Simple FM Tools

For AutoCAD and
AutoCAD Architecture

User guide

Simple Solutions FM

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Simple FM Tools®

Simple FM Tools User Guide

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Chapter 1:
Installation Instructions

How to Install Simple FM Tools

System Requirements

- AutoCAD versions 2017-2020 and/or AutoCAD Architecture 2017-2020. Your version of Simple FM Tools must match your version of your AutoCAD product. For example, if you are running AutoCAD 2020 you must install Simple FM Tools 2020.

- Simple FM Tools has not been tested on network installations of AutoCAD; therefore, we do not support network installations of Simple FM Tools.

License Types

- **Software Key.** Single installation license to all toolsets available in Simple FM Tools.

- **Tag Only Mode.** A free, unlicensed version of the tool that just provides the tag tools needed to produce an attributed DWF file to be used in the Evolve FM CAFM system.

Installation

1. Close your AutoCAD product if the application is currently open.
2. Run the Simple FM Tools install file.
3. Open your AutoCAD product and on the Welcome dialog, select one of the following 3 options:

OPTION 1: **"I would like to continue in Tag Only Mode"**

Select this option to use the free, unlicensed version of the tool. Click the Tag Only Mode button to continue. NOTE: The Welcome dialog will display each time AutoCAD is opened.

OPTION 2: **"I would like to purchase or authorize Simple FM Tools now"**

Select this option to request a software key from Simple Solutions FM.

1) Click Next on the Welcome dialog to proceed.
2) On the Purchase dialog, to request a software key, select a method to contact Simple Solutions FM (email or phone).
3) Deliver the 4-digit Code provided on the Order dialog to Simple Solutions FM.
4) Simple Solutions FM will email you a software key licensed to the 4-digit Code you provide.
5) When you receive the software key, select the "I have a Software Key" option, and paste the key into the Key textbox.
6) Click Authorize to complete the process.

OPTION 3: **"I have a Software Key"**

Select this option if you have received a software key from Simple Solutions FM. Paste the key into the Key text box.

How to Open the Tool Palette

When Simple FM Tools is installed in your AutoCAD product, you can open the fmTOOLS palette using any of the methods shown below.

   1. **Command Line: fmPalette**

   2. **Application Status Bar:**

MODEL ▦ ▦ ▾ ⌐ ↻ ▾ ↘ ▾ ∠ ◻ ▾ ⟁ ⚒ ⚒ 1:1 ▾ ⚙ ▾ + ⚏ **FM** ◯ 🔄 ◿ ▣ ≡

   3. **Add-Ins**

Home   Insert   Annotate   Parametric   View   Manage   Output   Add-ins   A360   Featured App

App Manager   fmTools Palette

App Manager   FM Solutions

Dock / Anchor / Stretch the Palette

The fmTOOLS palette will dock and anchor in the same manner as a native AutoCAD tool palette. For more information about docking and anchoring tool palettes see your AutoCAD help files.

TIP!   Stretch the palette to make it wider if you find it is too narrow and is hiding some of the control buttons that are shown in the images on the next page.

Simple FM Tools (standard)

Simple FM Tools is an AutoCAD tool palette that provides 3 toolsets: fmLABEL, fmAUDIT, and fmTAG

FMLABEL

FMAUDIT

FMTAG
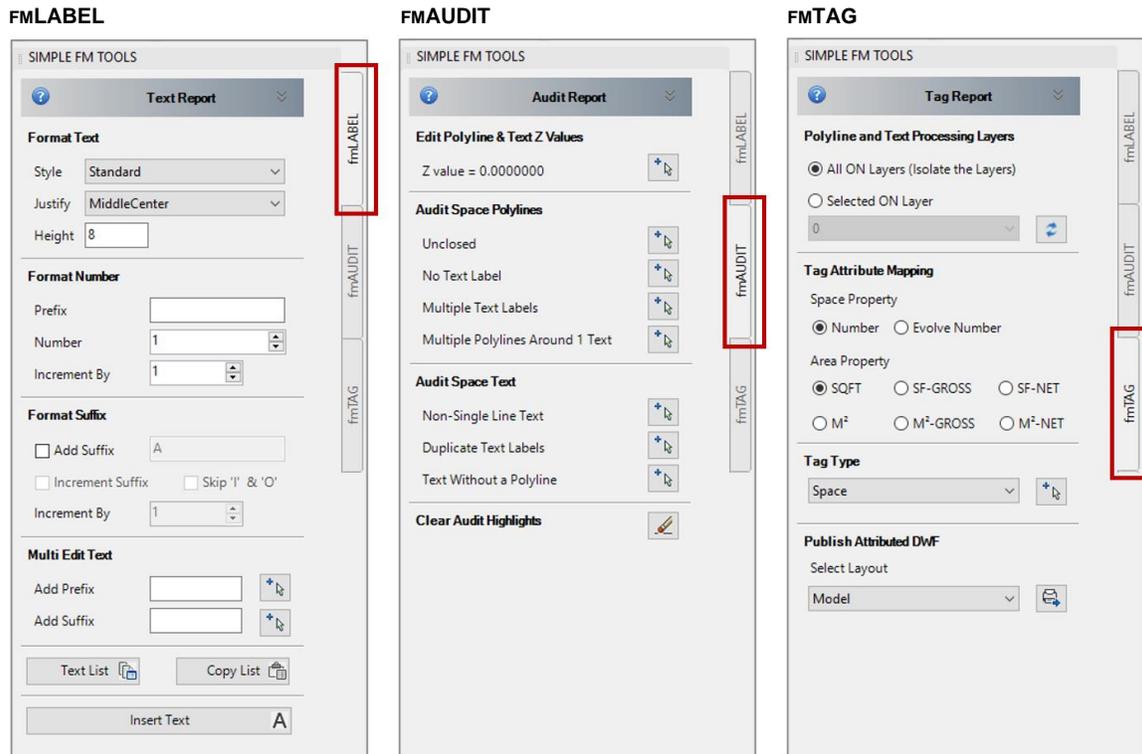
Toolsets

fmLABEL

- Automatically sequence, prefix, and/or suffix, numeric text during text insertion in AutoCAD.
- Automatically add a prefix and/or a suffix to your selected text in AutoCAD.
- Automatically produce a list of all visible single-line text on a drawing, & copy to the clipboard.

fmAUDIT

- Audit AutoCAD polyline & text entities for errors before using your AutoCAD drawing in a CAFM system.

fmTAG

- Add a data tag to your polylines that captures the space/room number, the polyline area, and the polyline entity handle.
- Publish an attributed DWF file that shows the data in the tag when you hover over a polyline.
- Use the attributed DWF file in the Evolve FM CAFM system.

Simple FM Tools PRO

Simple FM Tools PRO has all three toolsets found in the standard version, and adds the fmDATA toolset.

FMDATA
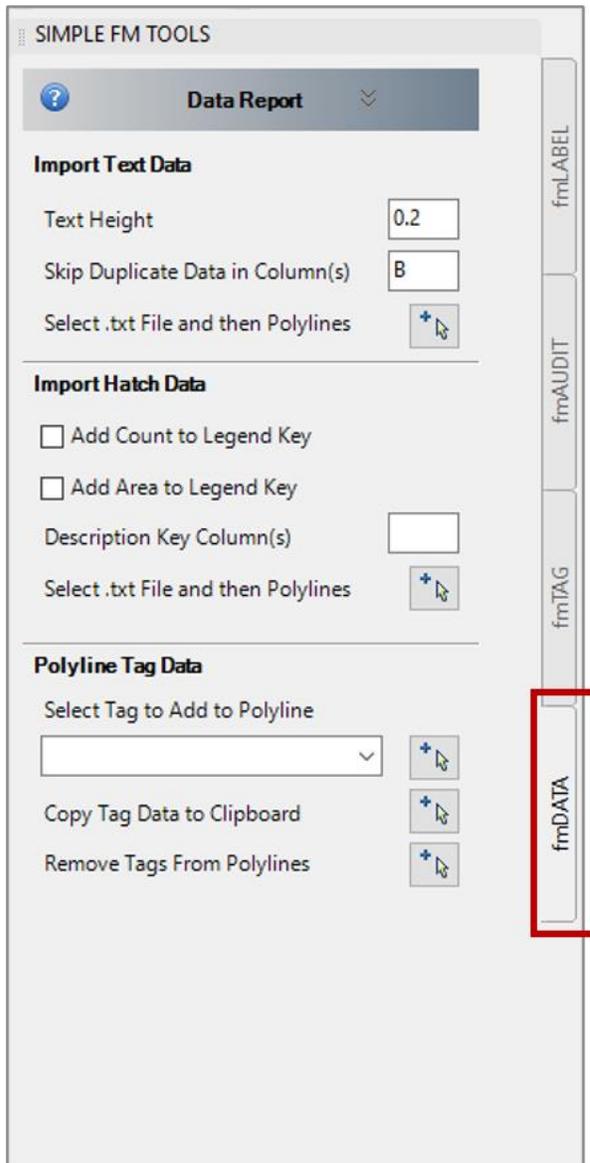
fmDATA Toolset

- Automatically place multiline text in the centroid of polylines with data imported in from a .txt file.
- Automatically hatch polylines based on data imported in from a .txt file and then add a legend key.
- Add selected data to polyline data tags.
- Copy the data on polyline tags to the clipboard, and paste into EXCEL, or any other document.

Chapter 2:
How to use fmLABEL

The fmLABEL Toolset

The fmLABEL toolset is used to speed the insertion of numeric text in AutoCAD.

ITEM	ATTRIBUTE	DESCRIPTON
FORMAT TEXT: Use this section to set up the text format.		
A	Help	Displays the online help page when clicked.
B	Text Report	The Text Report control box will expand to show a list of all visible single-line text when the Text List button is click (item P). Click the ⌄ expand/close tool to show or hide the contents of the Text Report.
C	Style	Sets the text style to be used during text insertion.
D	Justify	Sets the text justification to be used during text insertion.
E	Height	Sets the text height to be used during text insertion.
FORMAT NUMBER: Use this section to set up the numbering format.		
F	Prefix	The text entered into the textbox will be prefixed to the Number (item G) during text insertion.
G	Number	Sets the text number to be inserted.
H	Increment By	Sets the incremental text insertion value of the Number (item G). EX: Number 100 incremented by 2 will produce 100, 102, 104, etc.
FORMAT SUFFIX: Use this section to set up the suffixing format.		
I	Add Suffix	When selected, the suffix text (item J) is added to the Number during text insertion. EX: 100A, 102A, 104A, etc.
J	Suffix Text	Sets the suffix to be added to the Number's (item G) during text insertion.
K	Increment Suffix	Activates incremental suffix insertion. When the suffix is set to increment, the Number (item G) remains constant while the suffix value increments. EX: 100A, 100B, 100C, etc.
L	Skip "I" & "O"	Forces incremental suffix values to skip the letters "I" and "O" which are commonly mistaken for the numbers "1" and "0".
M	Increment By	Sets the incremental text insertion value of the suffix EX: Suffix "A" incremented by 2 will produce 500A, 500C, 500E, etc.
MULTI EDIT TEXT: Use this section to add a prefix/suffix to all selected text.		
N	Add Prefix	Adds the text entered in the textbox as a prefix to all selected single-line text.
O	Add Suffix	Adds the text entered in the textbox as a suffix to all selected single-line text.
TEXT LIST / COPY LIST: Use this section to see a list of text and to copy the text list to the clipboard.		
P	Text List	Retrieves a list of all visible single-line text, and populates and expands the Text Report control box (item B) to display the list.
Q	Copy List	Copies the contents of the Text Report control box to the clipboard. The text list can then be pasted into EXCEL, WORD, or any other document.
INSERT TEXT BUTTON: Executes the Insert Text command.		
R	Insert Text	Click to start your text insertion session. The AutoCAD command line will prompt you to select a point for your first piece of text. Continue inserting text as needed, and then press ESC to end the text insertion session. NOTE: Text will be inserted on the current AutoCAD layer.

