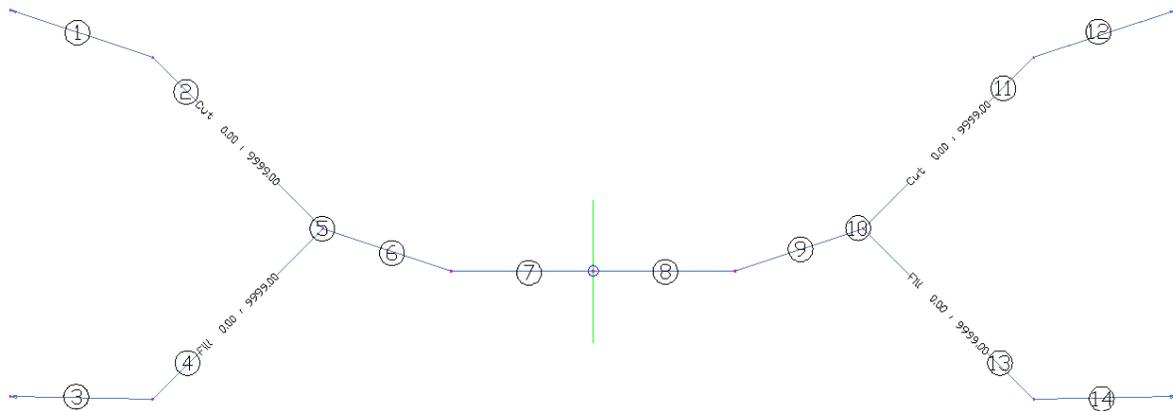


This guide covers the *Conditional CutFill Waterway* assembly, shown in the diagram below. This assembly utilizes a conditional cut and fill subassembly that controls how the cross section is plotted depending on whether or not the section is in a cut or fill condition when the side slopes reach a specified design depth.

The individual subassembly components of this assembly objects are discussed in further detail below.



Subassembly Components

1. Cond CutFill Wway – Upper Left Side Slope in Cut

LinkSlopeToSurface subassembly object. This subassembly is placed when the left hand side slope is in cut, or below the ground surface, when it reaches the design depth.

Controlling Parameters

Slope	The default value is 33.33% or 3:1. This is the slope at which to continue the left hand slope when below the original ground surface at the design depth. Slope values can be entered as a numeric value (i.e. 33.3) or as a ratio (i.e. 3:1). If you enter “3:1” the slope will automatically be converted to its numeric value.
Add Link in	The default value is Cut Only. Setting this value to Cut Only will cause the line segment to slope upward until it ties into the original ground surface, rather than checking the cut condition (sloping upward) and the fill condition (sloping downward) and selecting the shortest option of the two.

2. Cond CutFill Wway – Link to Cut Section on Left Side

This component of the assembly object is merely a visual representation of the link between the point at the top of the left hand slope where the cross section is evaluated to determine whether it is in cut or fill, and the subassembly object that will be used if the section is in cut at that point.

3. Cond CutFill Wway – Upper Left Side Slope in Fill

LinkSlopeToSurface subassembly object. This subassembly is placed when the left hand side slope is in fill, or above the ground surface, when it reaches the design depth.

Controlling Parameters

Slope	The default value is 2%. This is the slope at which to continue the left hand slope when above the original ground surface at the design depth.
Add Link in	The default value is Fill Only. Setting this value to Fill Only will cause the line segment to slope down until it ties into the original ground surface, rather than checking the cut condition (sloping upward) and the fill condition (sloping downward) and selecting the shortest option of the two.

4. Cond CutFill Wway – Link to Fill Section on Left Side

This component of the assembly object is merely a visual representation of the link between the point at the top of the left hand slope where the cross section is evaluated to determine whether it is in cut or fill, and the subassembly object that will be used if the section is in fill at that point.

