

COLOMBIA HOUSE LAYOUT PROCESS

GENERAL OVERVIEW

The house layout process consists of two parts:

Part One: LAYOUT OF THE STREET.

This part is completed by the architect on-site, before the family gets involved in the house layout.

The purpose of this first part of the layout process is to establish the contribution of the individual house to the street as a whole, its connection ^{with} adjacent houses and its relationship with streets and/or other public places.

This part of the layout process is really short; its outcome is a set of specifications and a partial plan of main volume foundation slab and retaining wall.

These specifications set the framework within which each family has work, to complete the house layout.

**HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA**

Part Two: LAYOUT OF HOUSE.

This part of the layout is completed by the family with the assistance of a facilitator.

Before the house layout starts the family is presented with the house specifications, which can be **LOCALLY** adjusted or modified, in consultation with the on-site architect.

These agreed upon specifications should **NOT** be violated by the house layout.{P}

**HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA**

COLOMBIA HOUSE PROCESS

PART 2: STREETS

BASE ASSUMPTIONS

ABOUT 70 HOUSES

TOTAL AREA ABOUT 10,000 SQUARE METERS

AVERAGE LOT SIZE ABOUT 150 M2.

AVERAGE HOUSE SIZE ABOUT 80 M2.

**HOUSE PRICE ABOUT 1,000,000 pesos PER HOUSE,
equivalent to about \$5,000**

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

LAYOUT OF THE STREET

The main responsibility of each house, is to help to make the street a beautiful and useful place. In order to do this, the first decisions about the house, are specifically oriented towards the street. These are done before the family works on their own needs, and the internal organization of lot or house.

The following variables have a crucial effect:

Height of house with respect to height of street.

Position of front wall of house volume

Entrances

Positions of garden

Height of walls

Depth of garden

Position of steps

Position of porches

Position of miradors

Relationship to sidewalks

Relationship to small squares and plazas

Height of house (two story or one story)

Connected houses, or separated houses.

Gaps in house volume

Height of garden walls in different positions

These problems must be dealt with systematically, house by house, in the following procedure: Each house is examined in its relation to the street and other houses. The following notations are then fixed for that house.

This process will first be done by the architect or group as a whole. Each family is then given the resulting sheet, as a basis from which to start. If they wish to modify the result, they may do so, provided that they stay within the rules.

OUTPUT FROM THIS PROCESS IS A COMPLETE PLAN OF SLABS AND RETAINING WALLS FOR EACH HOUSE, WITH SOME MINOR DETAILS.

LAYOUT OF THE STREET

To the architect on-site:

Go through these steps one-by-one for each house separately, and establish on the last page drawing of this document what each step of this process asks for.

At the end of this process you should be able to have an overall plan indicating the relationship between street- sidewalk-front garden-main house volume, as well as its connections with adjacent house volumes. Also, you should be able to produce a partial foundation plan for retaining walls and slab for the main volume of the house.

MAJOR LAYOUT STEPS:

A. PRELIMINARIES

B. FIXING HOUSE LOCATION AND LEVEL

C. FIXING SLAB AND RETAINING WALLS

D. DEFINE ENTRANCE PATTERN

E. FRONT GARDENS AND GARDEN WALLS

F. SUMMARIZE SPECIFICATIONS

G. DRAW HOUSE PLAN WITH RETAINING WALLS AND SLAB{P}

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

A. PRELIMINARIES

From street and community plan we get the following key facts:

1. Number of lot. _____

2. Is there a sidewalk or not. YES/NO
Width of sidewalk. _____

3. Is there a garden in front yard. YES/NO
Depth of garden: 1m, 2m, 2.1m, 3m _____

4. Is it a corner lot. YES/NO
Depth of garden in front. _____
Is there a yard on the side. YES/NO
Depth of side yard _____

5. Is it an uphill, downhill, flat or
sideways lot. _____

6. Length of frontage. _____{P}

B. FIXING HOUSE LOCATION AND LEVEL

1. GET ROUGH POSITION OF HOUSE VOLUME ALONG STREET.

Locate main house volume on the basis of the following rules:

1.1. Each house has a main volume which is usually two storeys high and no longer than 10 to 10.5 mt.

1.2. The main volume is always located parallel to the street.
(There might be a 1% exception to this rule, depending on lot configuration).

1.3. The main house volume is NEVER located in the middle of the lot. Its front is located along the front lot line or along the front garden line, and at least one of its sides is always along one side lot line.

