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COMPONENTS_doors+windows d11.1

EXTERIOR ENTRY DOOR CRITERIA

ENTRY EXPERIENCE

***APPROACH IDENTITY**_THE ENTRY DESIGN USUALLY WANTS TO BE IDENTIFIABLE UPON APPROACH. THE HOME IMAGES BELOW HAVE ISOLATED THAT IDENTIFIABLE ENTRY ELEMENT, AND SHOW THAT THE DOOR ITSELF IS PART OF A BIGGER DESIGN. THE DOOR AND ITS IMMEDIATE ARCHITECTURAL AND WINDOW COMPANIONS ARE SELECTED AND POSITIONED AS AN INTEGRAL PART OF THAT DESIGN. ALL OF THESE DESIGNS USE READILY AVAILABLE DOOR AND WINDOW SELECTIONS AND DETAILS AS DESCRIBED THIS CHAPTER.

***UNDER COVER**_ALL ENTRIES ARE ALSO UNDER COVER EMPLOYING A VARIETY OF METHODS. HAVING SOME COVER OVER THE ENTRY DOOR IS UNIVERSALLY DESIREABLE.

***FEEL COMFORTABLE ACCESSORIES**_THE ENTRANCE EXPERIENCE CAN ALSO BENEFIT FROM PLANTS, BENCHES, CHAIRS, SOMEWHERE ON THE ENTRY PORCH/STOOP/DECK SPACE. THESE MAY BE USEFUL OR NOT, BUT ADD A LITTLE SENSE OF HOME AND PERSONALITY.



A SIMPLER ARCHITECTURE HAS THE SAME EXTERIOR DOOR CRITERIA

***APPROACH IDENTITY**_BELOW IMAGES FROM ARE THIS PROJECT'S DESIGNS, AND ALTHOUGH A MUCH SIMPLER ARCHITECTURE, STILL WANT TO CREATE SOME IDENTITY, REMAIN CONSISTENT WITH THE AESTHETIC OF THE HOUSE , AND OFFER SOME COVER AND COMFORT ACCESSORIES.



SYMMETRY + ASSYMMETRY

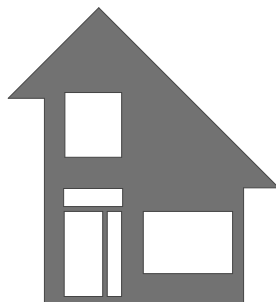
***SOMETHING TO BE AWARE OF**_THE ENTRY IS A GOOD PLACE TO POINT OUT THE SYMMETRY QUESTION- WHICH IS ONE CONFRONTS US ALL THE TIME IN HOME DESIGN WORK. THERE IS A NATURAL HUMAN PULL TOWARD SYMMETRICAL SOLUTIONS. SYMMETRICAL DESIGN SOLUTIONS ARE SOMETIMES PERFECTLY APPROPRIATE, BUT NOT ALWAYS. SCHEMATICS BELOW ARE INTENDED TO MAKE THAT POINT.

***CHARACTERISTICS**_SYMMETRICAL DESIGNS ARE BALANCED, MAYBE MORE PEACEFUL. 'RESOLVED' IS ANOTHER DESCRIPTOR. ASSYMMETRICAL DESIGNS ARE MORE ACTIVE AND HAVE A LITTLE MORE TENSION. ASSYMMETRICAL DESIGNS CERTAINLY CAN BE COMFORTABLE - WITH A BALANCED SENSE- OR THEY CAN BE PURPOSEFULLY TENSE AND UNRESOLVED. IT IS A DESIGNERS CHOICE.



SYMMETRY

*This symmetric house profile is showing a symmetrical front door assembly that suits the design.



ASSYMMETRY

*This asymmetric house profile is showing an asymmetric front door assembly that suits the design.

COMPONENTS_doors+windows d11.2

EXTERIOR ENTRY DOOR CONFIGURATIONS

STANDARD EXTERIOR DOOR TYP NOTES

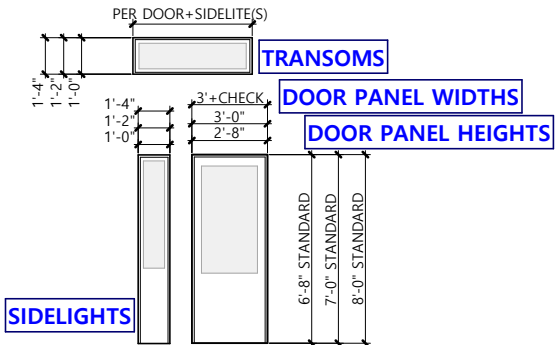
***FORMATS**_ILLUSTRATIONS BELOW SHOW STANDARD FACTORY MULLED CONFIGURATIONS. THESE BASIC DOOR/SIDELIGHT/TRANSOM COMPONENTS AND ARRANGEMENTS HAVE BEEN AROUND FOREVER, AND CAN BE DETAILED TO GENERATE MANY DIFFERENT LOOKS. THESE 'NAKED' PRESENTATIONS ARE INTENDED TO HELP IN FIRST PICKING AN APPROPRIATE FORMAT.

DOOR PANEL WIDTHS_2'-6", 2'-8", 3'-0". NOTE SINGLE FAMILY HOMES REQUIRE MIN 1 3'-0" EXIT DOOR ON AN UNOBSTRUCTED PATH OF TRAVEL IN THE HOME. THE 'FRONT DOOR IS USUALLY THAT DOOR.

DOOR PANEL HEIGHTS_6'-8", 7'-0", 8'-0"

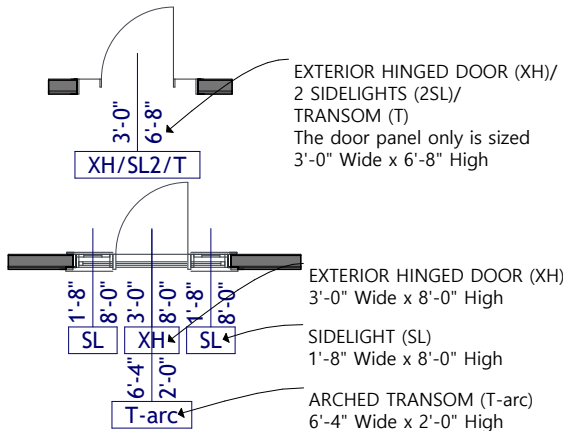
SIDELIGHTS_USUALLY 10", 12", 14" WIDE

TRANSOMS_USUALLY 10", 12", 16" HIGH.



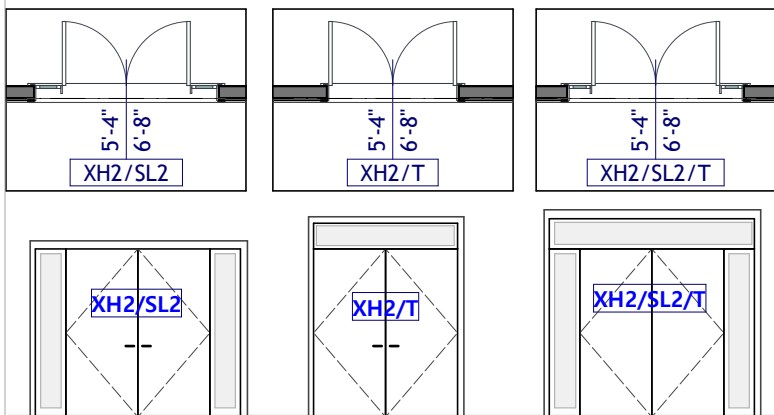
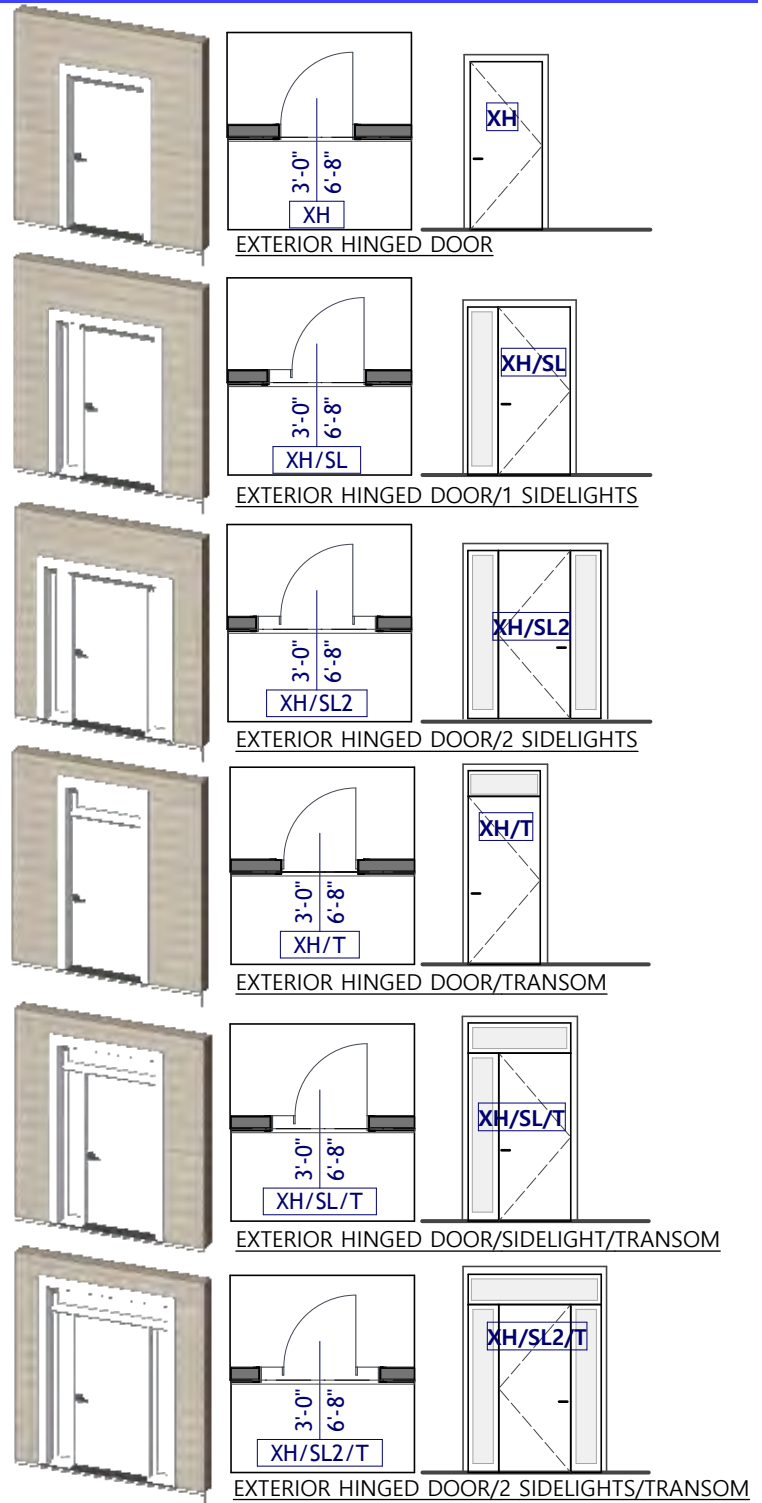
SYMBOLS USED THIS PROJECT

