

Title: The Ideal Construction Programme

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Written for: <http://www.helpmebuildandrenovate.com>

Date: 30th of August, 2005

Reference: <http://www.helpmebuildandrenovate.com/DavidLee.php>

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Before you ever even set foot on the site, the first thing to do is to arrange site insurance (public liability). This covers all people who may enter the site whether invited or trespassing, it covers all operatives whilst working on site and it may cover materials and tools (depends on the policy and company, ensure to check before advising any personnel on site). If you are a self-builder or using direct labour, you essentially are the main contactor and are responsible for the Health and safety of all employees on site. To comply with regulation you should notify the local authorities or council which ever is applicable.

For your own benefit, although it is not necessary you should draft up a Health and Safety plan. This should be clearly available to anyone on site, it should be kept in the site office, or somewhere all employees can gain access in case of an emergency. This folder should contain all the numbers of local Garda, nearest A and E, local doctor and fire brigade; a suitable first aid kit should also be kept with this file.

Before you arrange any personnel to go to site you should also arrange the following

- Arrange a temporary water supply, this can be done by either connecting into a neighbours connection, sinking a well or by making the proper connection to the main which will be used afterwards by the building
- Get a temporary electricity supply, you will have to get this done by the local ESB office, you cannot make a temporary connection yourself, this is totally unsafe and lethal, any connections to this will cause serious injury. If connection is not available hire a generator or purchase one
- Fence or hoard off the site. Along with the cost of your insurance, no one wants uninvited guests on site so the best prevention is the cure; make sure that the only way on or off the site is through the controlled gate. This will also help the prevention of the pilfering of materials or tools
- Put in place a hard standing area, this is where you can safely onload or offload all material and place site huts (*one of the best ideas is to put this area somewhere that is going to be tarmaced or paved afterwards it saves money and speeds up the construction because when the materials or huts are moved the hard standing for the surface finish is all ready in place*)

Construction programme

Step 1

Earthmoving equipment moves onto site, Engineer or surveyor commences marking out the site, reduced level excavation and digging of foundation trenches.

Setting out site and marking foundation plan of house.

- Surveyor sets out the site
- Debris (scrub) and topsoil is to be remove off site. Ensure not to dispose off all the topsoil, this is valuable (it costs money to dispose of and you will need it to create the gardens afterwards) one of the best keys is to keep approx 1/3rd of the soil, depending on the garden layout and garden design

What will be needed on site?

Chalk lines/lime to mark the centreline of walls and stakes to indicate finished floor levels, Dumpers and excavators move on site, (all supplied by the ground works sub – contractor), lorries to cart away all excess material

Dig the foundations, trenches and all trenches for the services.

Step 2

Pouring the foundations, building the rising walls

- Ready mixed concrete suppliers are widely available around the country but always check the price for the strength of concrete required, you would be very surprised with the variances between companies. If unsure get your surveyor to tot up the required amount of concrete required. Always keep this in mind. (Keep track of the quantity ordered vs. the amount delivered, the majority of people will not be able to quantify concrete when its in a hole, it might save you money if companies are over charging. Just an approx a 10% wastage factor. Anything above that query it with your sales rep.) At this stage the majority of engineers or surveyors will want to visit the site to ensure the foundations are correct and capable of with standing the stress and strains for which they were intended.

What will be needed on site?

Wheelbarrows, rakes, shovels, steel reinforcement, and concrete

- Building the rising walls, the rising walls should be built in strict accordance with the design requirements, qualified masons should be employed. Once complete up to the underside of the floor slab, backfill all the foundation trenches and fill the base of the building with suitable hardcore, once complete blind the top of the hardcore with sand. (ensure to vibrate the hardcore when it's going in this will avoid settlement and also prevent cracks appearing in the finished building. When the hardcore is being placed this is when the radon sump and pipes should also be fitted. Once all that work is done the radon barrier can go down. Make sure not to puncture the sheet as this will let radon seep through plus may let dampness through. Radon barriers are always put in place and have replaced the traditional DPM (damp proof membrane)

What will be needed on site?

Concrete blocks, mortar, wall ties, drainage outlets, DPC (damp proof course), masons.

- Insulation now needs to be put down. This is a vital part of the construction. It's what's going to prevent heat loss to the ground, it might cost a lot to put it down but it will save far more in the long run. Drainage pipes also need to be put in place for all ground floor services, i.e. WC, WHB, sinks, washing machine/dishwasher outlets. Once every thing is in place the concrete slab can be poured. Power floated to a fine finish and left to cure.

