



PART 21

AREA GROUPS

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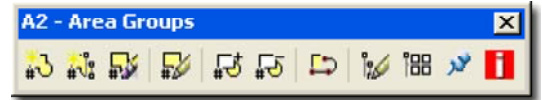
1 Area Groups - Access

.1-21 AREA GROUPS

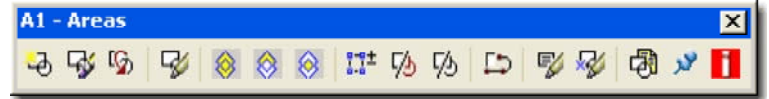
Area Groups toolbar

[How do I get this toolbar?](#)

You can also acquire access to these commands from the [Alternate Document pull-down menu](#). From the **Document** pull-down menu, pick **Area Groups >** and cascade to their respective command options - see image below, right.

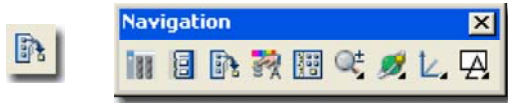


Illustrated to the right is the **Area Groups** toolbar and the **Areas** toolbar. Area Groups are basically just tools to manage Areas and thus can be thought of as a subset of Areas. Though I call them subsets, do not assume that you may not need them. Area Groups are very powerful and offer the ability to not only master control Areas but offer a master structure to start the process of building Areas from; i.e., Area Groups may be your starting point.



Area Groups pull-down menu and Tool Palette

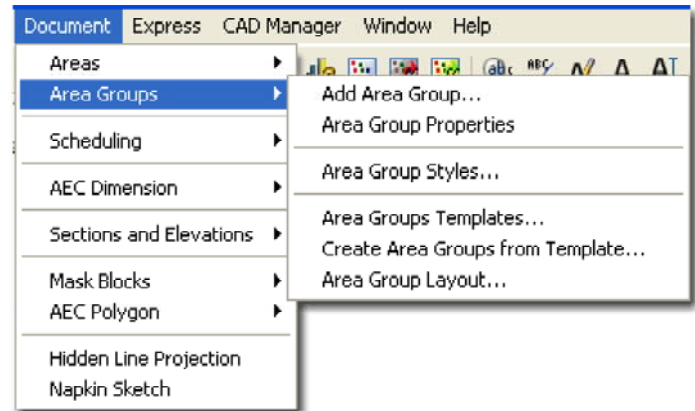
Alt.Menu **Document> Areas Groups >**



Keyboard **AreaGroup**

Browser Design Tool Catalog - Imperial or Metric > Area and Area Groups

Links [Adjusting to the New Interface for AutoCAD and ADT Users](#) for how to activate the Design pull-down menu

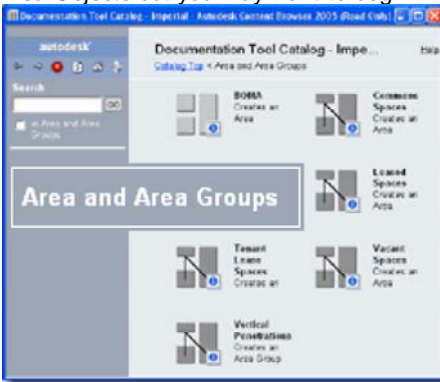


The **Area Group** object in ADT is designed to help manage ADT's Area objects. By relating to other software products, one might think of Area Groups as tools to use after having created Area Objects but you may want to begin with Area Groups.

Below is the main command line read-out for this tool:

Command: AreaGroup
Area Group [Add/Create from template/Properties/Styles/ ATtach/Detach/Templates/ POLYline/Layout]:

You can also specify the option that you want; such as **AreaGroupAdd** or **AreaGroupStyle**



Once you have experimented with **Area Group Template** files, you will probably find that having a master plan for your Area Groupings can dramatically improve your Area object creating process. Area objects can

automatically be assigned to existing Area Groups and by doing so, you can also take advantage of the **Area Name Definition List** (only accessible through the Area Groups).

2 Loading Area Group Styles

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Opening Area Style templates in the Style Manager

Alt.Menu Document> Area Groups> Area Group Styles...



Keyboard **AreaGroupStyle**

Browser Load from Area and Area Groups Tool Catalog

Links [Area Group Styles](#) - for how to create Area Group Styles

[Copying Wall Styles in the Style Manager](#) - for more information on how to copy Styles from the Style Manager

ADT comes with a very short list of predefined **Area Group Styles** that you can access through the Style Manager or Content Browser (see illustration above). If you do a lot of work with Areas and Area Groups, you may want to assemble a list of predefined Styles in the Content Browser and/or as a **Palette** where you can preset the Defaults.

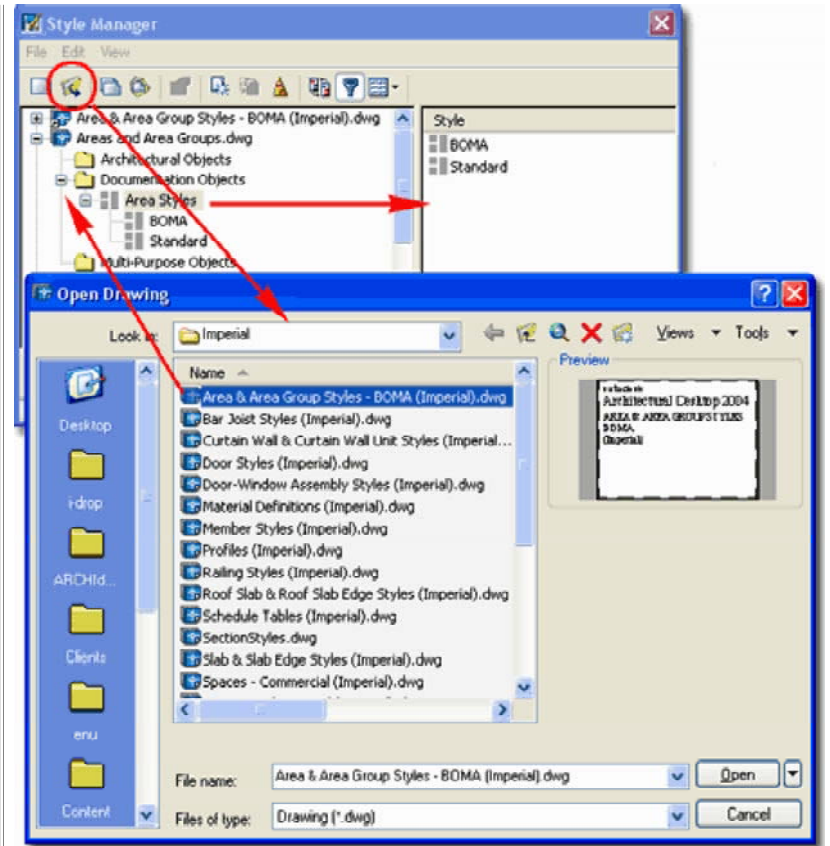


Both the **Imperial** and **Metric** folders contain similar **Styles** folders within which you will find one Area Group Style template drawing file.

For local installations of ADT, you are likely to find the **Imperial** or **Metric Area Group Styles** in

the **Styles Folder** as illustrated to the left. The full path to this location may vary but typically it is as illustrated. On a Network based installation of ADT, these Styles should be on a captured drive (like "G:\offices standards") or similar location with a folder name that indicates Styles. Consult your CAD or IT manager if you cannot locate the Styles Folder.

Area & Area Group Styles - BOMA (Imperial).dwg
Area & Area Group Styles - BOMA (Metric).dwg



Illustrated above, I show how you use the **Style Manager**, filtered for **Area Group Styles**, to **Open** the Area Group Style template file from ADT's **Styles folder**. The process is much like Opening a drawing for editing.

3 Adding Area Groups

Add Area Group Properties Palette

Alt.Menu **Documentation> Area Groups> Add Area Group...**



Keyboard **AreaGroupAdd**

The **Add Area Group Properties Palette** offers numerous options for how you want a single Area Group Object to function. You can use this approach to add single Area Group Objects, one at a time, in an Area Group hierarchal tree or use the [Area Group Template tools](#) to add a full tree at one time.

