Elevations and Sections 18

With the EZ Tools macro, you can parametrically draw residential or commercial elevations and sections quickly and easily. This set of tools eliminates the need for the tedious linework and calculations otherwise required to create basic elevations. All angles, lines, offsets, and line lengths are done automatically, leaving you free to concentrate on the drawing aesthetics.

The Elevations tool assists in drawing exterior and interior residential elevations, including door, window, and cabinet elevations, while the Sections tool draws cabinet outline sections.

Drawing Exterior Elevations

Exterior elevations are defined by selecting two points along the line of the subfloor. The exterior elevation will be drawn relative to those two points, based on the Exterior menu settings.
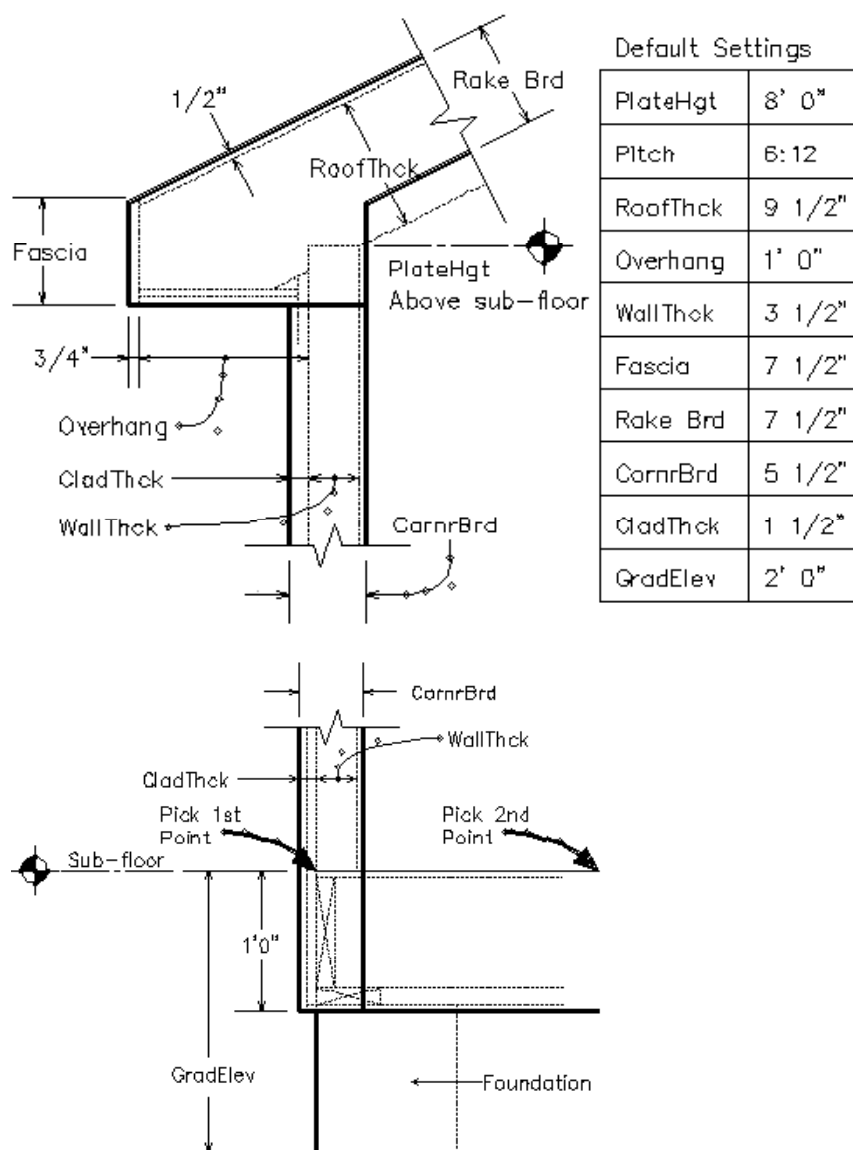
Default Settings	
PlateHgt	8' 0"
Pitch	6:12
RoofThck	9 1/2"
Overhang	1' 0"
WallThck	3 1/2"
Fascia	7 1/2"
Rake Brd	7 1/2"
CornrBrd	5 1/2"
CladThck	1 1/2"
GradElev	2' 0"

Figure 18.1: A sample exterior elevation with default exterior elevation settings noted. EZ Tools draws only those lines represented above by extra line thickness.