***MULLED DOOR ASSEMBLY**_STANDARD DOOR ASSEMBLIES MAY GET ONE 'CALL OUT', AS THIS ONE DOES. THIS INDICATES A MULLED ASSEMBLY THAT IS PUT TOGETHER AT THE FACTORY AS A SINGLE UNIT.



***COMPONENT DOOR ASSEMBLY**_FOR A FEW REASONS DOOR ASSEMBLIES MIGHT BE PUT TOGETHER IN THE FIELD USING SEPARATE DOOR AND WINDOW UNITS. THESE COMPONENTS WOULD BE 'CALLED OUT' SEPARATELY. ALWAYS CHECK ELEVATION FOR ASSEMBLY DESIGN CONFIRMATION ASSUMING THE ELEVATIONS ARE CAREFULLY PRESENTED.

***CALL OUT SYMBOLS**_THERE IS NO ACCEPTED UNIFORM WAY OF DOING THIS. ALL INDICATIONS ON PLANS FOR EXTERIOR DOORS AND WINDOWS SHOULD BE DOUBLE CHECKED IN THE ELEVATION DRAWINGS.



DOUBLE ENTRY DOORS

***FUNCTION 1**_HAVING A GRACIOUS WELCOMING ENTRY CAN BE A VIABLE INTENTION. AND SOMETIMES LARGER SCALE HOME NEEDS A BIG ENTRY STATEMENT TO SIMPLY GIVE IT A PRESENCE. THE DOUBLE DOOR IS (BUT) ONE WAY TO DO THAT.

***FUNCTION 2**_MOVING OBJECTS IN AND OUTSIDE SOMETIMES MAY REQUIRE A LARGER DOOR ENTRY. ACCESS THRU TO FINAL DESTINATION SHOULD BE CONSIDERED. IN FACT THE STAIRS- NOT THE DOORS- ARE USUALLY THE KINK IN THE ACCESS PATH.

***CONSIDER**_OPERATIONALLY DOUBLE DOORS ARE AWKWARD, CAN BE DIFFICULT TO SECURE, AND USUALLY LEAK AIR. ONCE THEY START WARPING THEY BECOME A (BIGGER) PROBLEM. A SINGLE LARGER DOOR (SAY 3'-4"Wx8'-0"H) IS AN OPTION TO SOLVE BOTH VISUAL SCALE AND ACCESS SIZE SITUATIONS WHILE NOT SHARING THOSE DOUBLE DOOR OPERATIONAL PROBLEMS.

EXTERIOR GLASS DOORS aka PATIO UNITS

***PANELS+OPTIONS_PATIO** STYLE SLIDING AND HINGED DOORS ARE SIMILAR IN THAT THEY BASED ON THE GLASS DOOR PANEL SIZE, AND ARE UNIQUE IN HOW THOSE PANELS ARE PUT TOGETHER TO SOLVE A PROBLEM. SLIDING AND HINGING OPTIONS ARE CONSIDERABLE.

***SYMBOL USED THIS PROJECT_XGL(#OF PANELS)** IS USED UNIVERSALLY FOR SLIDING OR HINGING UNITS. OPERATION TYPE AND OPERATIONAL PANELS TO BE DETERMINED BY END USER.

***UNIT SIZES/NOT DOOR PANEL SIZES_MANUFACTURERS** AND THIS PROJECT SIZE THESE PATIO DOOR TYPES BY UNIT (OUTSIDE OF FRAME) WIDTH AND HEIGHT, NOT BY THE DOOR PANEL SIZE. THESE ARE THE ONLY DOORS TYPICALLY THAT ARE SIZED THIS WAY.

PANEL WIDTHS

4'-2"
3'-2"
2'-8"

PANEL HEIGHTS

6'-8" (REMODEL HT)
6'-10" STANDARD
8'-0" STANDARD

PANEL SIZES

- *these are the 3 most standard panel widths and heights
- *door offerings become a multiple of the basic panel size
- *the slider, by design, has an overlap, so the individual panels are wider by a bit to result in simple total unit widths
- *sliders require no inside or outside space when opening/opened which is often a great design asset.
- *sliders tend to be a little heavy/hard to operate

PANEL STILES & RAILS

NARROW STILES

- *this 'original' sash width allows more glass and a more contemporary look
- *not all manufactures still produce this older standard

"FRENCH" STILES

- *wider more substantial sash stiles and rail.
- *comfortable with most transitional and traditional home designs
- *has become a design/construction standard at least for wood based door constructions

XGL2

8'-0"
6'-0"
5'-0"

6'-0"
6'-10"

2 PANEL GLASS SLIDER

- *3 widths based on the 3 basic panel widths
- *the fixed panel, or inactive panel does not slide
- *exterior mounted sliding screen is typical, slides from the fixed panel side to the active panel side when the active panel is open.

XGL3

12'-2"
9'-2"
7'-8"

9'-2"
6'-10"
6'-10"

2'-8"
6'-10"
6'-10"

3 PANEL GLASS SLIDER

- *created by mulling a single frame unit to a double slider
- *these width dimensions are nominal. check manufacturers specs
- *pick the direction for the sliding panel
- *drawings typically will show a 3 panel unit. functional leaf as selected

XGL4

16'-0"
12'-0"
10'-0"

10'-0"
6'-10"

BIPART 4 PANEL SLIDING UNITS

- *2 center panels slide out resulting in a wider opening
- *sliding screens also bipart from the center
- *this format offers a big opening, a lot of glass, and simple screens. tends to be a great value and typically employed this project over multi stacking/folding design format

XGL?

7'-10"
6'-10"

MULTI PANEL SLIDING STACKING

- *panels slide by each other and stack
- *net result is a larger opening
- *screening difficult. this type of door may work better opening onto a screen porch.
- *consider if a really big opening is required.
- *heavy based on # of panels, and pricey.

HINGED PATIO DOORS

XSL

1'-0"
1'-6"
2'-0"

6'-8" (REMODEL HT)
6'-10" STANDARD
7'-3" SOME MANUFACTURERS

1'-0"
6'-10"
1'-6"
6'-10"
2'-0"
6'-10"

SIDELIGHT PANEL SIZES

- *these sizes likely vary
- *conforming transoms options per manufacturer.
- *options too varied to include by illustration
- *between sidelight and transoms any wall will permit a sound doorscape design to fit.

XGL

2'-6"
2'-8"
3'-0"

6'-8" (REMODEL HT)
6'-10" STANDARD
7'-3" SOME MANUFACTURERS

2'-6"
6'-10"
2'-8"
6'-10"
3'-0"
6'-10"

OPERATIONAL PANEL SIZES

- *these 3 sizes, excepting fractional differences are the primary/typical unit sizes.
- *the 7'-3" ht is not so typical but a great scale in a 9' high nominal wall
- *some manufacturers also offer 9' and 10' hts, and widths greater than 3'

STANDARD 2 PANEL OPERATION OPTIONS

- *common 2 panel configurations below
- *any panel can swing in or swing out.
- *outswing doors will not get in the way of any interior condition/furniture. but might get in the way of exterior deck or patio furniture
- *outswing doors are a more problematic fit for screens. inswing are easier.
- *some prefer outswing doors in high wind conditions as (push) pressure tightens door.

