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PROFESSIONAL Kitchen Design ◆ ◆ ◆ ◆

By Murray Shaw

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CHAPTER 1
Kitchen Design Basics

When it comes to our homes, more is usually better than less. More space is better than less space. More bathrooms, more bedrooms, more lighting, more glass area, more decorative treatments, a more varied floor plan, more appliances and built-ins are all better than less. Of course, more of what makes a home desirable doesn't come cheap. The extra convenience and satisfaction costs more. Usually lots more.

And that's too bad. Because most of us in the construction industry don't have clients with unlimited resources. The people we build for have only so much money to spend. The homes we build and the kitchens we remodel can have only so much of what we consider desirable. The choices we make are usually compromises between what's possible and what's practical. If that's the kind of work you handle (or expect to handle), this book is full of good ideas for you and your clients. Here's why.

In the kitchen business, the limited resources don't prevent you from doing a good job. It's possible to design and build a budget kitchen that's every bit as functional, convenient, attractive and comfortable as a kitchen that costs several times as much. You just have to master the basics of good kitchen design. And that's the purpose of this book: to teach a very specialized skill – contemporary kitchen design.

Between the covers of this book I'll share with you what I've learned from a half century in the kitchen business. You'll discover very quickly that there's more to kitchen design than just grouping all the right appliances within easy reach. You'll learn to associate certain appliances with certain types of work area. You'll learn to plan for traffic flow, lighting, ventilation, comfort, view and aesthetics. You'll discover here a wealth of practical information and novel ideas you won't find in kitchen design books or the monthly homeowner magazines.

The Modern Kitchen

Today's kitchen is a far cry from those of years past when we washed dishes by hand and heated the water to do it on a wood- or coal-burning stove. Not many of today's homemakers remember the old-fashioned icebox and the mess it made when the drip pan overflowed. Modern appliances have changed the way we use

our kitchens. Most of the tedious work is now done for us automatically, leaving us time for other work or entertainment.

Built-in conventional, convection and microwave ovens, range tops, ranges and refrigerators have changed the appearance of the modern kitchen. You can recess small appliances into the walls or store them in appliance "garages," leaving counters free and uncluttered. Other appliances make waste disposal quick and nearly effortless.

But a kitchen loaded with appliances and labor-saving conveniences isn't necessarily a functional, convenient kitchen. I wrote this book to show you how to integrate kitchen equipment and furnishings into a practical, comfortable and beautiful part of any home.

It will be of particular interest to:

- *Kitchen remodelers* – Redesigning an inefficient, awkward kitchen into a model of modern convenience is probably the best test of any kitchen designer's skill. Doing it with the existing floor plan, on a budget and without evicting the owners from their home while construction is going on almost takes a magician. That's the type of magic I intend to teach.
- *Builders* – A well-planned kitchen can sell a house better than any other room. People are aware today of what is or isn't a functional kitchen. The first thing buyers look for is the location of the major appliances, and whether their positions make sense. Builders should be able to evaluate an architect's preliminary design and recommend changes when necessary.
- *Kitchen materials salespeople* – This book will help you and your staff advise clients about their kitchen equipment needs and layout.
- *Teachers in architectural schools and colleges* – You can supplement classroom training with practical, direct involvement with the most common kitchen design problems.
- *Architects* – Every home designer needs specialized training in kitchen design – not only style and structure, but function and arrangement as well.
- *Interior designers* – Designing a functional kitchen goes far beyond selecting cabinets, countertop material, appliances, and lighting fixtures. Arranging the parts of a kitchen is even more important. A designer who specializes in remodeling also has to know something about the building trades that relate to kitchen design and construction. Can this wall be taken out? How far can the sink be moved from its drain stub? What effect will changing the kitchen have on the home's electrical and plumbing systems? I'll answer those questions here.
- *Homeowners* – You'll get better results if you understand the principles of kitchen design, and can talk the same language as the professionals you hire and rely on.

Now that I've explained where this book is headed, let's get started. We'll begin with some simple rules for kitchen counters: five rules you can follow on every kitchen job you have.

Begin With the Counters

Here are the five basic kitchen design rules for counters:

- *Rule 1:* Counters on both sides of the sink.
- *Rule 2:* Counters on both sides of the range top.
- *Rule 3:* Counter on at least one side of a wall oven.
- *Rule 4:* Counter opposite hinges of the refrigerator.
- *Rule 5:* Counter opposite hinges of a pantry door.

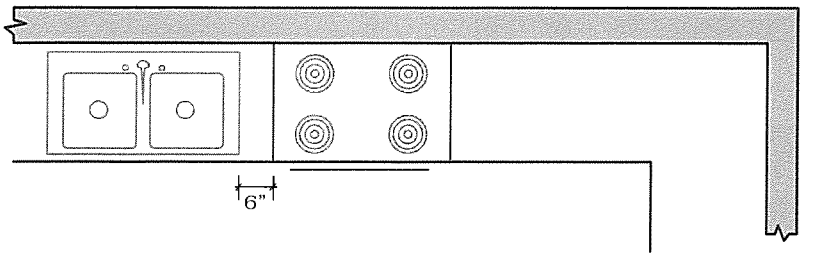
Basic Rule 1 - Counters by Sinks

Here's the most important of the five basic kitchen design rules: Always have ample counter space on both sides of the sink, even if it's in an island or peninsula. Allow at least 24 to 36 inches of space between the sink and a major cooking appliance. If the sink is next to the refrigerator or wall oven, provide at least 18 inches of countertop. An island sink requires a minimum of 24 inches of space on each side.

Most food preparation is done near the sink. Remember, the sink is also the primary clean-up area. Dirty dishes and utensils will usually accumulate beside the sink any time food is being prepared.

It's not practical to locate the sink at the end of a counter. Not only will it have counter space on just one side, but splashing and spill-overs become a nuisance, especially if water pressure is high.

A Before: A poorly arranged stove and sink



B After: Move the stove for better use of counter space

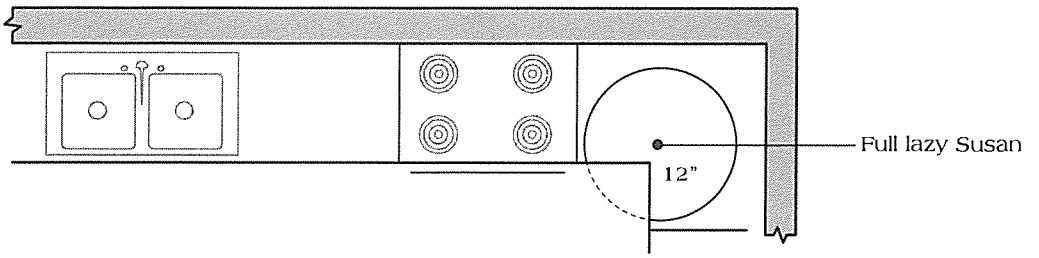


Figure 1-1
Planning counter space by the sink

In Figure 1-1 A, the designer placed the range too close to the sink, leaving barely 6 inches of counter space between the two. That's not even enough space for a pot or pan. Think about using the sink while cooking. Who wants soapsuds in their scrambled eggs?

With so much available counter space at the right of the range, there seems to be no logical reason for the arrangement. Figure 1-1 B shows a much better location for the range. There's also another reason to move the range. If you install it a minimum of 12 inches from the internal corner, there's room for a full lazy Susan (revolving) cabinet under the sink. This puts an otherwise useless dead end corner to good use.

The layout in Figure 1-2 shows about 18 inches of counter between the sink and the wall oven. Consider 18 inches the minimum for this situation. That's just enough room to set down a roasting pan when you take it from the oven. If the refrigerator was in that position instead of the wall oven, the space could be as little as 12 inches, but 18 inches would be better there too. Just be sure that in a situation like this one, the largest span of countertop is between the range or cooktop and the sink, because that's the main food preparation area.

Basic Rule 2 - Counters by Cooking Appliances

All ranges, whether they're freestanding, slip-in, drop-in, eye-level, or down-draft units, must have counters on both sides. Figure 1-3 A shows what happens if you don't follow that rule. Notice that the

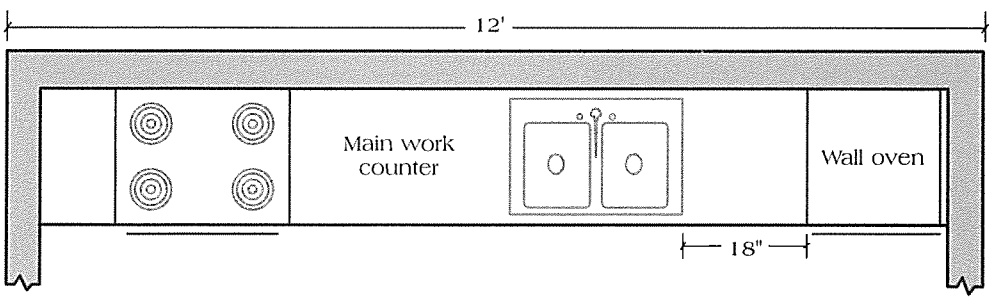


Figure 1-2
Leave at least 18 inches of countertop next to the wall oven

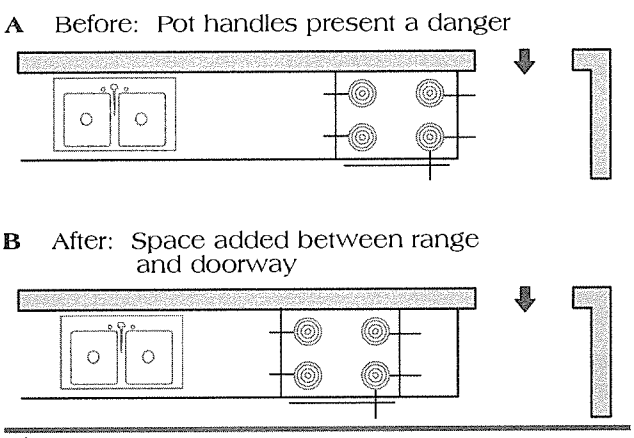


Figure 1-3
Planning counter space by the range

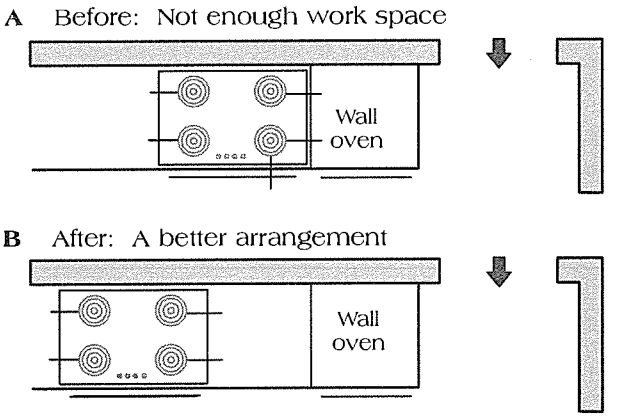


Figure 1-4
Planning counter space between the range and oven

range is at the end of the counter by the entrance to the kitchen. There are two mistakes here. First, this example breaks Rule 2; there's counter space on only one side of the range. That's a problem if you're cooking for a crowd. When you're using all four burners, you'll have to reach over a steaming pot to move something from an outside burner to the counter on the opposite side – a risky business.

