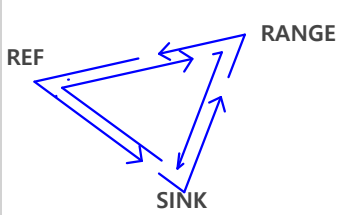
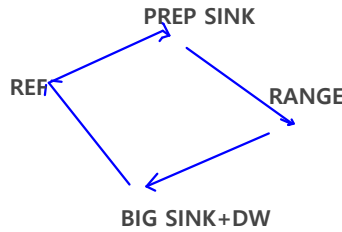


- d9.1 KITCHEN LAYOUT BASICS**
- d9.2 KITCHEN CABINETS BASICS**
- d9.3 COOKING APPLIANCES +TALL CABINETS**
- d9.4 SINKS+REFRIGERATORS**
- d9.5 ISLAND+BREAKFAST BAR**
- d9.6 EATING SPACES**
- d9.7 LIVING AREA BASICS**
- d9.8 FIREPLACE SURROUNDS-TV, BUILT-INS, WINDOWS**
- d9.9 FIREPLACE TYPES+FIREPLACE FLUES 1**
- d9.10 FIREPLACE TYPES+FIREPLACE FLUES 2**
- d9.11 LIVING SPACES- MISC OBSERVATIONS**
- d9.12 EXTERIOR LIVING SPACE LAYOUT BASICS 1**
- d9.13 EXTERIOR LIVING SPACE LAYOUT BASICS 2**
- d9.14 EXTERIOR LIVING SPACES ON GRADE+GRILL CONSIDERATIONS**



### THE TRIANGLE

\*Movement between these 3 primary kitchen functions is regular. Counter space on 1 side of each function is mandatory and counter space on both sides of the range and sink is highly desirable. The triangle check on any layout has pretty certain value.



### PLANNING PATH

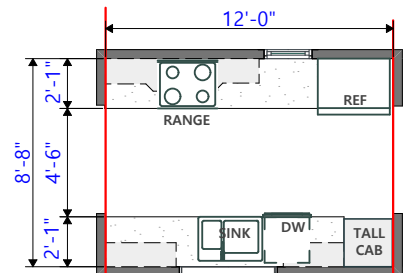
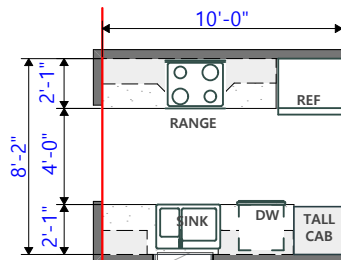
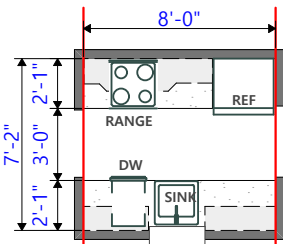
\*A variation of the triangle considers the process of getting the food, preparing the food, cooking the food, cleaning up, and returning items to the refrigerator. This process is frequent enough to use as a design check. More random movements in the kitchen are clearly also frequent.

### LAYOUT DESIGNS

\*Kitchen layouts are not design problems unto themselves. They need to fit into and work with a home design that is attempting to solve bigger problems. These vignettes below are not intended to be self contained designs but tools for design thinking.

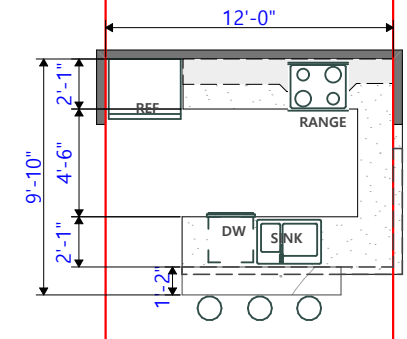
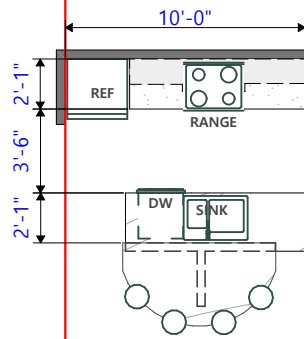
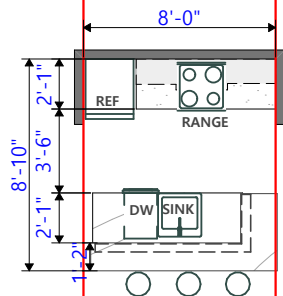
### GALLEY KITCHEN

\*2 opposing walls and counter lines with work/walk space between. Space efficient because of the walls and limited work/walk space. Can be claustrophobic spatially and not well suited to working partners or guests. Larger galley spaces may allow exterior or interior windows to lighten/brighten space.



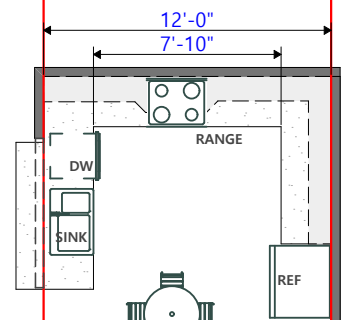
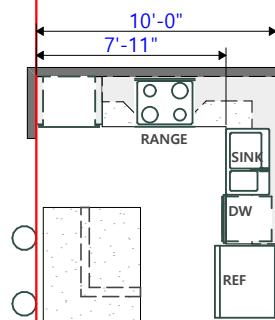
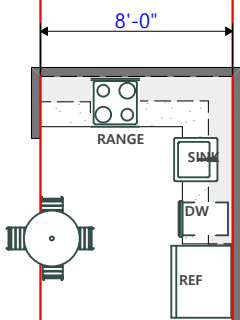
### 1 WALL KITCHEN

\*1 wall and open floor space for island or peninsula configurations. Limited walls are a handicap, but open space abounds. Island or peninsula geometries unrestricted. Close access to pantry function can compensate for lack of walls. Open kitchen designs always trade off open space with (the potential of) having the kitchen mess part of the living space. Both conditions are absolutely a personal choice.



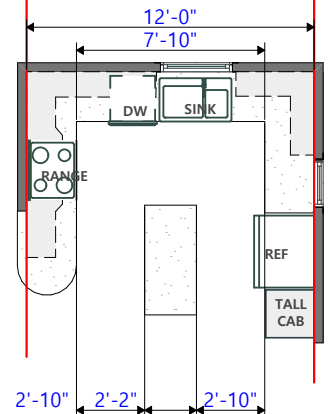
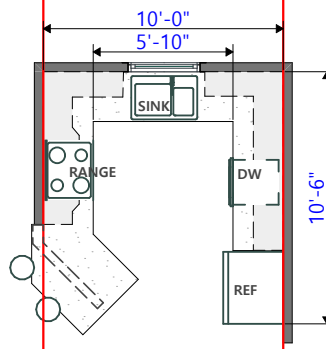
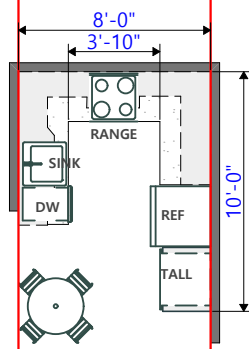
### 'L' KITCHEN\_2 WALLS

\*2 walls and 1 inside corner. Open area looking for a table, or island, or peninsula. Island or peninsula can similarly have a sculptural configuration. In theory this kitchen format has a good balance between being open and functional. The 2nd wall makes a difference.



### 'U' KITCHEN\_3 WALLS

\*3 walls and 2 inside corners. Area at the open end is looking for a table, or island, or peninsula. Note the island option really needs a wider kitchen space than 12' even to be useful and comfortable. These kitchen working spaces are a little private and self-contained. Absolutely suitable for some folks who view their kitchen as a work space. A window perhaps--

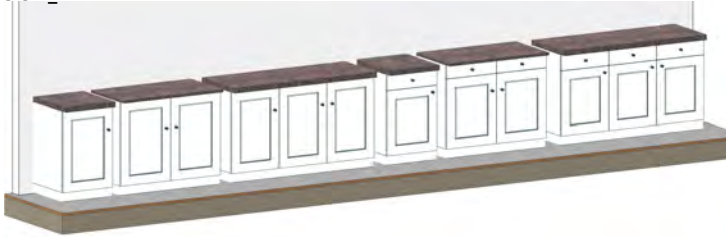


### INDUSTRY STANDARDS

\***GENERAL** Kitchen layouts all ultimately require cabinetry designs. Design options and size offerings are considerable and make possible good designs in kitchen spaces of all sizes and shapes.  
 \***STOCK/SEMI-CUSTOM/CUSTOM** are terms describing cabinet vendors offerings. They indicate a quality, design, and price category. But all will tend to stick with the same industry standard dimensions illustrated below.

### BASE CABINETS (B)

\***STANDARDS** 1,2,3 door base cabinets with door only and with door and 1 drawer as shown  
 \***MODULE** a 3"width increment is typical in the kitchen cabinetry industry. 12",15",18",21" etc to 54"  
 \***2 DOOR**  
 \***3 DOOR**



### DRAWER BASES (DB)

\***WIDTHS** from 12" to 36"  
 \***DRAWERS** lots of combinations dependent on how 'custom' the manufacturer/vendor.



### SINK BASES (SB)

\***1+2 DOOR** from 24" to 48"  
 \***APRON** the drawer faces are 'fixed' sometimes with a stronger apron cleat supporting the sink



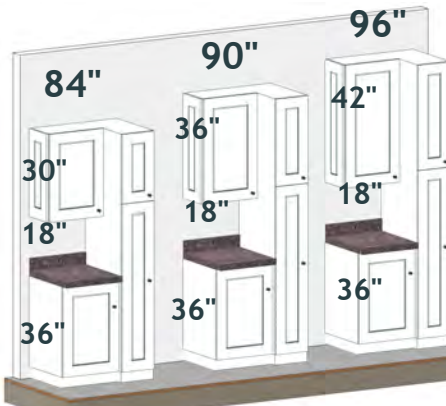
### CAB WIDTHS+DOORS

\***1 DOOR** from 12" to 24"  
 \***2 DOOR** from 24" to 48"  
 \***3 DOOR** from 48" to 60"  
 \*note single doors exceeding 24" wide become warp prone



### STANDARD HEIGHTS

\***84"** uses a 30" h wall cabinet  
 \***90"** uses a 36" h wall cabinet  
 \***96"** uses a 42" h wall cabinet  
 \*note single doors exceeding 24" wide become warp prone



### NON STANDARD HEIGHTS

\***84"** uses a 30" h wall cabinet  
 \***90"** uses a 36" h wall cabinet  
 \***96"** uses a 42" h wall cabinet  
 \*note single doors exceeding 24" wide become warp prone

### END CONDITIONS

\***TALL ELEMENTS** sometimes very effective to use the end conditions for refrigerator or tall cabinet (or tall cabinet with appliances)  
 \***FREE END** both base and wall cabinets frequently have a "free" end where an 'end panel' can offer a more finished cabinetry presentation. Or a different cabinet configuration.



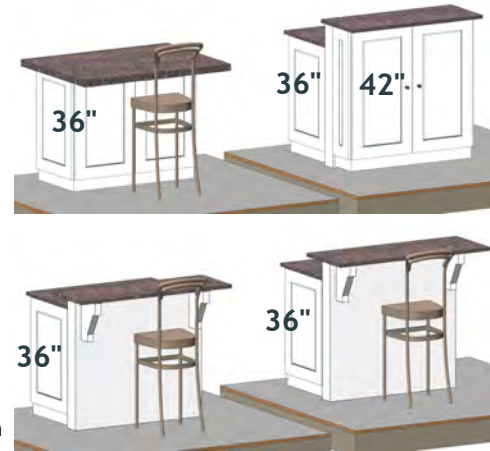
### CORNER CABINETS

\***USING CORNERS** inside corners inherently are difficult to take advantage of.  
 \***45 deg CORNER** with single door offers direct access to the available space.  
 \***CORNER ACCESS** blind end cabinets exist for corner conditions that offer a few ways to utilize the space.  
 \***BOTH** offer a type of lazy susan revolving shelf that can be useful.  
 \***NOT SHOWN** tall 45 deg cabinets which are just too visually and physically bulky for the smaller kitchens typical this project.



