Electrical Tutorial

Manipulating Cableways

Version 2014

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SESSION 10

Manipulating Cableways

Objective

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

Manipulate a cableway in a model.

Before Starting this Procedure

- Smart 3D Overview
- Smart 3D Common Sessions
- Electrical Overview
- Routing a Cableway

Overview

Smart 3D provides commands to allow you to manipulate cableways, such as editing its properties. These commands require you to select cableways or features with **Select**  . Different commands of manipulating a cableway or its feature in Smart 3D are mentioned below:

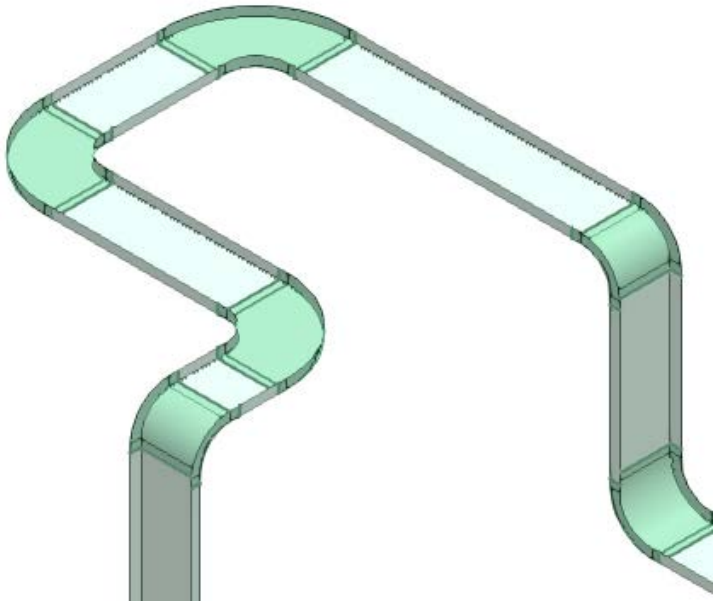
- Move a cableway - You can move the features of the cableway to alter the routing. You can precisely locate each feature in the layout of your cableway systems.
- Delete a cableway - Just as you place features in the model, you can delete features to remove unwanted parts. You cannot delete parts directly because the software attempts to maintain the design integrity of the model by adjusting all previously connected features.
- Copy a cableway - You can copy a cableway or a cable tray to place it in a different position.
- Edit the properties of a cableway - All cableways and its features have editable properties.

NOTES

- You can use manipulating commands in Smart 3D on all features of a cableway, such as straight features, turn features, and end features.
- When you move features, you always move the part because the part's location is driven by the feature.

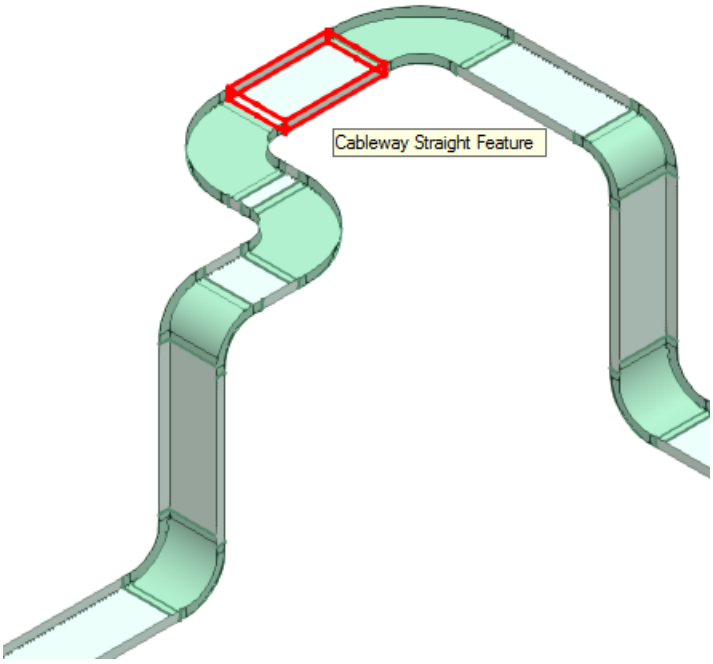
Moving a Cableway Straight Feature

Move a cableway straight feature 5 ft north with **PinPoint** in Unit **U04** of your workspace. The view of the cableway after moving the straight feature should look as shown:



1. Define your workspace to show Unit **U04** and coordinate system **U04 CS**.
2. Activate the **PinPoint** ribbon.
3. Set the **Locate Filter** to **Cableway Features** to select the cableway features in the graphic view that you need to move.
4. Click **Relative Tracking** .

