RoadEng® Civil

Milling and Overlay Example

This example explains how to calculate milling and overlay volumes.

This example uses a specific E-library template component, ***MillOverlay VII - CL Offsets***, located in the Overlay and Widenings folder. The operation and behavior of this component is explained.

Creating Reference Features - Lane and Shoulder

1. Open the Location module. Open *MillFill.DSNX* (included with this example). The screen should now display a cross section and a profile view as shown in Figure 1.

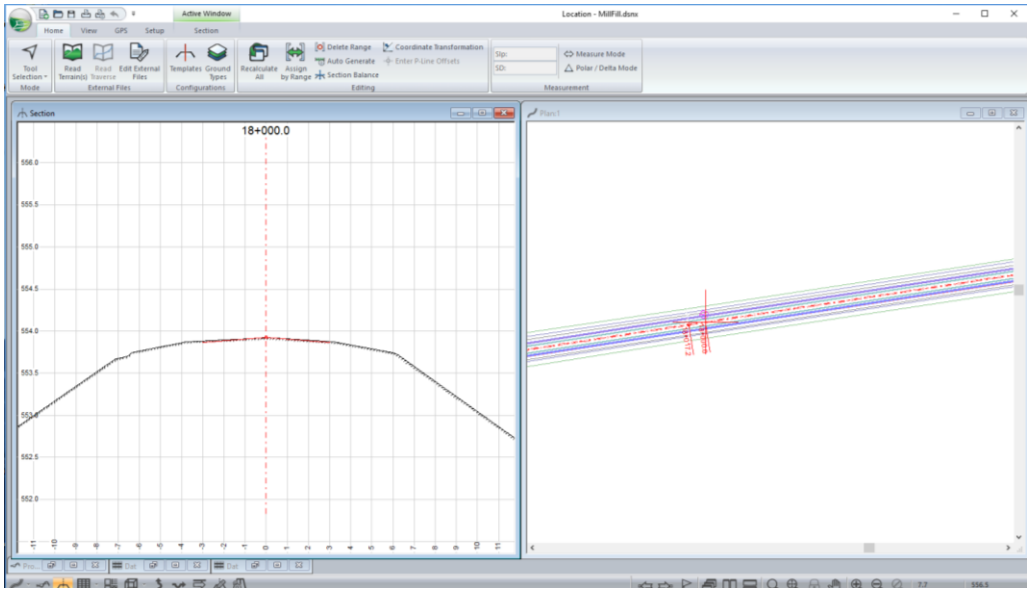

Figure 1 – MillFill.DSNX

2. Choose menu Setup | Location Setup | Alignment | Features. Setup Reference Features *RF 1* and *RF 2* as shown in Figure 2 below:

    - **RF 1 -> RD RT-LANE-168**
    - **RF 2 -> RD RT-PAVE EDGE-173**

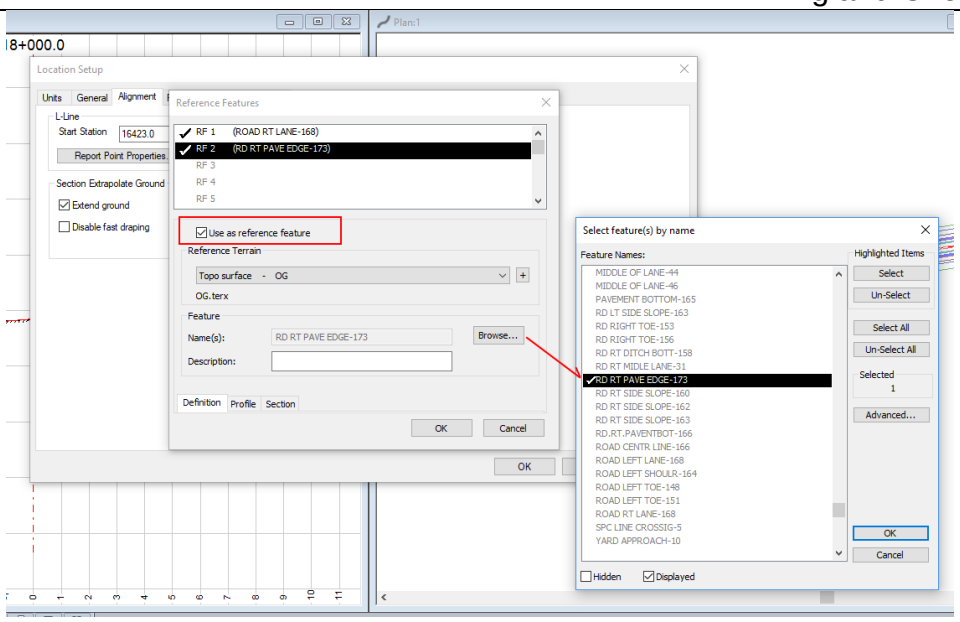

Figure 2 – Setting up Lane and Shoulder Reference Features.