### ISLANDS

\***CONSTRUCTIONS** using standard cabinetry with often with finished end and face panels.  
 \***36" FLAT** single level 36" high counter using high chairs designed for that ht.  
 \***BACK TO BACK** 36" h or taller cabinets usually 12" d can back up to the kitchen side cabinets. No seating but more storage.  
 \***HALF WALL** higher 'bar' counters can be any comfortable ht and depth. Counter tops usually supported with some form of bracket.



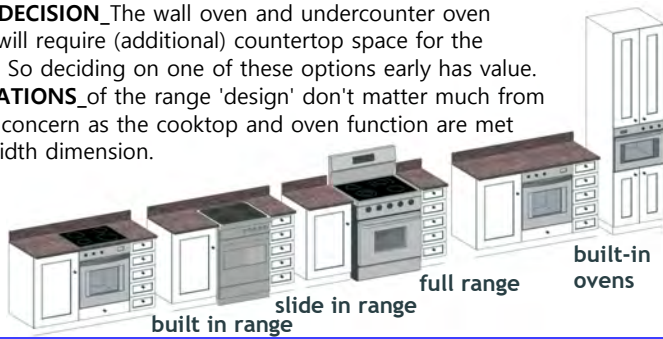
### TALL CABINETS

\***84"/90"/96" HIGH** to match standard cabinetry package heights noted at left.  
 \***WIDTHS** from 12" wide and up more often in 6" increments  
 \***VARIETY** specific designs exist for appliances (microwave, ovens, coffee makers, warming drawers) and sophisticated pantry storage, as well as general storage suitable as pantry and broom closets.



### OVEN POSITIONING

**\*EARLY DECISION** The wall oven and undercounter oven options will require (additional) countertop space for the cooktop. So deciding on one of these options early has value.  
**\*3 VARIATIONS** of the range 'design' don't matter much from a layout concern as the cooktop and oven function are met with 1 width dimension.



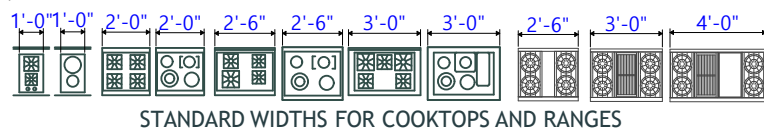
### MICROWAVE POSITIONING

**\*5 POSITIONS** are shown. The microwave is frequently used. Getting it in a convenient place at the correct operating height is important. The reason for dealing with this small appliance early in planning is that it can effect the balance of a kitchen layout.



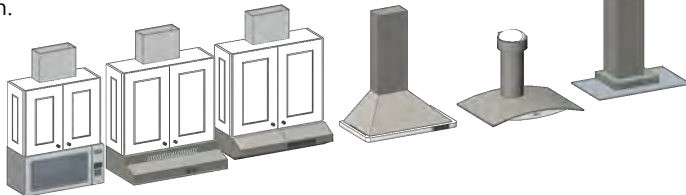
### COOKTOPS+RANGES

**\*THE BIG CHOICE** is between the combination range appliance, or a cooktop with independently located oven. see above.  
**\*CHOICES** once made the choices for cooktop and range are many. Logic suggests to select a capacity (#burners and oven capacity) that is truly serviceable. Wider cooking appliances take otherwise valuable counter space. Burner choices are 2,4,5,6. The industry norm is 4.



### VENTING ABOVE

**\*MICROWAVE** with integral vent+filter. OK venting- not great. Check reach to microwave. Space efficient.  
**\*VENTED HOOD W/CABINET** standard format. Vent vertical or out the back. Effective venting, cost+space efficient  
**\*NON VENTING HOOD** same vent hood without exterior venting. Air is (grease) filtered and blown back into kitchen space.  
**\*SCUPTURAL FLOATING HOOD** they can look great and vent effectively. Requires wall space otherwise not needed- which is rare in the smaller kitchen.



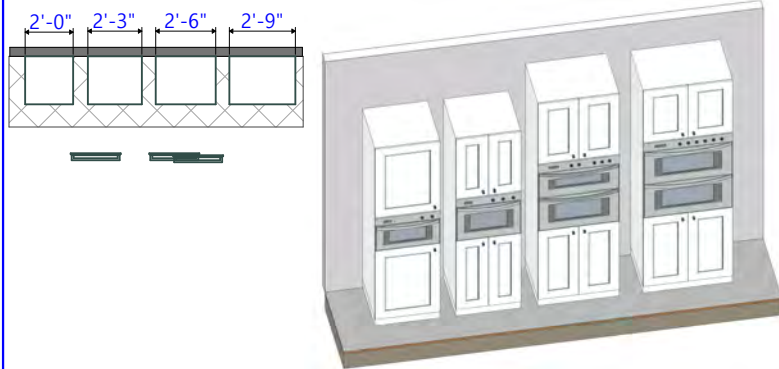
### DOWNDRAFT VENTING

**\*POP UP** this downdraft type is a separate appliance that resides below/flush with the counter top. When activated it 'pops' up behind the cook top to vent down and rearward to the outside.  
**\*COOKTOP INTEGRATED** some cooktops and ranges have integrated venting grills on the cooktop surface that vent down and rearward to the outside. JENN AIR first popularized this idea.  
**\*VENT NOTE** while downdrafting eliminates overhead apparatus, the downdrafting is less effective and requires a more aggressive and potentially noisy fan system.



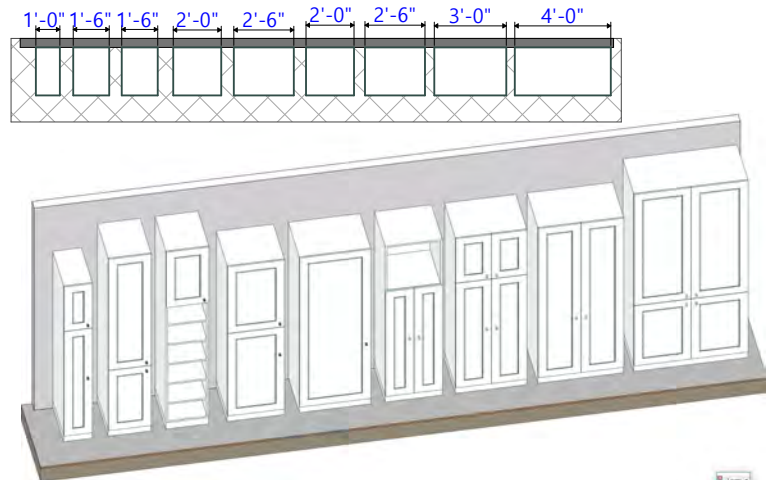
### TALL CABINETS FOR APPLIANCES

**\*24" DEEP** tall cabinets are manufactured for appliances. Microwave, single oven, microwave/oven combo, and double oven are the common appliance integrations. Warming drawers and coffee centers also available.



### TALL CABINETS

**\*24" DEEP** the variety of cabinet designs below suggest a lot of storage and display opportunities with the tall cabinet. Manufacturers will offer some selections. Custom shops can obviously build any design. The 24" depth will function for pantry requirements/appliances suitable this kitchen presentation. Also perfectly adequate as a coat closet/wardrobe and as a linen closet in other areas within the home. Tall cabinets are handy



### TALL CABINETS

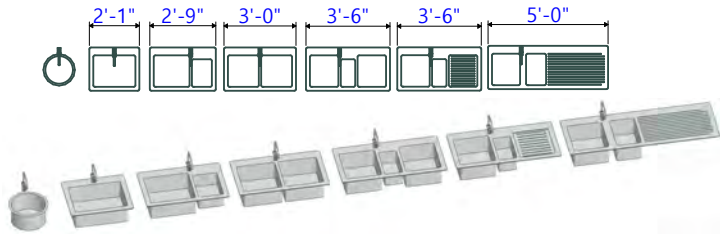
**\*12" DEEP** these shallower cabinets can solve a variety of storage and display requirements + make use of otherwise unassigned wall space. Most plates/pantry items/ books all will fit in that 12" depth.



### SINK SHAPES+SIZES\_

\***SELECTIONS**\_sizes+shapes are obvious. A better choice is based on analysis of use and available space. Cooking and cleaning both require consideration. Some (slightly larger) kitchens are better served with 2 sinks-. One for food prep and one for cleanup.

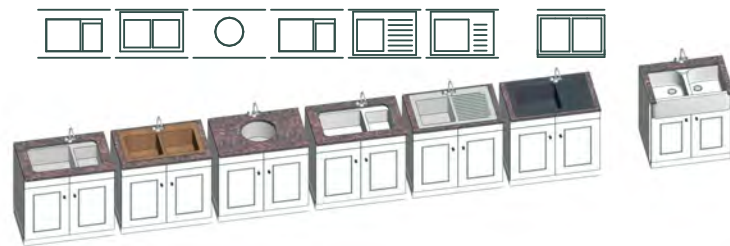
\***SB**\_the sink base cabinet(s) need to be selected to support the chosen sink(s)



### SINK TYPES+MATERIALS\_

\***UNDERMOUNT/TOP MOUNT/FARMER**\_all installations want to be tight and cleanly caulked to take potential water problems out of the decision. Type may be influenced by counter top selection and edge finishing. Otherwise the sink type is another preference.

\***STAINLESS/CAST IRON WITH PORCELAIN/GRANITE COMPOSITE**\_all viable and perfectly serviceable constructions. Different look, color and cleaning parameters. A personal preference.



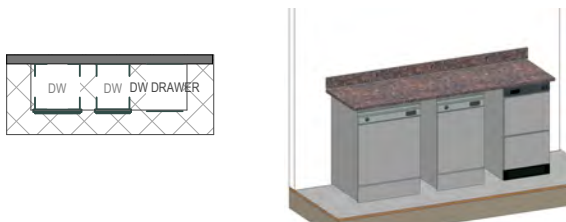
### DISHWASHERS\_

\***TRADITIONAL**\_24" wide undercounter sits on the floor

\***COMPACT WIDTH**\_18" wide undercounter sits on the floor

\***DRAWER STYLE**\_24" wide usually 1 or 2 drawers high. Easy to load and unload. Fill top drawer first. Great concept-check critical reviews.

\***NOTE**\_Nice to match the dishwashers capacity to a daily requirement so unit can run daily (off peak hours) with least energy/water consumption.



### UNDERCOUNTER OPTIONS\_

\***WINE COOLER**\_18"and 24"widths typically with glass doors.

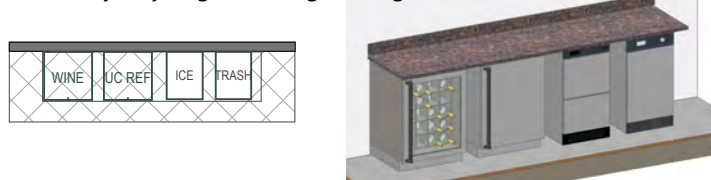
\***REFRIGERTOR**\_18"and 24"widths typical. Possibly a good place for beverages which can otherwise consume a big volume in the frig.

\***ICEMAKER**\_12"-18"widths for serious beverage drinkers and entertainers. Most folks are content with icemakers integrated in their refrigerators.

Although not meant as an endorsement for icemakers, the largest single problem with refrigerators by far are with their icemakers.