There's another problem here, an even more serious one. If all four burners are in use, the pot handles nearest the doorway may stick out beyond the edge of the range top where they could be easily bumped, tipping the pan over. Figure 1-3 B shows a better arrangement. It's much more convenient. The danger from protruding handles is nearly eliminated if you install a cabinet between the entrance and the range, even if the cabinet is only 12 inches wide.

Don't place a cooktop directly next to a wall oven. Leave at least enough space so that the pot handles don't contact the oven cabinet as they do in Figure 1-4 A. And better yet, leave a space wide enough to hold a large baking or roasting pan. Figure 1-4 B is a much better layout.

Basic Rule 3 - Counter Next to the Wall Oven

A wall oven needs only one counter, and it's not important which side of the oven it's on. What is important is the location of the oven itself. Don't install it against a wall that defines the entrance to the kitchen, as in Figure 1-5 A. People can't get in and out of the kitchen when the oven door is open, such as when the cook is basting a roast or turkey.

Notice the room entrance in Figure 1-5 B. There's no problem getting around the oven door to enter or leave, even if someone is using the oven.

Basic Rule 4 - Counter by the Refrigerator

For convenience, the refrigerator door should swing away from adjacent counter space. That makes it easier to stock the refrigerator and keeps the electric bill down because the refrigerator door doesn't have to stay open so long. Be sure there's counter space on the side of the refrigerator opposite the hinges. Most

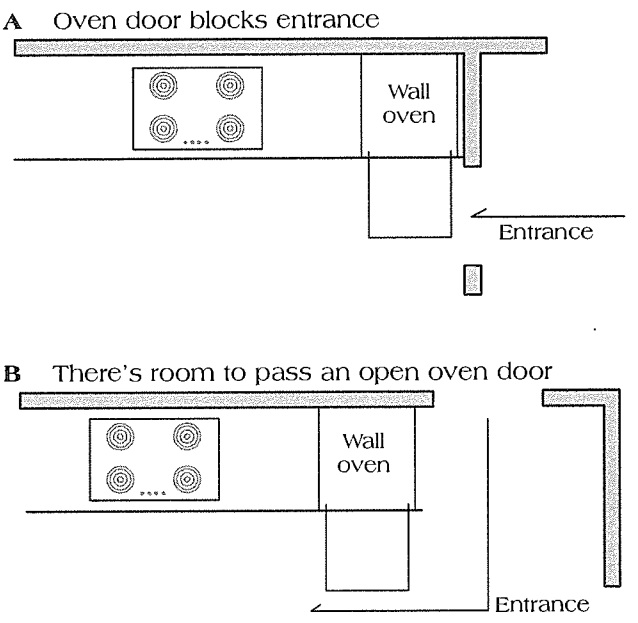


Figure 1-5
Planning counter space next to the oven

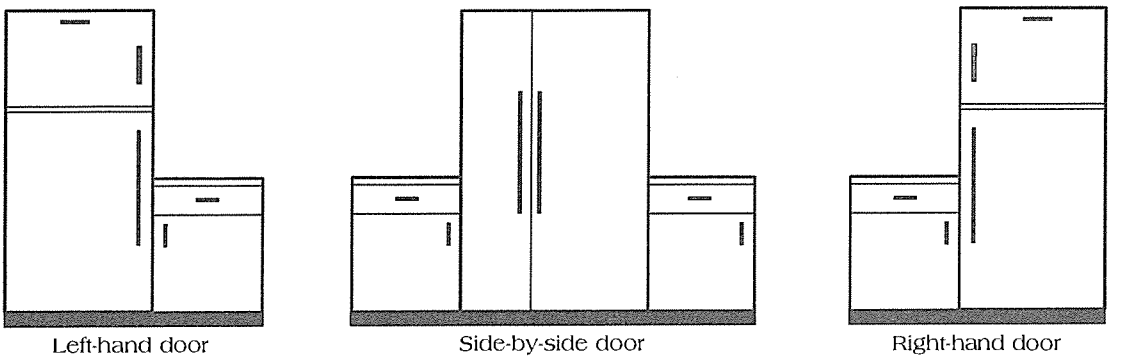


Figure 1-6
Planning counter placement for refrigerators

refrigerators come with hinges on the right side, but they are usually reversible.

Side-by-side refrigerators generally have the freezer section on the left side as you face it. Since you open the refrigerator section more frequently, it's more important to have counter space to the left. Figure 1-6 shows preferable counter locations for all three types of refrigerators.

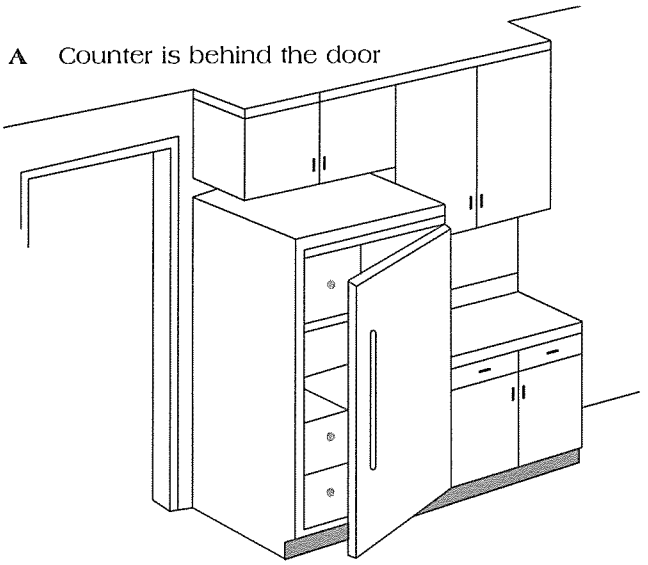
Figure 1-7 A is a classic example of a poorly-located refrigerator. You either have to walk around the door, or cross to the other side of the kitchen to set things down. Figure 1-7 B is a much better arrangement and uses the same amount of wall space.

Avoid installing a refrigerator in a niche unless there's counter space nearby. In Figure 1-8 A you see a refrigerator that's recessed into a wall, with an island opposite. In that case, make sure the space between the refrigerator and the island is greater than the width of the door. For example, if the refrigerator is 36 inches wide, the space must be at least that. But 39 to 42 inches is better.

Also, be careful when you install a refrigerator with its side against any wall. Some refrigerators with deep storage in the doors or storage that extends all the way to the bottom of the door have to be opened more than 90 degrees to remove shelves or drawers inside the box. You can see the problem in Figure 1-8 B. The niche or side wall must not extend past the refrigerator's hinges.

If the refrigerator door opens into a doorway, be sure the doorway is wider than the refrigerator door. Note Figure 1-8 C.

A Counter is behind the door



B Better refrigerator placement

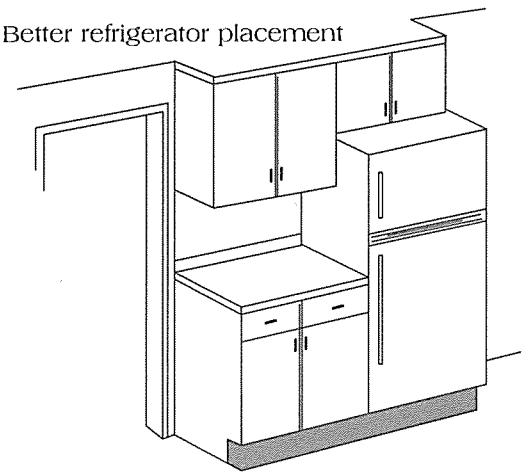
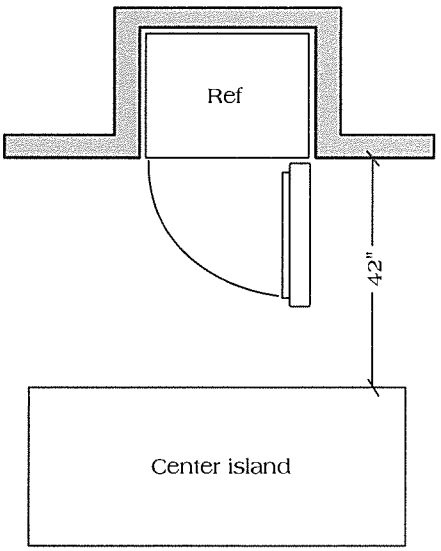
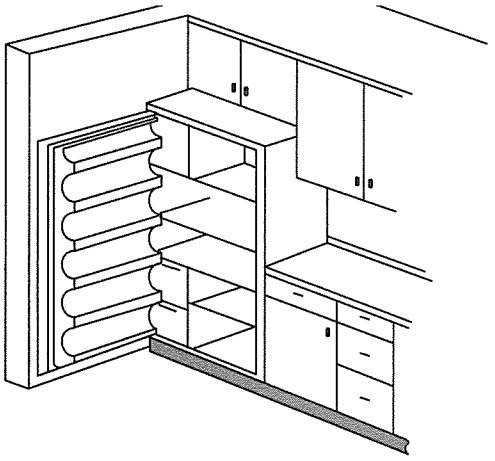


Figure 1-7
Make it convenient to use the refrigerator

A Leave enough space in front of the refrigerator



B Don't prevent the refrigerator door from opening past 90 degrees



C These doors swing clear

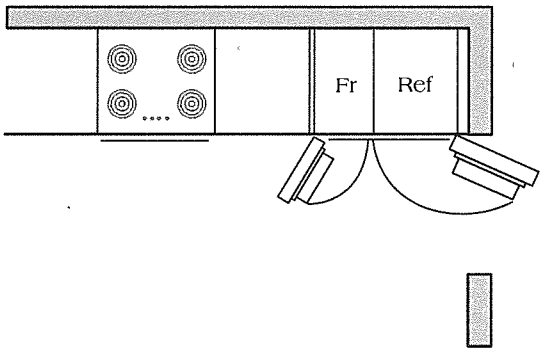


Figure 1-8
Allow space for the refrigerator door to open

Basic Rule 5 - Counter by the Pantry

If possible, find room for a pantry cabinet to store regularly-used non-perishable staple items in the kitchen itself. If you also have space for a pantry somewhere else such as the garage or utility room, use that one for storage of seldom-used items. No matter where you locate the pantry, nearby counter space is essential. The rules for placing the counter are the same as for the refrigerator – place the counter nearest the pantry door's opening. The user needs this space to sort, load and unload groceries.