1.4. When lot front is ^{about 9m or smaller,} ~~smaller than 10 mt. long,~~ then main volume ^{has to} extends all the way from one side lot line to the other, in order to establish connection with both adjacent lots. ^{In lots wider than 9m, extension of main volume from one side lot line to the other is optional.}

1.5. On corner lots the main house volume is ^{usually extended all the way to} ~~located on~~ the corner, as to establish clearly ^{the corner} the street. ^{usually extended all the way to} ~~The other side of the street is~~ established by ^{the secondary house volume.} ~~The secondary house volume.~~ ^{will establish the other street.}

1.6. In case lot depth is much less than lot front, then main volume could be placed perpendicular to the lot front, with the secondary volume completing the rest of the lot front.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

SKETCH

2. CONNECT HOUSE TO NEXT DOOR HOUSES. GET HOUSE FRONT LENGTH AND GAP BETWEEN HOUSES.

Adjust main volume location, if necessary, in order to establish connections with next door lots. Establish front line of main volume along the street, and at least one of its sides, on the basis of the following rules:

2.1. Most houses are connected to each other forming groups of two or three houses. In between these groups, there are some houses standing by themselves, like “free standing” houses.

2.2. The “free standing” houses usually occur in corner lots or lots with a front more than 10.5mt. *long.*

2.3. There cannot be more than two “free standing” houses one after the other. *(Unless one is a corner lot)*

2.4. The maximum length of a continuous front of house volumes is 26-28mt. or three houses together.

2.5. The gaps between adjacent detached houses are important to the character of the street, since they allow for a glimpse of the back garden. They are never less than 2.5 mt. ~~and more than about 7mt.~~ wide.

2.6. In any street section with 3 house lots, at least two of the house main volumes should be connected, regardless of any of the previous rules.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

SKETCH

3. SHOW FRONT GARDEN POSITION AND DEPTH.

Now, show exact position and depth of front garden, on the basis of what has been specified on the site plan.

3.1. Each house has a front garden, unless otherwise specified.

3.2. The depth of front gardens is either 2 mt or 2.1mt or 3mt, as specified on the site plan.

3.3. If necessary, you might decide to give some more depth ^{to the front garden or to just a} ~~to part of the front~~ garden. When this happens, make sure that this does NOT break the continuity of the front volumes along the street.

3.4. Corner lots have a front garden only on one side: along the street they are entered from.

In case the site plan specifies front garden along both streets, decide the street the house is entered from, and keep only this part of the front garden.

Then, extend house volume all the way up to the corner of the street; if not all the way, there should not be more than 1.2mt wide strip of green area between the house edge and the street.

**HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA**

SKETCH

4. GET STREET LEVEL.

Get street level in front of the house and measure slope along house front.

5. GET HOUSE LEVEL.

Now decide the level the main house volume will sit on.

Since most of the houses are on slope, one has to determine the amount of excavation necessary, so that each house is partly sunk into the ground as to avoid high retaining walls.

Three rules of thumb:

5.1. The level of the house, when above street level, should not be more than 1.5 mt.

5.2. The level of the house, when below street level, should not be more than 1.8 mt.

5.3. The amount of excavation is approximately equal to the amount of fill needed to create flat areas for the house volume/s.

6. GET FLOOR LEVEL OF MAIN FLOOR.

In cases where the house level is more than 1 mt. below the level of the street, then one has to enter the house on the second floor level, which will function as the main floor of the house.

Determine the level of the main floor of the house.

SKETCH

7. GET FRONT GARDEN LEVEL.

Now, determine the level of the front gardens on the basis of the following rules:

7.1. In no case the level of the front garden is more than 0.5 meter above or below the level of the house.

7.2. When house level is more than 1 meter above street level (as in houses 4-7 and 9-15), then the front garden is elevated to be close to the level of the house. It should be like an extension of the house. A retaining wall is built between street and front garden.

7.3. When house level is more than ^{1.5}~~1.8~~ mt below the street level (as for example in houses 52, 54, 55 and so on), then the 2 meter section between street and house functions more as a buffer zone between house and street, because of its slope. In this case, it does not make sense to fill in this part as to create a flat front garden, given the cost of the retaining walls and the relationship between house and street. In any case this buffer zone should be planted.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

7.4. When house level is less than 1 meter above the level of the street (as in houses 20-23), then the level of the garden is closer to the level of the street, and it feels connected to the street.