\***TRASH COMPACTOR**\_Once popular, these may still help solve trash volume management and ultimate removal under some conditions.

Community recycling has changed the game.

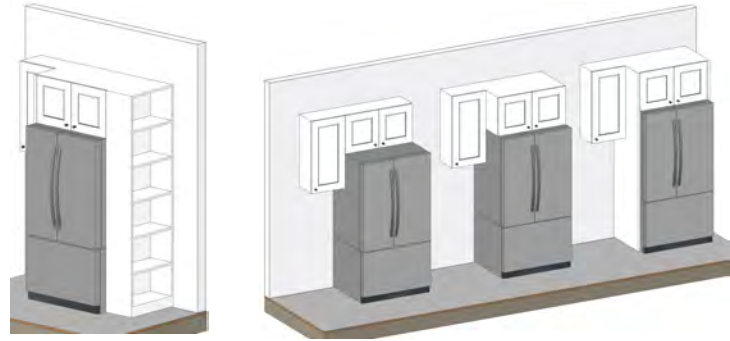


### CABINETS AROUND THE REFRIGERATOR\_

\* **CABINETS ABOVE**\_12" and 24" deep are the usual choices. Look is different-the 24" depth necessarily looks bulky but can store infrequently used bigger items. Both are hard to reach for most without a stepstool.

\***PRETTY PANELS**\_finished panels on sides of frig always an option.

\***OPEN END**\_some layouts result in a refrigerator end being available for a shallow tall end cabinet for storage or display. Just using available opportunities.



### STANDARD REFRIGERATORS\_

\***WIDTHS**\_2-6, 2-9, 3-0 and larger. Widths usually represent the installation opening. Unit dimensions are a fraction less.

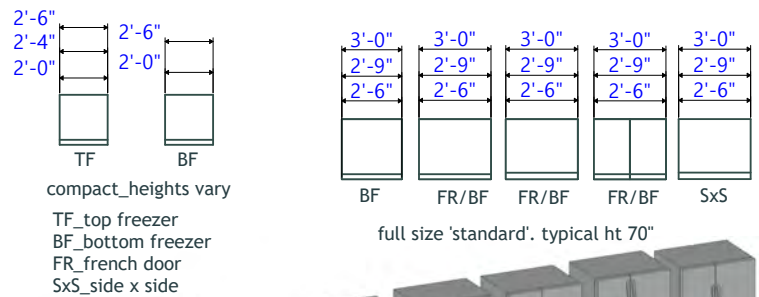
\***HEIGHTS**\_Usually between 68" and 70". Ongoing challenge as to how to use the space above the refrigerator. Mostly just hard to reach. See above.

\***DEPTH**\_Full depth units rhave more storage. Counter depth units loose some storage. Full depth units with todays typical 'fat' door designs project a good bit into the working/moving around area in the kitchen. Counter depth still stick out from the counter face. they are about 4" shallower.

That 4" is basically found at the back of the interior shelves. That space is sometimes valuable and sometimes a collector of 'vintage' food.

\***CAPACITIES**\_Measured in cubic feet. This measurement allows easy volume comparisons.

\***DOOR GEOMETRY**\_Positioning within the kitchen and personal preferences will determine best door configuration. The french door format, as the side by side that preceeded it, are flexible and popular, but not necessarily the best fit. A refrigerator is almost always approached from the side, not the front, and the refrigerator door swing wants to work with that approach.



### COMPACT REFRIGERATORS\_

\***SIZES**\_ 2-0, 2-4, 2-6 widths are common. Find some other widths. Check exact widths, heights and capacities.

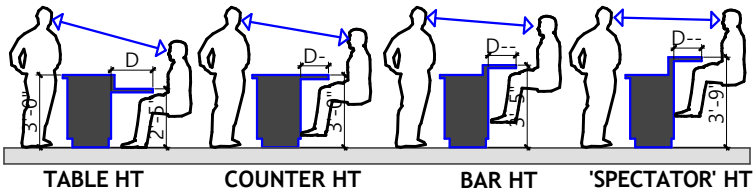
\***CONTEMPORARY COMPACTS**\_(BF) Bottom freezer typical. Technologically modern, sometimes pricey. Check reviews, reliability, service.

\***TRADITIONAL COMPACTS**\_(TF)Top freezer. Older design format, usually a little shorter, and often less expensive.

## SEATING + COUNTER HTS

### SEATING AND STANDING HEIGHTS

\*Folks working in the kitchen are standing. Folks at a breakfast bar are seated. The counter top height of the breakfast bar establishes the seat height which sets the head ht of the seated person.



### SEATING COUNTER HTS

\*4 options shown for breakfast bar counter ht. Seating exists for all heights. The bar and spectator ht seating would be stools requiring one to elevate the rear end to get seated.

\*Seat ht is typically (about) 11" below the counter surface.

\*The depth (D) of the eating counter can vary based on seating ht. The lower one sits the more the knees project. Taller people need more knee space. Don't shortchange the knee space.

### SELECTING THE COUNTER/SEATING HT

\*The higher the counter/seat/stool the more comfortable the (head to head) communication will be with the standing person in the kitchen.

\*The higher counter also works well as a standing counter.

\*The lower the counter/seat/stool the more comfortable (arguably) the seating and table for eating.



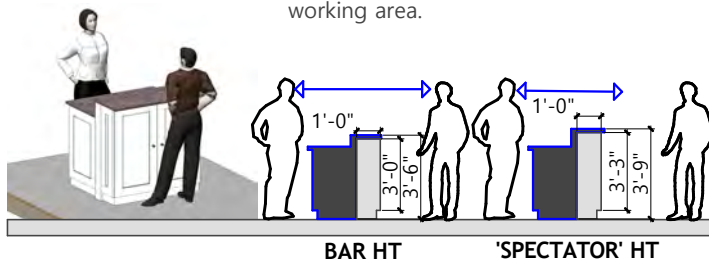
### THE BIG ISLAND

\*Simple design has a 36" counter top hang over 1, 2, or 3 sides to create the stool area.

\*In smaller kitchens an appliance (sink or cooktop) may need to be island located.

\*But keeping a sink or cooktop counter devoid of working stuff is not possible-this illustration is not accurate in the real world.

\*Raised eating counters separate the working area.



### THE STANDING COUNTER

\*Sometimes the breakfast bar does not want or need seating. Then the upper counter surface functions nicely as a buffet surface between kitchen and eating table, as a conversation benefit allowing communication with folks working in the kitchen without getting in their way,

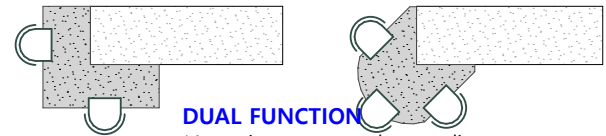
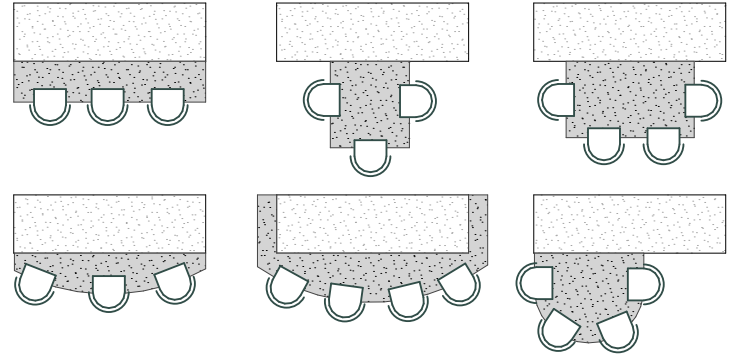
\*The depth might want to accommodate a stock 12" deep wall cabinet (with or without doors). Because a toe base for the wall cabinet is field built it is easy to custom set. Therefore the counter ht can be custom set.

## LAYOUT OPTIONS

### WHY ALL THE OPTIONS

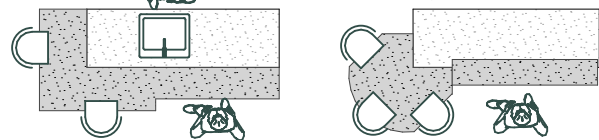
\*The kitchen is arguably the most used and lived in space in the house- and where interactions are constant. This ledge/counter/bar/table is an important design component as it enables eating and communications. It seems to be a favored place with friends and extended family.

\*The number of stools desired is a starting place. The simplest and most common is stools lined up facing into the kitchen, and short islands may not permit a more elaborate design. With more counter space other and better options exist.



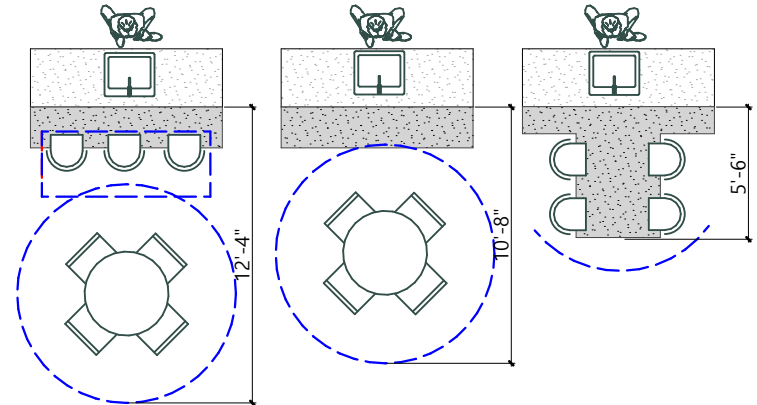
### DUAL FUNCTION

\*A seating set up and a standing counter can both exist if there is enough counter run.



### SUPPORTING COUNTER EXTENSION

\*CANTILEVER/BRACKETS/LEGS\_ These extended counters don't self support. So supporting them becomes a small structural design problem with solution based on the counter's size, geometry, counter top material, leg clearances for getting in and out of the chairs or stools. Cantilevers have definite limitations, brackets and legs can get in the way. The solution must evolve from the size and shape of counter- and the location of the stools.



### REQUIRED SPACE (EXERCISE)

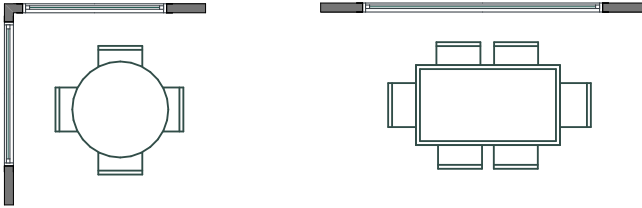
\*A\_Consider that some extra space is required for bar stools and move around space and if a table is additionally needed, more overall floor space is required.

\*B\_Vignette shows a standing counter with 12" d storage and floor area for a table for 4. Note the bar counter is fully useful and accessible because there are no stools.

\*C\_This connected design eliminates the floor space between kitchen and table and thereby reduced floor area considerably. Good solution with limited footage.

### WINDOWS\_

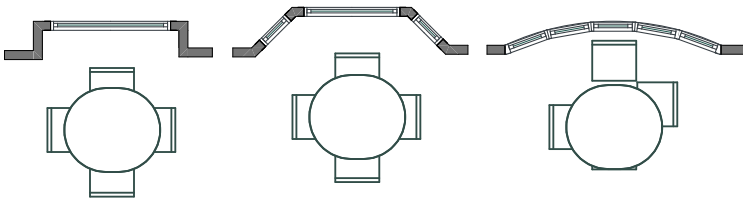
**\*THE MORE THE BETTER\_**The eating function has us sitting still theoretically without electronic device distraction, and therefore a time and place to enjoy what is outside that window. This project is disposed to place bigger windows on 1 or better yet, 2 walls that might define the eating space. Options are many. Keep the window sills at or below the table ht for most comfortable viewing.