If there's absolutely no room for traditional counter space, build it into the pantry itself. Install a pull-out shelf under a pantry shelf and 30 to 36 inches from the floor. The shelf that supports the pull-out shelf should be at least 15 inches deep. The other shelves can be only 12 inches deep.

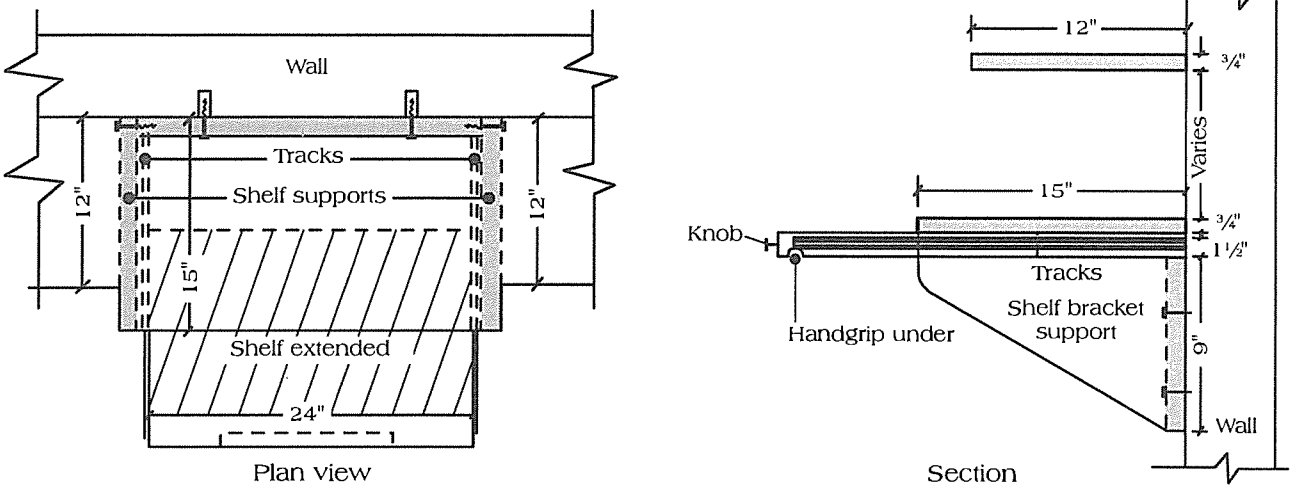
Make sure the 15-inch shelf is well supported, either with metal L brackets or a wood support. Note Figure 1-9. Then attach sturdy slides to side cleats or the shelf support, and to the shelf. Or you can use roller bearing supports sold by most hardware stores and building supply dealers. Acuride makes a 14-inch track for this purpose. Graffamerica and Blum also manufacture slide units that feature an automatic stop to prevent the sliding shelf from pulling out all the way. Fasten the entire assembly to the supporting wall with toggle bolts or expansion fasteners.

The Kitchen Design Triangle

Kitchen designers think of the major work stations in a kitchen as being arranged at the points of a triangle when seen in plan view. The sink is the apex of the triangle. The range or cooktop is at the second point of the triangle and the refrigerator is at the third. Of course, not just any triangle will do. There are good triangles and bad triangles. The precise location of the range and refrigerator and their distance from the sink and each other determine how convenient the kitchen is.

The best size for the perimeter of the triangle is about 21 feet or less. Figure 1-10 shows a triangle where the distance from the sink to the range is 6 feet 5 inches, and from the sink to the refrigerator is just over 8 feet. The range and the refrigerator are also about 8 feet apart. This triangle is larger than the recommended maximum. But the extra step it takes to get from the refrigerator to the sink is offset by the convenience of the extra-long counter next to the refrigerator.

A Shelf with metal bracket



B Shelf with wood support

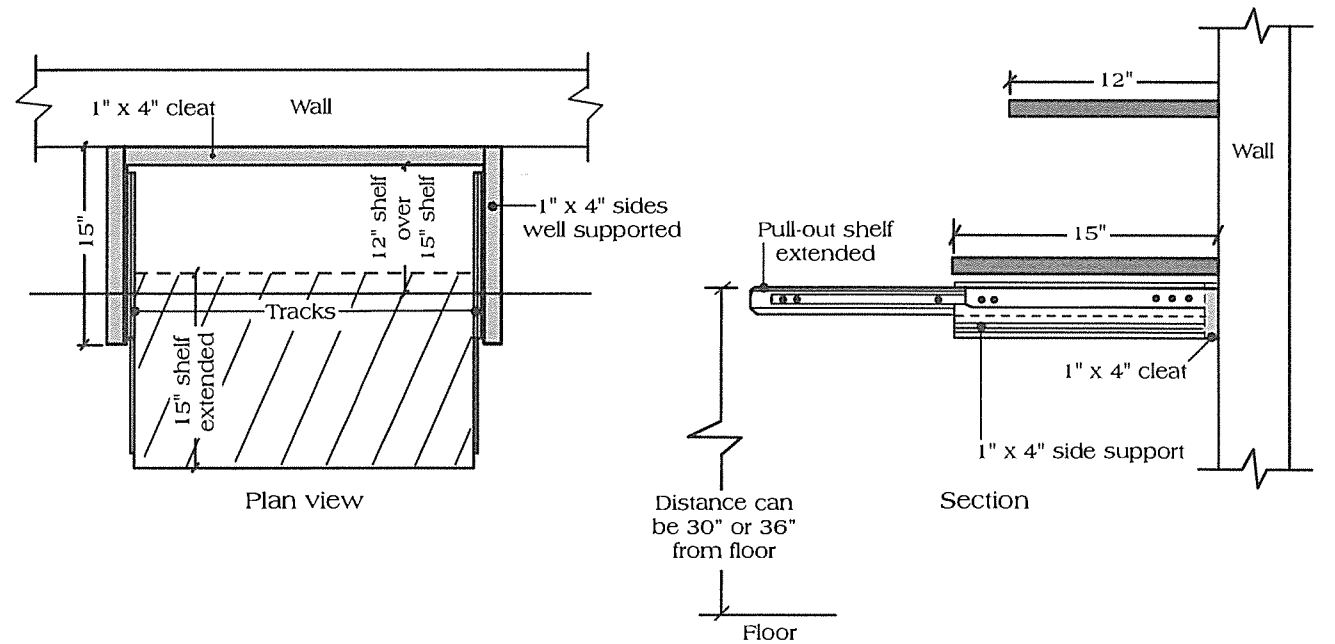


Figure 1-9
Pull-out shelf inside pantry cabinet

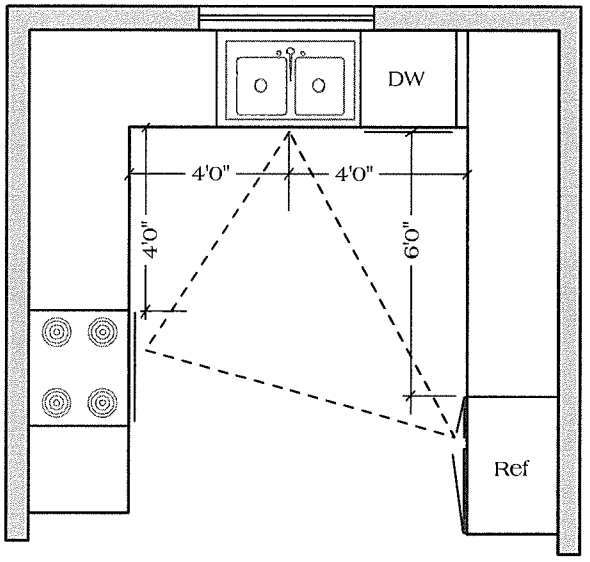


Figure 1-10
A well-proportioned work triangle

The triangle size is by no means inflexible. But it does give you a guide to follow. You don't want to design a kitchen where the user needs roller skates to move from one work area to another.

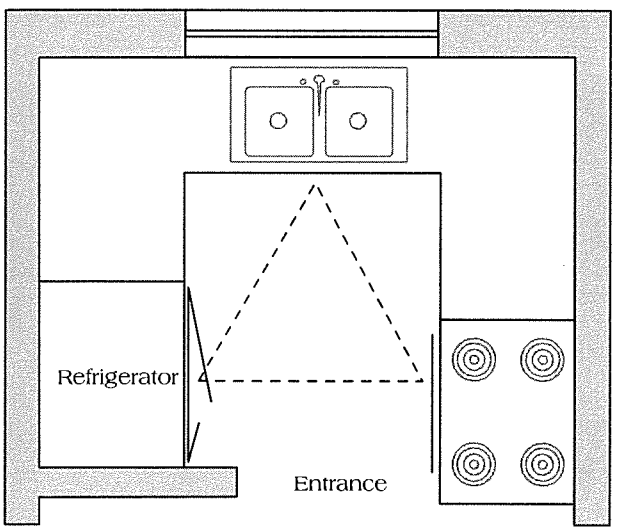
Figure 1-11 A looks OK at first glance. But study the drawing. Notice that the range and refrigerator are placed incorrectly. They disobey both Rules 2 and 4 for counters. There's counter space on just one side of the range top, and the side of the cooktop is in the entrance passageway. Also, the counter is on the wrong side of the refrigerator and the freezer door will hit the wall when it's fully open.

Now look at Figure 1-11 B. The triangle is the same size and shape, but this kitchen is functional. All the placement problems in Figure 1-11 A were solved by switching the positions of the range and refrigerator. The location of the range allows an 18-inch-wide base or drawer cabinet beside the range, and leaves counter space for both pairs of burners.

Notice when you switch appliances this way, you usually have to relocate the utility services. If there's not already an electrical outlet at the old range location, it's relatively easy to tap off a nearby existing outlet and run the wiring up to the ceiling, across, and down again between the studs. That provides power for the refrigerator.