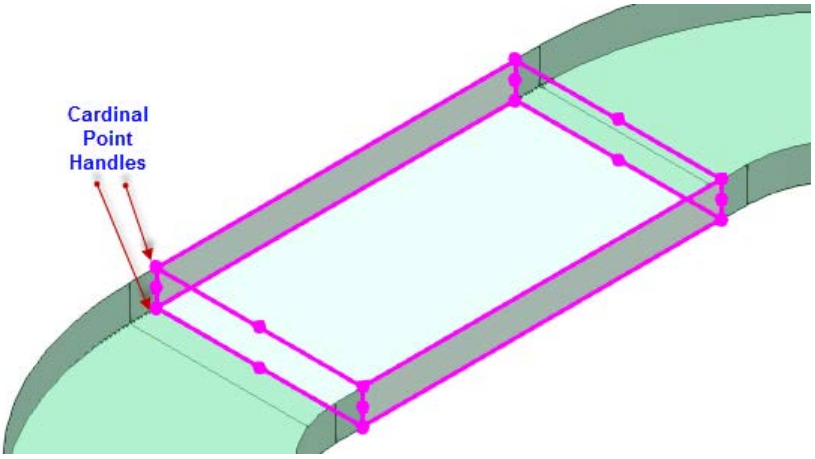
5. Select the cableway straight feature that you need to move.



NOTES

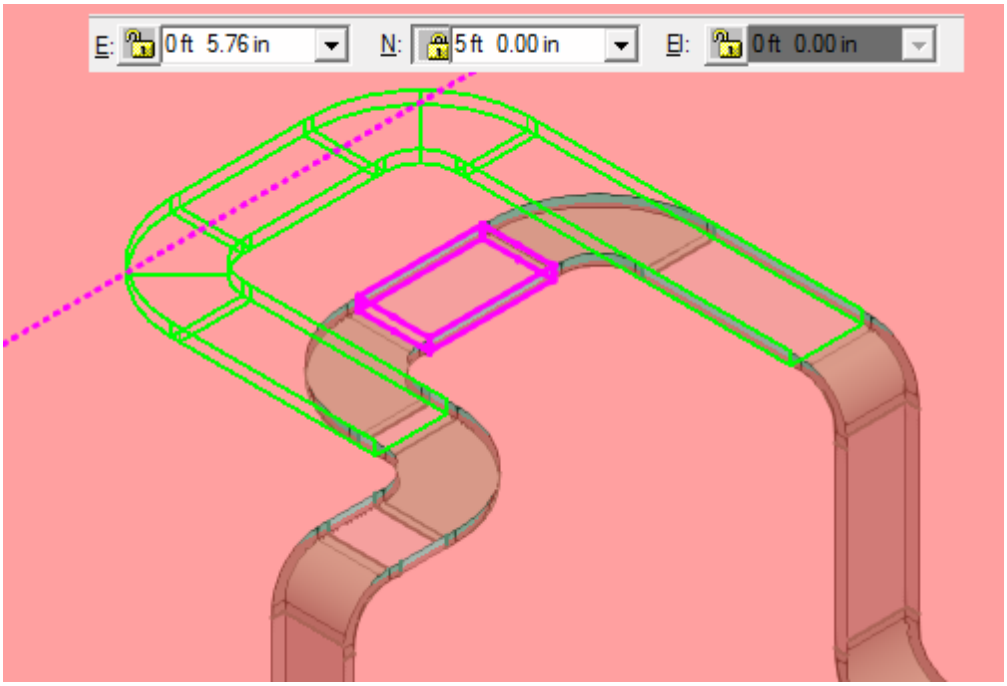
- When you move the cableway straight feature, the entire cableway leg to which the feature is connected moves.
- The move direction is always perpendicular to the axis of the cableway straight feature.

TIP When moving the cableway straight feature, you can select one of the cardinal point handles that appear at the end of the feature to indicate the **Move From** point. These cardinal point handles allow you to move the feature in relation to the edge instead of the centerline.