TIP! When the Text Report control box (item B) is expanded, the Text List and Copy List buttons may be hidden by the expanded list. Close the Text Report to expose the buttons, or use the slide bar located along the right edge of the tool palette.

How to Insert Text

Text will be inserted onto the current AutoCAD layer.

Format the Text

1. In the Format Text section of fmLABEL, do the following:

    a. Select a text style.
    b. Select a text justification (Tip: Middle Center works well for CAFM text).
    c. Enter the text height.

Format Text

Style	STANDARD
Justify	MiddleCenter
Height	10

Insert Incremental Numbers

Format the Number

1. In the Format Number section, do the following:

    a. In the Prefix textbox, enter the text prefix if needed.
    b. In the Number textbox, enter the starting number to be inserted.
    c. In the Increment By textbox, enter the increment value to be added to the Number.

Format Number

Prefix	RM
Number	100
Increment By	1

2. Click the Insert Text button to begin the text insertion session.

3. Place each piece of text as needed.

4. Press ESC to end the text insertion session.

RM100   RM101   RM102   RM103

Insert Incremental Numbers with the Same Suffix

Format the Number

1. In the Format Number section, do the following:

    a. In the Prefix textbox, enter the text prefix if needed.

    b. In the Number textbox, enter the starting number to be inserted.

    c. In the Increment By textbox, enter the increment value to be added to the Number.

Format the Suffix

2. In the Format Suffix section, do the following:

    a. Select the Add Suffix checkbox.

    b. In the Add Suffix text box, enter the suffix text.

3. Click the Insert Text button to begin the text insertion session.

4. Place each piece of text as needed.

5. Press ESC to end the text insertion session.

Insert the Same Number with an Incremental Suffix
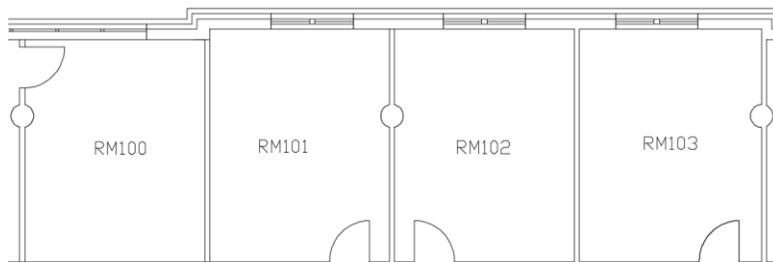
This works great for numbering workstations and cubicles.

Format the Number

1. In the Format Number section, do the following:

    a. In the Prefix textbox, enter the text prefix if needed (no prefix in this example).

    b. In the Number textbox, enter the starting number to be inserted.

NOTE! 👈 The Increment By text will be ignored when the Increment Suffix checkbox is selected, so there is no need to clear that data field because it will not be used during the Incremental Suffix process.

Format Number	
Prefix	
Number	100
Increment By	1

Format the Suffix

2. In the Format Suffix section, do the following:

    a. Select the Add Suffix checkbox.

    b. In the Add Suffix text box, enter the starting suffix text.

    c. Select the Increment Suffix checkbox.

    d. Optional: Select the Skip "I" & "O" checkbox to bypass the letters I & O during insertion.

    e. In the Increment By textbox, enter the increment value to be added to the Suffix.

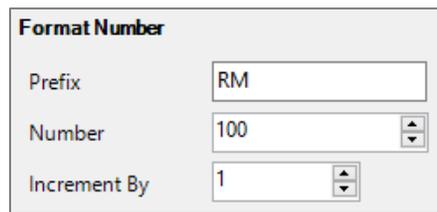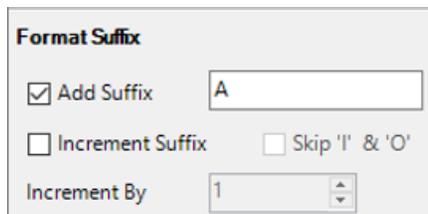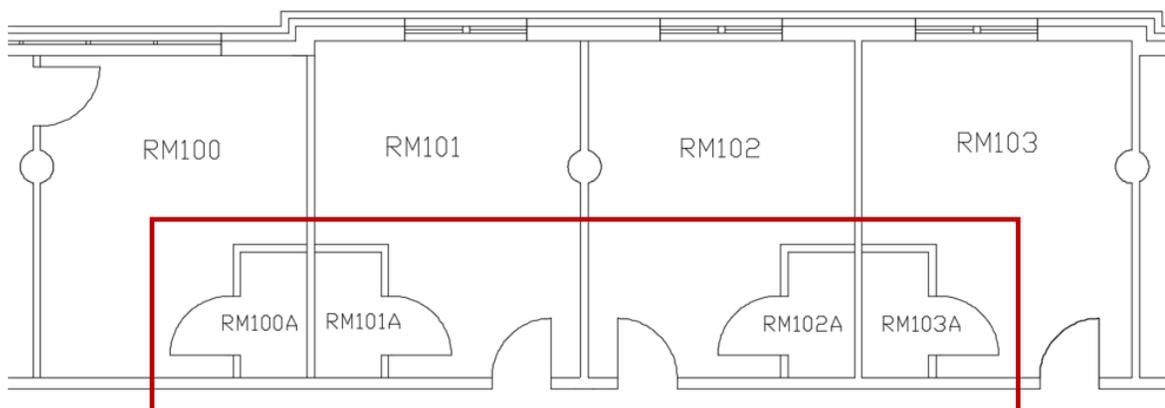| Format Suffix	
☑ Add Suffix	A
☑ Increment Suffix	☐ Skip 'I' & 'O'
Increment By	1

3. Click the Insert Text button to begin the text insertion session.

4. Place each piece of text as needed.

5. Press ESC to end the text insertion session.

100A	100C		100E	100G
100B	100D		100F	100H
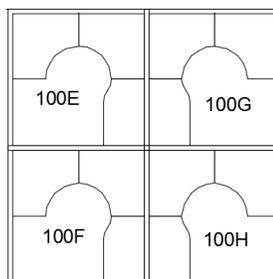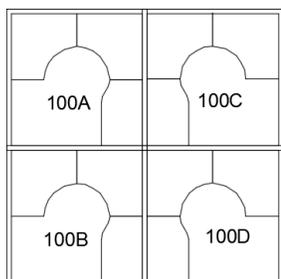
Add a Prefix to All Selected Text

This works great when you need to add a prefix to existing text.

Multi Edit Text

1. In the Multi Edit Text section, in the Add Prefix textbox, enter the prefix text.
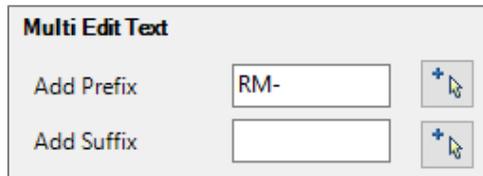
2. Click the Select tool.

3. On the AutoCAD drawing, select all text to be updated, and then press Enter.

BEFORE   **AFTER**
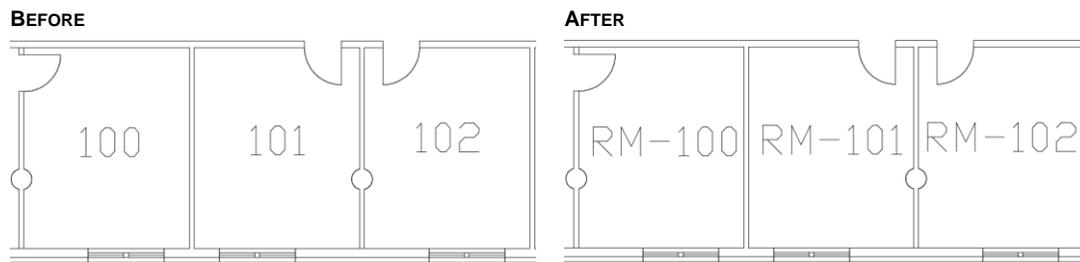
Add a Suffix to All Selected Text

4. In the Multi Edit Text section, in the Add Suffix textbox, enter the suffix text.
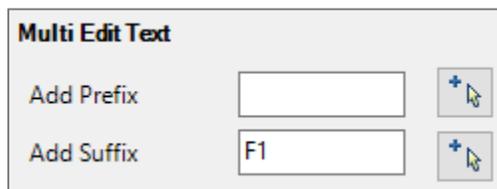
5. Click the Select tool.

6. On the AutoCAD drawing, select all text to be updated, and then press Enter.

BEFORE   **AFTER**
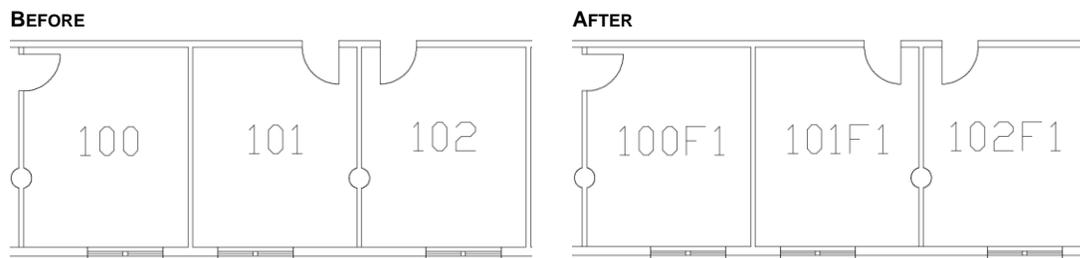
How to Use the Text Report

The Text Report is used to capture a list of all visible single-line text on an AutoCAD drawing. This is helpful when you are reconfiguring a floor plan and need to see a list of room numbers to determine which numbers have or have not been used.

TEXT LIST & COPY LIST TOOLS
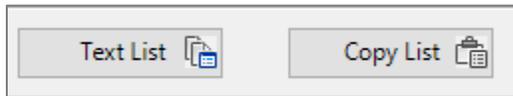
1. Turn on the AutoCAD layer that contains the single-line text objects to be captured.

2. On fmLABEL, click the Text List tool button.

3. The Text Report control box will expand to show a list of all visible single-line text found on the drawing. Use the Text Report slide bar to scroll up/down the list.
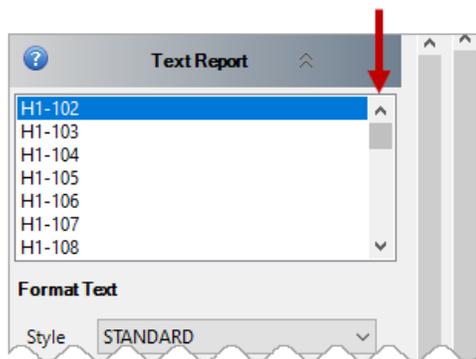
4. To close the Text Report, click its close/expand tool ⌃ .