Moving the range may be more of a problem. For an electric range, you might have to install a new circuit at the service box if there isn't already 220-volt service to the kitchen. For a gas range, you can probably run the line around the edge of the room behind the base cabinets. Or you can run it under the floor. In

A This triangle doesn't work



B Rearranging appliances solves the problem

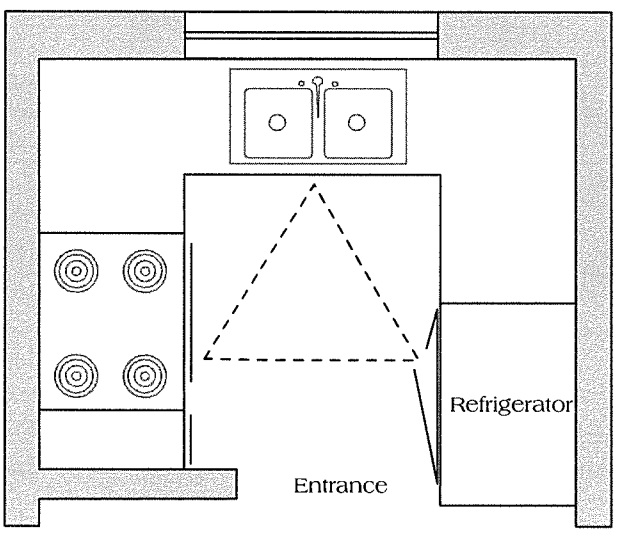
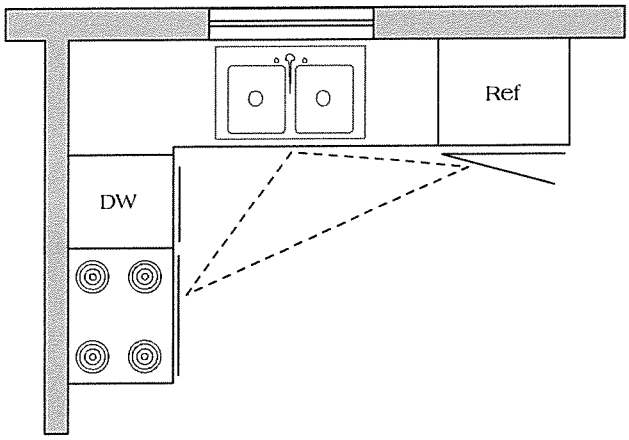
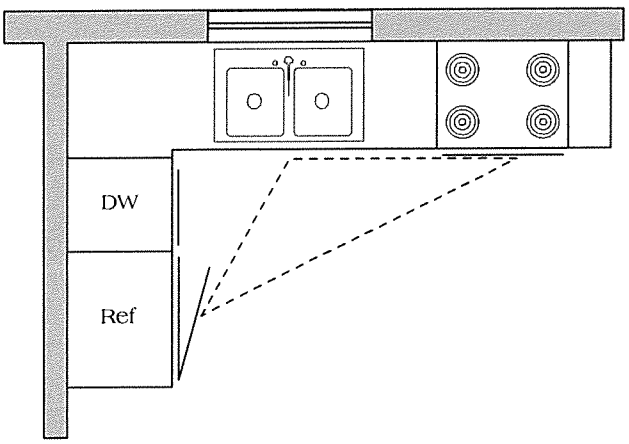


Figure 1-11
Consider both triangle size and appliance placement

A An inconvenient arrangement



B This variation works better



C This arrangement works best

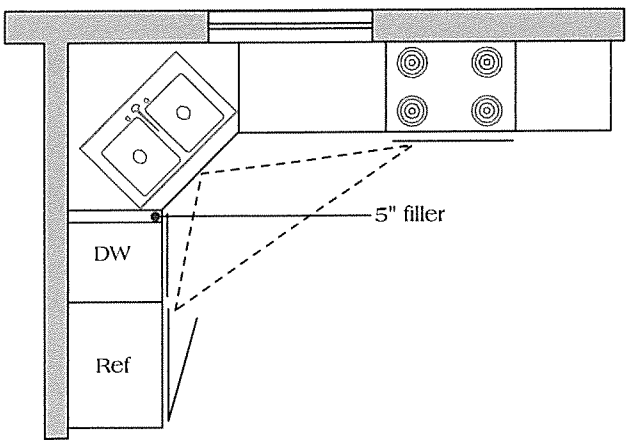


Figure 1-12
Finding the best arrangement for an L-shaped kitchen

either case, there must be an easily accessible shutoff valve so the range can be moved or serviced without cutting off gas service to the entire house.

In an L-shaped kitchen, two points of the triangle are often on the same wall. Note Figure 1-12 A. That's not the ideal solution and generally makes for an inconvenient kitchen layout. The range and refrigerator are both placed incorrectly and violate Rules 2 and 4 for counter space.

Figure 1-12 B shows a better way to arrange this kitchen. Now there's counter space on both sides of the range. Counter space over the dishwasher is handy to the refrigerator.

The arrangement in Figure 1-12 C is better yet. The sink is in what was a nearly useless corner in Figures 1-12 A and B. That creates more space for base cabinets. And the sink is still by the window. Notice that there's more counter space between the sink and the range. The 5-inch filler between the sink cabinet and the dishwasher allows enough standing room when the dishwasher door is open. Always use a filler in this situation. Never install the dishwasher flush with the angle to a corner sink.

Notice also that you can vent the range directly outdoors when you move it from an interior wall to an exterior wall.

The Triangle and a Center Island

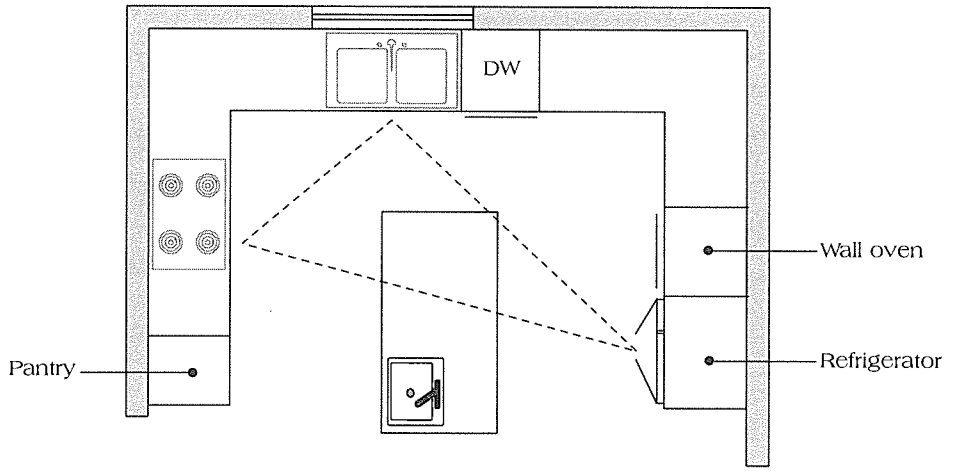
A large kitchen with an island presents more of a challenge to the designer. You must place the range or cooktop and the refrigerator logically, but not too far apart. Be especially careful to avoid having the island intrude into the work triangle.

It's possible to place the main sink in the island if the island is large enough, but it's more common to put a smaller secondary sink there.

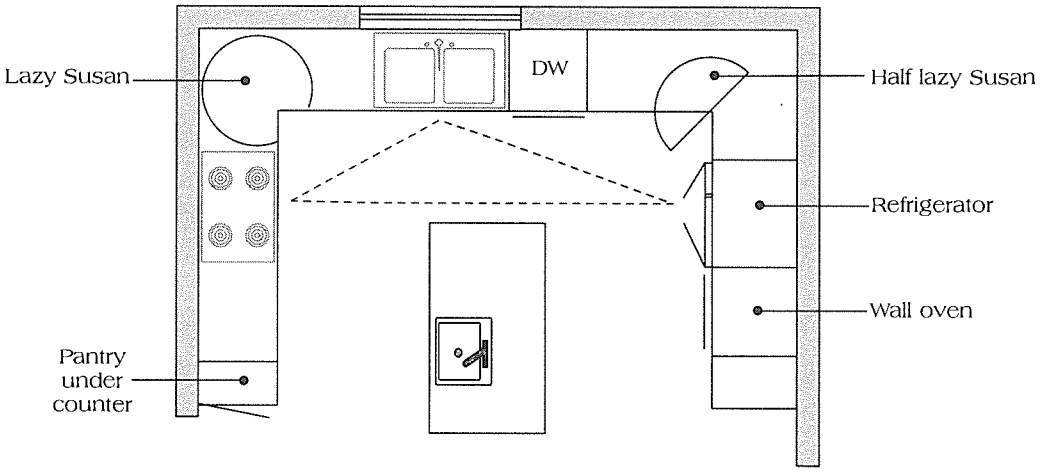
Note Figure 1-13 A. You'd have to walk around the island to get from the refrigerator to either the main sink or the cooktop, and there's no counter space next to the refrigerator. Both the wall oven and the refrigerator need adjacent counter space. But space beside the refrigerator is most important. In this arrangement, the small sink in the island is located at the end of the island. That violates Rule 1 which requires counter space on both sides of a sink.

