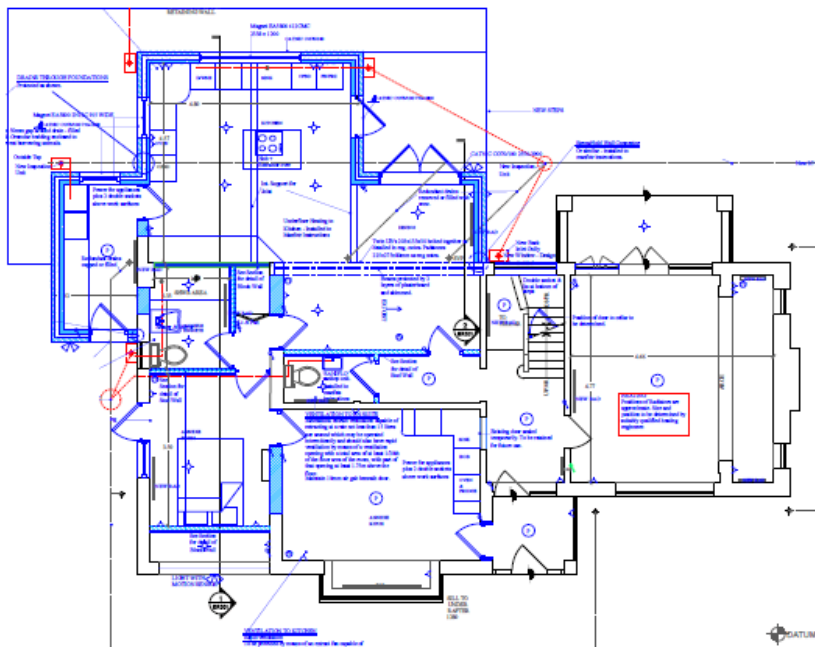
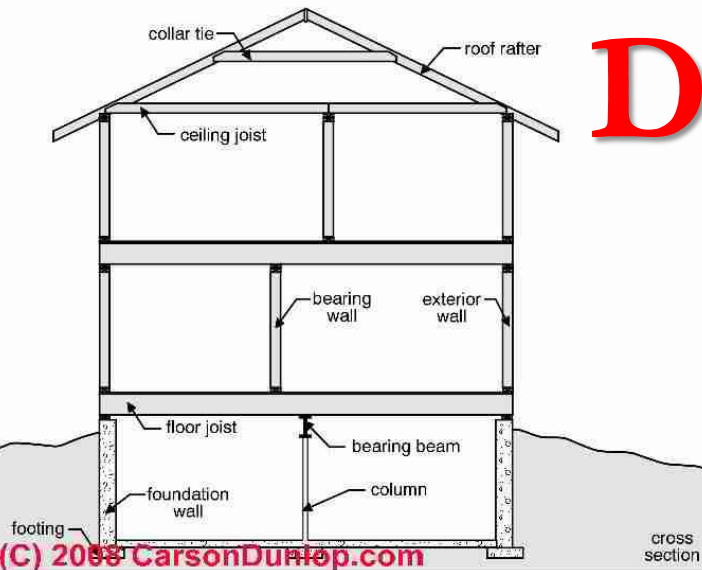
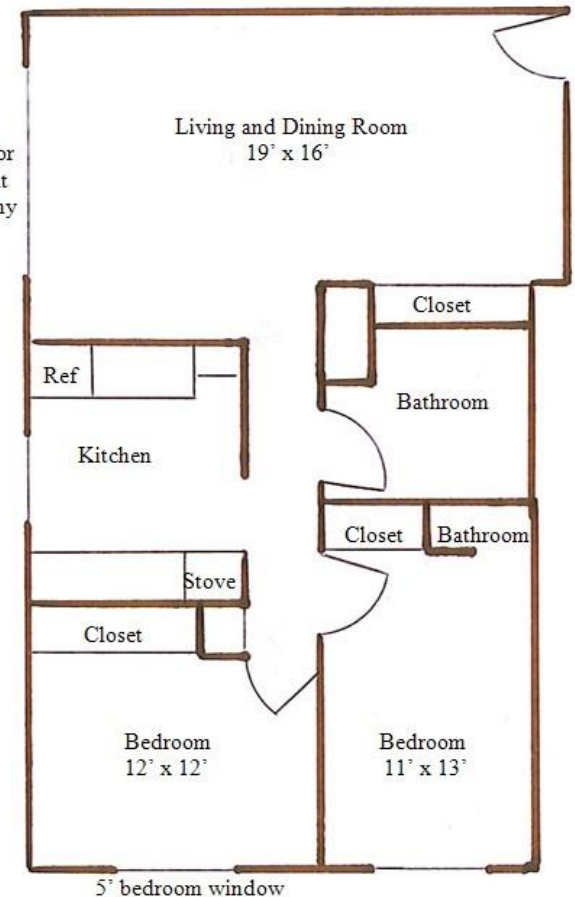


Building Planning And Drawing

Overview of house structure



8' Patio door
leading out
to the balcony



Introduction

- A building or construction project requires a complete set of specialised drawings. These drawings, called a project set, are used by the local planning department and building control, as well as by builders, joiners, plumbers, electricians and water, gas and telephone engineers.
- The buildings are designed by an architect with a team of technicians and surveyors to help plan and produce the drawings. The types of drawings are designed by an architect with a team of technicians and surveyors to help plan and produce the drawing.

Introduction

- The types of drawings you need to know about are:
 - location plans
 - site (block) plans
 - floor plan
- Drawings for new buildings require approval from the building control department and the planning department before construction work can begin. The building control department checks that the quality of design and construction meet British standards. The planning department assesses whether or not the style and proportions of the proposed building are appropriate for the location.

Types of Drawings:

- ❑ Engineering drawings
- ❑ Architectural drawings
- ❑ Technical drawings
- ❑ As built drawings
- ❑ Shop drawings

1. Engineering drawing:

- **Definition** :A schematic representation of a *building*, *object*, or *component* made according to defined conventions and projected to serve in the construction or fabrication of the thing depicted.
- Engineering drawings are frequently used to describe public works projects, such as :
 - *bridges, highways, and dams.*

2. Architectural drawing

- **Definition** A sketch, diagram, plan, or schematic used to design, construct, and document buildings and other structures.
- The drawings may be used to indicate the overall appearance, inside or outside the structure, or they may be used to indicate precise measurements and other details for construction. Drawings, especially those for construction purposes, may be issued as a set, with different sheets indicating different types of construction (electrical, mechanical, plumbing).

□ As-built drawing

- **Definition** Architectural drawings that reflect changes made during the construction process, recording differences between the original design and the completed structure.
- As-built drawings are based on design drawings used during construction, where measured drawings are usually made long after construction is completed and no design drawings exist

□ Technical drawing:

- **Definition** A graphic using lines and symbols that follows specific conventions of scale and projection, typically used in architecture, construction, engineering, or mapping

❑ **A shop drawing:**

- ❑ **Definition** It is a drawing or set of drawings produced by the contractor, supplier, manufacturer, subcontractor, or fabricator.
- ❑ Shop drawings are typically required for pre-fabricated components. Examples of these include: elevators, structural steel, trusses, pre-cast, windows, appliances, cabinets, air handling units and millwork.
- ❑ **Shop drawings** are not produced by architects and engineers under their contract with the owner. The shop drawing is the manufacturer's or the contractor's drawn version of information shown in the construction documents. The shop drawing normally shows more detail than the construction documents. It is drawn to explain the fabrication of the items to the manufacturer's production crew. The style of the shop drawing is usually very different from that of the architect's drawing.

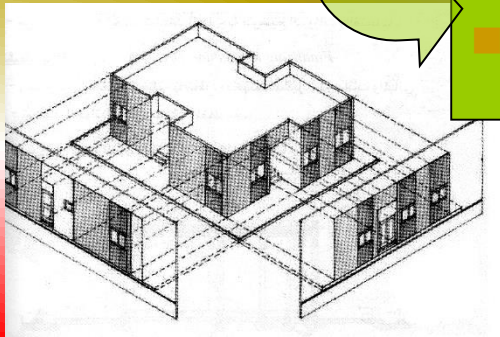
□ Architectural Drawings used for:

1. Building elements seen in true size, shape, orientation . "scale"
2. Describe form & construction of building component.
3. It is the base drawings for other construction work like, electrical, plumbing, mechanical..."

