

Drawing Creation Tutorial

Report and Key Plan Views



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SESSION 3

Report and Key Plan Views

Objective

By the end of this session, you will be able to:

- Place drawing view using 2D pin point
- Place report and key plan views in a Composed drawing
- Modify the justification of the report view
- Associate report and key plan view to drawing view
- Update the report and key plan views

Overview

Smart 3D allows users to create report views and key plan views in orthographic drawings. Both of these views are called child views. Child views can be placed independently, but they cannot be updated unless they are associated to a parent graphical view (such as a composed view). Report views placed on orthographic drawings use a report template from the catalog. The contents of the drawing view are an input into the report view. The report view can then output properties of the objects in the graphical view in a tabular form. The view style for the graphical view can be configured to generate reference labels that annotate the graphic view with item numbers in the associated report.

There are two options for the Report Output Format: Excel and Native text boxes. Excel displays the report contents in an Excel spreadsheet, and Native text boxes display the report contents in SmartSketch text boxes. There are advantages to choosing one method over another, depending on your needs. Native text boxes do not truncate rows, should the report exceed the Excel display limitation with embedded reports. Additionally, Native text boxes, unlike the Excel format, can justify the report contents in the view and expand the view to accommodate the size of the report. If you are saving the drawing in a third party format, such as DWG or DGN, Native text boxes can translate data in the destination format, while Excel translates its data to an embedded image.

Key plan views show the associated volume's position relative to the other drawings or the rest of the objects in the model. Smart 3D allows three kinds of key plan views:

- One Volume with Plant View - Shows the full plant view with a "you are here" representation for the associated volume, as shown in the example below.
- Natural Volumes Only - Displays the volumes by their actual size in the model. The key plan layout is based on the size of each volume, which can be irregular if the volumes are of different sizes, as shown in the example below.
- Normalized Volumes Only – Displays the volumes as occupying the same amount of space in the model.


In this session, we will learn how to place report and key plan views, and associate them to a graphical view. We will also learn how to change the output format and justification for a report view.

On the following pages, we will cover procedures for how you can place drawing views using Pinpoint, place report and key plan views in composed drawings, and associate drawing views with volumes as well as report views.

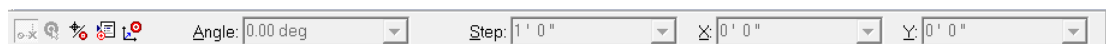
Create New Drawing


1. Click **File > Define Workspace**.
*The **Define Workspace** dialog box displays.*
2. Select **More** from the **Filter** list, and expand the **Drawings Creation Filters** folder and the **02** folder.
3. Highlight the **U01 Workspace** filter, and click **OK**.
*The **Filter** field populates.*
4. Click **Tools > Drawing Console**.
*The **Drawing Console** window displays.*
5. Expand the **Creation Labs** folder and **02** folder.
6. Right-click **Equipment**, and select **New Drawing**.
*The **Drawing Sheet General Properties** dialog box displays.*
7. Type **Equipment Plan01** in the **Name** field on the **Drawing Sheet General Properties** dialog box.
TIP The **Layout Template** and **Border Template** fields remain populated, so you do not need to edit them.
8. Click **OK** on the **Drawing Sheet General Properties** dialog box.
*The software opens the new drawing in a **SmartSketch Drawing Editor** window.*




Place Drawing View


1. Maximize the drawing window in **SmartSketch Drawing Editor**.
2. Click **Fit** .
3. Click **Tools > Pin Point**.

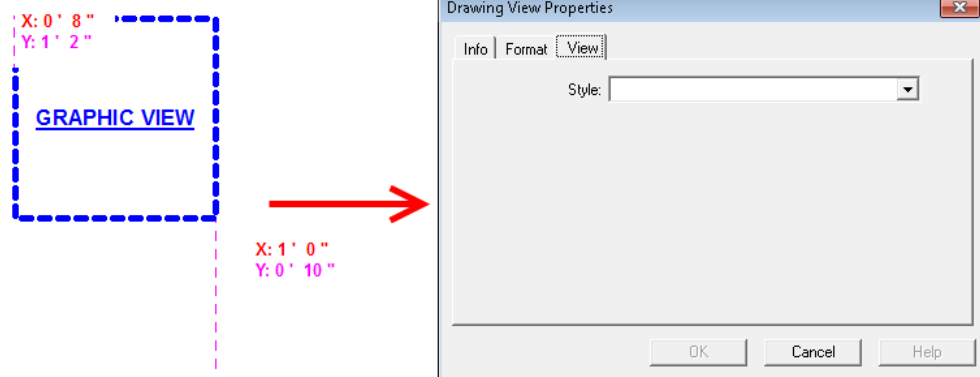
*The **Pin Point** ribbon displays.*



TIP The **Pin Point** ribbon initially displays in a disabled state with a target symbol at the end of the cursor. Click **Select**  to dismiss the target symbol, and select a placement command to activate the ribbon fields.


4. Click **Select**  to dismiss the target at the end of the cursor.
5. Click **Line**  on the vertical toolbar, and click in the drawing sheet.
*The **Pin Point** ribbon activates.*
6. Click **Select**  to exit **Line**.

