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INTRODUCTION

The purpose of obtaining a house usually is to satisfy one basic need — a place to live - a place to call home.

Fulfilling that need could be done simply by renting or buying an existing house, trailer or condominium. However, accepting that type of accommodation usually means you're paying for inconveniences, inappropriate room arrangements, wasted space or not enough space and limited plans for future development and outdoor living. The alternative is to design your own home.

The design of a house should reflect the lifestyle of the people who live in it ! You know best the lifestyle needs and desires that your home must satisfy.

HOME PLANNING THEORY

Achieving those characteristics in a home that relate to a person's/family's needs is the challenge of designing. A step-by-step design procedure can be followed to arrive at a completely custom house design. This will be referred to as the 'design process'.

DESIGN PROCESS

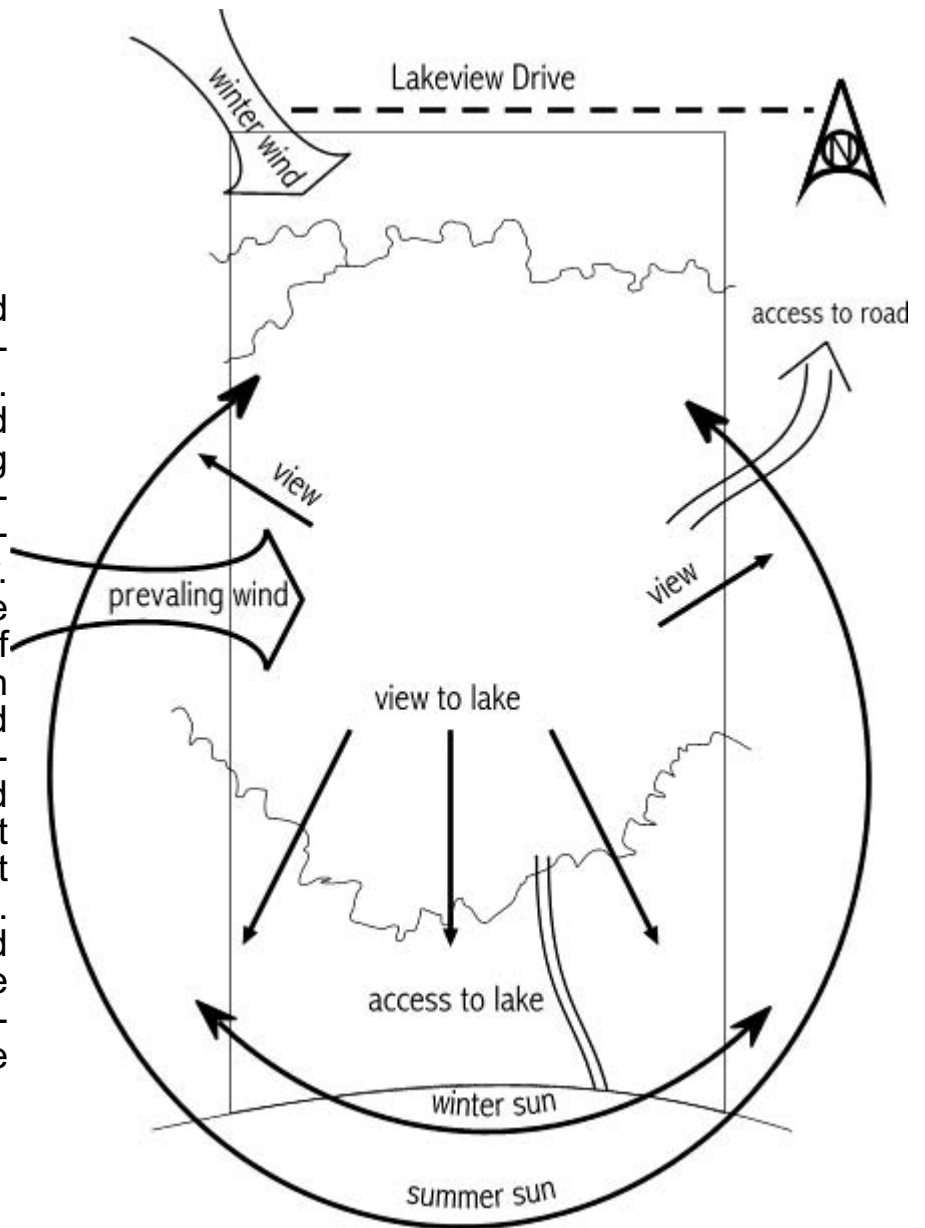
Stage I	Conceptual	Statement of Ideas
Stage II	Functional	Ideas Made to Work
Stage III	Structural	Building Components
Stage IV	Mechanical	Mechanical Systems
Stage V	Envelope	Exterior Shell
Stage VI	Preliminary	Compiled Preliminary Information From Drawings: Stages I - V

STAGE I - CONCEPTUAL DESIGN - 'Ideas'

Within this conceptual design stage there are seven distinct steps. Conceptual designs start with good ideas and thoughtful planning. To begin, focus on the proposed building site and note all its characteristics. Intend to take full advantage of anything affecting your lot which may enhance your design.

Site Analysis (Step One)

Each site is characterized by various factors that create a unique environment. These influences are called elements. Distinguishing between them we find natural and man-made elements on every property. Natural elements include hills and trees, direction of wind, sun and views. Man made elements would include neighbouring buildings, roadways and sources of noise, etc. It may be necessary to visit the site several times (i.e. morning, noon and evening) to determine the daily effects of the elements (i.e. sun-path, noise levels).

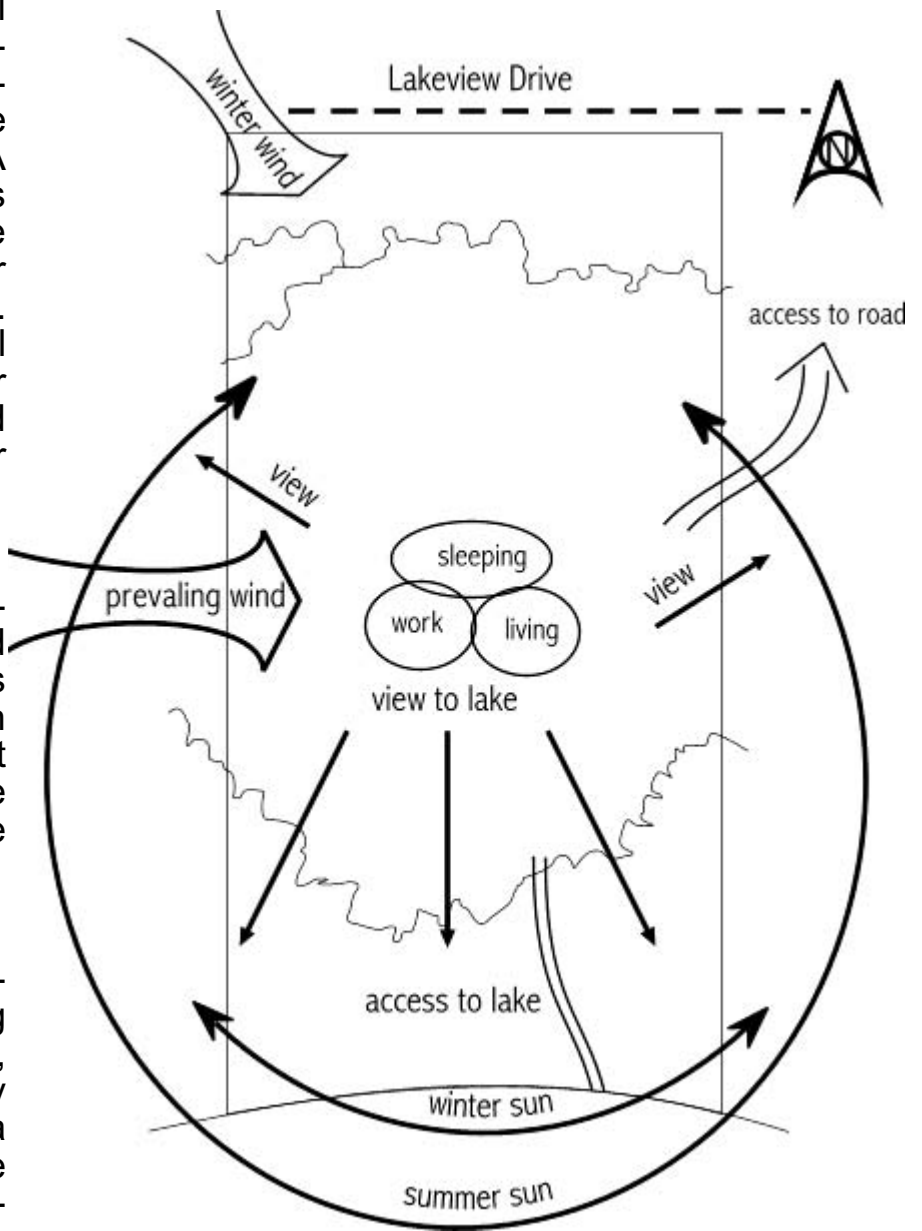


Site Planning (Step Two)

Every site has the potential for residential development. Many factors determine the suitability of a site for an individual's use. A good site analysis as described in Step One should indicate whether the setting is appropriate. The question then is, will the site accommodate your personal desires and needs or will it inhibit your ideas?