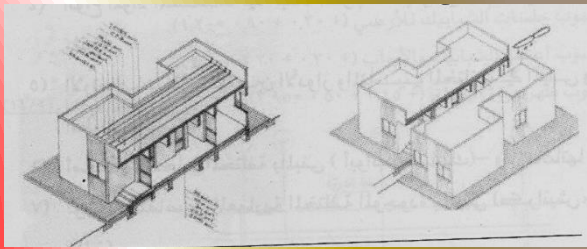
□ Site plan

Preparing the architectural drawings:

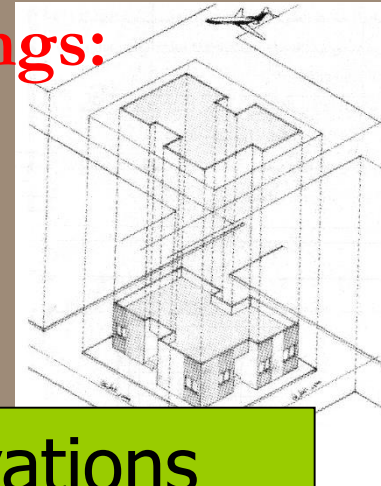
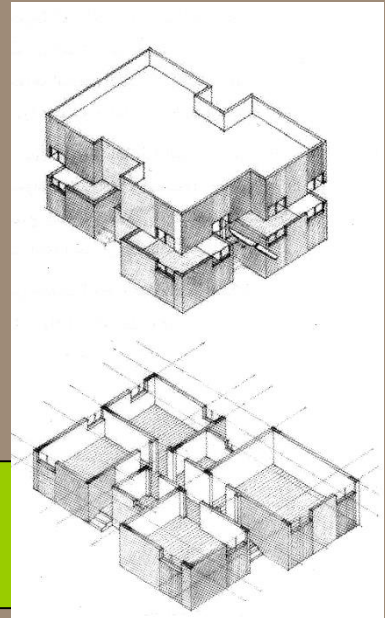
■ Plans



■ Elevations



■ Sections



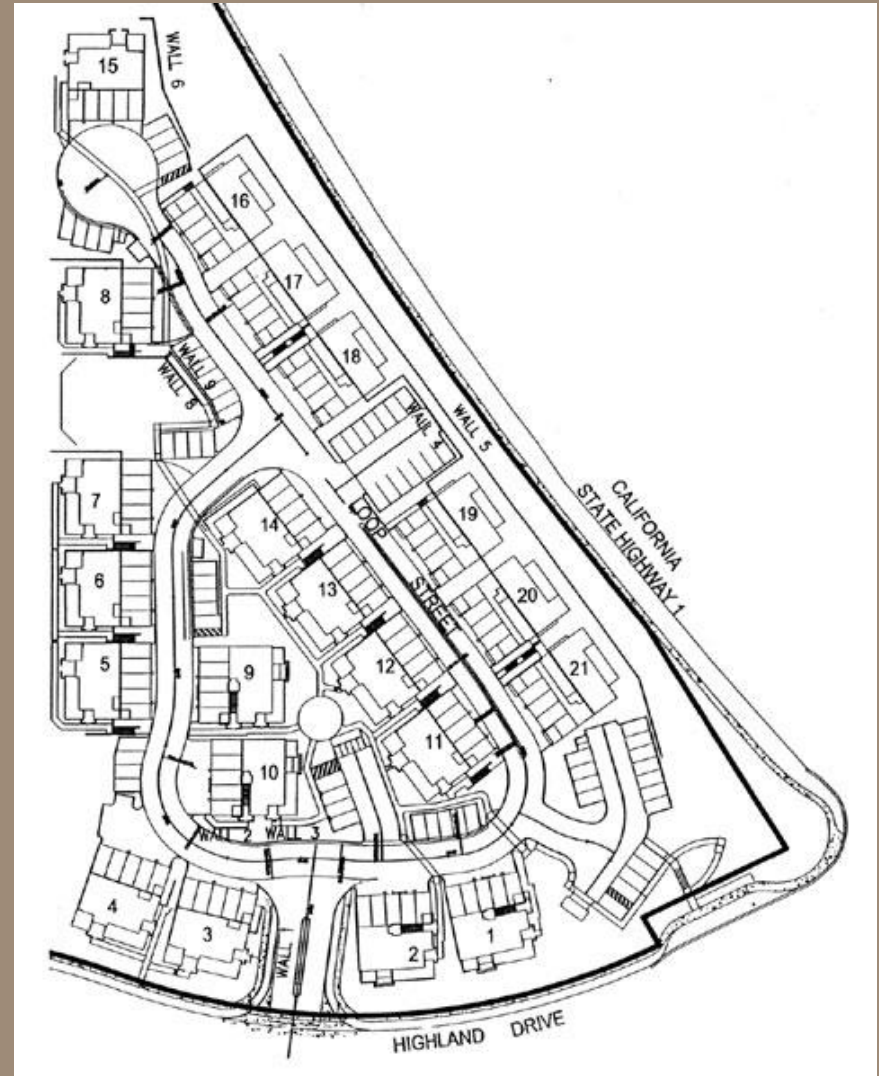
- **The site plan:** is a view looking down at a building from above, illustrating its location & orientation on a plot land & providing information about the site's topography, landscaping utilities ,and site work.
- **The importance of site plan:**
 - It illustrates the existing natural & built features.
- **The building section:** is a vertical pane cut through a building.
Or: it is a drawing of interior & exterior partitions and roofs and ground floor in addition of interior elevations seen beyond the plane of cut.
- **The importance of The building section:**
 1. Illustrate building construction.
 2. Technical implementation (precast- prestress...).
 3. Types of slab (roof plate) solid slab, hollow block, flat slab...).
 4. Building material (block, stone, concrete,...).
 5. Height of the building and levels.
 6. Details and finishing.
 7. Measurements.

- **The floor plan:** is a view looking down/ a horizontal plane is cut through a building from above about 1.5m, illustrating it's the horizontal dimensions of a building spaces, the thickness & construction of vertical walls & columns that define these spaces.
- **The importance of plans:**
 1. Define the spaces & its functional relationship.
 2. Illustrates places of openings (doors- windows).
 3. Finishing.
 4. Entrance (main- secondary)
 5. Utilities (stairs- elevators- mechanical room- baths- stores....)
 6. Structural system:
 1. R.C, steel, bearing walls...
 2. Columns, beams,...
 3. Thickness of walls (exterior & interior)
 7. Measurement and cost (quantity survey)

- ❑ **Building elevations**: is views of a building's exterior perpendicular to the principle vertical surfaces.
- ❑ **The importance of The building section:**
 1. Finishing
 2. Openings
 3. Size, shape , materials of exterior surfaces
 4. Size proportion
 5. Heights of the building
 6. Measurements

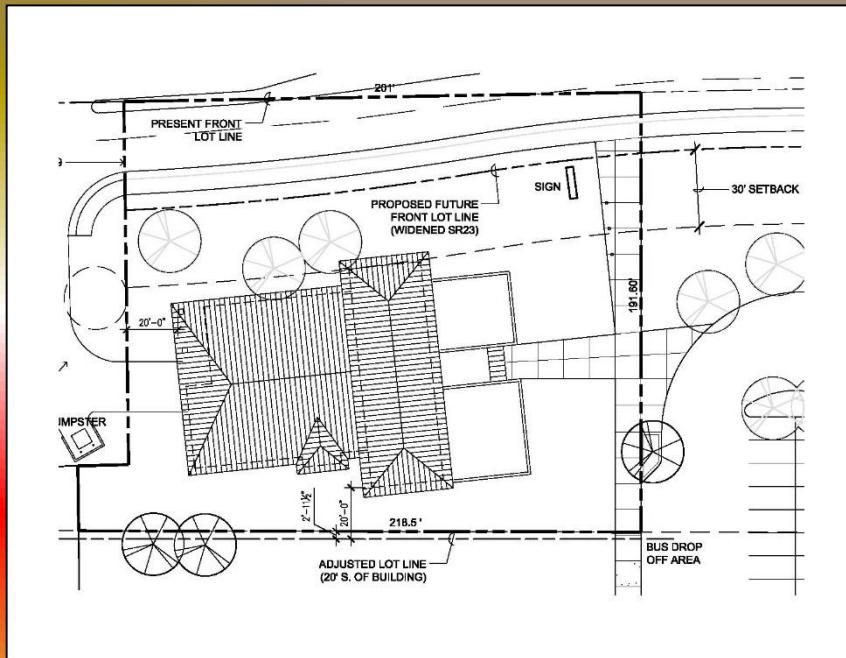
Location Plan

- It identifies the location of the proposed new building within its surroundings. It also helps the builder to plan the layout of a new building scheme and is required by the local government planning department which decided whether or not to approve the project.
- Neighbouring buildings and their boundaries are shown, as are roads, street names and fields.
- The **scale** of the drawing depends on the size of the whole building scheme but is normally **1:1250**
- All building projects come under local authority control



Site (Block) Plan

- A site plan (also known as a block plan) shows the site boundary and the outline of the new building which are highlighted in the location plan.
- Paths, roads and neighbouring plots are also shown. This type of plan enables the builder to mark out the site, lay drainage pipes and build manholes.
- It is also submitted to the local planning department for approval.



