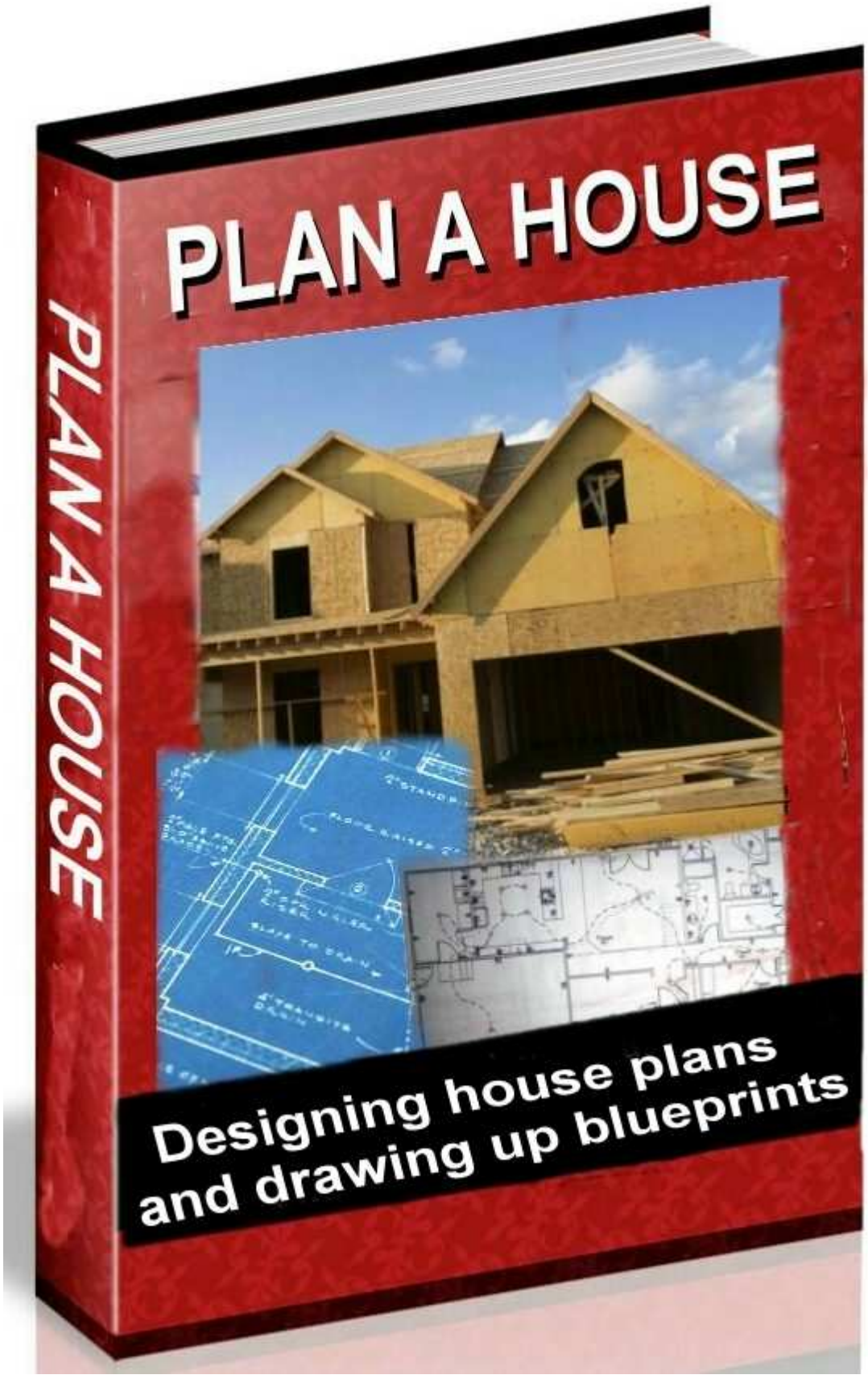
PLAN A HOUSE
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Designing house plans
and drawing up blueprints

Planning a house

It has been my pleasure over the years to plan out and build many homes. There are as many house plans as there are dreams in the minds of future homeowners. A good house plan requires many hours of visualization. If you can walk through your home in your mind, then you can usually see how the preliminary plans need to be drawn up.

There are many things to consider when planning a home. A lot has to do with the size of your pocketbook. In our modern economy I would seriously urge you to start out with an affordable design. Apart from the size of the home, there are some things that will need to be planned out so you can have a home that is valuable and functional. Here are a few things to consider.

- Do you want a second story?
- How about a garage? (How many cars)
- How many bathrooms?
- Do you want a full dining room or just a kitchen with an island/bar?
- How much storage space do you need?
- Do you need a mud room with exterior door in the laundry?
- How many windows and what sizes?
- Do you need a home office?
- Do you need a big kitchen? (Do you cook a lot or do you just grab takeout every night)
- What kind of roof will you need? (What is the local climate)
- What height will the ceilings be?
- Will stairs be a problem in the future?
- Will there be any decks?
- Will you have open-space plans or closed-space plans with a lot of walls?
- Does the land have a view?
- How can you best enjoy the view?

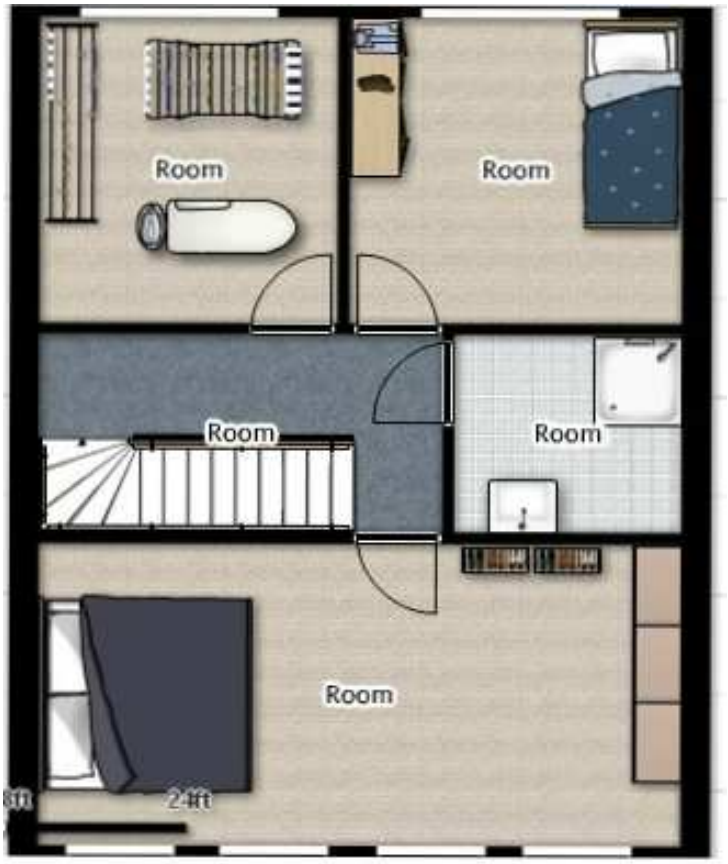
These are just a few questions that will help you while creating a good floor plan. My favorite way to draw up floor plans is to grab a sheet of paper and a ruler. There are however many really good software programs that are useful in creating interactive floor plans.

If you want a simple program that's really easy to use, I would suggest going to www.floorplanner.com for a free program that offers good functionality.

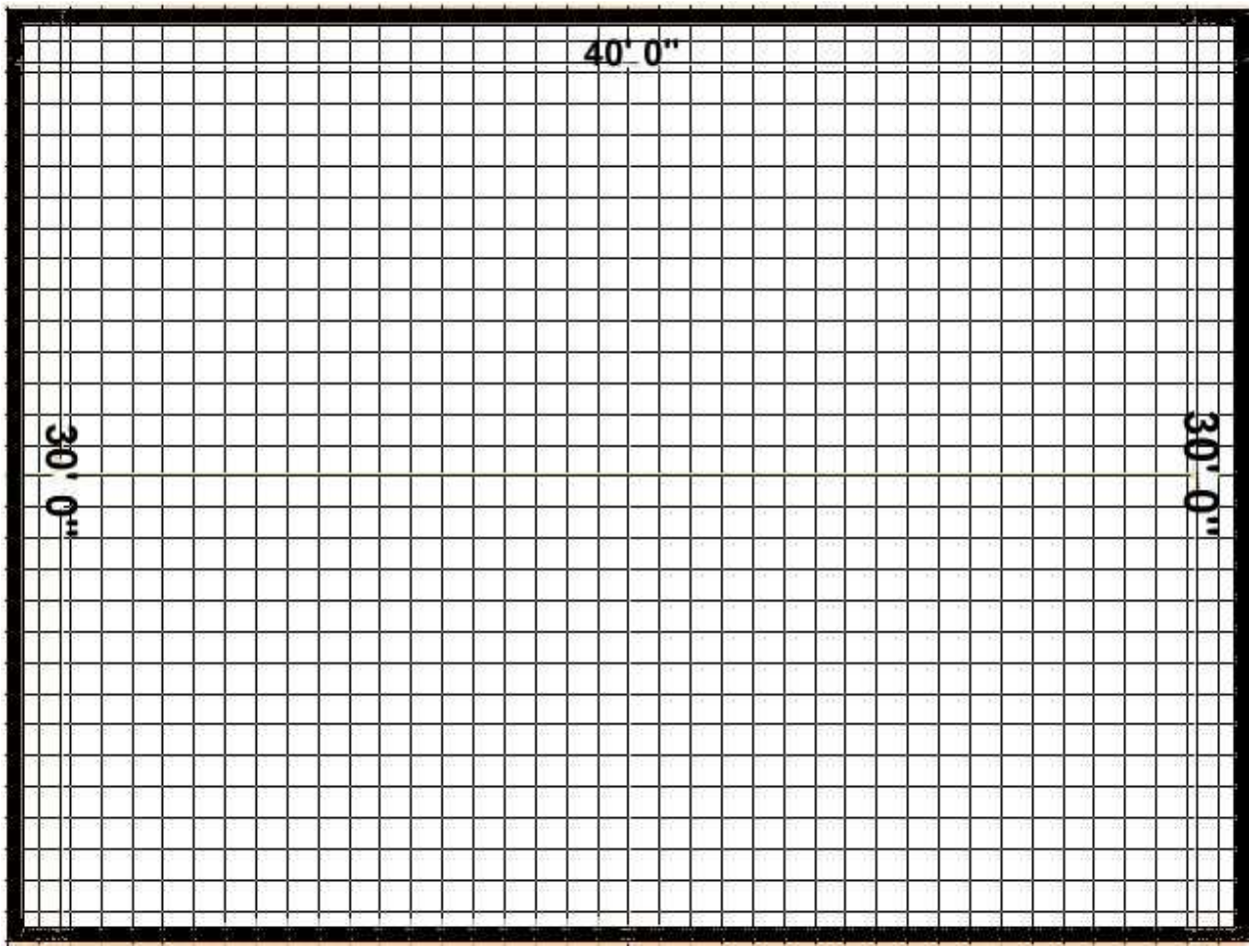
It lets you create one free floor plan that you can work on for months if you need to. It has some good features and a 3d view to add to the reality of the plan.

This can be helpful to beginners that don't understand how to keep measurements to scale because you import furniture and fixtures into the plans that show you how big each room is compared to the things inside it.