6. Click **Move To** .
7. On the **PinPoint** ribbon, set the North coordinate to **5 ft** to move the cableway feature.

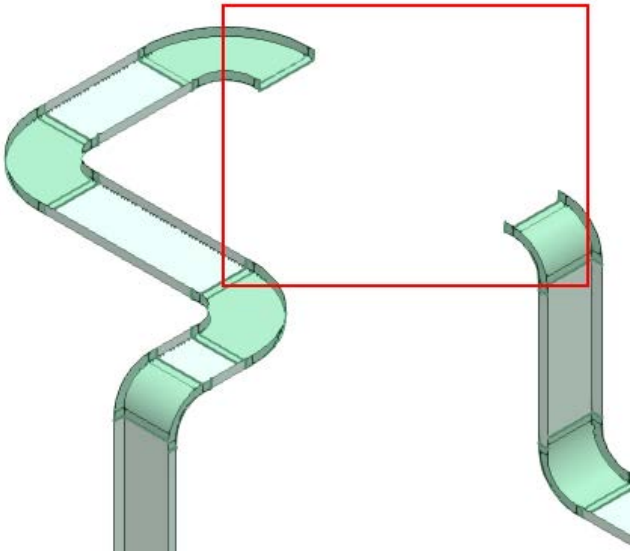
After specifying the coordinate points, the view of the cableway should look as shown:



8. Click the graphic view to accept the new cableway position, and right-click to cancel the command.

Deleting a Cableway Straight Feature

Delete a cableway straight feature from Unit **U04** of your workspace. The view of the cableway after deleting the cableway straight feature should appear as shown:

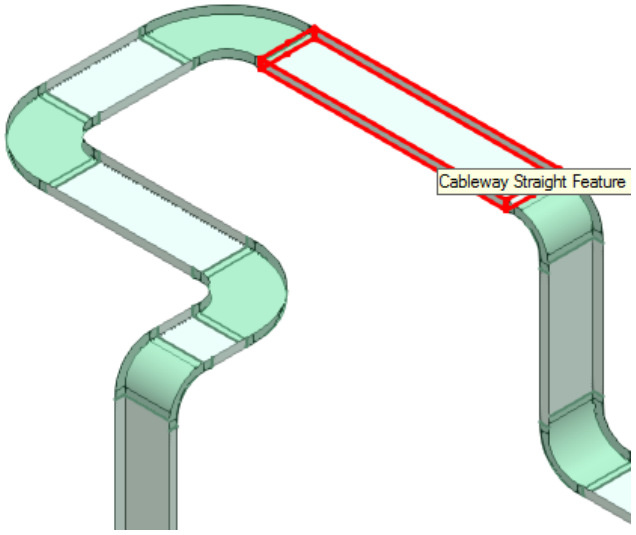


NOTES

- Deleting a straight feature does not remove connected turn features.
- Deleting the straight feature connected by the associated turn feature is extended to the turn point. The turn point, sometimes called the critical point, is the intersection of two ports of the original turn feature's part. This means that the same turn part needs to be inserted, or the turn feature needs to be defined again by connecting the existing routes.
- If the straight feature is connected to the third port of a tee-type branching (making the straight feature the defining feature for the branch point), deleting it will result in the deletion of the tee type branching part and the owning branch feature. For tee-type branches, the software replaces the header portion of the branch with a straight feature.
- If the straight feature connects to a component, the software does not delete the component when the straight feature is deleted.

1. Set the **Locate Filter** to **Cableway Features** to select only cableway features in the graphic view that you need to delete.

