors and within 300mm from edge of door in sidelights to 1500mm above FFL to be safety glazing. Windows to have a trickle ventilator fitted to frame to aive 8000mm area of unobstructed airflow to habitable rooms. Emergency Egress Window will be required to each storey above the ground storey located remote from the primary escape route. In addition every habitable room on an upper storey not more than 4.5m above the ground level shall have an emergency egress window. The window will now have a clear opening of not less than 0.33msq in area with a height and width of at least 450mm. The lower edge of the window opening shall be not less than 800mm and not more than 1100mm above the floor. Trickle ventilation required to Kitchen, Utility room, Bathroom and all

sanitary accommodation (min. 4000mm<sup>2</sup>).

NB. Safety glazing to satisfy requirements of class A: BS 6206 1981 for doors & sidelights where a width of pane exceeds 900mm. All safety glass to be stamped with this code. Where internal doors have glazing, this glass to conform to above codes. Where trickle vents are fitted to windows. ventilators are not to be cut into or slotted into frame but set into a filler at top of frame so as not to affect the structural integrity of the reinforcing

Where any part of a window, skylight or ventilator when open could project more than 100mm horizontally into a space less than 2m above the ground level it shall be fitted with a restrictor to prevent it to project beyond

MECHANICAL EXTRACTS & OPEN FLUED APPLIANCES. To minimise the risk of spillage of flue gases, mechanical extract

ventilation (a) Shall not be provided in a room with a solid fuel burning appliance unless such an installation follows HETAS guidance.

(b) Shall only be provided in a room with an oil fired appliance if the installation complies with OFTEC Technical information Note TV112. (Technical information Note TV112 is available from the Oil Fired Technical Association for the Petroleum Industry (OFTEC) Surrey. The room extract fan capacity shall be limited as

described in OFTEC Technical Information Note TV112 and a flue draught interference test as described in TV112 shall be carried out. NOTE: Where the building work includes the installation of a combustion appliance as stated above all of the tests shall include the fluepipe and the aas-tightness of the joint between the fluepipe and the combustion appliance outlet. A spillage test shall be carried out with the appliance under fire and the extract running to make sure no flue spillage occurs.

## FOUNDATIONS

Concrete mix to be 30/20 at 28 days Steps in foundations where required to be not greater than 225mm with overlaps of 450mm (min.). Minimum cover to foundations to be 450mm. All foundations to be taken down to good load bearing stratum such as clay, and all foundation trenches to be inspected by local Building Conto Officer before pouring of concrete. Where ground conditions appear to be unsuitable, refer to Architect

GENERAL ENGINEER'S NOTES 1. This drawing to be read in conjunction with all relevant Architects & Engineers drawings

2. No dimensions to be scaled from any drawings 3. Concrete mix to be 30/20 unless noted otherwise 4. Cover to reinforcement to be generally 50mm unless

noted otherwise. 5. All steelwork to be in accordance with the 'National

Structural Specification for Building Construction - 4th Edition 6. All steelwork to be shot blasted to Swedish Standard SA 2.5 and primed with one coat of High Build Zinc Phosphate

75 microns thick or other approved. 7. All steelwork below ground or exposed to brick cavity to be painted with two coats of 'Synthaprufe' 450 microns hick or other aproved.

8. All brick panels to be fixed to stanchions with stainless steel Ancon Ties @ 450 centres or other approved. Use stainless steel wall ties at 750x450 centres generally staggered. Increase as required at all openings.

9. All new foundations placed 250minimun into firm clay or other approved. 10. All loose beams fixed to 450 x wall thickness x 215 deep concrete padstones unless noted otherwise with 2 M12 diameter bolts unless noted otherwise.

11.Load bearing concrete blocks to be 7 N/mmsa unless noted otherwise 12. All external walls to be fixed to timber floors and roofs

with 30x5 galvanised mild steel straps or other approved at 900 max centres 13. All precast units, cold rolled steel purlins etc are

'Contractor Designed' 14. The builder shall be responsible for all Temporary Works on a Design and Build Basis. He shall submit Method statements and Risk Assessments for approval. 15. Where applicable, he shall carry out all works in accordance with the up to date CDM regulations.