With the approximate locations of the natural and man-made elements shown, we can then begin planning the living layout by first establishing the general positioning of the building(s).

The three basic components of a home are: living area (L), working area (W), and sleeping area (S). Lay out these three areas on a plot plan. Be sure to locate them in relation to any features you can take advantage of (i.e. solar orientation, view, wind, sheltering, etc.); Planning a house on a city lot may differ, as compatibility with neighbouring buildings also becomes a factor.



Home Requirements (Step Three)

If a home is to serve the occupants properly, it must be personally suited to them. The three general areas (living, working, sleeping) constitute the primary purpose, but must be further defined by the individual's need requirements. Architects often spend many, many hours with clients determining what must be included in a plan to best serve the home requirements of the owners. A simple alternative to having an architect consult, extract and prioritize this information is to create your own list.

Under each major heading (L, W, S) list all the functions this house should provide for you, room by room, suiting it for your lifestyle. Even if you eventually hire an architect or draftsman, by compiling this information, you will reduce your architectural fees thus saving yourself money. On the next page is an example list of home requirements you may want to use as reference. Let the needs and desires flow freely. It is amazing how many can be incorporated into a design once they are identified.

Living area:

Working area:

Sleeping area:

Example List of Home Requirements - use these to kick start your own list

Living Area Requirements

1. Living Room

- private and cosy
- open and spacious
- access to outside
- adjacent to outdoor living space, i.e. deck or patio
- window(s') orientation, i.e. south for afternoon sun, west for evening sun - wood stove or fireplace
- close to main entrance

2. Dining Room

- adjacent to kitchen
- adjacent to living room
- built-in china hutch (cabinet)
- orientation of windows, i.e. N, E, W, S

Work Area Requirements

1. Kitchen

- U shape or L shape
- country style complete with eating area
- nook only and dining separate
- window direction, N, E, W, S
- snack bar

2. Utility Room

- laundry (washer and dryer), sink
- location, i.e. next to kitchen or in basement
- furnace and hot water tank

3. Main Entrance/Service Entrance

- near living room
- accessibility to other rooms
- enclosed, i.e. airlock entry
- built-in closet or coat hooks
- into kitchen

4. Bathroom(s)

- close to bedrooms
- accessible to master bedroom
- separate shower
- three pieces

5. Half Bath

- near service entrance (back door)
- in master bedroom
- in basement
- in utility area

6. Sewing Room

- location
- orientation of window(s)
- other crafts

7. Den or Office

- location
- window(s') orientation
- filing cabinet
- book shelves

Sleeping Area Requirements

1. Master Bedroom

- location; near or away from other rooms, specify
- orientation of window(s), N, E, W, S
- built-in closets; single or separate
- walk-in closet
- dressing area
- bathroom access

2. Other Bedrooms

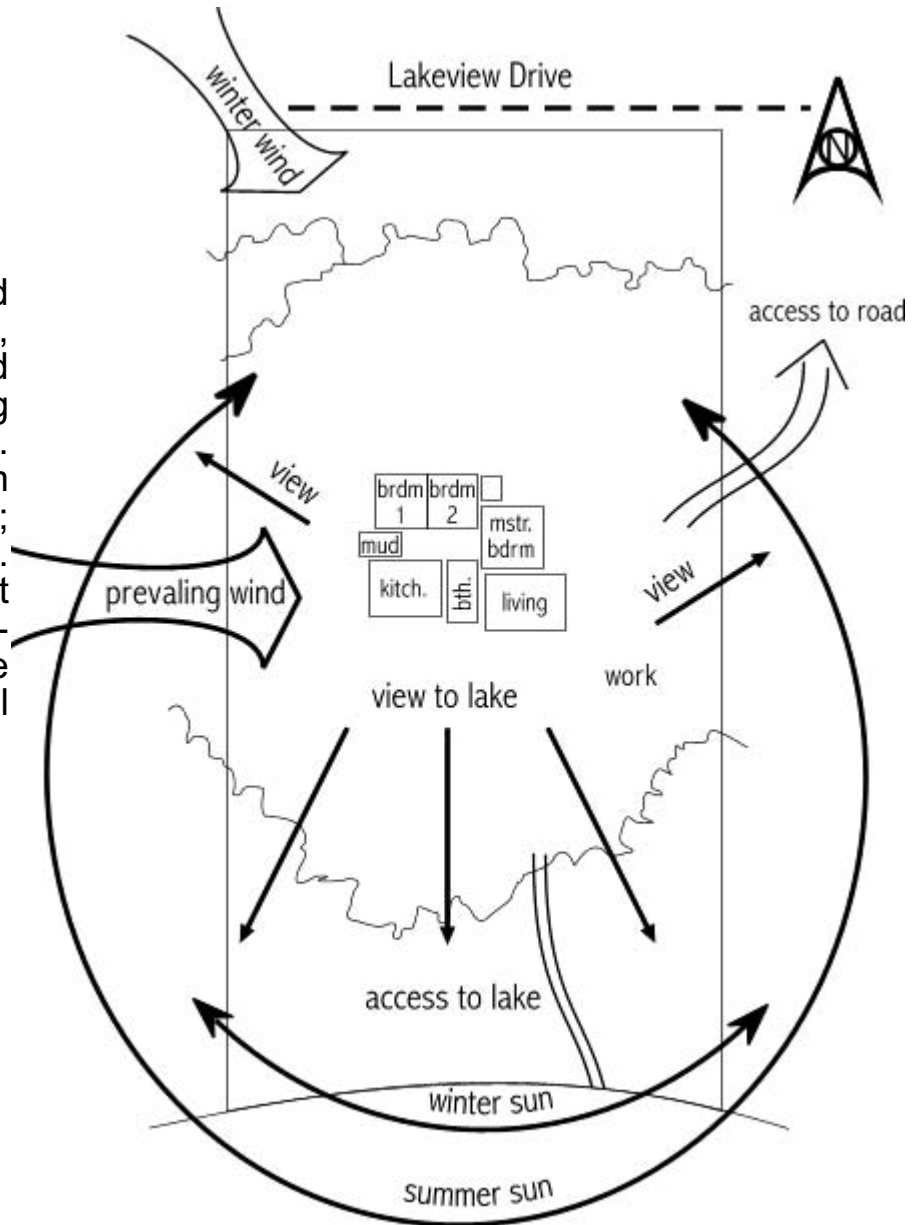
- location of room(s)
- direction window(s) face
- removable partition for future large bed room
- size of beds/bunks
- bathroom access

Basement Area Requirements

1. If a basement does not contain working, living, or sleeping space, then alternate type of foundation system, i.e. basementless, crawlspace, etc.
2. However, if needed, check requirements and list each need:
 - work room or shop
 - extra bedroom
 - storage or cold room
 - family room
 - rumpus room
 - utility area
 - staircase open or enclosed
 - accessibility for kitchen, living room, entry or other area above

Space Designation (Step Four)

