A - GENERAL NOTES

This drawing to be read in conjunction with all relevant Engineer's Drawings (if applicable). Dimensions shown in mm unless otherwise stated. Do not scale from drawings. All dimensions to be checked by contractor/fabricator prior to construction of materials/components.

Ground level varies.

Contractor to visit site and satisfy himself about all matters relating to the nature and extent of the works, access to the site, the accommodation for building materials, the amount of haulage and all local conditions and restrictions likely to affect the execution of the works and all matters referred to in, or to be inferred from the plans.

Contractor shall also adequately safeguard the site, the Works, products, materials, plant, and any existing buildings affected by the Works from damage and theft. Take all reasonable precautions to prevent unauthorised access to the site, the Works and adjoining property.

Contractors will comply with all relevant Health and Safety legislation and fulfil their role under the 2015 CDM (NI) regulations.

On completion Contractor to ensure that everything is left clean, tidy, watertight and structurally sound to employer's entire satisfaction

All materials and workmanship to be in accordance with all relevant British Standards, Codes of Practice and Building Regulations NI 2012 with Amendments.

As this dwelling will be built by an NHBC Registered builder full compliance with NHBC Standards, Technical Requirements and Buildmark Cover is deemed to be included. Any NHBC Registration fees to be included.

TECHNICAL BOOKLET B - MATERIALS AND WORKMANSHIP

All materials used in the construction of the building will be of a suitable nature and quality in relation to the purposes for and the conditions in which they are used, be adequately mixed and prepared, be applied, used of fixed so as adequately to perform the functions for which they are designed and not continue to emit any harmful substance longer than is reasonable in the circumstances.

The standards of materials and workmanship need be no more than are necessary to secure the health, safety and welfare and convenience of persons in or about the building and further the conservation fuel and power. Materials shall conform to the relevant provisions of an appropriate British Standard or have a CE marking.

TECHNICAL BOOKLET C - SITE PREPARATION AND RESISTANCE TO CONTAMINANTS AND MOISTURE

All new works to be protected from the ingress of Radon gas. Radon barrier to extend across the entire ground floor, walls and cavity and have sealed joints with a 150mm min. overlay.

SOLID GROUND FLOOR INCORPORATING RADON BARRIER:

100mm C30 Newton concrete screed having 10mm max. coarse aggregate finished to a smooth level surface on 1200 gauge polythene d.p.m. on 100mm insitu concrete floor slab on rigid insulation board (as noted elsewhere) on approved 1200 gauge polythene radon barrier/ d.p.m on 50mm compacted sand bed on 150mm minimum clean broken stone hardcore. Total maximum depth of hardcore not to exceed 600mm and be compacted in 225mm maximum layers.

The damp proof membrane/ radon barrier shall extend over the entire foot - print area of the building and have all joints lapped and taped to provide a continuous barrier against damp and radon gas penetration. Where pipes, steel posts etc penetrate the barrier they shall be sealed around using proprietary approved seals. Radon membrane acting as d.p.m/ d.p.c should have appropriate certification; builder shall take all necessary precautions on site to prevent damage to insulation and radon/ damp roof membrane when concrete floor slab is being poured. The damp floor membrane/ radon barrier shall extend up the inner face of external walls to lap and be bonded to a continuous stepped d.p.c at the cavity wall.

Vertical up stand of 50mm thick Quinn Therm or equal insulation to prevent thermal bridging shall be provided at the inside face of perimeter cavity walls and shall extend from the level of the floor insulation to level of screed.

All insulation fitted as per accredited construction details (DCLG publication).

DAMP PROOF COURSES:

Damp proof course to be of suitable material that will prevent the passage of moisture. Damp proof course should be continuous with any damp proof membrane in the floor.

D.P.C. minimum 150mm above path level to cavity walls, and under and up back of cills

Damp course to be taken down at least 225mm below the level of the lowest damp proof course, or provide cavity tray to prevent precipitation passing into the inner leaf.

All new internal walls to have d.p.c. at sub floor level

Provide stepped d.p.c. to all exposed lintels not protected by overhanging roof

All d.p.c. to be Bituthene 1500 gauge or other approved

Provide stepped d.p.c. in accordance with BS 5628 : Part 3 above any point where the wall cavity is bridged, such as above vents, pipes, and fans or external meter cupboard etc. Mortar droppings should be cleaned of any products which span the cavity

FLASHING - LEADWORK:

Walls should be constructed to deflect penetrating water towards the outer face of the wall. In such cases damp proof courses, cavity trays and closers should be provided and installed. Where a cavity tray does not extend the full length of the exposed wall, i.e. above an opening, stop ends and at least two weep holes should be provided.