XGL2

XGL2

XGL2

- *swing inside or out
- *french style
- *swing inside or out
- *hinge at wall
- *swing inside or out
- *hinge at center
- *allow open door panel to open 180° flat against fixed panel

OPERABLE FLEXIBILITY

- *any panel can be operable or fixed
- *any panel can swing in or swing out
- *most any combination is possible. if units are independent with stud pockets then truly any combination is possible with as many units as will fit.
- * (narrower) sidelight units can be added as well to fill/fit wall dimension potential.

BUT

- *don't overdo the operating doors. many of us end up using 1 go to door. operating doors area more expensive, they leak more energy, and they are not as secure.

XGL3

MULTI

1'-3"
7'-1 1/2"

MULTI PANEL FOLDING STACKING

- *bifold hinge design in series-
- *net result is a wide opening- up to 20'
- *panels can fold in one or both directions
- *custom construction and pricing

COMPONENTS_doors+windows d11.4

WINDOW TYPES_CASEMENTS, AWNINGS, DOUBLE HUNGS, SLIDERS

CASEMENT WINDOWS

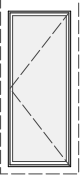
WIDTH_1'-6" UP TO 3'-0"

HEIGHT_1'-6" UP TO 6'-0"

OPERATION_WINDOW HINGES OUT FROM BOTTOM WITH A CRANK
SCREEN_MOUNTS ON THE INSIDE AND IS EASILY REMOVEABLE

EGRESS_YES, 2'-4" X 3'-6" MIN SIZE

C1

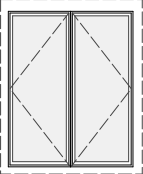


COMMENTS

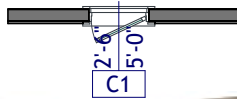
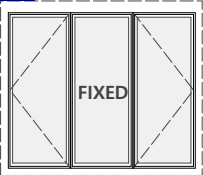
*CASEMENTS OPEN (ALMOST) 100%, AS DO AWNING UNITS. DOUBLE HUNGS AND SLIDERS OPEN 50%. THERE IS NO MIDDLE OPERATING BAR, SO MORE GLASS+VIEW.

*GIVEN THE MANY SIZE OPTIONS THE CASEMENT IS A FLEXIBLE WINDOW TYPE CHOICE.

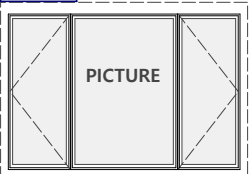
C2



C3



C/P/C



SLIDING aka GLIDING WINDOWS

WIDTH_2'-6" UP TO 6'-0" FOR 2 PANEL UNITS

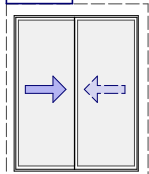
HEIGHT_2'-0" UP TO 5'-0"

OPERATION_SLIDING, SLIDING BY PASS.

SCREEN_MOUNTS ON THE OUTSIDE

EGRESS_YES. 4'W X 4'H OR 5'W X 3'-6"H AND BIGGER UNITS COMPLY

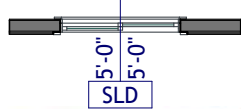
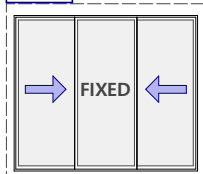
SLD2



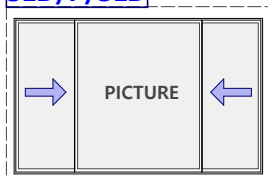
COMMENT

CHOICE_SOME SLIDERS HAS 1 FIXED SASH AND 1 SLIDING SASH. OTHERS HAVE BOTH SLIDING SASH. THE LESS EXPENSIVE ALUMINUM AND VINYL CONSTRUCTED UNITS TEND TO HAVE 1 SLIDING SASH. THE MORE EXPENSIVE WOOD CONSTRUCTED WINDOWS TEND TO HAVE 2 SLIDING SASH.

SLD3



SLD/P/SLD



AWNING WINDOWS

WIDTH_1'-6" UP TO 4'-6"

HEIGHT_1'-6" UP TO 4'-0"

OPERATION_WINDOW HINGES OUT FROM BOTTOM WITH A CRANK
SCREEN_MOUNTS ON THE INSIDE AND IS EASILY REMOVEABLE

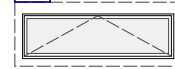
EGRESS_YES IF SILL HT IS SET BELOW 44"

COMMENT

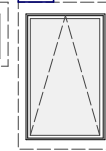
*THE AWNING HAS LOTS OF USES. PARTICULARLY EFFECTIVE MOUNTED HIGHER ON A WALL ALLOWING FURNITURE BELOW.

*CAN BE LEFT OPEN IN LIGHT RAIN

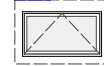
A1



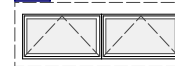
A1



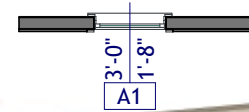
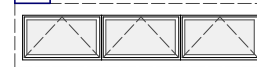
A1



A2



A3



DOUBLE HUNG WINDOWS

WIDTH_1'-6" UP TO 3'-6"

HEIGHT_3'-6" UP TO 6'-4"

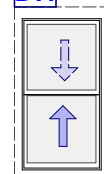
OPERATION_BOTTOM SASH ALWAYS SLIDES UP. SEE NOTE BELOW.

SCREEN_MOUNTS ON THE OUTSIDE WHICH EFFECTS THE EXTERIOR APPEARANCE. CHECK EXTERIOR SCREEN MANAGEMENT AND EXTERIOR WINDOW CLEANING. EXT GLASS BEHIND A SCREEN CAN GET FILTHY OVER TIME.

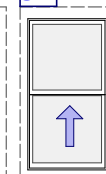
EGRESS_BECAUSE ONLY HALF THE WINDOW OPENS A 3'W X 5'H (+/_) UNIT SIZE IS NEEDED TO MEET EGRESS REQUIREMENTS.

VALUE_USUALLY A LITTLE LESS EXPENSIVE THAN THE CASEMENT TYPE

DH



SH

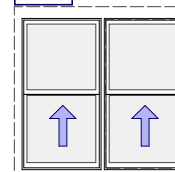


SH/DH COMMENT

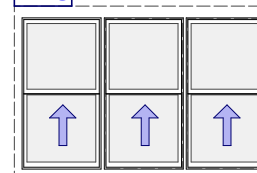
CHOICE_THE SINGLE HUNG WINDOW BOTTOM SASH ONLY SLIDES UP. THE DOUBLE HUNG ALLOWS THE BOTTOM SASH TO SLIDE UP AND THE TOP SASH TO SLIDE DOWN. THE DOUBLE HUNG UNITS (ONLY) MAY OFFER CLEANING EXTERIOR GLASS FROM THE INSIDE.

DH_DEFAULT_THese WINDOWS ARE OTHERWISE THE SAME (SIZES).THIS PROJECT USES DH AS A DEFAULT SYMBOL. DOUBLE HUNG TENDS TO BE USED AS THE GENERIC DESCRIPTOR.

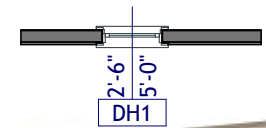
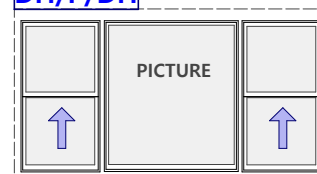
DH2



DH3



DH/P/DH



COMPONENTS_doors+windows d11.5

WINDOW TYPES_PICTURE, TRANSOMS, TRAPS, PENTS, ARCHES

PICTURE WINDOWS

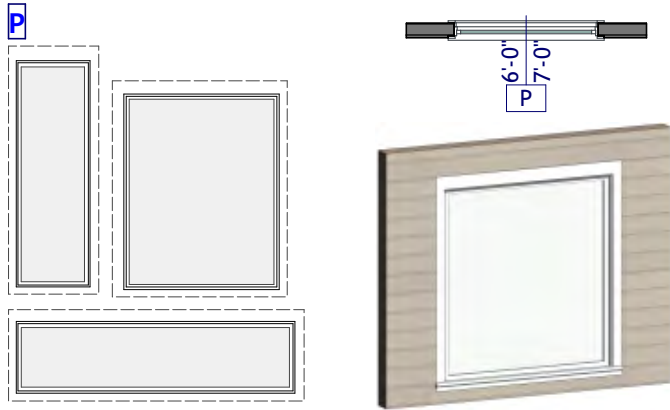
SIZE_USUALLY LIMITED BY TOTAL SQUARE FOOTAGE BETWEEN 50sf-60 sf
CHECK MANUFACTURER FOR MINIMUM AND MAXIMUM WIDTHS AND HEIGHTS.

OPERATION_FIXED

SET_ 'SASH SET' PLACES THE GLASS IN A SASH SIMILAR TO ANY OPERATING WINDOW. THE SASH IS THE FRAME HOLDING THE GLASS. 'DIRECT SET' PLACES THE FIXED GLASS IN THE ASSEMBLY FRAME WITHOUT ANY SASH. THESE MAY BE A LITTLE LESS EXPENSIVE AND ARE 'THINNER' THEREFORE ALLOWING A LITTLE MORE GLASS AREA.

INTEGRATION WITH OPERATING UNITS_MANUFACTURERS MAY HAVE PICTURE WINDOW OFFERINGS DESIGNED TO DIMENSIONALLY COORDINATE WITH THEIR CASEMENT OR DOUBLE HUNG OPERATING UNITS.