Copy List to Clipboard

5. Click the Copy List tool button to place the contents of the Text Report onto the clipboard, and then paste into EXCEL or any other document (see tip below).

TIP! When the Text Report is open, the Text List and Copy List buttons may be pushed out of sight due to the expanded list. Close the Text Report, or use the tool palette slide bars to scroll the palette up/down.
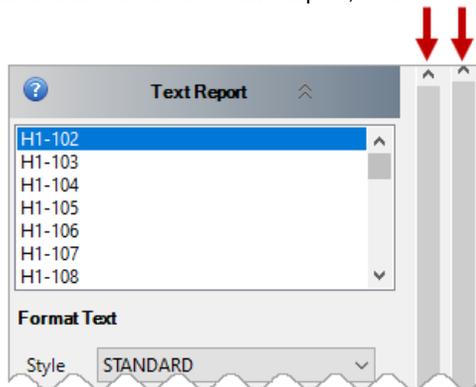
Chapter 3:
How to use fmAUDIT

The fmAUDIT Tools

The fmAUDIT toolset is used to check polyline & text entities for errors before using an AutoCAD drawing in a Computer Added Facility Management (CAFM) system.

ITEM	ATTRIBUTE	DESCRIPTON
A	Help	Displays the online help page when clicked.
B	Audit Report	The Audit Report control box will expand to show a list of polyline or text errors found during an audit. Click an error in the list and the AutoCAD display will zoom to, and highlight, the object causing the error. Click the ⌄ expand/close tool to show or hide the contents of the Audit Report.
EDIT POLYINE & TEXT Z VALUES: Use this section to set all polylines & text entities to the required Z value.		
C	Z value	Changes polyline elevation and text alignment "Z" values to 0.000000 for all selected polyline & single-line text objects. This is a prerequisite before auditing.
AUDIT SPACE POLYLINES: Use this section when checking for polyline errors.		
D	Unclosed	Click to find all unclosed polyline objects.
E	No Text Label	Click to finds all polylines that do not have a single-line text object within its boundary.
F	Multiple Text Labels	Finds polylines that have more than one single-line text object within its boundary.
G	Multiple Polylines Around 1 Text	Finds polylines that surround a common single-line text object. EX: Two polylines around one piece of text.
AUDIT SPACE TEXT: Use this section when checking for text errors.		
H	Non-Single Line Text	Finds text that is not single-line text.
I	Duplicate Text Labels	Draws a line between single-line text objects that have duplicate text values. NOTE: An "FMERRORS" layer will be created for the error lines.
J	Text Without a Polyline	Finds single-line text objects that are not within a polyline boundary.
CLEARE AUDIT HIGHLIGHTS: Use this tool to clear Audit Highlights.		
K	Clear Audit Highlights	Clears the error list in the Audit Report control box, and all drawing object error highlights.

How to Audit a Drawing

Prerequisites

- Polylines must be AutoCAD polylines (LWPOLYLINE). 2D/3D polylines will not be processed.
- Polylines must be CLOSED.
- Polylines must have one single-line text entity completely inside its boundary.

Isolate your Polyline & Text Layers

1. Turn off all layers except your polyline & text layers. This is important because all visible objects will be processed during auditing.
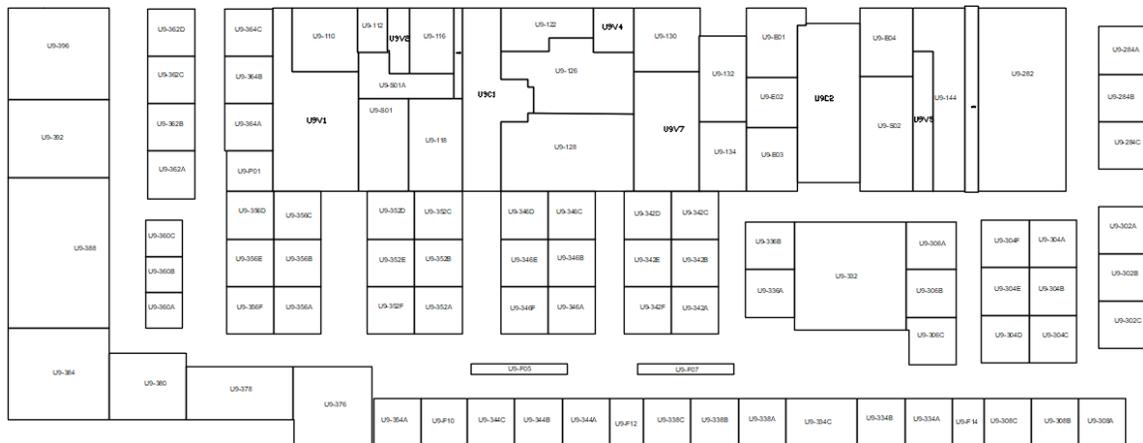
TIP! All text must be completely withing its polyline boundary. To help with this, change all text to a height of 2 inches (or something small enough to fit text into small closet areas, etc.) before running the audits. It works best if the text justification is set to Middle Center before changing the text height.

Set the Z Value

2. On the fmAUDIT palette, click the Z value tool, and then select all of your polylines & text entities.

3. Press Enter.
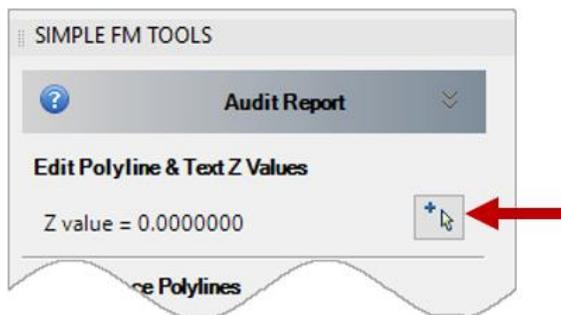
Run the Audits

4. Begin in the Audit Space Polylines section of the toolset, and click a Select Objects tool to execute an audit command. (There is a Select Objects tool for each audit function).

TIP! When an audit commend is executed, all visible entities are audited automatically; there is no need for you to make an object selection.
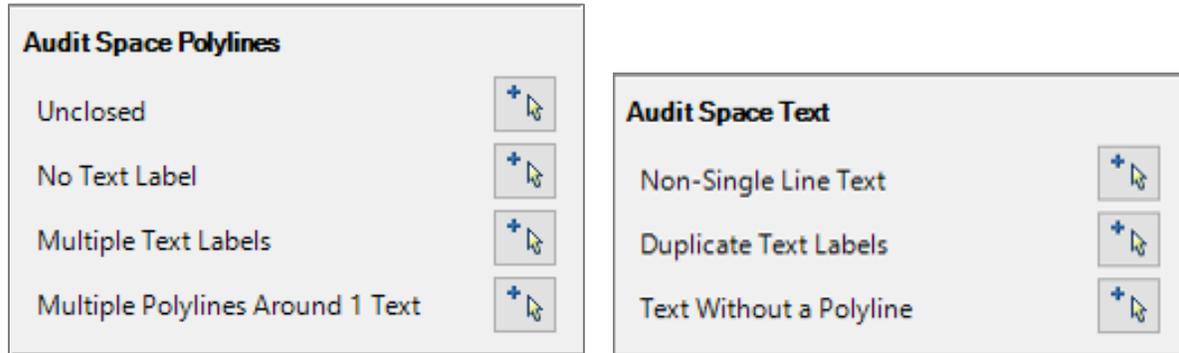
Manage the Errors

5. If no errors are found, press Enter, or click OK.
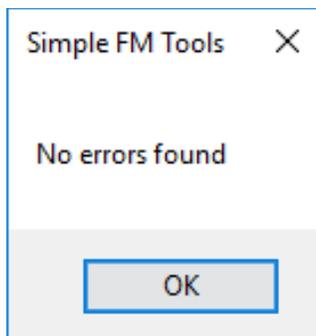
6. If errors are found, the Audit Report expands to display an error list. Click an error in the list to go to the object on the drawing & fix the error as needed.

Manage Duplicate Text Label Errors

7. When the Duplicate Text Labels audit is executed, a search will be done on all visible objects to find any duplicate text entries. If duplicate text is found.

8. Click an error in the Audit Report and a line will be drawn from one text object to the other. The error line will be placed on the FMERRORS layer, which will be created if it does not already exist.

TIP! If you do not see a line drawn between the text objects, verify the FMERRORS layer is turned on.

Clear the Audit Results

9. Click Clear Highlights to clear highlighted objects on the drawing, and to close the Audit Report.

10. Repeat the process for each audit in the Audit Space Polylines section and the Audit Space Text section of the toolset.

Audit Problem Solving

1. **ERROR: The audit does not recognize polylines and/or text.**

   ✓ Make sure your polylines are not 2D/3D polylines.

   ✓ Use the **Z value = 0.0000000** tool to make sure your polylines & text can be seen by the audit.

2. **ERROR: "Unclosed" polylines but they appear to be closed.**

   ✓ Confirm that the polyline Closed property is set to YES.

3. **ERROR: "No Text Label" but there appears to be one inside the polyline.**

   ✓ Confirm the text, and all of its grips, are completely inside the polyline boundary.
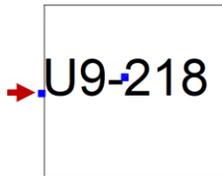
4. **ERROR: "Multiple Text Labels" but the text appears to be inside respective polylines.**

   ✓ Verify that the polyline boundary.
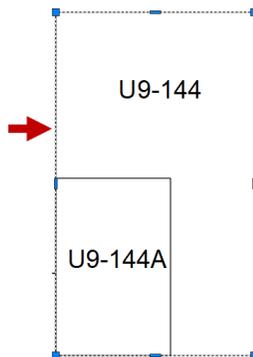
5. **ERROR: "Multiple Polylines Around 1 Text" but appears to be only one polyline.**

   ✓ Verify polyline is not drawn on top of another polyline.
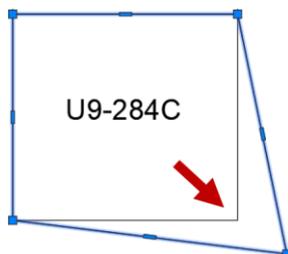
6. **ERROR: "Duplicate Text Labels" but audit is not drawing line between the duplicates.**

   ✓ Confirm AutoCAD layer FMERRORS is turned ON

7. **ERROR: "Text Without a Polyline" but text appears to be inside a polyline boundary.**

   ✓ Verify drawing object is a polyline. NOTE: Circle and Spline are not AutoCAD polyline objects.