16. Where required, all existing details, levels, dimensions must be checked on site. 17.All structural steelwork (eg. beam supporting walls or floors) to be painted with intumescent paint to provide 1 hr fire protection. Roof steelwork does not require fire protection

18. If new steel beams are to bear on existing walls the builder to reveal existing foundations to allow their condition to be evaluated. Engineer & building control to be consulted regarding the same.

19. Where keystone lintels (or other approved) are specified Manufacturer is responsible for design of the fore mentioned lintels and calculations submitted to building control. Details/calculations to be forwarded to Building Control 14 days prior to arrival on site and certificate of authenticity to be forwarded on completion.

## MECHANICAL VENTILATION

Mechanical ventilation to areas with sanitary accommodation to be provided by a 12 volt fan operating at min. 15 litres/sec. and to operate continuously while room is in use and for a min. period of 15min. after use has ceased. Kitchen to be min. 30 litres/sec. output positioned directly over cooker and provide extract fan in utility to give 30L/sec output.

Indicates locations where 225 deep standard type finaly pre-stressed concrete lintels are required to support slabs over

SOLID FUEL BURNING APPLIANCES AIR SUPPLY

(1) Open appliance such as an open fire with no throat, e.g. a fire under an open canopy Requirement - Permanently open air vent(s) with a total free area of not less

than 50% of the cross-sectional area of the flue (2) Open appliance, such as an open fire with a throat. Requirement - Permanently open air vent(s) with a total free area of not less

than 50% of the throat opening area (1) (3) Other appliance, such as a stove, cooker or boiler, with a flue draught stabiliser.

Requirement - Permanently open air vent(s) with a total free area of not less than 300 mm2 per kW for each of the first 5 kW of appliance rated heat output, PLUS, a total free area of not less than 850 mm2 for every kW of appliance rated heat output above 5 kW (2) (4) Other appliance, such as a stove, cooker or boiler, with no flue draught

stabiliser. Requirement - Permanently open air vent(s) with a total free area of not less than 550 mm2 for every kW of appliance rated heat output above 5 kW

1. For simple open fires the air supply requirement for fireplace with opening size of 500 mm then a total free area of permanently open air vent of 20500 mm2 is required

2. Example: an appliance with a flue draught stabiliser and a rated heat output of 7 kW would require a permanently open air vent with a free area of - [5 x 300] + [2 x 850] = 3200 mm2 3. Extract fans shall not be installed in the same room or space as a solid fuel burning appliance

ALL PROPOSED COMBUSTION APPLIANCES TO BE CAPABLE OF BURNING OR ADAPTED TO BURN SMOKELESS FUELS.

APPLIANCES MUST BE ABLE TO USE DUAL FUEL.

## BOILERS & OIL TANKS

Oil fired boiler to be 'Grant Vortex 36' condensing boiler (standard or sealed system) providing a 97% efficiency rating or other equal and approved. All boilers (and any other applicances) must be installed to manufacturers instructions especially with respect to air supply and explusion of flue gases

Oil storage tank to be constructed in accordance with the recommendations OFS T 100: 1995 (Medium density polythylene) Oil storage tanks to be placed on 'hard surface' extending 300mm beyond perimeter of tank. Fire protection considerations apply where an oil tank is less than 1800mm from building or less than 750mm from boundary. The fuel pipework from the Tank shall be resistant to the effects of fire and be fitted with a fire valve system where it enters

the building. Fire protection considerations apply to gas storage tank - provisions dependent on capacity but 2500mm minimum from boundary or building with no firewall and 300mm minimum with firewall. Bund with 110% capacity of oil storage tank required in accordance with

regulation L7 Pipes from boiler to dwelling to be insulated with polyethylene foam insulated Microflex PEXa-pipe and surrounded in pea gravel.