3. For both the reference features, make sure the Section tab setting is set to Intersection and that an appropriate symbol is chosen to display the reference features (see Figure 3 and 4 below):

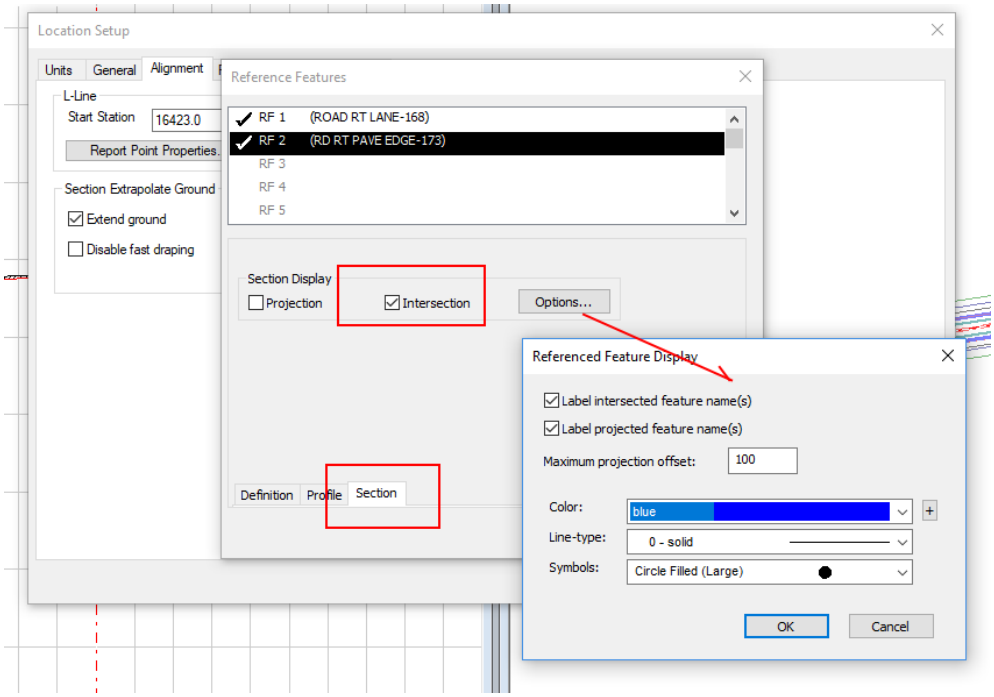

Figure 3 – Setting up Cross Section Display of Reference Features

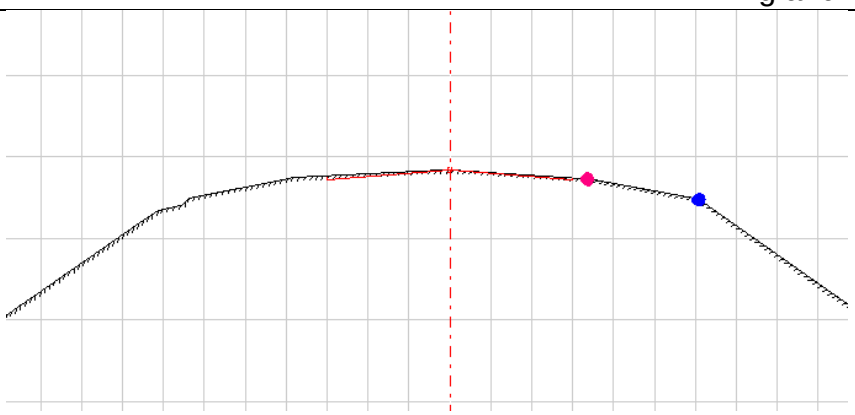

Figure 4 - Cross Section Display of Reference Features

.