If you simply add an Area Group Object without using any unique options, you should find that all you end up with is a rectangular object. You can, however, use the Modify Properties Palette to change any of the settings and options illustrated to the right so don't feel pressured to get all settings perfect before you get started.

GENERAL

Name - this option is similar to the Name field for Area Objects but offers no drop-down list with predefined Name Definitions so you will need to type in a Name each time you Add an Area Group Object. If this becomes annoying, consider using an Area Group Template where the names can be preset. This Name is used to help distinguish one Area Group from others.

Style - an [Area Group Style](#) can be created with the Style Manager to help distinguish Area Groups by such display features as hatching and color coding. This is very similar to what can be achieved with [Area Styles](#) and thus you can actually have two different forms of control for the display characteristics of Areas. You can, for example, have several different Areas with different Colors that, when Grouped, have one common Color / Hatch pattern.

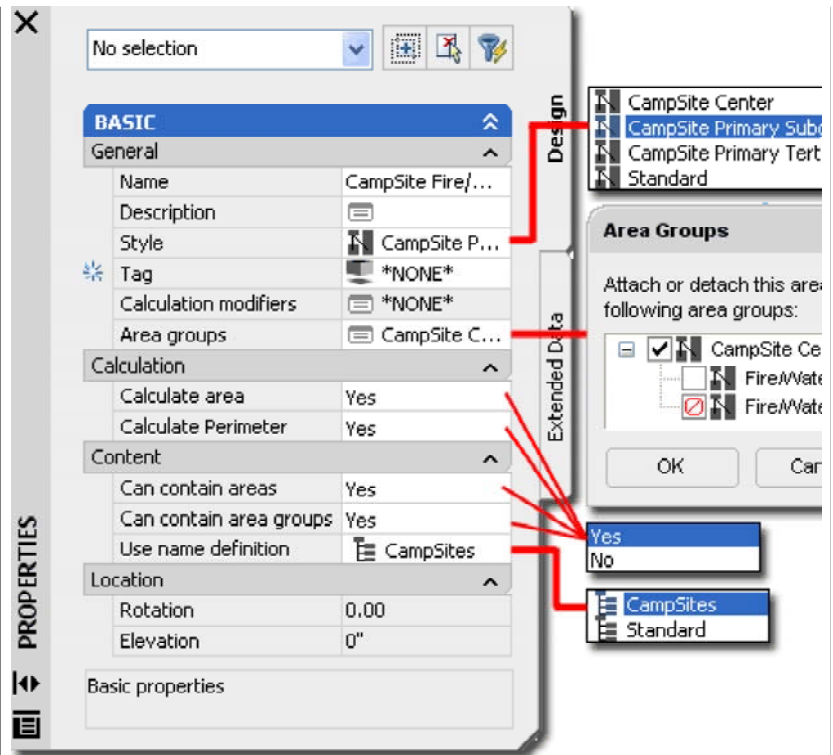
Tag - this option provides a means to automatically attach an Area Group Tag much like you can attach Area Tags at the time of creation. The only problem is that ADT does not come with any default Area Group Tags (that I could find) so you will have to create your own. ADT does, however, come with an Area Group Property Set Definition Style which is half the work. Read [Part 18 - Schedules](#) to learn about Tags and Property Set Data.

Calculation Modifiers - this option can be used to assign any Area Calculation Modifier Style that is available in the current drawing. These simple formula based styles can be used to modify the results of Area Calculations to conform to such standards as those set by BOMA or for other office criteria. See [Part 20 - Areas, Area Calculation Modifier Styles](#) for more on this subject. **Caution:** Area Calculation Modifier Styles can be assigned to both Areas and Area Groups and thus be accumulative.

Area Groups - this drop-down list provides the means to re-associate the new Area Group Object with any existing Area Group Objects that allow sub-groups. This "allow subgroups" setting can be set under the Content section of the Properties Palettes as discussed below. You should see the red circle and slash symbol for Area Groups that do not allow subgroups.

CALCULATION

Calculate Area - use this "Yes"/"No" drop-down list to define how the current Area Group should behave relative to Area Calculations. In the case of Area Evaluations where you may have Areas that you do not want included in the total, such as



Calculate Perimeter - use this "Yes"/"No" drop-down list to define how the current Area Group should behave relative to Area Perimeters. As with the Area Calculation, discussed above, you may decide to exclude Areas from Perimeter Calculations.

CONTENT

Can Contain Areas - use this "Yes"/"No" drop-down list to define how the current Area Group should behave relative to Area Objects. A primary parent Area Group, for example, should probably not be allowed to be associated with Area Objects but only other Area sub-Groups.

Can Contain Area Groups - use this "Yes"/"No" drop-down list to define how the current Area Group should behave relative to other Area Groups. At the lowest level of an Area Group hierarchy, for example, you probably don't want the option for sub or primary Area Groups to be added; i.e., you are restricting the branching.

Use Name Definition - you can use this drop-down list to assign any custom [Area Name Definition Styles](#) to the current Area Group Object. By taking this action, you will find that when Area Objects are "Attached" to the current Area Group, they will automatically adopt the Area Name Definition Style set by the Area Group. Use the Properties Palette for Area Objects to see this effect and look for a drop-down list under the "Name" field.

LOCATION

These option are not available when Adding Area Group Objects.

For more extensive editing options, see the discussion on Area Group Properties under the [Modifying Area Groups](#) section below.

You do not have to specify a Name when adding Area Groups but it does help for organizational purposes. If you forgot or used the wrong Name, you can use the Area Group Modify tool to change the Name at any time.

If you don't see your Area Groups when adding them, make sure your current [Display Configuration](#) is set to something like Work or Standard.

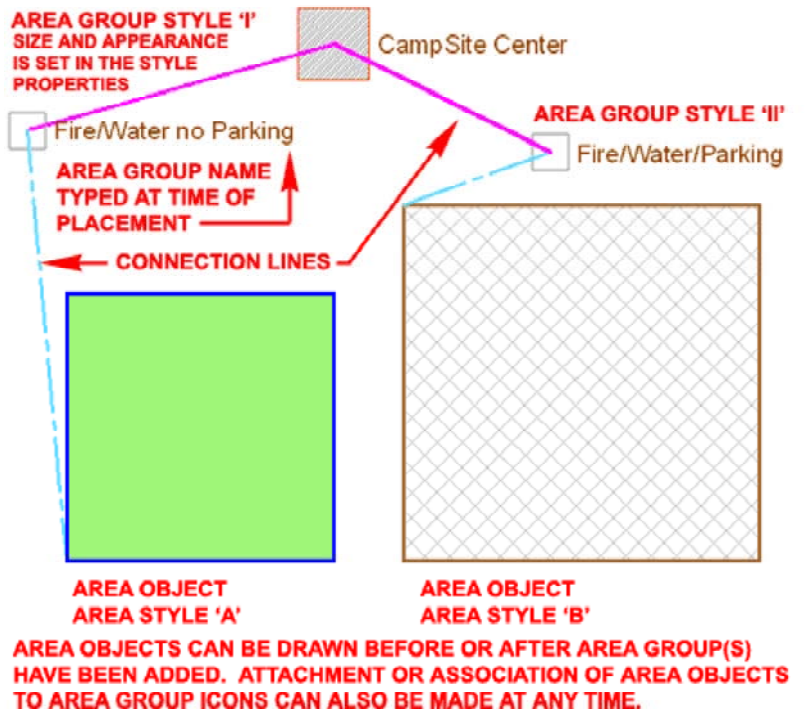
Phase work or New and Existing work, you can set this value option to "No". Typically, this would likely be done for a subgroup branching off a larger tree that includes Areas that you do want in the total calculations. See [Part 20 - Areas, Area Evaluation](#) for how this applies to data output.