These new programs help us all visualize our home plans before we even put them down on paper.



As I said, my favorite way to plan a house is to do it with graph paper, a ruler, and a pencil with a really good eraser.

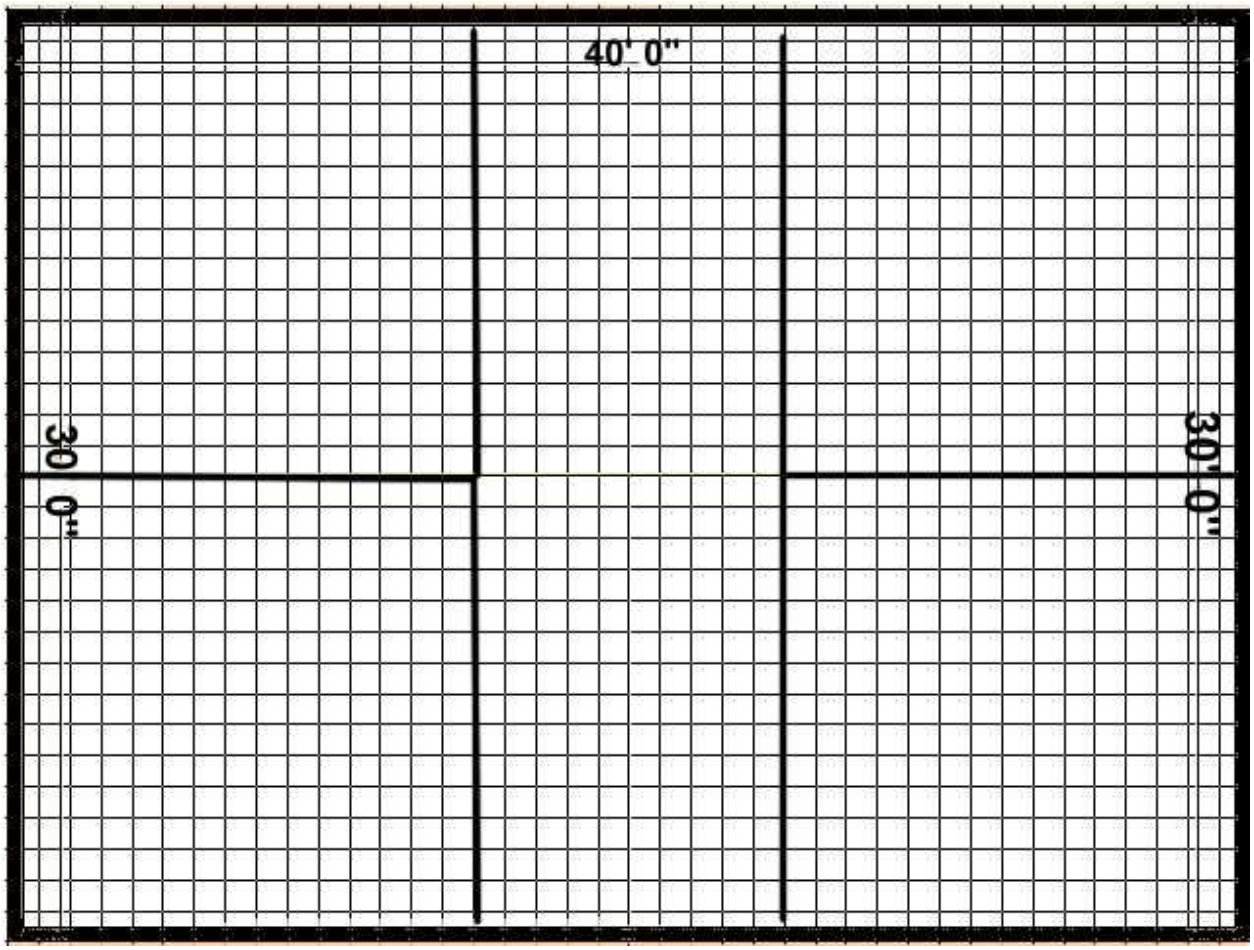


Start out simple at first with graph paper. Each block on the grid can represent one foot for the floor plan. Decide how big you want to make your outside walls. This will be the dimensions of your floor plans.

They don't have to be rectangle shaped or even square. Your home plans need to be what you want to live in. If you want to live in an octagon home, that's fine as long as there are interior walls that help hold up the roof.

Keep in mind that if a home has walls that have a wide span, you will most likely need load-bearing interior walls that distribute the weight of the roof or upper floor. For now, just draw some walls and make the preliminary sketches for your plan.

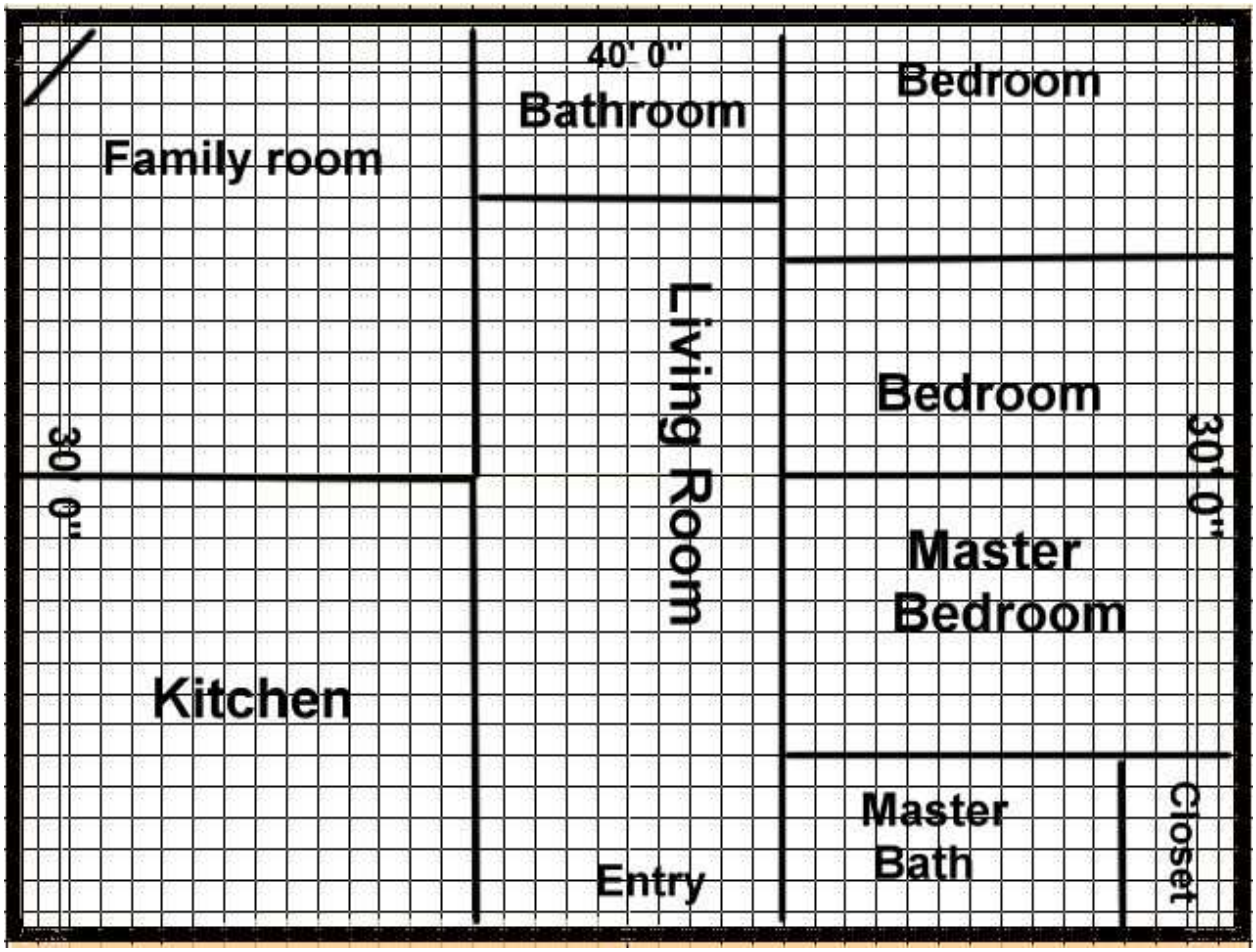
Next, plan out where you want the interior walls to go. This is really fun as you plan out the different possibilities of interior designs.



Try to visualize each layout that you draw. Imagine yourself walking through your new home. The grid squares will help you keep the rooms to scale. Run many different scenarios. This is really important because there are home designs that are all wrong for certain people and you want to figure that out before you start building.

Here's an example. I have a friend who designed his own home. His wife was part of the design but she never visualized the floor plan. Once the home was finished, they both realized that the kitchen was completely visible from the front entry way. Any visitors that stopped by could see how messy the kitchen was if the couple wasn't immediately diligent at cleaning up.

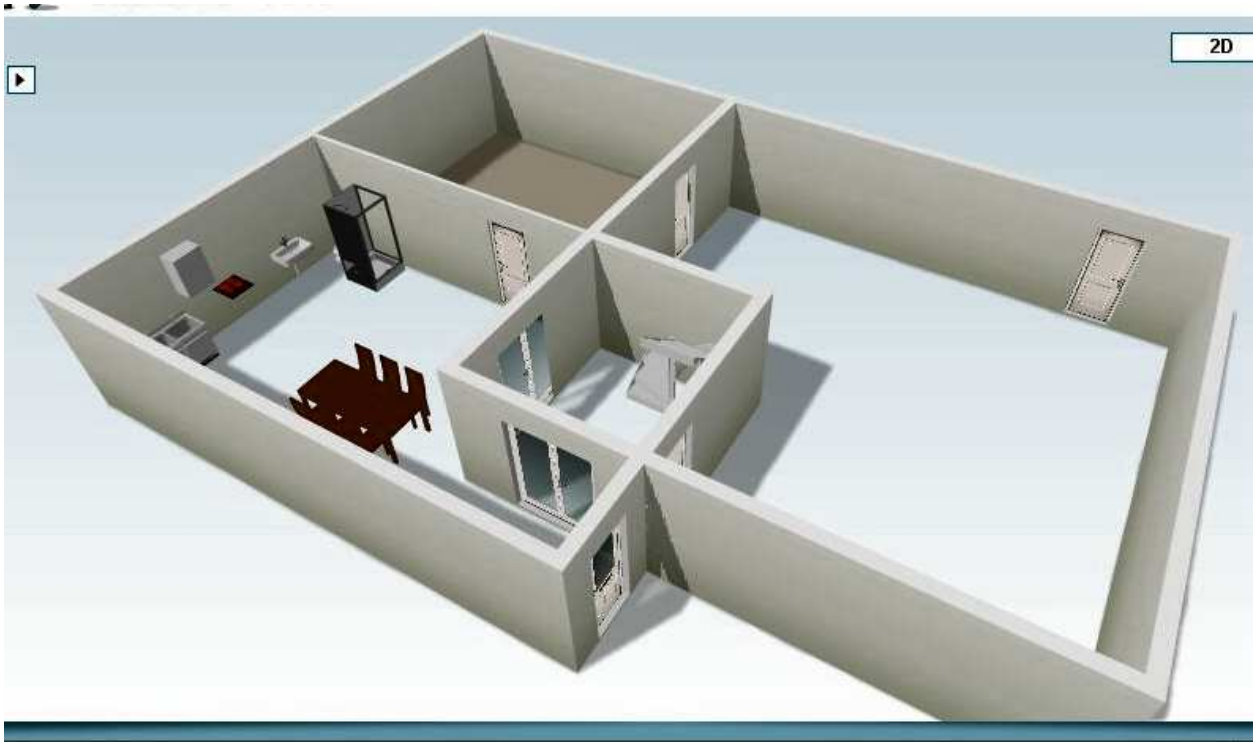
This is just one of the many things we hope to avoid when drawing up the floor plans. It's also important to look at other floor plans to get a good idea of current design trends.