Applying the Mill and Overlay Template

4. Choose menu Home| Templates | E-Library and choose *Overlays and Widenings*, press OK.

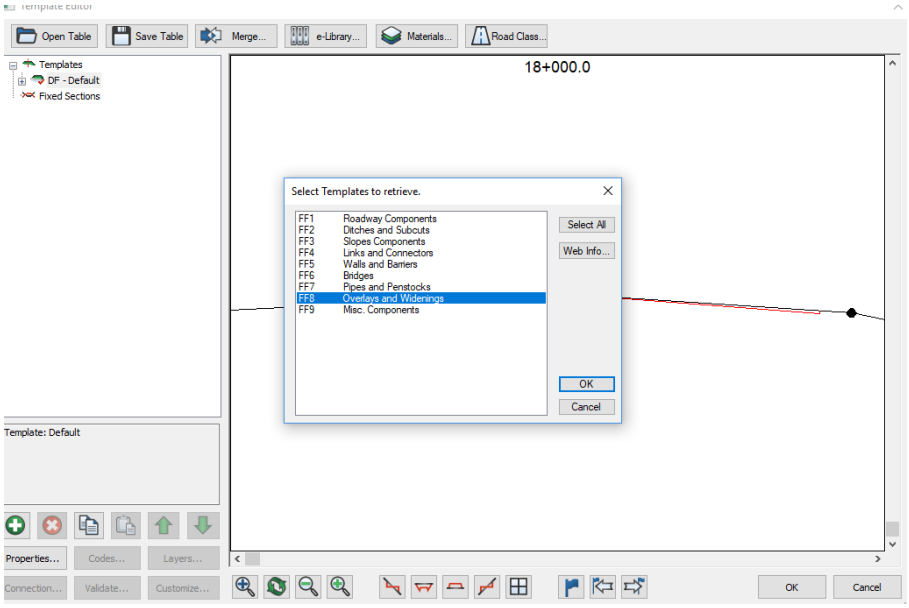

Figure 5 – E-library Overlays and Widenings

5. In the downloaded folder (*Overlays and Widenings*), select *MillOverlay VII* and choose Copy (from the right click menu). Click on the *DF - Default* template and choose Paste | As New (from the right click menu).

6. Remove the Roadway, Ditches and Slopes components in the DF- Default template (select them and press the delete button).

7. Flip the *MillOverlay VII* object to the right by clicking on it and selecting menu Flip. The DF - Default template should now appear as shown in Figure 6 below.

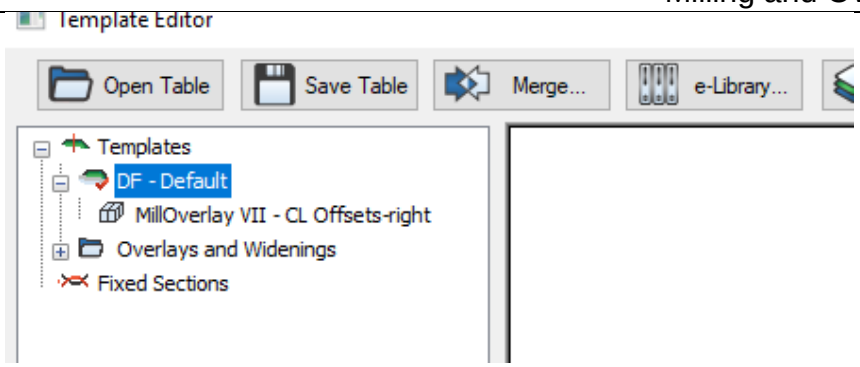

Figure 6 – Default Template with MillOverlay VII on the right side

Setting Up The Mill/Overlay Parameters

8. Right click while the *MillOverlay VII* is selected and choose menu Properties. Set the following parameters:

Variable	Value	Description
OverlayThick	.05	Thickness of overlay measured from existing CL elevation.
OverlayLaneDX	Reference Feature 1 (ROAD RT LANE-168)	Lane (inside) overlay offset from CL. If 0, it is ignored (only EOP will be used).
OverlayLaneSlp	-9999.0	Slope of lane (inside) overlay. If set to -9999, parameters OverlayLaneDX/DYwill be used to determine slope. Super/Crown is added to this value.
OverlayShldrDX	Reference Feature 2 (RD RT PAVE EDGE-173)	Shoulder overlay offset (measured from CL to toe of new overlay pavement).
OverlayShldrWidth	0.0	Shoulder width. If 0, the shoulder will be calculated based on OverlayShldrDX position.
OverlayShldrSlp	-9999.0	If set to -9999, parameters OverlayShldrDX/DYwill be used to determine slope. Super/Crown is added to this value.
OverlayFillSlp	33.3	Outside fill slope of overlay.
MillLaneDepth	.06	Milling depth of lane (inside shoulder).
MillLaneDX	Reference Feature 1 (ROAD RT LANE-168)	Horizontal offset from C/L for lane milling.
MillLaneSlp	-9999.0	Slope of lane (inside) milling. If set to -9999, parameter MillLaneDX/DYwill be used to determine slope. Super/Crown is added to this value.
MillShldrDepth	.03	Depth of milling beyond the shoulder.
MillShldrSlp	-9999.0	If set to -9999, parameters MillShldrDX/DY(see advanced) will be used to determine slope. Super/Crown is added to this value.
MillDaylightSlope	-2.0	If set to -9999, parameters MillShldrDX/DY(see advanced) will be used to determine slope. Super/Crown is added to this value.