SKETCH

8. NUMBER OF STOREYS.

Main house volumes are usually two storey high, unless there is a real need to make them one storey.

One storey main volumes are necessary in the following cases:

- a. When house volumes across the street are closer than 6 meter
- b. When it obstructs view from adjacent lots.
- c. When it sits on a high spot that raises the top of the roof more than 10 meters above street level.

9. DEFINE SIDEWALK WIDTH AND HEIGHT.

In cases where a sidewalk is specified, define its width and height.

9.1. When sidewalk is along front gardens (as for example in houses 20, 21, 22 and so on), then it should be at the same height as front garden.

9.2. When sidewalk is directly in front of house volumes with no front gardens, *and* with house level about 1 meter above street level (as for example in houses 30, 32, 34 and so on), then sidewalk should be raised as much as 0.60 meter above street level.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

9.3. When sidewalk is raised, provide for steps leading from the street ^{to} on the sidewalk.

9.4. When sidewalk is along a deep slope provide for steps along it.

9.5. If sidewalk sections are on different level provide for steps connecting them.

10. GET ENTRY PATTERN: UP OR DOWN

Now, knowing all levels —street, front garden, house, sidewalk— decide entry pattern. Does it go from the street up or down.

No entry should be more than 1.5 meter above street level or more than 0.5 meter below street level.

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When house level more than 0.5 meter below street level, the house should be entered on the second floor, which is the main floor.

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C. FIXING SLAB AND RETAINING WALLS

11. LOCATE NECESSARY RETAINING WALLS FOR MAIN VOLUME.

**HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA**

Now that you have specified the level of front garden and the level of the house in relationship to street and sidewalk locate all retaining walls necessary for the house.

11.1. FOR UPHILL HOUSES:

Retaining wall between street and front garden.

Retaining wall between front garden and house volume (if necessary)

Retaining wall between house and sloping earth on back.

11.2. FOR DOWNHILL HOUSES:

Retaining wall between house front and sloping earth.

Retaining wall along house back to retain earth fill.

11.3. FOR SIDEWAYS HOUSES:

Retaining wall between house upper side and sloping earth. Retaining wall along house lower side to retain earth fill.

12. GET HEIGHT OF RETAINING WALLS.

Now calculate the height of each retaining wall at its highest and lowest point. Bear in mind that no retaining wall should be higher than 1.5 meters.

For your calculation assume the following approximate depths of main volumes:

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

Uphill houses: 4.0 to 4.5 meters deep.
Downhill houses: 3.0 to 3.5 meters deep.
Sideways houses: 4.0 to 4.5 meters deep.

13. MAKE PLAN ADJUSTMENTS BASED ON RETAINING WALLS.

If any one of the retaining walls exceeds the 1.5 meter height limit adjust levels.

D. DEFINE ENTRANCE PATTERN

14. SHOW ENTRANCE POSITION FROM THE STREET INTO THE LOT.

Bear in mind the following things:

14.1. Entrances ^{into} of adjacent or ^{confronting} opposite houses should be grouped to create clusters of entrances.

14.2. In case a stair is necessary to take you into the house, locate the stair at that point along the street where the height difference between street and front garden or street and house volume is the smallest.

Always try to find the best combination between these two considerations.

**15. LOCATE ENTRY STAIR FROM STREET LEVEL TO
MAIN FLOOR OF HOUSE OR FRONT GARDEN.
CALCULATE LENGTH OF ENTRY STAIR.**

16. LOCATE ANY SPECIAL FRONT PORCH OR STOOP.

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In ~~many~~ houses it will be desirable to ~~make~~ *have* a front porch or an entry stoop, especially in the ones that do not have a front garden (as for example in 30, 32, 34 and so on), or the ones which cannot use the front garden allowance because of the slope (as for example in 29, 31, and so on).

17. SHOW CUT IN RETAINING WALL FOR ENTRY STAIR.

E. FRONT GARDENS AND GARDEN WALLS.

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18. GIVE APPROXIMATE HOUSE FRONT DOOR POSITION.

Wherever crucial define the position of the front door into the house.

19. SHOW ANY FRONT STEPS IF NECESSARY.

In many cases entrance steps leading from the front garden into the house will be necessary.