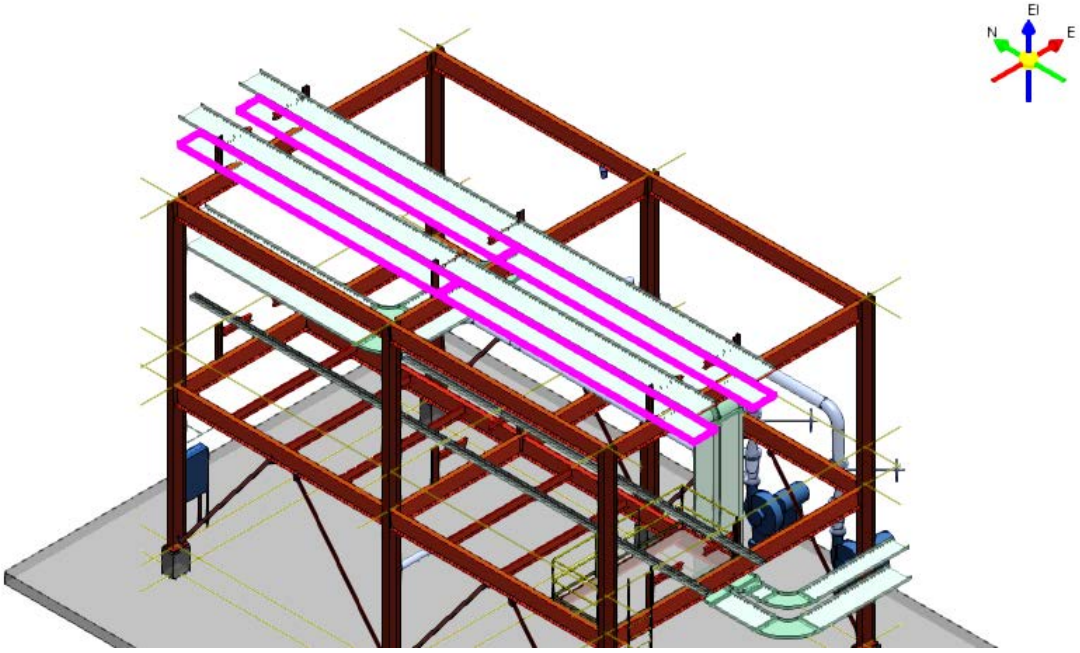
2. Select the cableway straight feature from the graphic view that you need to delete, as shown:



3. Click **Delete** on the **Common** toolbar to delete the cableway straight feature.

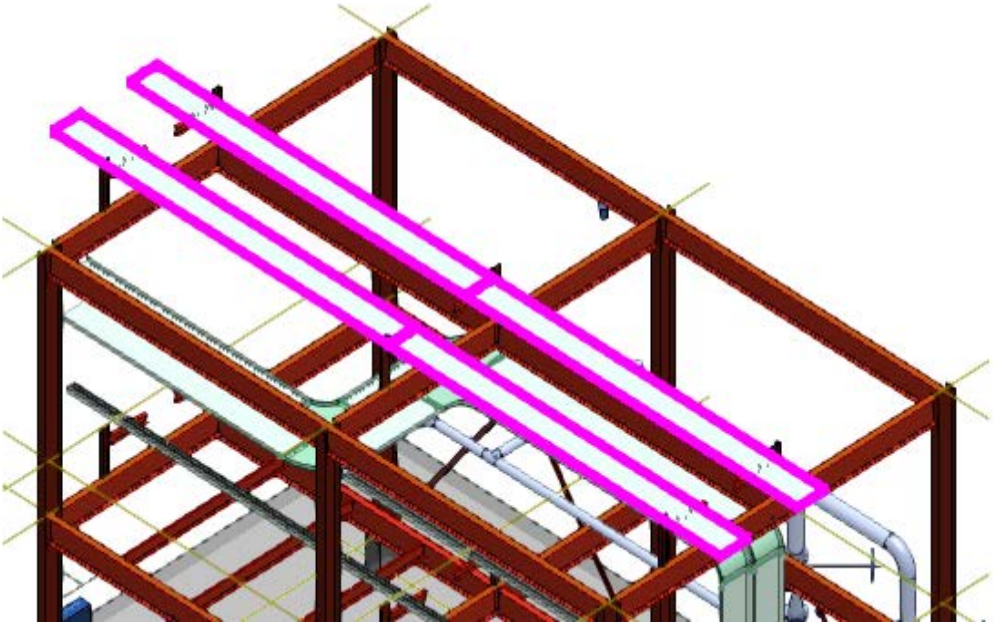
Copying and Pasting a Cableway

Copy cableways from Unit **U01** of your workspace and paste them on top of the steel. The view of the cableways after pasting them should look as shown:

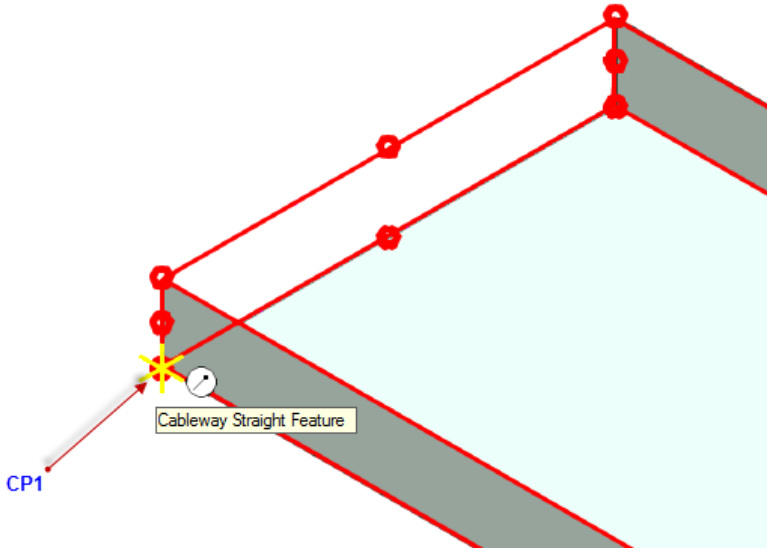


1. Define your workspace to show Unit **U01** and coordinate system **U01 CS**.

2. Set the **Locate Filter** to **Cableways** to select only cableways in the graphic view that you need to copy and paste.
3. Select the cableways from the graphic view that you need to copy, as shown:



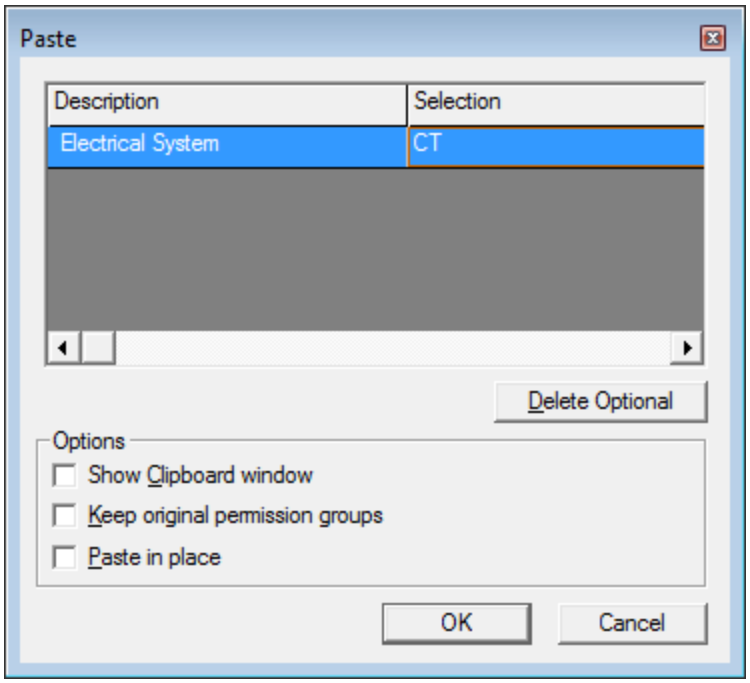
4. Click **Copy** on the **Common** toolbar.
5. Select the **CP1** cardinal point on the cableway to define from where to copy the cableways.



6. Click **Paste** on the **Common** toolbar.

   *The **Paste** dialog box displays.*

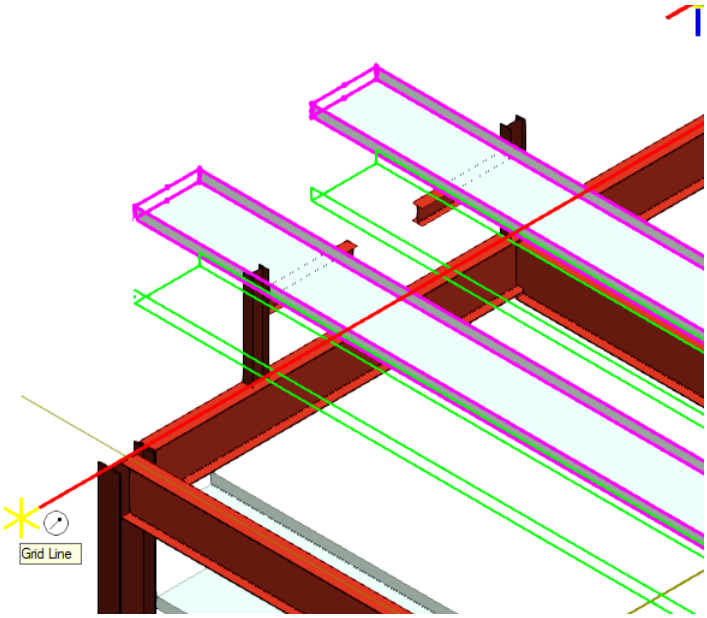
7. Keep the default parent system for the new objects to be pasted on the model, as shown below. Clear the **Paste in place** check box, and click **OK**.