   ✓ Verify there is a polyline drawn around the text.
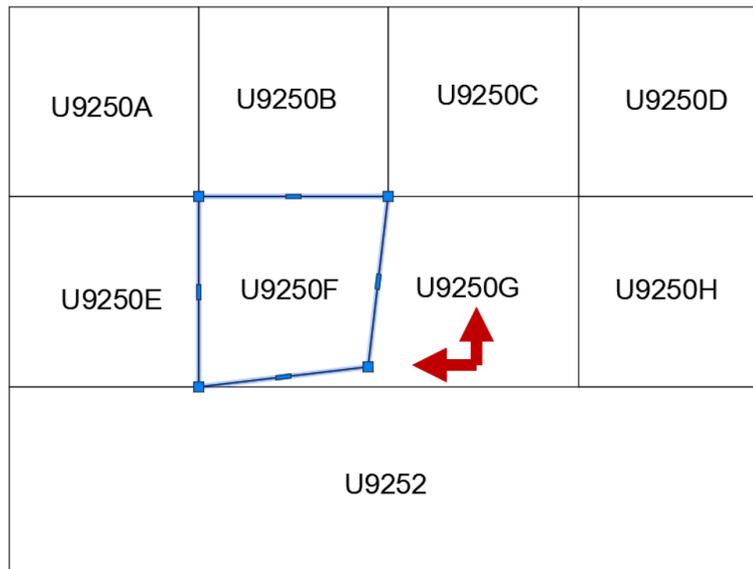
Chapter 4:
How to use fmTAG

The fmTAG Tools

The fmTAG toolset has been designed to add data tags to closed polyline objects in AutoCAD. The data tag includes the polyline Space Number, the polyline Area, and the polyline Entity Handle.

A — **Tag Report** — B

Polyline and Text Processing Layers

C — ● All ON Layers (Isolate the Layers)

D — ○ Selected ON Layer

E — 0 — F

Tag Attribute Mapping

G — Space Property

● Number ○ Evolve Number

H — Area Property

● SQFT ○ SF-GROSS ○ SF-NET

○ M² ○ M²-GROSS ○ M²-NET

Tag Type

I — Space — J

Publish Attributed DWF

Select Layout

K — Model — L

fmLABEL

fmAUDIT
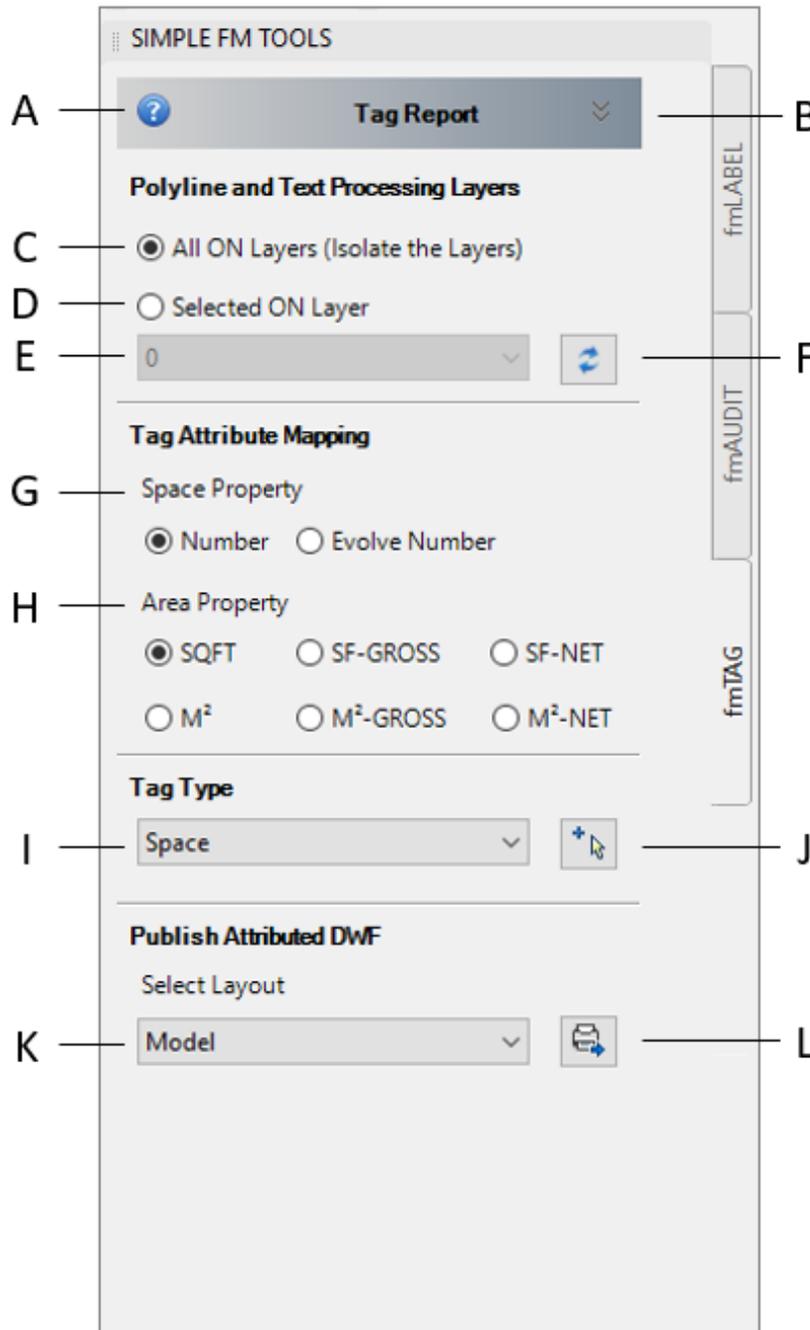
fmTAG

After the tagging process is complete, an attributed DWF file can be published for use in the Evolve FM CAFM system, or can it can be used on its own for informational purposes.

TIP! With the exception of the Tag Report, the fmTAG tools can be used without a Simple FM Tools user license.

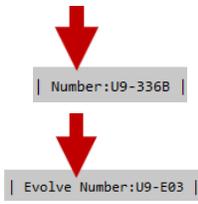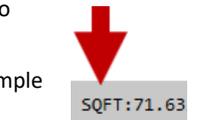| ITEM	ATTRIBUTE	DESCRIPTON
A	Help	Displays the online help page when clicked.
B	Tag Report	The Tag Report control box will expand to show a list of polyline and/or text errors found during a pre-tag "quick" audit (does not perform all audits found on the fmAUDIT palette).
POLYINE AND TEXT PROCESSING LAYERS: Use this section to set the AutoCAD layers to be processed.		
C	All ON Layers	**DEFAULT.** This option can be used when your polyline & text objects reside on 1 or more layers. Objects on all layers that are turned ON in AutoCAD will be processed. **IMPORTANT:** When using this option, isolate your polyline & text layers so that they are the only layers turned ON in AutoCAD.
D	Selected ON Layer	This option permits you to have multiple layers turned ON in AutoCAD during the tagging process, however your polyline & text objects must reside on only 1 of those layers. This option works together with items E & F.
E	ON Layer Pick List	Select the 1 layer that that contains your polyline & text objects (the selected layer should contain no other objects and must be turned ON in AutoCAD). All objects found on the selected layer will be processed during tagging. Objects on other layers that are turned ON in AutoCAD will be ignored.
F	Layer Refresh	Click to refresh the ON Layer pick list (item E).
TAG ATTRIBUTE MAPPING: Use this section set the tag property for the polyline Space & Area data tags.		
G	Space Property	The selection here sets the tag property used to store the single-line text value found inside the polyline boundary during the tagging process. The Evolve FM CAFM system will import the stored value into the SPACE ID database field. • **Number** (default selection). The data stored in this tag example is "U9-336B". • **Evolve Number** (alternate selection). The data stored in this tag example is "U9-E03".
H	Area Property	The selection here sets the tag property used to store the polyline area value during the tagging process. The Evolve FM CAFM system will import the stored value into the space AREA database field. • **SQFT** (default selection). The data stored in this tag example is "71.63". • **SF-GROSS, SF-NET, M2, M2-GROSS, M2-NET** (alternate tag properties that may be used to store the polyline area value).
TAG TYPE: Use this section set the tag type to be applied.		
I	Tag Type Pick List	Identifies the Evolve Data Type assigned to the polyline tag. • **SPACE.** Tag type used on polylines that denote rooms or other areas. • **FLOOR.** Tag type used on the polyline that denotes the Gross Area.
J	Tag Tool	Click, and then select all polylines and text objects to processed & tagged.
PUBLISH ATTIBUTED DWF: Use this section set the AutoCAD Layout to be published.		
K	Layout Pick List	Select to choose the AutoCAD Layout to be published.
L	Publish Tool	Click to publish the tagged drawing out to an attributed DWF file.

About the Tag

A data tag is added to an AutoCAD polyline in order to store information about the polyline on the polyline itself. Data includes the value of the single-line text entity found inside of a closed polyline boundary during the tagging process (typically the room number), the polyline area value (so we know the square footage of the room), and the polyline entity value (so we know which polyline the data belongs to.)

After the tagging process, you will publish an attributed DWF file using the Publish tool in the fmTAG toolset. The resulting attributed DWF file will include all of the data tags, on all of the polylines, that were processed.

Data tags are visible on an attributed DWF file by hovering over a polyline to display its associated tag. The attributed DWF file can be used alone for data informational purposes, or imported into the Evolve FM CAFM system to populate the database with space data stored on the DWF data tags.

POLYLINE SPACE TAG ON ATTRIBUTED DWF
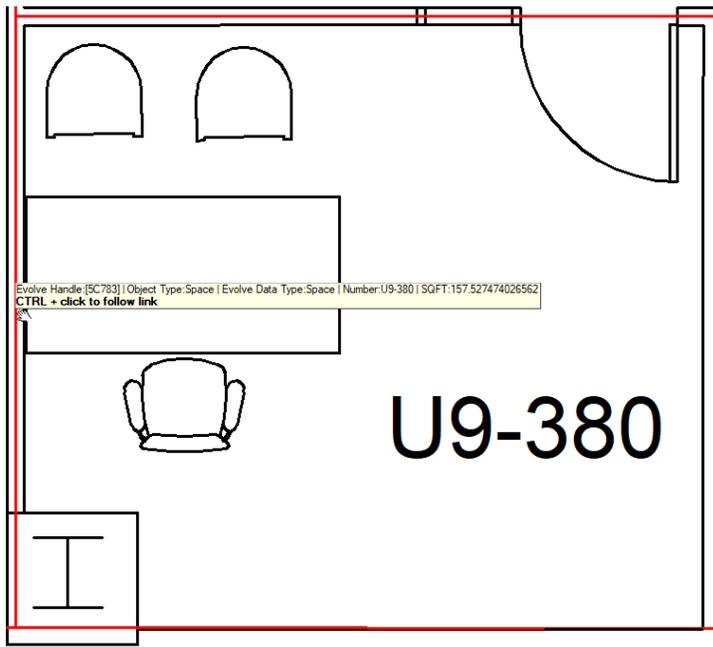
Tag Elements

Space Tag: Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562

Floor Tag: Evolve Handle:[5C788] | Object Type:Space | Evolve Data Type:Floor | Number: | SQFT:22928.6039399175

ITEM	TAG	TAG CONTENTS
1	Evolve Handle	Stores the AutoCAD polyline entity handle to identify the polyline.
2	Object Type	Identifies the Evolve FM object type (automatically added to the tag).
3	Evolve Data Type	Stores the Tag Type value selected in the Tag Type pick list (space or floor).
4	Space Property	Stores the single-line text value found inside the polyline boundary.
5	Area Property	Stores the polyline's area value.

Tag Types

The Tag Type selected in the fmTAG toolset, is used to identify tagged polylines as either Space areas, or as the Floor Gross Area.