➔ To draw an exterior elevation:

1. Click on EZTOOLS in the Macros pull-down menu. The EZ Tools menu is displayed in the Menu Window. If EZTOOLS is not listed in the Macros pull-down menu, click Configure in the Macros menu and add EZTOOLS to the Macros in Menu list.

2. Click on Elev in the EZ Tools menu. The Elev menu is displayed in the Menu Window.

3. Click on Exterior in the Elev menu. The Exterior menu is displayed in the Menu Window.

4. Choose between a full or partial elevation. Full exterior elevations are drawn by assuming that the points you will select are on two opposite walls of the structure. Partial elevations are drawn by assuming that the first point you select will be on a wall and the second point will be at the mid-point of the structure. To draw a full elevation, toggle Full on; to draw a partial elevation, toggle Partial on. Of the two options, Full and Partial, only one can be toggled on at any given time.

5. Set the roof style for your elevation by clicking on Style. The Style menu is displayed in the Menu Window, and you are prompted to "Select roof style".

6. Toggle Gable on to draw a gable roof in your elevation; toggle Hip on to draw a hip roof in your elevation; toggle Boston on to draw a Boston-style roof in your elevation; or toggle Shed on to draw a shed roof in your elevation. Of the four options, Gable, Hip, Boston, and Shed, only one can be toggled on at any given time. You are returned to the Elev menu.

7. Set the height of the top plate on which the rafters rest by clicking on PlateHgt. A value menu is displayed, and you are prompted to "Enter plate height". The default PlateHgt setting is 8'-0". For more information on using value menus, see "Value Menus" in "The Drawing Board" chapter.

8. Use the value menu or type a height, and press (Enter).

9. Set the rise of the roof for every one foot of run by clicking on Pitch. A value menu is displayed, and you are prompted to "Enter rise per foot for roof".

10. Use the value menu or type a pitch value, and press (Enter). The default Pitch setting is 6".

11. Notice that the roof thickness is drawn relative to the plate height, and the roof line is always drawn an additional 1/2" from the top surface of the rafter. To set the width of the rafters, click on RoofThck. A value menu is displayed, and you are prompted to "Enter the roof thickness".

12. Use the value menu or type a thickness, and press (Enter). The default RoofThck setting is 9 1/2".

13. Notice that the roof overhang is measured from the wall exterior framing surface to the back surface of the fascia. To set the length of the roof overhang, click on Overhang. A value menu is displayed, and you are prompted to "Enter the roof overhang".

14. Use the value menu or type a length, and press (Enter). The default Overhang setting is 1'-0".

15. Notice that the wall thickness is drawn relative to the first point you will select to draw the elevation. To set the wall thickness, click on WallThck. A value menu is displayed, and you are prompted to "Enter the wall thickness".

16. Use the value menu or type a thickness, and press (Enter). The default WallThck setting is 3 1/2".

17. Notice that the fascia width is measured across the back surface of the fascia; the fascia thickness is set to 3/4" and can't be changed. To set the fascia width, click on Fascia. A value menu is displayed, and you are prompted to "Enter the width of the fascia".

18. Use the value menu or type a width, and press (Enter). The default Fascia setting is 7 1/2".

19. Notice that the rake board width is measured from the roof line. To set the rake board width, click on Rake Brd. A value menu is displayed, and you are prompted to "Enter the width of the rake board".

20. Use the value menu or type a height, and press (Enter). The default Rake Brd setting is 7 1/2".

19. Notice that the corner board width is measured relative to the exterior wall line. To set the corner board width, click on CornrBrd. A value menu is displayed, and you are prompted to "Enter the width of the corner board".

20. Use the value menu or type a width, and press (Enter). The default CornrBrd setting is 5 1/2".

19. Notice that the thickness of the cladding is measured from the wall framing out to the exterior wall line. To set the cladding thickness, click on CladThck. A value menu is displayed, and you are prompted to "Enter the cladding thickness".