NOTES

- The **Paste** dialog box shows relationships that can be established between the objects you are pasting and objects in the model. These are the relationships that existed between the objects you copied and design objects that were not in your copy set. There are two categories of such relationships: those required by the objects being pasted, and those that are optional. The system parent is an example of a required relationship. All design objects must have a system parent.
- If you are pasting the objects into the same model they were copied from, the **Paste** dialog box offers the original objects as the defaults for the relationships that are created. In this example, Smart 3D keeps the original parent system of the copied objects. You can keep the default objects, or select the row and identify a different object. When you select the row, the original parent object is highlighted so you can graphically see what type of input is needed in context of the objects you copied. If you decide to place the copied objects on different parent system in the system hierarchy, you must select it in the **Workspace Explorer** under the system hierarchy.
- **Keep original permission groups** assigns objects created by the **Paste** command to the same permission group the original object had (mapping by name). However, if the person doing the paste does not have Write access to that permission group, then the object will be assigned to the Active Permission Group. If **Keep original permission groups** is not selected, all newly created objects are assigned to the Active Permission Group.
- **Paste in place** pastes the copied objects in exactly the same position as the originals. This option is most often used when pasting objects in a different model from the original.

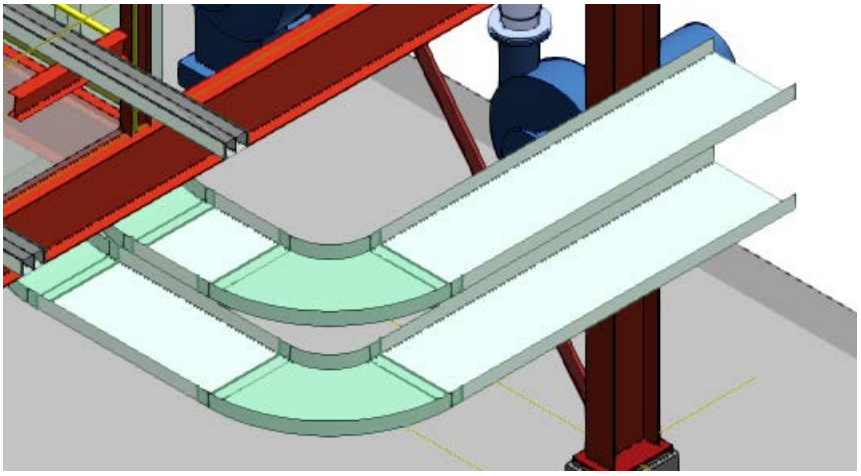
8. Hover until the **Up** SmartSketch glyph displays, indicating you are aligned to the major Z axis. Click the middle mouse button to constrain the cursor movement along this axis. Then, position the cursor to identify the gridline to get the correct elevation coordinate.



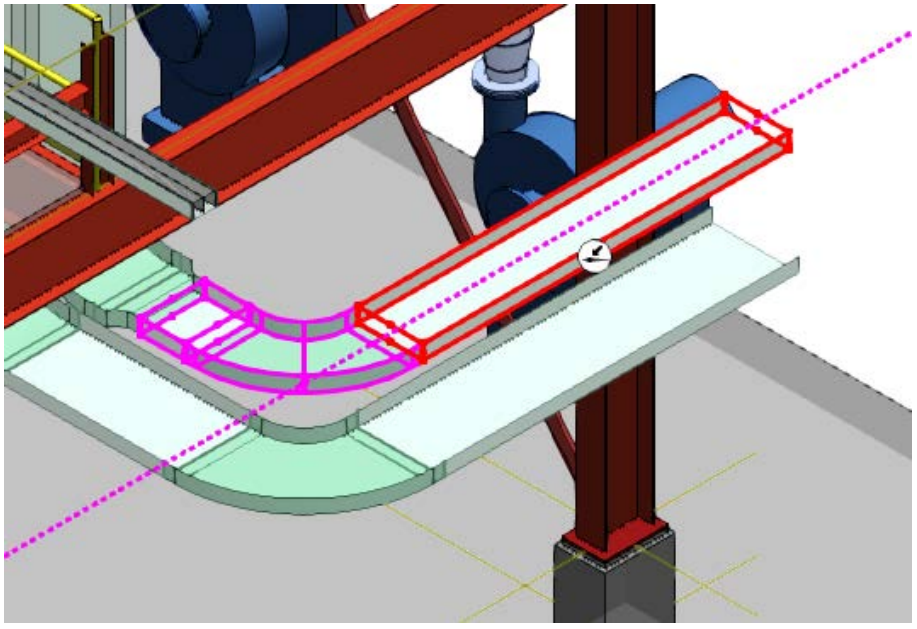
9. Click in the graphic view to place the copied cableways.