- **Space (DEFAULT)**

    - This Tag Type is used to identify AutoCAD polylines that denote Space areas on a drawing.
    - This Tag Type requires one single-line text object inside its AutoCAD polyline boundary.
    - There can be many Space area polylines on an AutoCAD drawing.
    - The Area value of a Space tag, is imported to the Evolve FM space record Area attribute.
- **Floor**

    - This Tag Type is used to identify an AutoCAD polyline that denotes the Floor Gross Area.
    - This Tag Type does not require a single-line text object inside its polyline boundary.
    - There can be only one Floor polyline on an AutoCAD drawing.
    - The Area value of a Floor tag, is imported to the Evolve FM floor record Total Area attribute.

TAG Prerequisites

It is important to use all of the tools provided in the fmAUDIT toolset before executing the tagging process. All AutoCAD polylines and text entities must meet the fmAUDIT prerequisites.

How to Tag a Drawing

Prepare for the Tagging

1. Turn off all AutoCAD layers except for your polyline & text layers. Your polylines and text layers should be the only ON (visible) AutoCAD layers as shown in the example below

2. Using the fmAUDIT toolset, check for any errors and fix them before you begin the tagging process.

IMPORTANT!   If you are using the unlicensed Tag Only Mode version of Simple FM Tools, it is recommended that you manually audit your polylines & text before you begin the tagging process.

Tag the Polylines

3. In the Polyline and Text Processing Layers section of the fmTAG toolset, select the processing layer option you would like to use.

Polyline and Text Processing Layers

◉ All ON Layers (Isolate the Layers)

○ Selected ON Layer

_Poly-SPACE ⌄   ⟳

All ON Layers	**DEFAULT.** This option can be used when your polyline & text objects reside on 1 or more layers. Objects on all layers that are turned ON in AutoCAD will be processed. **IMPORTANT:** When using this option, isolate your polyline & text layers so that they are the only layers turned ON in AutoCAD.
Selected ON Layer	This option permits you to have multiple layers turned ON in AutoCAD during the tagging process, however your polyline & text objects must reside on only 1 of those layers, and that layer must be selected in the pick list.

4. In the Tag Attribute Mapping section, select the Space Property and the Area Property to be used on the polyline tag.

IMPORTANT! ☞ Evolve FM CAFM System users must match these settings to the settings configured in the Evolve FM Drawing Attribute Map. The default selections are typically preconfigured for you in Evolve FM.

Tag Attribute Mapping

Space Property

◉ Number   ○ Evolve Number

Area Property

◉ SQFT   ○ SF-GROSS   ○ SF-NET

○ M²   ○ M²-GROSS   ○ M²-NET

5. In the Tag Type pick list, select a Tag Type.

Tag Type

Space ⌄   ⁺⃗

6. Click the Select Tag Tool ⁺⃗ and then select all AutoCAD polylines and single-line text objects to be processed, and then press Enter.

IMPORTANT! ☞ If the Tag Report expands with errors (this only works with a licensed version of the tool), we recommend going to the fmAUDIT toolset to run each audit and confirm an error free result before repeating step 4.

7. Click OK on the tag notification dialog.

How to Publish an Attributed DWF

Set Up the Layer State

1. Turn on all of the AutoCAD layers that you want to include in the DWF drawing:

    *   Tagged Space polyline layers (required)

    *   Tagged Floor polyline layer (if applicable)

    *   All other AutoCAD layers as needed. For example, floor plan walls, doors, furniture, etc.

2. In the AutoCAD Layer Property Manager, verify all layers to be published are set to PLOT. Layers that are on, but that are set to DO NOT PLOT will not be included in the published DWF file. See layer plot examples in the image below.

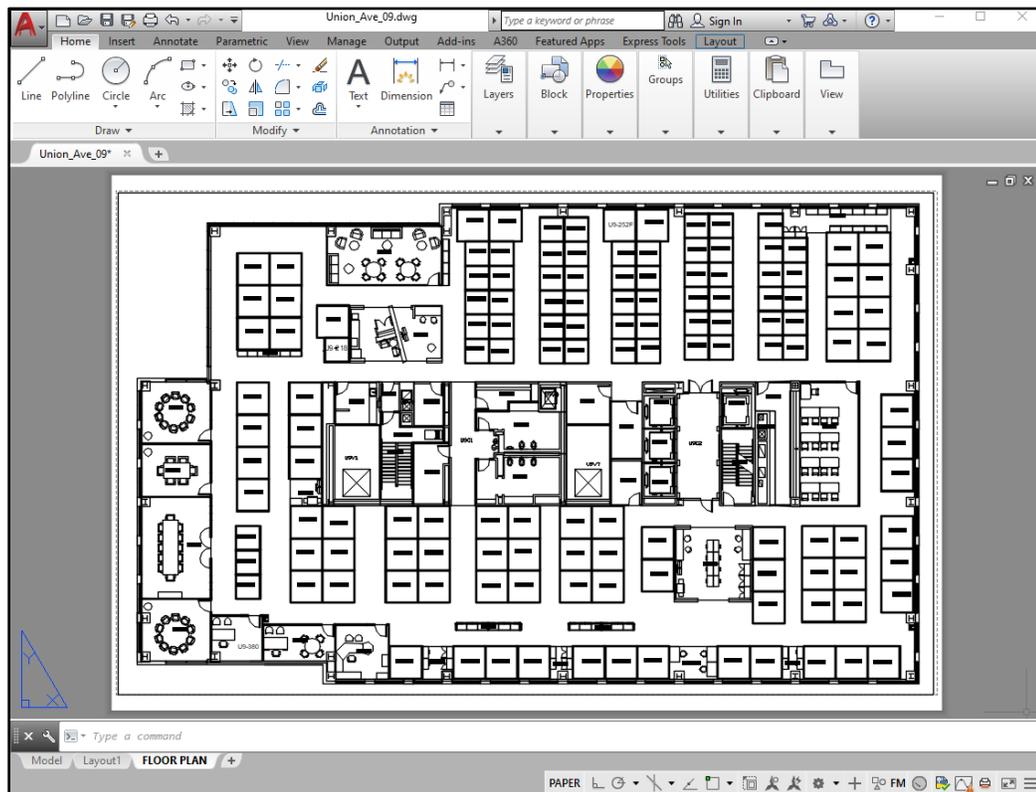| PLOT	A-WALL	🖨
DO NOT PLOT	A-DOOR	🖨⊘

TIP! 👉   At this point, create an AutoCAD Layer State to save your layer configurations.

Set Up the AutoCAD Layout

3. Configure the AutoCAD Layout to be published.

Configure the Page Setup Manager

4. Right click on the AutoCAD Layout tab you have configured to be published.

5. Click Page Setup Manager.

6. Click the Layout to be published, and then click Modify.

7. On the Page Setup Manager Dialog, do the following:

    a. Set Printer/plotter to DWF6 ePlot.pc3 (required).

    b. Select a Plot style table.

    c. Select a Paper size.

IMPORTANT! For best printing quality in Evolve FM, a D or E size is recommended. Use the PREVIEW option to see which size, D or E, fits the drawing best. Choose the size based on the one that produces the least amount of white space around the drawing image.

    d. Select the Plot area.

    e. Choose Fit to paper.

    f. Choose Center the plot.

    g. Choose the Drawing orientation.

    h. Click Preview.

    i. Click OK.
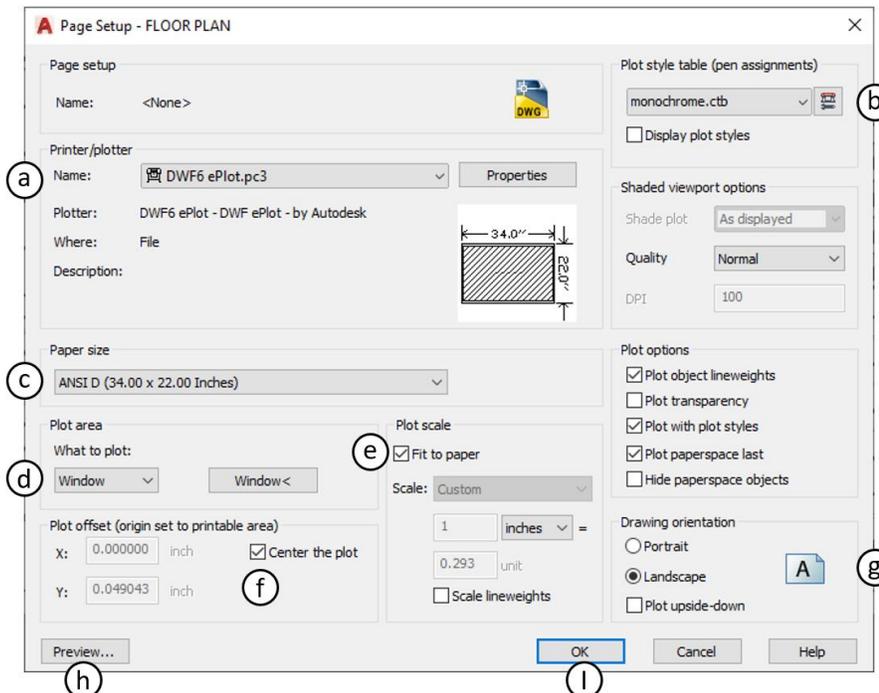
Publish the Attributed DWF

8. In the Publish Attributed DWF section of the fmTAG toolset, select the Layout to be published.

Tip!   If the Layout name does not appear in the selection list, you may have to save your AutoCAD drawing and then reopen it in order to refresh the Select Layout List.

Publish Attributed DWF

Select Layout

FLOOR PLAN
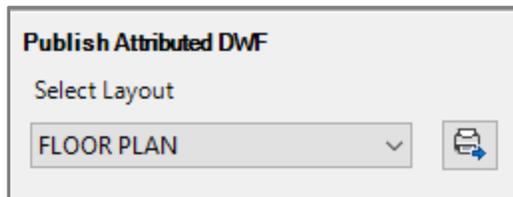
9. Click the Publish Attributed DWF Tool.

Publish Attributed DWF

Select Layout

FLOOR PLAN
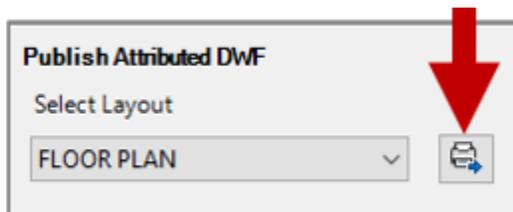
10. When the Plot and Publish Job is complete, confirm that no errors or warnings have been found.

Plot and Publish Job Complete   ☒

No errors or warnings found

Click to view plot and publish details...
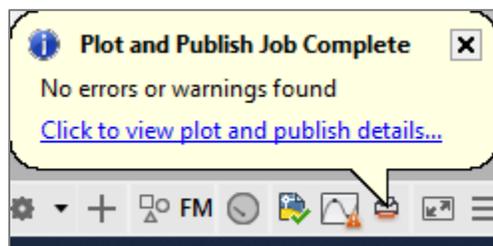
DWF Problem Solving

1. **You receive a plot Error Message.**

   ✓ Try closing the AutoCAD drawing and then reopen it. Republish using the fmTAG toolset.

2. **DWF drawing graphics are too small, or off center.**

   ✓ Use the Preview option on the [Page Setup Manager](#) to verify the DWF is configured correctly.

3. **Drawing image graphics are missing in the DWF file.**

   ✓ Confirm the layers were turned on when the DWF was published.