20. Use the value menu or type a thickness, and press (Enter). The default CladThck setting is 1 1/2".

19. Notice that the grade elevation is measured relative to the subfloor. To set the grade elevation, click on GradElev. A value menu is displayed, and you are prompted to "Enter sub-floor distance above the grade".

20. Use the value menu or type a distance, and press (Enter). The default GradElev setting is 2'-0". The distance between the top surface of the subfloor and the bottom edge of the cladding is 1'-0" and can't be changed. For best results, set the grade elevation to 1'-0" or greater.

21. Set the color of the outside lines of the elevation by clicking on Out Colr. A color menu is displayed, and you are prompted to "Select outer color".

22. Use the color menu to set the outside line color. The default Out Colr setting is White.

23. Set the color of the inside lines of the elevation by clicking on In Colr. A color menu is displayed, and you are prompted to "Select inner color". The default In Colr setting is Red.

24. Use the color menu to set the inside line color.

25. Select the two points along the top surface of the subfloor. The first point should be located on the outside surface of the wall framing. To select the first point, click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. You are prompted to select the other side of the elevation.

26. Select the second point, click in the Drawing Area by using coordinate entry, or object snapping to a point in your drawing. The elevation is drawn, aligned with the two points you just selected. You can click on Defaults at any time to restore all default settings in the Exterior menu.

Drawing Door Elevations

Door elevations are defined by selecting two points along the subfloor line. The door elevation will be drawn relative to those two points, based on the Door menu settings.

➔ To draw a door elevation:

1. Click on EZTOOLS in the Macros pull-down menu. The EZ Tools menu is displayed in the Menu Window. If EZTOOLS is not listed in the Macros pull-down menu, click Configure in the Macros menu and add EZTOOLS to the Macros in Menu list.

2. Click on Elev in the EZ Tools menu. The Elev menu is displayed in the Menu Window.

3. Click on Door in the Elev menu. The Door menu is displayed in the Menu Window.

4. To draw single doors, toggle Single on; to draw double doors, toggle Double on. Of the two options, Single and Double, only one can be toggled on at any given time. The Single and Double toggles do not apply to Garage A, Garage B, or Sliding door styles.

5. Set the door style for your elevation by clicking on Style. The Style menu is displayed in the Menu Window, and you are prompted to "Pick style of door to draw".
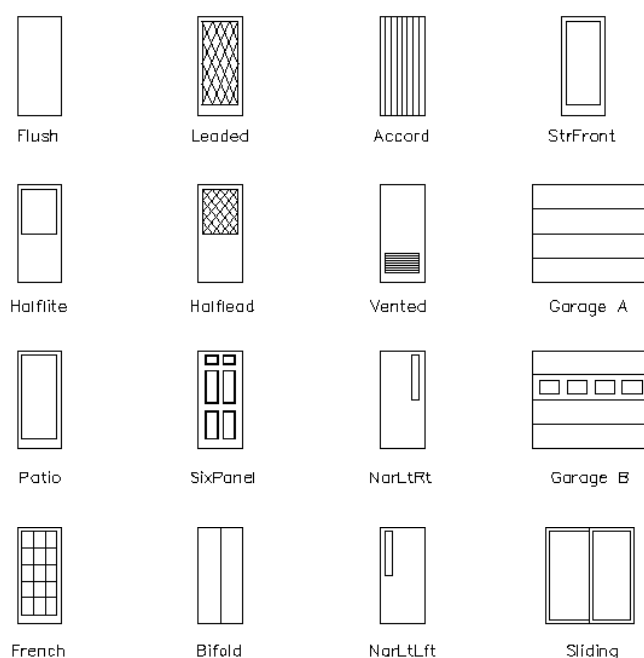
Figure 18.2: Door styles available for door elevations

6. Click on a door style in the list. You are returned to the Door menu. See "Door Styles for Elevations" below for details.
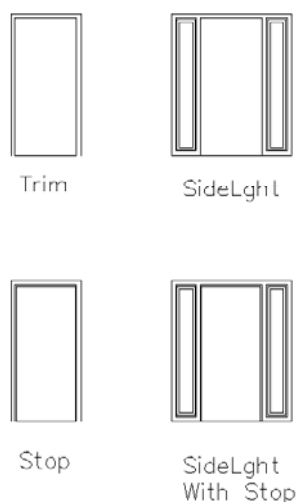

Figure 18.3: Door elevation settings

7. Set the head height of the door by clicking on Head Hgt. A value menu is displayed, and you are prompted to "Enter door head height".