### THE PROJECTED WINDOW\_

**\*BOX,BAY, BOW\_**All traditional window projections that serve to widen a view and expand a space- which opens and benefits a space.

**\*EXPANSION TYPE\_**Any of these can be projected windows with serviceable 'ledge', or be a projected space with floor extended out as well.

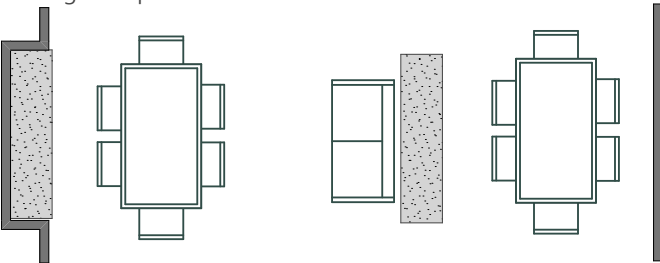


### BUFFET SURFACE NEARBY\_

**\*CONVENIENT\_**A surface or surface with storage below is a friend to any eating table for everyday eating- and with guests it can serve as a real buffet counter.

**\*ALCOVE\_**Creates a special nook for objects/art in addition to the counter function, and expands the space as does the projected windows noted above.

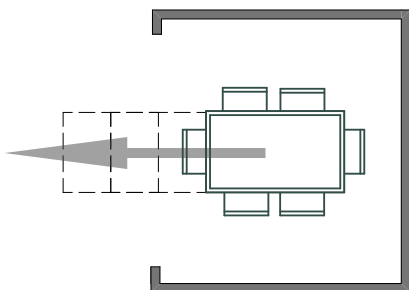
**\*FREESTANDING\_**A low buffet piece offers a useful and effective space separator between the eating and (usually) living space without sacrificing the open feel.



### EXPANSION FOR GUEST OCCASIONS\_

**\*SHARING SPACE\_**Sometimes a table can be located so its expansion can be managed. In open planned homes there are no design rules for this- just knowing where and how the table can expand.

**\*CONVENIENT\_**A With dedicated formal dining rooms a typical room designed for 6 or 8 can expand outside its boundaries to handle the family holiday sit down.



### TABLE AREA

**\*A\_**Select the table size (and preferred shape) based on the #of chairs.

**\*B\_**Add the clearances.

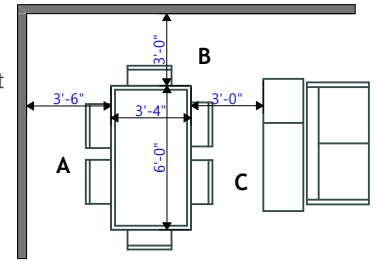
**\*CONSIDER\_**Bigger chairs and bigger people require more generous clearances. Clearances noted are minimum comfortable. Narrower will feel cramped. More generous is usually welcome.

### RECTANGULAR TABLE CLEARANCES

**\*A\_**More traffic, longer table, full ht wall, all want a little more space.

**\*B\_**End condition serving 1 chair. Less space ok.

**\*C\_**More traffic and longer table, but low furniture allows for a slightly narrower passage.

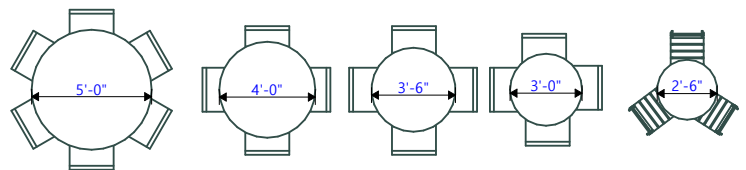
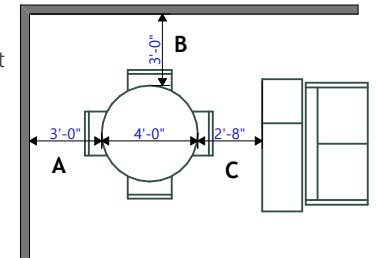


### ROUND TABLE CLEARANCES

**\*A\_**More traffic, longer table, full ht wall, all want a little more space.

**\*B\_**End condition serving 1 chair. Less space ok.

**\*C\_**More traffic with 1 chair to pass, but low furniture allows for a slightly narrower passage.



### ROUND TABLES

**\*2'-6"** Cafe scale works for 3 if occasional use (like a porch), but not an everyday table size and shape. At this smaller size a square is much better.

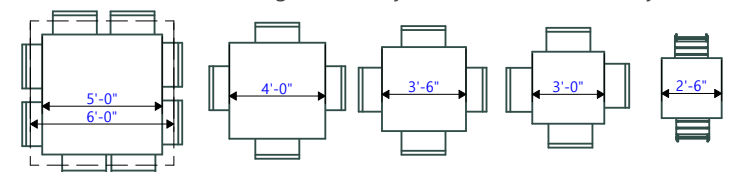
**\*3'-0"** Tight for 4 but works.

**\*3'-6"** Works for 4. Legs or pedestal base.

**\*4'-0"** Plenty for 4. Legs or pedestal base.

**\*5'-0"** Works for 6. Legs a problem to coordinate with chairs. Pedestal base better.

**\*Bigger than 5'** requires larger eating spaces than found in this project. Distance across table too great for any communication intimacy.



### SQUARE TABLES

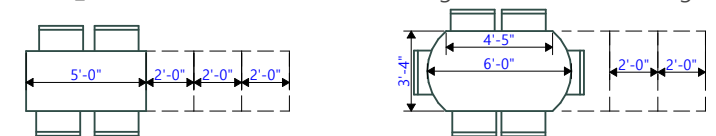
**\*2'-6"** Cafe scale works for 4 if occasional use (like a porch), but not an everyday table size and shape. Works for 2.

**\*3'-0"** Tight for 4 but works.

**\*3'-6"** Works well for 4. Legs or pedestal base.

**\*4'-0"** Plenty for 4. Legs or pedestal base.

**\*5'-0"** Does not work for 6. Corners too tight. Recommend rectangle



### RECTANGULAR (and oval end) TABLES

**\*NARROW\_**No chairs on the end. Sometimes referred to as a farmer table. 5' length min for 4. Add 2' for additional chair either with a longer table or with leaves.

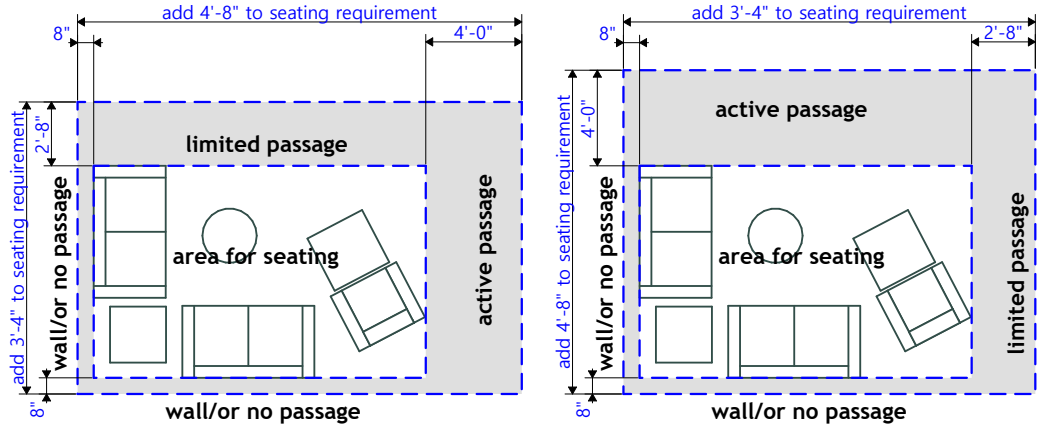
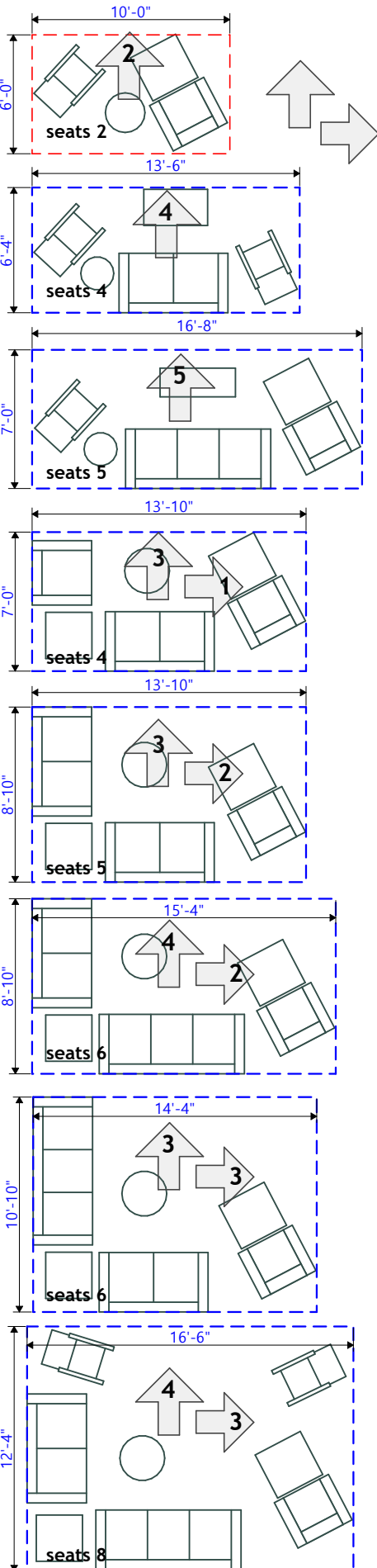
**\*STANDARD\_**3'-4" is a comfortable industry standard width for end chairs. 3'-6" up to 4'-0" also common. Add 2' for additional chair either with a longer table or with leaves.

### SEATING AREA AND CLEARANCES

**\*NET AREA** Simply based on the proposed/selected chairs and their arrangement. Showing these illustrations are standard sized 3 seat and 2 seat couches, a lounge chair with foot rest, and a more compact sitting chair. All dimension shown can be tightened up a bit or made a bit more generous.

**\*GROSS AREA** Add the perimeter space requirements. Shown below are typical/reasonable requirements. The gross area becomes a check on actual room or space size being considered.

**\*DESIGN CHECK** A perfectly effective way to perform a design check is to make scaled cut outs of anticipated furniture and place/adjust on a scaled floor plan. Check comparable clearances with a tape measure for verification.



### SEATING ARRANGEMENT AND ORIENTATION CONSIDERATIONS

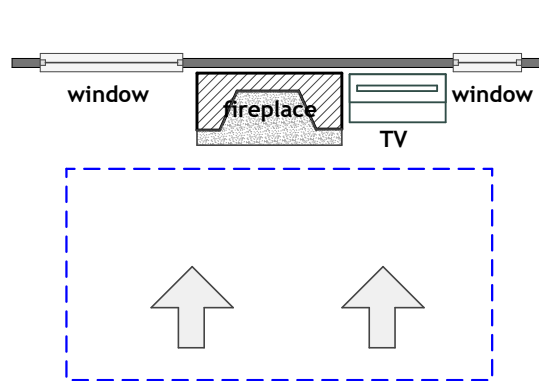
**\*TYPICAL ACTIVITIES** Private sitting/reading, conversation, viewing out windows, gazing at a fireplace, engaged with a tv screen- are all common activities. It is hard to give all these equal billing in a living space layout. So setting priorities for these activities will assist better decision making.

**\*THE SPACE** The seating/furniture count sets up the space requirements. Seating combinations to the left give net (fairly minimal) areas for seating arrangements. The arrows with contained numbers show how many seats (people) are facing which direction. Space around is needed based on other layout conditions- and some passage and clearances are noted above.