Lead sheet for flashings to conform to BS 6915 : 2001 - Milled Lead Sheet for Building Purposes

Code No. 5 (2.24mm thick) lead flashings around all chimneys. Chimneys on ridge will need two front aprons, side flashings and two saddle pieces.

Chimneys in the roof slope will need front apron, side flashings and back gutter with cover flashing.

To help prevent corrosion of the lead and to avoid staining, both surfaces of all chimney dpc's to be coated with a bituminous paint and all exposed lead to be treated with patination oil.

Preformed lead d.p.c tray built horizontally into the stack at a level to discharge above the front apron

Code No. 4 (1.80mm thick) lead flashing along valleys. maximum length of each piece not to exceed 1.5m. Provide Building Paper under all lead to valleys. girth of flashing minimum 450mm

where pitched roof over sun lounge abuts cavity wall, provide patent lead cavity trays. provide Code 4 (1.80mm thick) lead soakers under apron flashing to cavity trays and minimum 100mm over roof. Cavity trays to be fitted and positioned in accordance with manufacturer's recommendations.

All lead work to be carried out in accordance with Lead Association Manual 2000. Copy can be examined in Architects office

TECHNICAL BOOKLET D - STRUCTURE:

FOUNDATIONS:

Generally width of foundation should have no less than 200mm projection from each side of wall.

Layer of A383 mesh to be placed in all foundations with a minimum cover all round of 65mm. Foundations to be placed on 100mm concrete mud mat (C10 Newton concrete).

600 x 250mm concrete to 300mm and 350mm thick cavity walls

600 x 250mm concrete to 100mm thick internal walls having 215mm thick footings

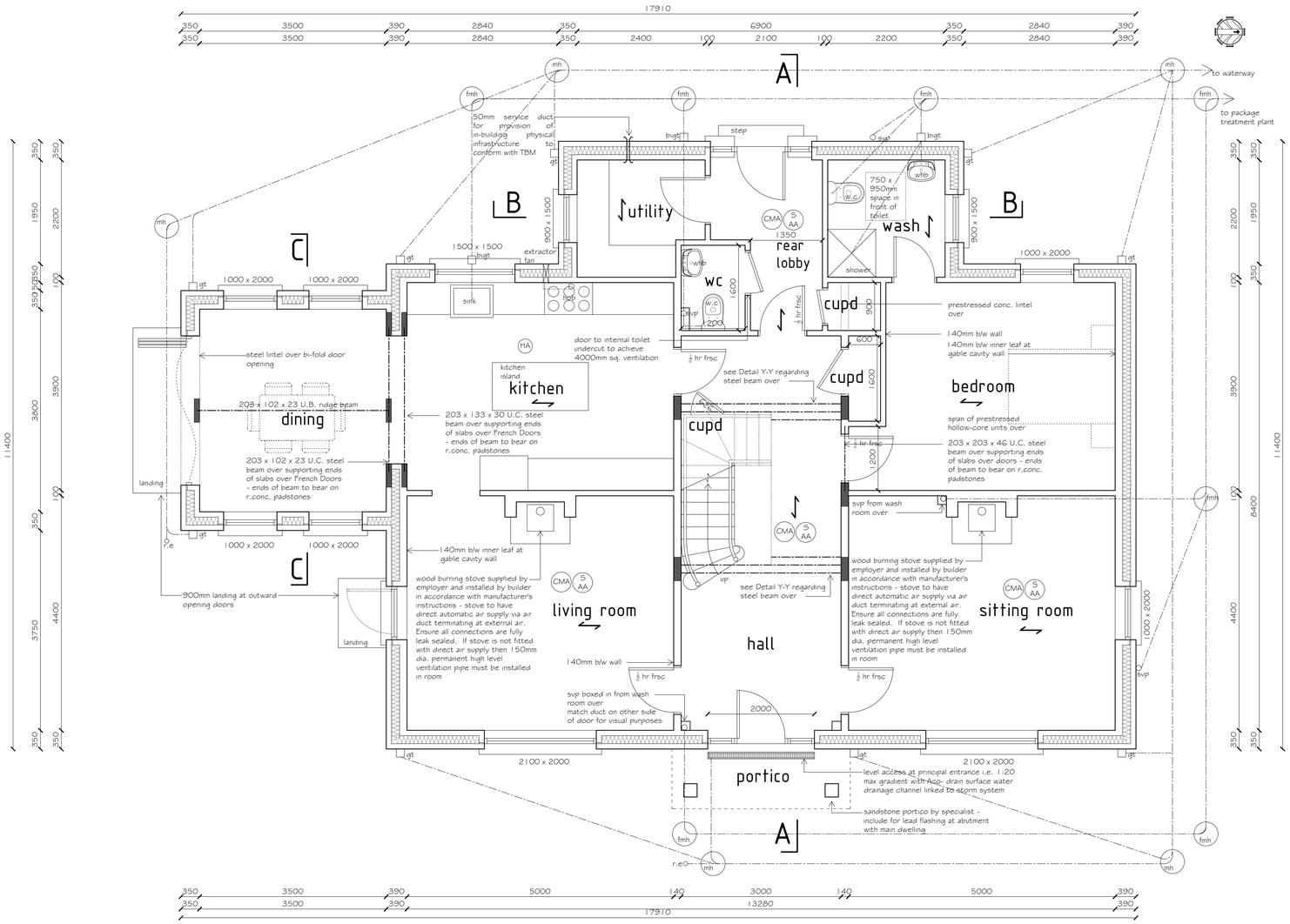
Depth of foundations to suit site conditions - bearing depth to be minimum 750mm below ground/path level