A site plan can show:

- existing trees
- the building outline, including the roof
- the main dimensions of the house and site and metres
- drainage pipes and manholes which run from the bathroom and kitchen to the main drain under the road
- the position of the house on the site
- contour lines which show the slope of the land

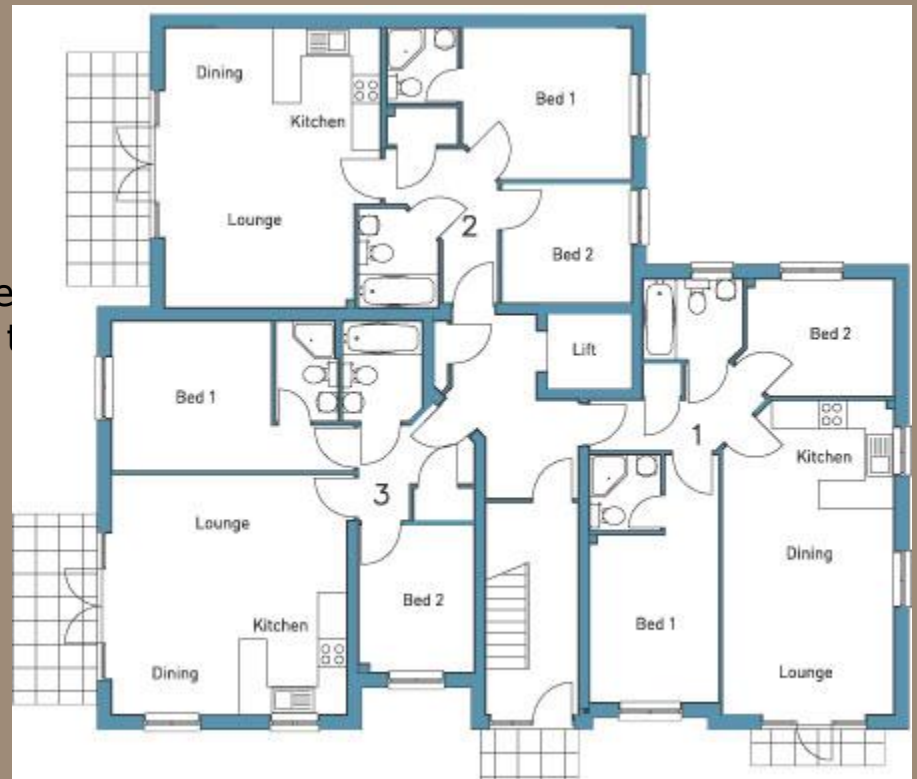
The scale of a site plan depends on the size of the building. For houses and small buildings a **1:200** scale is used.

Floor Plan

- A floor plan is a type of sectional view of the building with the roof and a few layers of bricks removed to show:
 - the arrangement of rooms
 - the positions of windows and doors
 - the types of internal and external

Floor plans are used by builders, plumbers, electricians and joiners to help plan the construction work and to cost the building materials.

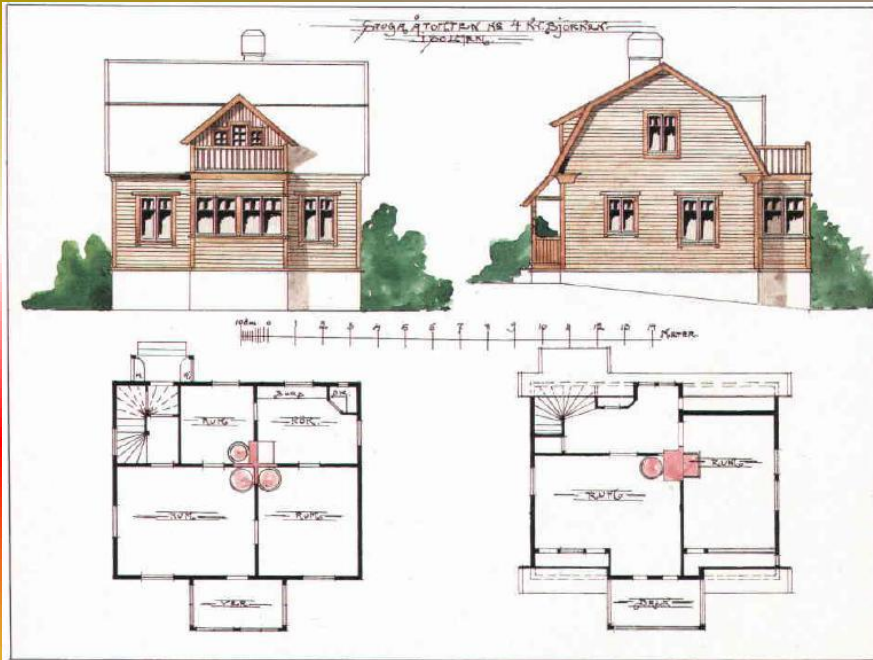
The scale of a floor plan depends on the size of the building but for most domestic buildings a scale of **1:50** is used



- Floor plan can also include:
- the dimensions of each room & the exact positions of doors & windows
 - the layout of water pipes (plumbing)
 - the layout of electrical cabling and positions of sockets, switches and fuse boxes

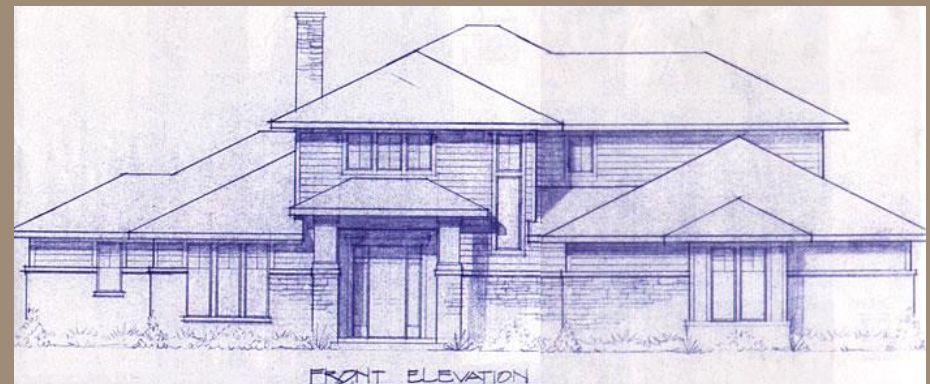
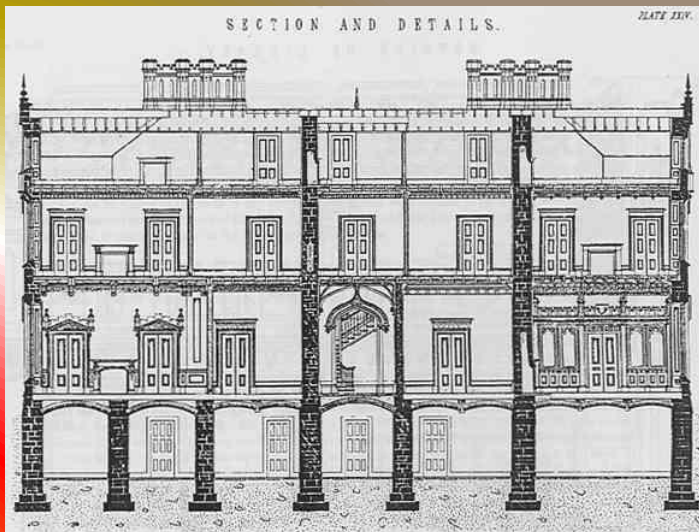
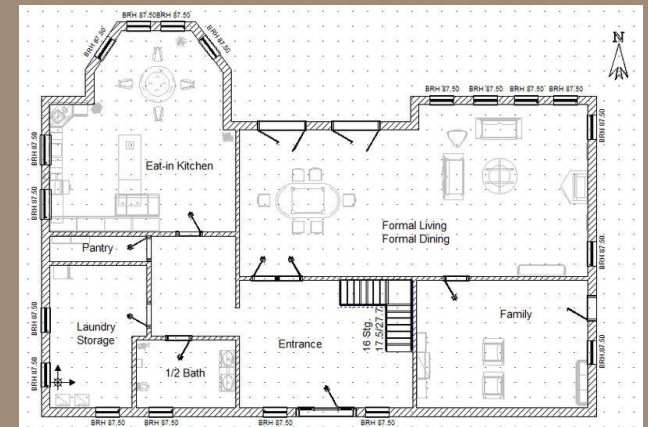
Architectural Plans

- An Architect is a person who designs houses, buildings, and other structures.
- Architects make plans when they are designing a new structure. These plans are usually sketches, drawings or miniature models of the structure they are going to build.