**\*THE WALLS** The wall or walls defining the living space will effect potential layouts. Exterior walls are required for windows and the view. Walls also benefit placement of fireplace and tv. Reading and conversation don't need them.

**\*SINGLE ORIENTATION/1 WALL** Best illustrates the benefit of prioritizing as it is challenging to accommodate views, fireplace, and tv on one wall. And (size) details really matter. Accommodating a big stone fireplace with mega tv is a different problem that accommodating a european wood stove and a 32" tv.

**\*DUAL ORIENTATION/2 WALLS** With 2 walls to work with more opportunities to work in the wall based functions exist.



\*The 1 wall living space with 1 orientation can have some challenges getting all preferred functions working well on the 1 wall.

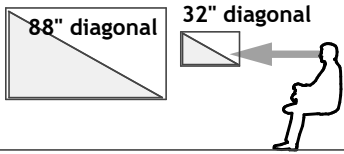
\*The 2 wall living space with 2 orientations is more flexible.  
\*The fireplace and tv are well suited to use an interior wall leaving the exterior wall available for glass.

### SEE LIVING SPACE OPTIONS IN THE DESIGN PLANS

**\*THE PROJECT DESIGNS** Show many different situations and solutions for living space layouts that attempt to accommodate these typical living space requirements.

**\*OTHER DESIGN STANDARDS** No laws that say all those functions noted need to be in one place. If a tv or a fireplace are either not required or preferred in a second living space function then the design problem as defined above just gets simplified.





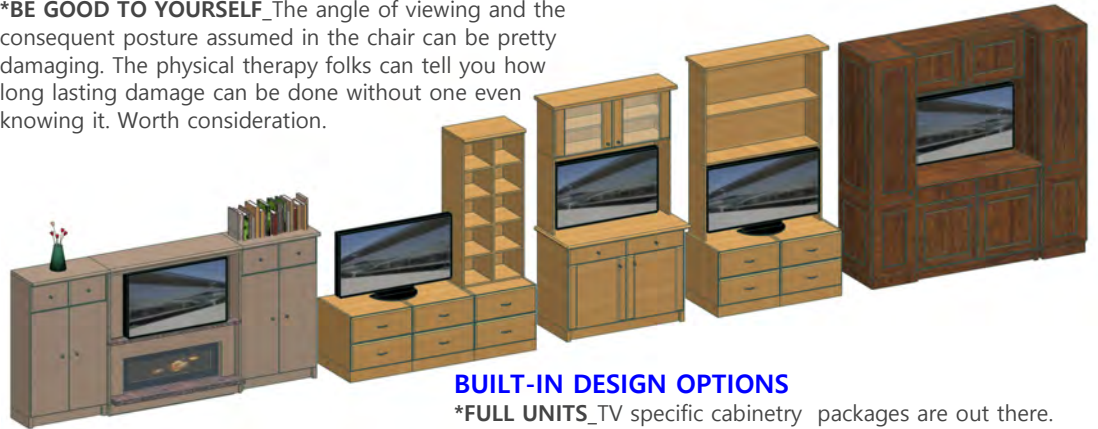
### ERGONOMETRICS

**\*BE GOOD TO YOURSELF** The angle of viewing and the consequent posture assumed in the chair can be pretty damaging. The physical therapy folks can tell you how long lasting damage can be done without one even knowing it. Worth consideration.



### FLOATING TV

**\*UNIT ONLY** Flat screen tv can sit a pedestal on the floor- be nounted with an (adjustable bracket) on wall or ceiling. So a built in surround is certainly not required.

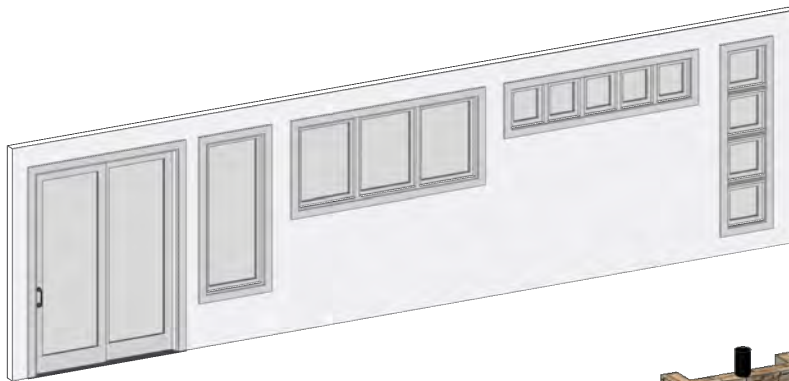


### BUILT-IN DESIGN OPTIONS

**\*FULL UNITS** TV specific cabinetry packages are out there. They may or may not fit an exact setting.  
**\*COMPONENTS** Cabinetry components are many and putting together components to fit a specific setting and need is usually a good option. Of course having a custom package built is always a viable choice.

### CHECKING TV OPTIONS

**\*TV HABITS** Bigger chairs and bigger people require more generous clearances. Clearances noted on minimum comfortable. Narrower will feel cramped. More generous is usually welcome.  
**\*TV SIZE** Distance of viewing and preference suggest TV size. This matters because the size will limit where the unit has to reside. The really big screens will either not fit above the fireplace or will dwarf the fireplace and look silly. They also will likley not fit into a built in. But they may look quite comfortable on a low base cabinet.  
**\*TV VIEWING** The 'quality of viewing' issues are height of the tv (centerline of viewing) off the floor and backlighting. On or in a cabinet, or a wall mount, provides flexibility establishing a comfortable ht. The height above a fireplace is necessarily higher and can require looking up to see it. The backlighting (and reflection) is a condition of daylight/sunlight in the tv space. In simple terms, like with a phone screen, the higher the natural light level the more compromised screen clarity gets. Direct sunlight on a screen will it render very difficult to see. True backlighting is when light behind the tv (big windows) have the eyes adjust to that brightness and have the tv appear dark with limited clarity. So windows and tv's sometimes don't mix well in the daytime. Not a problem after dark.



### EXTERIOR WALL\_GLASS FLEXIBILITY

**\*WHEN** Combing windows and doors with a tv and fireplace is a desig juggling 3 parts. The windows fortunately have some flexibility.  
**\*WINDOWSCAPING** Is an industry expression for managing window designs to suit specific situations. Integrating an effective window/glass door design into that multi functioning exterior wall is possible. This image is symbolic of the almost endless configurations of window and door glass.



### INTRGRATING BUILT-INS

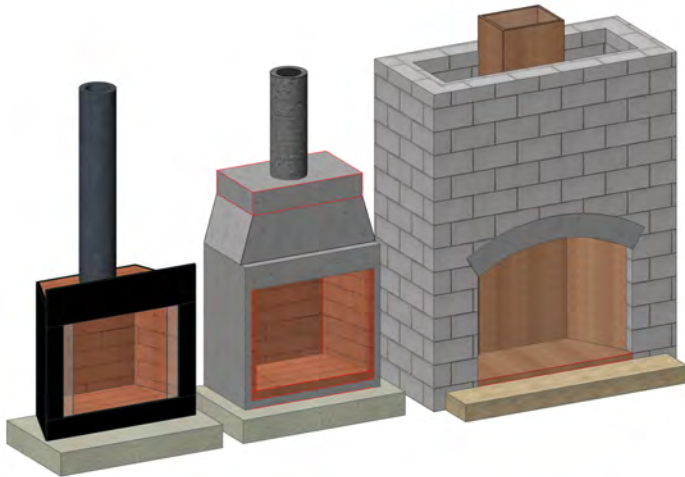
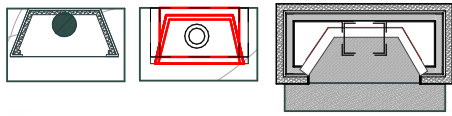
**\*WHEN** Fireplaces that have a closure around them offer a place to integrate built-ins. It is best when they tuck up alongside and don't steal the show. He built-in can hide/house/organize a pretty variety of stuff that makes sense to be there.  
**\*TV OPTION** These vignettes are specifically showing a tv option in the cabonetry and above the fireplace.

### FIREPLACE TYPE IMPACTS THESE DESIGN DECISIONS

**\*SUMMARY** The fireplace choices are many. Type, size, shape and very importantly the flue requirements can all have an effect on this composite design including built-ins, tv, and glass. Consider that fireplace on its own, but also how it effects these other functions.

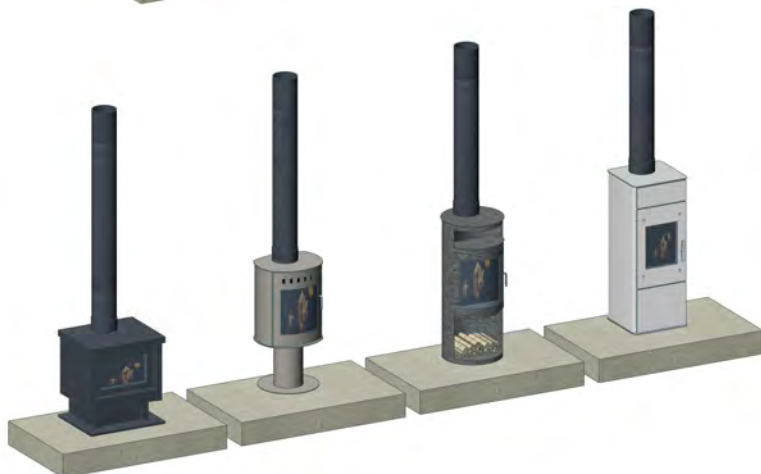
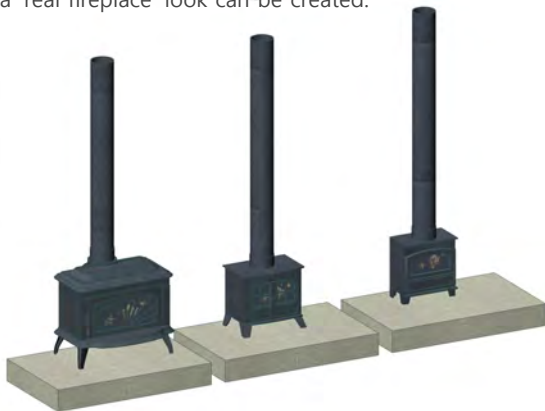
### THE FLUE

**\*IMPORTANCE** Requirements for fireplace flues dictate what can and cannot happen above the fireplace. They therefore play a big role in fitting properly in a space and specifically regarding the view/fp/tv design condition. A fireplace selection therefore may come down to the flue requirements which in turn directs the fireplace selection. There are a dizzying number of possible design and installation type selection. And all choices come with their own set of specific requirements.



### NAKED

\*These 3 fireplace types are shown naked. The prefab metal box will sit inside a framed closure which can be finished as desired. Ditto the concrete prefab box. The traditional fireplace will typically want to be faced with brick or stone. The appearance to the inside then is a design applied to this core construction. In all cases-even the metal prefab- a 'real fireplace' look can be created.



### WOODBURNING FIREPLACES

**\*FLUE** The woodburning flue must run vertically up thru and above the roof and be separated by distance from all framing. The regulations are code or manufacturer specific and not forgiving.

**\*BURNING WOOD** Having logs in the house and burning them brings with it a set of conditions. There is some inconvenience, smell, + mess. The fire itself has its own character. Some folks find this delightful and others reject it all. Another choice.

**\*WOOD BURNING** Fire requires oxygen to burn. These fireplace types are/can be installed with fresh air intakes (from outside) that supply the oxygen needed for burning so the fireplace does not have to steal that oxygen from inside. But these open faced fireplaces will still steal some heat from inside the house- so they have an inefficiency factor regarding their net heat output. Glass doors-which help mitigate that condition-3 are available for all these- but the glass doors compromise the 'fire in the room' sensation.