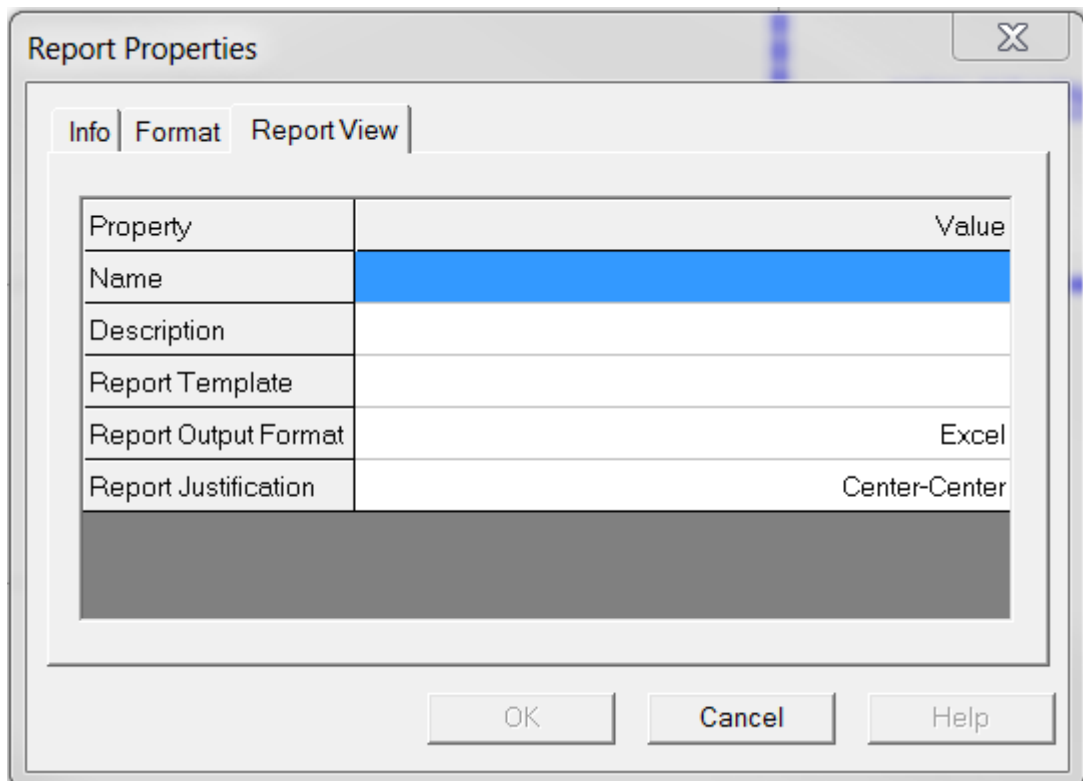
7. Type **0 1** in the **Step** field on the **PinPoint** ribbon. Press TAB.
*The field displays **0' 1"** and is locked.*
8. Click **Place View** .
9. Type **0 8** in the **X** field on the **PinPoint** ribbon. Press TAB.
*The field displays **0' 8"** and is locked.*
10. Type **1 2** in the **Y** field on the **PinPoint** ribbon. Press TAB.
*The field displays **1' 2"** and is locked.*
11. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the first point of the view.
12. Type **1** in the **X** field on the **PinPoint** ribbon. Press TAB.
*The field displays **1' 0"** and is locked.*
13. Type **0 10** in the **Y** field on the **PinPoint** ribbon. Press TAB.
*The field displays **0' 10"** and is locked.*
14. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the second point of the view and to display the **Drawing View Properties** dialog box.



15. Select **More** from the **Style** list on the **Drawing View Properties** dialog box.
*The **Select View Style** dialog box displays.*
16. Select **Orthographic\Equipment Plan** on the **Select View Style** dialog box.
17. Click **OK** on the **Select View Style** dialog box.
18. Type **EQ Plan View01** in the **Name** field.
19. Select **Architectural Scales** from the **Scale Family** list.
20. Select **1/4 in: 1 ft** from the **User Selected Scale** list.
21. Click **OK** on the **Drawing View Properties** dialog box to complete the view definition.

Place Report View Using Excel Format

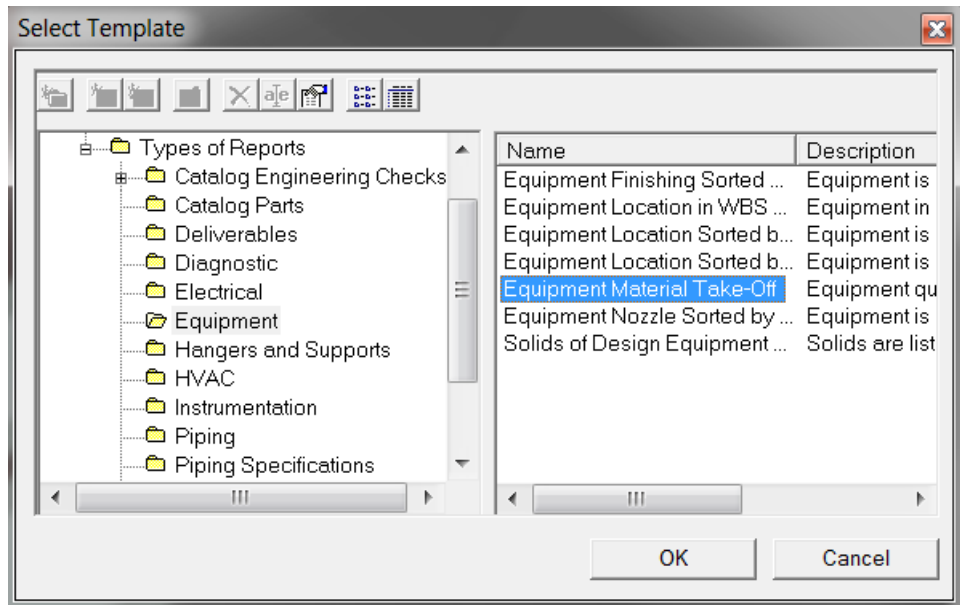
1. Click **Place Report View**  in the toolbar.
TIP A report view is a non-graphic type of view to display a report of the associated view's contents.
2. Type **1 8** in the **X** field on the **PinPoint** ribbon. Press TAB.
*The field displays **1' 8"** and is locked.*
3. Type **1 7** In the **Y** field on the **PinPoint** ribbon. Press TAB.
*The field displays **1' 7"** and is locked.*
4. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the first point of the view.
5. Type **2 4** in the **X** field on the **PinPoint** ribbon. Press TAB.
*The field displays **2' 4"** and is locked.*
6. Type **1 2** in the **Y** field on the **PinPoint** ribbon. Press TAB.
*The field displays **1' 2"** and is locked.*
7. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the second point of the view.
*The **Report Properties** dialog box displays.*