8. Use the value menu or type a height, and press (Enter).

9. Draw door trim in your elevation by toggling Trim on; to draw the door sidelight, toggle SideLght on. The Stop option is displayed. Of the two options, Trim and SideLght, only one can be toggled on at any given time. The default setting for Trim is 2 1/2", the style for the SideLght option is automatically set, and the Stop option default is 3/4".

10. Toggle Stop on to draw the door stop if you toggled either Trim or SideLght on in the previous step.

11. Set the trim color by clicking on TrimColr. A color menu is displayed, and you are prompted to "Select the trim color".

12. Use the color menu to set the trim color. The default TrimColr setting is White.

13. Set the door color by clicking on DoorColr. A color menu is displayed, and you are prompted to "Select the door color".

14. Use the color menu to set the door color. The default DoorColr setting is Red.

15. Enter the first point for the door elevation. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. You are prompted to enter a point for the other side of the door.

16. Enter the second point for the door. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. The door elevation is drawn. You can click on Defaults at any time to restore all default settings in the Door menu.

Door Styles for Elevations

Flush	Flush door style
HalfLght	Half light door style
Patio	Patio door style
French	French door style
Leaded	Leaded glass door style
HalfLead	Half leaded glass door style
SixPanel	Six panel door style
Bifold	Bifold door style
Accord	Accordian door style
Vented	Vented door style
NarLtRt	Door drawn with a narrow light on the right side of the door
NarLtLft	Door drawn with a narrow light on the left side of the door
StorFrnt	Storefront door style
Garage A	Garage door style, with four panels; Single and Double toggles do not apply to this style
Garage B	Garage door style, with four panels and four windows in the second panel from the top; Single and Double toggles do not apply to this style
Sliding	Sliding door style; Single and Double toggles do not apply to this style

Drawing Window Elevations

Window elevations are defined by selecting two points along the subfloor line. The window elevation will be drawn relative to those two points, based on the Window menu settings.

➔ To draw a window elevation:

1. Click on EZTOOLS in the Macros pull-down menu. The EZ Tools menu is displayed in the Menu Window. If EZTOOLS is not listed in the Macros pull-down menu, click Configure in the Macros menu and add EZTOOLS to the Macros in Menu list.

2. Click on Elev in the EZ Tools menu. The Elev menu is displayed in the Menu Window.

3. Click on Window in the Elev menu. The Window menu is displayed in the Menu Window.

4. Draw single windows by toggling Single on; draw double windows by toggling Double on. Of the two options, Single and Double, only one can be toggled on at any given time.

5. Set the window style for your elevation by clicking on Style. The Style menu is displayed in the Menu Window, and you are prompted to "Pick style of window to draw". The Single and Double toggles do not apply to the casement and sliding window styles.
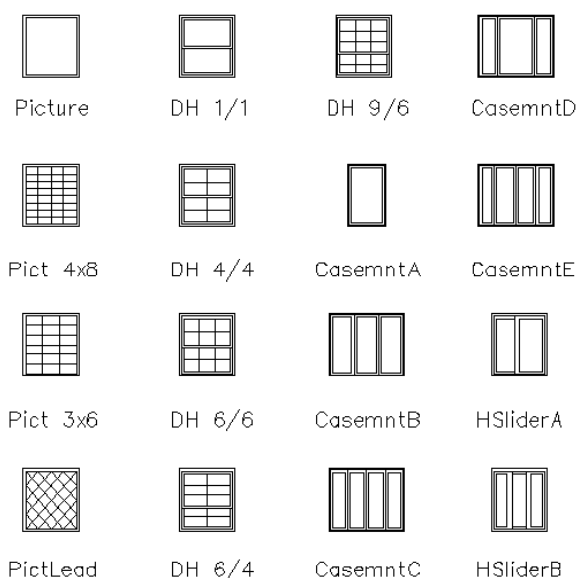
Picture   DH 1/1   DH 9/6   CasemntD

Pict 4x8   DH 4/4   CasemntA   CasemntE

Pict 3x6   DH 6/6   CasemntB   HSliderA

PictLead   DH 6/4   CasemntC   HSliderB

Figure 18.4: Window styles available for window elevations

6. Click on a window style in the list. You are returned to the Window menu. See "Window Styles for Elevations" below for details.