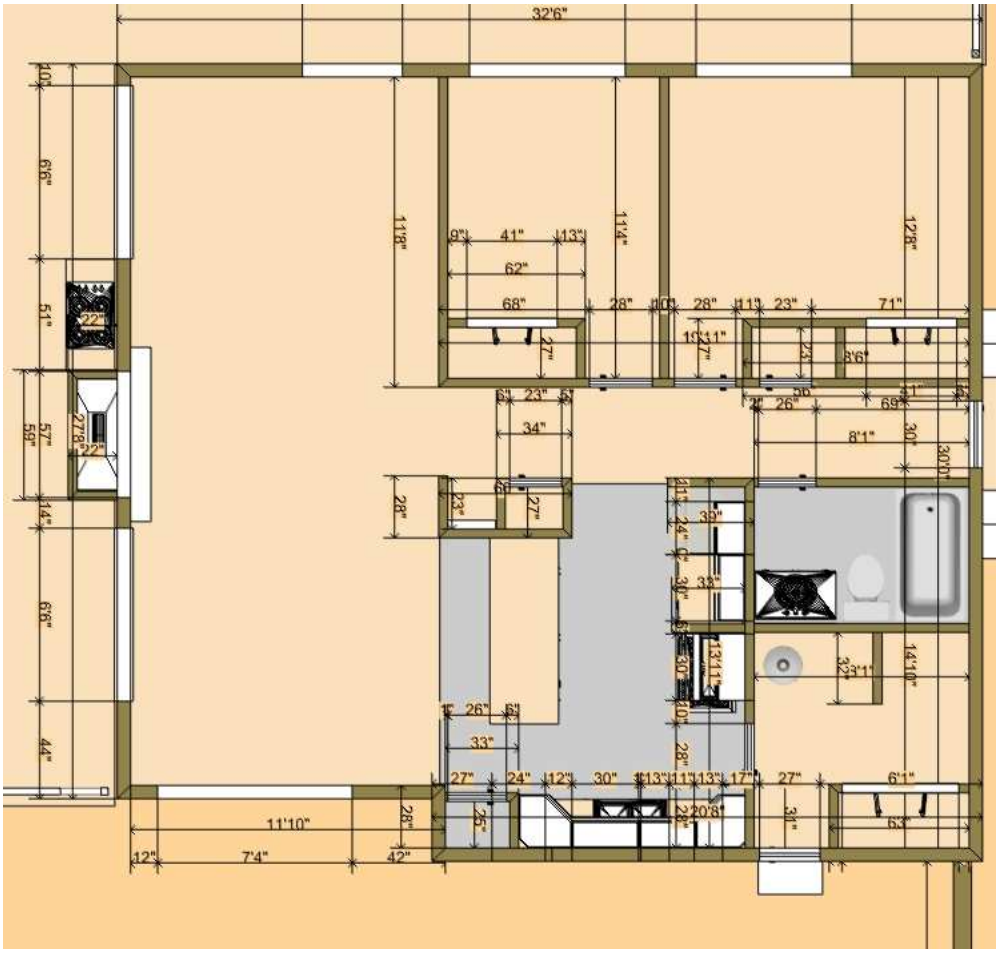
Next, you can enter the names of each room to get a feel for the basic plan. Don't worry about doorways yet. It's still in the planning stages where a lot of things will be changed. Not only that, but once you find a floor plan that you really like, you can get bigger paper and draw your plans on it so you can see the smaller features better.

Visualization is everything when planning a house. Try to get a good mental image of your home by using your floor plans.

3d programs help create a fair mental image, but even the best programs are only just a computer rendered image.

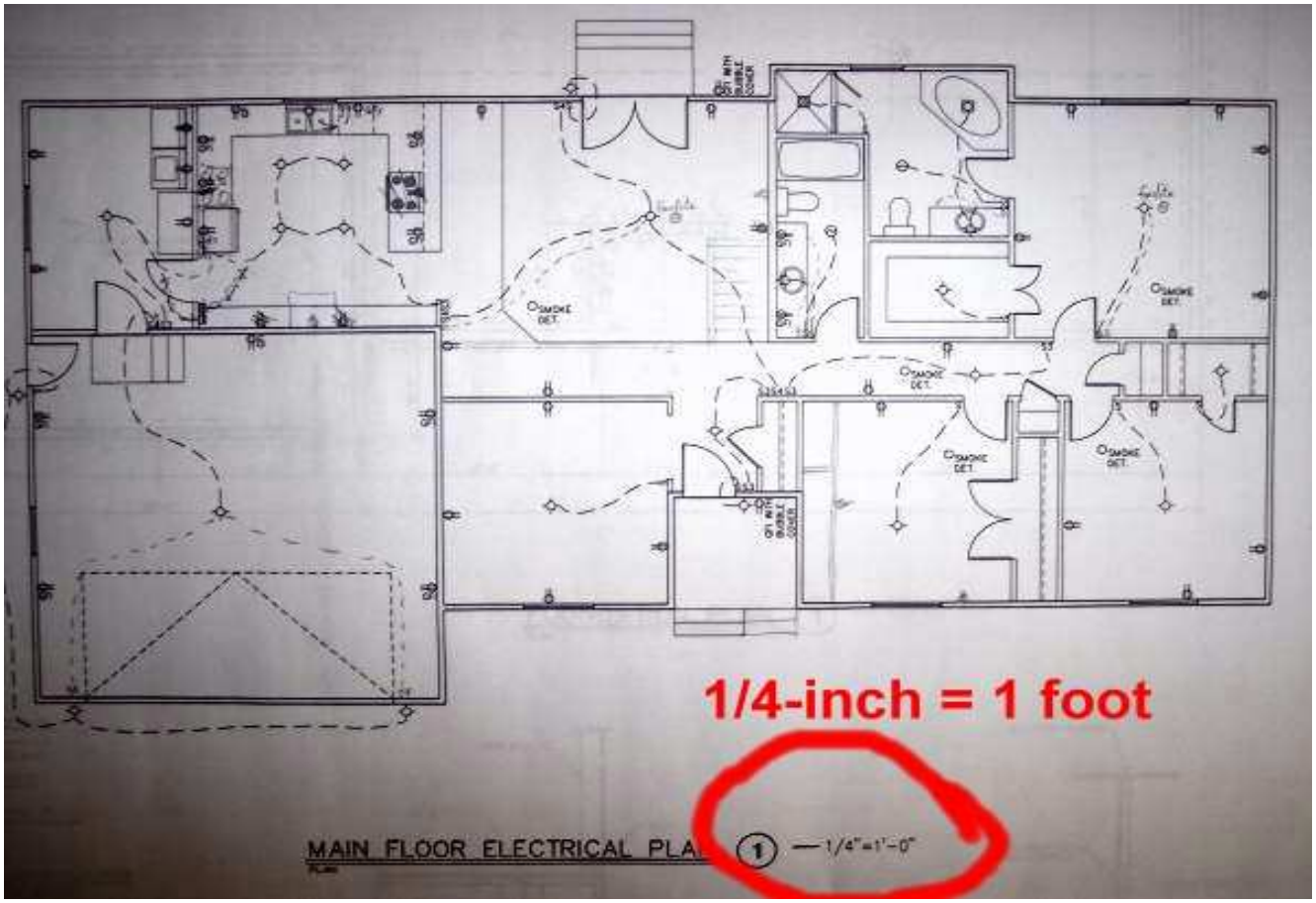


Even the simplest designs are able to be rendered into 3d graphics. This helps the look and feel of the plans reveal problem areas that normal floor plans don’t show.

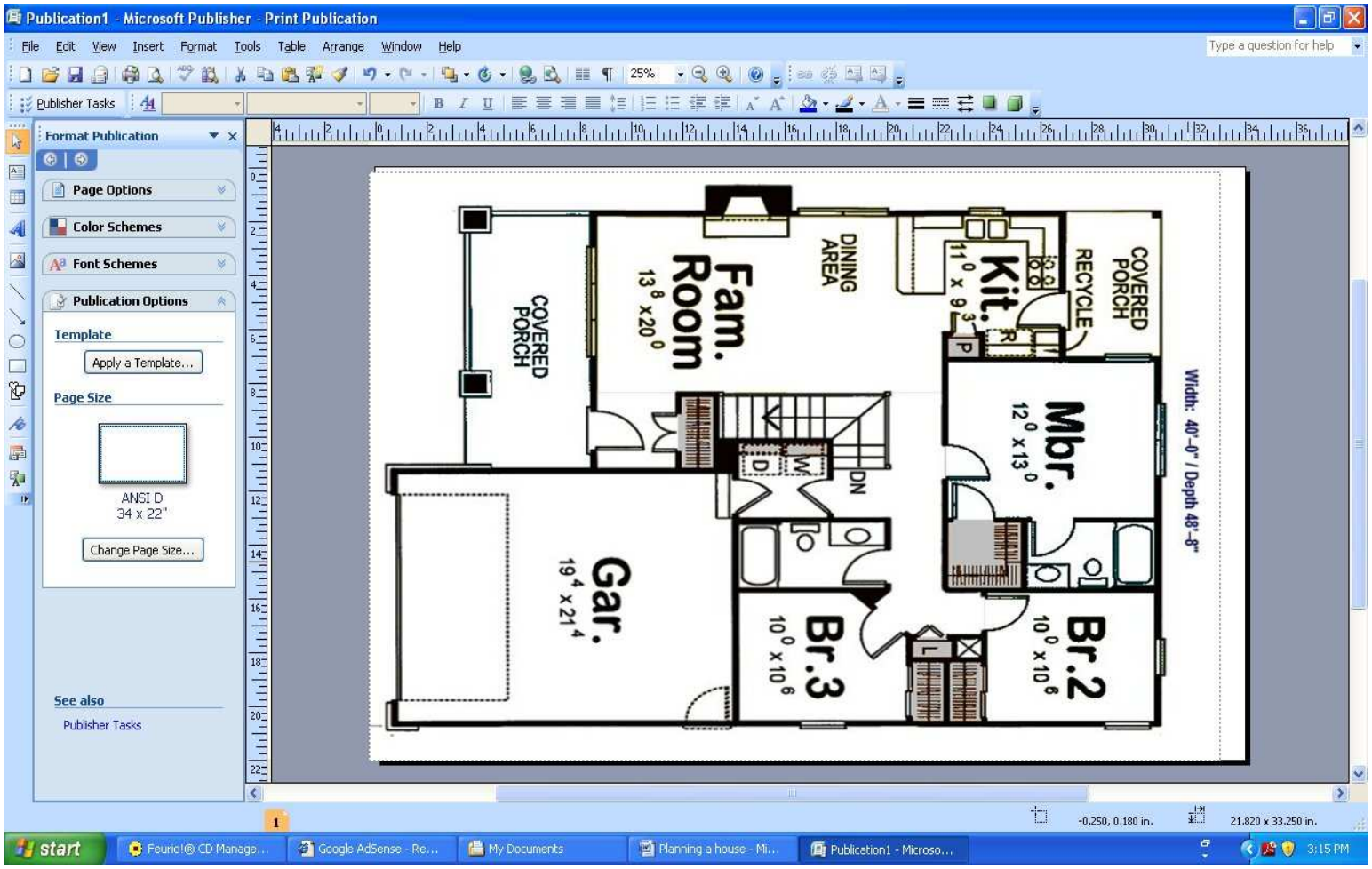


Once you're ready to transfer your plans to larger paper you have a few options. I prefer to buy larger paper and draw the plans all over again only using a different scale of measurement.