VALUE_PICTURE UNITS ARE USUALLY LESS EXPENSIVE PER SQUARE FT.



TRANSOM WINDOWS

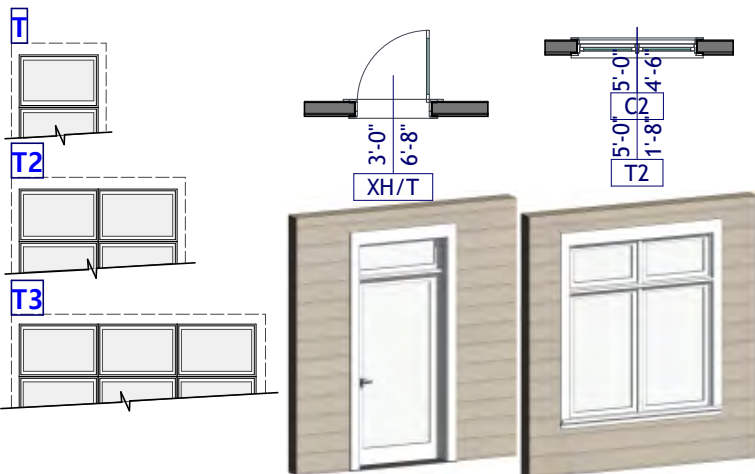
FUNCTION_TRANSOMS ARE SET ABOVE DOORS AND WINDOWS TO INCREASE VIEW AND LIGHT WHILE MAINTAINING CONVENTIONAL HT DOORS AND WINDOWS. TOTAL UNIT HTS ARE INCREASED SO CEILING HTS NECESSARILY MUST BE A BIT HIGHER-SAY 9' OR HIGHER.

SIZE_SIMILAR TO PICTURE UNITS THERE WILL BE COORDINATING WIDTHS FOR THE GLASS DOORS AND OR WINDOWS BELOW AND AVAILABLE IN 2 OR 3 HEIGHTS.

INTEGRATION_MANUFACTURERS MAY OFFER TRANSOMS FACTORY MULLED TO A DOOR OR WINDOW BELOW AS A SINGLE UNIT.

OPERATION_(USUALLY) FIXED

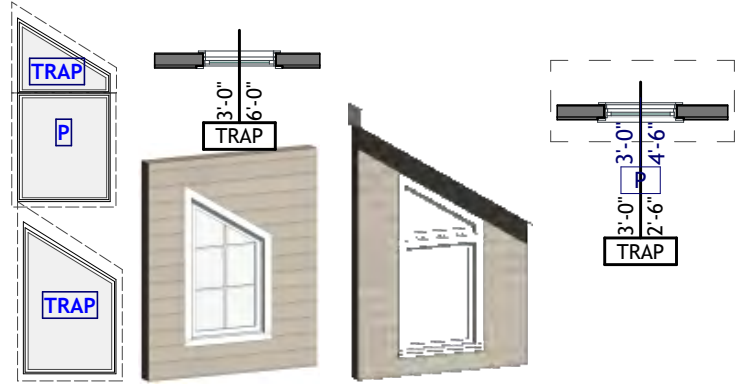
VALUE_BECAUSE OF THEIR SMALL SIZE THEY ARE PRICIER PER SQUARE FOOT THAN THE BIG PICTURE WINDOWS



SINGLES, TWINS OR TRIPLES COULD BE OVER PATIO DOORS OR CASEMENT WINDOWS

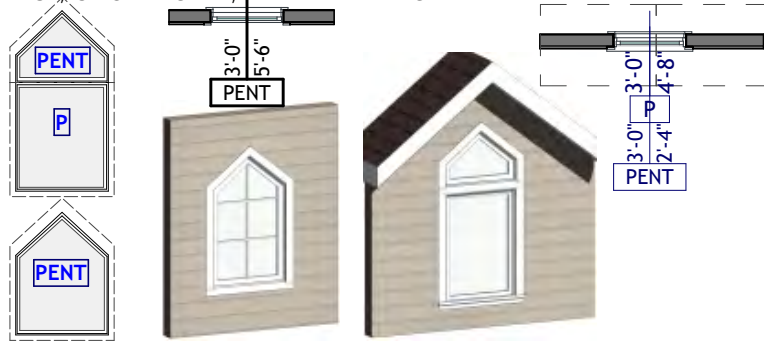
TRAPEZOID (TRAP) WINDOWS

SHAPE_ 4 SIDED. ANGLE DIMENSIONED WITH SPRINGLINE AND ROOF PITCH, OR SPRINGLINE, WIDTH AND HEIGHT



PENTAGONAL (PENT) WINDOWS-5 SIDES

SHAPE_ 5 SIDED. ANGLE DIMENSIONED WITH SPRINGLINE AND ROOF PITCH, OR SPRINGLINE, WIDTH AND HEIGHT



SEGMENTAL ARCH WINDOWS

SHAPE_SOFTER RADIUS ARCH DIMENSIONED WITH SPRINGLINE AND RADIUS,OR SPRINGLINE, WIDTH AND HEIGHT. VERY FLEXIBLE FOR DESIGNING IN DIFFERENT SITUATIONS.



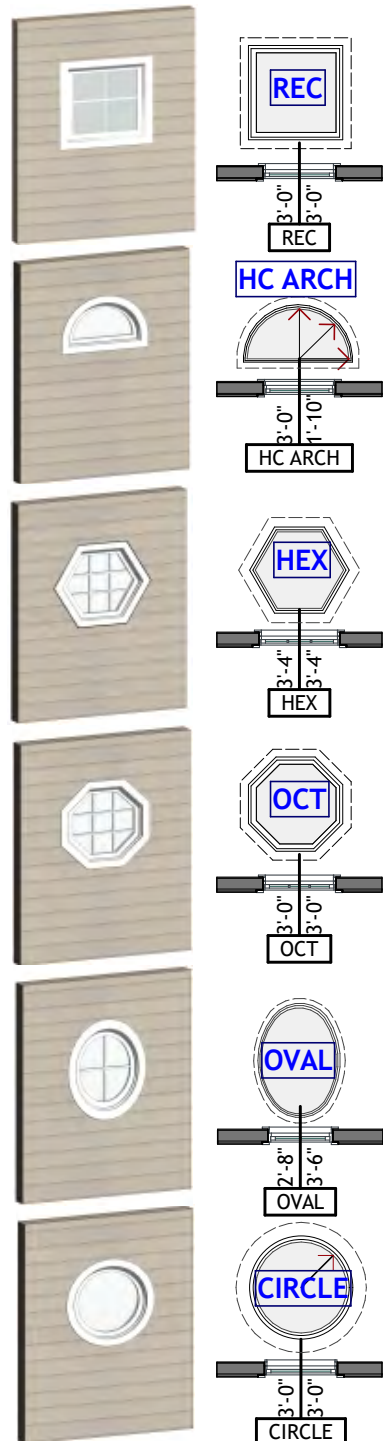
HALF CIRCLE ARCH WINDOWS

SHAPE_HALF CIRCLE. THEREFORE THE HEIGHT IS EXACTLY HALF THE WIDTH.



'SOLO' ACCENT WINDOWS

*MOST MANUFACTURERS MAKE AVAILABLE SMALLER ACCENT WINDOWS IN THE SIMPLE GEOMETRIES BELOW. THESE FIND A HOME IN ROOF GABLES, IN SMALL SPACES SUCH AS BATHS, AND IN FOYER CONFIGURATIONS. SOME ARE AVAILABLE AS OPERATING UNITS, AND SOME OFFER DECORATIVE GLASS OPTIONS.



OTHER WINDOWS TYPES

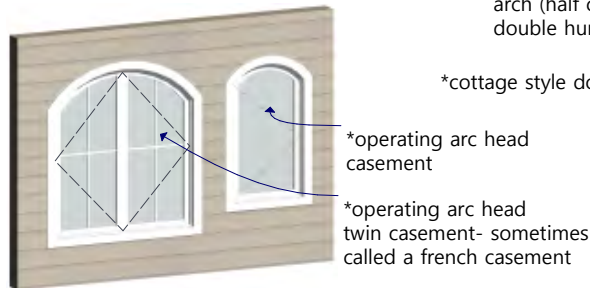


MULTI

- *Small rectangular units adjacent to each other in groups, shapes, vertical or horizontal runs.
- *These can be comprised of casement, awning, or fixed 'direct set' units.
- *When properly integrated in a design these can be very effective

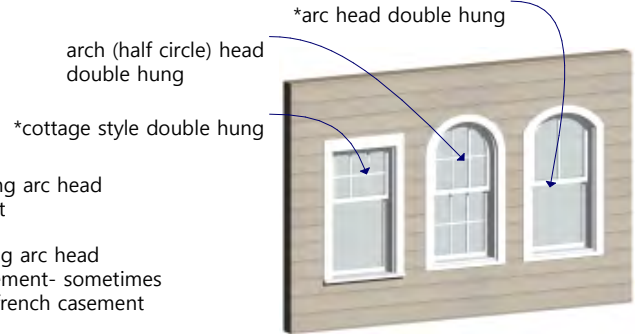
CASEMENT VARIATIONS

- *These single and twin operating casements with arc heads are interesting but have trouble integrating so one needs to be careful where they are placed.
- *This arc head windows need to be seen in context with an entire elevation to gauge suitability.