9. Press OK twice. When prompted, Recalculate Range.

   The screen should appear as shown below.

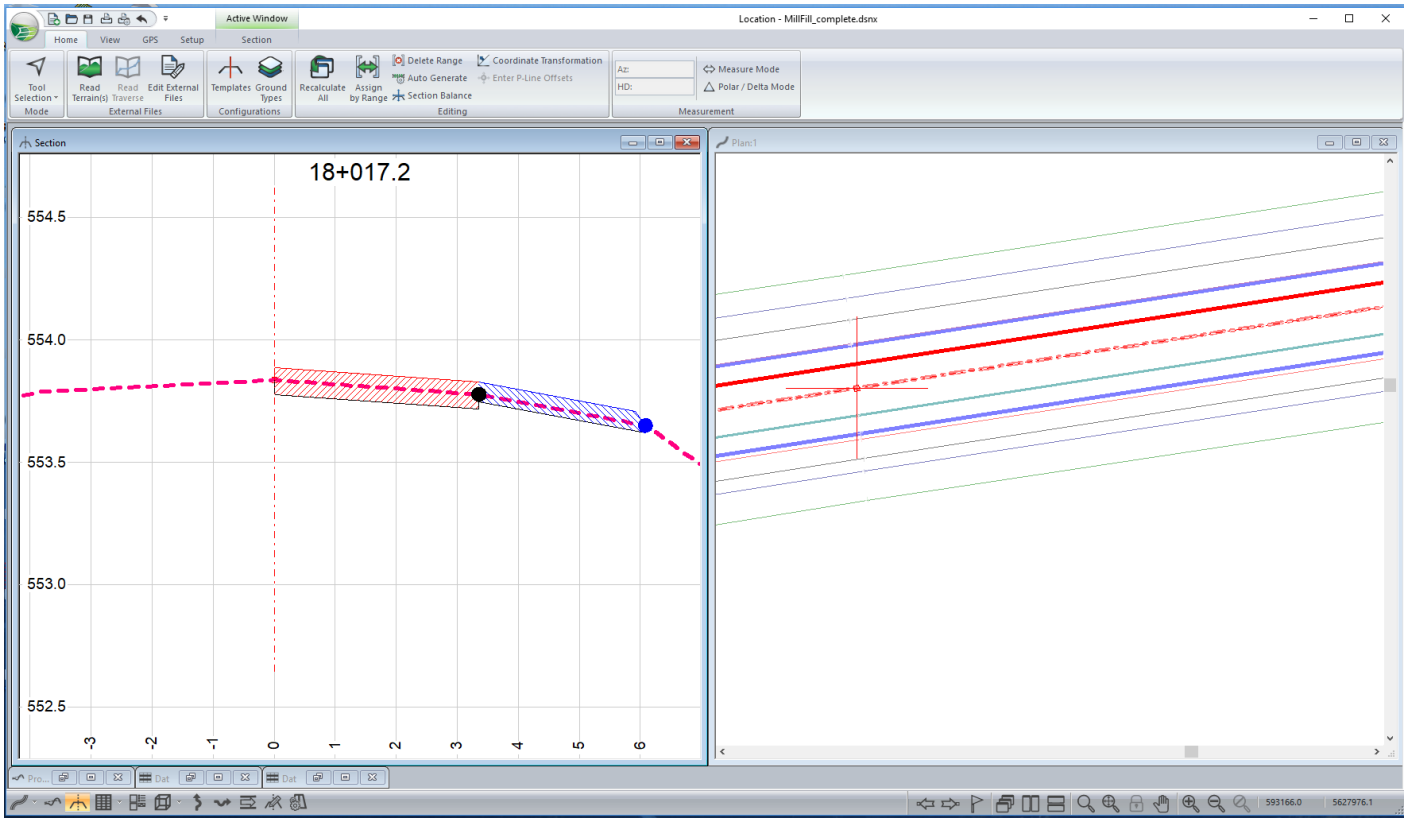

Figure 7 – Mill Fill Section with Filled Areas Highlighted

This completes the example.