Many blueprints use the **"¼-inch = 1 foot"** scale. So every inch of the blueprints will actually represent four feet of the house. This scale helps to be able to include all architectural, electrical, and plumbing symbols for the contractors to follow.



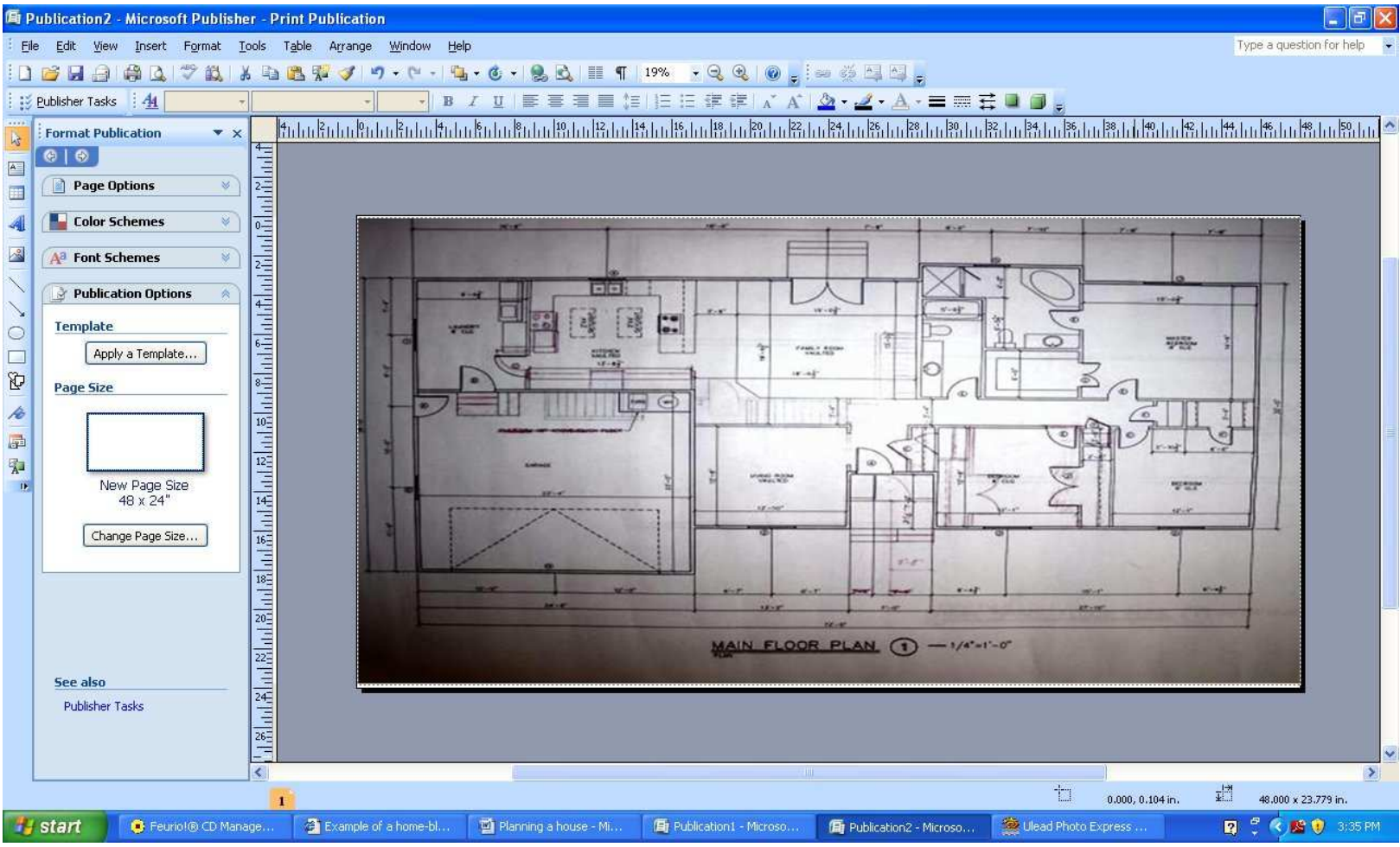
It’s best to create several copies of your floor plans. You can take your plans to a printing store and have them make copies. You can also use programs like Microsoft Publisher to import the house plans, make the image larger and then save them to a thumb drive. Take the thumb drive to a printing store and they can print it out on big paper. Some print stores even have plotters. These are large format printers made just for blueprints.



Here’s a simple plan that is blown up to 34”x22”. At this size, all of the smaller blueprint symbols can be drawn in. You will need to have at least 10 copies of your home blueprints because of all the different plans like electrical, plumbing, etc.

Many Engineered copies of house blueprints will be 24-inches wide by 48-inches long. This is a difficult size for do-it-yourself home architects to draw and work with, but it will most likely be what your building inspectors will want.

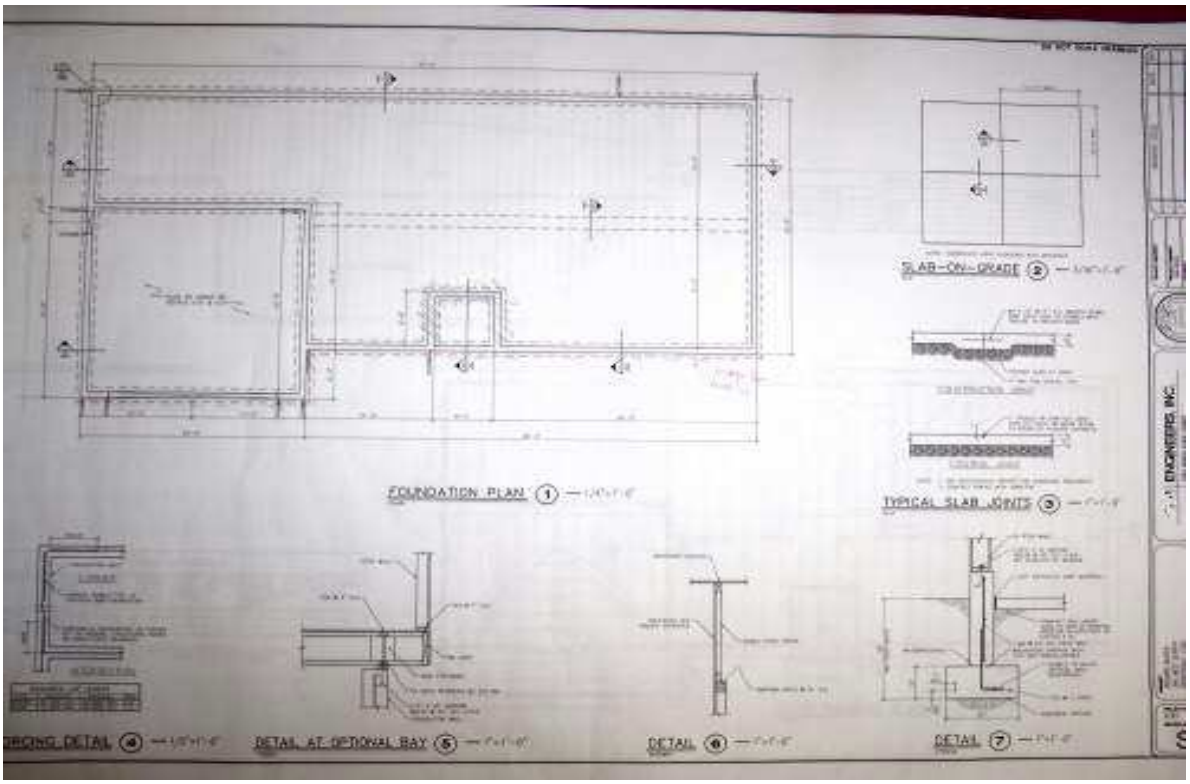
Here is an actual blueprint that is made with the Microsoft Publisher program. It is normal blueprint size for residential applications.