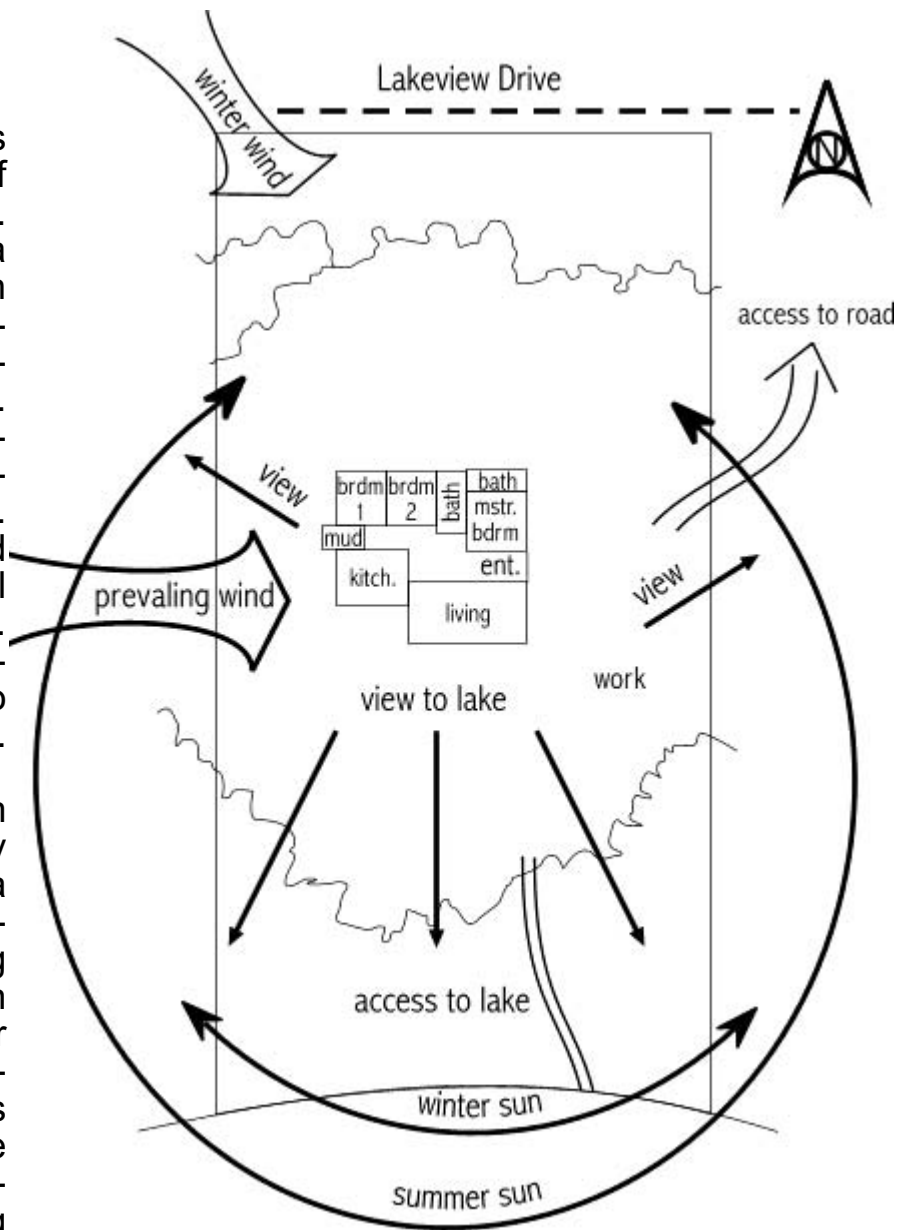
Once you have completed your needs requirement list, assign specific rooms (and needs) to the working, living and sleeping general areas. Keep the activity of a room consistent with that area; living, working and sleeping. It is important to think about and visualize the relationship of each indoor space and the adjacent external environment.



Proportionately Defined Rooms (Step Five)

With specific rooms accounted for, a layout of these areas can be formed. Sketch each space in a loose arrangement with regard to the general relationship of rooms established in Step Four. Illustrate room sizes in proportion to each other, forming a casual floor layout. Outdoor living areas should be included as an integral development of the plan. Utilize exterior spaces adjacent to each indoor area to extend the use of that area.

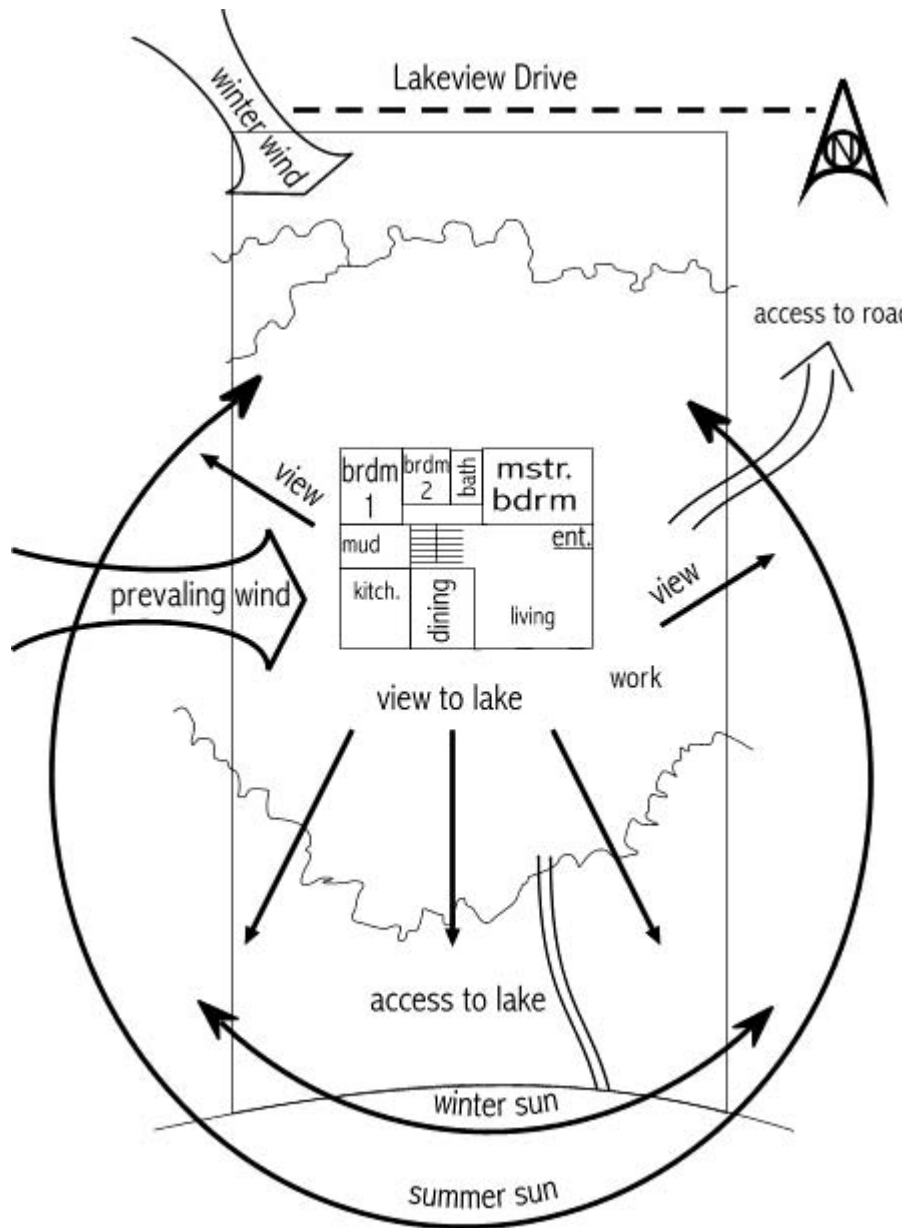
For example, a living room used for entertaining may be extended to include a patio for summer enjoyment. Similarly, a dining room or country kitchen may open onto a deck for outdoor meals and barbecues. Outdoor living areas that are visually accessible to indoor areas can complement each other by adding theme, character and a feeling of a spaciousness.



Preliminary Floor Layout (Step Six)