What will be needed on site?

Insulation, PVC drain pipes, concrete, mesh reinforcement, power float.

Step 3

First Floor Structure

- Build superstructure up to first floor level
- Build first floor structure i.e. floor material either timber or concrete

Your architect or surveyor will again need to revisit the site at this stage, you may need to this to release money from your mortgage company and meet the banks approval or simply for piece of mind, if your spending your hard earned cash you will want to make sure that your getting value for money and making sure that you both meeting the current regulations and making a stable and safe home for your family

What will be needed on site?

Scaffolding, (form part of the over all scaffolding package) bricks, blocks, lintels, insulation, fireplace hearths,

Step 4

Build structure to wall plate level (presuming a 2 story house)

- Build up to wall plate, block layer laid cavity closer ready for next step by roofers

Step 5

Chimneys and gables

- Build gable ends and build chimney through roof
- Carpenter raises rear ends trusses as templates for gable end block work

What will be needed on site?

Carpenter, roof trusses, masonry blocks, chimney pots. Lead if required

Step 6

Roof structure

- Plumber to install large tanks in attic space before trusses spaced out
- Carpenter fixes remaining trusses and roof structure. Places carcassing for dormer windows, fascias and soffit * any other roof's such as porch's, bay windows, conservatories etc
- Weathering building, installation of windows and external doors

Step 7

Finish Roof

- Flashing to chimneys, walls, dormers etc
- Felt batten and tile/slate roof
- Plumber fixes guttering and down pipes, glaze all first floor windows before dismantling scaffolding
- External renderings and decorate finished fascia and soffit,
- Paint exterior walls if required
- Dismantle scaffolding

What will be needed on site?

Felt, roof tiles/slates, vents, gutters, and down pipes, glazing, painters, lead.

Step 8

First fix carpentry

- Internal carpentry for partition walls, battens for plasterboard ceilings, staircase etc.
- Plumber installs cylinders and tanks in attic space

What will be needed on site?

Plaster board, battens, timber for studs, doorframes, and staircase

Step 9

First fix plumbing and electrics

- Electricians positions power points, switches, TV points, cooker, security alarms, white goods, and completes wiring to all these appliances
- Allow for central vacuum system if required
- All piping and ducting for radiators, heated towel rails and under floor heating
- Install hot and cold water supply to all outlets

Note:

The client should be seeking and consulting various professional at this stage, the wrong information or actions will lead to major problems and costly mistakes, always ask before doing something no matter how sure they are

What will be needed on site?

Plumbers and electricians, the mostly supply their own goods so very little is required by the self-builder at this stage.

Step 10

Connect Drains

- Dig trenches for drains from house to inspection chamber.
- Backfill trenches only pipes are in place (to the required gradient)
- Connect mains gas, water if not already done so and electricity

Step 11

Floors and Internal Plastering

- Plasterboard to ceilings and studed partitions
- Plaster skim coat to all walls, ceiling and partitions

Step 12

Second fix Carpentry

- Hang all internal doors, skirtings, architraves, treads and balustrades to stairs, lay wooden floor, lay any tiling to ensuites or bathrooms

Step 13

Install kitchens and fitted furniture

- Install kitchen and fitted furniture, wardrobes, cupboards etc.

Step 14

Second fix plumbing and electrics

- Fit bathrooms, plumb in white goods in kitchen, fit radiators
- Fit all lights fittings, switches and sockets. Connect cooker hood, fit smoke detectors, commission certificate of completion for electrics and gas

Step 15

Boiler

- Install boiler and all associated item all done by plumber
- Test boiler and adjust system and programme thermostats

Step 16

Decoration

- Thoroughly clean house and make good any defects and make good for painting
- Prepare surfaces for decoration, seal and undercoat
- Paint all interiors, ceilings, walls and woodwork

Step 17

Snagging and Externals

- Basic landscaping, turf and paving and seed lawn areas
- Make good internal repairs/decoration
- Carpet fitting

This is again another milestone your engineer or surveyor should visit the site and new building comply a detailed snag list for all subbies or trades, agree accounts with same.

Step 18

Final inspection and ready to move in

Step 19

Six months defects period

- Allow the systems, particularly heating and plumbing, to be tested over the period of time, the majority of systems need time to settle in, if any major problems are encountered contact the person who carried out the work and have them repair it immediately.