20. DEFINE NECESSARY WALLS FOR FRONT GARDEN AND SPECIFY HEIGHT.

All front gardens have low walls.

20.1. Front garden walls are usually about 0.80 meters high.

20.2. Front garden walls along the narrow pedestrian streets are not more than 0.50 meter high.

20.3. When front garden is above street level supported by a retaining wall, its wall should not make the total height of retaining wall plus garden wall more than 1.60 meters maximum.

20.4. In case the front garden is used as a buffer zone, as in the downhill lots, no front garden wall is necessary. Instead, the edge between street and private property should be defined by a curb or masonry edge, about 0.15 meters high.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

**21. DEFINE NECESSARY WALLS FOR MAIN GARDEN
WHEN ADJACENT TO STREET, SPECIFY HEIGHT AND
SHOW GARDEN DOOR.**

In many cases, especially in corner lots, or in lots with a long frontage, the main garden of the house on the back comes all the way to the street and loses its privacy. In these cases it will be necessary to build a high garden wall, about 1.5 meters high.

These garden walls either extend between adjacent house volumes on the same frontage as these, or in some cases they extend all the way to the street, breaking occasionally the continuity of the front gardens.

Garden doors along these walls optional.

**22. DEFINE NECESSARY GARDEN WALLS ON THE
BACK, BETWEEN HOUSE LOTS AND SPECIFY HEIGHT.**

The boundaries between adjacent lots on the back are defined by the building of garden walls about 1.80 meters high.

23. PLACE MIRADOR IF NECESSARY

Some houses will need a mirador, especially the ones on the downhill side of the road, with no front garden.

**24. DECIDE PLACES WHERE SPECIAL TRELLIS OR
PLANTING MIGHT OCCUR.**

**25. SHOW GATES IN GAPS BETWEEN FRONT HOUSE
VOLUMES, IF APPROPRIATE.**

When gap between main house volume and adjacent volume or side garden wall is about 1.8 to 2.0 meters wide it might be appropriate a place a gate there.{P}

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F. SUMMARIZE SPECIFICTIONS

HOUSE #:

1. House front length:
2. Street level:
3. House level:
4. Main floor level:
5. Front garden level:

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

6. Front garden depth:
7. Front garden wall height:
8. Sidewalk level:
9. Sidewalk width:
10. Main garden wall height along street:
11. Main garden wall height on the back:
12. Height of retaining walls:
13. Length of entry stair:
14. Gap width:{P}

G. DRAW HOUSE PLAN WITH RETAINING WALLS AND SLAB

Specify the following locations:

Main volume front and side/s; Front garden and/or sidewalk;

Entry from street to front garden; Entrance door; Porch, stoop, front steps;

Trellis, trees, planting areas; Mirador; Retaining walls; Garden walls, doors, gates.

In case of corner lots, show edge of secondary volume along street, around the corner.

**HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA**

COLOMBIA HOUSE PROCESS

PART 3: HOUSE PLAN

BASE ASSUMPTIONS

ABOUT 70 HOUSES

TOTAL AREA ABOUT 10,000 SQUARE METERS

AVERAGE LOT SIZE ABOUT 150 M2.

AVERAGE HOUSE SIZE ABOUT 80 M2.

**HOUSE PRICE ABOUT 1,000,000 pesos PER HOUSE,
equivalent to about \$5,000**

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

HOUSE LAYOUT PROCESS

PRELIMINARIES

REVIEW HOUSE LOT SPECIFICATIONS AND DEFINE TOTAL HOUSE AREA.
REVIEW HOUSE VOLUME LAYOUT.

FIVE MAIN CENTERS

1. LOCATE GARDEN AREA AND GARDEN WALLS.
2. DEFINE THE VOLUME OF THE VERANDA.
3. LOCATE THE COMEDOR.
5. FINALIZE FRONT GARDEN ARRANGEMENT AND ENTRANCE PATTERN.
4. FINALIZE VOLUMETRIC CONFIGURATION OF HOUSE WITH SECONDARY VOLUME/S AND MAKE A SKETCH.