5. Connection point for conditional cut and fill subassembly object on left side of cross section6. Cond CutFill Wway – Lower Left Side Slope

LinkSlopeAndVerticalDeflection subassembly object. This component represents the left side slope of the waterway below the design depth of the channel.

Controlling Parameters

Slope The default value is 33.33% or 3:1. This is the slope at which to continue the left hand slope when below the original ground surface at the design depth.

Slope values can be entered as a numeric value (i.e. 33.3) or as a ratio (i.e. 3:1). If you enter “3:1” the slope will automatically be converted to its numeric value.

Vertical Deflection The design depth for the channel. The default value is 3 feet.

7. Cond CutFill Wway – Left Side of Channel

LinkOffsetAndSlope subassembly object. This component represents the left half of the waterway channel.

Controlling Parameters

Offset from Baseline This is the distance between the channel centerline and the left hand edge of the channel. If the centerline is located at the middle of the channel, this value will be one half the width of the channel.

Slope The default value is 0% to provide a flat bottom channel. This value can be changed if the intention is to provide a waterway with a sloped bottom.

8. Cond CutFill Wway – Right Side of Channel

LinkOffsetAndSlope subassembly object. This component represents the right half of the waterway channel.

Controlling Parameters

Offset from Baseline This is the distance between the channel centerline and the right hand edge of the channel. If the centerline is located at the middle of the channel, this value will be one half the width of the channel.

Slope The default value is 0% to provide a flat bottom channel. This value can be changed if the intention is to provide a waterway with a sloped bottom.

9. Cond CutFill Wway – Lower Right Side Slope

LinkSlopeAndVerticalDeflection subassembly object. This component represents the right side slope of the waterway below the design depth of the channel.

Controlling Parameters

Slope The default value is 33.33% or 3:1. This is the slope at which to continue the left hand slope when below the original ground surface at the design depth.

Slope values can be entered as a numeric value (i.e. 33.3) or as a ratio (i.e. 3:1). If you enter “3:1” the slope will automatically be converted to its numeric value.

Vertical Deflection The design depth for the channel. The default value is 3 feet.

10. Connection point for conditional cut and fill subassembly object on right side of cross section

11. Cond CutFill Wway – Link to Cut Section on Right Side

This component of the assembly object is merely a visual representation of the link between the point at the top of the right hand slope where the cross section is evaluated to determine whether it is in cut or fill, and the subassembly object that will be used if the section is in cut at that point.

12. Cond CutFill Wway – Upper Right Side Slope in Cut

LinkSlopeToSurface subassembly object. This subassembly is placed when the left hand side slope is in cut, or below the ground surface, when it reaches the design depth.

Controlling Parameters

Slope	The default value is 33.33% or 3:1. This is the slope at which to continue the left hand slope when below the original ground surface at the design depth. Slope values can be entered as a numeric value (i.e. 33.3) or as a ratio (i.e. 3:1). If you enter “3:1” the slope will automatically be converted to its numeric value.
Add Link in	The default value is Cut Only. Setting this value to Cut Only will cause the line segment to slope upward until it ties into the original ground surface, rather than checking the cut condition (sloping upward) and the fill condition (sloping downward) and selecting the shortest option of the two.

13. Cond CutFill Wway – Link to Fill Section on Right Side

This component of the assembly object is merely a visual representation of the link between the point at the top of the right hand slope where the cross section is evaluated to determine whether it is in cut or fill, and the subassembly object that will be used if the section is in fill at that point.

14. Cond CutFill Wway – Upper Right Side Slope in Fill

LinkSlopeToSurface subassembly object. This subassembly is placed when the right hand side slope is in fill, or above the ground surface, when it reaches the design depth.

Controlling Parameters

Slope	The default value is 2%. This is the slope at which to continue the right hand slope when above the original ground surface at the design depth.
Add Link in	The default value is Fill Only. Setting this value to Fill Only will cause the line segment to slope down until it ties into the original ground surface, rather than checking the cut condition (sloping upward) and the fill condition (sloping downward) and selecting the shortest option of the two.