Hand Tools :




Tool Name: Mallet
Materials used with: Wood
Function: Used to strike a chisel

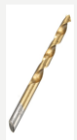
Tool Name: Chisel (Bevelled & Mortise)
Materials used with: Wood
Function: To remove wood

Tool Name: Tenon saw
Materials used with: Wood
Function: To cut straight lines in wood

Tool Name: Screwdrivers (Slotted, Pozi & Philips)
Materials used with: Wood
Function: To secure a screw into the material.

Hand Tools :



Tool Name: Bradawl
Materials used with: Wood
Function: To mark into a piece of material

Tool Name: Cordless Drill
Materials used with: Wood, Plastics
Function: To drill holes into a piece of material

Tool Name: Drill Types (Twist & Auger)
Materials used with: Wood
Function: To drill a hole into a wooden material.

Tool Name: Smoothing Plane & Block Plane.
Materials used with: Wood
Function: To remove access material from surfaces.

Equipment:




Tool Name: G Clamp
Materials used with: wood, metal, plastic
Function: To hold a material whilst it is being worked on or setting.

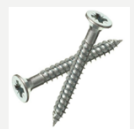
Tool Name: Sash Clamp
Materials used with: wood, metal, plastic
Function: To hold a material whilst it is being worked on or setting.

Tool Name: Bench Hook
Materials used with: Wood
Function: To hold a material steady, to help angle the saw blade whilst cutting.

Tool Name: Woodworking Bench and Vice.
Materials used with: Wood
Function: To hold a piece of material in place whilst it is being worked on or setting.

Type of Fixings:




Fixing Name: Oval Nail
Materials used with: Wood
Function: To hold two pieces of material together.

Fixing Name: Round Wire Nail
Materials used with: Wood
Function: To hold two pieces of material together.

Fixing Name: Panel Pin
Materials used with: Wood
Function: To hold two pieces of material together whilst the glue is setting.

Fixing Name: Pozi Screw
Materials used with: Wood
Function: To join two pieces of timber together.

Fixing Name: Wall Plug
Materials used with: Metal Screws
Function: To hold and support a screw within a wall.

Materials Theory:

Softwoods (Pine) are coniferous trees. They have needles instead of broad leaves. They are evergreen and are generally fast-growing. The timber produced is generally cheaper.

Hardwoods: (Oak) are deciduous trees (they lose their leaves in winter). They are sometimes slower-growing. They are often more expensive.

Manufactured Boards: (MDF/ Hardboard)are **composite materials** (made from a mix of raw materials).They tend to be **cheaper and made into** large boards.

BTEC Construction Unit 5
Project Knowledge Organiser

Types of Glue – Natural Glues:

Natural glues are from made from natural products such as proteins contained in milk or animal tissue. Examples of natural glues are casein and animal glues.

Casein Glue

- Casein glue is a type of adhesive made from milk protein. The glue is known to be very strong over a long period of time and is highly resistant to water.

Animal Glue

- An animal glue is created by prolonged boiling of animal connective tissue

Types of Glue – Adhesives:

Synthetic Glues –Synthetic "glues" or adhesives are generally made from a combination of polyvinyl acetate (PVA), water, ethanol, acetone and other substances. They are usually a permanent fixings.

PVA

Polyvinyl Acetate is a widely used wood glue which is a white ready-mixed liquid. PVA glue is very strong and water resistant, however the glue isn't waterproof meaning the glue cannot be used for outdoor products.

Cascamite

This glue is a synthetic resin glue which sets by a chemical action. It is general purpose is to secure woods. It is prepared by mixing the powder form with water to create a paste. Cascamite is water and heat resistant, however it needs to be clamped into position when setting.

What is Sustainability?

Sustainability is a process in which the human race are trying to avoid the depletion of natural resources in order to maintain an ecological balance on the earth. Through the following processes:

The 6 R's – Sustainability:

RETHINK: Do we make too many products? Design in a way that considers people and the environment. Re-Think is the most ambiguous of the six R's as it could easily be accredited to any of the other five. However, as general rule, re-thinking relates to a lateral, original solution to sustainable problems.

REFUSE: Don't use a material or buy a product if you don't need it or if it's bad for people or the environment.

REDUCE: Cut down the amount of material and energy you use as much as you can.

The 6 R's – Sustainability:

REUSE: The first is us as consumers refusing materials, products or systems in which the negative environmental impact. The second relates to industries or governments refusing to use materials, systems, workforces which have a negative social or environmental impact. of their life and reused.

RECYCLE: Reprocess a material or product and make something else.

Alter or adapt for new use without changing the essential form or nature of the material.

REPAIR: When a product breaks down or doesn't work properly, fix it.

Personal Protective Equipment:

Eyes / Ears:

Hazard: Chemical/metal splash, dust, flying particles, projectiles, gas/vapour or radiation, loud noises.