INTERIOR LAYOUT OF HOUSE

6. THE MYSTERIOUS PROCESS OF ENTERING.
7. LOCATE THE KITCHEN.
8. LOCATE THE SALA.
9. LOCATE MAIN STAIRCASE.
10. LOCATE BEDROOMS AND BATHROOM/S.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

FINAL ADJUSTMENTS

11. DEFINE MINOR PASSAGE.
12. LOCATE MINOR CONNECTING STAIRS.
13. LOCATE "PATIO DE ROPAS".

PREPARE FINAL SKETCHES AND TO BE

**MAKE A MODEL OF THE HOUSE AND PLACE IT ON
THE SITE MODEL.**

PRELIMINARIES

REVIEW HOUSE LOT SPECIFICATIONS AND DEFINE TOTAL HOUSE AREA.

At this point the layout facilitator visits the site together with the family.

He/she presents to the family one page sketch of floor slabs and retaining walls completed in the previous part of the layout "Layout of Street" which includes the specifications mentioned below:

- a. Position of front line of main house volume.
- b. Position of one or two sides of main volume.
- c. Level of house floor.
- d. Level of front garden ^{position of} and/or sidewalk
- e. Entrance pattern ^g stairs
- f. Garden walls, porches, etc....

Stakes on the site mark all these positions.

The family together with the facilitator review all these specifications and make any necessary adjustments, given that the following aspect of the main house volume position is understood:

THE EXTENT AND POSITION OF THE HOUSE VOLUME FRONT along the street, and its specified connection to adjacent house volume/s have been determined on the basis of the contribution of that particular house volume to the street as a whole, and therefore, it has to be respected by all following layout steps.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

Before the house layout process starts a final decision has to be made about the total floor area of the house, based on the amount of the loan.

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REVIEW HOUSE ^{MAIN} VOLUME LAYOUT.

As stated before, the main volume of the house is always along the street so that it contributes physically to the formation of the street or other public space adjacent to it. Therefore the process of completing it should respect what has already been laid out, substantiate and improve it.

The main volume is usually two storeys.

However, it could be one storey high only in places where the street is narrower, and where an one-storey volume is clearly better for the shape of the street and feeling of the lot, or in case it sits on a high spot that makes a two-storey volume really obtrusive.

In general, in the wider parts of the main and secondary streets, 2-storeys main volumes will predominate; in the narrower parts of the main street and secondary streets there can be a mixture among 1-storey and 2-storey volumes.

The main volume is long and thin, with its width varying between 3 and 4.5 mt. It has a simple shape and it contains about 60% of the total house volume. The main volume usually extends all along the lot frontage, from one side lot line to the other. In wider and corner lots the main volume may not occupy the whole lot frontage, thus allowing for a glimpse of the garden on the back.

At this point the family knows the exact position of the front line of the main volume as well as the position of at least one of its sides.

Now, please define exactly the extent of the main volume along the street, if not clearly specified, as well as its depth.

Place stakes on the ground to identify all corners of the main volume, and finalize its two floor levels.

FIVE MAIN CENTERS

1. LOCATE MAIN GARDEN AREA AND GARDEN WALLS.

The main garden is a private area, usually located ^{at} the back of the house, ^{connected to} it. It may include two parts: one part ^{just below} the veranda, which will be paved and onto which the activities of the veranda may spill; and another part, slightly further from the house, following the natural slope of the land, for vegetables and fruit trees.

Make garden area/s feel comfortable and open, and give them a simple rectangular shape. Define the area of the lot to be the garden,

Place stakes at each corner of the garden. Do not extend far beyond the lot boundaries. and make it feel comfortable & contained as a place.

Now, finalize the location and height of garden walls, which will surround the garden. In order to attain a private feeling of the main garden, Place high garden walls, about 1.80 meters high, along the boundary lines with all adjacent lots. The cost of these garden walls will be split among the owners of adjacent lots.

Also, there will be cases where part of the main garden will extend all the way to the street, as in corner lots or lots with a wide front, in this case to maintain the privacy of the garden by building a high wall, about 1.50 meters high, between the garden and the street, and if desirable, place a door or gate along it.

It is one of the main centers of the house. It should occupy a pleasant part of the lot, behind the main volume; a place where one would enjoy being outdoors. The garden has a simple, good shape, usually rectangular.

2. DEFINE THE VOLUME OF THE VERANDA.

Between the house volume & the main garden stands the veranda, It is important to know that the area of the veranda is about 25% of the area of the house. ~~so that the sequence~~ *house volume - veranda - main garden is established*

~~The veranda is a large outdoor room. It functions as the heart of the house.~~

Family gatherings and dining often takes place on the veranda, when the weather allows for it. The veranda is ~~at least 3-4 meters wide and 4-6 meters long.~~ *about 25% of the area of the house, and it is* It is attached to the house volume; it is enclosed on two sides, either by the house volume or a wall; and it is covered with a roof.