Changing the Tray Width

Edit the width of the selected cableway features from Unit **U01** of your workspace. The view of the cableway after editing the cableway features look as shown:



1. Set the **Locate Filter** to **Cableway Features** to select only the cableway features in the graphic view that you need to edit.
2. Hold down the SHIFT key, and select the two straight features from the graphic view that you need to edit. You can also use **Fence Inside** to select the features.



NOTES

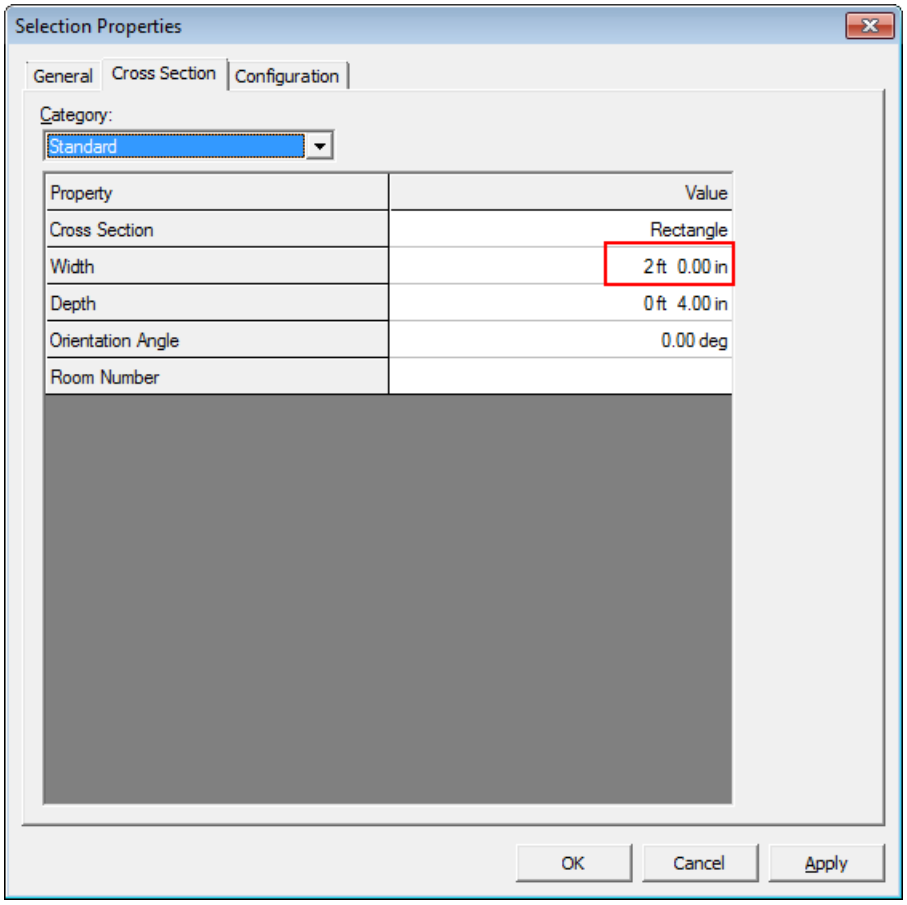
- When you use SHIFT to multi-select features, Smart 3D selects all the features along the path between the two selected features.

- Cable tray sizes can only be changed at the feature object.

3. Click **Properties** on the **Edit** ribbon.

   *The **Selection Properties** dialog box displays.*

4. Under **Cross Section**, set the **Width** to **2 ft**, and click **OK**.



For more information related to manipulating cableways, see *Moving Feature: An Overview*, *Deleting Feature: An Overview*, and *Editing Feature: An Overview* in the *Electrical User's Guide*.