Add Area Group Object - Example

The default Area Group Object typically appears on the screen as a rectangle. The annotation next to any Area Group Object comes from the **Name Field** found on the **Properties Palette** when Adding or Modifying these Objects.

Area Groups can be associated or Attached to each other as well as to Area Objects provided no restrictions have been set on the Area Objects. **Connection Lines** may or may not appear between Area Group Objects and Area Objects but you can use the **Display Properties** to control numerous display characteristics; including Hatch Patterns and rectangular proportions.

The default Area Group Styles tend to have internal Display Component settings that place Area Group Objects on the "**G-Anno-Nplt**" Layer when using the default AIA Layer Standard. I recommend that you review how these Display Properties have been configured before you make extensive use of any default Styles.



Create Area Group from Templates...

Links [Create Area Groups from Template Properties Palette](#) - for information on this subject
[Area Group Templates](#) - for information on how to create Area Group Template Styles

4 Modifying Area Groups

Modify Area Group Properties Palette

Alt.Menu **Document> Area Groups> Area Group Properties**



Keyboard **AreaGroupProps** or **-AreaGroupModify**

The **Modify Area Group Properties Palette** offers all of the same options found when Adding Area Groups. You should also find a new Dimensions section that can be used to read information such as "Base Area".

GENERAL

Under this section you can change all of the same value options that are available when Adding Area Groups. By working with the **Area Groups dialog**, you can check current relationships and restructure them. See [Add Area Groups Properties Palette](#) for information on each option.

DIMENSIONS

Under this section you will find Base and Calculated results for all of the Area and Perimeter totals produced by a combination of the Area Objects associated with the Area Group and subgroups and any Calculation Modifiers that may apply.

CALCULATION

See [Add Area Groups Properties Palette](#) for information on each option.

CONTENT

See examples below.

LOCATION

Under this section you may now use the **Rotation** and **Elevation** value fields but it is unlikely that you will need to rotate or set elevation heights for these schematic objects.

Area Group

BASIC

General

Name	Building 3
Description	
Layer	A-Area-Grps
Style	Gross Area
Calculation modifiers	*NONE*
Area groups	*MULTIPLE*

Dimensions

Base area	12087.60352
Calculated area	12087.60352
Base perimeter	440'-2 1/4"
Calculated perimeter	440'-2 1/4"

Calculation

Calculate area	Yes
Calculate Perimeter	Yes

Content

Can contain areas	Yes
Can contain area groups	Yes
Use name definition	Lease Names

Location

Rotation	0.00
Elevation	0"
	Additional in...


Area Groups

Attach or detach following area area group:

- Building 3
 - 1st Floor
 - Leased
 - Common
 - Vacant
 - 2nd Floor
 - 3rd Floor

OK Cancel

Area Group Properties - Calculation Modifiers

 Look for the Area Group icon with the Calculation Modifier symbol in the upper right corner to see which Area Groups have these.

Links [Area Calculation Modifier Styles](#) - for more information and explanation of how to create/use these modifiers.

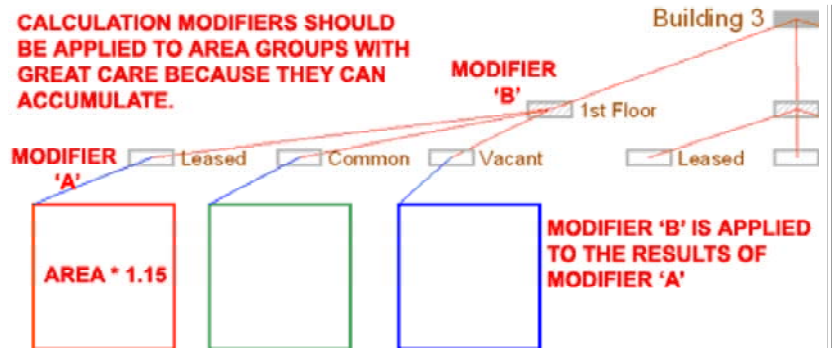
Under the **General** section of the Area Group Properties Palette, you can use the **Calculation Modifiers** dialog to Attach (Delete or Move) mathematical formulas that will affect any of the results derived from sub-Groups and/or Areas that reside below in the tree hierarchy.

Area Calculation Modifiers are created by using the **CalculationModifierStyle** command. These "modifiers" can be attached to Area Objects as well as Area Group Objects and will accumulate to produce results that may prove to be a bit confusing if you don't take some care in applying them. At present, these "modifiers" can apply to Areas or Perimeters separately or jointly in a single Calculation Modifier Style.

You can use the Area Group dialog to check for the attachment of Area Calculation Modifiers - look for the extra rectangular image in the upper right corner as illustrated above, left.

The results of using Area Calculation Modifiers is best observed when using the **AreaEvaluation** command to export this data to other software like Excel. See the discussion on the Area Evaluation dialog under [Part 20 - Areas, Area Evaluation](#) for more on this subject.

CALCULATION MODIFIERS SHOULD BE APPLIED TO AREA GROUPS WITH GREAT CARE BECAUSE THEY CAN ACCUMULATE.



MODIFIER 'A'

MODIFIER 'B'

MODIFIER 'C'

MODIFIER 'B' IS APPLIED TO THE RESULTS OF MODIFIER 'A'

General

Name	Leased
Description	
Layer	A-Area-Grps
Style	Tenant Lease Spaces
Calculation modifiers	General Net
Area groups	*NONE*

Calculation Modifiers

Attach, move or detach calculation modifiers from this area group.

Attached:

Name	General Net
------	-------------

Available:

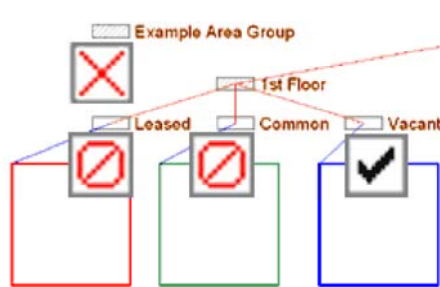
Name	Description
15 Percen...	15 percent addon factor for calcul...
General G...	
General Net	

USUALLY ONE MODIFIER IS ALL THAT YOU WILL WANT BUT YOU CAN HAVE ONE THAT ONLY AFFECTS AREAS WHILE ANOTHER ONLY AFFECTS PERIMETERS

OK Cancel Help

Area Group Properties - Area Groups

Links [Area Group Properties - Content](#) - for information on the Content toggles that allow or prevent Area Group associations.



- ALLOW AREAS AND AREA GROUPS**
- NO GROUPS**
- NO AREAS OR GROUPS**

Under the **General** section of the Area Group Properties Palette, you can use the Area Groups dialog to Attach, Detach and monitor the current layout of your Area Group organization.

The option to Attach or Detach Area Groups within the Area Group dialog is affected by the "Can Contain Areas" and "Can Contain Area Groups" toggles

under the Content section of the Properties Palette. You will find distinctive checkbox graphics that will inform you of what is and what is not allowed - see images right and left.

BASIC

General

Name	1st Floor
Description	
Layer	A-Area-Grps
Style	Gross Area
Calculation modifiers	*NONE*
Area groups	*MULTIPLE*

Content LEASED & COMMON

Can contain areas	Yes
Can contain area groups	No

Content VACANT

Can contain areas	Yes
Can contain area groups	Yes

Content EXAMPLE AREA GROUP

Can contain areas	No
Can contain area groups	No

Area Groups

Attach or detach following area groups from this area group:

- Building 3
 - 1st Floor
 - Leased
 - Common
 - Vacant
 - 2nd Floor
 - 3rd Floor
 - Example Area Group

OK Cancel Help

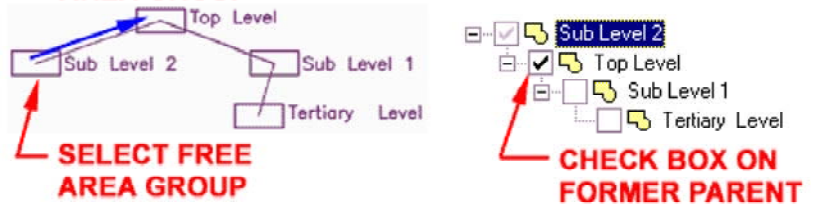
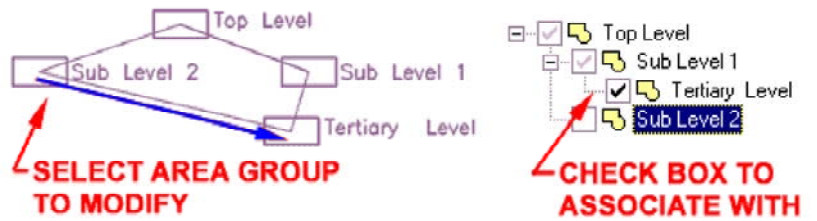
Area Group Properties - Area Group tab - Working Examples

Illustrated to the right, I show a couple of examples of some of the types of tasks you can achieve using the **Area Group dialog**.