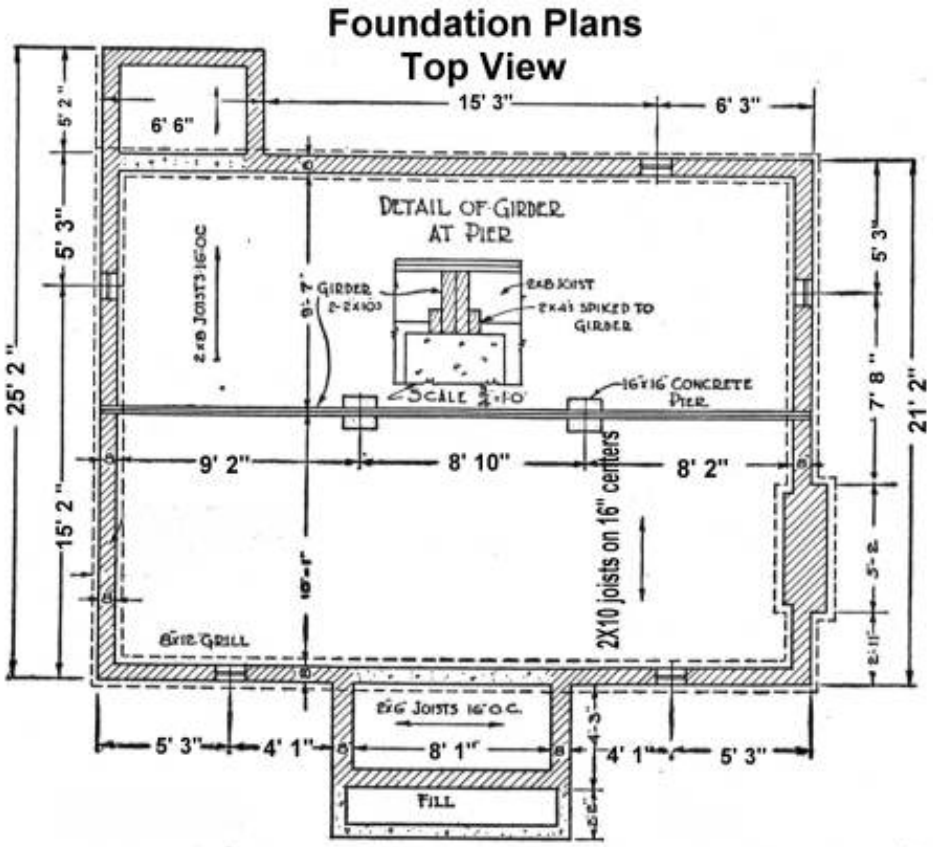


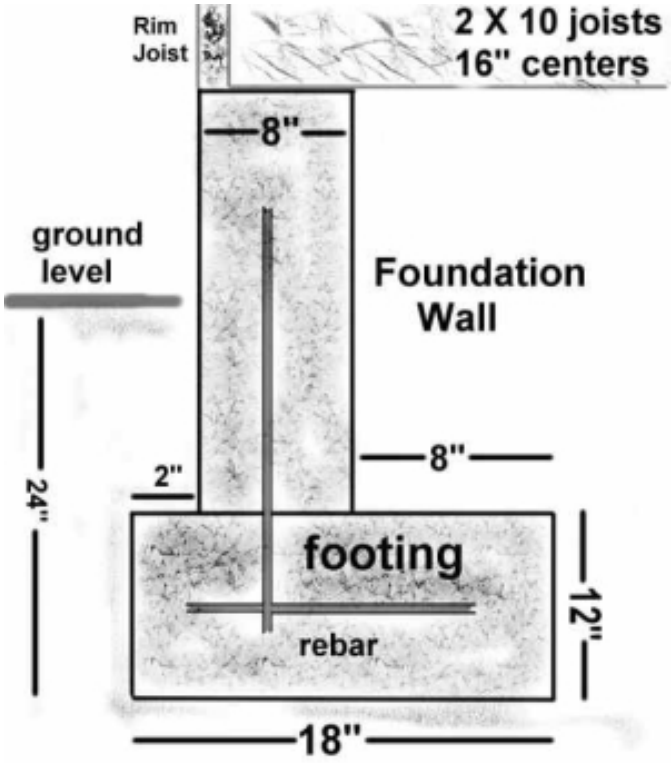
The local building inspector will be able to tell you what kind of blueprint plans you will need to produce, but I will list all the plans that are usually required for most homes. I will also include examples of each blueprint plan just so you can see what they look like. Blueprints needed:

- **Foundation Plan**
- **Floor Plan**
- **Elevations**
- **Details**
- **Sections**
- **Interior Elevations**
- **Electrical**

The foundation plan is about the foundation structure, the footing depth, and probably rebar placement inside of the cement. Here is an actual foundation blueprint which gives information about things like frost level, wall thickness, girder placement, etc.



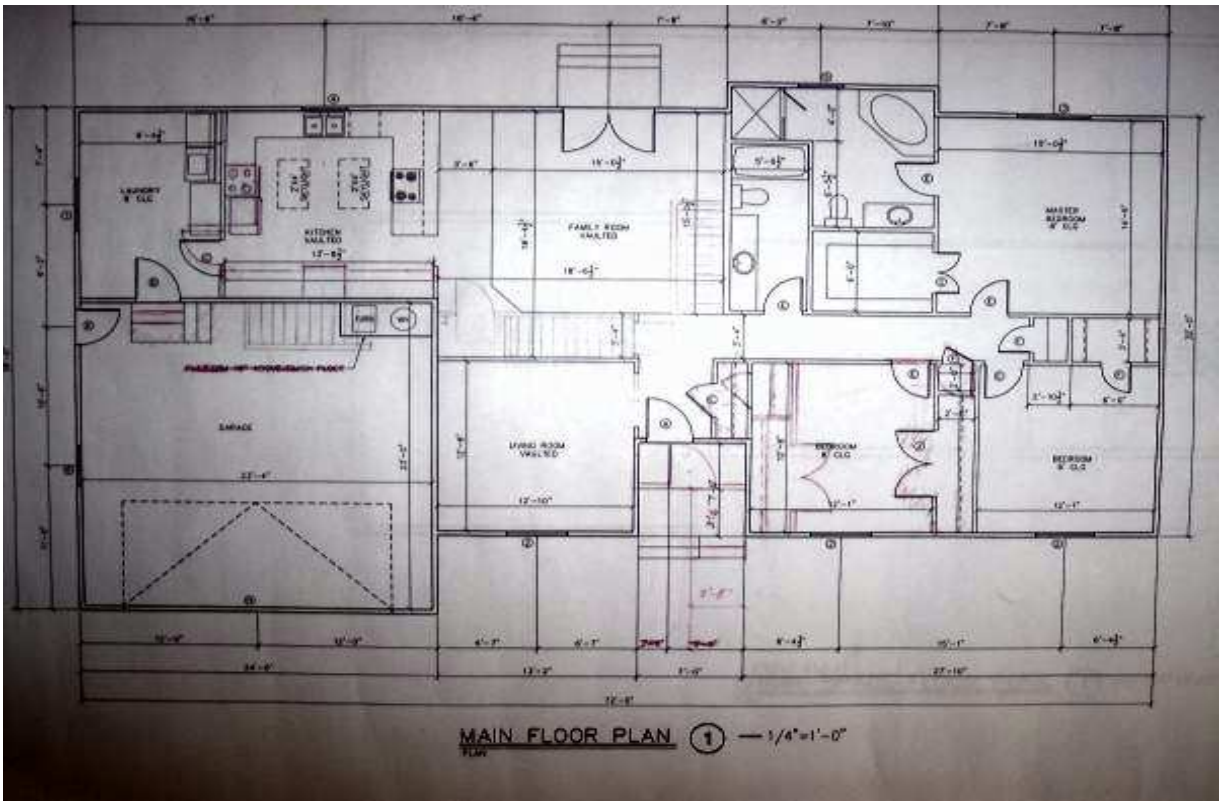




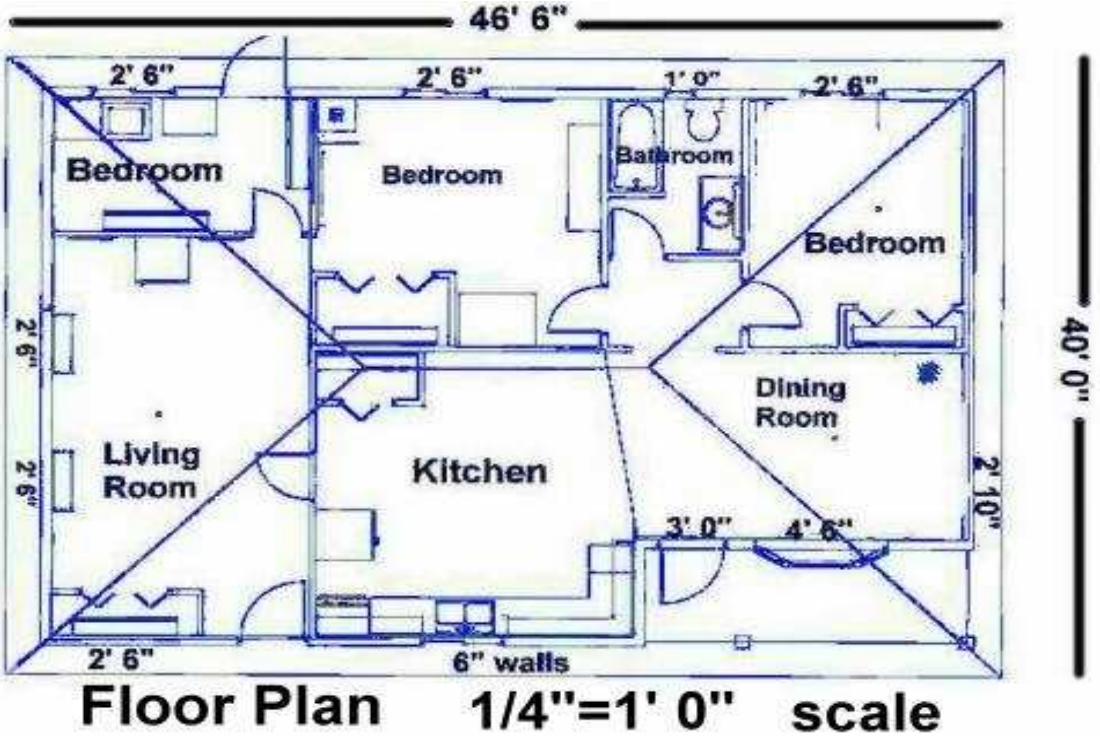
Here is an example of a foundation detail that might be requested from a building inspector.

Details like these are usually included in the foundation blueprint, but off to the side of the main foundation drawing.

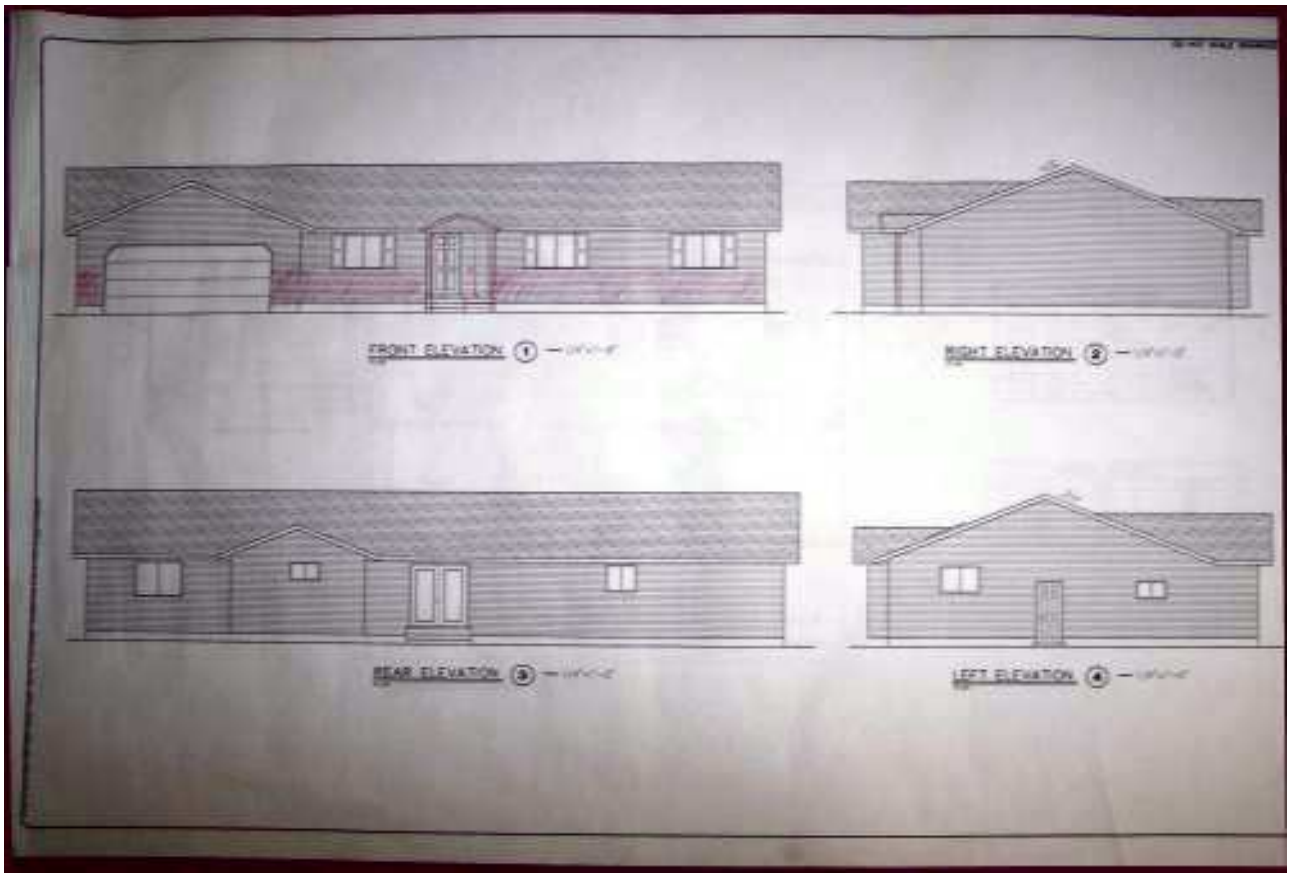
The floor plan is what most of us think of when we hear the word blueprints. It's the layout of the exterior and interior walls.