Architectural Plans – Drawing Plans for a House

- When an architect is making plans for a house, they draw several different types of plans. Each plan is a different point of view of the building.



Architectural Plans – Front Elevation



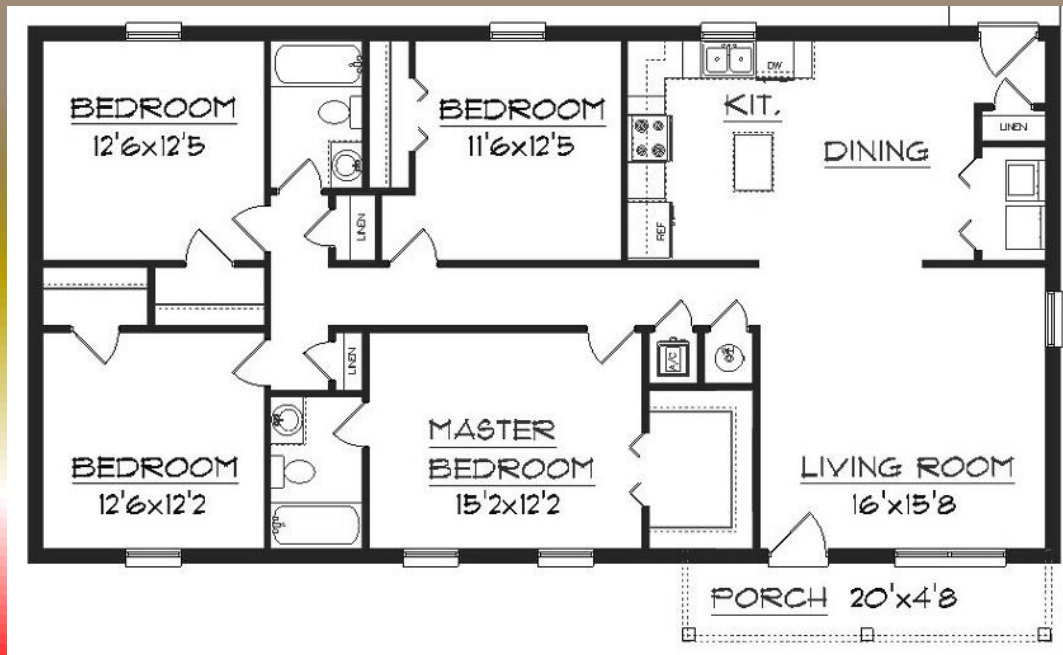
Architectural Plans – Section Drawing



Section Drawing

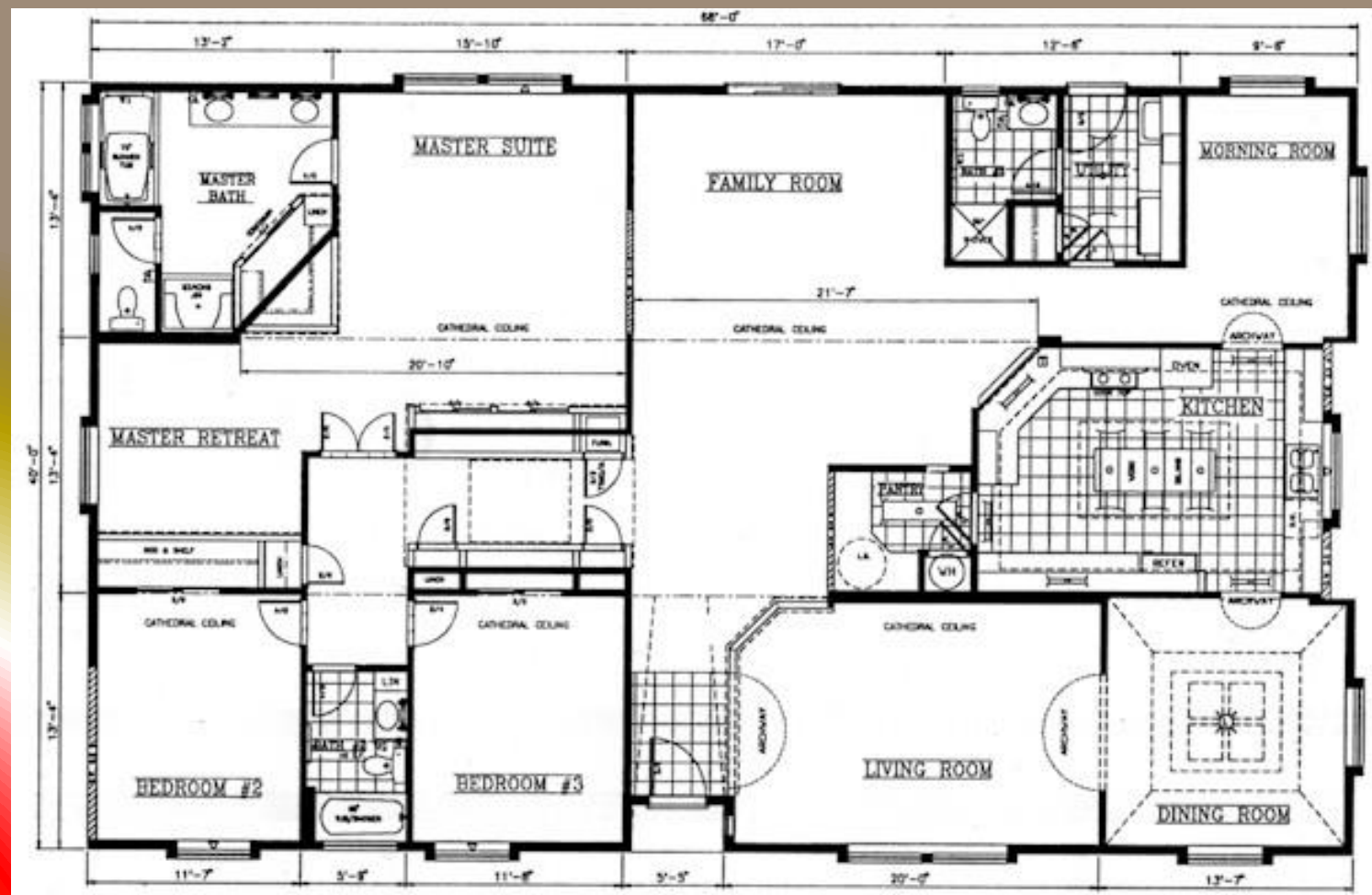
View from the front where you can see through the walls into the house or building.

Architectural Plans – Floor Plan



- A floor plan is a drawing of the rooms and spaces in a structure or building. Similar to a map, in an floor plan the viewer is looking downward from above.
- Dimensions are usually drawn between the walls to specify room sizes and wall lengths.
- Floor plans will also include details like sinks, water heaters, furnaces, etc.

Architectural Plans – Floor Plan



Architectural Plans – Floor Plan

□ Some of the symbols used in floor plans.