Concrete - Grade C30 Newton

maximum aggregate size, 20mm

minimum cement content, 320 kg/m3

foundations and ground supported slabs to bear on suitable firm sub-soil. If this cannot be achieved an amended design and soil investigation report will be forwarded to the Council on request



GROUND FLOOR PLAN
1:50

BUILDING SUMMARY

EXTERNAL CAVITY WALLS:
150mm wide cavity to external walls to be full-filled with Xtratherm, CavityTherm rigid polyisocyanurate board - see notes

GROUND FLOOR:
100mm Xtratherm Thin-R XT/HYP rigid polyisocyaburate board - see notes

ROOF:
Quinn Therm Q.L Laminate (i.e. 12.5mm plasterboard + 35mm insulation) at underside of rafters and 100mm rigid board insulation between rafters at upper floor with insulation backed plasterboard to underside - see notes

WINDOWS:
U.p.v.c. double glazed windows, Anthracite white colour
All windows to be double-glazed with soft coat (en=0.10) Low-E Argon Filled Units with 16mm glass spacing (min). to U Value of 1.6 W/m2K

EXTERNAL DOORS:
Composite panel U.p.v.c. doors, Anthracite grey colour

All half-glazed doors to be double glazed with soft coat (en=0.10) Low-E Argon Filled Units with 16mm glass spacing (min). to U Value of 1.6 W/m2K

All full-glazed doors to be double-glazed with soft coat (en=0.10) Low E Argon filled units with 16mm glass spacing (min). to U Value of 0.85 W/m2K

PRESSURISATION TEST VALUE:
Air permeability of 5m3/hm2 @ 50Pa must be achieved by test on completion of the dwelling.

ENERGY EFFICIENCY LIGHTING:
Fixed internal and external lighting shall be provided in accordance with Domestic Building Services Compliance Guide 2013, Table 42 (Recommended minimum standards for fixed internal and external lighting) - see notes

PRIMARY HEATING SYSTEM:
Condensing oil boiler, boiler to be Warmflow U90HE High Efficiency Condensing Boiler and complete with approved circulating pump etc., declared efficiency = 92.8%
Programmer, roomstat & TRV's, heating oil.

SECONDARY HEATING SYSTEM:
Wood burning stove

DOMESTIC HOT WATER:
Primary heating system, 140 litre cylinder thermally insulated with factory applied coating of polyurethane foam 50mm thick.