In the top example, I show how you can make a new association or link to any existing Area Group so long as there are no unique locks or other restrictions and that the existing Area Group is not already associated with the selected Area Group.

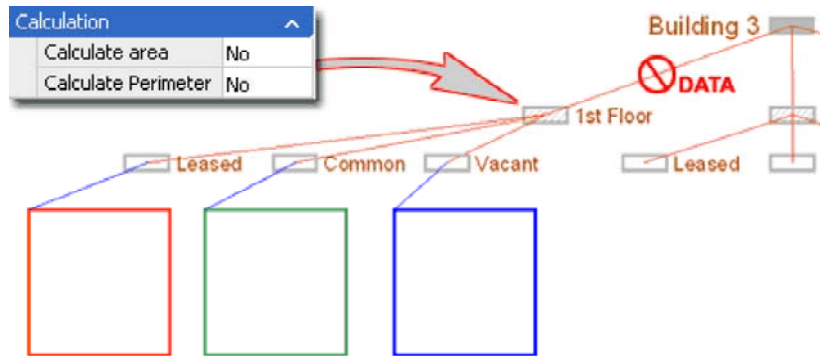
In the lower example, I show how you can shift the structure of the hierarchy by releasing one Sub Group and then associating it with its former parent; i.e., putting it at the top of the stack. Unfortunately, there are no simple drag-n-drop techniques for this type of operation as you may find in SQL type software so it may seem like tedious work for those familiar with programs such as Access.

WORKING WITH AREA GROUP ASSOCIATIONS ASSOCIATING WITH A SUB GROUP



Area Group Properties - Calculation

Under the **Calculation section** of the **Properties Palette**, you should find the option to toggle the "Calculate Area" and "Calculate Perimeter" options. These two options provide a rather dramatic and effective form of limiting the data that travels up through an Area Group tree hierarchy.



IF "1ST FLOOR" AREA GROUP IS SET TO "NO" CALCULATION, NO AREA OR PERIMETER DATA WILL BE PASSED ALONG TO AREA GROUP "BUILDING 3" FROM THE "1ST FLOOR" AREA GROUP.

Area Group Properties - Content

Under the **Contents** section of the **Area Group Properties Palette**, illustrated to the right, you can toggle the "**Can Contain Areas**" and "**Can Contain Area Groups**" fields between "**Yes**" and "**No**". The effect of changing either of these settings may not be obvious until later in your work.

When you set the "**Can Contain Area Groups**" toggle to "**No**", you should find that the **Area Groups** option under the **General** section of the Properties Palette will change to the ***NONE*** setting because the "No" setting declares that the current Area Group cannot have any sub-groups (cannot be the parent of any other groups). By activating the **Area Groups dialog box**, you should also find that the current Area Group has an "**X**" or "**∅**" symbol depending on how the "Can Contain Areas" toggle has been set.

For Area Groups that have the "**Can Contain Areas**" toggle set to "**No**" you will find that you **cannot Attach Area Objects** to this Group. If you attempt to use the **Area Groups dialog box** from an **Area Object's Properties Palette**, as illustrated upper right, you should find the same "**X**" on the Area Group that you will find under the Area Group Properties; i.e., it's the same dialog box.

Note 1:

You may find that you can select or "check" boxes in the Area Groups dialog box when you know that you should not be able to. These selections will be ignored as you can verify by returning to this dialog box.

Note 2:

Changing the "Can Contain Areas" and "Can Contain Area Groups" toggles to "No" after Areas and Area Groups have already been Attached, has no effect on those Objects but will prevent new Objects from being Attached.

Use Name Definition - see comments under [Add Area Groups Properties Palette](#).

Attach to Area Group

Menu **N.A.**

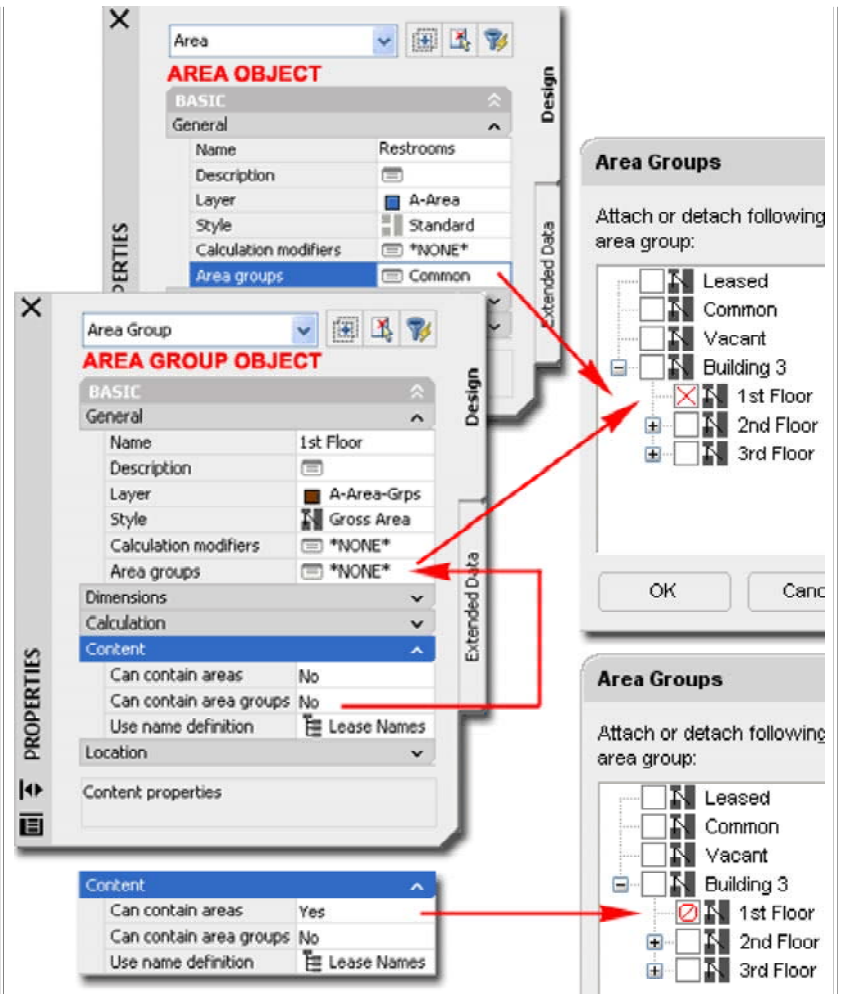


Keyboard **AreaGroupAttach**

Mouse Select Area Group, right-click, Select "Attach Areas / Area Groups"

Dialog See comments on Area Groups dialog.

The **AreaGroupAttach** command is used to Attach **Area Objects** and **Area Group Objects**. There are basically three primary methods for activating this command sequence: by command line, by Context menu and through the use of the Area Groups dialog from the Properties Palette.