Window



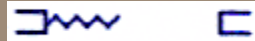
Pair of Windows



French or Twin Doors



Sliding Doors



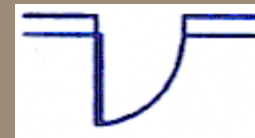
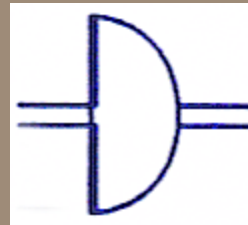
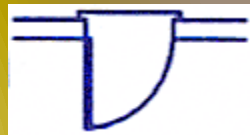
Accordion-Fold
Doors



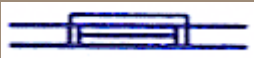
Pocket Doors



Bi-Fold Doors

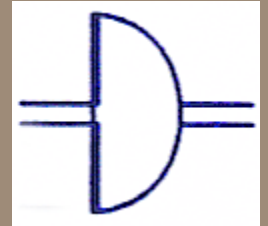
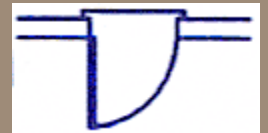
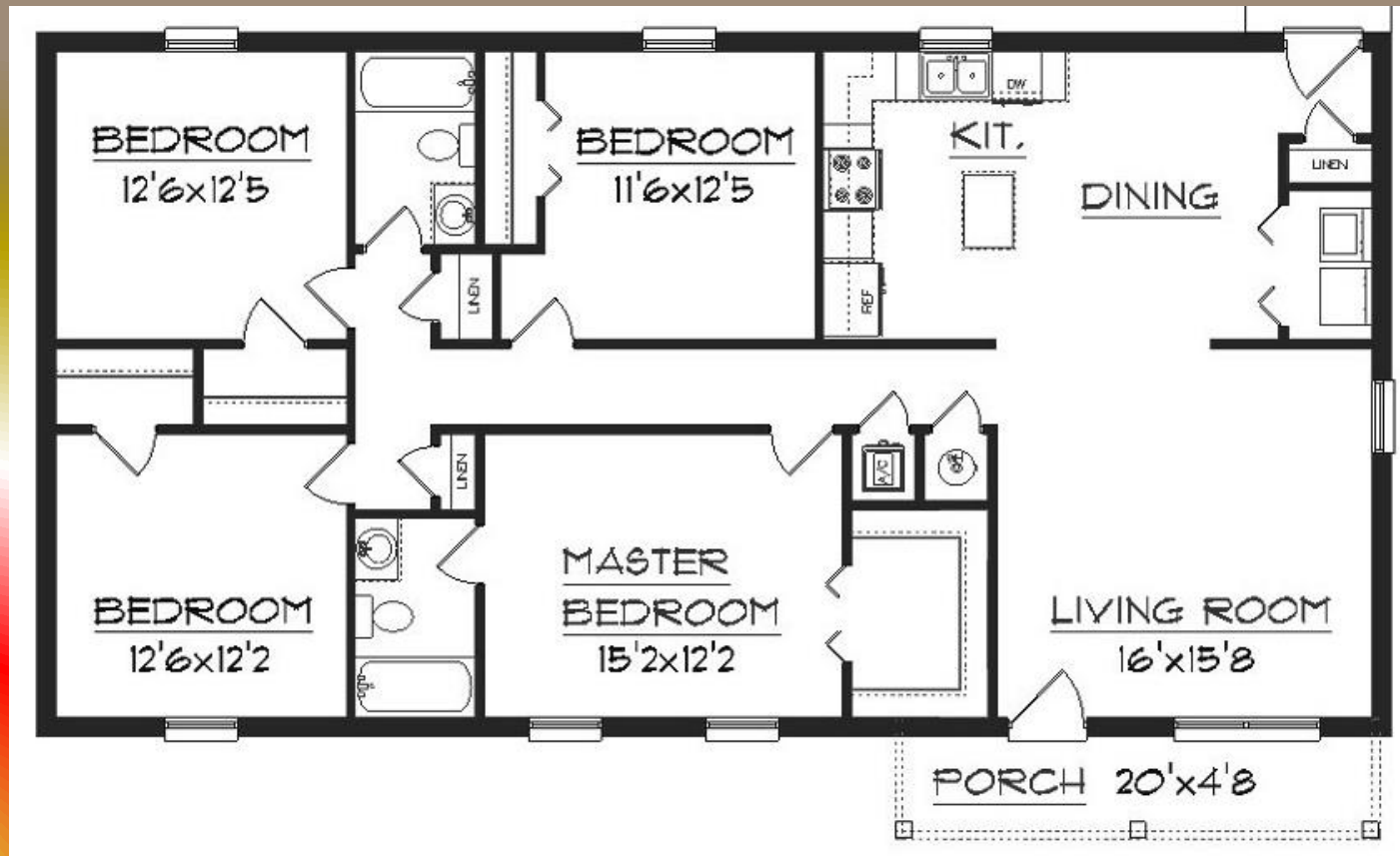


Regular Doors

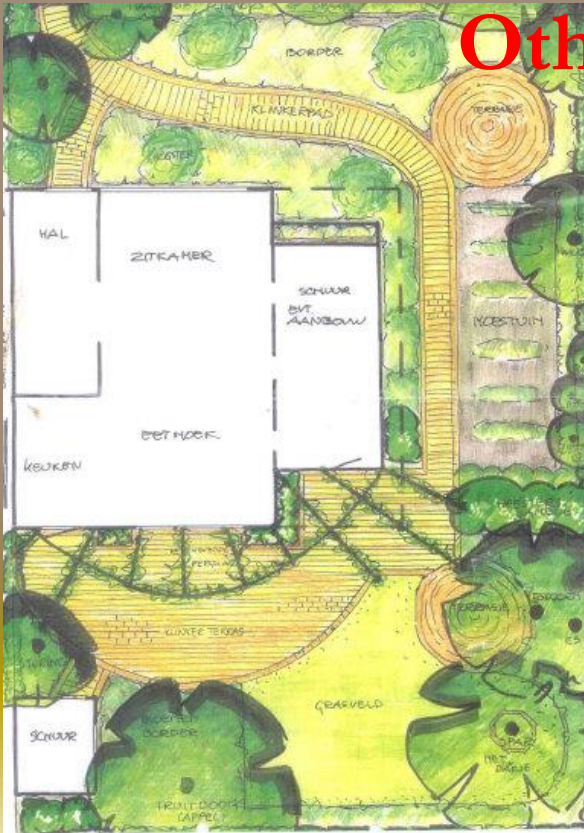


Architectural Plans – Floor Plan

□ Can you find some of these symbols used in this floor plan?