   ✓ Confirm layers are set to PLOT in the AutoCAD Layer Properties Manager.

4. **DWF file is missing "clickable" spaces when imported into Evolve FM.**

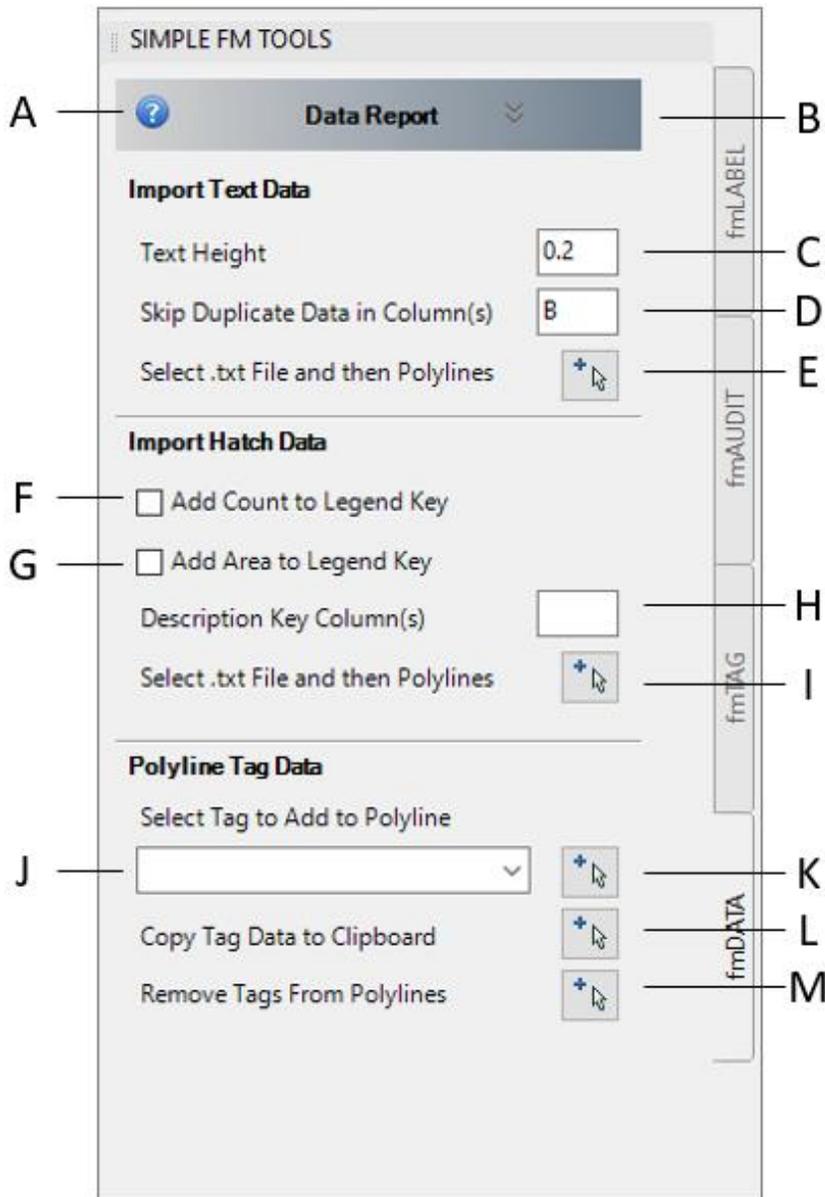   ✓ Confirm that the polylines have been tagged.

   ✓ Confirm that the tagged polyline layer was turned on when the DWF was published.

   ✓ Run the fmAUDIT tools to check your polylines and single-line text objects for errors.

   ✓ Confirm that the DWF is an attributed DWF file published by the fmTAG tools, and not a standard DWF published by AutoCAD publishing tools.

Chapter 5:
How to use fmDATA

The fmDATA Tools

The fmDATA toolset is in the PRO version of Simple FM Tools, and provides the tools to do the following:

- Import the contents of a .txt Tab Delimited text file into AutoCAD, with the purpose of placing multi-line text, into the centroid of tagged AutoCAD polylines.

- Import the contents of a .txt Tab Delimited text file into AutoCAD, with the purpose of hatching tagged AutoCAD polylines with the hatch patterns and colors designated in the file, and insert into AutoCAD a corresponding legend key.

- Extract the tag data from tagged AutoCAD polylines for use in an EXCEL spreadsheet.

ITEM	ATTRIBUTE	DESCRIPTON
A	Help	Displays the online help page when clicked.
B	Data Report	Not currently in use.
IMPORT TEXT DATA: Use this section to import a .txt file into AutoCAD to place text in the centroid of a polyline.		
C	Text Height	Enter the size of the AutoCAD text to be used on the text inserted into the centroid of the polyline (Note: The text style set in AutoCAD will be used.)
D	Skip duplicate Data in Column(s)	Use to identify column data in the .txt file that may contain duplicate entries for the same polyline. To identify the column(s), enter the column letter. If more than one column needs to be identified, separate the column letters with a comma. For example, to identify columns B and D, enter B, D
E	Select .txt File and then Polylines	Use to select the .txt file to be imported, and after the file has been selected, select all polylines that will receive the data in the .txt file.
IMPORT HATCH DATA: Use this section when importing hatch to a polyline and inserting a legend key		
F	Add Count to Legend Key	Select to include the count for each item in the legend key. For example, if there are 5 rooms in the Accounting department, the legend key will include a count of 5.
G	Add Area to Legend Key	Select to include the area for each item in the legend key. For example, if there is 1,800 SF assigned to the Accounting department, the legend key will include an area of 1,800 SF.
H	Description Key Column(s)	Enter the column in the .txt file that contains the text to be included in the legend key. Enter columns separated by commas. For example, to use the data in columns A and C, enter A, C
I	Select .txt File and then Polylines	Use to select the .txt file to be imported, and after the file has been selected, select all polylines that will receive the hatch in the .txt file.
POLYLINE TAG DATA: Use this section when adding text to the tag data and coping tag data to the clipboard.		
J	Select Tag to Add to Polyline selection List	Use to select the tag name that will contain the single-line text value within a tagged polyline.
K	Select Tag to Add to Polyline selection tool	Select the polylines and single-line text to be processed.
L	Copy Tag data to Clipboard selection tool	Select the polylines whose tag data you want to copy to the clipboard.
M	Remove Tags From Polylines selection tool	Select the polylines that will have their data tags removed.

Import Text Data Tools

Before importing text into AutoCAD, polylines must be tagged with the Space Property "Number" using the fmTAG toolset.

The image of a polyline tag shown below, stores the value "U9-380" in its Number tag.

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.52

About the File Format

The import file must be a .txt Tab Delimited file. The file must include a header row, however there is no requirement for the column header names.

During the import of a .txt file, fmDATA will look for a tagged polyline with a NUMBER value that matches the text in the first column of the .txt file.
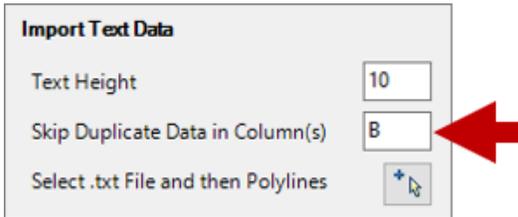
A	B	C	D
SPACE NUMBER	SPACE TYPE	FIRST NAME	LAST NAME
U9-364C	Cubicle 8 x 8	Joy K	Carbonneau
U9-376	Office	Tayebeh U	Hosseinzadegan
U9-378	Office	Shelley B	Gray-Pitts
U9-380	Office	Mary L	Barnes
U9-380	Office	Jessica K	Dymek
U9-384	Conference		
U9-388	Conference		

When a match is found, MTEXT is placed at the centroid of the tagged polyline. The data in column A is placed as the first line of the inserted MTEXT, the data in column B is placed as the second line, the data in column C is placed as the third line, etc. as shown in the image below.

U9-364C
Cubicle 8 x 8
Joy K
Carbonneau

U9-376
Office
Tayebeh U
Hosseinzadegan

U9-378
Office
Shelley B
Gray-Pitts

Skip Duplicate Data in Columns

The Skip Duplicate Data in Column(s) option, is used when there are two or more rows of data in the .txt file that will be inserted into the centroid of the same polyline.

Import Text Data

Text Height	10
Skip Duplicate Data in Column(s)	B
Select .txt File and then Polylines	⁺↖

For example, room U9-380 in the image below has two people assigned to that room, therefore the file contains a row for each person in that room.

|	A	B	C	D
	SPACE NUMBER	**SPACE TYPE**	**FIRST NAME**	**LAST NAME**
	U9-364C	Cubicle 8 x 8	Joy K	Carbonneau
	U9-376	Office	Tayebeh U	Hosseinzadegan
	U9-378	Office	Shelley B	Gray-Pitts
	U9-380	Office	Mary L	Barnes
	U9-380	Office	Jessica K	Dymek
	U9-384	Conference		
	U9-388	Conference		

Column B in the image above, contains the room type "Office". When the MTEXT for room U9-380 is inserted, the word "Office" will appear twice unless the Skip Duplicate Data in Column(s) option is used.

The images below show examples of the MTEXT when fmDATA skips the duplicate data in column B and when it does not.

DUPLICATE DATA IN COLUMN B IS SKIPPED

U9-380
Office
Mary L
Barnes
Jessica K
Dymek
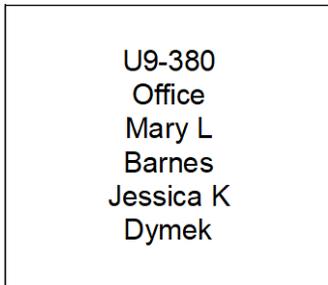
DUPLICATE DATA IN COLUMN B IS NOT SKIPPED

U9-380
Office
Mary L
Barnes
Office
Jessica K
Dymek
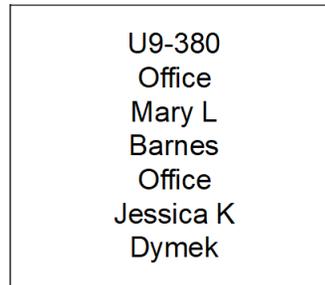
TIP! If there are two or more columns in the .txt file that may have duplicate data, separate the column letters with a comma, for example B, E. fmDATA will never place the text in column A twice so there is no need to include that columns to be skipped.

Skip Duplicate Data in Column(s)	B,E

How to Import Text Into AutoCAD

Review the information in the previous "About fmDATA" pages before beginning the import process.