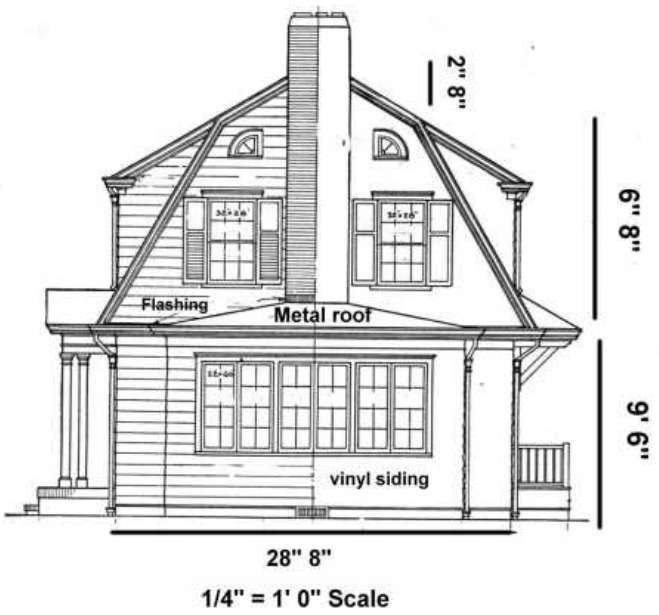


It includes the dimensions for walls, rooms doors, windows, stairs ceilings, floors and just about anything else that a building inspector requests.



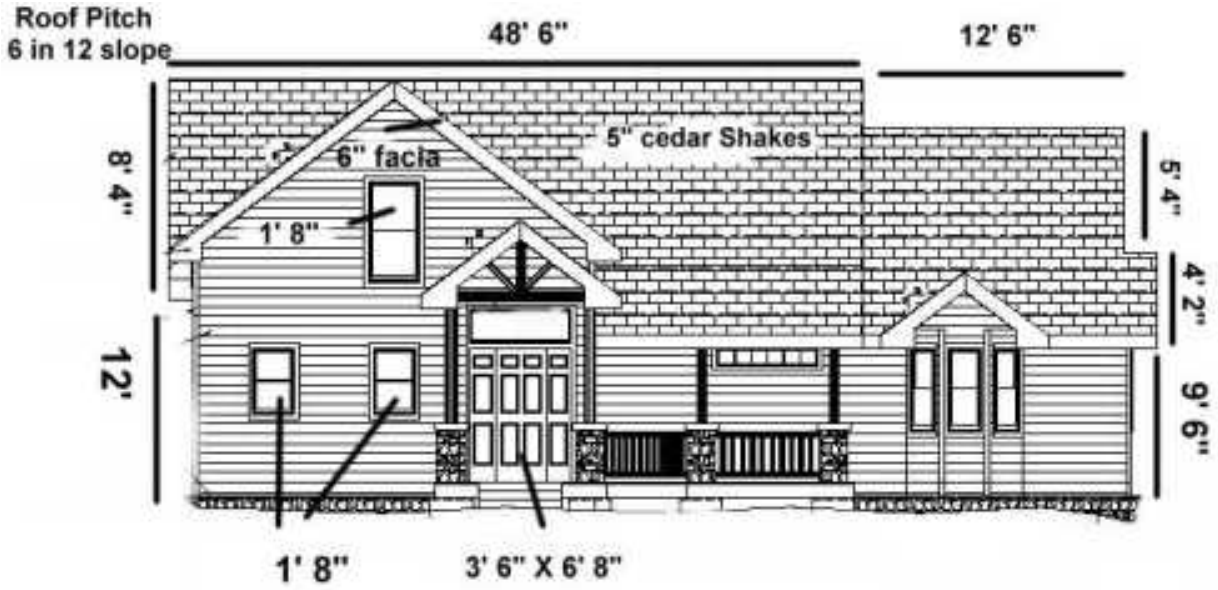
The elevations blueprints are commonly put on as the cover page of all the blueprints so that the contractors and inspectors can get an immediate feel of the overall appearance of the house.





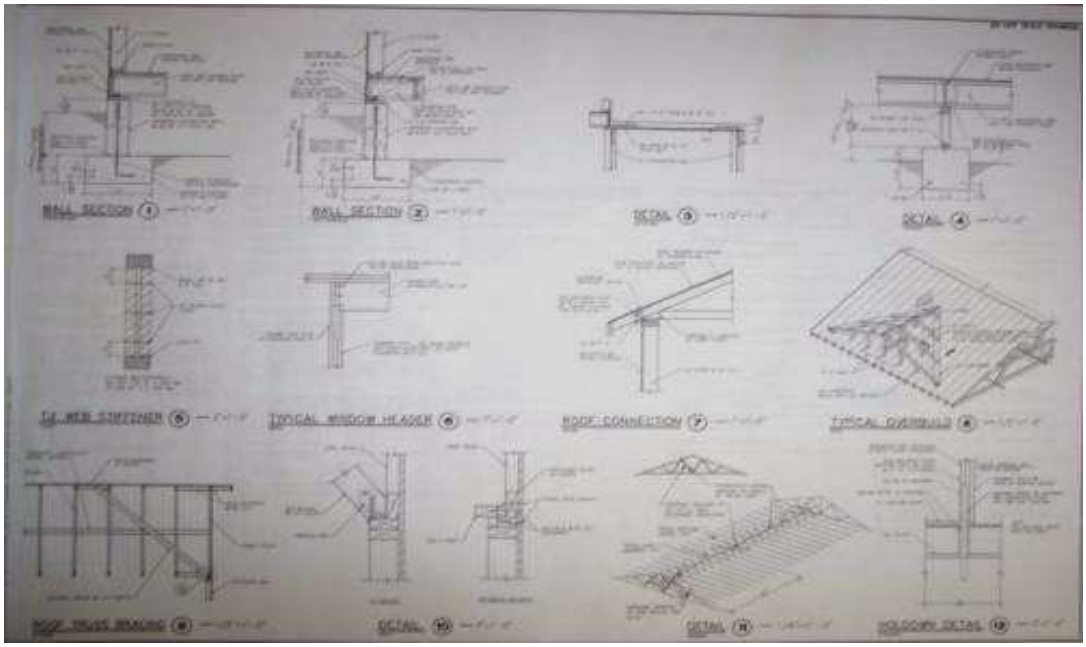
Side Elevation

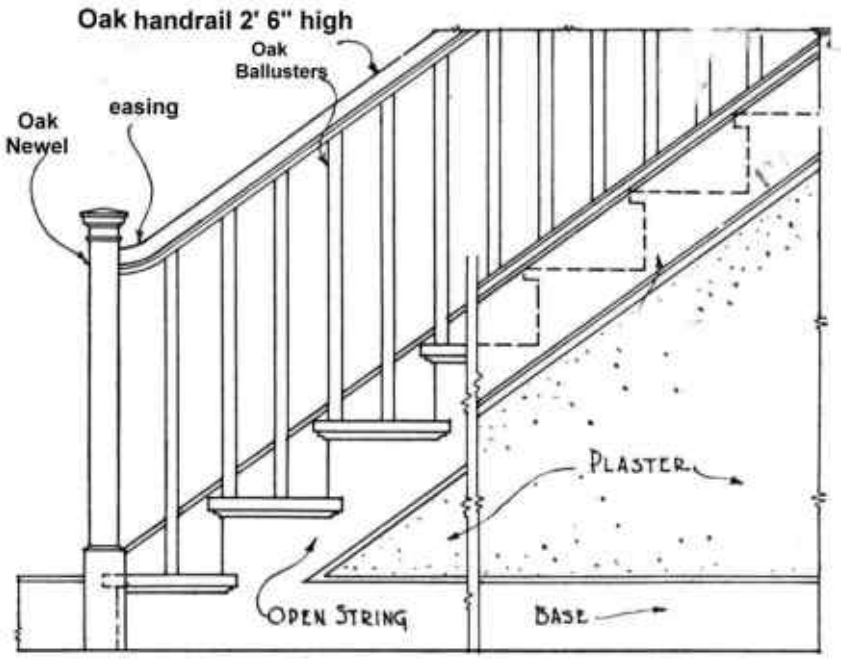
This part of the plans help the inspectors understand the height of the outside of the house. It also shows the shape and size of windows, doors, trim, roof material and slope, and anything else that can help describe the outside building designs of the house.



Front Elevation

The details are blueprint plans for some of the smaller things that have special instructions to build. This is more for the carpenters so they can get a good idea of what the architect has designed, but inspectors also like to know what's going on.