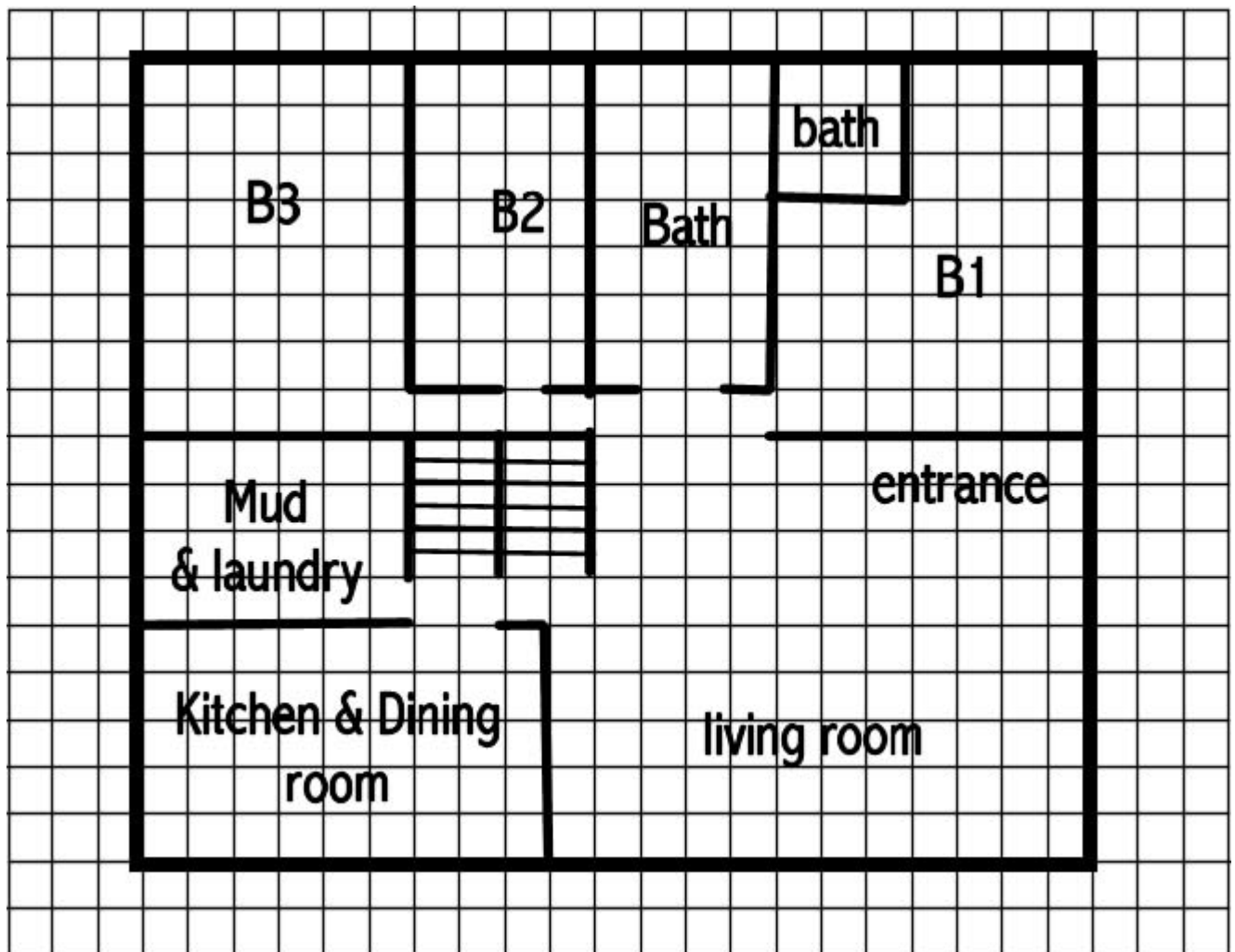
From the arrangement of indoor/outdoor spaces described in Step Five, create a simplified geometric shape, outlining the perimeter of indoor spaces. Remove irregular corners for practical and economic reasons. Clearly define room separations from the previous sketch and indicate any circulation spaces that appear necessary.

At this stage you may want to get a draftsman/architect involved in your project. Be sure to spend some time going over your “needs list” with them so that they understand your needs and desires.



Scaled Sketch (Step Seven)

To realize the usefulness of a plan, the preliminary layout must be converted to a “scaled sketch”, with rooms drawn to accurate proportions. A workable sized sketch can be achieved at a scale of one quarter inch equals one foot (1/4” = 1’). **BE SURE TO INCLUDE THE THICKNESS OF WALLS WHEN DRAWING YOUR SCALED SKETCH.**



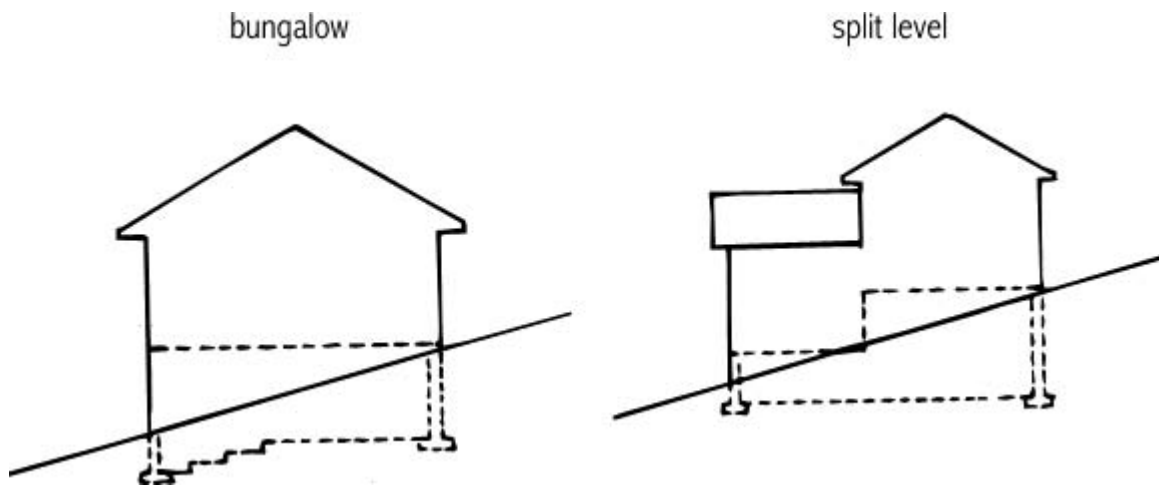
STAGE II - FUNCTIONAL PLANNING - 'Ideas Made to Work'

The second stage of home design (design process) becomes the testing phase for the initial layout of floor space. The designer must at this point, prove his/her concepts to be practical or make changes if aspects of the design do not work. It is necessary, for example, that the homemaker be able to function efficiently in the kitchen, and equally important that the furniture will fit in the living room. Assess the ability of the floor layout to accommodate all everyday living requirements of the household. When examining these functions, it may be determined that there should be more than one floor level and, if so, what type of separation should be used (eg. raised kitchen, split level design, sunken entry, etc.).

If you have a pre-drawn stock plan you wish to build, it is now time to unroll your blueprint and test it through these Functional Planning Steps.

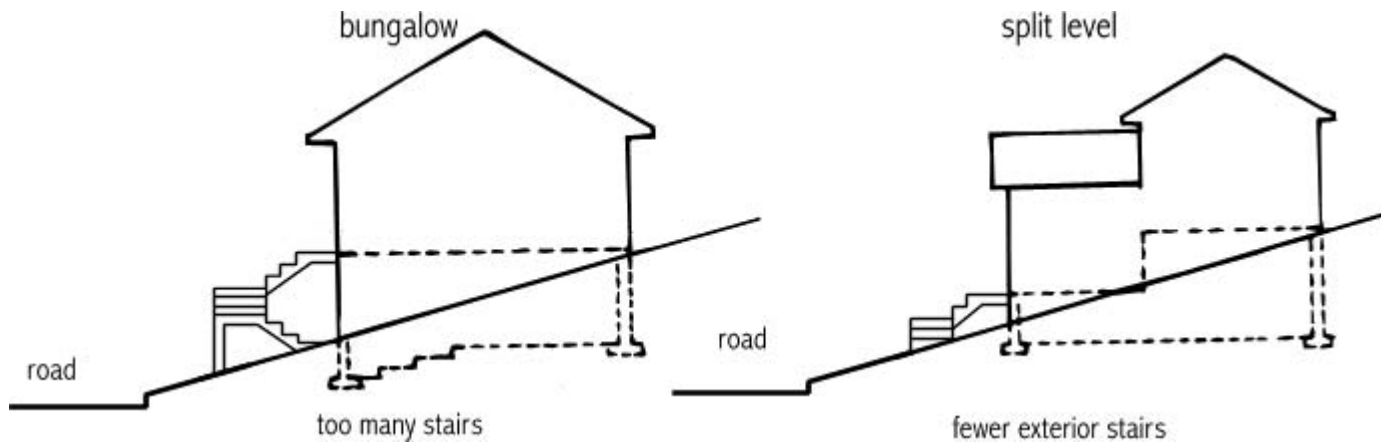
House Type

Determining the type of house (i.e. bungalow, split level, bi-level, two storey, etc.) to be designed should be a direct result of developing the floor layout as it best relates to the site. The design process (Stage I - Conceptual Design) accounts for characteristics of the land that influence position and orientation of the structure. If, for example, the site slopes to some degree, it may be advantageous to choose one type of house over another, as illustrated.



Additional foundation design required

It is most convenient to position the main floor as near to ground level as possible. A split level, for example, adjusts to a sloping lot well, with the main floor stepped down from the upper level to follow the slope of the lot.