7. Set the head height of the window by clicking on Head Hgt. A value menu is displayed, and you are prompted to "Enter window head height".

8. Use the value menu or type a height, and press (Enter).

9. Set the sill height of the window by clicking on Sill Hgt. A value menu is displayed, and you are prompted to "Enter window sill height".

10. Use the value menu or type a height, and press (Enter).

11. Draw brick sills, capstones, or shutters with your window elevations. To draw brick sills, toggle BrkSillA on to draw brick sills along the bottom of the window, or toggle BrkSillB on to draw brick sills along the bottom and top of the window. To draw a bottom and top sill with a capstone, toggle Capstone on. To draw shutters, toggle ShutterA on to draw a single shutter on either side of the window, or toggle ShutterB on to draw a double shutter on either side of the window. To draw window elevations without brick sills, capstones, or shutters, click on whatever option is toggled on to toggle it off again. Of the five options BrkSillA, BrkSillB, Capstone, ShutterA, and ShutterB, only one can be toggled on at any given time.
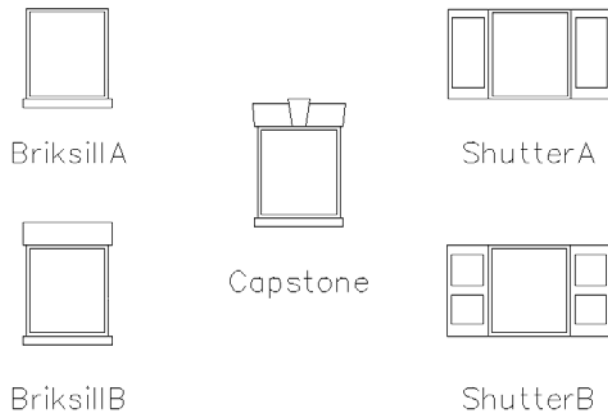
Figure 18.5: Sill and shutter styles for window elevations

12. Set the frame color by clicking on FramColr. A color menu is displayed, and you are prompted to "Select the frame color".

13. Use the color menu to set the frame color. The default FramColr setting is White.

14. Set the window sash color by clicking on SashColr. A color menu is displayed, and you are prompted to "Select the sash color".

15. Use the color menu to set the sash color. The default SashColr setting is Red.

16. Enter the first point for the window by clicking in the Drawing Area, using coordinate entry, or object snapping to a point in your drawing. You are prompted to enter a point for the other side of the window.

17. Enter the second point for the window by clicking in the Drawing Area, using coordinate entry, or object snapping to a point in your drawing. The window elevation is drawn. You can click on Defaults at any time to restore all default settings in the Window menu.

Window Styles for Elevations

Picture	Picture window style
Pict 4x8	Picture window style with four columns and eight rows of panes
Pct3x6	Picture window style with three columns and six rows of panes
PictLead	Picture window style with leaded glass
DH 1/1	Double-hung window style with no panes
DH 4/4	Double-hung window style with four panes in each window

DH 6/6	Double-hung window style with six panes in each window
DH 6/4	Double-hung window style with six panes in the top window and four panes in the bottom window
DH 9/6	Double-hung window style with nine panes in the top window and six panes in the bottom window
CasemntA	Casement window style with no panes; Single and Double toggles do not apply to this style
CasemntB	Casement window style with three panes of equal size; Single and Double toggles do not apply to this style
CasemntC	Casement window style with four panes of equal size; Single and Double toggles do not apply to this style
CasemntD	Casement window style with three panes, with the center pane larger and the two side panes of equal size; Single and Double toggles do not apply to this style
CasemntE	Casement window style with four panes, two center panes larger and of equal size and the two outside panes of equal size; Single and Double toggles do not apply to this style
HSliderA	Horizontal sliding window style with two panes of equal size; Single and Double toggles do not apply to this style
HSliderB	Horizontal sliding window style with three panes of equal size; Single and Double toggles do not apply to this style

Drawing Cabinet Elevations

Cabinet elevations are defined by selecting two points along the subfloor line. The cabinet elevation will be drawn relative to those two points, based on the Cabinet menu settings.