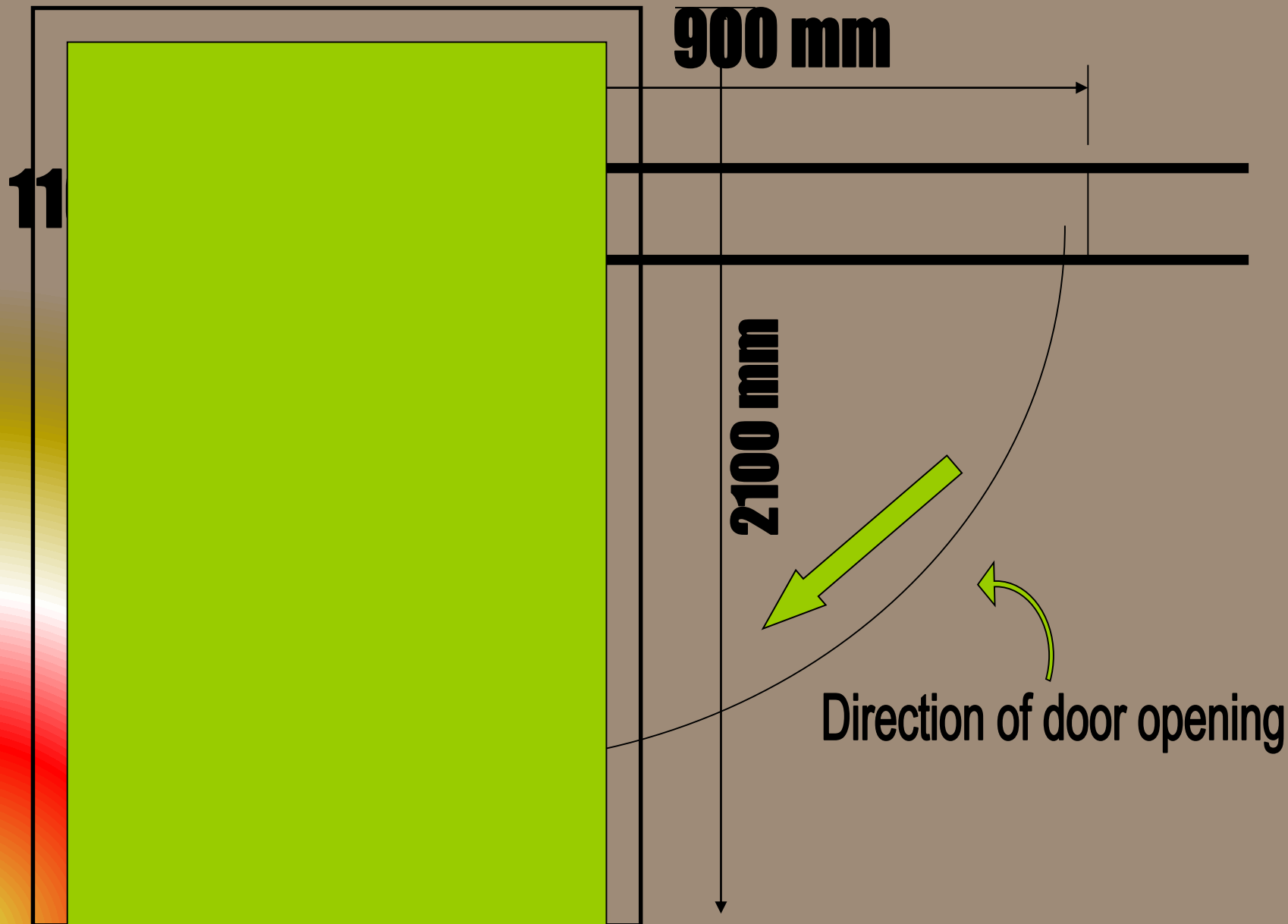
Other Types of Architectural Plans



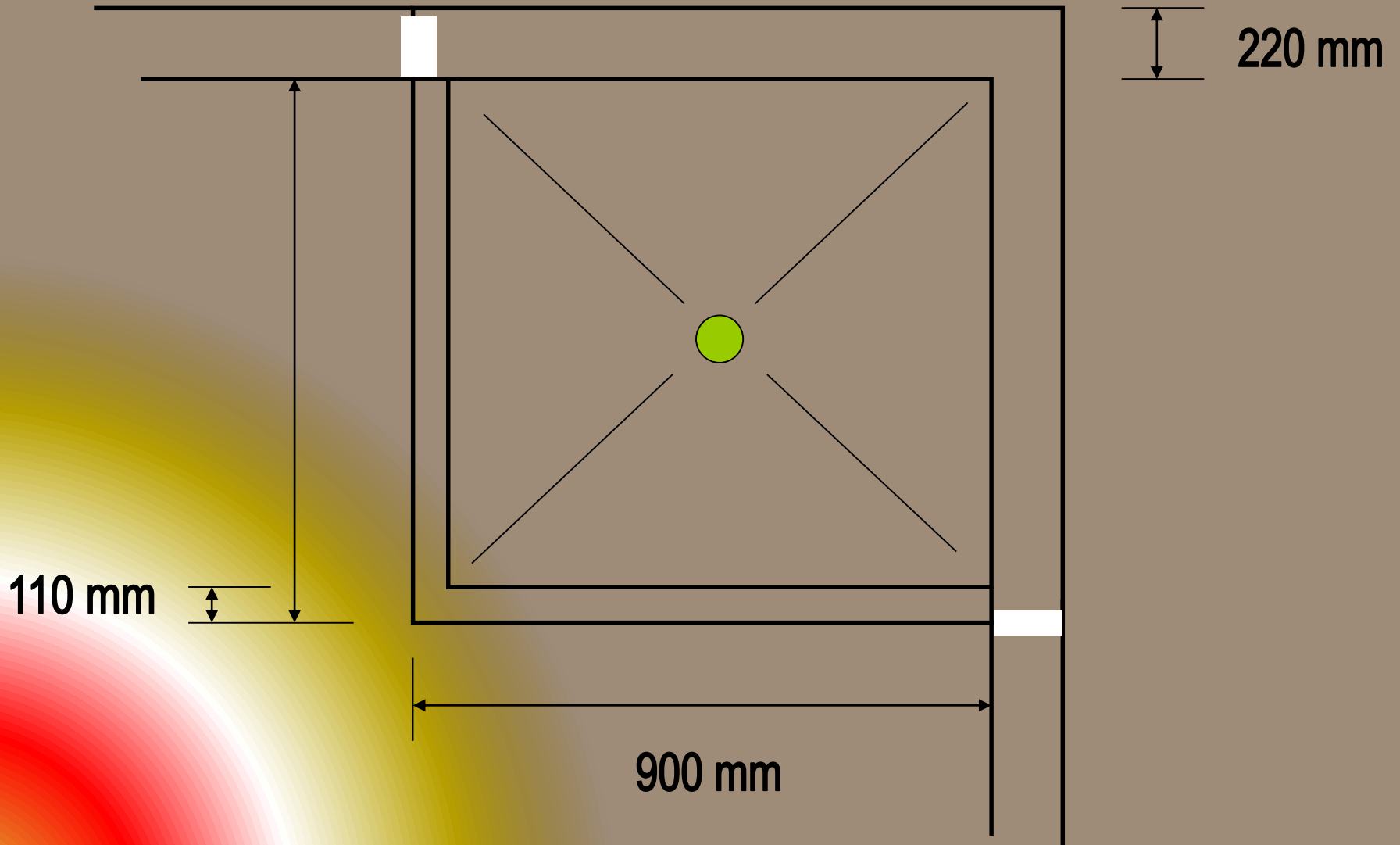
- Garden design and landscape planning is the art of designing and creating plans for the layout of plants, gardens and landscapes.
- Most professional garden designers are trained in principles of design and in horticulture, and have an expert knowledge and experience of using plants.
- Some professional garden designers are also landscape architects, a more formal level of training that usually requires an advanced degree and often a state license.