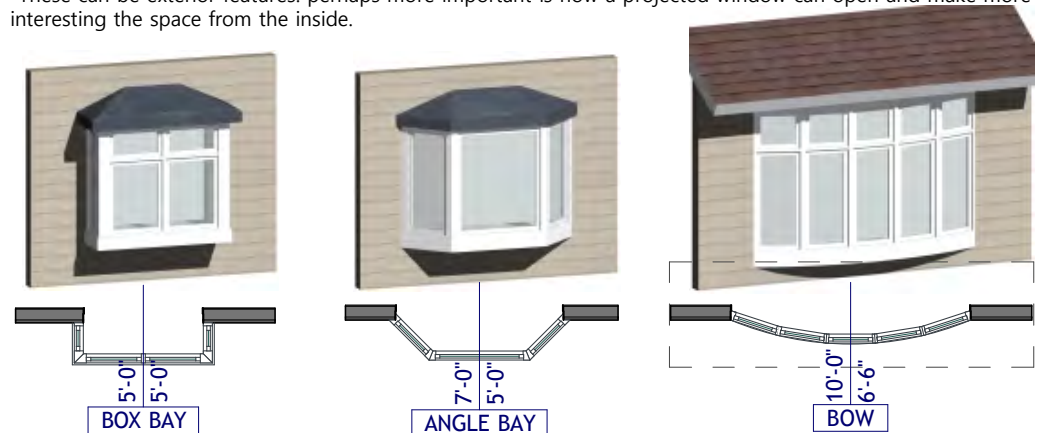
DOUBLE HUNG VARIATIONS

- *The 'cottage style' is asymmetrical with shorter sash on top. This proportion offers a subtle interest and looks great when mullied 2 or 3 across.
- *Arch and arc heads also are interesting but have trouble integrating with other windows so one needs to be careful where they are placed.



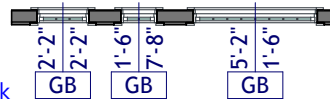
BAY AND BOW

- *3 traditional geometries for 'projected' windows which can be factory manufactured or field built.
- *Casement, fixed, and double hung units are available for incorporation.
- *Small roofs or tucking the projection under a cantilever floor or house roof are options.
- *These can be exterior features. perhaps more important is how a projected window can open and make more interesting the space from the inside.



GB_Glass Block or Acrylic Block

- *Glass block is the generic reference. Real glass block is an option. Acrylic block is a more economical and flexible option
- *Window sizes based on 6" or 8" block module and available in any multiple both horizontally and vertically
- *Example 8-8" block wide=64"+2" for frame, 2-8" block high=16"+2" for frame. Unit size is 66"x18"h or 5'-6"x1'-6".
- *Their vinyl frames allow them use in wet conditons like showers.
- *Also available in operable units. See hy-lite.com



COMPONENTS_doors+windows d11.7

SOME DOOR AND WINDOW MULLED COMBINATIONS

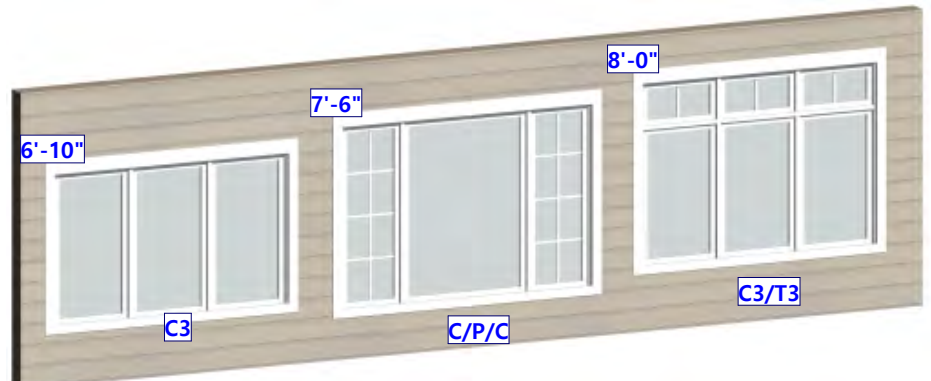
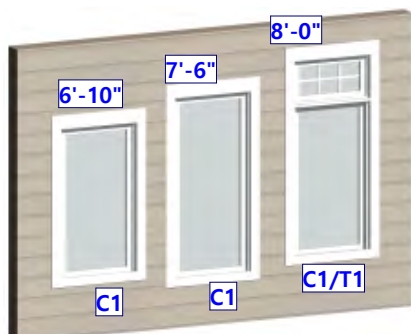
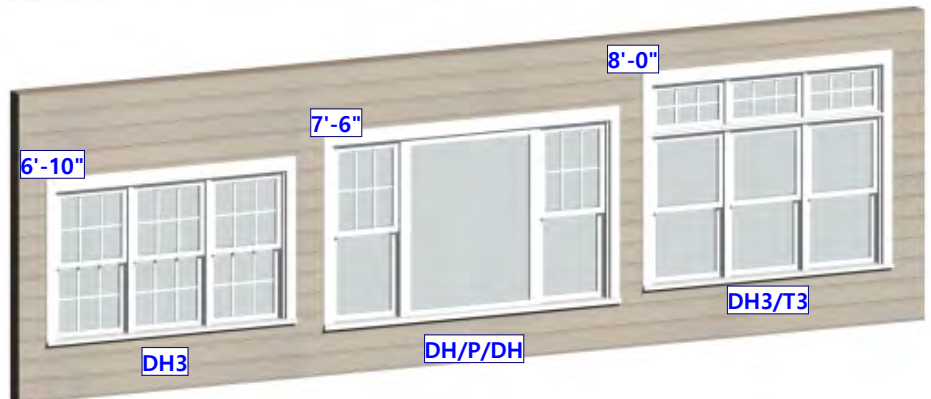
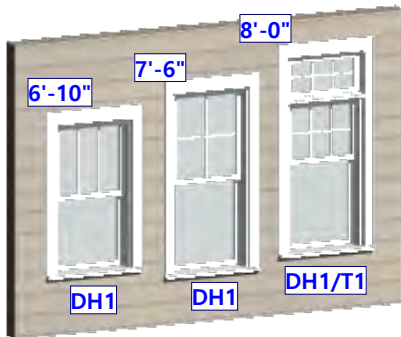
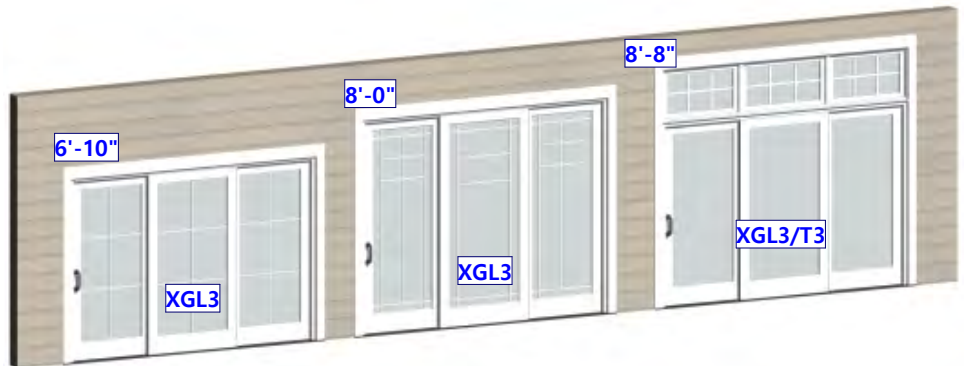
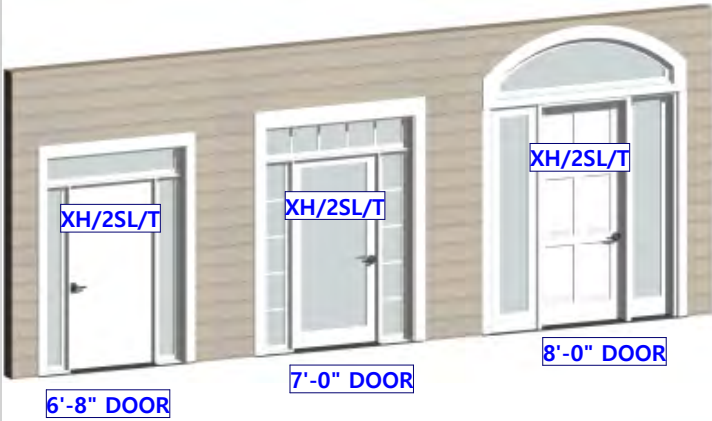
STANDARD CONFIGURATIONS-MISC OBSERVATIONS

*INDUSTRY OPTIONS_AS AMERICAN CONSUMERS WE ARE USED TO HAVING TOO MANY OPTIONS AND CERTAINLY THIS IS TRUE IN THE DOOR AND WINDOW INDUSTRY. THE MANY OPTIONS TRANSLATES INTO MORE INVESTIGATION AND MORE PATIENCE REQUIRED. (d11.12) THE NEXT PAGE OUTLINES SOME OF THE DETAIL DECISIONS INVOLVED. THIS PAGE IS PRESENTING MORE BASIC DESIGN THINKING ABOUT WINDOW ASSEMBLY OPTIONS AVAILABLE BY COMBINING WINDOW AND DOOR COMPONENTS AND GRILL OPTIONS.