There are two ways to solve this problem. In Figure 1-13 B the positions of the refrigerator and the wall oven are reversed so that each has counter space next to it. At one time it might have been foolish to place a refrigerator and an oven side by side. But

A Traffic is obstructed between main work areas



B Triangle isn't interrupted by the island



C Same space, better arrangement

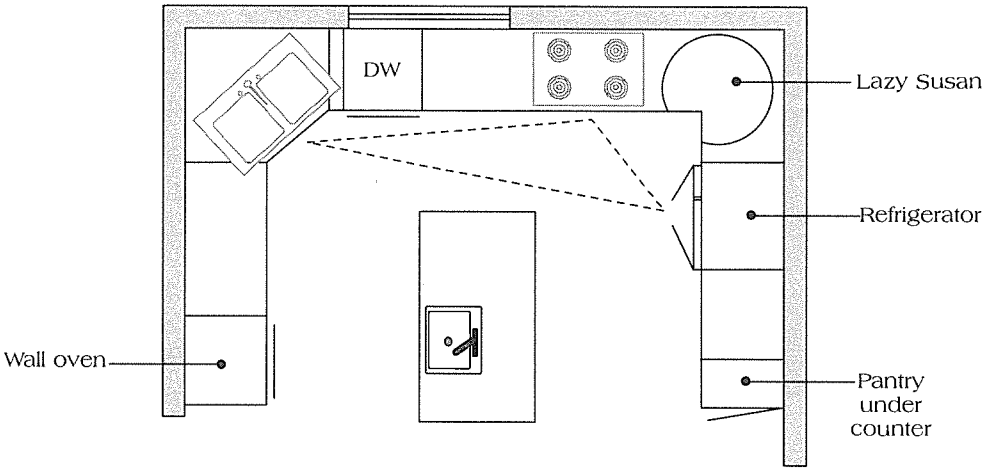


Figure 1-13
Make sure the island isn't in the traffic pattern

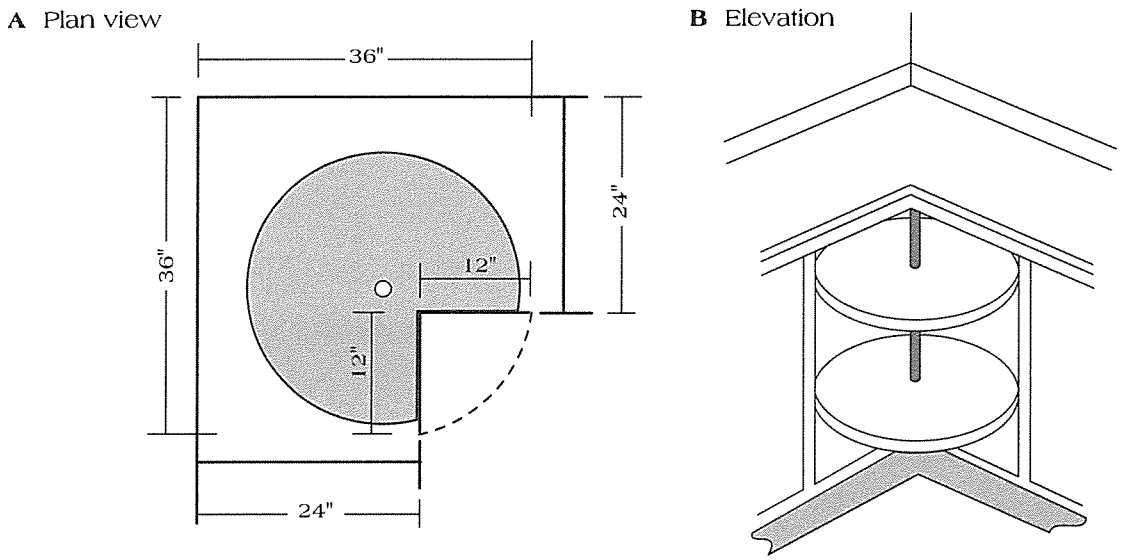


Figure 1-14
Full lazy Susan

modern ovens and refrigerators are exceptionally well insulated. Heat from the oven won't affect the refrigerator. Anyhow, the space between the oven and the surrounding cabinet offers extra insulation.

The lazy Susan cabinet makes good use of the dead corner in the base cabinet. Notice that we've moved the small sink away from the edge of the island. Now the island doesn't get in the way of the triangle. Here we haven't included the wall oven in the triangle. That's acceptable kitchen design. But be sure there's at least 15 inches of counter space adjacent to the wall oven.

It's possible to place the range top in the island. For an electric range, simply run the wiring under the floor or through a channel in the slab. A gas range presents some extra requirements. Most codes today require the plumbing to be enclosed in the floor, and the shutoff valve must be easily accessible in the cabinet beneath the range top.

The exhaust fan over an island range must have a higher drawing capacity than one next to a wall because there are more air currents to contend with. Use a fan that provides not less than 500 cubic feet of exchange per minute, and be sure there's an adequate air intake source.

You can also install a down-draft unit in an island. Check the manufacturer's specs and your local code for details about the proper size and installation method for the exhaust ducting.

Figure 1-13 C shows a different plan, but one that's equally functional. The corner sink offers the same advantages it did in Figure 1-12 C. The dead corners are both used, and the design follows all five of the basic rules for counters. (The island is opposite the hinges of the under-counter pantry.)

Bring Dead Corners to Life

The Full Lazy Susan

Make corner cabinet space useful with either half or full lazy Susan cabinets. Figure 1-14 shows a typical nuisance corner arrangement. To get at something at the back of an ordinary corner cabinet, you have to remove most of what's at the front of the cabinet. Then you have to replace everything you removed. And cleaning or lining that kind of cabinet shelf requires the agility of a contortionist.

The full lazy Susan requires 12 inches on each side of an internal corner. Manufactured units are made to those dimensions. You'll waste space if you allow any more. Figure 1-14 shows one type of full lazy Susan unit. The "doors" are attached to the shelves and aren't visible in the elevation drawing. You can't see the doors because they turn around a central shaft with the shelves.

Another type of lazy Susan has doors that aren't attached to the shelves. Instead, the two door sections

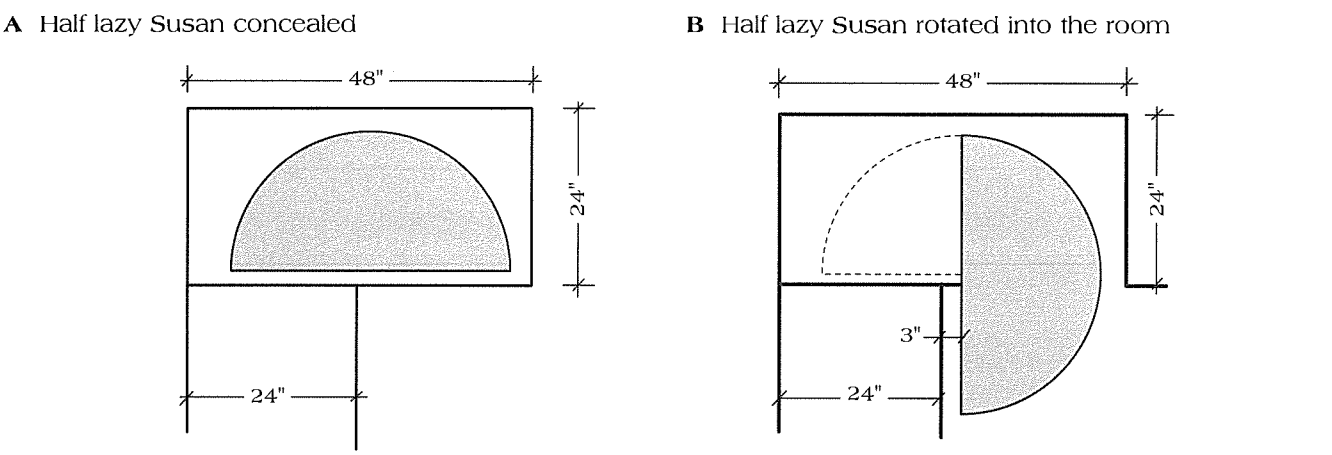


Figure 1-15
Half lazy Susan

are joined by hinges, and attached to one side of the opening with a piano hinge. Some lazy Susans rotate as a unit, while others allow you to rotate just one shelf at a time. Shelves are 8 to 10 inches apart, and in some cases, you can adjust the distance between them.

The Half Lazy Susan

The half lazy Susan provides about 2½ times more shelf space than the full lazy Susan, but it requires at least 24 inches of space from the internal corner on one side. Figure 1-15 A shows the unit when it's closed. Figure 1-15 B shows how the unit revolves into the room. These units are designed so they don't rotate past 90 degrees. So if you leave a 3-inch stile in the corner, the door handle won't strike the adjacent cabinet.

Figure 1-16 illustrates a half lazy Susan unit that pulls out of the cabinet so the entire half-round shelf extends into the room. The unit is supported by glides that let you pull it into the room once it's fully rotated to the open position.

Many cabinet manufacturers sell these units already installed in their base and wall cabinets. You can buy unassembled units through your builder's supply company and install them yourself. Feeny Manufacturing Company, P.O. Box 191, Muncie, IN 47308, is one manufacturer of cabinet accessories called "Cabineats" which include a variety of lazy Susans, bins, drawers, sliding shelves and space-saving storage units and hardware.

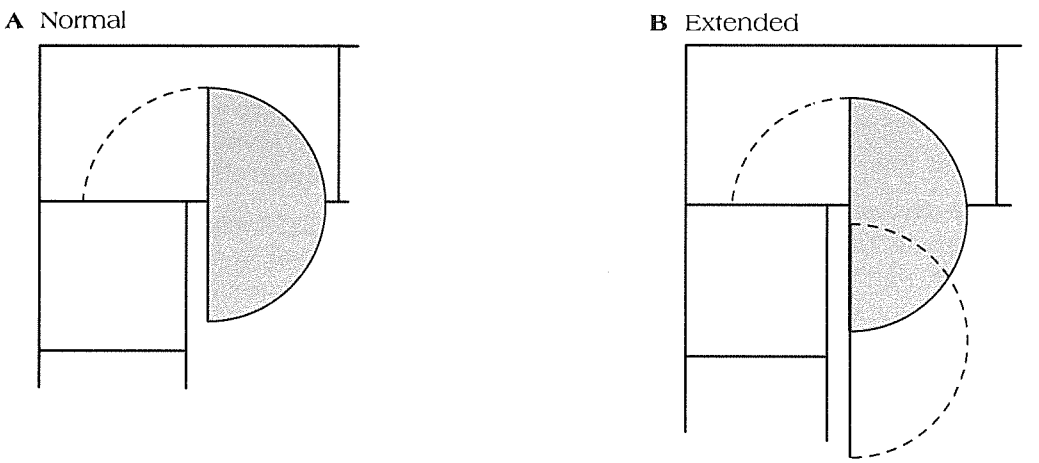


Figure 1-16
Half lazy Susan that extends fully into the room

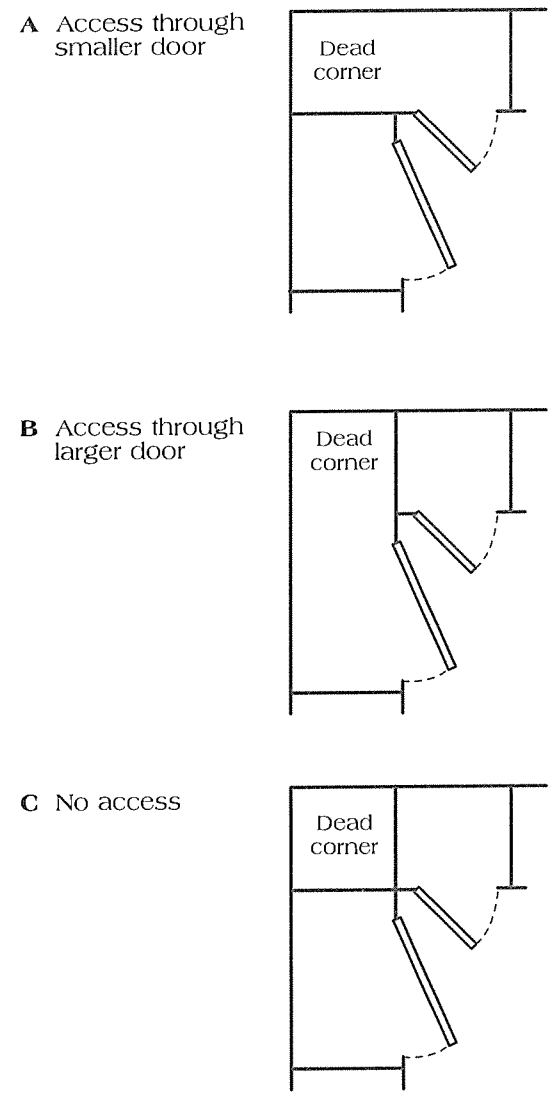


Figure 1-17
Three ways to handle dead corner space in upper cabinets

If you don't have at least 24 inches on one leg of the corner for a half lazy Susan, you'll have to use the full lazy Susan instead. But remember, in this case, you'll need 12 inches of free space on both sides of the corner.