**\*TRADITIONAL MASONRY FIREPLACE** Unit masonry constructed on site by masons. Big, handsome, heavy, and most expensive. Finding qualified masons getting tougher and tougher.

**\*PREFAB CONCRETE FIREBOX** An all masonry product intended to offer a less expensive alternative to the traditional masonry fireplace. A proprietary masonry stacked flue system, or transition to a triple insulated metal flue system possible. Search 'ISOKERN'

**\*PREFAB METAL FIREBOX** The efficient and light weight metal firebox requiring a triple insulated flue package that also must go up thru and above the roof. Manufacturers have tried very hard to facilitate enclosure detailing that has these look 'authentic'. They are a viable option-and a much lighter weight. The weight is in the surrounding enclosure- which is a user choice.

### THE WOOD STOVE

**\*FLUE** The woodburning flue must run vertically up thru and above the roof and be separated by distance from all framing. The regulations are code or manufacturer specific and not forgiving.

**\*FLUE EXCEPTION** The wood stove sometimes can elbow thru an exterior wall but then must continue vertically above the roof.

**\*THE WOOD STOVE IDEA** Compared with the open faced fireplace that is inherently inefficient in its wood burning, the wood stove contains the fire behind tightly sealed glass or solid doors- and has an internal design intended burn the wood slowly and efficiently. More heat, longer lasting logs, and limited pollution result. These are effective heat sources. Some are designed to burn pellets. Some have hung onto the 'stove' function and offer limited cooking opportunities on the top. (Not a crazy idea if you experience regular power outages)

**\*WOOD STOVE STYLES** Old fashioned to very contemporary looks exist. Jotul is a norwegian manufacturer that has a broad range of products and designs, therefore a quick place to start an investigation. Note some designs/similar designs are available as direct vent gas burning fireplaces.

**\*WOOD STOVE CONSTRUCTIONS** Cast iron and steel construction types exist. Cast iron warms up more slowly and retains/dissipates the heat over a longer period of time (thing thru the night). Steel units will heat up more quickly and cool down more quickly. Both will use the technologies that benefit more complete burning. Also consider the safety regarding 'hot parts'.

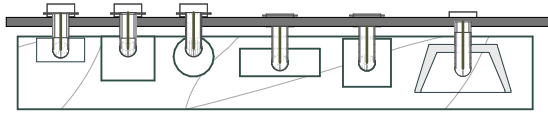
### ELECTRIC FIREPLACES (NOT SHOWN)

**\*TECHNOLOGY** Lighting and reflection are used to create the illusion of a flame. No flue system required. Most units are very shallow and sort of 'stick' on the wall. Some models can generate heat thru infrared elements.

**\*DESIGNS** All design formats are available in electric 'copies'.

### APPLIANCES

\***THE GAS FIREPLACE** is considered by the code as an appliance. As a gas appliance venting is required. Both code and manufacturers specifications are required to be met. The 2 'types', the direct vent, and natural vent (aka the 'b-vent') are outlined below. They are different.



### GAS DIRECT VENT FIREPLACES

\***THE FLAME** A real flame delivered through a pipe visually presented with a non burning log set or a small round stone type bed in the fireplace floor. The flame is behind sealed glass. The flame and products of combustion are contained.

\***STYLES** Huge selection exists. The 3 rectangular units on the right are 'naked' and intended to be integrated into a wall design. The far right sample represents a standard fireplace box usually sitting close to the floor, and comfortable in a conventional fireplace setting. The other 2 are suggesting rectangular boxes intended to be wall inserted in a more contemporary setting. The long, horizontally proportioned design is seen frequently. The left 3 designs are the 'wood stove' look, both traditional and contemporary. Available direct vent gas configuration.

\***THE FLUE** The flue flexibility of the direct vent is a definite asset. This '2 pipe' vent brings air in and exhausts combustion combustion gases. The direct vent can be vertical only and extend thru the roof, or can be vertical immediately above the firebox and elbowed out thru the exterior wall. Or in most, (not all), firebox designs a direct rear vent exits directly thru an exterior wall. This latter option frees all space above the firebox for glass/built-ins/tv. This illustration at left is showing all options in one view. Only 1 vent selection is wanted

\***ENERGY** Very good efficiency because some heat created radiates into a space and no heat is drawn out of the space. because it is a sealed box. The vent's operation takes care of the gas burning operation inside the sealed box- nothing to do with the interior space of the house.

\***INSTALLATION** Typical for all prefab units in that the firebox installation is simple. The flue and wiring is specific and can be fussy.

\***FIRE AESTHETIC** The fire is always behind glass, which is a compromise. The 'traditional' units will use gas logs- and selecting good ones go a long way to a more satisfying look of fire. The contemporary units don't try to look like log fires- they are dancing flames.

### GAS (OPEN FRONT) 'B-VENT' FIREPLACES

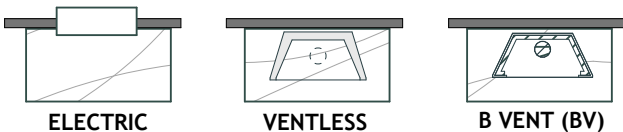
\***THE FLAME** The one criticism of the direct vent fireplace that employs a sealed glass front is that the flame is necessarily behind that glass. So available are gas fireplaces with an open front. The flame is present, and the authentic look becomes dependent on the look of the gas logs. Optional/operational glass doors are available as a safety or efficiency choice.

\***EFFICIENCY CONDITIONS** Not unlike the wood burning fireplace these create and generate heat but also will remove heat from a space-hence the glass door option which limits that loss.

\***FIREPLACE OPENING CONDITIONS** One noted limitation is the ht of the firebox opening (about 24" max) which is a venting based restriction. It helps to raise these boxes up a bit on a raised hearth to elevate that fire.

\***THE FLUE** This smaller diameter metal flue required that must discharge vertically thru and above the roof. Because of its diameter and less restrictive clearances it is easier to get up thru a home than the full wood brning flues.

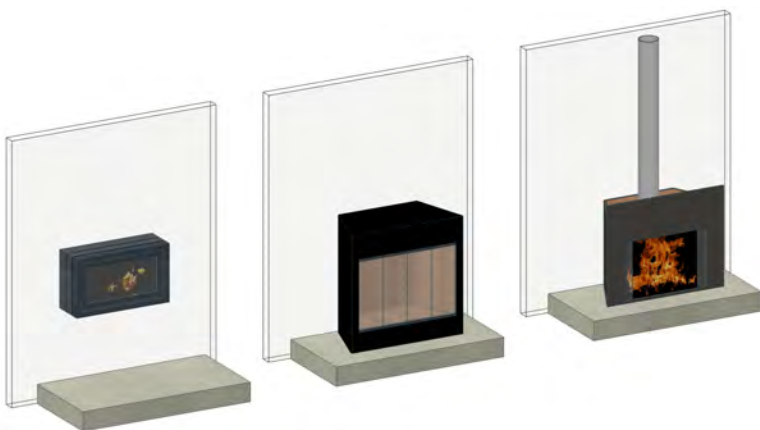
\***POPULARITY** These gas fireplaces hit the market first and were considered a viable alternative to a wood burning fireplace. Wood burning fireplaces were standard in many homes pre 1960. A small percentage of folks used them, and the convenience and 'cleanliness' was appreciated. Today the direct vent variations are



ELECTRIC

VENTLESS

B VENT (BV)



### GAS VENTLESS FIREPLACES

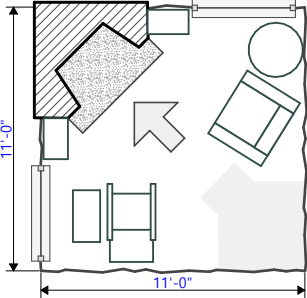
\***DESIGN** similar fireplace design options as with the direct vent offerings, but without any flue requirements. Therefore an appealing option from that design, installation, cost, and energy use standpoint. Units can be positioned in an unconventional locations-

\***AIR QUALITY CONTROVERSY** But the lack of the flue means the completeness of the combustion process decides if any unwanted carbon monoxide or excessive water vapor is left behind-inside. Some locales will not permit them, or will not permit them in bedrooms or small spaces. This is a long running controversy. Research the air quality issue and check locally for permissions. Exterior installations seem possible without any risk.

### ONE SPACE TRYING TO DO IT ALL

\*VIEWS/FIREPLACE/TV\_4 schematics below showing different sizes and configurations incorporating the 3 functions.

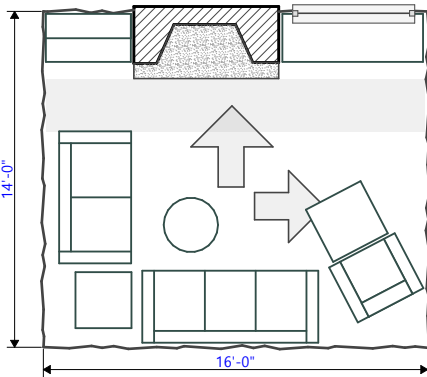
\*PROJECT\_DEFAULT\_Designs this project attempt to incorporate allowance for view/fireplace/tv as part of the primary living space. The direct vent (directly out the back) type fireplace is used a fair amount because it permits windows above (d9.9).



#### INTIMATE LIVING SPACE

\*SIZE\_11'X11'

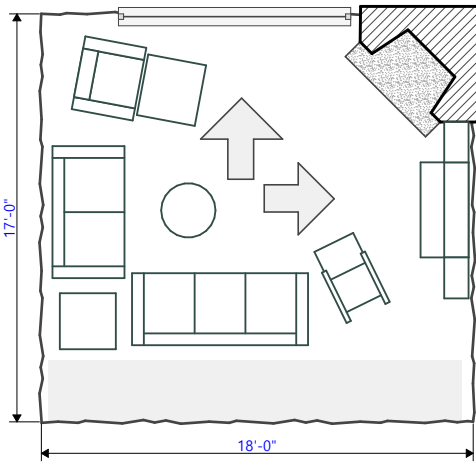
\*CONFIGURATION\_The corner fireplace takes space and tends to be a little more complicated construction, but the positioning is effective in integrating both the view wall and the built-in wall. And the positioning makes the fireplace



#### MODERATE LIVING SPACE

\*SIZE\_14'x16'

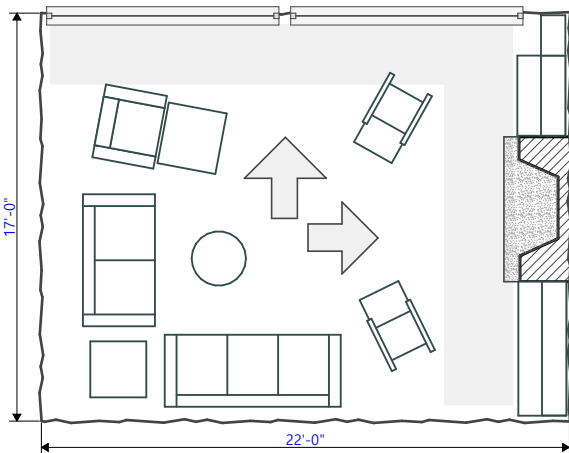
\*CONFIGURATION\_1 wall layout. Left of the fireplace is a taller built-in. Right of the fireplace is a low built-in with as big a window above as will fit. Tv above the fireplace mantle maybe best here. A small tv left of the fireplace is not properly positioned. A bigger tv in front of the window is not a good option.



#### COMFORTABLE LIVING SPACE

\*SIZE\_17'x18'

\*CONFIGURATION\_The corner fireplace takes space and tends to be a little more complicated construction, but the positioning is effective in integrating both the view wall and the built-in wall. And the positioning makes the fireplace the important feature in the space.