Set Up the AutoCAD Polylines

1. Polylines must be tagged with the Space Property "Number" using the fmTAG toolset.

2. IMPORTANT: Isolate your tagged polyline layer so that it is the only layer turned on in AutoCAD.
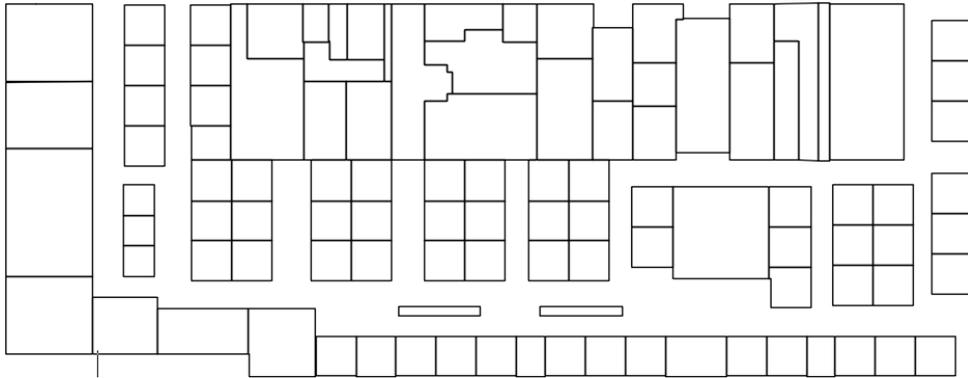
Set Up the .txt File

3. Create the data file to be imported into AutoCAD.
4. Save the data file as a .txt Tab Delimited text file.

Import the .txt File

TIP! The text style set in AutoCAD will be applied to the inserted MTEXT, and the MTEXT will be placed on the current AutoCAD layer.

5. In the Import Text Data section of the fmDATA toolset, enter the Text Hight to be used.

6. If needed, in Skip Duplicate Data in Column(s), enter the column letter(s) that may contain duplicate data entries.


7. Click the "Select .txt File and then Polylines" tool.

8. Navigate to, and select the .txt file to be imported. The AutoCAD command line will now prompt you to select objects. Select all polylines to be processed and press Enter.

9. If there is a space in the .txt file that cannot be matched to a tagged polyline NUMBER, a dialog will open and ask if you would like to review the list. Click YES or NO.
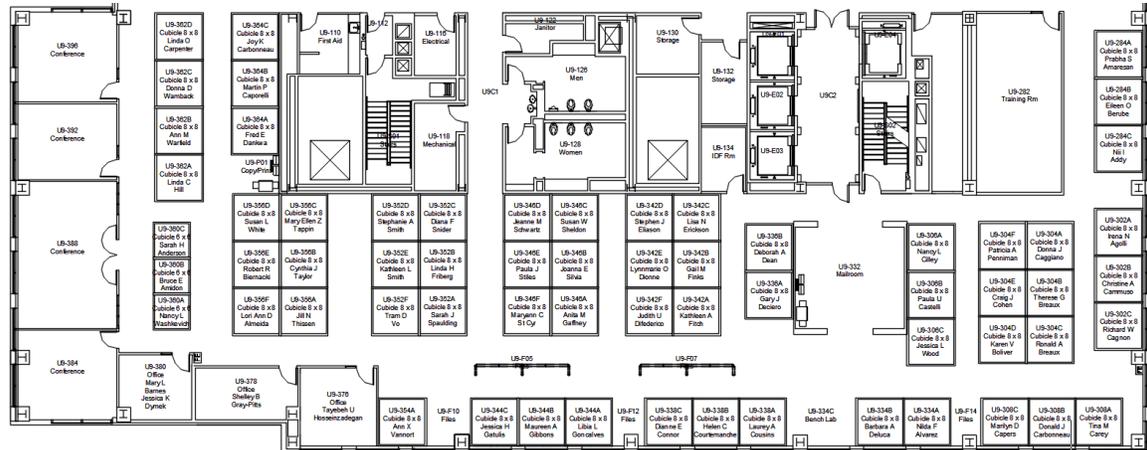
EXAMPLE OF IMPORTED TEXT
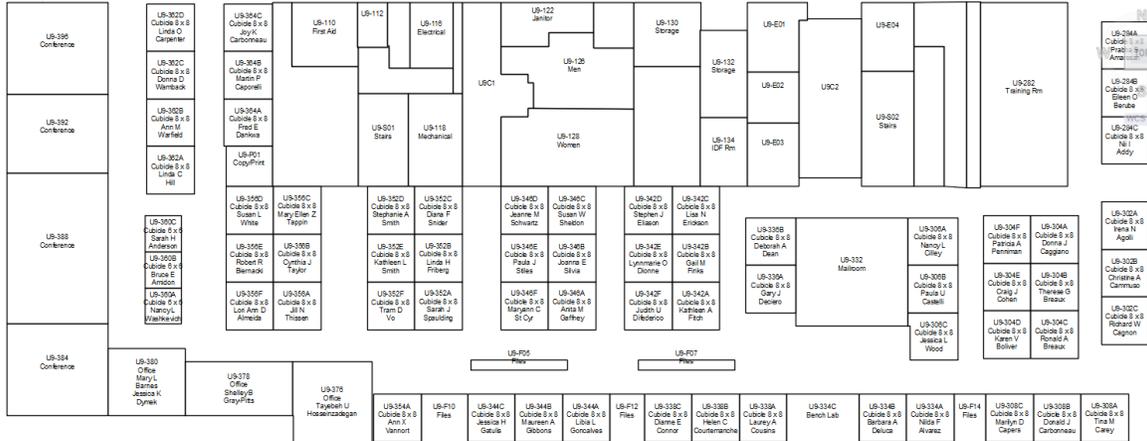
TIP!
You can use CTRL Z to undo the text insertion if needed.

TIP!
After the MTEXT has been inserted, turn off the polyline layer and turn on other layers as needed.

Import Hatch Data Tools

Before importing hatch data into AutoCAD, polylines must be tagged with the Space Property "Number" using the fmTAG toolset. The image of a polyline tag below, stores the value "U9-380" in its Number tag.

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.52

About the File Format

- The import file must be a .txt Tab Delimited file format.

- The file must include a header row, however there is no requirement for the column header names.

- The column order must be as follows:

  - Column A: Space Number
  - Column B: Hatch Pattern
  - Column C: Hatch Color
  - Column D: Allocation Percentage*
  - Column E +   Legend Description Items**

A	B	C	D	E	F
SPACE NUMBER	HATCH PATTERN	HATCH COLOR	PERCENTAGE	DEPT NUMBER	DEPT NAME
U9-246I	4	#85BB65	100	730	Design-Development
U9-388	4	#85BB65	50	730	Design-Development
U9-380	1	#9BDDFF	100	735	Advanced Concepts
U9-384	1	#9BDDFF	100	735	Advanced Concepts
U9-388	1	#9BDDFF	50	735	Advanced Concepts
U9-392	1	#9BDDFF	100	735	Advanced Concepts
U9-396	1	#9BDDFF	100	735	Advanced Concepts

Allocation Percentage*

This column designates the percentage of space area assigned to a legend description item.

For example:

- If a 300 SF room is assigned to 1 department, then 100 percent of the 300 SF goes to that 1 department.

- If a 300 SF room is shared equally by 2 departments, then 50 percent of the area (150 SF) goes to 1 department and 50 percent of the area (150 SF) goes to the other department.

Legend Description Items**

The file can contain one or more legend description items. The descriptions will be entered into the legend key in the order that they appear in the file, and each item will be separated by a dash (-) as shown below.

730 - Design-Development

About the Legend Key

Legend Sort Order

To control how the data is sorted in the AutoCAD Legend Key, sort the .txt import file by one of the legend description items. For example, in the image shown above, the data in the import file is sorted by the DEPT NUMBER. So, when the legend key is inserted into AutoCAD, the legend descriptions are ordered by DEPT NUMBER as shown in the example below.

700 - Manufacturing Administration
Count: 36
Total Area: 1,483.40

720 - Technical Development
Count: 46
Total Area: 3,363.88

725 - Product Engineering
Count: 31
Total Area: 2,499.55

730 - Design-Development
Count: 30
Total Area: 1,649.75

735 - Advanced Concepts
Count: 13
Total Area: 1,701.25

Legend Controls

Import Hatch Data

☑ Add Count to Legend Key

☑ Add Area to Legend Key

Description Key Column(s)   E,F

Select .txt File and then Polylines

Add Count to Legend Key

Select the Add Count to Legend Key check box to include a count of all polylines hatched with the key item.

Add Area to Legend Key

Select the Add Area to Legend Key check box to include the total area assigned to the legend key item.

The area total is based on the polyline area and the Allocation Percentage assigned in the .txt file. When the allocation percentage is 100 then 100% of the polyline area is added to the total, when the allocation percentage is 50, then 50% of the polyline area is added to the total, etc.

Description Key Column(s)

Enter the .txt file column letter(s) that contain the legend key description(s). When there is more than one column, separate the column letters with a comma (example E,F). A dash (-) is added between each item.

About the Hatch

During the import of the .txt file, fmDATA will look for a tagged polyline with a NUMBER value that matches the text in the first column of the .txt file.

Evolve Handle:[5C797] | Object Type:Space | Evolve Data Type:Space | Number:U9-388 | SQFT:467.40

When a match is found, the polyline is hatched by the hatch pattern and the color specified in the .txt file.

A	B	C	D	E	F
SPACE NUMBER	HATCH PATTERN	HATCH COLOR	PERCENTAGE	DEPT NUMBER	DEPT NAME
U9-246I	4	#85BB65	100	730	Design-Development
U9-388	4	#85BB65	50	730	Design-Development
U9-380	1	#9BDDFF	100	735	Advanced Concepts
U9-384	1	#9BDDFF	100	735	Advanced Concepts
U9-388	1	#9BDDFF	50	735	Advanced Concepts
U9-392	1	#9BDDFF	100	735	Advanced Concepts
U9-396	1	#9BDDFF	100	735	Advanced Concepts
		DFF	100	735	Advan cept

The Allocation Percentage set in the .txt file will determine the hatch percentage applied to a room. The image below shows that room U9-388, is allocated 50 percent to Design- Development, and 50 percent to Advanced Concepts.

Therefore, fmDATA will apply the Design-Development hatch to 50% of the polyline area, and apply the Advanced Concepts hatch to 50% of the polyline area.
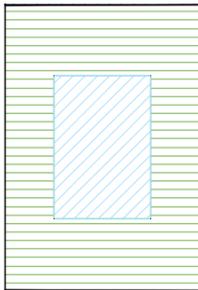
730 - Design-Development
Count: 30
Total Area: 1,649.75

735 - Advanced Concepts
Count: 13
Total Area: 1,701.25

Hatch Layer

The hatch and the legend key will be placed on the fmHATCH AutoCAD layer, which will be created when the Import Hatch Data is executed.

How to Import Hatch Into AutoCAD

Review the information in the previous "About fmDATA" pages before beginning the import process.

Set Up the AutoCAD Polylines

1. Polylines must be tagged with the Space Property "Number" using the fmTAG toolset.

2. IMPORTANT: Isolate your tagged polyline layer so that it is the only layer turned on in AutoCAD.
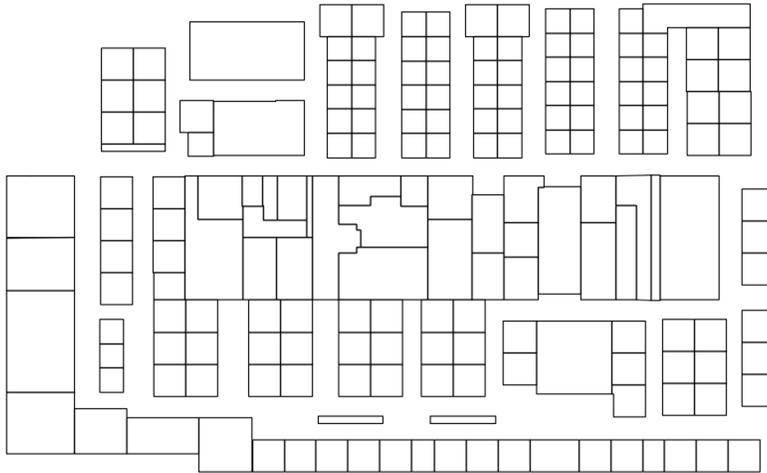
Set Up the .txt File

3. Create the data file to be imported into AutoCAD.
4. Save the data file as a .txt Tab Delimited text file.

Import the .txt File

TIP! The text style set in AutoCAD will be applied to the inserted legend key, and the legend and hatch will be placed on the fmHATCH layer, which will be created by fmDATA.