Doors



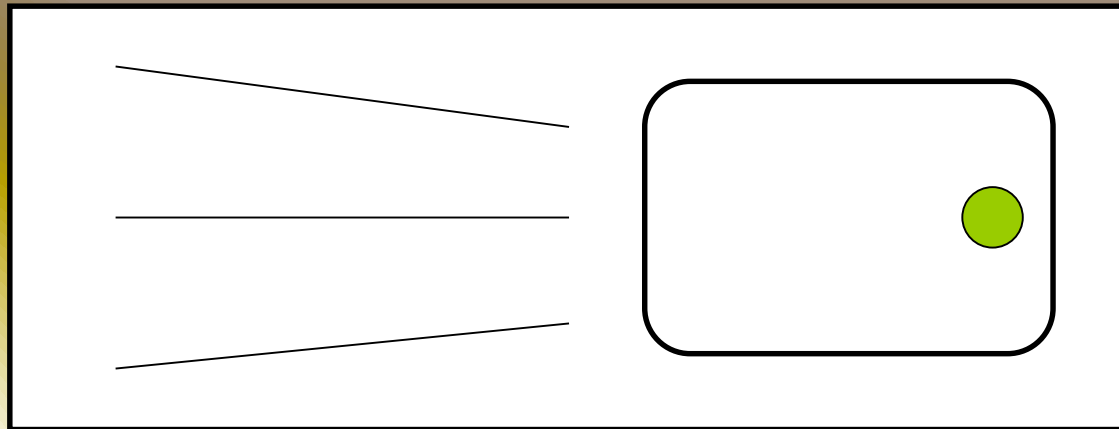
Showers



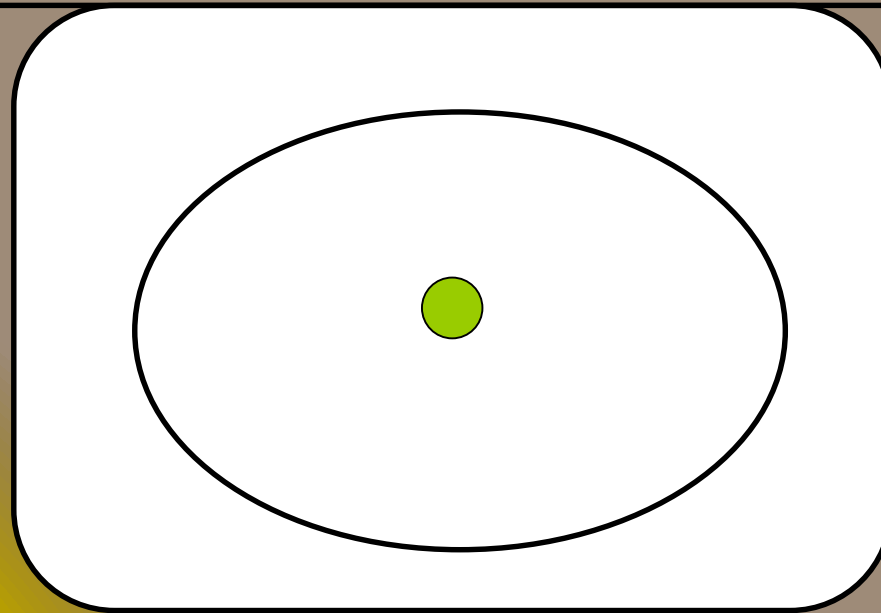
Kitchen Sink

STANDARD SIZES

900mm, 1200mm, 1500mm,
1800mm, 2100 mm

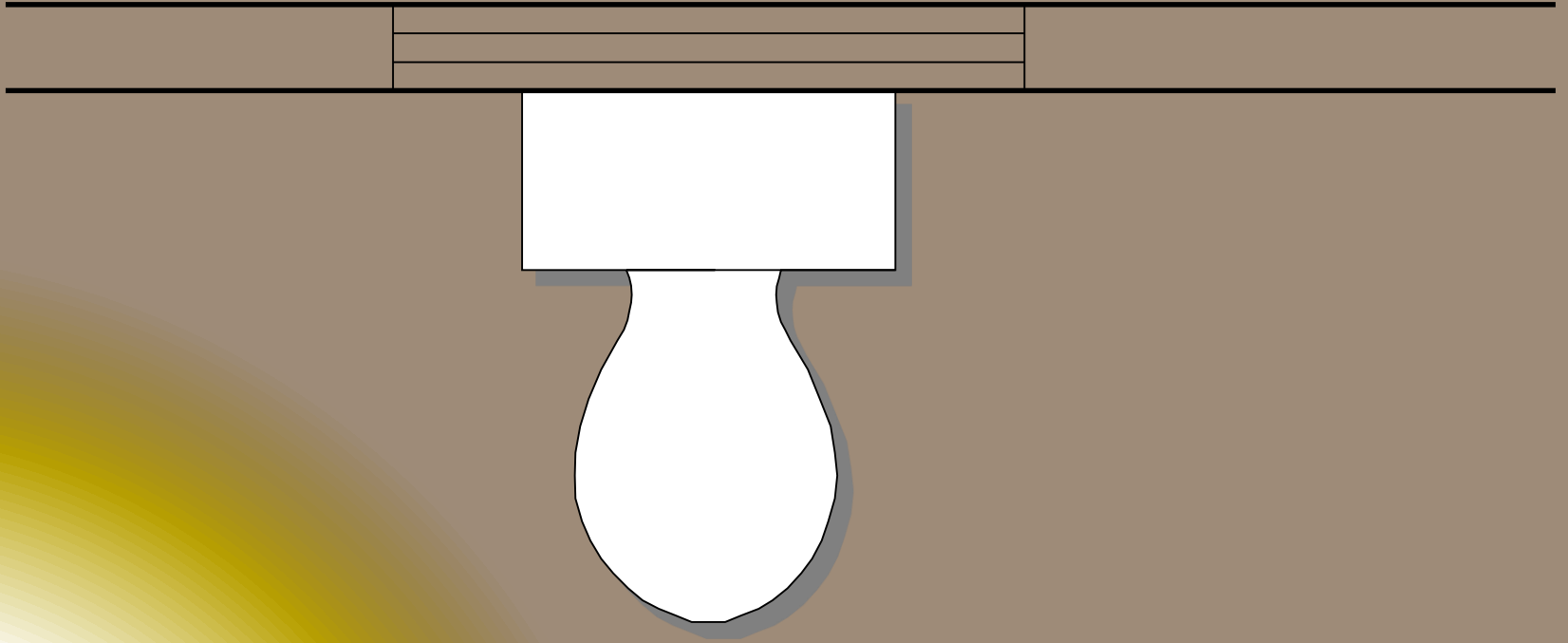


Basin

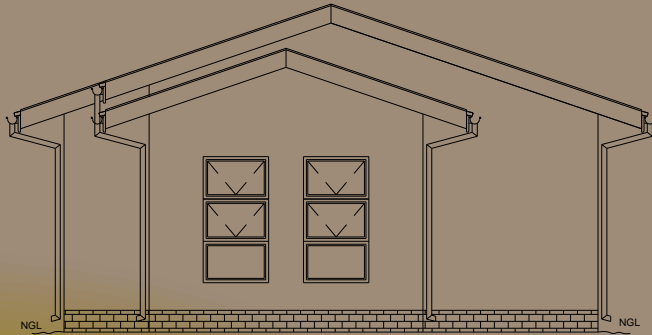


600 mm

Toilet

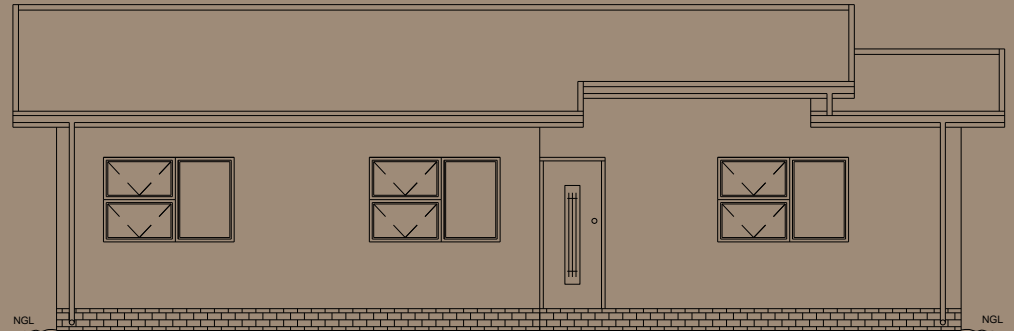


Elevations



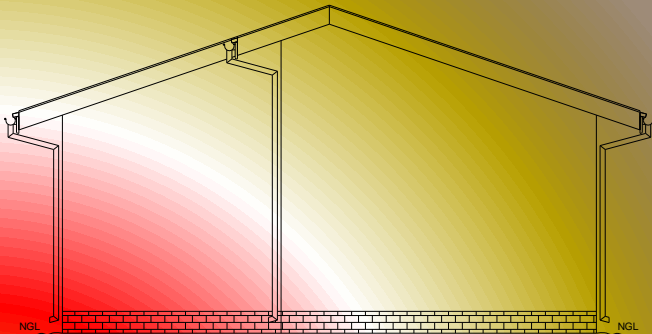
NORTH ELEVATION

SCALE 1:100



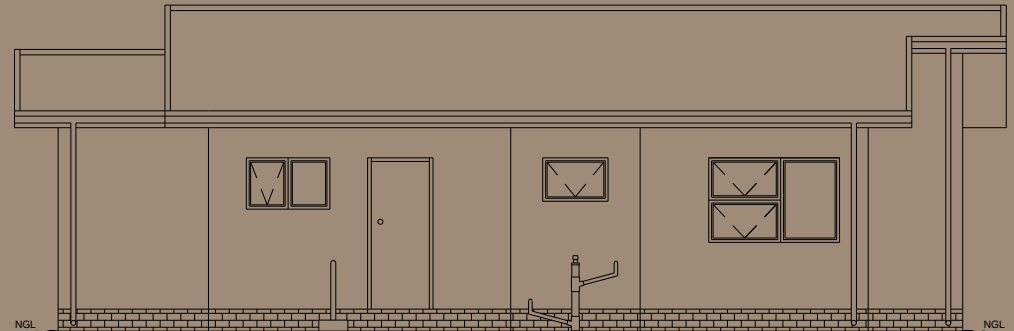
EAST ELEVATION

SCALE 1:100



SOUTH ELEVATION

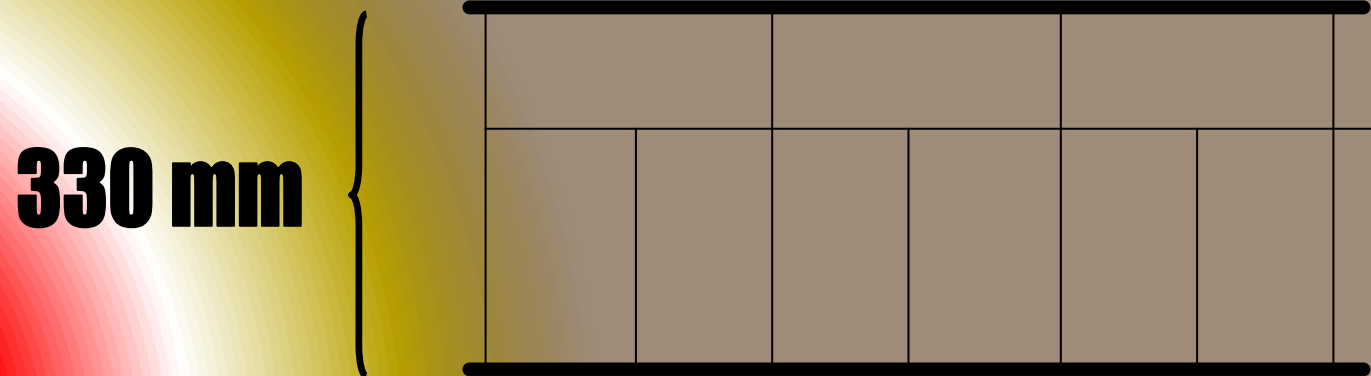
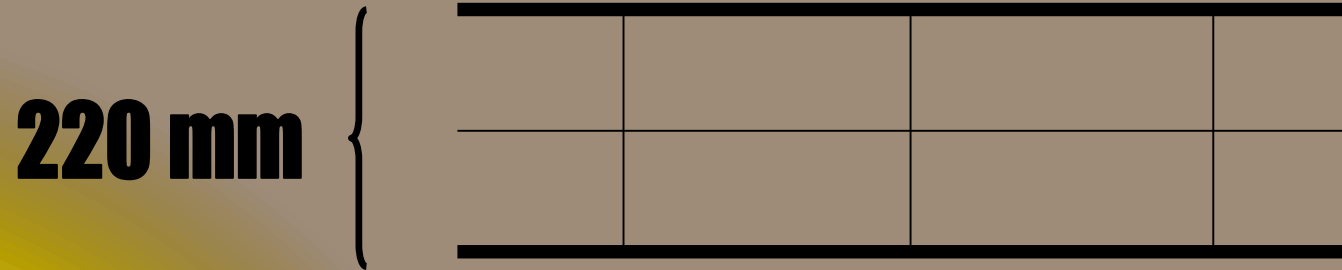
SCALE 1:100



WEST ELEVATION

SCALE 1:100

Basic Symbols - Walls



Fixtures, Appliances and Symbols

- More detailed floor plans show the layout of kitchens and bathrooms, since these are rooms which have fixtures and appliances. BSI symbols are used to simplify the drawing of common features.



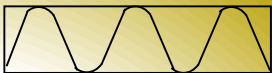
Lamp



Switch



Socket



Insulation



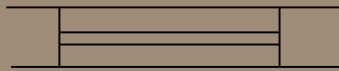
Brickwork



Concrete



Sawn wood



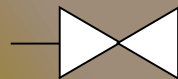
Window



Door



Radiator



In-line valve



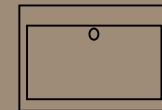
Crossover



Junctions