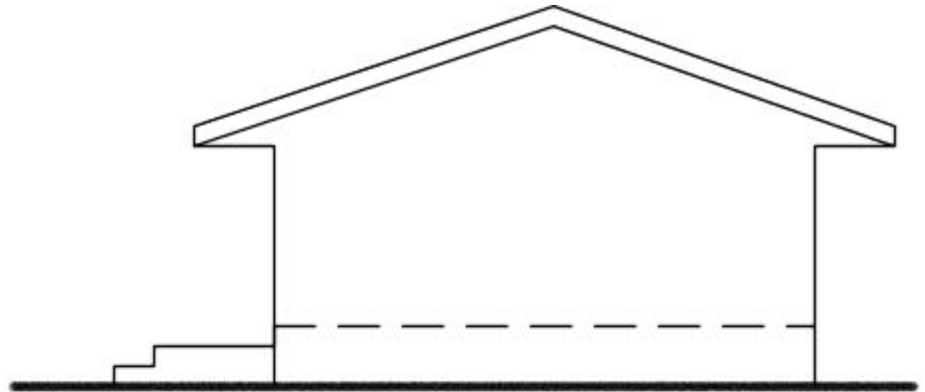
If floor layouts constitute multiple levels, there are several other house types that may be applicable (i.e. bi-level, one and one half storey or two storey). Refer to the following house type descriptions and illustrations that indicate some of the basic differences.

Bungalow:

Single main floor level with ground level entrance.

Main advantage

simplest to design and build.

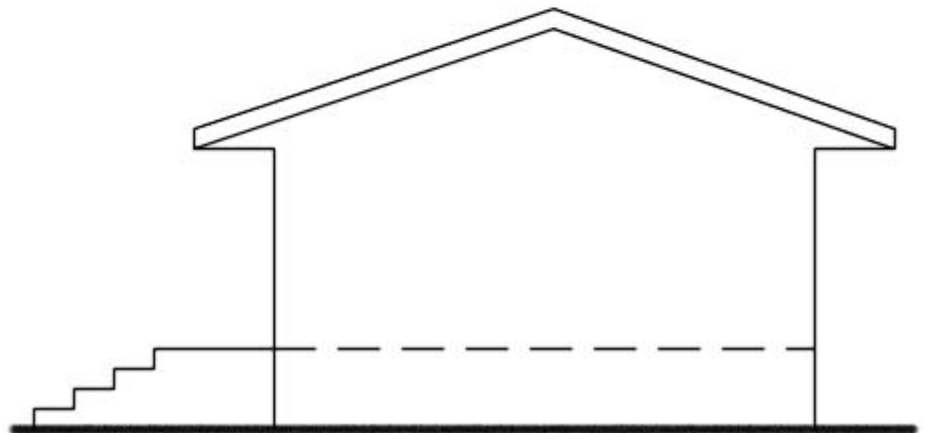


Raised Bungalow:

Slightly higher profile than bungalow with greater number of exterior steps to main floor.

Main advantage

foundation may be built with larger basement windows.

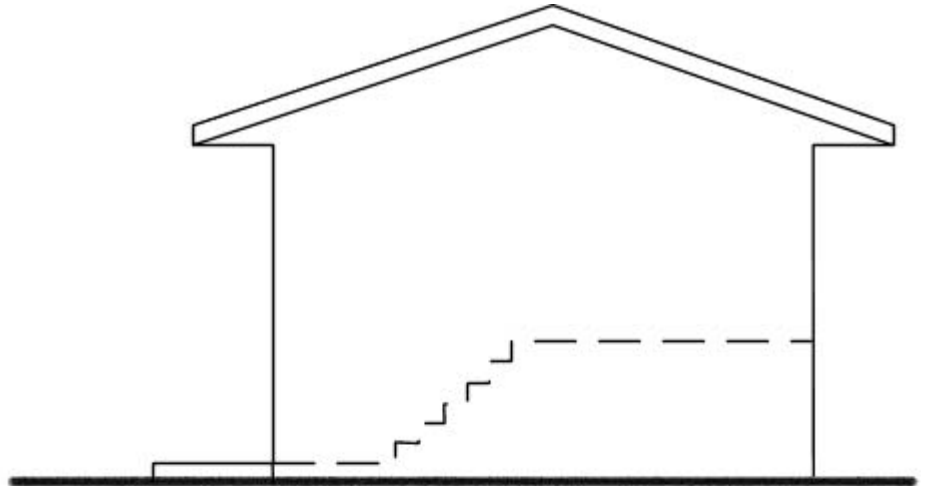


Bilevel

Higher profile with two levels. Ground level entrance half way between floors.

Main advantage

the exposure of foundation wall above ground allows for larger windows and a more livable lower level.

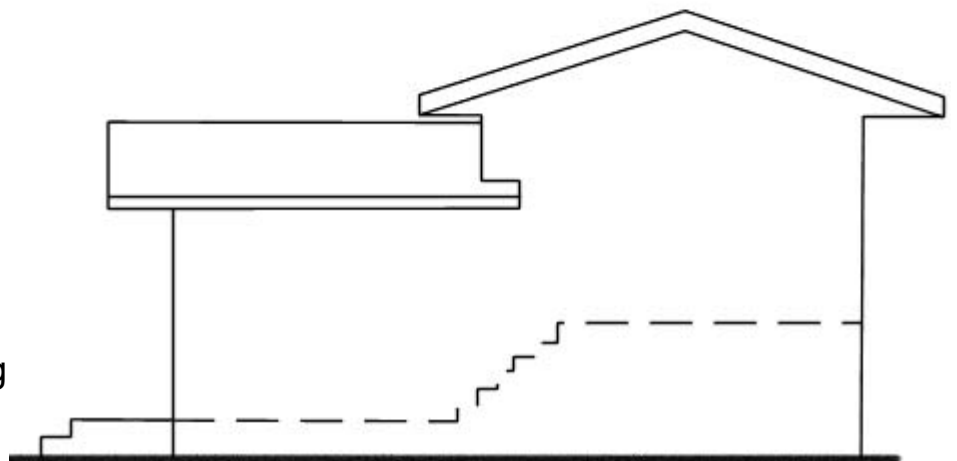


Split Level

Two adjacent but offset floor levels above ground.

Main advantage

allows separation of living and working areas from sleeping area.

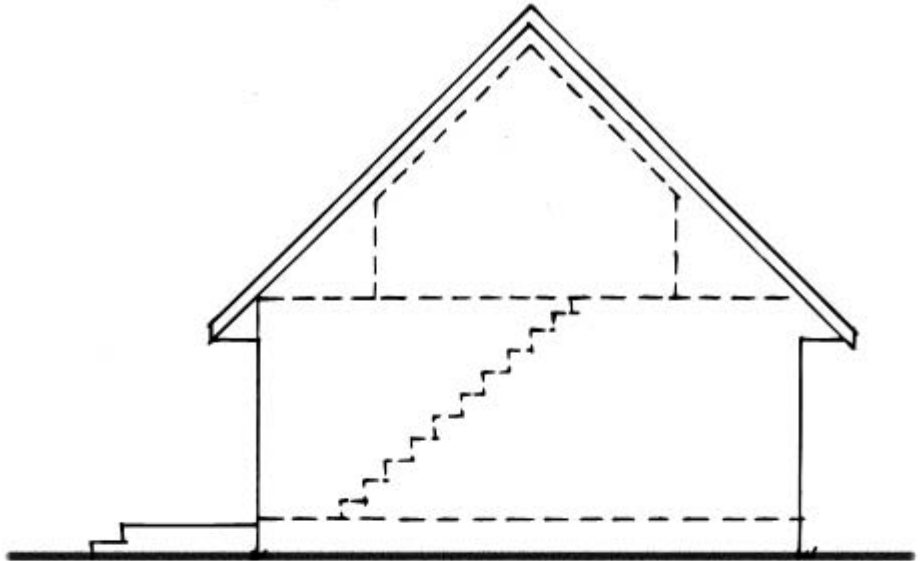


Storey and One Half

Ground level main floor entry with steep pitched roof allowing partial development of attic.

Main advantage

attic floor level development at minimal extra cost.

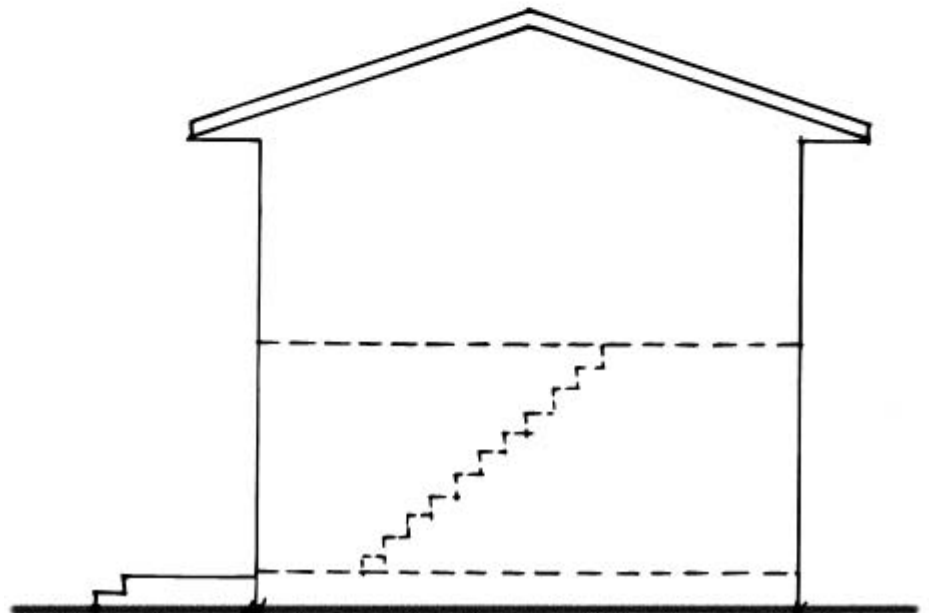


Two Storey

Main floor near ground level with second level above.