Click on Section in the Elev menu to display the Section menu and draw cabinet sections.

➔   To draw a cabinet elevation:

1.   Click on EZTOOLS in the Macros pull-down menu. The EZ Tools menu is displayed in the Menu Window. If EZTOOLS is not listed in the Macros pull-down menu, click Configure in the Macros menu and add EZTOOLS to the Macros in Menu list.

2.   Click on Elev in the EZ Tools menu. The Elev menu is displayed in the Menu Window.

3.   Click on Cabinet in the Elev menu. The Cabinet menu is displayed in the Menu Window.

4.   Draw cabinets with one door by toggling Single on; draw cabinets with double doors by toggling Double on. Of the two options, Single and Double, only one can be toggled on at any given time. The Single and Double toggles to not apply to the drawer, desk, pantry, or oven cabinet styles.

5.   Set the cabinet style for your elevation by clicking on Style. The Style menu is displayed in the Menu Window, and you are prompted to "Pick style of cabinet to draw".
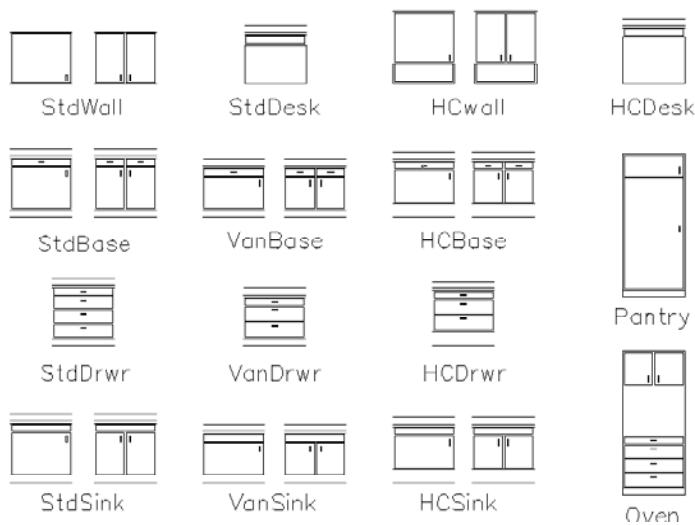
Figure 18.6: Cabinet elevation styles

6. Click on a cabinet style in the list. You are returned to the Cabinet menu. See "Cabinet Styles for Elevations" below for details.

7. Set the wall height of the cabinet by clicking on WCab Hgt. A value menu is displayed, and you are prompted to "Enter wall cabinet height".

8. Use the value menu or type a height, and press (Enter).

9. Set the splash height of the cabinet by clicking on SplshHgt. A value menu is displayed, and you are prompted to "Enter wall splash height".

10. Use the value menu or type a height, and press (Enter).

11. Draw cabinet pulls on the right by toggling Pull Rt on. To draw cabinet pulls on the left, toggle Pull Lft on. These options only affect cabinet elevations when Single is toggled on in the Cabinet menu; they have no effect when Double is toggled on. Of the two options Pull Rt and Pull Lft, only one can be toggled on at any given time.

12. Set the counter color by clicking on CntrColr. A color menu is displayed, and you are prompted to "Select the counter color".

13. Use the color menu to set the counter color.

14. Set the cabinet color by clicking on Cab Colr. A color menu is displayed, and you are prompted to "Select the cabinet color".

15. Use the color menu to set the cabinet color. The default Cab Colr setting is Red.

16. Enter the first point for the cabinet. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. You are prompted to enter a point for the other side of the cabinet.

17. Enter the second point for the cabinet. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. The cabinet elevation is drawn. You can click on Defaults at any time to restore all default settings in the Cabinet menu.