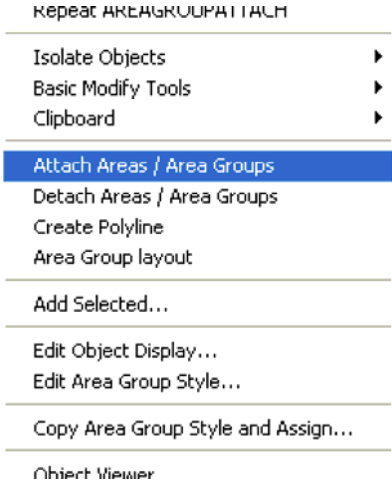
When working with Area Objects, you can use the [Area Group dialog on the Properties Palette](#) at the time of creation or later to make attachments to Area Groups. The Context menu for Area Objects also offers the option to Attach to Area Groups.

Note:

Area Group dialog, Area Group Objects - I have found that the Area Group dialog is not a very reliable tool when working with Area Groups and you may experience similar problems including the inability to Attach to other Area Groups that you should be able to or when Detaching, losing several other Groups. As a result I use the AreaGroupAttach and AreaGroupDetach commands instead.

Area Group dialog, Area Objects - despite the problems I have found with this dialog for Area Group work, it appears to work quite well with Area Objects.

For Group-to-Group relationships, make sure that you read up on the tools available within the Area Group Properties dialogue box - see [Area Group](#)



When working with Area Group Objects, I have found that the most successful approach is to Select the Area Group Object, right-click to invoke the Context menu and Select the Attach Areas / Area Groups. Then, Select one or more Area and/or Area Groups to be attached to the current Area Group Object. You may also type "AreaGroupAttach" to work in a similar

fashion.
You cannot Attach Objects that the current Area Group does not allow as set under the Content section of the Properties Palette - see discussions above.

Properties - Area Groups

If you **cannot Attach** an Area object to an Area Group, check the [Area Group Properties](#) and look under the **Contents** section for "No" settings on Area and/or Area Groups.

Detach from Area Group

Menu **N.A.**



Keyboard **AreaGroupDetach**

Mouse Select Area Group, right-click, Select "Detach Areas / Area Groups"

Dialog See comments on Area Groups dialog under "Attach to Area Group" above.

Note:

Changing the options under the Contents section of the Area Group Properties Palette does not affect current Attachments and manual Detachment will be required is that is what you desire.

Group relationships can no longer be locked as in the past so detachment is always possible; which means it can also be accidental.

For Group-to-Group relationships, make sure that you read up on the tools available within the Area Group Properties dialogue box - see [Area Group Properties - Area Group tab](#)

The **AreaGroupDetach** command is used to detach Area Objects and Area Group Objects from the current Area Group Object.

Create Polyline from Area Group

Menu **N.A.**



Keyboard **AreaGroupCreatePline**

Mouse Select Area Group, right-click, Select "Create Polyline"

Using the Directly attached option for Creating Polylines is great for Sub Groups but if you want to move quickly, just select the Group that you want Polylines from and use the default "All" option. The "All" option can be used on the top Parent Group to generate an entire building if you have all of the Areas mapped out.

If you get really excited about the prospect of [Generating Walls](#) from your Areas and Area Groups, I advise that you run a few test before "banking" on a smooth operation. You see, since each Area becomes a single contiguous Polyline object, the resultant Wall from this contiguous Polyline will also be a complete space in itself. That means that you will end up will double Wall objects wherever Areas meet (which is most of the time).

The Create Polyline from Area Group tool can be used to derive the Polylines needed to generate Walls (**WallConvert**) or other architectural objects in ADT. Since Walls cannot be Generated directly from Area or Area Group Objects, this routine is highly useful. When you select your Area Group, you can choose "Create polylines from[All attached areas/Directly attached areas]<All>:"

Area Group Layouts

Alt.Menu **Document> Area Groups> Area Group Layout...**



Keyboard **AreaGroupLayout**

Command Line:

Command: AreaGroupLayout
Specify layout offset [Distance/Row offset/Column offset]

Specify lout offset - use this default option to provide a "unit cell" value for both Rows and Columns by simply picking another point on the screen; the first point is automatically placed at the center of the current Area Group Object. This option is exactly like "Distance" but with no option to pick a first point.

Mouse Select Area Group, right-click, Select Area Group Layout"

Links [Area Group Template Style Manager](#) - for information on creating Groups with Subgroups that spread out over Rows and Columns.

[Create Area Groups from Template dialogue box](#) - for graphic example of the Rows and Columns layout

The **AreaGroupLayout** command provides a means for redistributing Area Group Object layouts starting with the current Object and working down to sub-levels. The tools for this "redistribution" are based on Offset distances that affect the X and Y values of an imaginary rectangle; i.e., distances are for columns and rows. The current version of this tool is only available in command line form but had a dialog box in previous releases.

Using Grips to Modify Area Groups

Area Group Objects only offer **one Grip point** to work with and as such this point does little more than move the Object from its center. You can use the **Move command** to achieve similar results but one advantage to using the Grip point is the temporary dimensions that you have for most other Objects in ADT.

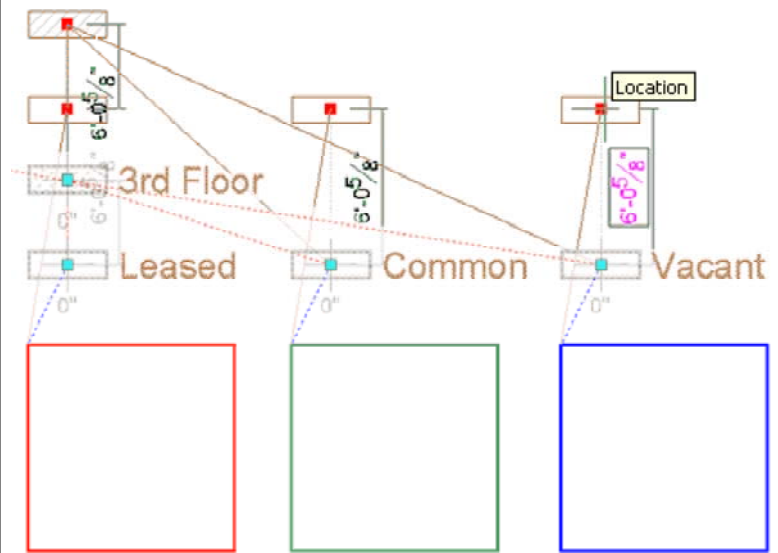
Illustrated to the right I show that you can use multiple hot-spots to move a series of Area Group Objects at one time. Remember that multiple hot-spots are created by holding the **Shift key** depressed while picking on warm Grip Points. You can cycle through any of the temporary dimension values by hitting the **Tab key**.

Though I am usually not bothered by the fact that the "connection lines" always go through the center of Area Group Objects, I am often irritated by where the "connection lines" connect to my Area Objects. Unfortunately, there is no Grip or other option to alter where the connection lines connect to Area Objects. The point is based on the first point placed when the Area was drawn. You can Mirror and Rotate an Area Object to reposition the connection line but that is often not practical on real floor layouts.

Distance - use this option to be free to draw a rectangular object on the screen anywhere that will represent the "unit cell" dimensions for the Row and Column Offsets. If you can visualize horizontal and vertical centerline distances for your Area Group Objects, this option is one of the easiest to use.

Row Offset - the distance between your Area Group Objects in the vertical direction as measured from centerline to centerline. A negative distance can be used to change the direction of distribution.

Column Offset - the distance between your Area Group Objects in the horizontal direction as measured from centerline to centerline. A negative distance can be used to change the direction of distribution.



THOUGH YOU CAN USE THE SINGLE GRIP POINT TO MOVE AREA GROUP OBJECTS, THERE IS NO GRIP FOR ADJUSTING THE POSITION OF THE CONNECTION LINE.

5 Area Group Styles

5-21 AREA GROUPS

Area Group Style Manager

Alt.Menu Document> Area Groups> Area Group Styles...