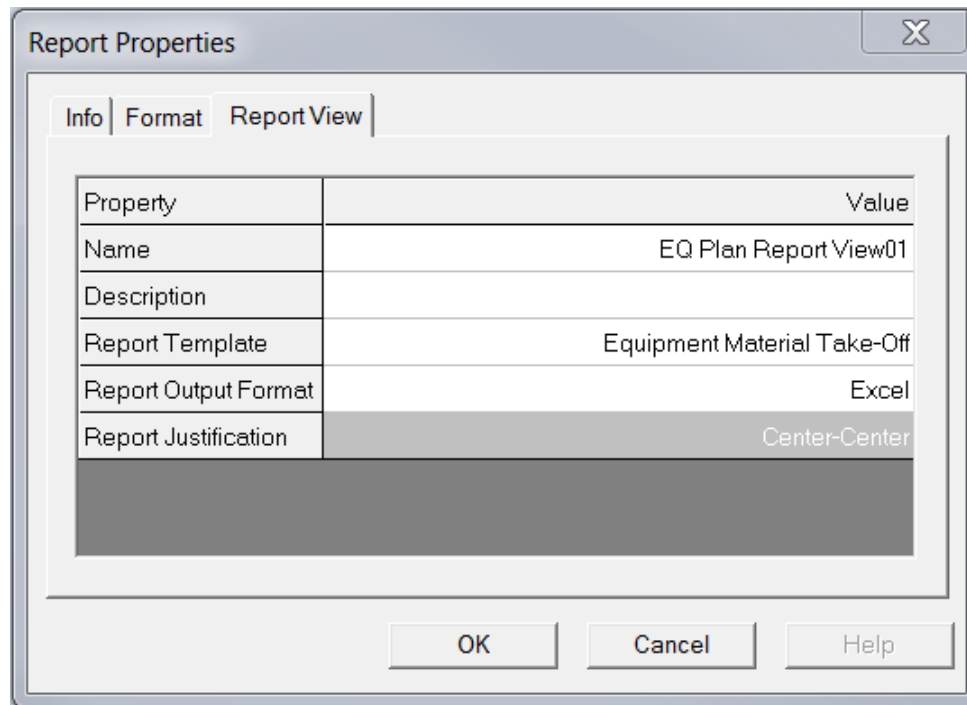
The **Report Properties** dialog box is shown with the **Report View** tab selected. It contains a table with properties and values, and buttons for **OK**, **Cancel**, and **Help**.

Property	Value
Name	
Description	
Report Template	
Report Output Format	Excel
Report Justification	Center-Center

8. Type **EQ Plan Report View01** in the **Name** field on the **Report Properties** dialog box.
9. Select **More** from the **Report Template** list.
*The **Select Template** dialog box displays.*
10. Expand the **Reports** and **Types of Reports** folders on the **Select Template** dialog box.
11. Select the **Equipment** folder.
12. Select the **Equipment Material Take-Off** report in the list view of the dialog box.



13. Click **OK** on the **Select Template** dialog box.



The image shows the 'Report Properties' dialog box with the 'Report View' tab selected. The dialog has three tabs: 'Info', 'Format', and 'Report View'. The 'Report View' tab contains a table with the following data:

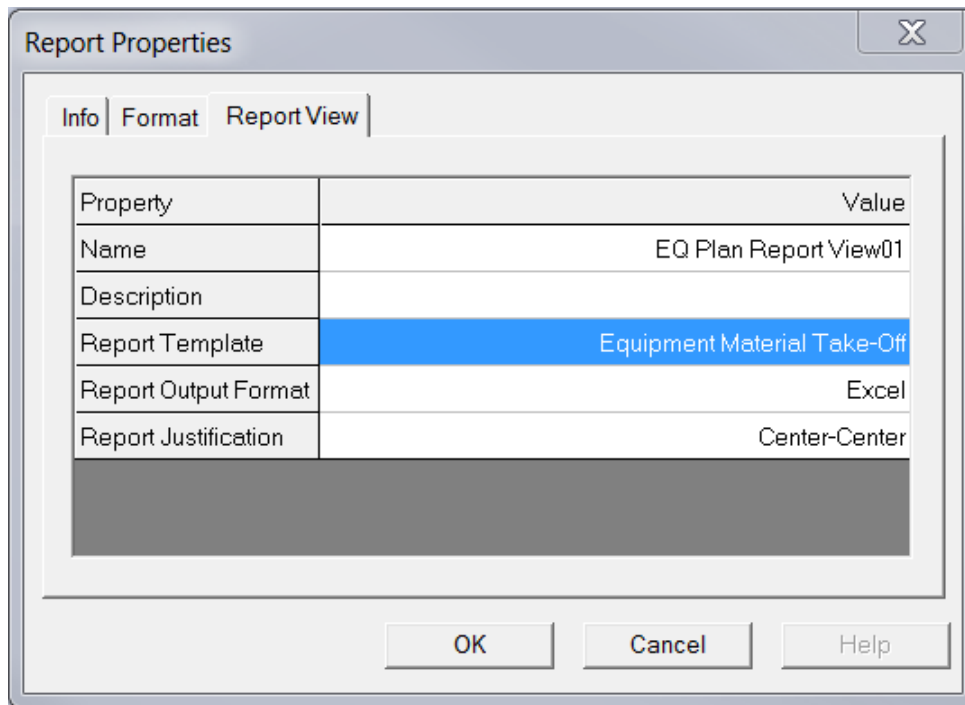
Property	Value
Name	EQ Plan Report View01
Description	
Report Template	Equipment Material Take-Off
Report Output Format	Excel
Report Justification	Center-Center

Below the table is a large gray rectangular area. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

TIP Notice that if you click in the **Report Justification** field, it is disabled. This field is disabled if the **Report Output Format** is set to *Excel*.