#### GENEROUS LIVING SPACE

\*SIZE\_17'x22'. Space around, between furniture denotes a spaciousness

\*CONFIGURATION\_An uninterrupted window wall and the fireplace, tv, built-in wall at 90 degrees. Common 2 wall design condition that wants seating distributed to face both ways.

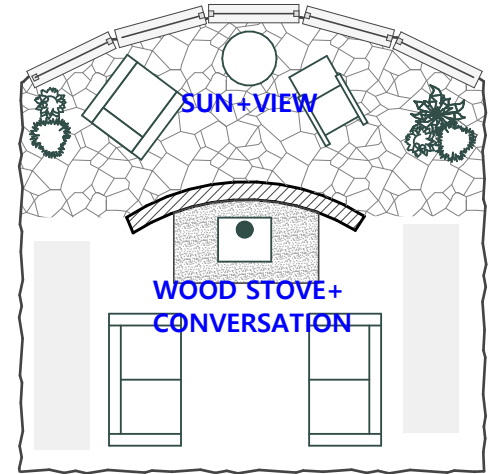
### SPLITTING UP THE 3 FUNCTIONS

\*VIEWS/FIREPLACE/TV\_Working these 3 functions into the 1 living space is sometimes a challenge, and sometimes not even desirable. Below noted some options worthy of consideration.

#### WOOD STOVE

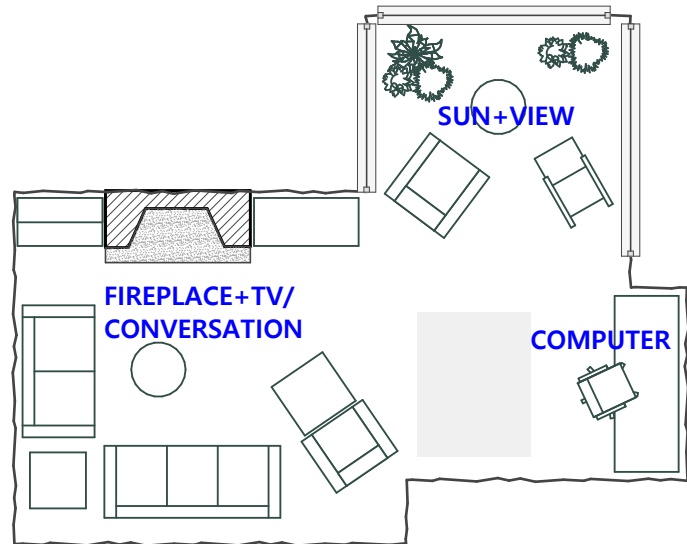
\*IDEA\_Move the wood stove in a bit and give it some thermal mass. Makes a spatial divider and benefits the heat source capability of the stove. Maybe even catch some passive solar energy on the floor and the stove's added thermal mass- a baby trombe wall idea.

\*TV\_GONE\_See comment at bottom of page.



#### ALCOVES

\*IDEA\_Split the functions up while sharing the same space is an option which allows each a better solution. The play between the sun alcove and the 'interior' fireplace space is effective and might be thought of as a daytime and nighttime space.

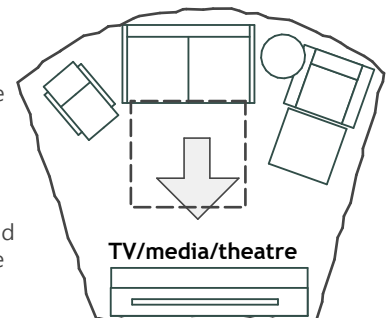


#### TV/CHANGING HABITS

\*IDEA\_TV as an expression of an activity still mostly valid and many homes are comfortable with the big tv in the living space. But younger folks are getting used to personal devices solving all communication needs, and the network, cable, streaming technology changes are effecting habits for many- so preferred tv location is a design imperative in flux.

#### TV/MEDIA/THEATRE

\*IDEA\_Get the tv out of the living rm and its noise and distraction. Maybe benefit the watching experience putting it in a space that allows better control of backlighting and allows placement of those comfortable but shabby chairs.

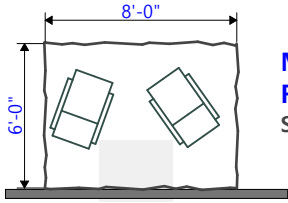


# PLANNING\_living spaces d9.12

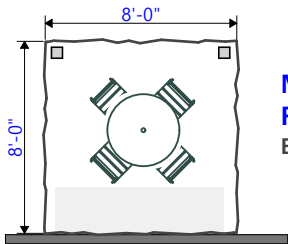
## EXTERIOR LIVING SPACE LAYOUT BASICS 1

### SIZE PARAMETERS

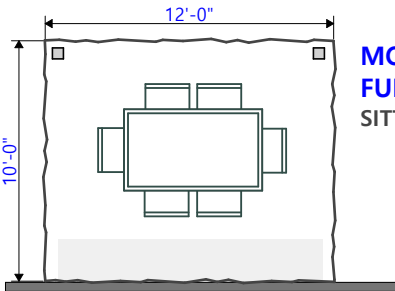
\*CONSIDERATIONS\_Sizes shown are a general reference. Access in and out of the home, access to any steps required to grade and a grilling space are not specifically addressed in these schematics.



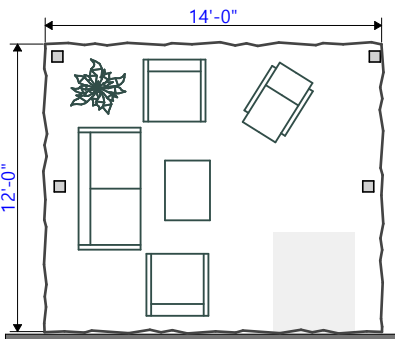
**MINIMAL SINGLE FUNCTION\_ SITTING**



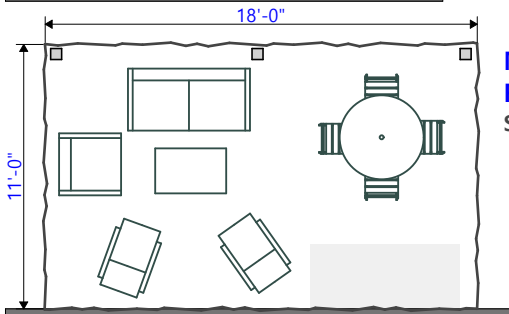
**MINIMAL SINGLE FUNCTION\_ EATING**



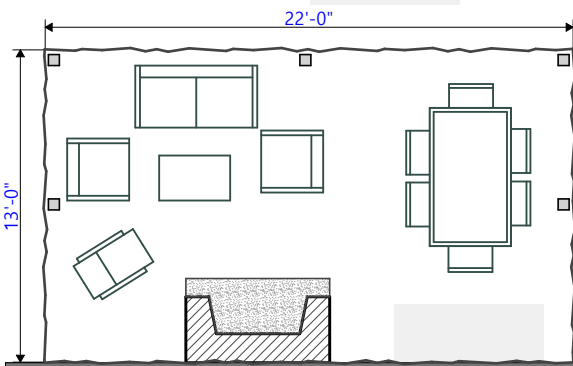
**MODEST SINGLE FUNCTION\_ SITTING OR EATING**



**GENEROUS SINGLE FUNCTION\_ SITTING OR EATING**



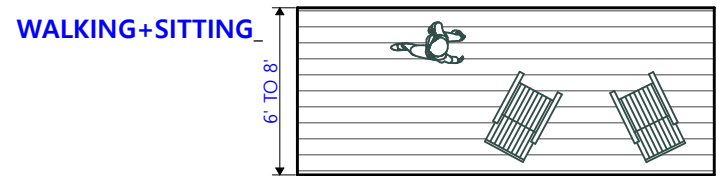
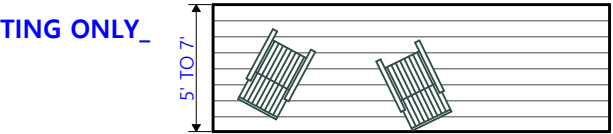
**MODERATE DOUBLE FUNCTION\_ SITTING & EATING**



**MODERATE DOUBLE FUNCTION\_ SITTING & EATING WITH FIREPLACE**

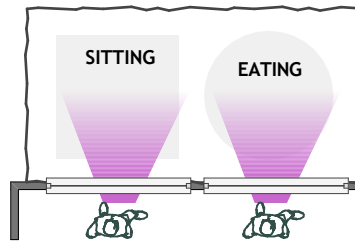
### THE LINEAR PORCH

\*CONSIDERATIONS\_These schematics are mostly referencing the front porch which is an institution in American homes that continues. They are no longer used as they once were, however they absolutely add a visual comfort and charm. Those visual characteristics can be satisfied with a narrower width.

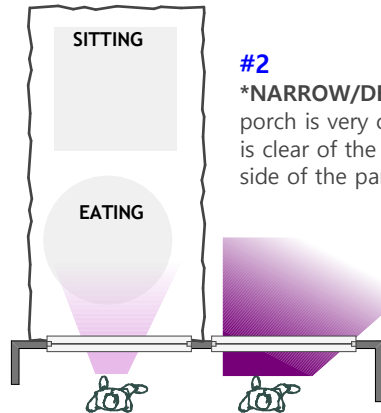


### COMPROMISED VIEWS THRU THE PORCH

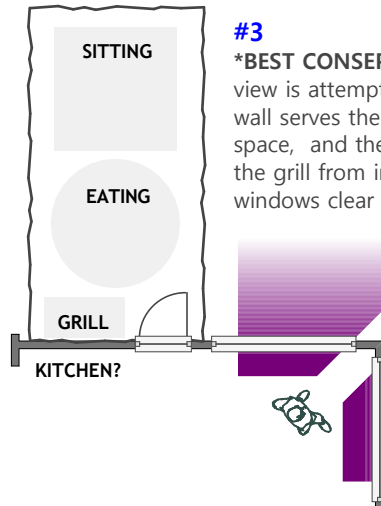
\*CONSIDERATIONS\_These schematics define common conceptual approaches to the rear exterior living space. Views from inside over decks/deck furniture and railings become compromised. With a porch roof added the views are considerably more compromised and a lot of light is blocked entering the home.



**#1 \*SHALLOW/LONG PORCH**\_this configuration is common. porch and roof easy to built and creates flexible useable space. All views fro inside are moderately compromised.



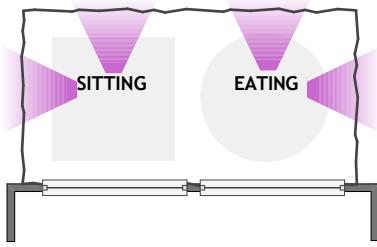
**#2 \*NARROW/DEEP PORCH**\_view through the porch is very compromised. The view that is clear of the porch is clear albeit the left side of the panorama is severed.



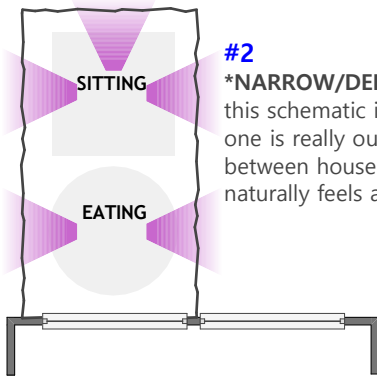
**#3 \*BEST CONCEPTUAL ARRANGEMENT**\_No view is attempted thru the porch. The solid wall serves the kitchen, always wanting wall space, and the grill (who wants to stare at the grill from inside?), and leaves the corner windows clear for full viewing.