Dead Corners in Upper Cabinets

Corner wall cabinets have the same accessibility problem that corner base cabinets have. But the problem isn't quite as serious because wall cabinets aren't normally as deep as base cabinets. There are several ways to design around the access problem in wall cabinets.

But the plan in Figure 1-17 A isn't one of the ways. Here, access to the dead corner is through the smaller of the two cabinet doors. Figure 1-17 B would make the corner a little easier to reach. In Figure 1-17 C, neither of the wall cabinets extends into the corner, so the corner area is blanked out. You'd have to fill the space at the bottom of this void by extending the base of one of the cabinets, or by inserting a separate piece of shelving.

Figures 1-18 A, B, and C show three layouts for corner wall cabinets. The cabinet in Figure 1-18 A isn't very practical for storing things you have to reach often. It's hard to reach into the back of this cabinet, especially the upper shelves.

Figure 1-18 B shows a stand-alone carousel that allows access. True, you sacrifice a substantial part of the total shelf area, but the corner is good for tall, thin objects such as a jug or jar. With the layout in Figure 1-18 C you also lose some shelf space, but the space that remains is usable and easy to reach.

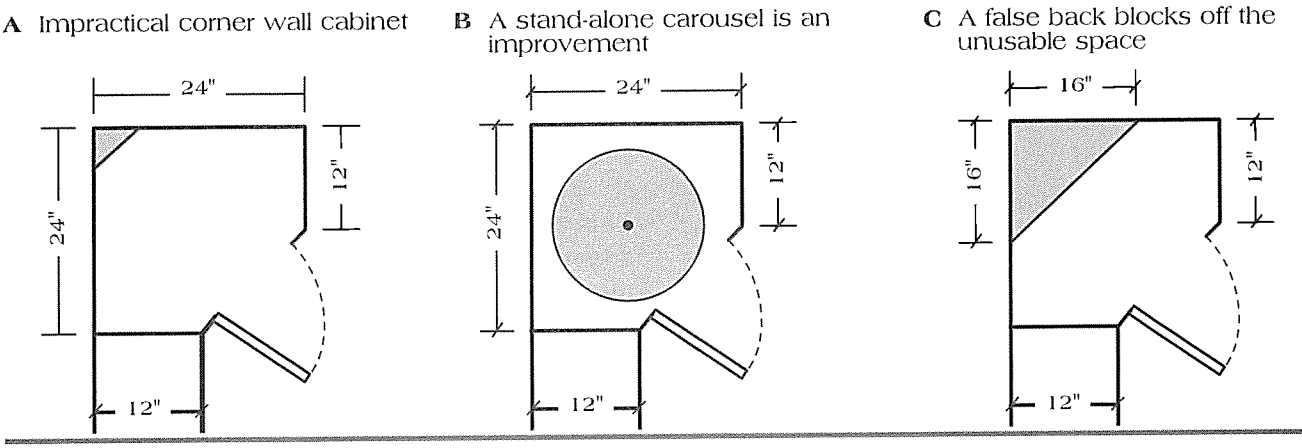


Figure 1-18
Three layouts for a corner wall cabinet

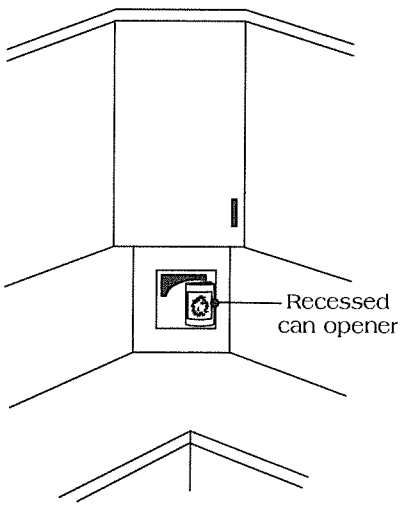


Figure 1-19
Use the dead space in a corner of the countertop

Extending the false back all the way down to the countertop provides room to recess a can opener, as shown in Figure 1-19. You could do the same thing under any of the cabinets in Figure 1-18.

Once I installed a wall safe in the space behind the cabinet in Figure 1-19 C. We put a touch-lock access door in the back of the cabinet to create an inconspicuous hiding place for small valuables.

Kitchens and Family Lifestyle

We've talked a lot about function so far, but when you design kitchens, you also have to consider the users' lifestyles. You'll have to be a guide, and sometimes the arbitrator as well. And where there are children involved, you'll have even more special needs and preferences to consider. Avoid designing the kitchen to meet your own requirements. Your job is to meet a clients' needs, not design around your own prejudices.

Learn as much as you can about your clients. How old are they? Do they have any physical limitations? Is there one major cook in the family, or do two or more family members use the kitchen at the same or different times? Do they want a seating-level counter or nook for quick meals?

Here are some more questions to ask:

- Which of the owner's present appliances will you reuse in the new kitchen design?
- What new appliances will you or the owners buy? Be sure you know the exact measurements of these appliances. Avoid surprises so the installer doesn't have to use fillers or alter any cabinets.
- Will the microwave oven be part of the wall oven or eye-level range, or a stand-alone?
- What kinds of small appliances do your clients use? Do they want them built into the wall or countertop? How much counter-level storage do they need for blenders, food processors, or mixers?
- Ask about special preferences for things like a spice drawer, wood or marble cutting board, wine rack, or display areas for fine china or stemware. Carefully consider the location of display cabinets and provide lighting if needed.
- Do your clients want a trash compactor, or would they prefer an inexpensive, energy-efficient, built-in trash bin finished to match the cabinets?
- Are there small children? Will the owners want a safe play area in or near the kitchen where they can keep a watchful eye on them while they cook? And do they need storage space for a high chair or other children's furniture?
- Should you arrange a place for a TV, radio, stereo or intercom? How about a desk with a shelf above for cookbooks? Where should the telephone go?
- Do your clients have a hobby they want to incorporate into their kitchen design? I once had a magazine gardening editor who wanted space in a small kitchen to show off and enjoy her plants and flowers. An inventive designer can find many suitable ways to meet that kind of challenge. One solution might be to install a garden window, a pop-out window containing shelves that extends beyond the wall of the building. Those are available in sizes to fit most window openings.

You can recess a planter box in the space behind a kitty-corner sink, or put one on top of a cabinet that doesn't reach all the way to the ceiling. If there's room, you might provide a floor-to-ceiling tension pole with brackets for potted plants, or hang them from hooks in the ceiling. You can also plan for display brackets, shelves, or niches to be built into masonry or conventional plaster walls. Your clients will appreciate any choices or alternatives you can suggest that will meet their special needs.

Client Preferences

I've noticed that my clients seem to have clear preferences about the location of their dishwashers that have nothing to do with whether they're right- or left-handed. If they've always had it on the right side of the sink, you'll probably have to arrange your design so it stays there. There's no use trying to convince them otherwise. It takes real diplomacy and persuasion to change a client's mind about something they feel very strongly about.

Some clients are partial to ideas that you might find unappealing. Once I had a client who insisted on having her dishes on open shelves so she could get at them without having to open doors, which of course made some sense. I tried to change her mind, explaining how dusty the dishes would get, but she was determined. So we built open shelves.

Occasionally, and I hope not often, you'll have a client who is picky about details to the point of being unreasonable. Learn to recognize that type at the beginning, or you'll have problems. I once placed a kitchen sink an inch off center of the window to make room for a lazy Susan in an otherwise useless corner. Most people wouldn't have even noticed. But this man did. He insisted that the sink be dead center before he'd make the next payment. There was nothing else to do but rework the waste line and make a new countertop to center the sink. That 1 inch cost me a bundle.

Be flexible enough to give your clients what they want, even if their wishes aren't entirely practical. For example, I've included island cabinets in kitchens that were too small simply because my clients demanded island cabinets. People who fancy themselves gourmet cooks seem to feel that work islands are essential, probably because gourmet cooks on TV always have work islands. And be sensitive to traditions. Some people's cooking habits are dictated by their religious or ethnic backgrounds – they may have special requirements for placement of the range top and oven, for example. In that case, be ready to bend the five Basic Rules a little.

When You Have to Move a Wall

If your kitchen redesign requires that you tear out a wall, you have to consider whether that wall supports the roof or upper floor. If there is an upstairs, and another wall is on top of the wall you want to move, it's almost certainly a loadbearing wall. In a single-story house, you have to go into the attic and examine the ceiling joists. If joists end at that wall, it's definitely a bearing wall. But often, the joists that span the wall in question extend on to rest on another wall. Is the wall in the middle helping support the joists? If you're not experienced in structural construction, you'd better consult with someone who is. One thing you don't want to do is mistake a loadbearing wall for a non-loadbearing one.

You can safely remove a non-loadbearing wall. But if you plan to remove a bearing wall, you have to provide support to take the place of the wall. Again, unless you're experienced in structural construction, you need the help of a professional.