14. Click **OK** on the **Report Properties** dialog box.

The software returns control to the **SmartSketch Drawing Editor**.



TIP There are two options for the **Report Output Format**:

- *Excel*
- *Native text boxes*

When using *Excel*, the report contents are a Microsoft Excel workbook.

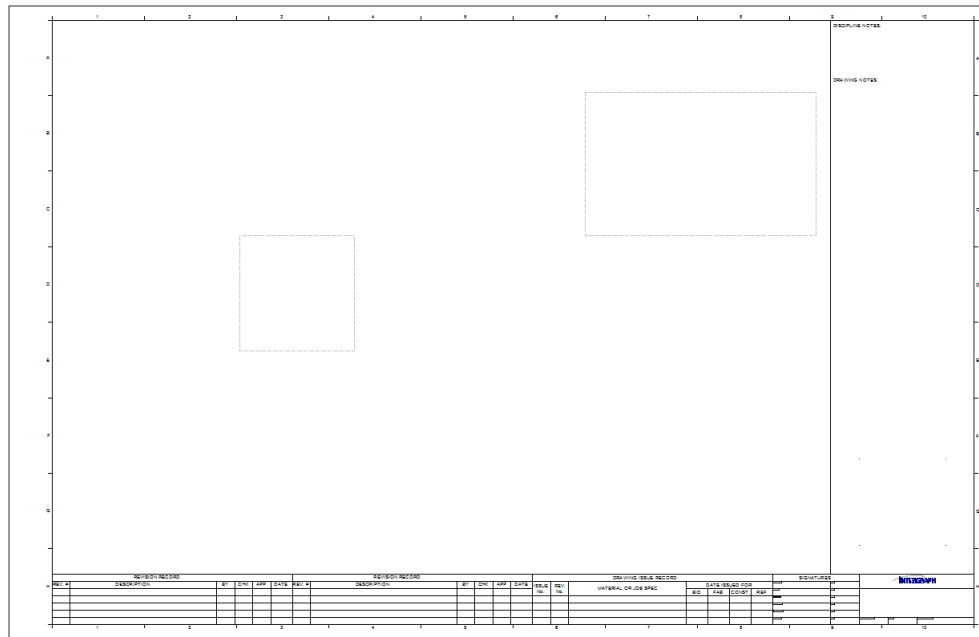
When using *Native text boxes*, the report contents are placed in SmartSketch text boxes.

Using *Native text boxes* has the advantage of not truncating rows should the report exceed the Excel display limitation with embedded reports.


Additionally, *Native text boxes*, unlike the *Excel* format, has the option to justify the report contents in the view and expand the expand view to accommodate the size of the report. This will be demonstrated later in this lab.

Make sure the Excel macro security settings are properly set before updating a drawing with an *Excel* report.

The drawing should look like the picture below:



Associate Drawing View to Volume

1. Click the graphic view, and then click **Associate Objects to View** .
2. Switch to the **Smart 3D** window.

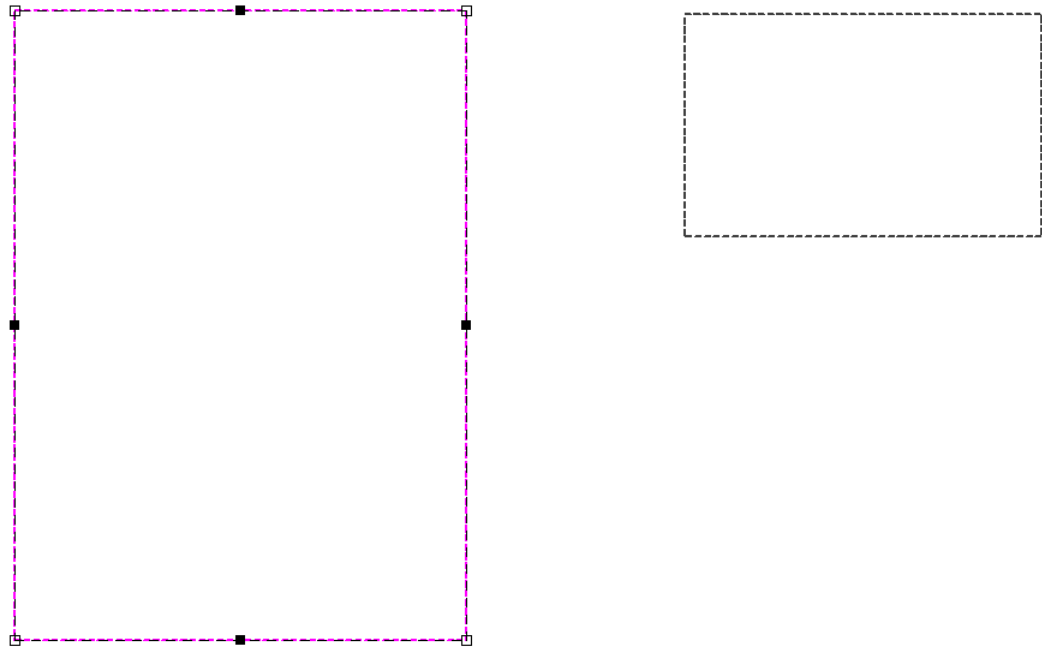
*The **Associate Objects to View** ribbon displays in the modeling environment.*

3. Click on the volume **U01 2 Points** in the graphic window or on the **Space** tab of the **Workspace Explorer** under **Drawings Creation Labs\02**.

The volume in the model is outlined with heavy yellow edges.


4. Select **More** from the **Associate Objects to View** ribbon, and choose the **Drawings Creation Labs\02\U01 Drawing** from the **Filter** list.
5. Switch back to the **SmartSketch Drawing Editor** window.

The graphic view has grown about its center to resize to the scaled dimensions of the volume.