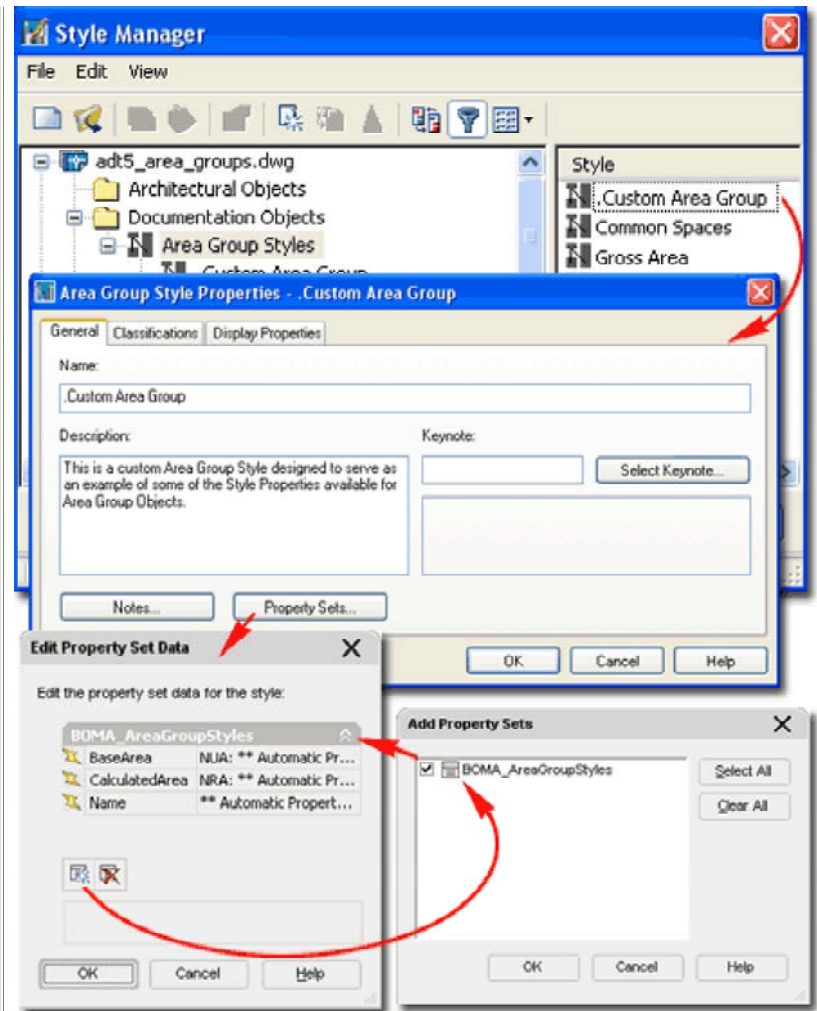
Keyboard AreaGroupStyle

For Area objects, you can use the **Style Manager** to load, modify, delete and create new Area Styles.

Illustrated to the right, I show the process of creating a **New Area Style** that I have Named "**Custom Area Group**". By **double-clicking** on this new style, you will invoke the **Area Styles** dialogue box - as illustrated.

The **General** tab provides access to the **Name** and **Description** fields for a Style; plus access to the attachment of Notes and Property Sets.

Since Area Styles are simply designed to provide you with Display Characteristic controls, you may be surprised by how limited this area is. For the more powerful stuff, like calculations, you will need to work with **Area Properties** or **Area Groups**.

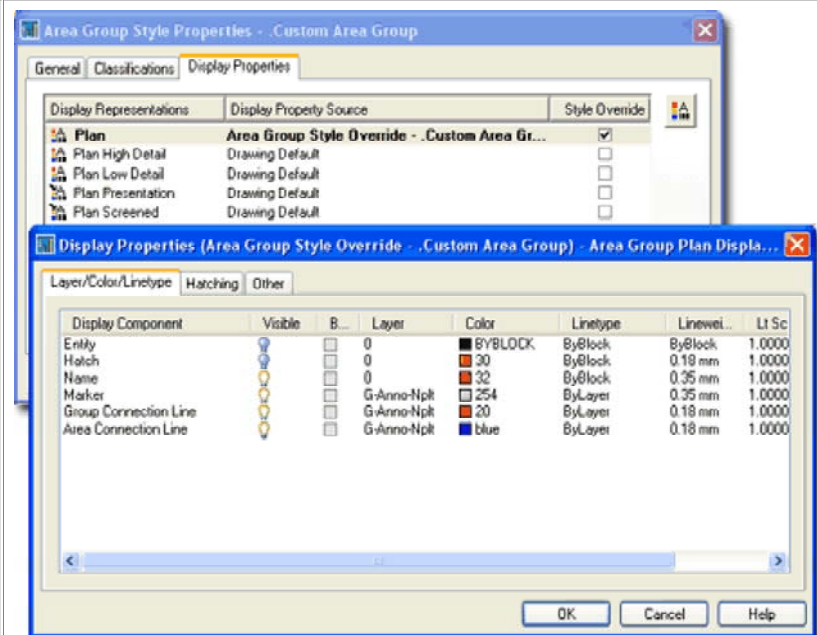


Style Properties - Display Properties tab

Links [Object Style Display Properties Overview](#) - for the full story on Display Properties for Style

[Object Display Property Overrides - Object and Style Based](#) - for an explanation of the differences between using Display Properties via the Styles versus the Edit Object Display... option.

The **Display Properties** tab of the **Area Group Style** dialog box, illustrated right, provides access to the display characteristics of the components of your Area Group objects; from Visibility to Hatching and Connection Lines. See the discussion on Area Group Display Properties below for more information on this subject.



YOU CAN ALSO ACCESS DISPLAY PROPERTIES BY SELECTING AN OBJECT, RIGHT-CLICKING ON YOUR MOUSE AND USE THIS POP-UP MENU OPTION

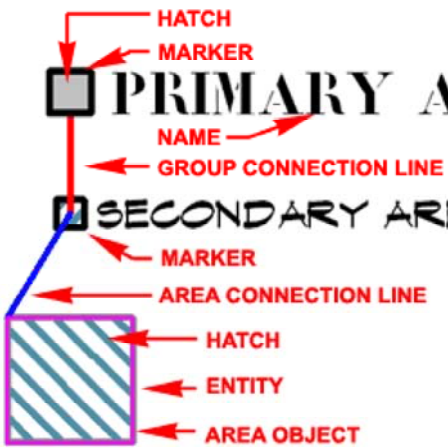


Illustrated to the left, is another way to access the **Display Properties** tab; **select** the specific **object**, **right click** on your mouse to invoke the object-specific pop-up menu and select **Edit Object**

Display... Just be aware that when you use this approach, you can actually set an Object Override as opposed to a Style Override. Object Overrides can be extremely useful because they allow you to change that Hatch or Color of any single object within a Style Family but they can also be problematic because

they lock you out from more centralized, Style level, controls.

Display Properties - Component Layers



For the Default **Plan Display Representation** you will notice, as illustrated to the right, that the list of **Display Components** amounts to six items: Entity, Hatch, Name, Marker, Group Connection Line and Area Connection Line.

In the illustration to the left I show two different Area

Group Objects with slightly different Display Properties and one Area Object. For the most part, the Display Components are self-explanatory with the exception of the **Entity** and **Marker**.