Putting Your Ideas on Paper

Every kitchen design begins with a floor plan. Your plans have to be accurate scale drawings of what you propose. Otherwise you're likely to have some unpleasant surprises when work begins.

One way to make a scale drawing is to use graph paper, but that's not always the best way, especially if the room you're working with has angles that aren't square. Use an architect's scale rule instead. This isn't the same thing as an engineering scale rule. In an architect's rule, each major division (foot) is further divided into a multiple of 12 spaces to represent inches. An engineering scale, on the other hand, is divided decimally.

The Architect's Scale

The architect's rule has eleven scales. Two of the faces have two scales on each edge. The third face has two scales on one edge, and the #16 scale runs the full length of the other edge. The number at the end of each side of the rule shows the scale measurement. See the large number 1 at the left side of Figure 1-20. That indicates that the scale is 1 inch = 1 foot. The numbers 8, 7, and 6 refer to the number of ½ inch divisions, counting from the opposite end of the scale.

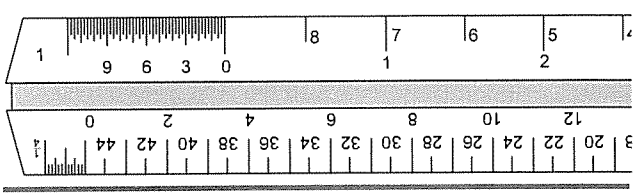


Figure 1-20
Architect's scale, with 1 inch = 1 foot scale at top left

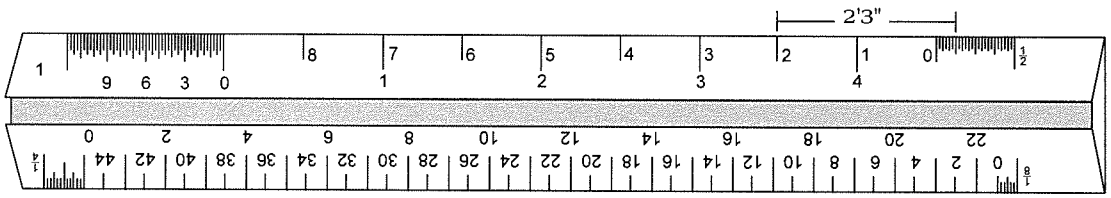


Figure 1-21
Transferring measurements using the 1/2 inch = 1 foot scale

If you want to transfer a measurement of 2 feet 3 inches to a sketch using the ½-inch scale, mark off the distance, as shown in Figure 1-21. Begin with the number 2 and measure back toward the 0, then beyond the 0 to the 3-inch mark. The resulting line is 2 feet 3 inches long, based on the ½ inch = 1 foot scale.

Taking Accurate Measurements

Here's how I measure a kitchen: Begin at the left end of the outside or window wall. Measure from left to right, from the corner to the first opening, whether that's a doorway or a window. Rule off a column along the right edge of a sheet of paper. At the top of the column, write "Wall A," and beneath that, write your first measurement. If the openings have trim around them, include the trim as part of the wall space, not part of the opening.

Now, measure the first opening, then the next wall space, and so on to the next corner. Draw a line, and then write the overall measurement for that wall, and label that measurement "O/A" so that later you won't think that's another wall or opening space.

When you change direction to a new wall, label that "Wall B." Continue around the room to your right, labeling each wall alphabetically, listing each wall space and opening as before. Later, when you transfer these measurements to your floor plan, you'll have all the information you need. Remember that mistakes can be very expensive.

When you lay out cabinets and counters on your plan, allow a clearance of ¼ inch to ½ inch from each wall. Walls are rarely perfectly square and plumb. It's easier to add a cover strip when you install cabinets than it is to cut them down to fit.

Figure 1-22 is a sketch and list of measurements from one of my kitchen jobs. Try to place your wall labels outside the plan area, and leave the inside for drawing your layout.

Use your sketch and list of measurements to draw the floor plan, or plan view, as shown in Figure 1-23. Section A shows both base and upper cabinets, while Section B shows base cabinets only.

Figure 1-24 contains elevation drawings of the same floor plan as Figure 1-23. The dotted lines on the floor plan labeled "Elev. (A)" and "Elev. (B)" match the same labels on the elevation drawings.

On the elevation drawings, the spaces marked with a large X are cross sections of the cabinets which appear on the elevations for the walls that join these. The horizontal lines across the cabinet sections indicate the number and location of the shelves inside.

When you prepare your drawings, leave space on the page for general notes. Number those notes, and then put the same number in a circle on the sketch itself, to show where each item goes. That's where you'd describe special items like a bread keeper, silverware or cutlery drawer, lazy Susan, or sliding shelves, if there isn't room for those labels on the sketch itself.

Symbols for Plan Drawings

Use common construction drawing symbols to give your plans a more professional appearance. People who work from your plans will appreciate anything you do to clarify what's expected of them. Figure 1-25 shows the following drawing symbols:

- Indicate windows with two horizontal lines, not one. Use the same symbol for all kinds of windows, and describe them with detail notes.
- Don't draw wall lines through doorways. Leave the space between the jambs clear.
- Show sliding patio (Arcadia) doors with two by-passing lines. When you show sliding doors this way, you must draw by-passing windows with two lines so they won't be mistaken for patio doors.

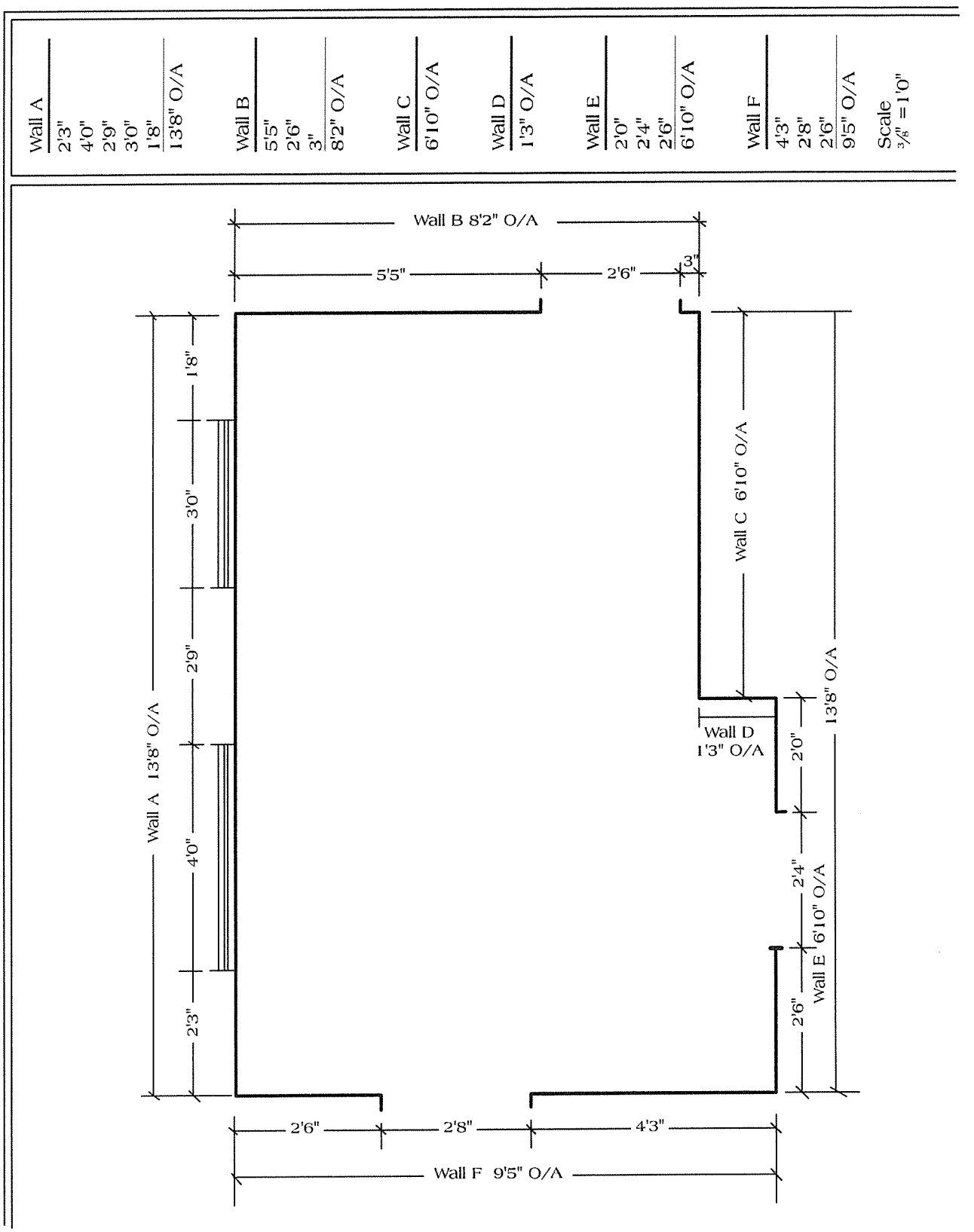
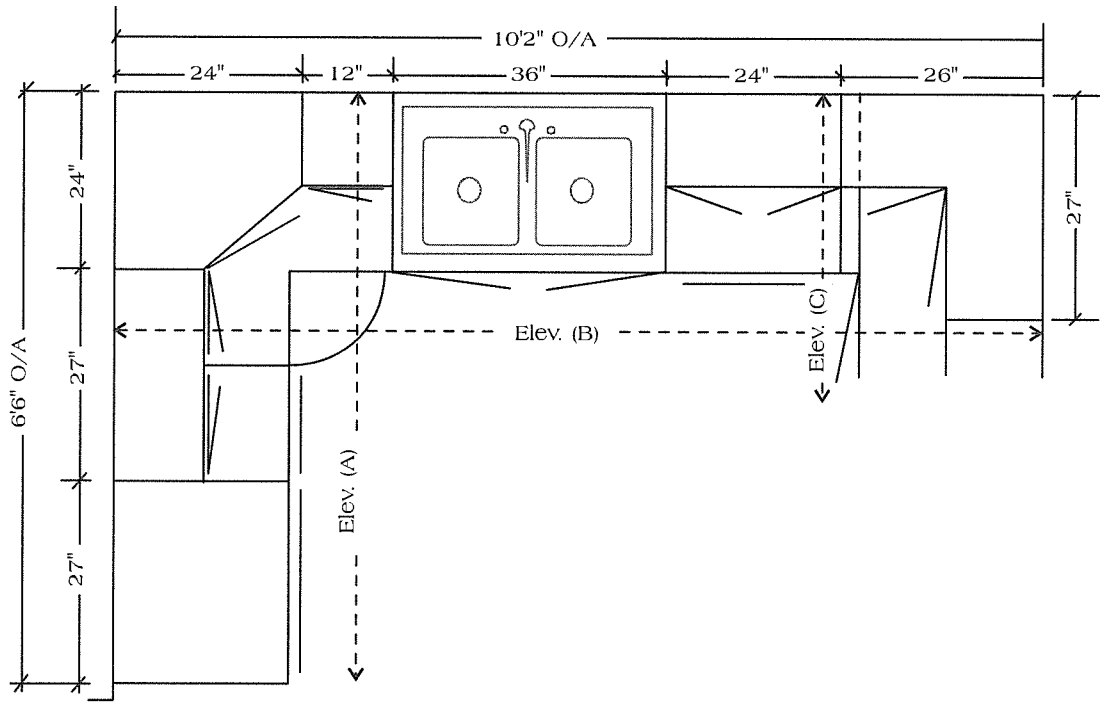
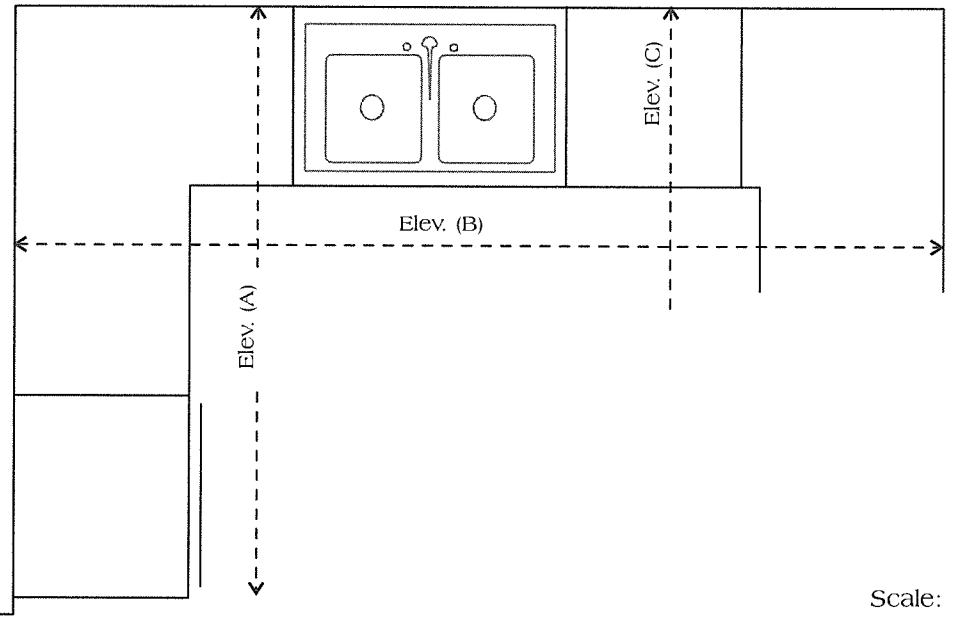