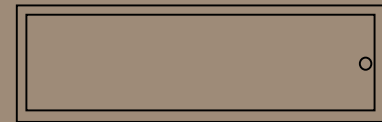
Sink



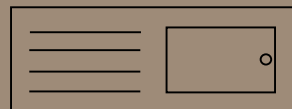
Washbasin



Shower tray



Bath



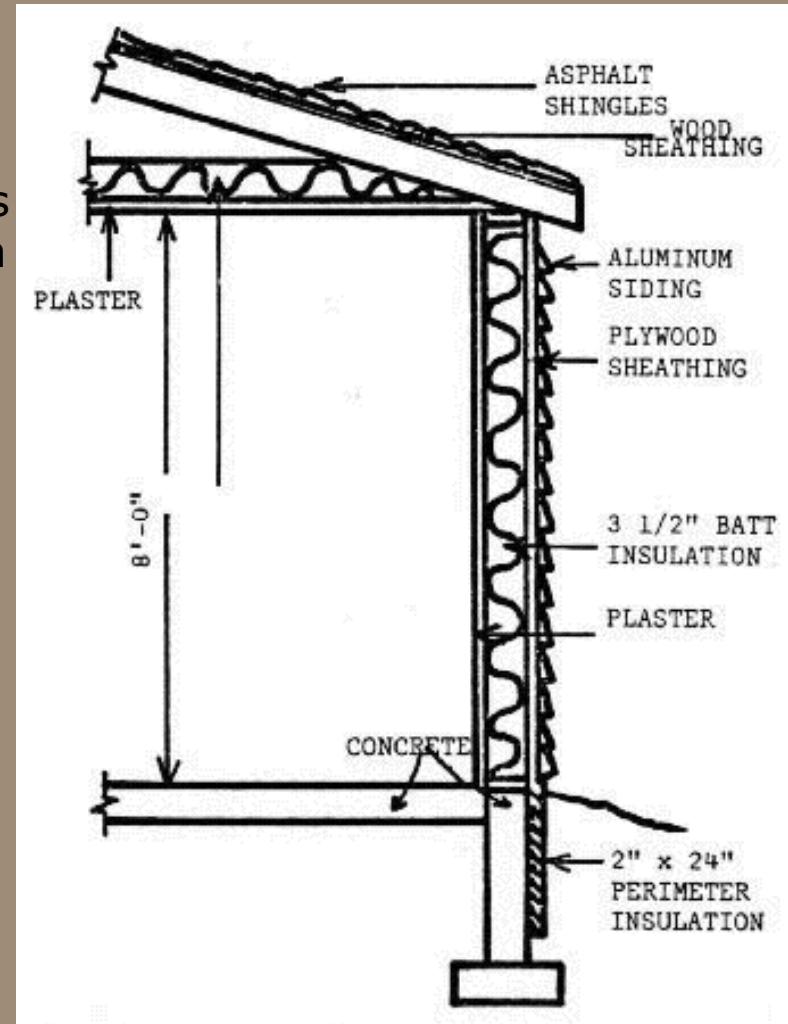
Sink top

Task – Floor Plans and Sectional Views

- Produce an accurate floor plan of a room in your home using the correct symbols learnt in this section.
 - Duration: 20mins
- Should you wish you may re-visit your kitchen floor plan and improve.

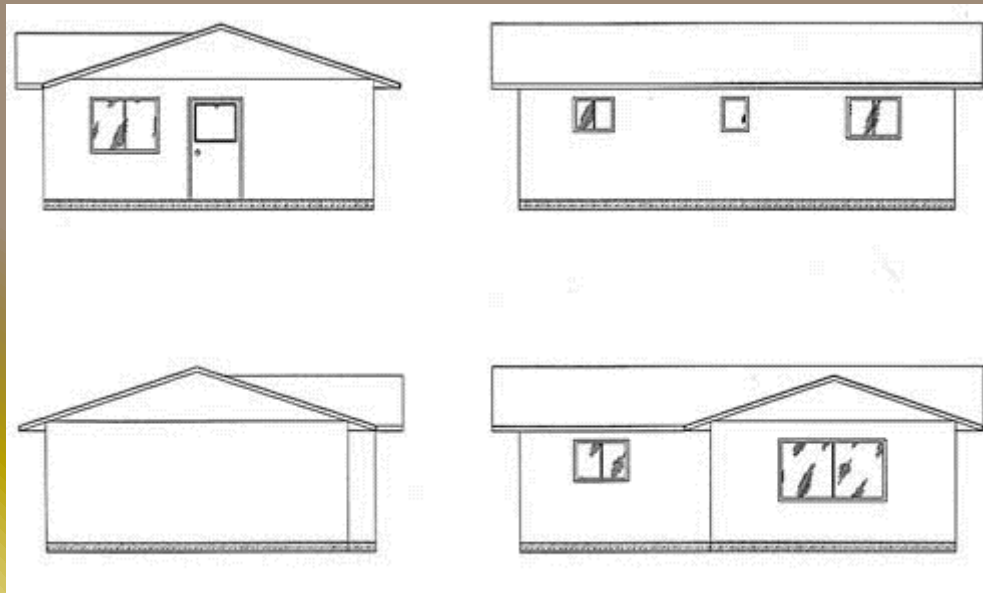
Sectional View

- A cross-section showing a slice through the wall gives builders, joiners and roofers a great deal of information about how the house should be built,
- Sections can be shown through any part of the building and normally a scale of 1:20 is used. The local building control department needs sectional views and floor plans to assess the quality of construction design.



Elevations

- Elevations are orthographic projections of a building produced by its architect or designer.



- Elevations are required by the local planning department to assess whether the style and proportions of the proposed building are appropriate for the location. Builders also need a picture of what the house will look like from the outside.

THANK YOU.....

For more detail contact us