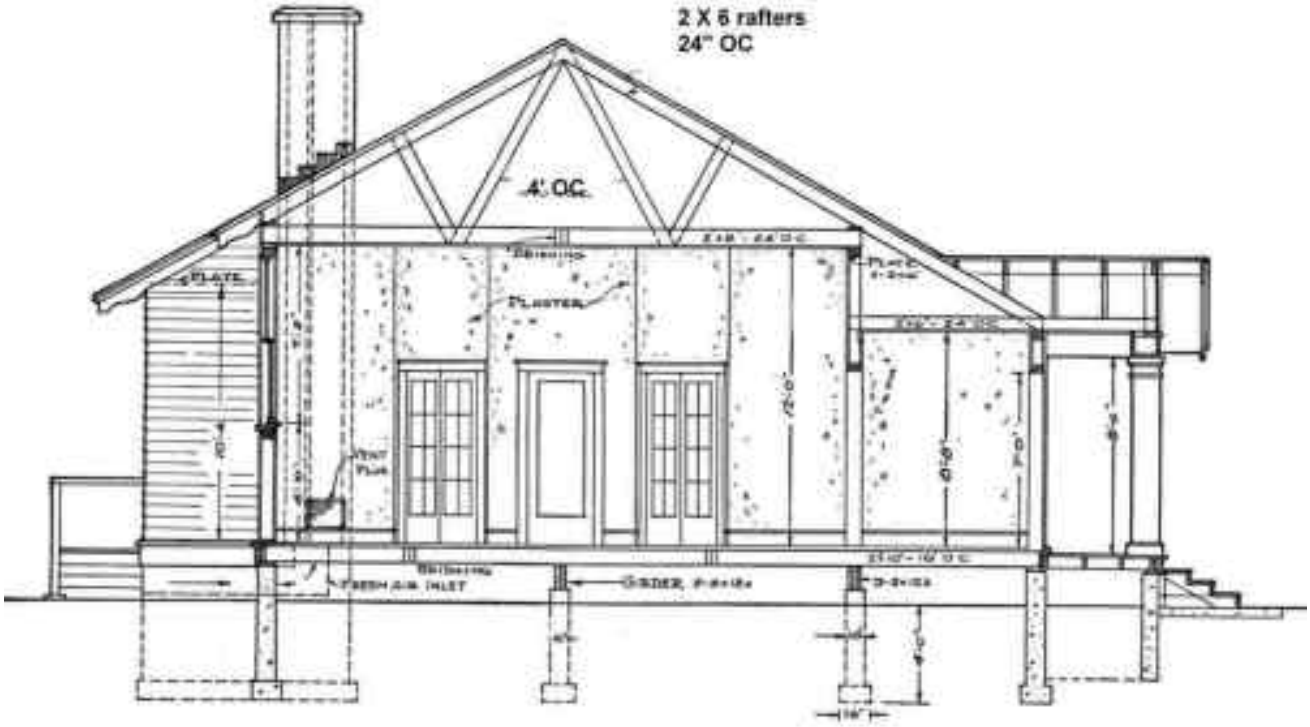




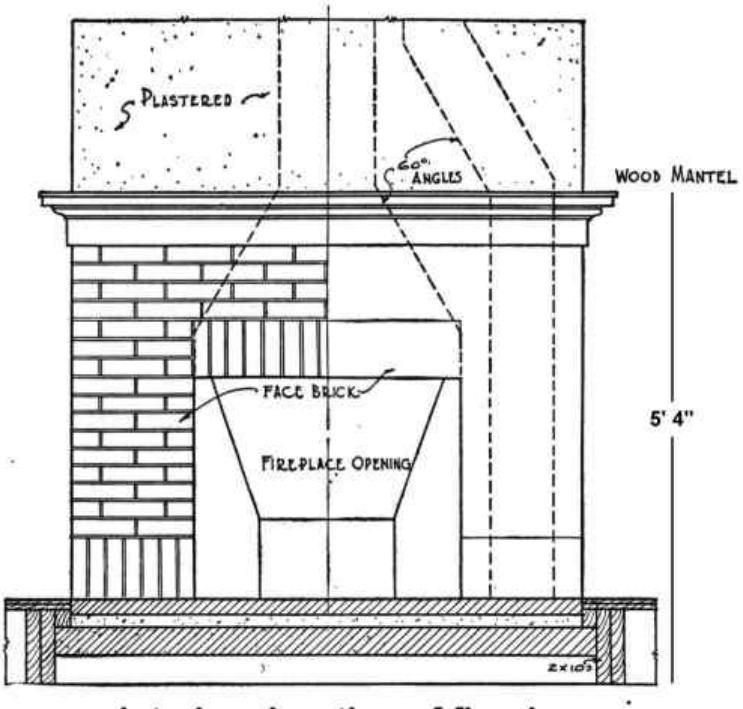
Detail view of stairs

Some of the details might include how a fireplace should look, stairs and handrails, molding and trim or just anything that is different from normal houses. The details sheet is part of the house-blueprints and is as many pages as needed.

The sections part of the blueprints show how the parts of a building fit together. Most of it is common sense, but sometimes walls, stairs, and things like fireplaces need a little extra explaining to get the clear picture. Like detail plans, the sections plans are more for the builder than the inspector, but they like to be kept in the loop. House-blueprints need to fit together seamlessly.



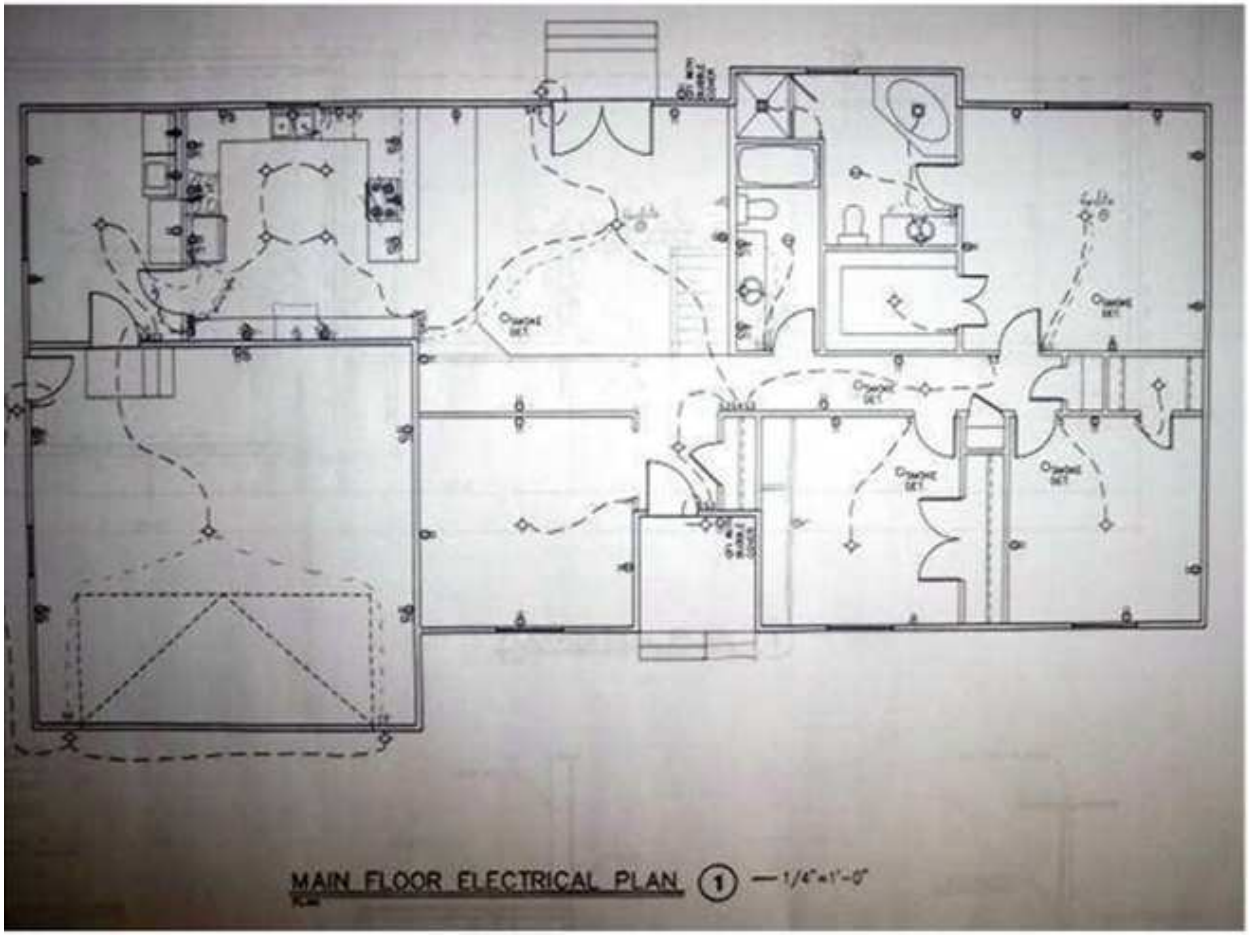
Sections View



Interior elevation of fireplace

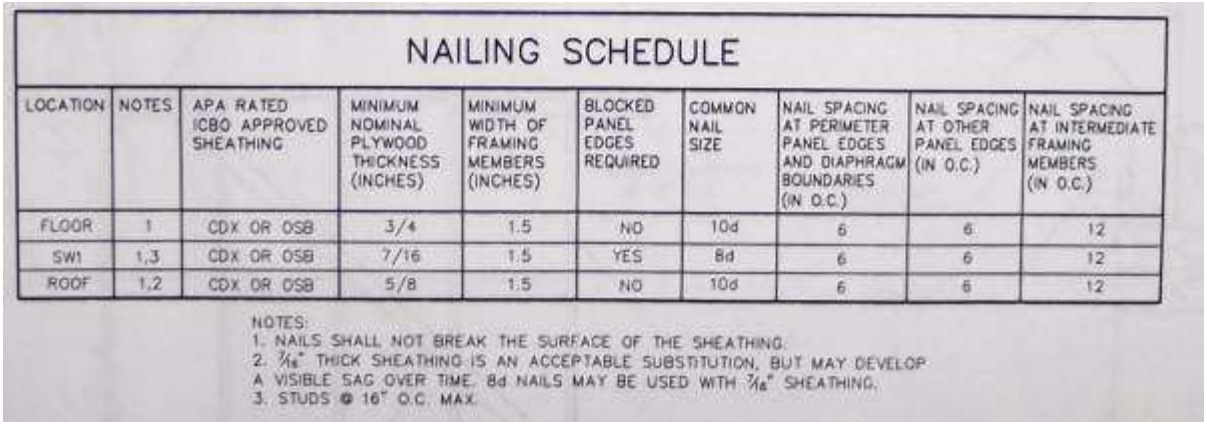
Interior elevations are the plans of the important interior items that need special consideration. The usual items are kitchens, bathrooms and fireplaces. Most house-blueprints will include specialty interior items like these.

Electrical plans will include all electric modules. This includes lights, switches, outlets, dedicated circuits, and 240-volt fixtures and appliances.



Electrical blueprints will be requested from the electrical inspector and the electrical contractors will also need to follow them closely.

There are also a few other items on the different blueprints that will be needed. Nailing schedules and spacing will indicate nail sizes and placement.