Figure 1-22
Room measurements and floor plan layout

A Plan view showing wall and base cabinets

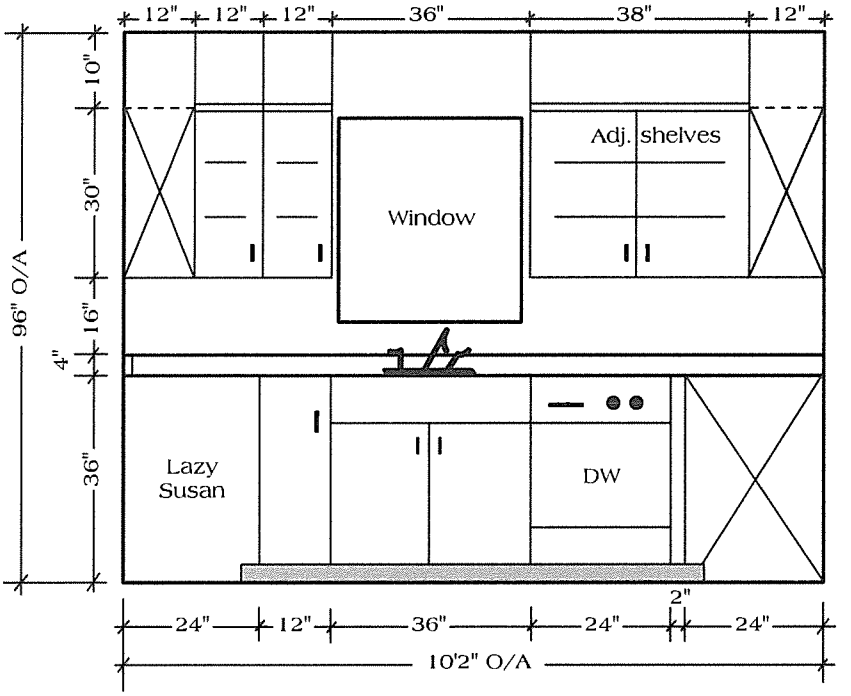


B Plan view showing only base cabinets

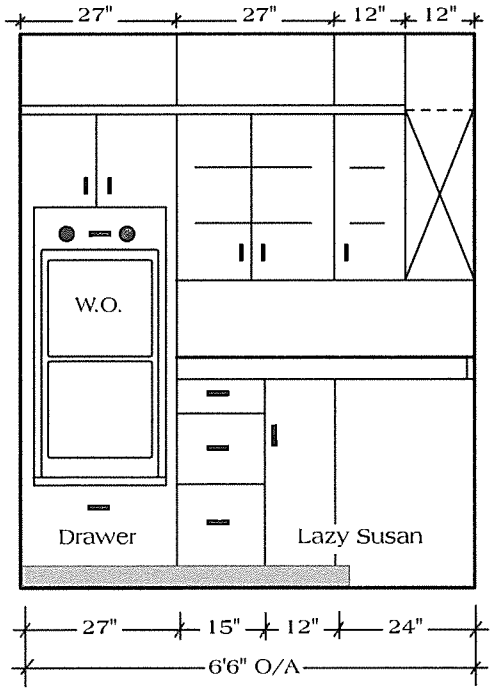


Scale: ½" = 1'0"

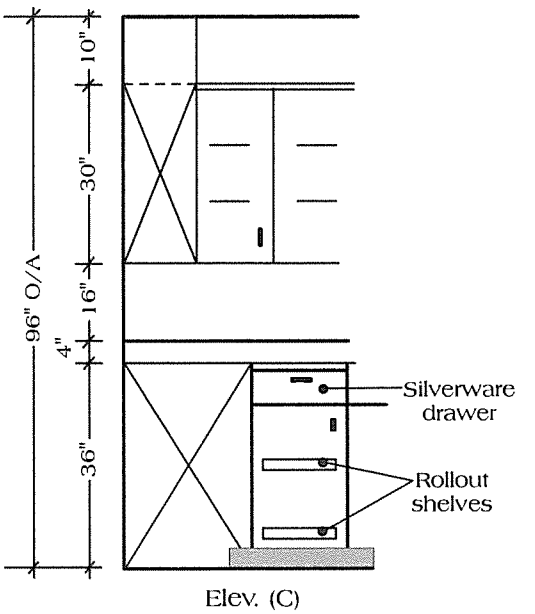
Figure 1-23
Typical plan views



Elev. (B)



Elev. (A)



Elev. (C)

Scale: 3/8" = 1'0"

Figure 1-24
Elevation views

- Show pocket doors as a double dashed line, and be sure the wall that will contain the open door is long enough to conceal it. Also, be certain that there aren't any electrical or plumbing runs inside the wall where you plan to install the door. Pipe and conduit can be moved, but only at extra expense.
- Dotted wall lines indicate wall area to be removed. Show walls to be added with a series of lines parallel to the wall face.

It's not my purpose to give you a basic course in drafting here. But if you're a designer working with a contractor, you must make sure the contractor knows exactly what you want done. Make plenty of notes on your drawings, and describe everything in complete detail.

In the chapters that follow, we'll discuss several different kitchen floor plans. I'll show you how to arrange the work triangle for each of them, and warn of the pitfalls common to each arrangement.

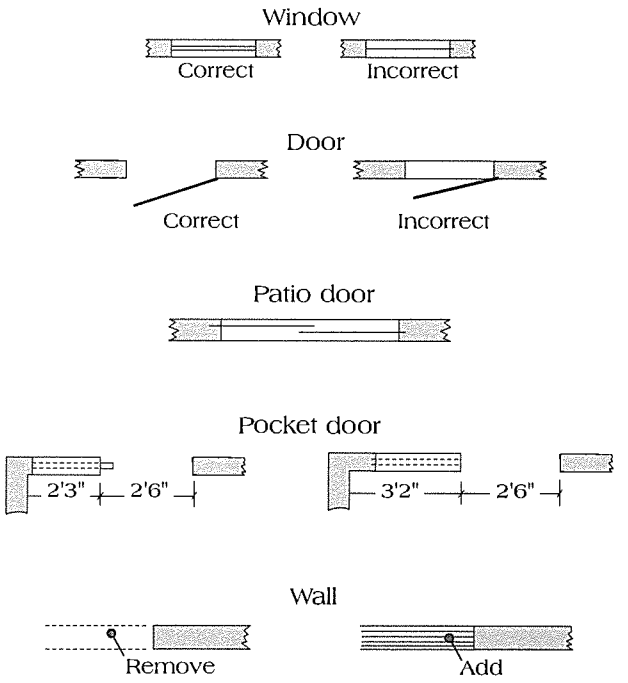


Figure 1-25
Building symbols

Test Questions for Chapter 1

1. When designing a kitchen, what should be your prime objective?

2. What are the five Basic Rules for counter placement?

3. What's the minimum counter space you should allow between the sink and a major cooking appliance?

4. Why should you never place the cooktop at the end of a counter?

5. Why is it important to have a pantry cabinet in the kitchen?

6. What can you do to make better use of hard-to-reach or dead corners so often found in kitchens?

7. Why is it important to know the lifestyle of your client before you begin planning the kitchen?

8. Why is it best to use an architect's scale, rather than an engineer's scale, when you're preparing scale drawings of your kitchen design?

9. Why is it helpful to have a correctly-measured room layout prepared before beginning to plan the kitchen?

10. Why should you know and use the standard construction symbols in any plans you draw?

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