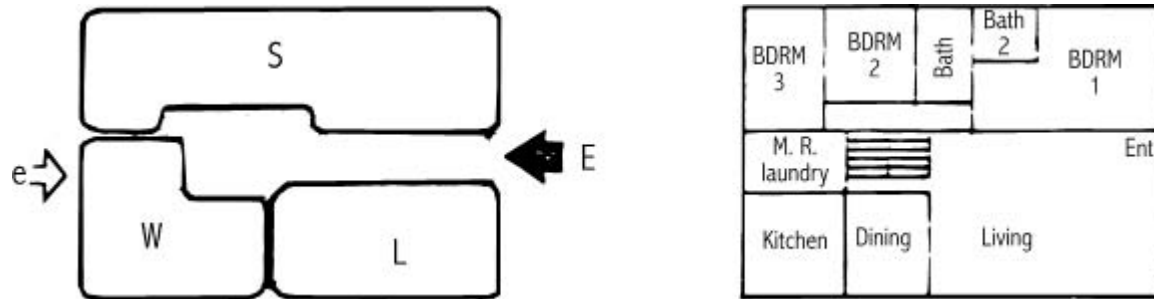
Main advantage

smaller foundation and roof required to obtain equal floor area with single level home.

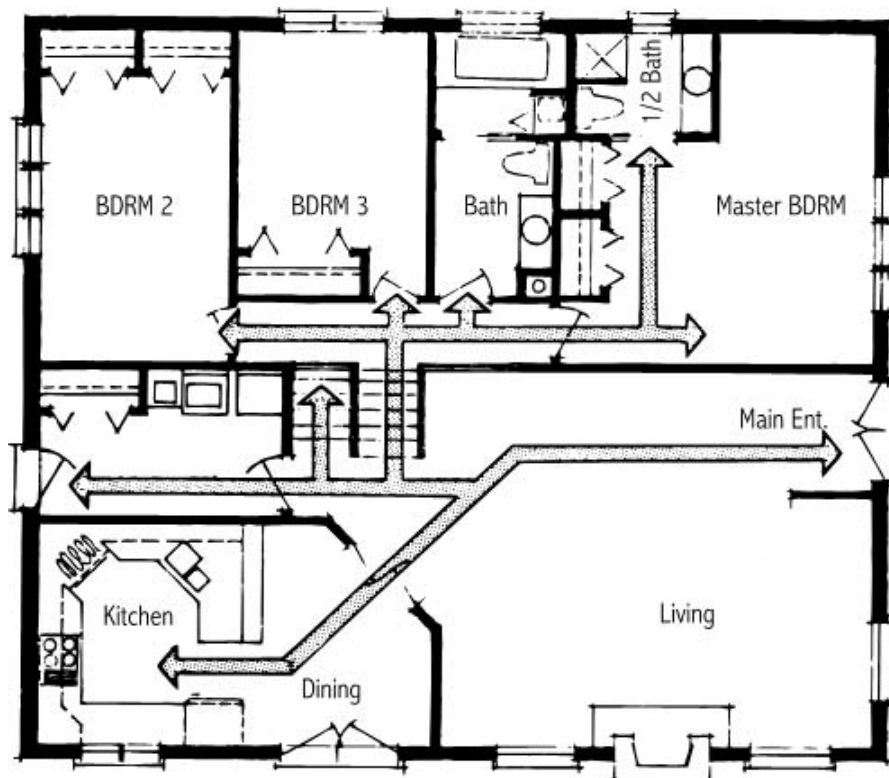


Floor Layout Analysis

A successful floor plan has no wasted space. The three major components (living, working and sleeping areas) create divisions for each activity. These areas are connected by the communicating elements such as halls, stairs and doorways. These communicating elements are areas where wasted space is often overlooked.



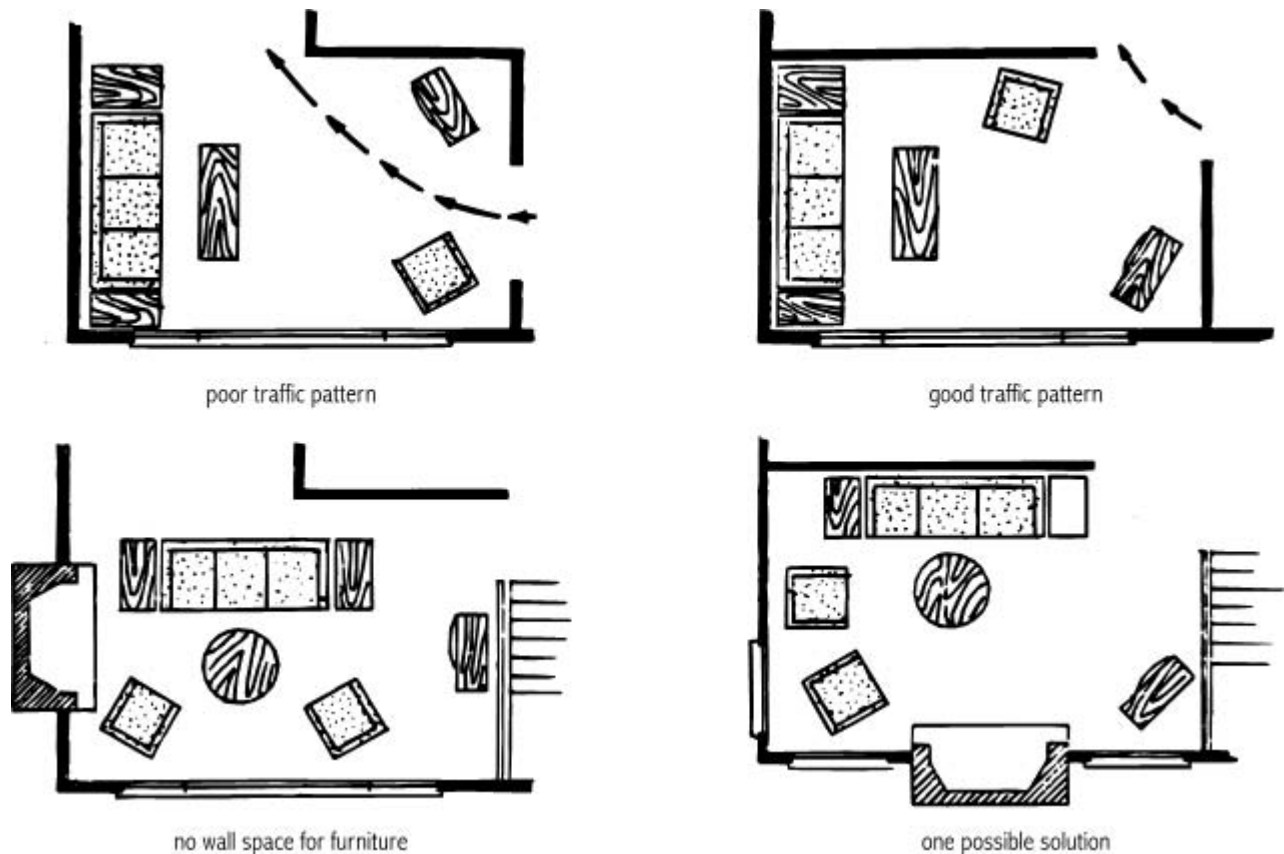
A close relationship among of the three major components can minimize the distance of traffic patterns. A centrally located main entrance should lead to each area without going through another. Studying daily household routines will suggest the most frequented traffic areas. These areas should be planned to cause the shortest traffic pattern possible. This can reduce the wear and tear on carpeting and the wear and tear on family members; therefore, save you money and energy.