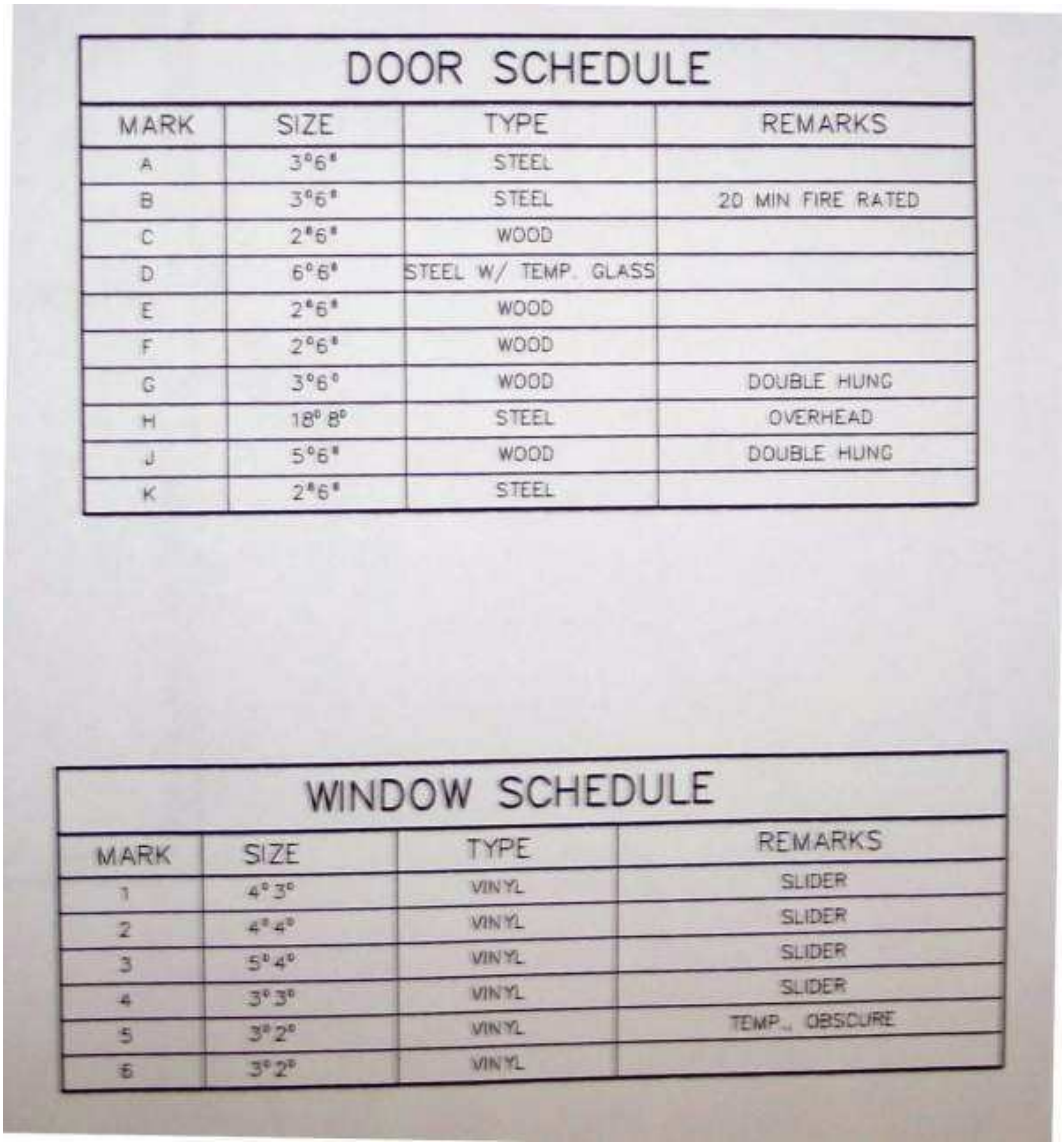


NAILING SCHEDULE

LOCATION	NOTES	APA RATED ICBO APPROVED SHEATHING	MINIMUM NOMINAL PLYWOOD THICKNESS (INCHES)	MINIMUM WIDTH OF FRAMING MEMBERS (INCHES)	BLOCKED PANEL EDGES REQUIRED	COMMON NAIL SIZE	NAIL SPACING AT PERIMETER PANEL EDGES AND DIAPHRAGM BOUNDARIES (IN O.C.)	NAIL SPACING AT OTHER PANEL EDGES (IN O.C.)	NAIL SPACING AT INTERMEDIATE FRAMING MEMBERS (IN O.C.)
FLOOR	1	CDX OR OSB	3/4	1.5	NO	10d	6	6	12
SW1	1,3	CDX OR OSB	7/16	1.5	YES	8d	6	6	12
ROOF	1,2	CDX OR OSB	5/8	1.5	NO	10d	6	6	12

NOTES:
1. NAILS SHALL NOT BREAK THE SURFACE OF THE SHEATHING.
2. 7/16" THICK SHEATHING IS AN ACCEPTABLE SUBSTITUTION, BUT MAY DEVELOP A VISIBLE SAG OVER TIME. 8d NAILS MAY BE USED WITH 7/16" SHEATHING.
3. STUDS @ 16" O.C. MAX.

There might be a need for window and door blueprint schedules. That describes the sizes and materials used for doors and windows.



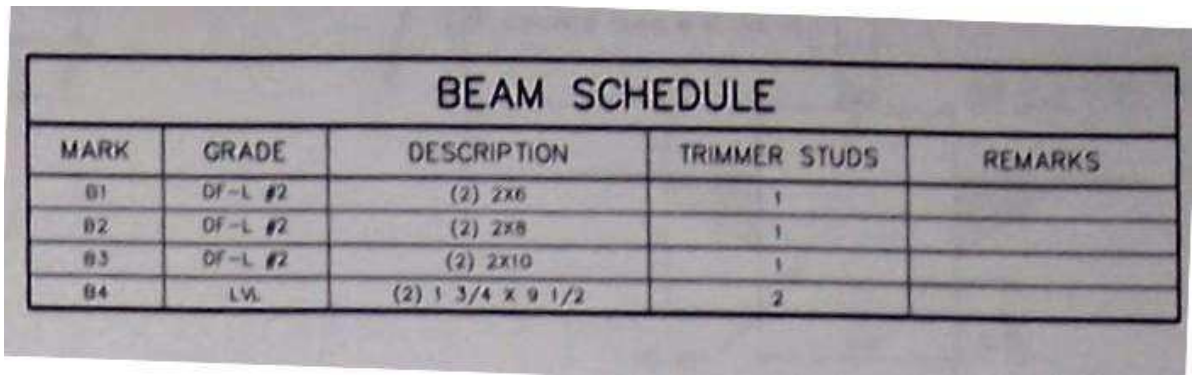
DOOR SCHEDULE

MARK	SIZE	TYPE	REMARKS
A	3°6"	STEEL	
B	3°6"	STEEL	20 MIN FIRE RATED
C	2"6"	WOOD	
D	6°6"	STEEL W/ TEMP. GLASS	
E	2"6"	WOOD	
F	2°6"	WOOD	
G	3°6°	WOOD	DOUBLE HUNG
H	18°8°	STEEL	OVERHEAD
J	5°6"	WOOD	DOUBLE HUNG
K	2"6"	STEEL	

WINDOW SCHEDULE

MARK	SIZE	TYPE	REMARKS
1	4°3°	VINYL	SLIDER
2	4°4°	VINYL	SLIDER
3	5°4°	VINYL	SLIDER
4	3°3°	VINYL	SLIDER
5	3°2°	VINYL	TEMP., OBSCURE
6	3°2°	VINYL	

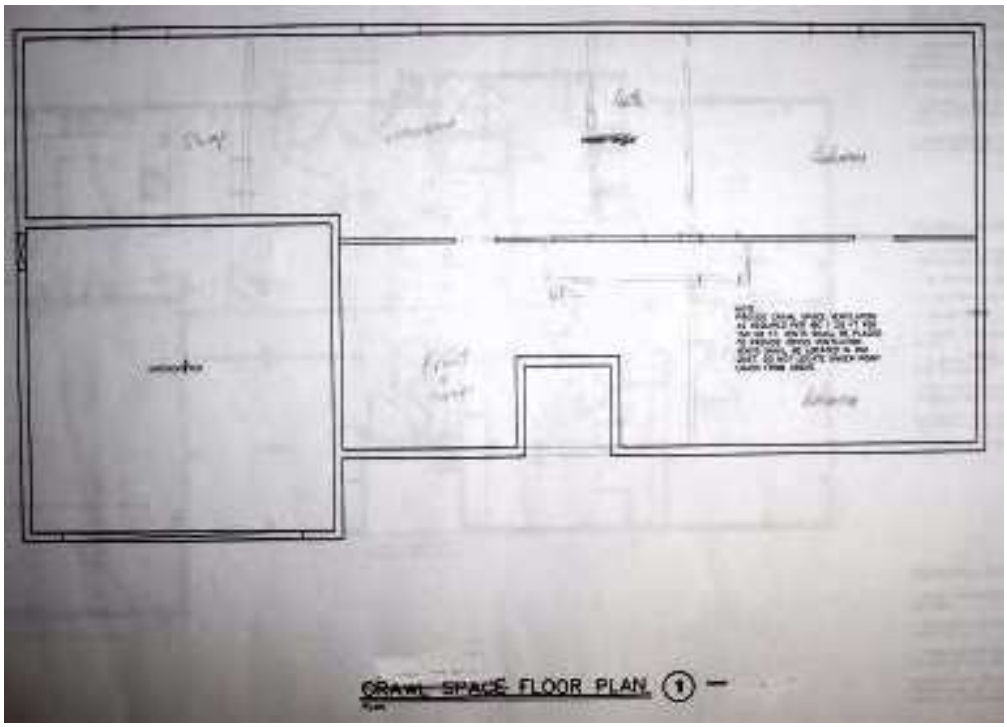
There might be a need for beam schedule information also.



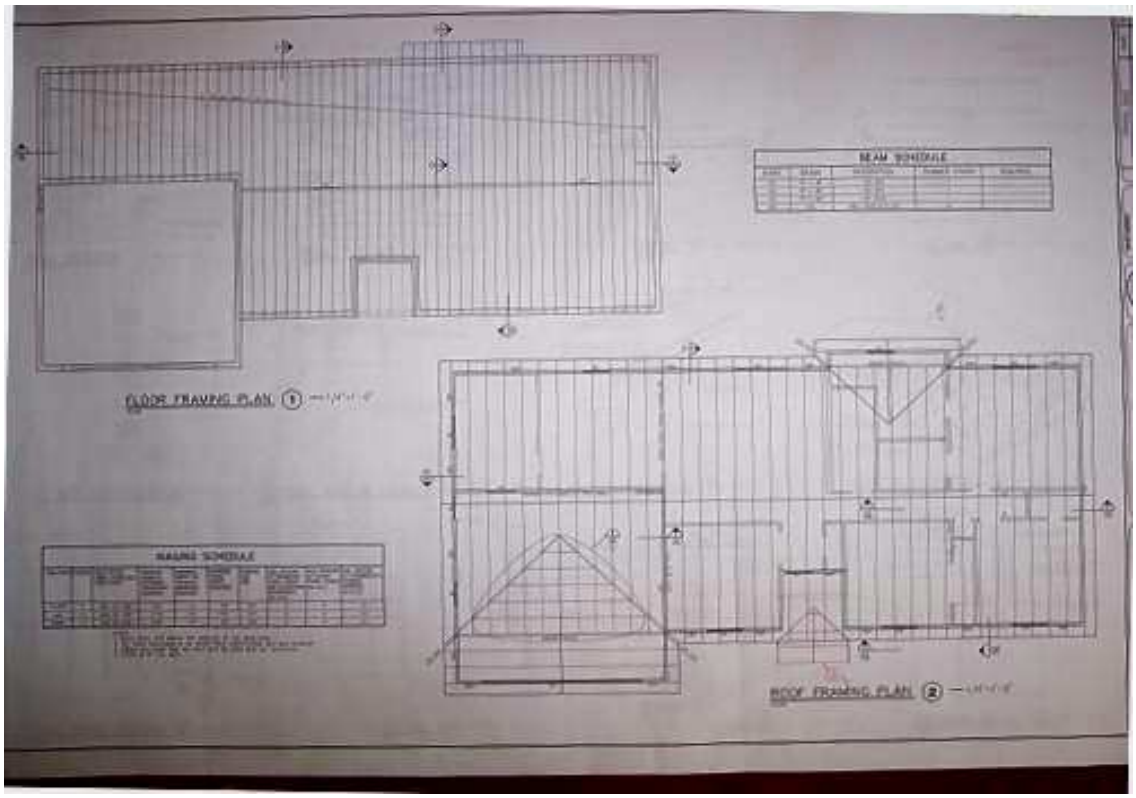
BEAM SCHEDULE

MARK	GRADE	DESCRIPTION	TRIMMER STUDS	REMARKS
B1	DF-L #2	(2) 2X6	1	
B2	DF-L #2	(2) 2X8	1	
B3	DF-L #2	(2) 2X10	1	
B4	LVL	(2) 1 3/4 X 9 1/2	2	

Some inspectors will want crawlspace plans which include the dimensions of the crawlspace. This will be especially necessary if the local codes require a certain height of crawlspace under a floor.



There may also be a requirement from the building inspector to show floor joist placement. This will have to comply with local building codes so that floors are made strong.



OK, that's it for making blueprints and blueprint requirements. As in many locations, the building inspector will require blueprints with an engineer's seal on them. This is what makes blueprints expensive. If you can get away with it, do your own.

Planning a house can be really fun, but also very intense. Try to enjoy the process and avoid getting in a hurry.