6. Right-click the view boundary once to exit the **Associate Objects to View** command.

Associate Report View to Drawing View

1. Click the report view, and then click **Associate Objects to View** .
2. Switch to the **Smart 3D** window.

*The **Associate Objects to View** ribbon in the modeling environment has a different appearance for a report view than for a graphic view.*



TIP You must go to the modeling environment to associate a report view to a graphic view. The **View** list on the **Associate Objects to View** ribbon for a report view displays all graphic views in the drawing. Because there is only one graphic view in the drawing in this case, it is not necessary to select a view in the **View** list.

The software prevents the association of report views to graphic views that are not associated to a volume. If it is attempted, a message displays stating this, and the software allows you to select another view.

3. Click **Finish** on the **Associate Objects to View** ribbon.
4. Switch back to the **SmartSketch Drawing Editor** window.

5. Click **File > Exit** to exit **SmartSketch Drawing Editor**.
6. Click **Yes** to save the drawing.

Update the Drawing


1. Switch to the **Drawing Console** window.
2. Expand the **Creation Labs\02\Equipment** folder.
3. Right-click on the drawing **Equipment Plan01**, and select **Update Now**.

The software generates the contents of the graphic and report views as well as the border labels.

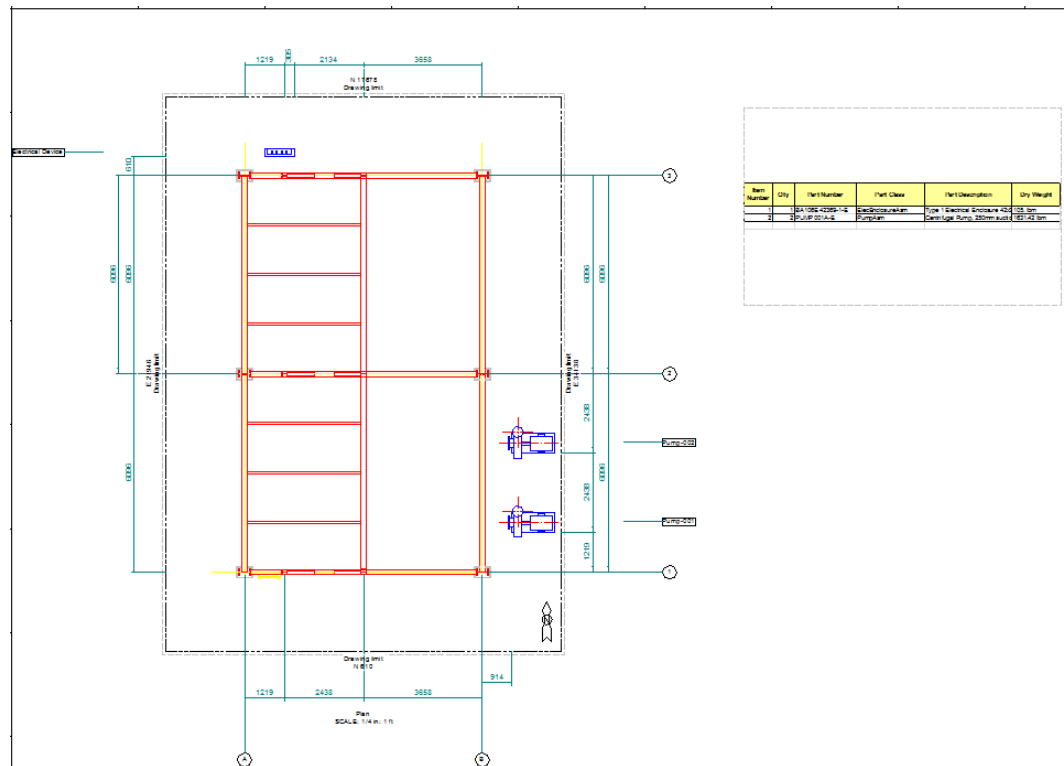
TIP The software prevents the use of the **Update View** command on graphic views that are associated to a report view. If you attempts this, a warning message displays.


4. When the update completes (as shown by the **Status Bar** message in the lower left corner of the **Smart 3D** window), right-click on the drawing **Equipment Plan01**, and select **Edit**.

*The **SmartSketch Drawing Editor** window displays.*

5. Maximize the drawing window in **SmartSketch Drawing Editor**.
6. Click **Fit** .

The results should look similar to the picture below.



7. Click **Zoom Area** .
8. Drag a rectangle around the report view to get a closer look at its contents.

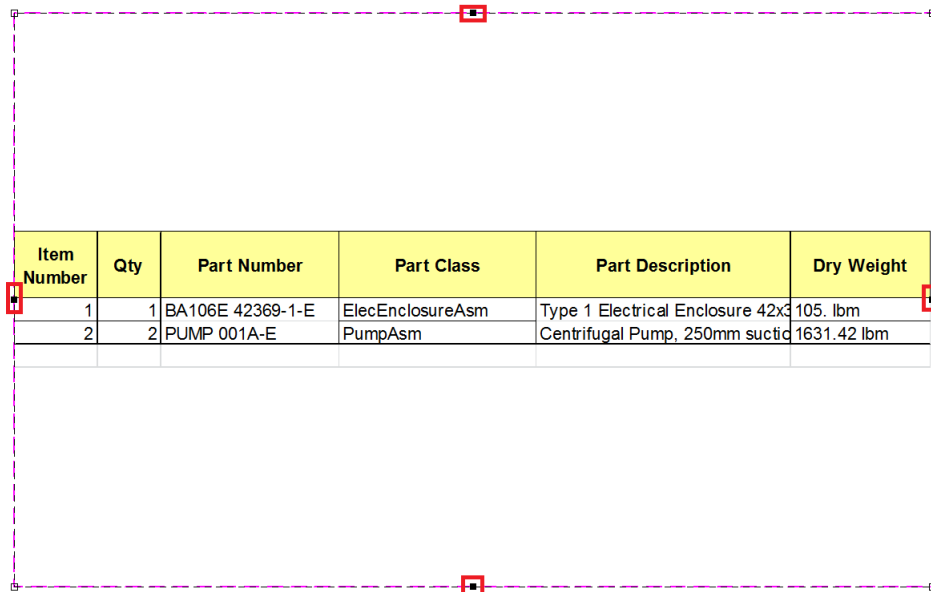
The results should look similar to the picture below.