Cabinet Styles for Elevations

Std Wall	Standard wall cabinet style
Std Base	Standard base cabinet style
Std Drwr	Standard drawer cabinet style; Single and Double toggles do not apply to this style
Std Sink	Standard sink cabinet style
Std Desk	Standard desk cabinet style; Single and Double toggles do not apply to this style
Van Base	Vanity base cabinet style
Van Drwr	Vanity drawer cabinet style; Single and Double toggles do not apply to this style
Van Sink	Vanity sink cabinet style
HC Wall	Handicapped wall cabinet style
HC Drwr	Handicapped drawer cabinet style; Single and Double toggles do not apply to this style
HC Sink	Handicapped sink cabinet style
HC Desk	Handicapped desk cabinet style; Single and Double toggles do not apply to this style
Pantry	Pantry cabinet style; Single and Double toggles do not apply to this style
Oven	Oven cabinet style; Single and Double toggles do not apply to this style

Drawing Sections

The Section tool gives you a quick way to create an outline section cut through cabinets, baths and showers. Click on Elev in the Section menu to display the Elev menu and draw elevations.
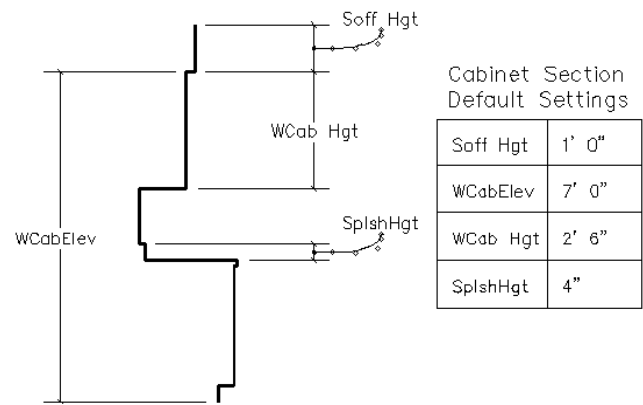

Figre 14.6: A sample cabinet section with default settings noted

➔ To draw a cabinet section:

1. Click on EZTOOLS in the Macros pull-down menu. The EZ Tools menu is displayed in the Menu Window. If EZTOOLS is not listed in the Macros pull-down menu, click Configure in the Macros menu and add EZTOOLS to the Macros in Menu list.

2. Click on Section in the EZ Tools menu. The Section menu is displayed in the Menu Window.

3. Click on Cabinet in the Section menu. The Cabinet menu is displayed in the Menu Window.

4. Set the cabinet style for your section by clicking on Style. The Style menu is displayed in the Menu Window, and you are prompted to "Select the type of section to draw". See "Cabinet Styles for Sections" below for details.

5. Click on a style in the list. You are returned to the Cabinet menu.

6. Set the soffit height of the cabinet by clicking on Soff Hgt. A value menu is displayed, and you are prompted to "Enter soffit height".

7. Use the value menu or type a height, and press (Enter).

8. Set the wall elevation of the cabinet by clicking on WCabElev. A value menu is displayed, and you are prompted to "Enter wall cabinet elevation".

9. Use the value menu or type a value, and press (Enter).

10. Set the wall height of the cabinet by clicking on WCab Hgt. A value menu is displayed, and you are prompted to "Enter wall cabinet height".

11. Use the value menu or type a height, and press (Enter).

12. Set the back-splash height of the cabinet by clicking on shHgt. A value menu is displayed, and you are prompted to "Enter back-splash height".

13. Use the value menu or type a height, and press (Enter).

14. Set the section color by clicking on SectColr. A color menu is displayed, and you are prompted to "Select the section color".

15. Use the color menu to set the section color. The default SectColr setting is White.

16. Set the element color (for bathtubs and showers) by clicking on ElemColr. A color menu is displayed, and you are prompted to "Select the element color".

17. Use the color menu to set the element color. The default ElemColr setting is Red.

18. Enter the first point for the cabinet section. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. You are prompted to enter a point for the other side of the section.

19. Enter the second point for the cabinet section. You can click in the Drawing Area, use coordinate entry, or object snap to a point in your drawing. The cabinet section is drawn. You can click on Defaults at any time to restore all default settings in the Cabinet menu.

Cabinet Styles for Sections

Standard	Standard cabinet style
HandiCap	Handicapped cabinet style
Vanity	Vanity cabinet style
PassThru	Pass-through cabinet style
BarTop	Bar top style
Bathtub	Bathtub style
Shower	Shower style