*NATIONAL GIANTS+REGIONAL MANUFACTURERS _DOORS FEEL MORE SUBSTANTIAL, OPERATE MORE SMOOTHLY, AND BLOCK NOISE MORE EFFECTIVELY WHEN THEY HAVE SOME WEIGHT TO THEM. THEY ALSO REQUIRE A BETTER HARDWARE, AND WILL RATTLE THE HOUSE IF THEY ARE SLAMMED.

PRETTY STANDARD ASSEMBLIES

*The mulled combinations shown this page are actually standard and available thru many manufacturers. They are using the 'call' nomenclature unique to this project. So don't expect a vendor to know what a XH/2SL/T is. Long winded descriptions just don't fit on drawings very well. So this is another reminder that 3d images like these, and 2d elevation drawings, are needed to truly describe window assemblies. Standard size single windows dont need the same attention but the 3 door designs at left make it clear that the one call symbol can't describe the design with the 3d or elevation images.

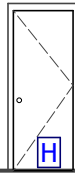


BASE COMPONENTS+HEAD HTS

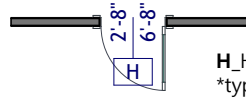
MULLED TRIPLE ASSEMBLIES+HEAD HTS

COMPONENTS_doors+windows d11.8

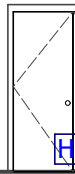
INTERIOR DOOR TYPES AND SIZES



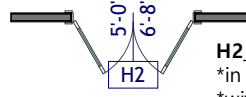
WIDTHS	WIDTHS	HEIGHTS
*1'-0"	*2'-0"	*6'-8"
*1'-6"	*2'-4"	*7'-0"
*1'-8"	*2'-6"	*8'-0"
	*2'-8"	
	*2'-10"	
	*3'-0"	



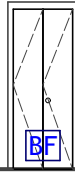
H_Hinge Door
*typical single leaf hinge door



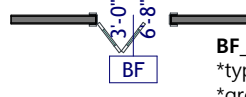
WIDTHS	HEIGHTS
*2_1'-0"=2'-0"	*6'-8"
*2_1'-4"=2'-8"	*7'-0"
*2_1'-8"=3'-0"	*8'-0"
*2_2'-0"=4'-0"	
*2_2'-4"=4'-8"	
*2_2'-6"=5'-0"	



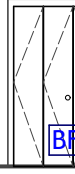
H2_Hinged Pair
*in bedroom closets sometimes called wardrobe doors
*with glass panels sometimes called french doors
*operate smoothly
*closing hardware (ball catches, magnetic catches) simple but sometimes fussy to get the right resistance.



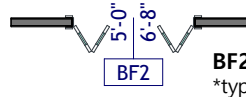
WIDTHS	HEIGHTS
*2_1'-0"=2'-0"	*6'-8"
*2_1'-4"=2'-8"	*7'-0"
*2_1'-8"=3'-0"	*8'-0"
*2_2'-0"=4'-0"	
*2_2'-4"=4'-8"	
*2_2'-6"=5'-0"	



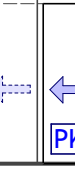
BF_Bifold
*typical use for in line closets, not as passage doors
*great in tight spaces as door 'swing' and space req'd are half size
*open & close efficiently-see below
*lightweight doors & hardware can result in a flimsy feel. better hardware and heavier doors work better



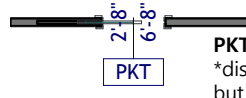
WIDTHS	HEIGHTS
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*4_1'-4"=5'-4"	*7'-0"
*4_1'-6"=6'-0"	*8'-0"
*4_1'-8"=6'-8"	
*4_2'-0"=8'-0"	



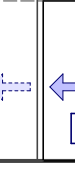
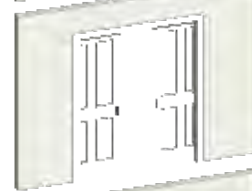
BF2_Bifold Pair
*typical use for in-line closets
*great in tight spaces
*open & close efficiently
*lightweight doors & cheap hardware can result in a flimsy feel



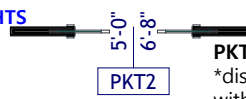
WIDTHS	HEIGHTS
*2'-0"	*6'-8"
*2'-4"	*7'-0"
*2'-6"	*8'-0"
*2'-8"	
*2'-10"	
*3'-0"	



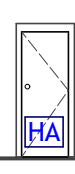
PKT_Pocket Door
*disappears in wall. no door swing + door swing spaceto deal with, but
*requires wall space for pocket
*requires decent hardware
*best for doors not frequently used



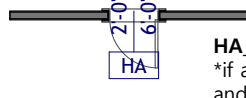
WIDTHS	HEIGHTS
*2_1'-0"=2'-0"	*6'-8"
*2_1'-4"=2'-8"	*7'-0"
*2_1'-8"=3'-0"	*8'-0"
*2_2'-0"=4'-0"	
*2_2'-4"=4'-8"	
*2_2'-6"=5'-0"	



PKT2_Pocket Door Pair
*disappears in wall. no door swing or door swing space to deal with, but
*requires wall space for pockets
*requires decent hardware
*best for doors not frequently used



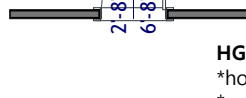
WIDTHS	HEIGHTS
*2'-0"	*AS REQ'D TO FIT
*2'-6"	
*3'-0"	
*CUSTOM	



HA_Hinged Attic
*if attic is not conditioned this door must be insulated (R-5 value) and have weatherstripping
*min net clear access size 1'-8"w x 2'-6"
*doors are often custom sizes/construction but available. sometimes called dormer doors.



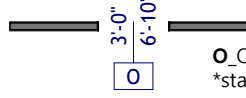
WIDTHS	HEIGHTS
*2'-8"	*6'-8"
*3'-0"	*7'-0"
	*8'-0"



HG_Hinged Garage
*house to garage door
*must be insulated, weatherstripped
*must have 20 min fire rating, or code approved similar
*must be self closing (self-closing hinges or a closer)



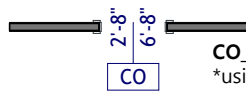
WIDTHS	HEIGHTS
*ANY WIDTH	*6'-8"
	*7'-0"
	*8'-0"
	*TO MATCH DOORS



O_Opening
*standard sheetrock opening



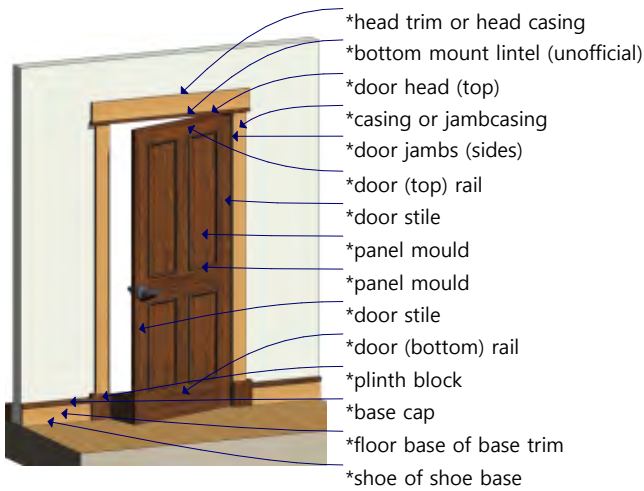
WIDTHS	HEIGHTS
*ANY WIDTH	*6'-8"
	*7'-0"
	*8'-0"
	*TO MATCH DOORS



CO_Cased Opening
*using casing details typical of other doors

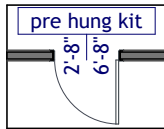
DOOR ASSEMBLY PARTS

*COMMON TERMS FOR DOOR AND DOOR CASING PARTS

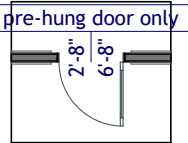


CASING THOUGHTS

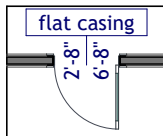
***PRE-HUNG** GENERALLY ACCEPTED THAT BUYING A DOOR PRE-HUNG IS SMART. MACHINING IS DONE.
 ***CASING** BELOW OUTLINES SOME THOUGHTS ON CASING.



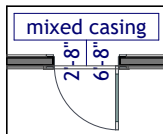
COMMODITY PRE-HUNG DOOR KIT
 *pre-hung door in frame with casing fixed 1 side
 *pre-cut loose casing for the other side
 *casing typical 5/8" x 2 1/4" which is a
 *closing hardware fussy



PRE-HUNG DOOR-NO CASING
 *pre-hung (only) door without casing
 *and shows without any floor base
 *note the floor base and the casing necessarily butt into each other so detail needs consideration



PRE-HUNG DOOR-CUSTOM CASING
 *pre-hung (only) door without casing
 *flat stock casing and floor base match thickness and can be any width
 *shows a wood door in a painted trim environment which always highlights the door



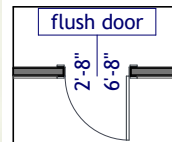
PRE-HUNG DOOR-CUSTOM CASING
 *pre-hung (only) door without casing
 *casing and floor base showing a highlight trim
 *avoids sometimes difficult mitres at door head
 *note 'plinth block' at floor that allows different trim conditions to 'kill'.