The Specifier/ Architectural Consultant is responsible for approval of Plans from Planning Service, Building Control & Environmental Heritage Service and is not responible for site supervision

## HEATING AND PLUMBING

All heating controls and insulation are given in the Department for Communities and Local Government (DCLG) publication 'Domestic Heating compliance Guide. Central heating and hot water systems to be designed, installed and commissioned for the purposes of conservation of fuel and power and handed over in efficient working order. Central heating and hot water systems to be commissioned in accordance with the procedure given in the DCLG publication 'Domestic Heating Compliance Guide'. Thermostatic radiator valves/room thermostat or equivalent form of a temperature sensing device independently in zones that require different temperatures to be provided to control the output of the space heating system. Vented copper hot water storage vessels should comply with the heat loss and heat exchanger requirements of BS1566:2002. Unvented hot water storage systems products should comply with BS7206.

Hot water storage tank (210 litre volume) to be insulated with factory fitted 40mm injected polyurethane foam insulation. All hot and cold water supply pipework in floor screed and roof voids to be insulated with Armaflex closed cell insulation of thickness equal to outside diameter of pipe. Cold water storage and expansion tank in roofspace to be fully insulated with 100mm quilt insulation enclosed in polythene supported over tank

on 13mm plywood lid or fitted cover to Bye-law requirements. All pipes within 1m of hot water storage tank should be insulated to 0.045w/mK

thickness equal to outside diameter of pipe or 40mm whichever is less. All insulation of cylinder and pipework must comply with Table 11 of the Domestic Heating Compliance Guide. As the dwelling is over 150m2 there must be two seperate heating zones with independent time and temperature controls, water heating to be on a seperate zone

## CHIMNEYS AND FLUES

Clay flue liners to be 200mmØ rebated type to BS EN 1457 built with sockets uppermost and surrounded with 10:1 sand cement with vermiculite insulation. Angle of liners to be not less than 45°. Liners to be joined with a fireclay cement. Where blockwork surround to liner is less than 200mm all combustible material to be placed no nearer than 40mm from face of blockwork. All flues shall be checked at completion to ensure that it is free from obstructions, satisfactory gas-tight and constructed with materials and components of sizes that suit the intended application

Chimney height to be not less than 600mm above ridge where positioned within 600mm from ridge, elsewhere heights not less than 1000mm above highest contact with the roof surface. In general minium height of flue shall be 4.5m (solid flue). A horizontal stepped dpc to be provided to chimney stack, 150mm above roof line. Provide concrete hearth to project min 500mm from chimney

breast Where the building work includes the installation of a combustion appliance all of the tests shall include the fluepipe and the gas-tightness of the joint between the fluepipe and the combustion appliance outlet. A spillage test shall be carried out with the appliance under fire. Aga and wood burning stove flues to be 4.75mm min, steel stove enamelled taken into chimney breast. Boiler flues to be insulated almumimiun flue to BS 4543(Part 1 1990 and Part 2 1990 for solid fuel fired appliances) (Part 1 1990 and Part 3 1976 for all oil fired appliances). Flue to condensing boiler to be lined with impervious, corrosion resistant components and provided with means of draining condensate. Galvanised soot-door and air tight frame to be provided.

All timber to be positioned 40mm away from chimney block or brick built flues A durable notice plate shall be fixed at an appropriate location in the dwelling (under regulation L5). for each hearth, fireplace and flue stating:--location

-type pf appliance that can be accommodated -Type, size and manufacturer of flue or liner -Installer's name and date of installation

Example of a notice plate can be seen in Technical Booklet L paragraphs 1.46 - 1.48.

REINFORCING BARS LINTEL SCHEDULE SPAN LENGTH BEARING DEPTH COURSES BOTTOM 600 900 2 NO T 10MM 2 NO T 10MM 900 1200 1200 1500 150 150 2 NO T 12MM 2 NO T 10MM R 6 MM 1500 1800 2 NO T 12MM 150 1800 2100 2 NO T 12MM 2 NO T 10MM R 6 MM 150 2 NO T 12MM 2 NO T 10MM R 6 M 2100 2500 200 200 2 NO T 16MM 2 NO T 10MM R 6 M 2400 2800 215 2700 3100 200 2 NO T 16MM 2 NO T 12MM R 6 MM 215 200 2 NO T 16MM 3000 3400 2 NO T 16MM R 6 MM 2 NO T 25MM 2 NO T 19MM R 6 M 3600 4000 200 300 Provide 25mm min cover to reinforcement placed in bottom and cover to top

and sides. Concrete mix to be C35/20. Use pre-stressed lintels throughout NOTE:- THIS SCHEDULE ONLY APPLIES WHERE SUPPORT TO FLOOR SLARS ABOVE IS REQUIRED, REFER TO PLAN FOR LINTEL SUPPORT WHERE FLOOR SLAB LOADIING OCC