Head:

Hazard: Impact from falling/flying object, risk of bumping head, hair entanglement.

Head:

Hazard: Dust, vapour, gas, oxygen deficient atmosphere.

Personal Protective Equipment:

Protecting the Body:

Hazard:
Extreme temperature, weather, chemical/metal splash, spray from leak or spray gun, contaminated dust, entanglement of own clothes

Hands & Arms:

Hazard:
Abrasion, temperature extremes, cuts, impact, electric shock, skin infection, disease

Feet & Legs:

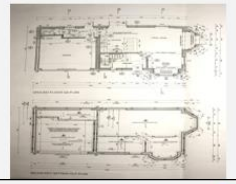
Hazard:
Wet, electrostatic build up, cuts, falling objects, metal/chemical splash, abrasion

Units of Measurements:

- In the UK standard units of measurements used on architectural drawings are millimetres (mm) and metres (m).
- Paired scales often found on architect's scales are:
- 1:1/1:10
- 1:5/1:50
- 1:10/1:100
- 1:20/1:200
- 1:1250/1:2500

Purpose of Drawings:

- The main purpose of construction drawings (plans, blueprints, or working drawings) is to show **what is to be and where it should be built**, while the specifications focus on the materials, installation techniques, and quality standards.
- Most designers put **basic construction information in the drawings** and use the specs to elaborate on materials, techniques, and standards to be met.



BTEC Construction Unit 5
Project Knowledge Organiser

Common Abbreviations & Symbols:

On all site drawings common abbreviations and symbols are used to tell anyone reading the plans where everything needs to go.

Using abbreviations or symbols cuts down the amount of content on the document making it easier to read.

http://www.build.com.au/floor-plan-abbreviations-and-symbols

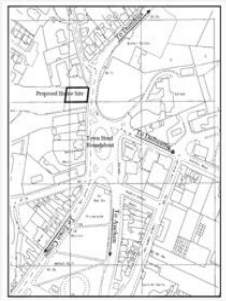
House plan abbreviations

ABBREVIATION	MEANING
AB	Air brick
AL	Aluminium
AP	Acoustic plaster
ASPH	Asphalt
AT	Acoustic tile
B	Basin
BAL	Balustrades
BC	Book case
BHD	Bulkhead over
B/I	Built-in
BK	Brick
BV	Brick veneer
BWK	Brickwork
C	Cooker
CAB	Cabinet
CBD / CPD	Cupboard
CD	Clothes dryer
CF	Concrete floor
COL	Column
CORR	Corrugated
CR	Cement render
CT	Ceramic tile
D	Door
DG	Double glazing
DH	Double hung (windows)
DP	Downpipe
DPC / DPM	Damp-proof course / damp-proof membrane
DW	Dishwasher
FA	Floor area
FB	Face brick
FCL	Finished ceiling level
FFL	Finished floor level
FL	Floor level (note: the floor level is provided as a figure relative to a datum, or universal reference point)
FW	Floor waste
GM	Gas meter
GPO	General purpose outlet (i.e. power point)
HTR	Heater
HW	Hot water unit
INSUL	Insulation
KIT	Kitchen
LIN	Linen cupboard
LINO	Linoleum
M	Meter
MSB	Master switch board
O	Oven
PBD	Plasterboard
R / REFRIG	Refrigerator
RL	Reduced level
RS	Roller shutter
RWH	Rainwater head
RWP	Rainwater pipe
RWT	Rainwater tank
SC	Stop cock
SD	Sewer drain
SD	Sliding door
SHR	Shower
SS	Stainless steel
TC	Terra cotta
TEL	Telephone
TRZO	Terrazzo
TV	Television
U/G	Underground
U/S	Underside
V	Vinyl
VENT	Ventilator
VP	Vent pipe
W(number)	Window - Basix window number
WB	Weatherboard
WC	Water closet
WM	Washing machine

How to Read Drawings:

- There are many drawings you will receive for a site development here are the main drawings you would receive as a site manager or assistant manager.

Location Plan

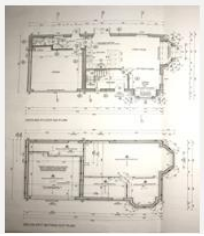


Site Plans

How to Read Drawings:

Floor plans are a form of projection that can be used to show the layout of rooms within buildings, as seen from above. They may be prepared as part of the design process, or to provide instructions for construction.

Floor Plans



Elevations

Elevation drawings is a first angle projection that shows all parts of the building as seen from a particular direction. Generally, elevations are produced for four directional views, for example, north, south, east, west.

Title Box:

The title box gives you in the information you need with regards to what type of house or structure is to be built and the scale in which the plan is drawn in. for example 1:50 means the drawing is 50 times smaller than the building will be.