The veranda could either be on the first or on the second floor level of the house, depending on view ~~and orientation.~~ *& slope.* (When on second floor level, it should be placed above some part of the house volume) ~~preferably the secondary house volume).~~

For 2-storey main volumes that are on lots with pronounced slope, on the uphill side of the street, it is preferable to place the veranda at the second floor level. Otherwise, it could be on the first floor level.

For 2-storey main volumes that are on lots with pronounced slope, on the downhill side of the street, or on a flat piece of land, the veranda may be either at the level of the first or second storey level, whatever feels best.

Now, identify the best part of your lot: the one that has the best view and gets the breeze coming up the hill. Pin down the center of this area. Think of this as the place where the veranda—the center of your house—will be.

~~Now~~ Then, define the volume of the veranda and consider carefully the following four points:

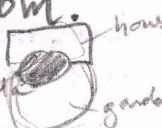
First, pay attention to its shape and size. Make it comfortable for everyday activities.

Second, place the veranda facing the view and open to the direction of the breeze.

Third, pay attention to the shape of the ~~land~~ *garden* directly in front of the veranda. This part should have a good shape as well, and feel comfortable. It will be the part of the garden most intensely used, level, and most probably paved. Fourth, make the veranda be private, shielded from the street. (On uphill houses, the veranda may extend on the second floor of the front volume, as to get maximum breeze and view. If so, it has to be quite deep in order to feel private).

Place stakes on the ground to define the corners of the veranda.

It is the area where house & garden meet in the form of a large outdoor room.



The veranda is the heart of the house, overlooking into the main garden. It is an outwards extension of the house into the garden. It occupies the best part of the lot with a good view.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

3. LOCATE THE COMEDOR.

The comedor is the main center of the house. The comedor is the largest and most beautiful room of the house, about 20 to 30 m², it has a simple rectangular shape, very pleasant natural light through its big windows, and possibly the best view of the house.

It is the room where the family gets together.

The comedor is usually placed next to the veranda and opens onto it, as to enhance the family character of the veranda.

Now, choose the spot of the lot where it would be best to have the comedor. If no part of the main volume seems to be appropriate for the location of the comedor place it in that part of the lot that seems most satisfactory to you. A secondary volume could be made there.

The comedor could either be on the first or second floor of the house, depending on view and slope.

Place stakes on the ground to define the corners of the comedor.

5.4 FINALIZE FRONT GARDEN ARRANGEMENT AND ENTRANCE PATTERN.

The front garden is an area of transition from the street into the house. It should be a pleasant place to walk through, sit, repose, talk with passer-bys. The position of the front garden, its depth and level have already been finalized in the beginning of the layout process.

Also, a series of suggestions have been made regarding the entry pattern and arrangement of front garden.

Now, you have to finalize all following decisions, taking seriously into account the suggestions that have been made:

- a. Exact position and height of front garden wall.
- b. Exact position of entrance stair (wherever applicable) from street to front garden, or from street to house.
- c. Position of entrance opening along front garden wall.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

- d. Is there any front porch, stoop or trellis.
- e. Exact position of entrance door.
- f. Any front steps between front garden and house.
- g. Do you plan to plant any tree or flower beds and where.
- h. Is there any bench on the front garden.
- i. Is there an entrance hall inside the house, where exactly and how big.

4.5. FINALIZE VOLUMETRIC CONFIGURATION OF HOUSE, AND DEFINE SECONDARY VOLUME/S.

At this point
Now, the layout facilitator together with the family should spend half an hour to discuss and determine the volumetric configuration of the house.

Two major things have to be decided at this point:

a. Configuration of roofs.

The house will usually have 2 or 3 roofs, depending on whether the veranda has its own roof, or is contained under the roof of the main volume.

The roofs of the main and secondary volumes are large gable roofs, extending considerably beyond the walls. The ridge of the roof is parallel to the length of the volume.

If the veranda has its own roof, it will either be a shed or a flat roof.

b. Relationship between volumes.

The relationship between volumes and roofs has to be such as to create a harmonious whole. Transitions between volumes and roofs at different heights should be smooth.

The layout facilitator prepares a simple sketch of the volumetric configuration of the house and discusses it with the family.