CHAPTER 3 DESIGN

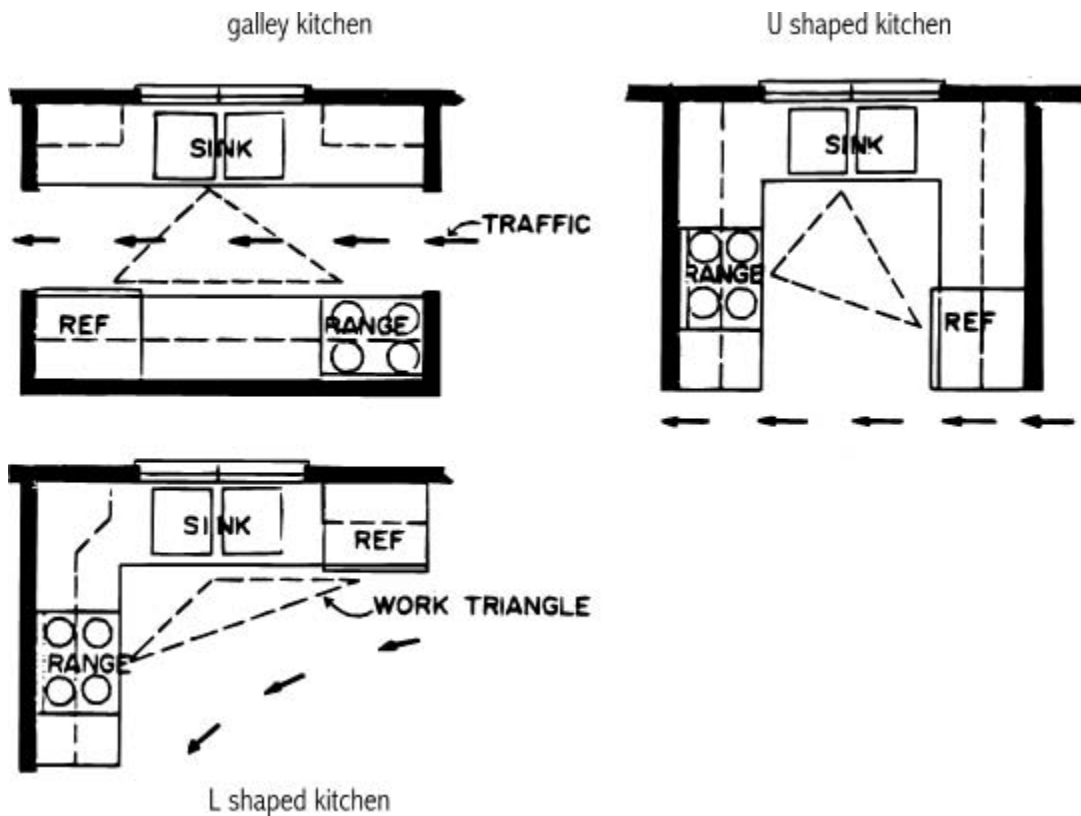
Preplan the placement of furnishings to ensure that each room arrangement is suitable. Precise sketches or cut-outs of furniture sizes are necessary to layout an accurate living plan of your home. House designs at this stage should remain flexible, allowing for alterations (moving walls, etc.) to improve and assist the function of each room. (See Figure 17.) Standard furniture cut-outs are supplied in the appendix. (1/4" = 1')

Work areas and bathrooms require permanent furniture (cupboards, vanities and fixtures) which make preplanning essential. Of any area, the kitchen is probably the most used, if not the most useful room in a house. Apart from meal preparation the kitchen is a 'home base' for cleaning, hobbies, homework, minor repairs, casual entertaining and possibly laundry.

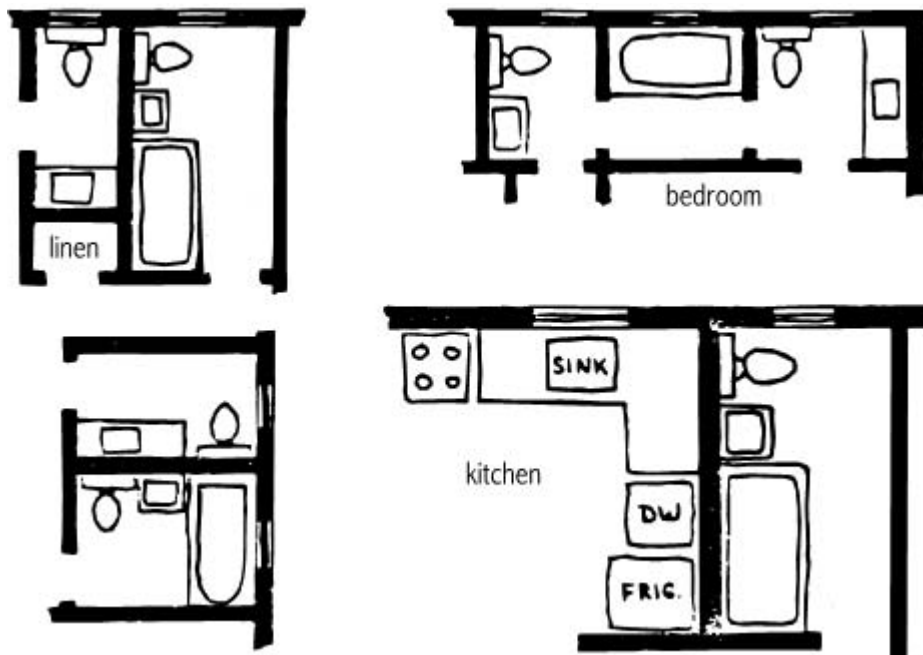


The primary function, meal preparation, can be best facilitated by observing a work triangle. This work triangle can be mentally pictured as the traffic pattern between the sink, stove and refrigerator. The sum of the sides of the triangle should be between 12 and 20 feet. To produce an efficient working area, these appliances should be connected to one another by useful counter space.

CHAPTER 3 DESIGN



The bathroom arrangement is less critical but specific family requirements should be incorporated (eg. large vanity, multiple sinks, separate bathing area, etc). Proper placement of multiple plumbing fixtures can take advantage of common piping. Placing the bath, kitchen and laundry either back to back or one above the other is the most efficient and economical arrangement. (See Figure 19.)



Summary of Floor Layout

Review the initial requirements of the home and determine whether all or most of your needs can be met by the design. The planning dealt with so far has been of a general nature — discussing the obvious functions of a house which are typical of most households. Some inconspicuous features should still be considered and possibly added, such as a small phone desk, medicine cabinet, garbage cupboard, extra storage, built in vacuum outlet locations, electrical outlet and switch locations, and other useful items that may have been overlooked. Often these details included the things you have always missed in a home but grew accustomed to being without. Assess your home plan's liveability by the following criteria:

Does my house design have these characteristics?

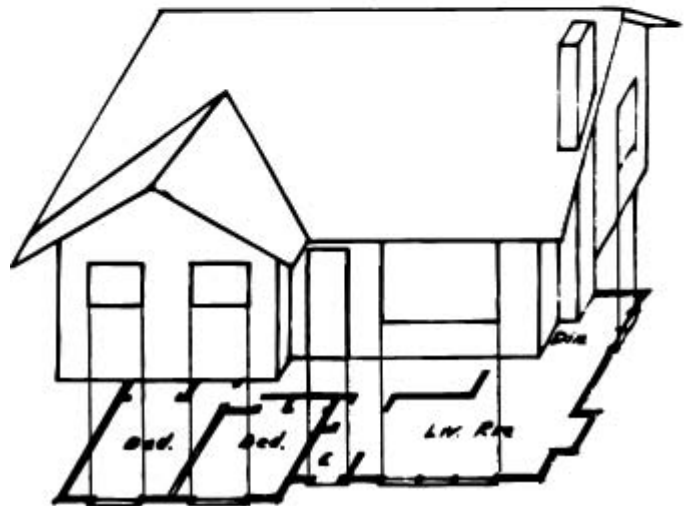
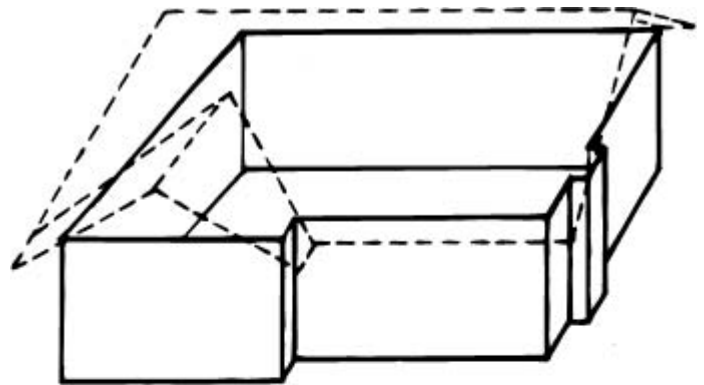
1. **Comfort**
2. **Convenience**
3. **Efficiency**
4. **Practicality**
5. **Indoor vs. Outdoor Relationship**
6. **Orientation of Rooms**
7. **Future Development Potential**
8. **Self Expression (within reason)**
9. **Pleasing Atmosphere (i.e. spacious and airy)**
10. **Economical Sense (\$ & c)**