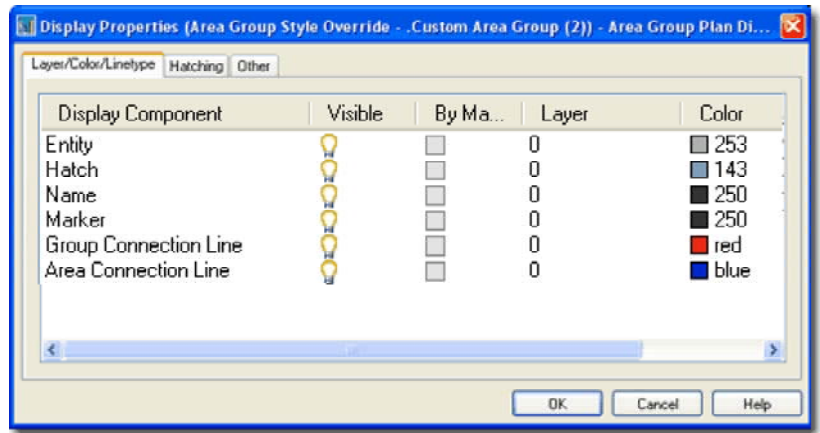
Entity - this Display Component acts like "shrinkwrap" over Area Objects that are Attached below the current Area Group Object. This effect can include all Area Objects belonging to sub-Groups below the current Area Object if the "[Draw All](#)" setting is active on the **Other** tab of the Display Properties dialog. In most cases you may not notice the effect of this Display Component because it may reside under the same linework that defines the Object is it wrapping. You can use the Display Order command to bring it up or change the Lineweight to something much wider. If this Display Component is Visible, it will also affect the **Hatch Display Component** by providing a broader region for the Hatch to fill; i.e., the Hatch Display Component fills the Entity Display Component.

Hatch - this Display Component, controlled by the Hatching tab, provides an option to fill in the Marker region but also any Entity regions should there prove to be any.

Display Properties - Hatching

On the **Hatching** tab of the **Area Group Display Properties dialog box**, you will find one Hatch Display Component which controls both the Hatching within the **Marker** Display Component but also the **Entity** Display Component under the Layer/Color/Linetype tab - see discussion above.

To create more diversity in your display or Area work, remember that you can also work with the [Hatch Display Component for Area Objects](#).

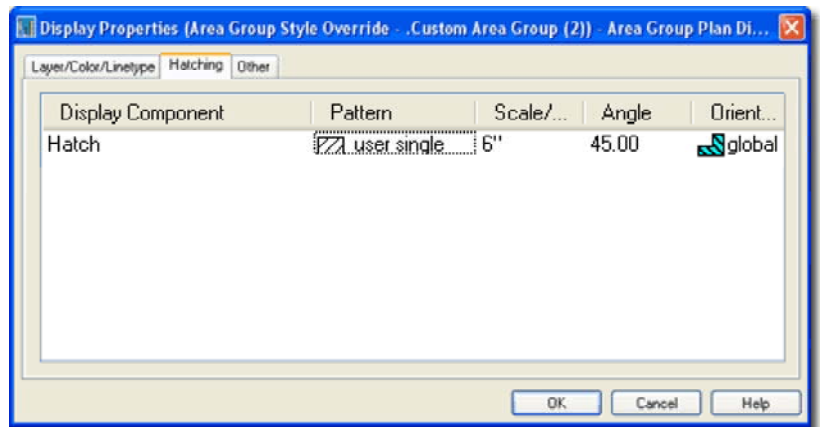


Name - this Display Component controls the display of the Name field which can be filled in on the Properties Palette. Another way to prevent Names from appearing is to avoid typing them in.

Marker - this Display Component controls the rectangular outline of the Area Group Object. If turned Off, no rectangle or Hatch will appear for the marker but the Name, Entity and Hatch will appear (if On)

Group Connection Line - this Display Component controls the appearance of connecting lines between Area Group Objects.

Area Connection Line - this Display Component controls the appearance of the connecting lines between Area Group Objects and Area Objects.



Display Properties - Other tab

On the **Other tab** of the **Area Group Display Properties dialog box**, you will find some unique control options for how the Area Group Marker and Text appear.

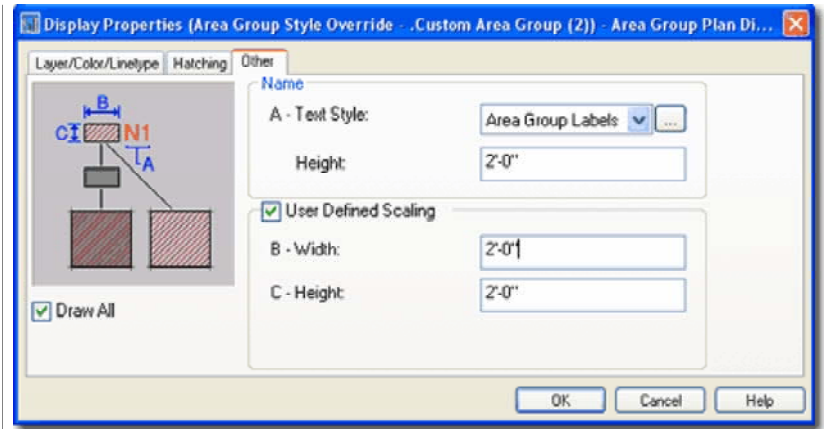
Draw All - use this checkbox to control the extent of how far the Entity Display Component reaches beyond the current Area Group Object. In other words, if active (checked), the current Area Group Object's Entity and Hatch Display Components will reach out to All Areas below it; even across sub-Groups. This feature can be quite useful in presentations where you wish to show all Areas below a Group as one Color, for example.

NAME

A - Text Style - use this drop-down list to select any existing Text Style in your drawing or use the ... (ellipses) button to access the Text Style dialog box to quickly create a unique style for your Area Groups. When creating a Text Style for Area Groups, the Text Style Height is irrelevant unlike the case for Dimension Styles; i.e., the Height value is truly controlled here on this dialog box.

Height - use this input box to specify a fixed text height for your Area Group Objects.

B - Width - use this size input box to specify how wide you want your Area Group Marker size.



C - Height - use this input box to specify how high you want your Area Group Marker size.

User Defined Scaling - use this checkbox to deactivate the B - Width and C - Height controls for the Area Group Marker and let ADT determine the size relative to the current drawing Zoom factor. Apparently the size of the marker is 1/50 of the screen display but I was unable to confirm that measurement. This is an interesting option but would have been more useful if Drawing Scale controlled both this size and the text size. I tend to use the manual method by specifying a fixed Width and Height to match the Text Height and my anticipated printing scale.

6 Area Group Templates

Area Group Template Style Manager

Alt.Menu **Document> Area Groups> Area Group Templates...**



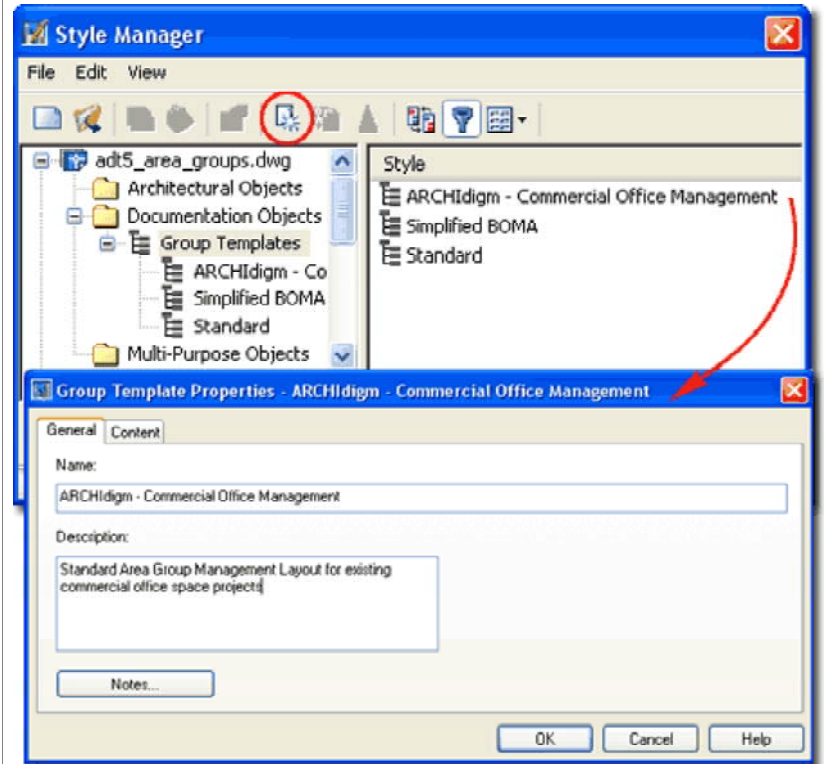
Keyboard **GroupTemplate**

Area Group Templates provide you with another Style that can be used to quickly produce a master Area Group layout. On a Commercial project in early schematic design phase, for example, you may want to explore numerous Area arrangements that are all based on the same Area Group structure; something like Entry, Lobby, Stairways, Offices, Bathrooms, etc. By creating an Area Group Template, you can define all of these Groups and Subgroups as a starting point before you start creating Areas. As you draw Area Objects, you can Attach them to corresponding Area Groups.