INTERIOR DOOR CHOICES

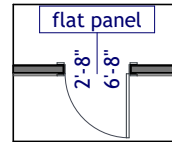
***ANOTHER HUGE INDUSTRY** HAS AN INCREDIBLE NUMBER OF CHOICES FOR CONSUMERS. MANUFACTURERS SEARCH ENDLESSLY HOW TO OFFER A SALEABLE GOOD LOOK AT A LOWER MANUFACTURING COST. THIS RESULTS IN LOTS OF SUBTLE MANUFACTURING DISTINCTIONS. SEE MANUFACTURERS WEB SITES (MASONITE CORP IS A GOOD LOOK SITE).
 ***DOOR PANEL CONSTRUCTION** AGAIN MANY CHOICES. GENERIC DESCRIPTORS ARE HOLLOW, SEMI SOLID, AND SOLID. MANY TO MOST USE SOME FORM OF COMPOSITE WOOD (WOOD CHIPS AND GLUE). REAL WOOD DOORS AVAILABLE AND BEAUTIFUL AND FAIRLY COSTLY.
 ***APPEARANCE** SELECT DOORS YOU LIKE TO LOOK AT.
 ***WEIGHT** DOORS FEEL MORE SUBSTANTIAL, OPERATE MORE SMOOTHLY, AND BLOCK NOISE MORE EFFECTIVELY WHEN THEY HAVE SOME WEIGHT TO THEM. THEY ALSO REQUIRE A BETTER HARDWARE, AND WILL RATTLE THE HOUSE IF THEY ARE SLAMMED.
 ***INSTALLATION TEST** WHEN HINGED DOORS ARE INSTALLED THEY SHOULD OPEN AND CLOSE SMOOTHLY- AND **NOT** OPEN OR CLOSE BY THEMSELVES. IF THEY PASS THIS TEST THEY SHOULD BE TROUBLE FREE. EVEN THE CHEAP DOORS ARE SANDWICH CONSTRUCTED WITH THOSE COMPOSITE MATERIALS TO PRECLUDE WARPAGE.

DOOR+PANEL TYPES

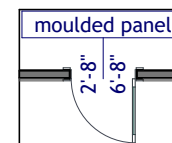
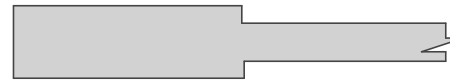
***PRE-HUNG** GENERALLY ACCEPTED THAT BUYING A DOOR PRE-HUNG IS SMART. MACHINING IS DONE.
 ***CASING** BELOW OUTLINES SOME THOUGHTS ON CASING.



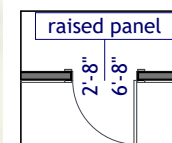
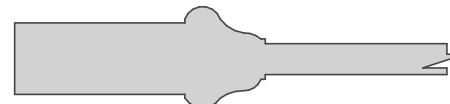
FLUSH
 *the term for a flat door is 'flush'
 *available in a very inexpensive hollow core pre-hung format up to a highly specified architectural exotic wood veneer.
 *also in 'flush steel', or 'flush fibreglass' constructions



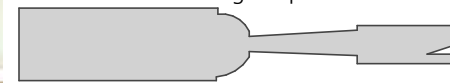
FLAT PANEL
 *the flat panel is flat with square edge meeting rails and stiles. simple look.
 *aka shaker, mission, arts+crafts, craftsman.
 *closing hardware fussy



MOULDED PANEL
 *a projected moulding connects the panel to the rail and stile. the moulding may be simple (as in the 3d image) or complex and deep.
 *a rich, elaborate door can be created not possible with the other panel types.



RAISED PANEL
 *the panel itself has a chamfered perimeter that slots into the rails and stiles.
 *initially the raised panel format was necessary for a door assembly that could harmlessly move and shift a little, and this has been handed down as a design staple of traditional designs.



DOOR STYLES

*A CROSS SECTION OF DESIGNS SHOWING IN PAINT GRADE



6 PANEL_

*probably the most common American door panel. Colonial heritage.



PROJECT DEFAULT_

*neutral design works in any transitional design



FLAT PANEL_

*craftsman style-non moulded panel
*several panel designs and door constructions



GLASS DOORS_

*15 lite glass
*narrower doors may be 2 lites across
*8' high doors may be 6 lites high



MID CENTURY_

*1 panel shown
*4+5 horizontal panel designs available



CONTEMPORARY_

*door design series by masonite corp
*value priced, contemporary look

DOOR STYLES

*A CROSS SECTION OF DESIGNS SHOWING IN WOOD



TRADITIONAL_

*4 panels showing with moulded panels



PROJECT DEFAULT_

*the 4 panel neutral design showing in wood



GLASS DOORS_

*15 lite with arch head
*cheaper way to get an arch than the full door



GLASS DOORS_

*prairie style glazing
*very available



MID CENTURY_

*2 panel showing with moulded panels



CONTEMPORARY_

*the simple flush door
*lots of veneer woods are available.

ARCHED HEADS

*CHECK RESOURCES/AVAILABILITY OR ARCH HEAD TRIMS BEFORE



SINGLE_

*15 lite glass
*other



HINGED PAIR_

*or 'french door' with 6 lite glass panel



GLASS DOOR +TRANSOM_

*a different way to introduce an arch design.



HINGED PAIR +TRANSOM

*the segmental arch allows one to control the radius and therefore the height



ARCHED CASED OPENING_

*something special about the arch



ANYTHING GOES_

*get inventive with shape.
*easier execution w/o trims

RECTANGULAR HEADS

*OTHER RECTANGULAR DOORS AND OPENINGS



OBSOLETE GLASS_

*light and privacy offered. many glass choices



HINGED PAIR +TRANSOM

*transom gives the door more presence



HINGED PAIR +TRANSOM_

*glass transom for light
*solid doors for privacy



OPENING W/TRANSOM

*this painted transom is a traditional detail



ANYTHING GOES_

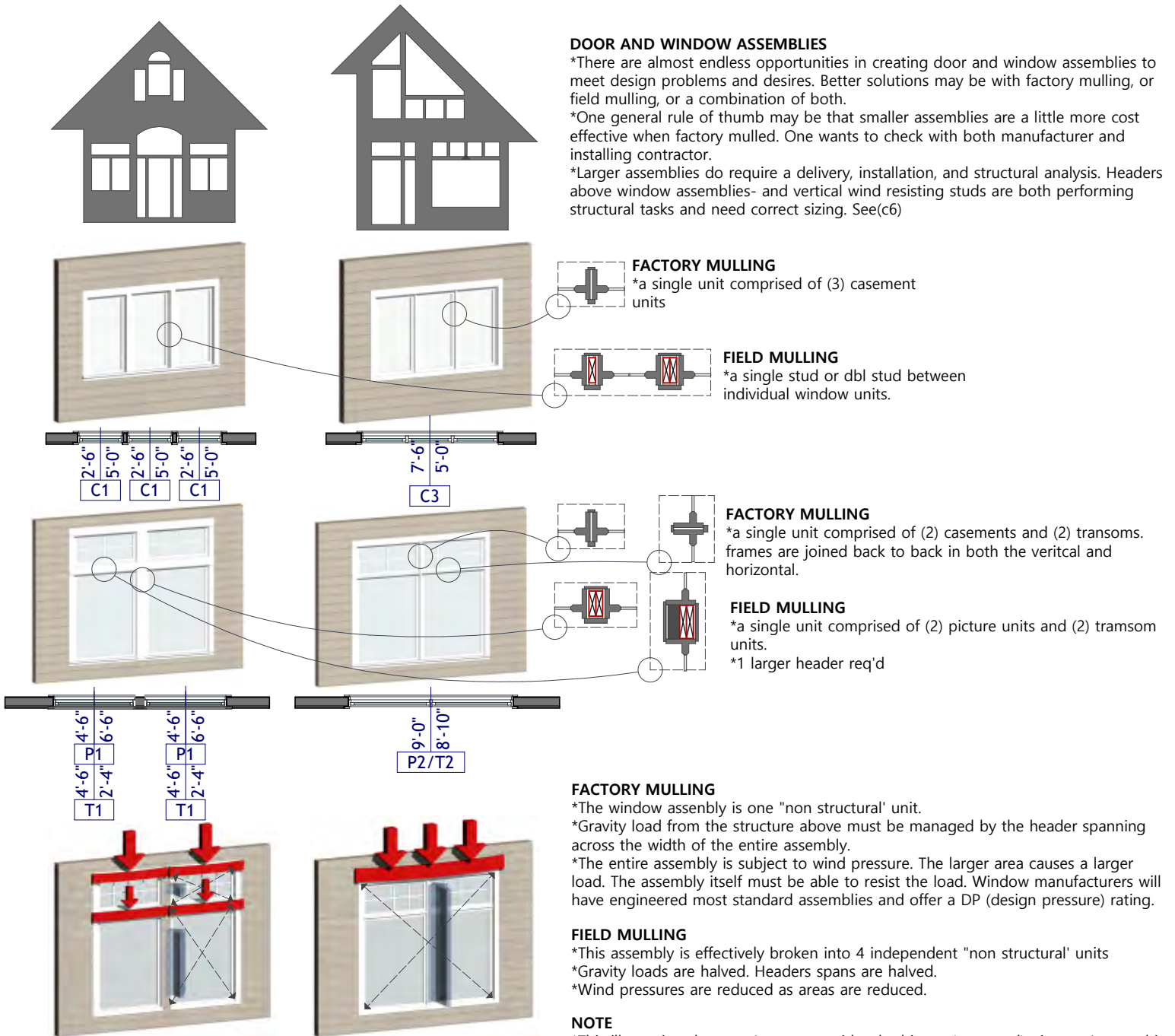
*the rectangular opening is easy to field frame and trim out

FACTORY+FIELD MULLING

- ***FACTORY_UNIT** FRAMES ARE FIXED TO UNIT FRAMES AND SHIPPED AS 1 PIECE UNITS.
- ***FIELD_UNITS** ARE SHIPPED INDEPENDENTLY AND INSTALLED INDEPENDENTLY. VERTICAL STUDS, AND HORIZONTAL HEADERS ARE PART OF THE FIELD FRAMING SO EACH OPENING FOR EACH UNIT IS PRE-PREPARED.
- ***SIZE AND WEIGHT**_SHIPPING SIZE AND INSTALLATION WEIGHT CAN LIMIT FACTORY MULLING. SALES REPRESENTATIVES NEED TO CHECK.
- ***STRUCTURE/WIND**_MULLED UNITS CAN EXCEED WIND RESISTANCE CAPACITY. SALES REPRESENTATIVES NEED TO CHECK.