# PLANNING\_living spaces d9.13

## EXTERIOR LIVING SPACE LAYOUT BASICS 2



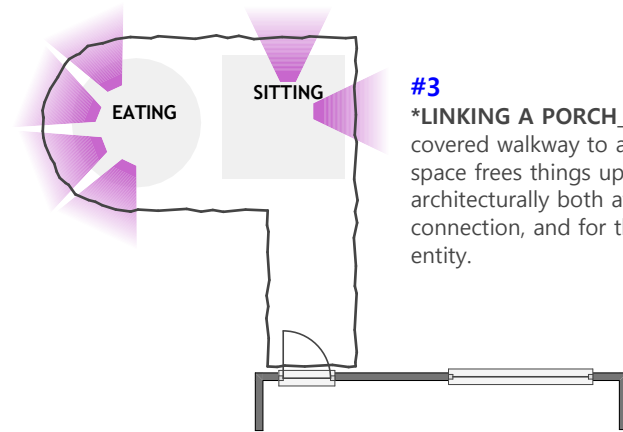
**#1**  
**\*SHALLOW/LONG PORCH** Both functions get 2 open feeling directions, and 2 contained directions.



**#2**  
**\*NARROW/DEEP PORCH** The sitting area this schematic is open 3 sides and feels like one is really outside. The eating area sits between house wall and sitting area so naturally feels a little more 'restricted'.

### DECK SPACE

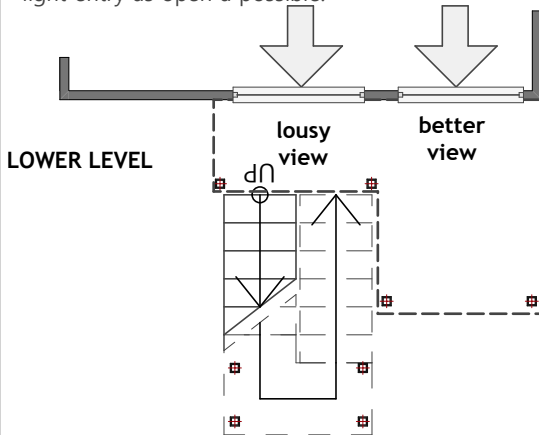
**\*CONSIDERATIONS** These schematics are mostly referencing the front porch which is an institution in American homes that continues. They are no longer used as they once were, however they



**#3**  
**\*LINKING A PORCH** Walkway or covered walkway to a porch space frees things up architecturally both at the house connection, and for the porch entity.

### (IF) LOWER LEVEL

**\*CONVENIENCE** With daylight or walkout lower levels, deck and deck stair construction serving the main floor above, can be very cumbersome and seriously compromise views and light into that lower level. Good planning will have a deck construction with limited posts and the stair located 'to the side'. All designs this project try to keep the view path and light entry as open a possible.

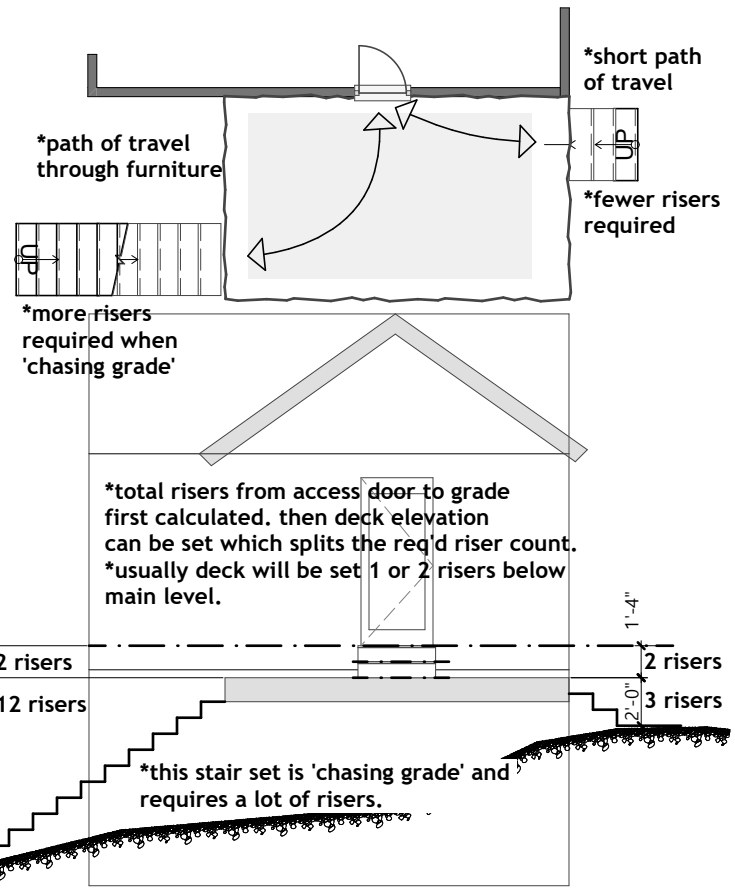
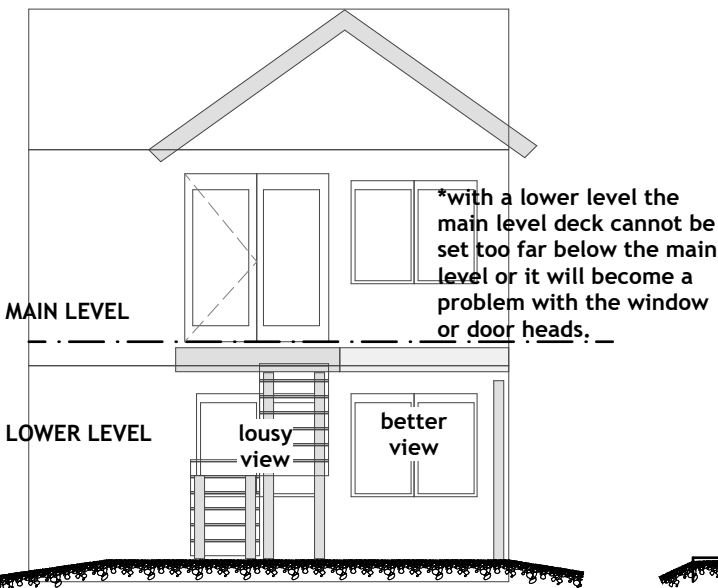


### STEPS TO GRADE

**\*CONVENIENCE** Check the path of travel from access door to head of stairs. The shorter path is usually better.  
**\*TOPO** Check vertical heights from deck to grade. The lesser height will result in fewer steps and the smaller stair set.

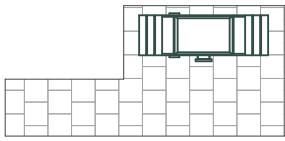
### DECK STEPS+RAILINGS

**\*STEPS-HOUSE TO DECK** Close to flush (2" +/-) viable non snow climates. 1, or 2, or 3 risers may be required or desirable. With a lower level the main level deck cannot drop very far.  
**\*STEPS-DECK TO GRADE** Steps are not required, but frequently beneficial.  
**\*RAILINGS** Step railings and deck guard railings required when deck or raised patio is 30" or more above adjacent grade. This represent 4 risers @ 7.5" each.



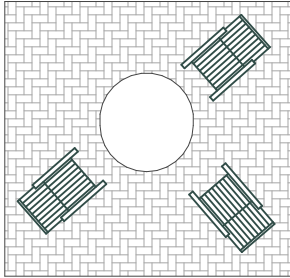
# PLANNING\_living spaces d9.14

## EXTERIOR LIVING SPACES ON GRADE+GRILL CONSIDERATIONS



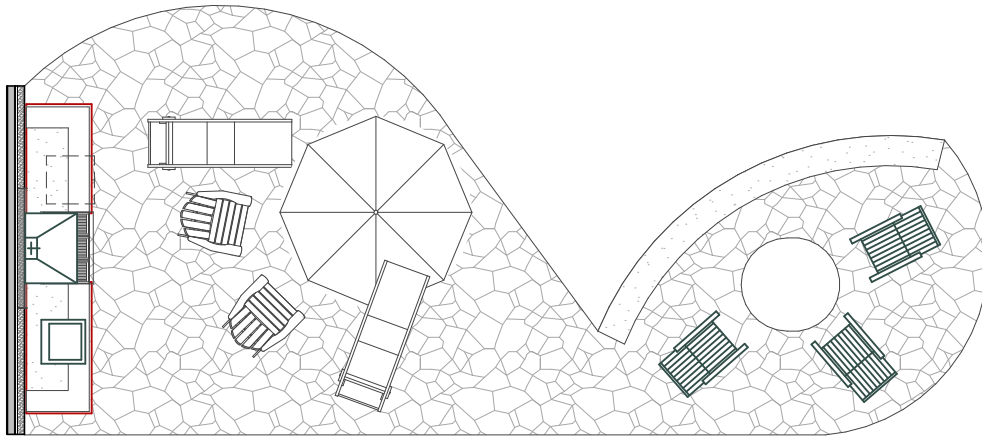
### GRILLING PATIO

- \***SIZE**\_To suit grilling equipment.
- \***SAFETY**\_Nothing combustible nearby



### FIREPIT PATIOS

- \***SAFETY**\_Whether a true pit or a prefabricated unit, or a chiminea product, the outside fire a bit away from anything combustible is smart. As is having a water source nearby.
- \***CHECK**\_Communities may have restrictive conditions and request special permitting for these.



### SURFACE PREP

- \***BASE**\_Flat sites are never flat. Base prep always required with 'flatwork' to get the right plane- for concrete, flagstone, or any type of unit pavers.

### PATIOS ON GRADE

- \***SIMPLICITY**\_If site topo is flat or near flat the patio on grade becomes an option. Slab, unit pavers, or sub slab with stone, are all construction/design options and (in relative terms) simple and totally design flexible. Really generous sizes also within reason.
- \***ELABORATIONS**\_The flat ground also allows some elaborations, from firepits, to outdoor grills or kitchens, to covered gazebos, to screened full structures.
- \***LIMITATIONS**\_Elevated views are not possible, and insects tend to hang around closer to the ground.

### GRILLS

- \***WHERE**\_ Reasonable access to the kitchen is the consistent requirement. Reasonable would suggest not too many steps and a door connection in/out that is easy to operate and or has a surface in reach to stage platters and grilling aids. The other logical location requirement is for the grill to be under roof for sun and rain protection. This latter requirement is controversial as grilling can present a fire and smoke hazard.
- \***SAFETY**\_Fire in and around combustible materials is always a concern. Check with the local code and fire department if hard, legal, enforceable restrictions exist, as they can impact what can and cannot be done. For example, some locals may prohibit grilling under roof without a hood and vent system.

### PORTABLE GRILLS

- \***SIZE**\_All sizes, round and rectangular. Usually some work surface integrated or nearby is helpful.
- \***OUTSIDE**\_These will get beat up by mother nature and more so without some kind of cover.

### BUILT\_IN GRILLS

- \***SIZE**\_The assembly will be based on the drop-in grill selected. Plus the desired counter extensions on each side.
- \***COMPLEXITY**\_The built-in grill can be pretty simple. 3 low walls and a counter top with a hole in it. Some of us insist on making these much larger and more complicated. It is a choice. See roof and vent note below!

### BUILT\_IN GRILLS plus\_\_

- \***APPLIANCE BASED**\_These more elaborate exterior grill set ups may include a sink, undercounter frig and or ice maker. The appliances desired- along with the grill size- sets the design and size criteria. The outdoor living possibilities are pretty wide. Climate and budget need to cooperate.
- \***BIGGER HOMES**\_These more elaborate designs not common with the designs this project.

### NATURAL GAS

- \***IF AVAILABLE**\_If natural gas is being run to the house for furnace or cooking then running a line to a grill location is not a big deal. The grill experts always have their considered options- but that aside, the natural gas grill becomes cheaper to run and obviously more convenient. It also cannot be portable. Check the grill specs for suitability.