For Area Group Templates, you can use the **Style Manager** to load, modify, delete and create new Area Group Template Styles. As with all other Styles, you can keep custom Styles in a drawing file for access at another time.

Illustrated to the right, I show the process of creating a **New Area Group Style** that I have Named "**ARCHIdigm - Commercial Office Management**". By **double-clicking** on this new style, you will invoke the **Area Group Template Properties** dialog box - as illustrated.

6-21 AREA GROUPS



The **General** tab provides access to the **Name** and **Description** fields for a Style; plus access to the attachment of Notes.

Style Properties - Content tab

The **Content** tab of the **Area Group Template Properties** dialog box holds all of the various settings you can apply to your Area Group Template. Once you have assigned the various properties to your template, you can use this template with the **Create Area Group from Template** tool instead of using the Add Area Group tool.



Group Template

In the **Group Template** pane, right side of dialog, you should find, by default, one parent Area Group icon. By using the **right-click mouse button**, you should also find that a pop-up menu appears offering the ability to add a **New Sub Group**, **Rename** a Group or **Delete** a Group - as illustrated to the right. You can

also use **drag-n-drop** techniques to move Area Group icons around. By creating a fully articulated Area Group Template, you can set yourself up very quickly for management and reporting of design work; all you have to do now is Add Area Objects to the pre-defined Area Groups. Illustrated to the left I show that for some repetitive tasks, you may want to create a separate Area Group Template that is then manually Attached to a larger tree.

GENERAL

Name - this option is the same as the Name option you get when Adding an Area Group Object. You don't have to specify a Name but it seems rather odd to not use something so obviously valuable. You can, for example, create several templates with Names such as Gross, Net, Bathrooms, Mechanical and so on for the various types of Area Groups you anticipate using in your project.

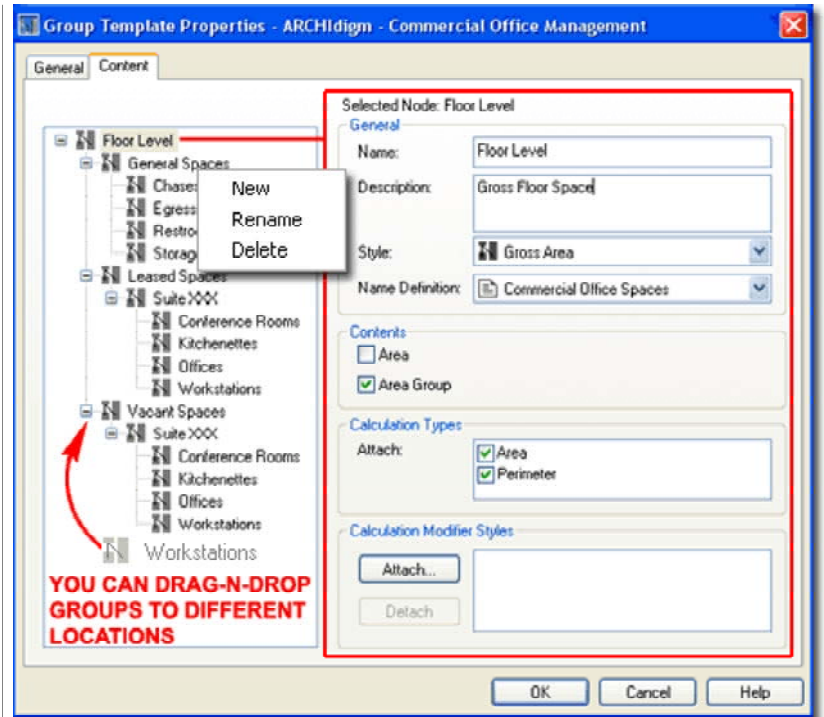
Description - this is just a way to elaborate on the Area Group Name. It does not show up in reports but it does show up under the General section of the Properties Palette when Modifying existing Area Group Objects.

Style - this drop-down list can be used to specify which [Area Group Style](#) to use. As discussed above, Area Group Styles can be configured to have different sizes, colors, text and hatching.

Name Definition - this drop-down list can be used to specify which list of [Area names](#) you want accessible when Area objects have been associated with this Area Group. This may seem a little confusing but if you review the process of Adding Areas, notice that you can pre-specify which Area Group it should belong to before you Add it. By pre-specifying the Area Group, you also acquire access to the Area Name Definition List.

CONTENTS

Area - checking this box will allow the Area Group to accept Area Objects via **Attachment**. The decision to uncheck has to do with a concern that a user might accidentally attach something that should not be attached; some Area Groups, for example, should only hold sub-Groups.



Area Group - checking this box will allow Area Groups (sub-Groups) via **Attachment**. Typically, the last Area Group in a branch would only allow Area Objects to be Attached and not other Area Groups.

CALCULATION TYPES

Area - check this box to have this Area Group report Areas.

Perimeter - check this box to have this Area Group report Perimeters.

CALCULATION MODIFIER STYLES

Attach... and **Detach** buttons - use this to work with Calculation Modifiers used in your Reports to compensate for such things as Gyp. Board, Plaster, etc.

Note:

At present you cannot use a physical Area Group on your screen as a source for an Area Group Template Style. In other words, as nice as it would be to Select a structure you created and turn it into an Area Group Template, you can't.

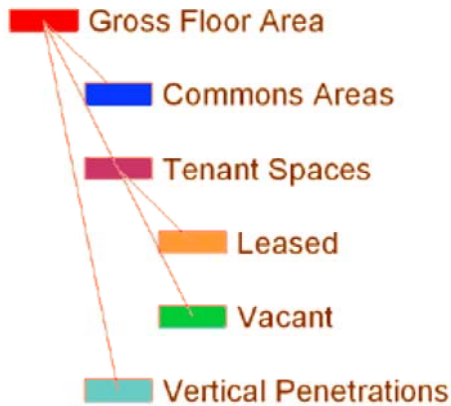
Create Area Groups from Template Properties Palette

Alt.Menu **Document> Area Groups> Create Area Groups from Template...**



Keyboard **GroupCreateFromTemplate**

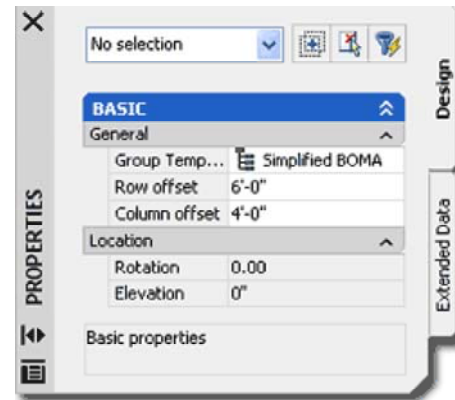
Links [AreaGroupLayout](#) - command for redistribution of a Layout Group



The Create Area Groups from Template

Properties Palette is not of much use if you have not already created an Area Group Template Style (see above). For those familiar with AutoCAD's Array command, the Row and Column Offset options should be self-explanatory.

Group Template - use this drop-down list to select any [Area Group Template Styles](#) currently in your drawing. These are created with the Area Group Template tool which uses the Style Manager to store numerous settings.



Row Offset - you can type in a value to be used as a centerline distance between the Area Group Marker icons in the **vertical** direction.

Column Offset - you can type in a value to be used as a centerline distance between the Area Group Marker icons in the **horizontal** direction.

7 Area Groups - Customizing and Tricks

7-21 AREA GROUPS