## MANHOLE COVERS

Covers to manholes as follows:-Pedestrian / landscaped areas = A15 Car Parks / footpath / private drives =B125

Public roads / parking areas =D400 Areas subject to high wheel loads =F900

#### Clear opening not less than 0.33m2 at least 450m high and 450mm wide (min size of opening to 450x734mm in every habitable room on first floor or 575x575mm). Lower edge of opening between 800 and 1100mm

HEATING SYSTEM Heating to this dwelling to be Oil fired boiler with radiators and full zone control. Secondary heating to be closed room dual fuel heater. Central heating and hot water systems to be designed, installed and commissioned for the purposes of conservation of fuel and power and handed over in efficient working order. Central heating and hot water systems to be commissioned in accordance with the procedure given in the DCLG publication "Domestic Heating Compliance Guide".

Building owner to be given sufficient information of specific apparatus/systems installed, including operational and maintenance instructions, to enable the dwellin and its fixed services to be used in an energy efficent manne

An energy rating for the completing dwelling will be calculated, using the same software that is used to calculate the DER and TER, and a notice stating the energy rating will be fixed in the dwelling.

Air permeability of 10m3/(h.m2)@50Pa has been used in design calculations, this must be achieved by test on completion of the dwelling

A notice confirming that all fixed services have been properly commissioned shall be provided, signed by a suitably gualified person and a copy given to the building owner and district.

| Site Address                  | Site: Cornarooslan, Fivemiletown.                                    |
|-------------------------------|--|
| Client                        | Frank Dorton   |
| Agent                         | Neil Irvine  |
| Sap Rating                    | 77   |
| TER                           | 27.75  |
| DER                           | 26.41  |
| Primary Heat Source           | Condensing Oil Boiler with radiators:                                |
|                               |  |
| Heating control               | ruli zone control  |
| Secondary Heat Source         | Dual Fuel Open Fire - 37% effiency                                   |
| Domestic hot water supply     | Primary heating system<br>210 Litre cylinder, 40mm factory insulated |
| Floor Insulation              | 75mm Quinn therm insulation QF                                       |
| Wall Insulation               | 60mm Quinn therm insulation QW                                       |
| Roof Insulation               | 2x200mm Knauf Loft Roll laid between and over joists                 |
| Solid Doors (u-value)         | 3.00 U value   |
| DG PVC Frame Window (u-value) | 1.77 / 1.59 U value  |
| DG PVC Glazed Door (u-value)  | 1.7 U value  |
| Ventilation                   | Natural ventilation with intermittent extract fans                   |
| Low energy lighting           | 30% of fixed lighting points   |
| Average/maximum U values      | Walls 0.27/0.27  |
| Average/maximum U values      | Floors 0.24/0.24   |
| Average/maximum U values      | Roofs 0.10/0.10  |

|                               |                                       |                                   |       |            |          | _              |            |  |
|-------------------------------|---------------------------------------|-----------------------------------|-------|------------|----------|----------------|------------|--|
| .INKS                         | Floor Plans                           |                                   |       |            |          |                |            |  |
| 150 CR 5                      | Proposed Dwelling and Detached Garage |                                   |       |            |          | Date: 18/06/09 |            |  |
| 150 CRS<br>150 CRS<br>150 CRS | Applicant:                            |                                   | Ag    | gent: Neil | Irvine   | Drawing        | No 1       |  |
| 150 CRS<br>150 CRS<br>150 CRS | Site: Co                              | Site: Cornarooslan, Fivemiletown. |       |            |          | Scale 1:5      | Scale 1:50 |  |
|                               |                                       | Amendme                           | ents: | 27/07/09   | 03/08/09 | 11/08/09       | 08/09/09   |  |
| OT<br>IRS                     | Neil Irvine Design                    | gn                                |       | 28/09/09   | 02/11/10 | 23/06/11       |            |  |
|                               | Architectural Consult                 | ant                               |       |            |          |                |            |  |