\$\$-----THE BOTTOM LINE-----\$\$

Exterior Appearance

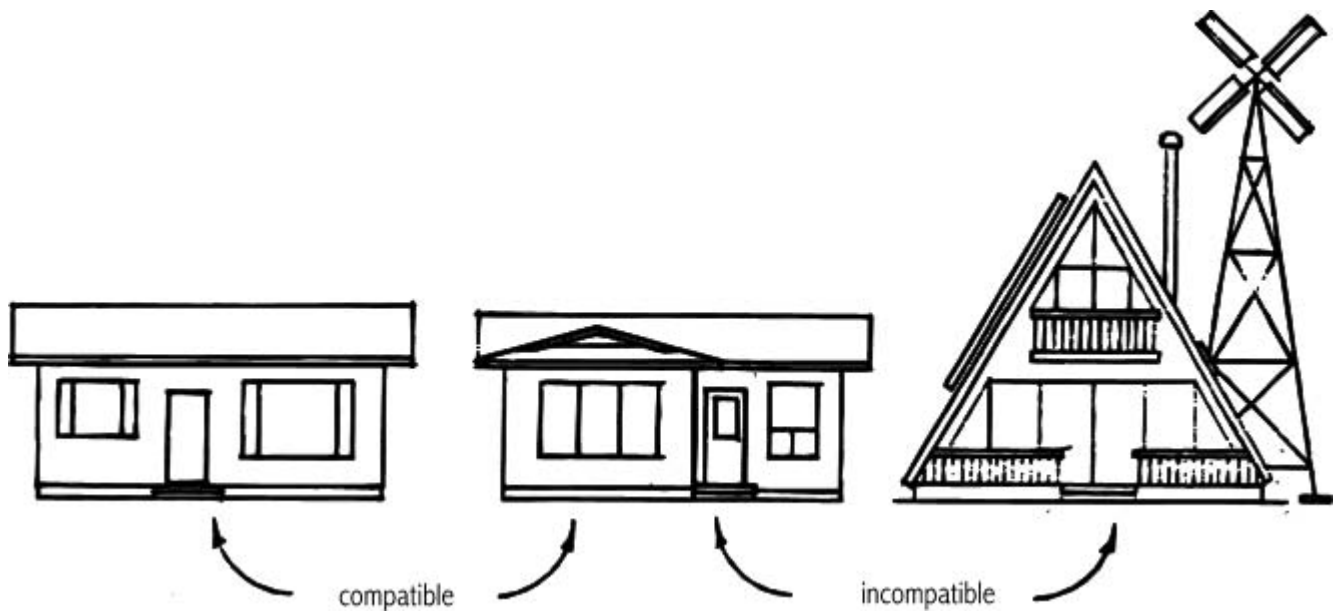
The outside appearance is largely dictated by the preceding floor plan design, and decision on the building type (i.e. bungalow, two storey, split). The house type, assuming a standard wall height, will have a distinct profile which can be modified somewhat by the specific design of the roof. The floor plan will naturally convey window and door openings to the wall surfaces and reveal any perimeter jogs.

Applying any type of roof at random will complete the silhouette of a building but the appearance remains characterless. Considering what your house will look like inevitably raises the question of architectural styles.



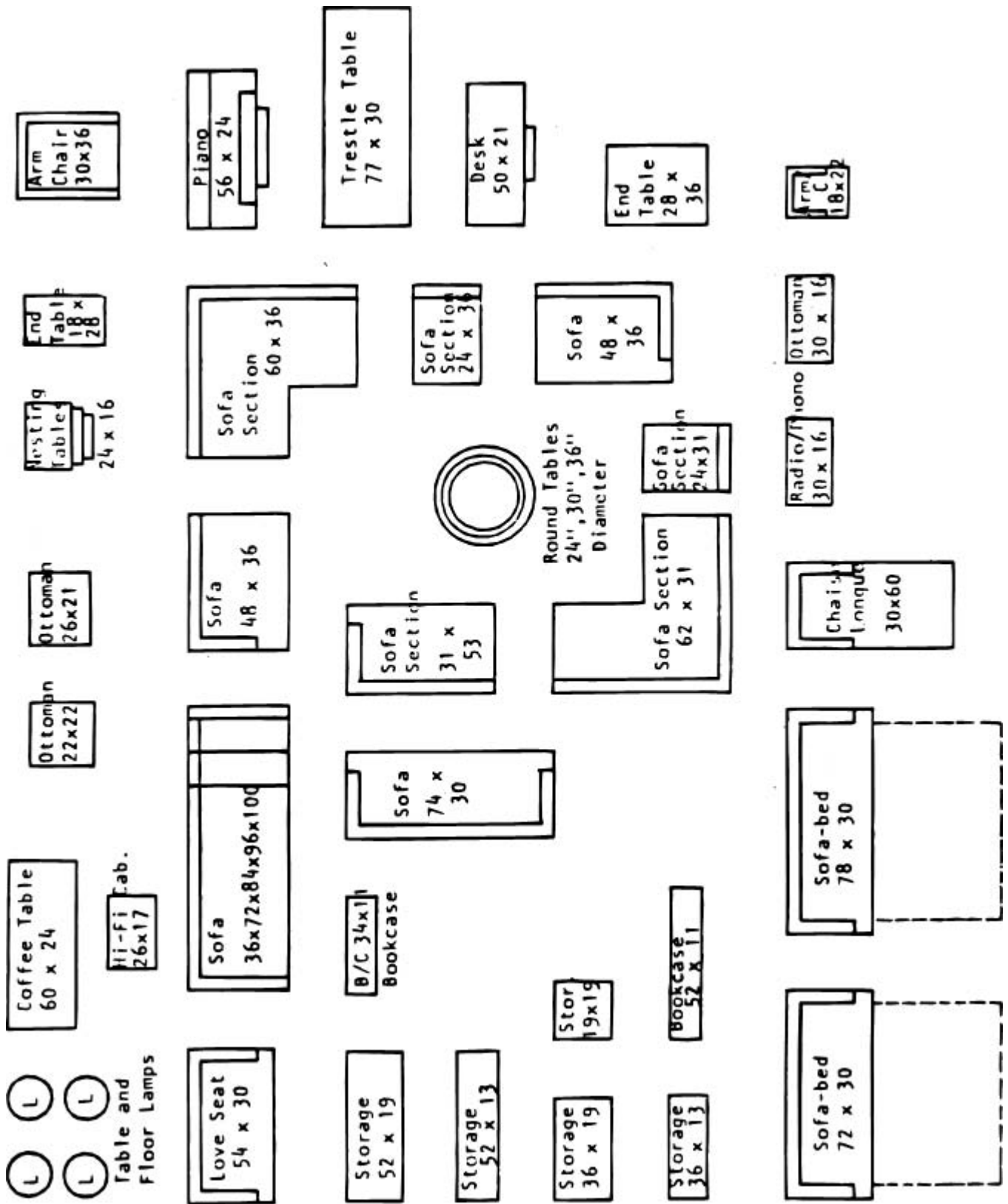
CHAPTER 3 DESIGN

Styles in architecture come into existence because the original models are admired and imitated. Hence, we have the historical styles such as Cape Cod, New England, Georgian, Colonial, French Provincial and others. Characteristics of the homes of past years are captured by today's homes to make a house stand out and look different. Our own contemporary style is still in the process of evolution. Its character is a reflection of present day living habits and modern materials and methods.



False imitations, mixing styles and mock ornaments frequently are used to compete with neighbouring styles. This is not the way to make a pleasant street.

The fact is that houses on a residential street are actually seen as a whole group and not as isolated buildings. The whole street scene (streetscape) depends upon the collective appearance of a number of houses. A street assumes a restful, pleasant and dignified quality when the houses are of similar style. This effect is best achieved by designing homes simple in shape, with clean uncluttered lines and a minimal use of varying materials.



Double Bed 54 x 74	Double Bed 54 x 74	Double Bed 54 x 74	Double Bed 54 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	King Size 78 x 80	Crib 54 x 30	V.S. Vanity Stools	N.T. 8x23	N.T. 8x23
Double Bed 54 x 74	Double Bed 54 x 74	Double Bed 54 x 74	Double Bed 54 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Twin Bed 39 x 74	Queen Size 60 x 80	Crib 54 x 30	V.S.	N.T. 8x23	N.T. 8x23
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NIGHT TABLES