On completion of the dwelling the following information shall be submitted to Building Control:
- Dwelling carbon dioxide Emissions Rate (DER)
- EPC to confirm SAP Energy Rating
- Confirmation of compliance with the Department for Communities and Local Government (DCLG) Accredited Construction Details or equivalent level of performance
- Results of air permeability and air pressure testing (where required)
- Notice signed by a suitably qualified person confirming that all fixed services have been properly commissioned.
- Confirmation that the building owner to be given sufficient information, including operational and maintenance instructions to enable the dwelling and its services to be operated and maintained in an energy efficient manner.
- Confirmation that a Notice regarding performance capabilities of each hearth, fireplace, flue or chimney has been provided to the building owner (required by Part L)

CONSERVATION OF FUEL AND POWER COMBUSTION APPLIANCES AND FUEL SYSTEMS:

Check other notes on drawings that may be relevant, in addition to notes set out below to the conservation of fuel and power etc

All works to be carried out in accordance with accredited construction details(DCLG publication)

Air permeability of 5m3/hm2 @ 50Pa must be achieved by test on completion of the dwelling.

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'

A notice confirming that all fixed services have been properly commissioned shall be provided, signed by a suitably qualified person and a copy given to the building owner and district council not more than 5 days after completion of the commissioning.

Building owner to be given sufficient information of specific apparatus/ system installed, including operational and maintenance instruction, to enable operational and maintenance instructions, to enable the dwelling and fixed services to be used in an energy efficient manner

An energy rating for the completed garage 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

Hot water tank is to be insulated with 50mm spray foam

Primary circulation pipes for domestic hot water circuits should be insulated throughout their length (refer to Domestic Heating Compliance Guide, Table 11.
Insulation to be provided to all pipes connected to hot water storage vessel for a distance of at least 1.0m from the vessel.

Required boiler is to have an efficiency of 97% or better

Open flue fire/ appliance in fire requires permanently open air vent sited to that it does not cause an uncomfortable draught for the occupants

Flue to condensing combustion appliance to be lined with impervious, corrosion resistant components and provided with means of draining condensate.

Flue to be cleaned, visually inspected and altered as necessary before re - use

All flues to be checked upon completion to ensure that they are free from obstruction, satisfactorily gas-tight and constructed with materials and components of sizes that suit application

Fitted appliances shall have a spillage test carried out under fire

A durable notice shall be fixed at an appropriate location in the building for each
hearth, fireplace and flue stating

* Location
* Type of appliance that can be accommodated
* Type, Size and manufacturer of flue or liner
* Installers name and date of insulation

LPG cylinder sited less than 2500mm (up to 0.25 tonnes) and 3000mm (between 0.25 - 1.1 tonnes) from a building or a boundary to be protected by a fire wall

Oil tank will be constructed in accordance with the recommendations of BS 799-5: 1987 (steel) or OFS T100:1995 (medium density polyethylene)

Oil tank sited less than 1800mm from a building or 750m from a boundary to be protected by a fire wall

The fuel pipe work from the tank shall be resistant to the effects of fire and be fitted with a fire valve system where it enters the building.

Oil tank to be bunded to a capacity of 110% of its maximum capacity

All proposed combustion appliances to be capable of burning or adapted to burn smokeless fuels

FOUNDATION CONCRETE:
Grade C30 Newton (at 28 days)
Minimum cement content 330 kg/m3 - maximum aggregate size 20mm. All structural concrete to be thoroughly vibrated. All concrete work to be carried out in accordance with BS8110.
Mud mat: 100mm C10 Newton
Concrete cover to reinforcement (65mm all round unless stated otherwise)
All concrete to be delivered to site to be within 50 - 75mm slump range unless agreed otherwise. No water to be added to concrete after its arrival on site unless by agreement.
All concrete curing procedures to be carried out in accordance with current C & CA Guidelines. Concrete pouring operations shall not be carried out below a steady shade temperature of 3 deg. C or 5 deg. C and falling. Maximum assumed ground bearing pressure of 100 kN/m sq.
The builder should notify the local Building Control Office (in the normal procedure) of foundations being ready for inspection. Min overlap to steel mesh (where indicated) to be 450mm throughout. "Day joints" between adjacent discontinuous concrete foundation pours shall be reinforced for 1200mm on each side of the joint with B503 steel mesh top and bottom, 75mm cover to reinforcement

CAVITY WALLS; TIES & BLOCKWORK:
350mm thick with insulation as noted - 100mm block work inner and outer leafs

390mm thick at gable walls with insulation as noted - 140mm block work inner leaf and 100mm block work outer leaf

Cavity filled with concrete to path level or minimum 300mm below d.p.c.