Item Number	Qty	Part Number	Part Class	Part Description	Dry Weight
1	1	BA106E 42369-1-E	ElecEnclosureAsm	Type 1 Electrical Enclosure 42x3	105. lbm
2	2	PUMP 001A-E	PumpAsm	Centrifugal Pump, 250mm suctid	1631.42 lbm

Resize the Excel Report View

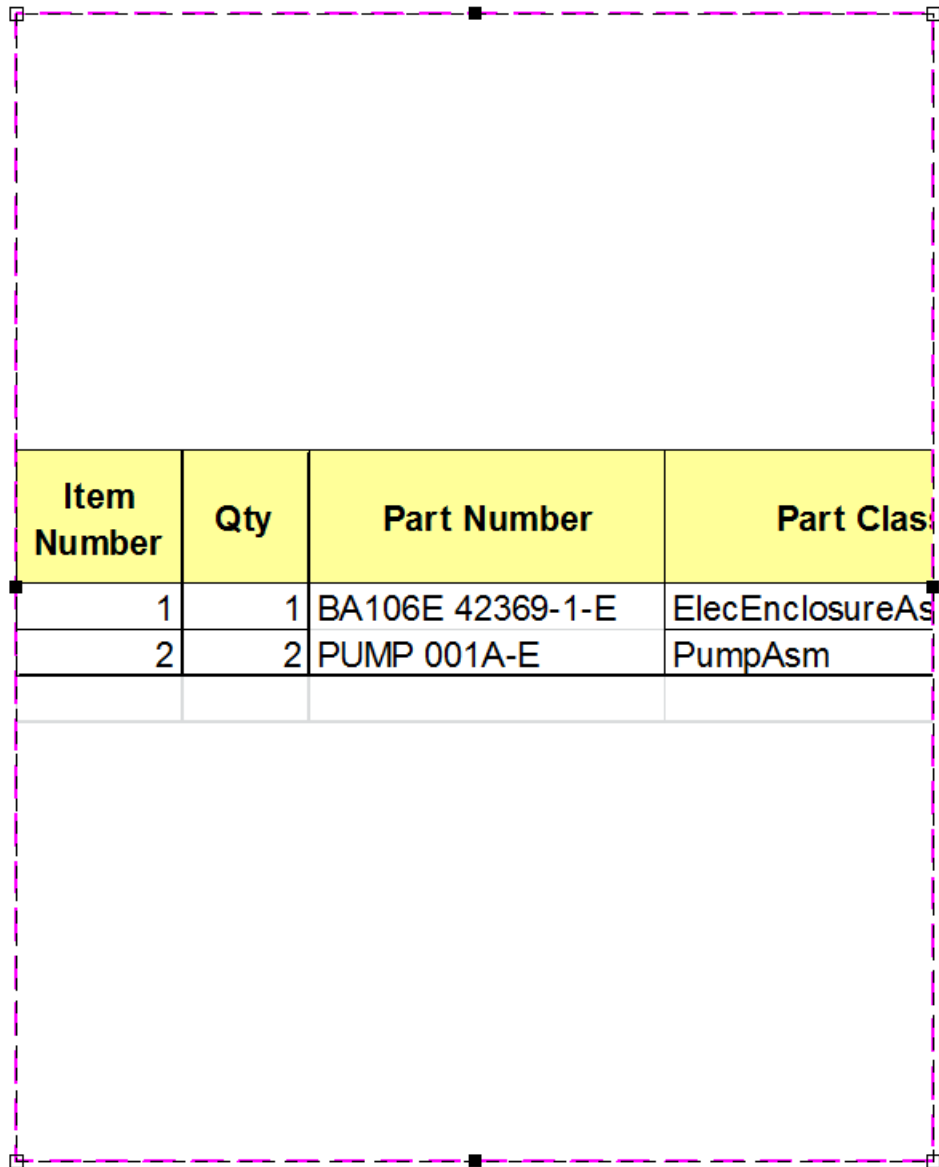
1. Click on the report view.

The software displays resize handles, one in the center of each side of the view.



Item Number	Qty	Part Number	Part Class	Part Description	Dry Weight
1	1	BA106E 42369-1-E	ElecEnclosureAsm	Type 1 Electrical Enclosure 42x3	105. lbm
2	2	PUMP 001A-E	PumpAsm	Centrifugal Pump, 250mm suctid	1631.42 lbm

2. Drag the resize handle on the right side of the report view, and move it toward the left so that about half of the view is clipped.



Item Number	Qty	Part Number	Part Class
1	1	BA106E 42369-1-E	ElecEnclosureAs
2	2	PUMP 001A-E	PumpAsm

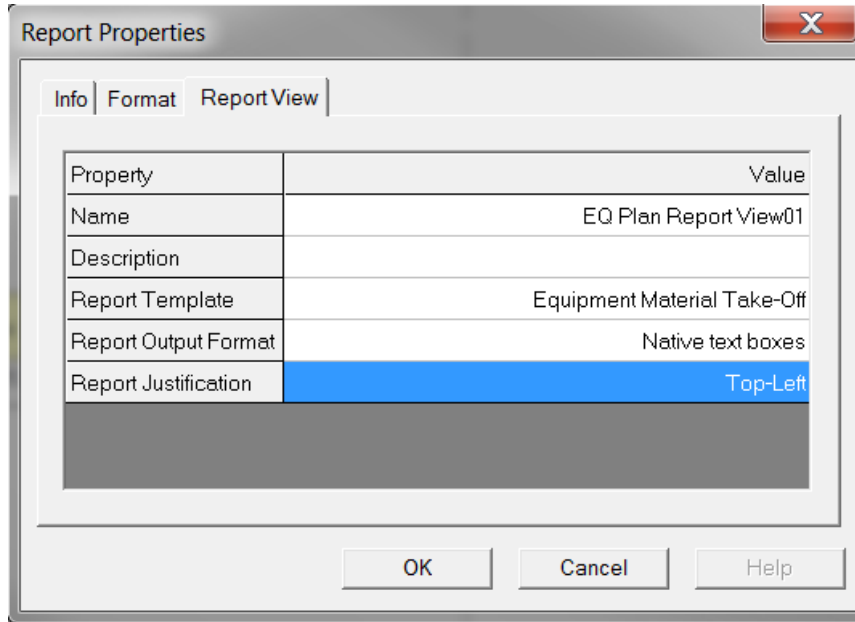
3. Right-click the view boundary, and select **Update View**.