A final decision has to be reached concerning volume relationships and roofs.

The secondary volume of the house is attached to the main volume and is placed on the part of the lot left, after the placement of the main volume and the veranda. ~~WHERE YOU CAN LEAST IMAGINE HAVING A GARDEN OR BEING OUTSIDE.~~ *It is an one-storey volume.*

In case the location chosen for the comedor is not part of the main house volume, then the comedor will become the secondary house volume.

Now, place stakes on the ground to define the secondary house volume

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

The secondary volume is usually one storey.

If the main volume of the house is 1-storey, then the secondary volume has to be 1-storey, as well. If the main volume is 2-storey, then the secondary volume may be either one or two storey.

In houses where the veranda is on the second floor level, the secondary volume should extend under the veranda.

Place stakes on the ground to define the corners of the secondary volume.

INTERIOR LAYOUT OF HOUSE

6. THE MYSTERIOUS PROCESS OF ENTERING.

This step defines the path that one takes moving through the house, from the entrance door to the veranda.

Make this path a clear entity of space, starting at the entrance door and ending at the veranda.

Roughly lay out the path, so that the following conditions are met:

- a) The path is not direct; the veranda cannot be seen from the front door.
- b) Path moves from darkness toward light, but the source of light is not revealed until one gets there.

7. LOCATE THE KITCHEN.

Now, define the location of the kitchen. Place it on the part of the house facing the garden. The kitchen is usually on the same level of the house as the comedor, but not necessarily adjacent to it. The kitchen is between 10-15 m².

8. LOCATE THE SALA.

The sala is a formal room for receiving guests, with its door just inside the main entrance, in the entrance hall. It is the most public room of the house, located at the part of the house facing the street. It should be roughly square in shape, about 10 m². The window of the sala should look onto the street and never onto the veranda or garden.

9. LOCATE MAIN STAIRCASE.

The main staircase connects the first and second floors of the house. The staircase is usually located next to the veranda, and it is connected with the path that leads from the main entrance to the veranda. Make the staircase a simple volume; it should either have a rectangular or an L shape.

10. LOCATE BEDROOMS AND BATHROOM/S

The bedrooms will be located in all areas that have not yet been designated, but mostly on the level different from the veranda and comedor. Lay them out, thinking about where the bed will go, and so that each one may have light on two sides.

There are two to three bedrooms, of about 9 to 12 m² each.

HOUSE LAYOUT AND CONSTRUCTION PROCESS
FOR SANTA ROSA, COLOMBIA

Then locate the bathroom, to be close to the bedrooms.

Try to place the bathroom on top of the kitchen. This will make the placement of the water and sewer lines much simpler.

FINAL ADJUSTMENTS

11. DEFINE MINOR PASSAGE.

All circulation among rooms of the house is through the following four ways:

- a) through the veranda.
- b) directly from room to room.
- c) through the path that connects entrance door to veranda.
- d) by means of a minor passage, on the level of the house different from the veranda.

In this step, you will lay out this minor passage, if there is need for it. This passage will give access to rooms on the floor other than the veranda. It is 1.2-1.5 meters wide and it connects with the main staircase.

12. LOCATE MINOR CONNECTING STAIRS.

These small stairs are laid out at this point to connect the front door with the street; the veranda with the flat part of the garden; different levels within the house volumes, if necessary, etc.

13. LOCATE "PATIO DE ROPAS".

The "patio de ropas" is an area of 15 m², for washing clothes. It is located at the back yard, next to the kitchen, at a part that is not visible from the street and does not intrude into the garden.

Make sure that the veranda is shielded from the "patio de ropas".

~~PREPARE FINAL SKETCHES AND TO BE~~
~~MAKE A MODEL OF THE HOUSE AND PLACE D~~
~~IT ON THE SITE MODEL.~~

Carbond or balsa wood
CES representative prepares a simple, ~~wooden~~ model of the house at 1:100, that shows clearly volumes, relationships between volumes at different heights, *and* shape of roofs. Glue it on the site model, so that it can be used as a point of reference for adjacent house lots.

CES representative prepares the following sketches for each house after layout is completed. Construction of the house will start on the basis of this drawing:

- 1) A single line drawing of house plans 1:100 with dimensions
 - 2) A single line section ^{1:100} with elevations of all house levels
 - 3) A single line foundation plan ^{1:100} with slabs, beams, columns retaining walls.
- Dimensions are necessary.*