DOOR AND WINDOW ASSEMBLIES

- *There are almost endless opportunities in creating door and window assemblies to meet design problems and desires. Better solutions may be with factory mulling, or field mulling, or a combination of both.
- *One general rule of thumb may be that smaller assemblies are a little more cost effective when factory mulled. One wants to check with both manufacturer and installing contractor.
- *Larger assemblies do require a delivery, installation, and structural analysis. Headers above window assemblies- and vertical wind resisting studs are both performing structural tasks and need correct sizing. See(c6)



FACTORY MULLING

*a single unit comprised of (3) casement units

FIELD MULLING

*a single stud or dbl stud between individual window units.

FACTORY MULLING

*a single unit comprised of (2) casements and (2) transoms. frames are joined back to back in both the vertical and horizontal.

FIELD MULLING

*a single unit comprised of (2) picture units and (2) transom units.
*1 larger header req'd

FACTORY MULLING

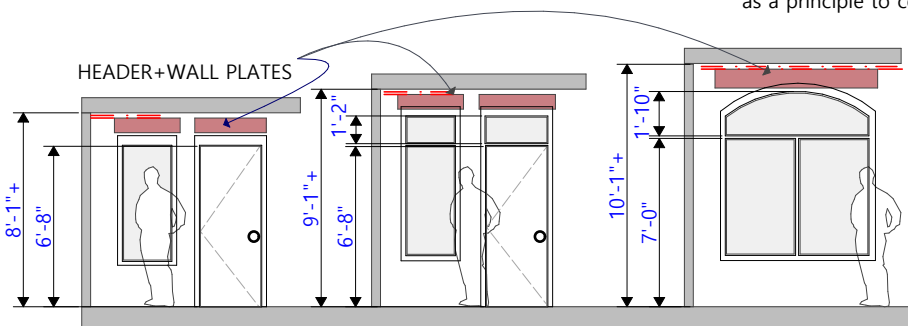
- *The window assembly is one "non structural" unit.
- *Gravity load from the structure above must be managed by the header spanning across the width of the entire assembly.
- *The entire assembly is subject to wind pressure. The larger area causes a larger load. The assembly itself must be able to resist the load. Window manufacturers will have engineered most standard assemblies and offer a DP (design pressure) rating.

FIELD MULLING

- *This assembly is effectively broken into 4 independent "non structural" units
- *Gravity loads are halved. Headers spans are halved.
- *Wind pressures are reduced as areas are reduced.

NOTE

*This illustration does not/cannot consider the bigger (structural) picture. Accept this as a principle to consider.



STANDARD NOMINAL FLAT CEILING HEIGHTS

REQUIRED CEILING HEIGHT FOR TRANSOMS

- *8' ceilings do not readily support transoms. Door and window heads can be pushed to nominal 7' for a taller door and more glass.
- *9' ceilings will support standard transoms.
- *10' ceilings (not typical this project) allow a lot more transom options.
- *Illustrations show typical header construction. Other options exist to enable raising door and window heads closer to the ceiling.



CONSTRUCTION OPTIONS

*MANY CHOICES OUT THERE FOR THE BASE CONSTRUCTION. PROS, CONS, PRICE POINTS ARE DIFFERENT. THIS OFTEN A FIRST AND MOST IMPORTANT DECISION.

-  **EXTRUDED PVC aka SOLID VINYL**
*a less expensive and serviceable non rot/low maintenance option in (usually) white and almond colors
-  **EXTRUDED ALUMINUM**
*a less expensive and serviceable non rot/low maintenance option. anodized colors options
-  **EXTRUDED FIBERGLASS**
*tough, strong construction. Marvin Integrity series brought this construction to market
-  **ALUMINUM CLAD WOOD**
*common construction. maintenance free prefinished alum cladding outside and wood inside.
-  **VINYL CLAD WOOD**
*andersen brought this to big market with vinyl frame exteriors and full sash wrap (outside and inside).
-  **PRIMED WOOD**
*primed coat ready for field finish coat(s) of consumer selected paint. some exterior wood might be non rot. least expensive of the wood windows
-  **FACTORY PAINTED WOOD**
*alternative to the alum+vinyl clad wood windows. the factory paint options offer a huge range of colors and serious warranties.
-  **SERIOUS (real) WOOD**
*a few options exist for sophisticated and expensive solid non rot wood windows.
-  **WOOD**
*these windows likely comprised of soft woods, composte woods, pvc composites, rigid foam, and specially designed metal extrusions

GLAZING OPTIONS

*MOSTLY GOOD OPTIONS. THIS IS A SITUATION FOR US ALL TO THANK CODE REQUIREMENTS

-  **INSULATED GLAZING**
*Give a hearty thanks to code required energy standards that have all manufacturers complying and therefore insuring that any window on the market will be a decent energy compliant window.
*Better window performance is always available and requires a location specific design requirements. Several insulated glass technologies may be available and appropriate.
*Cardinal glass makes insulated glass for a lot of manufacturers. Visit their web site to learn about insulated glass options.
-  **DESIGN GLASS**
*Obscure glass designs usually employed for privacy in entry areas or bathrooms may be available as an integral part of the insulated pane. Great solution in some situations.
*More decorative (eg stained glass) patterns may also be available. Entry door assemblies frequently offer this option. Andersen offers a removeable stain glass panel for their casement windows. And custom stain glass can be fitted in a number of ways.

EXTERIOR COLOR OPTIONS

*THE BETTER EXTERIOR FINISH IS PERMANENT. SO PICK A COLOR THAT WORKS AND YOU WON'T TIRE OF.



*The available colors in the alum and vinyl claded windows are decent. The color selections in the factory painted options are extensive. A permanent exterior finish is important and a major factor in limiting maintenance. Smart money invests in good windows a permanent exterior finish.

GRILL OPTIONS

*GRILLS IN WINDOWS ORIGINALLY WERE REQUIRED BECAUSE OF GLASS SIZE RESTRICTIONS. GLASS IS NO LONGER A LIMITING FACTOR. GRILLS REMAIN POPULAR BECAUSE OF THE POWER OF TRADITION- AND THEY ADD 'SCALE' TO DESIGNS WHICH IS VERY OFTEN DESIREABLE. THE 4 DIFFERENT TYPES HAVE DIFFERENT LOOKS, DIFFERENT MAINTENANCE RAMIFICATIONS AND VERY DIFFERENT PRICE POINTS. CHECK THEM OUT.

-  **GRILL BETWEEN GLASS aka GBG**
-  **INTERIOR GRILL**
-  **SIMULATED DIVIDED LITE**
-  **TRUE DIVIDED LITE**

WINDOW/NO CASING

*Some aluminum and pvc windows have a 3" +/- frame depth and sit inside the interior wall plane
*Sheetrock is 'returned' into the window at the head and jambs.
*Usually a more 'durable' sill is installed- painted, natural wood, or a solid surface of some kind.

INTERIOR FINISH OPTIONS

*THE 5 GENERIC OPTIONS BELOW EACH HAVE A 'LOOK' TO THEM. A PREFERRED LOOK WILL DRIVE OTHER WINDOW DECISIONS SO THIS APPEARANCE DECISION IS IMPORTANT. THE TERMS PAINTED AND WOOD BELOW ARE BEING USED TO DESCRIBE A SOLID COLOR, OR A NATURAL WOOD APPEARANCE.
*THE WINDOW/NO CASING OPTION IS A BUDGET DRIVEN CHOICE AS BOTH WINDOW TYPES AND TRIM OUT ARE LESS EXPENSIVE. THE WOOD WINDOW/WOOD TRIM IS THE MORE EXPENSIVE. STAIN GRADE WOODS ARE CONSIDERABLY PRICIER THAN A PAINT GRADE PRODUCT.

-  ***PAINTED WINDOW
*PAINTED TRIM**
-  ***PAINTED WINDOW
*WOOD TRIM**
-  ***WOOD WINDOW
*PAINTED TRIM**
-  ***WOOD WINDOW
*WOOD TRIM**