All cavities to be closed at wallplate level and along gable heads with calcium silicate board

Rawlte - RT/2 stainless steel insulation retaining wall tie at 600mm centres horizontally and 450mm centres vertically - at 225mm "in-line" vertical centres at all door and window openings and construction joints etc

All concrete block work, where specified, to be 7 N/mm sq. characteristic strength
concrete blocks to BS 5628 with class (iii) mortar designation (i.e. 1:4 cement/sand with plasticizer)
Rate of construction should not exceed 1.5m height per day

allow for forming openings in block work/stonework to receive outside type meter-box, extract fans and opening for duct from tumble dryer
Include for 60mm high density insulation at back of meter box.

LATERAL RESTRAINT:
Provide 30 x 6 x 1.200 long mild steel galvanized ties fixed to wall at one end and 3 no. joist at other with no. 8, 50mm screws. Packing piece between last member and wall and solid bridging to other joist to which supports are fixed.
+ - indicates position of anchors to walls at ceiling jst and floor jst levels - same to be at max. 2m ctrs

LINTOLS:
Provide new precast concrete lintels to all openings to complete building. See lintel schedule for sizes.

LINTELS:
Schedule of Reinforcement to Lintels to BS. 4449
(1) Clear spans up to 1.250m
2 no. y16 at bottom
(2) Clear spans between 1.250 and 1.950m
2 no. y12 at bottom, 1 no. y10 at top
(3) Clear spans between 1.850 and 2.400m
2 no. y16 at bottom, 1 no. y10 at top with
(4) Clear spans between 2.400 and 3.000m
2 no. y16 at bottom, 1 no. y16 at top
Lintel size, 100 x 215mm with concrete mix 25/10. 25mm cover to all reinforcement. Minimum bearing 200mm. All reinforcement to be high tension twisted steel.
Builder to ensure that lintels used are sufficient in size and reinforcement for width of opening and imposed loads.
Preferred manufacturer Tracey Concrete, Old Rossory, Sligo Road, Enniskillen.

Provide continuous lintels over the following door/window openings or window openings

STEEL LINTELS:
Steel lintels by Keystone Lintels Limited, Cookstown. Lintel Type S/K - 150 to suit 150mm cavity minimum end bearing to lintels to be 150mm. flexible damp proof course to be installed above all steel lintels in accordance with 5977 part 2 1983.
Lintel core to be filled with injected foam insulation at factory

LINTELS OVER OPENINGS WHERE UPPER FLOOR PRECAST HOLLOW-CORE UNITS ARE SUPPORTED:
Lintels over openings where upper floor precast hollow core units are supported shall be prestressed concrete lintels as supplied by the hollow-core unit manufacturer and shall be capable of supporting the dead load of the upper floor and all superimposed loads. Builder to forward manufacturer's details/calculations for such lintels to Building Control three weeks prior to site delivery. Lintels elsewhere to be as Lintel Schedule in specification notes

ROOF COVERING:
VENTILATED COLD ROOF CONSTRUCTION:

Quinn Western Slate Flat Tiles, or equal and approved laid with minimum head lap of 75mm on 50 x 25mm vacuum preservative treated timber battens on Tyvek Supro vapour permeable underlay on roof timbers as noted.
Allow for Tyvek Eaves Carrier at roof eaves providing drip into gutter. Tyvek underlay to lap onto Eaves Carrier and bonded to it with Tyvek Butyl Tape. Tyvek Supro underlay laid horizontally across the top of rafters and allowed a slight drape between rafters to allow for drainage beneath the battens. In order to prevent the risk of wind uplift a maximum drape of 15mm shall not be exceeded. Tyvek to be laid and fixed in accordance with manufactures instructions.
Roof tiles to be laid and fixed strictly in accordance with manufacturer's technical literature.
Design, performance and installation of slates, tiles, roofing membrane and tiling battens meet the requirements of BS5534:2014 Code of Practice. Battens shall indicate supplier, origin (species code) graded to BS 5534 and size.

Colour: black/ dark blue
Pitch: 38°

Client:	
Project: PROPOSED DWELLING AT CARROWKEEL ROAD	
Drawing Title: DETAILED DRAWING	
Date: JULY 2019	Scale: AS INDICATED
Drwg No: 4791/ 08	Revision: [ ] [ ] [ ] [ ] [ ]

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