5. OPTIONAL: Select the Add Count to Legend Key check box.

6. OPTIONAL: Select the Add Area to Legend Key check box.

7. Enter the .txt file column(s) that contain the description(s) to be used in the legend key.

8. Click the "Select .txt File and then Polylines" tool ⬚ .

9. Navigate to, and select the .txt file to be imported. The AutoCAD command line will now prompt you to select objects. Select all polylines to be processed and press Enter.

   The Hatch progress bar will display.

10. When the hatch is complete, the AutoCAD command line will prompt you to pick an insertion point for the hatch key. Select a location on the drawing to place the legend.
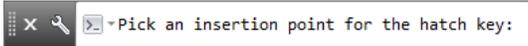
11. If there is a space in the .txt file that cannot be matched to a tagged polyline NUMBER, a dialog will open and ask if you would like to review the list. Click YES or NO.

EXAMPLE OF IMPORTED HATCH

TIP!
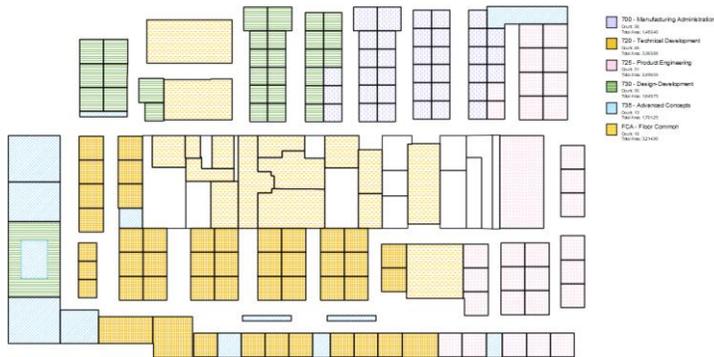
You can use CTRL Z to undo the insertion if needed.

TIP!

After the hatch has been inserted, turn off the polyline layer and turn on other layers as needed.

Hatch Colors

Hatch colors can be any hexadecimal color. Below are sample HEX colors.

COLOR	HEX
	#1560BD
	#5D8AA8
	#779ECB
	#6495ED
	#73C2FB
	#A1CAF1
	#93CCEA
	#9BDDFF
	#92A1CF
	#A2ADD0
	#ABCDEF
	#99BADD
	#9BC4E2
	#BCD4E6
	#AEC6CF
	#B0E0E6
	#AFEEEE
	#E0FFFF
	#F0F8FF
	#7DF9FF

COLOR	HEX
	#3EB489
	#30BA8F
	#87A96B
	#85BB65
	#87A96B
	#93C572
	#9AB973
	#A3C1AD
	#BDDA57
	#D0F0C0
	#A8E4A0
	#ACE1AF
	#AAF0D1
	#C9DC87
	#B2EC5D
	#D1E231
	#DFFF00
	#77DD77
	#76FF7A

COLOR	HEX
	#B22222
	#E0115F
	#FD0E35
	#FF5C5C
	#DB7093
	#E18E96
	#EF98AA
	#FDBCB4
	#FC8EAC
	#FBAED2
	#F4C2C2
	#CF71AF
	#E7ACCF
	#FADADD
	#FFD1DC
	#FBCCE7
	#FDDDE6
	#FFE4E1
	#FFF0F5

COLOR	HEX
	#BD33A4
	#9400D3
	#966FD6
	#9966CC
	#A76BCF
	#B666D2
	#8878C3
	#D19FE8
	#BF94E4
	#F4BBFF
	#E0B0FF
	#C8A2C8
	#C9A0DC
	#CB99C9
	#D8BFD8
	#DCD0FF
	#E6E6FA
	#D6CADD
	#CCCCFF
	#DF73FF
	#DD00FF

COLOR	HEX
	#D2691E
	#F28500
	#FF7518
	#E9967A
	#FFA07A
	#FFBF00
	#FFD12A
	#FFBD88
	#FFCC99
	#FFE5B4
	#E5AA70
	#F4C430
	#FFDB58
	#FFDEAD
	#FAE7B5
	#FAEBD7
	#EFDECD
	#FFEF00
	#FBEC5D
	#FEFE33
	#FFFF66
	#FDFD96
	#FFFACD

COLOR	HEX
	#DAA520
	#ECD540
	#E9D66B
	#F0DC82
	#EEE8AA
	#B5A642
	#F0E130
	#E4D96F
	#F0E68C
	#848482
	#B2BEB5
	#C0C0C0
	#C9C0BB
	#C4C3D0
	#CFCFC4
	#D3D3D3
	#DBD7D2
	#DCDCDC
	#E5E4E2

Hatch Patterns

1

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11

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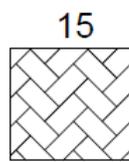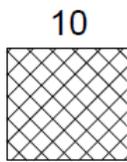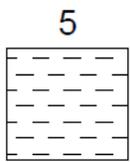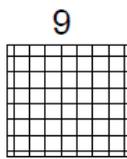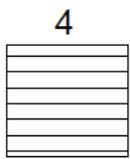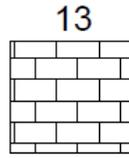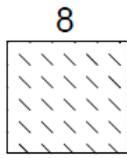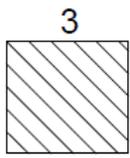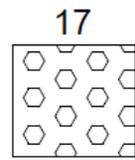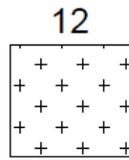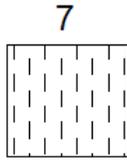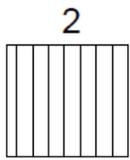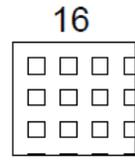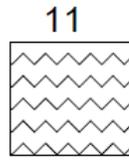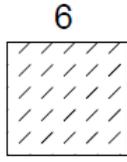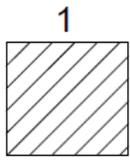
Polyline Tag Data Tools

Before using the Polyline Tag Data tools, AutoCAD polylines must first be tagged using the fmTAG toolset.

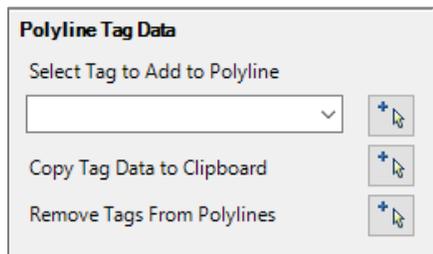The image of a polyline tag shown below, shows the fmTAG for room number "U9-380".

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562

Toolset Functions

The Polyline Tag Data Tools were designed to be able to extract data associated to spaces in an AutoCAD drawing for use in EXCEL. For example, on a floor plan drawing it would be helpful if you could extract the room number, the SQFT, the room type, the name of the person in the room, etc. and then place that data into an EXCEL spreadsheet to provide a list of all rooms and associated data on that floor plan.

Polyline Tag Data tools provide the ability to:

- Add additional data tags to existing polyline tags.
- Copy tag data from polylines onto the clipboard for use in EXCEL (or other documents).
- Remove data tags from AutoCAD polylines.

Select Tag to Add to Polyline

The Select Tag to Add to Polyline tool provides the ability to add additional tag information to the existing polyline data tags.

In the tag images below, the first tag was produced using the fmTAG tools, the second tag shows that the "Space Name" tag has been added, and the third tag shows that the "HR" tag has been added.

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562 | Space Name:Office

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562 | Space Name:Office | HR:Paul Berroth

Available Tag Names Include:

- Space Name
- Business Unit
- HR
- Other 1
- Other 2
- Other 3

Polyline Requirements

To start, all polylines must have a tag created using the fmTAG toolset. Once that tag has been applied to the polylines, you can then add additional tag data.

One single-Line text entity representing the data to be added to the tag must reside completely inside each polyline boundary, and there can only be one inside of each polyline.

Copy Tag Data to Clipboard

After polylines have been tagged using fmTAG, and optionally have had additional tag data added to the tag, the contents of the tag can be copied to the clipboard and pasted into EXCEL to provide a list of information about spaces in the AutoCAD drawing.

The first image below shows the data stored in one polyline tag. The second image shows the contents of all polyline tags after they have been pasted from the clipboard into EXCEL.

Evolve Handle:[5C783] | Object Type:Space | Evolve Data Type:Space | Number:U9-380 | SQFT:157.527474026562 | Space Name:Office | HR:Paul Berroth

A	B	C	D	E	F
5C615	Space	U9-352F	68.75173812	Cubicle 8 x 8	Tram D Vo
5C69E	Space	U9-308A	68.75173749	Cubicle 8 x 8	Tina M Carey
5C5F1	Space	U9-356D	69.9609393	Cubicle 8 x 8	Susan L White
5C6E4	Space	U9-378	175.8932428	Office	Shelley B Gray-Pitts
5C395	Space	U9-212A	68.75173836	Cubicle 8 x 8	Roger E Butler
5C664	Space	U9-306B	72.03711782	Cubicle 8 x 8	Paula U Castelli
5C403	Space	U9-346E	68.75173787	Cubicle 8 x 8	Paula J Stiles
5C783	Space	U9-380	157.527474	Office	Paul Berroth
5C6AD	Space	U9-334A	68.75175465	Cubicle 8 x 8	Nilda F Alvarez
5C571	Space	U9-284C	68.75173724	Cubicle 8 x 8	Nii I Addy
5C65E	Space	U9-306A	72.0371¹²³²	Cubicle 8 x 8	Nancy L Cille

Column A: Polyline entity handle
Column B: Evolve Data Type
Column C: Number
Column D: SQFT
Column E: Space Name
Column F: HR

Remove Tags From Polylines

The Remove Tags From Polylines tool, will remove all data tags from all selected polylines.

How to Use the Polyline Tag Data Tools

Set Up the AutoCAD Polylines

1. Polylines must be tagged using the fmTAG toolset.

2. IMPORTANT: Isolate your tagged polyline layer and the layer that contains the single-line text to be added to the polyline tags.

Add a Tag to Polylines

3. In the Select Tag to Add to Polyline pick list, select a tag name to be applied.

4. Click the "Select Polylines" tool and then select all polylines to be processed.

5. On the Processed dialog, click OK.

NOTE!

If the Processed dialog does not appear, there were no tagged polylines found in the selection set.

6. Repeat steps 2-5 for each additional tag to be added to the polylines.

Copy Tags Clipboard

7. Click the "Copy tag Data to Clipboard" tool . The Copy command does not require a polyline selection; all tags will be copied to the clipboard

Remove Tags From Polylines

8. OPTIONAL: Click the Remove Tags From Polylines tool and then select the polylines as needed, and press Enter