When the update completes, notice that the spreadsheet scales down to fit within the size of the view.

Item Number	Qty	Part Number	Part Class	Part Description	Dry Weight
1	1	BA106E 42369-1-E	ElecEnclosureAsm	Type 1 Electrical Enclosure 42x	105. lbm
2	2	PUMP 001A-E	PumpAsm	Centrifugal Pump, 250mm suction	1631.42 lbm

Use Native Text Boxes Format for Report View

1. Right-click the view boundary, and select **Properties**.
*The **Report Properties** dialog box displays.*
2. On the **Report Properties** dialog box, select **Native text boxes** from the **Report Output Format** list.
3. On the **Report Properties** dialog box, select **Top-Left** from the **Report Justification** list.



TIP Behavior rules when **Report Output Format** is *Native text boxes*:

Report Justification equal Center-Center

- If report is smaller than view, report scales up to fit the view; that is, the view does not change size.
- If report is larger than view, view grows about the justification point to accommodate the report.

Report Justification not equal Center-Center






- If report is smaller than view, report maintains 1:1 size and justifies within the view; i.e., the view does not change size.
- If report is larger than view, view grows about the justification point to accommodate the report.

4. Click **OK** on the **Report Properties** dialog box.
5. Right-click the view boundary, and select **Update View**.

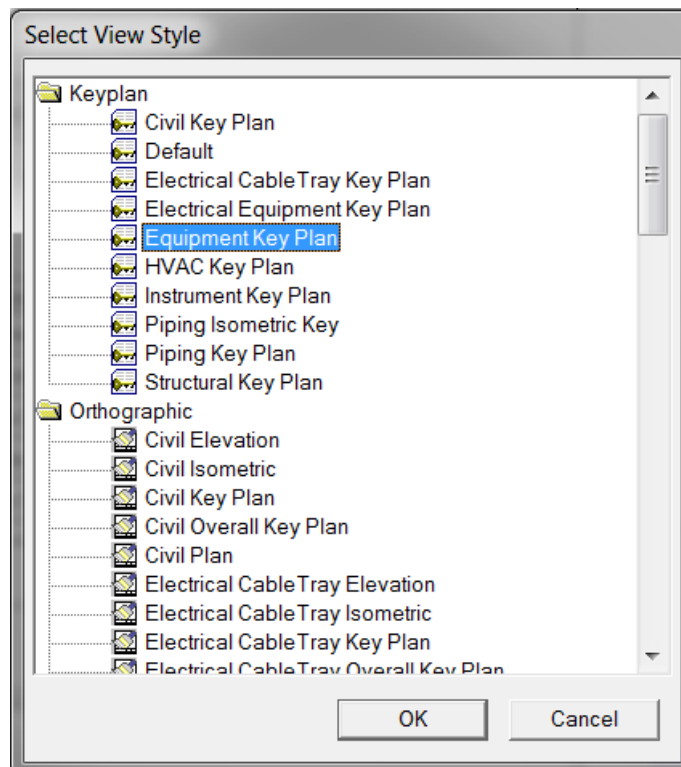
When the update completes, notice that the view resizes about the justification point, the top-left in this case, to fit the width of the report.

Item Number	Qty	Part Number	Part Class	Part Description	Dry Weight
1	1	BA106E 42369-1-E	ElecEnclosureAsm	Type 1 Electrical Enclosure	105. lbm
2	2	PUMP 001A-E	PumpAsm	Centrifugal Pump, 250mm suction,	1631.42 lbm

Place Key Plan View

1. Click **Fit** .
2. Click **Tools > Pin Point**.
The **Pin Point** ribbon displays.
3. Click **Select**  to dismiss the target at the end of the cursor.
4. Click **Line**  on the vertical toolbar, and click in the drawing sheet.
The **Pin Point** ribbon activates.
5. Click **Select**  to exit the **Place Line** command.
6. Type **0 1** in the **Step** field on the **PinPoint** ribbon. Press TAB.
The field displays **0' 1"** and is locked.
7. Click **Place View** .
8. Type **2 5.5** in the **X** field on the **PinPoint** ribbon. Press TAB.
The field displays **2' 5 1/2"** and is locked.
9. Type **0 6.25** in the **Y** field on the **PinPoint** ribbon. Press TAB.
The field displays **0' 6 1/4"** and is locked.

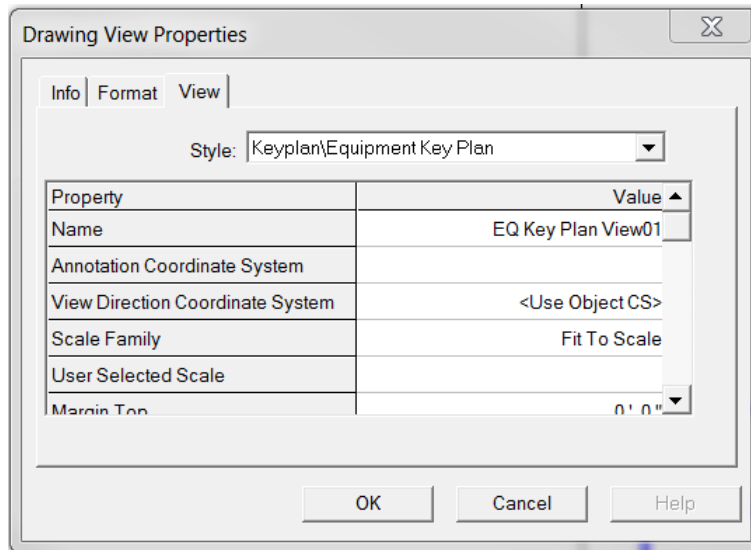
10. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the first point of the view.
11. Type **2 8.5** in the **X** field on the **PinPoint** ribbon. Press TAB.
*The field displays **2' 8 1/2"** and is locked.*
12. Type **0 3.25** in the **Y** field on the **PinPoint** ribbon. Press TAB.
*The field displays **0' 3 1/4"** and is locked.*
13. Click anywhere in the **SmartSketch Drawing Editor** graphic window to place the second point of the view.
*The **Drawing View Properties** dialog box displays.*
14. Select **More** from the **Style** list on the **Drawing View Properties** dialog box.
*The **Select View Style** dialog box displays.*
15. Select **Keyplan\Equipment Key Plan**.
16. Click **OK** on the **Select View Style** dialog box.





TIP By choosing a view style from the **Keyplan** folder, the view becomes a key plan view. While a key plan view is a graphic view, it has different behaviors than a *normal* graphic view.

17. Type **EQ Key Plan View01** in the **Name** field.
18. Select **Fit To Scale** from the **Scale Family** list.

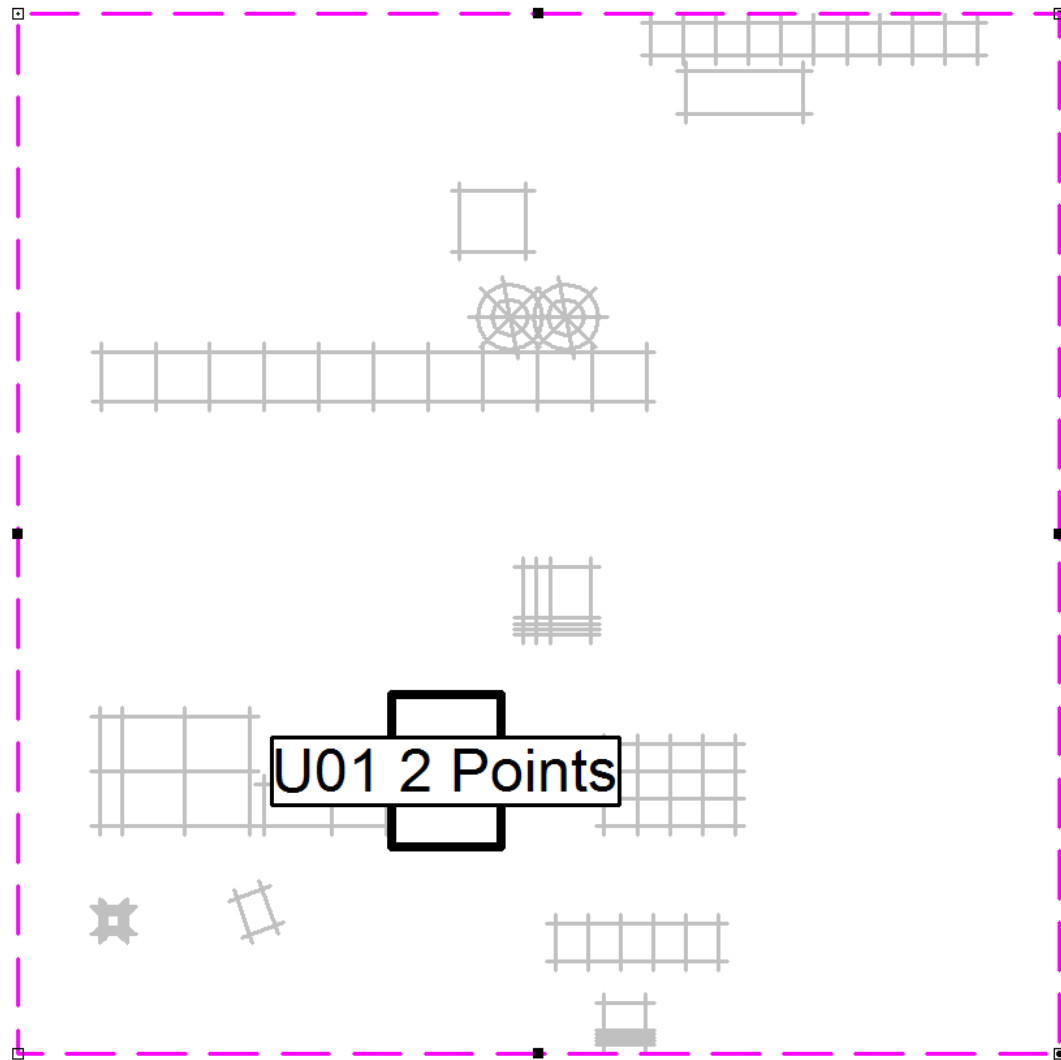
19. Click **OK** on the **Drawing View Properties** dialog box to complete the view definition.



Associate Key Plan View to Drawing View

1. Click the key plan view, and then click **Associate Objects to View** .
2. Switch to the **Smart 3D** window.
*The **Associate Objects to View** ribbon in the modeling environment looks similar in appearance to the one for a report view.*
3. Click **Finish** on the **Associate Objects to View** ribbon.
4. Switch back to the **SmartSketch Drawing Editor** window.
5. Right-click the key plan view boundary, and select **Update View**
6. When the update completes, click on the key plan view.
7. Click **Fit**  to fit the contents of the key plan view to the window.

The results of the key plan view contents should appear similar to the picture below:



TIP The delivered view style of the key plan displays grids and an outline of the associated volume. The volume is labeled with its name.

8. Click **File > Exit** to exit **SmartSketch Drawing Editor**. You do not need to save the drawing because the software automatically saved during the update of the view.