Chapter 10: Introduction to Building Templates

Chapter Overview
This chapter addresses the following major topics:
>   The Edit Template Interface
>   Exploring Segments
>   Template Layers
>   Edit Modes
>   Transition Control
>   Building New Templates
>   Superelevation Ranges

Thus far we have identified and selected typical sections already part of a Typical Section Library. In this chapter we will create new templates, first by copying an existing template and modifying it and then by starting from scratch.

Section 1 - Template Overview

## The Edit Template form

Exploring the Segments

1.   Edit the `Building_InRoads` template library (InRoads>Modeler>Define Typical Section)
2.   Edit the `4lane_simple` template (double-click it).

The Edit Template form is invoked.

This is the Layer tab, which manages the Layers in the template from which surfaces are created. To create a subgrade layer we would key in a Name, Description, and Horizontal and Vertical Offset, then hit New.

The Layer Highlighted in the List, in this case, finished_grade, is the Active Layer. The Active Layer is simply the one that can be edited using the other tabs on this form.
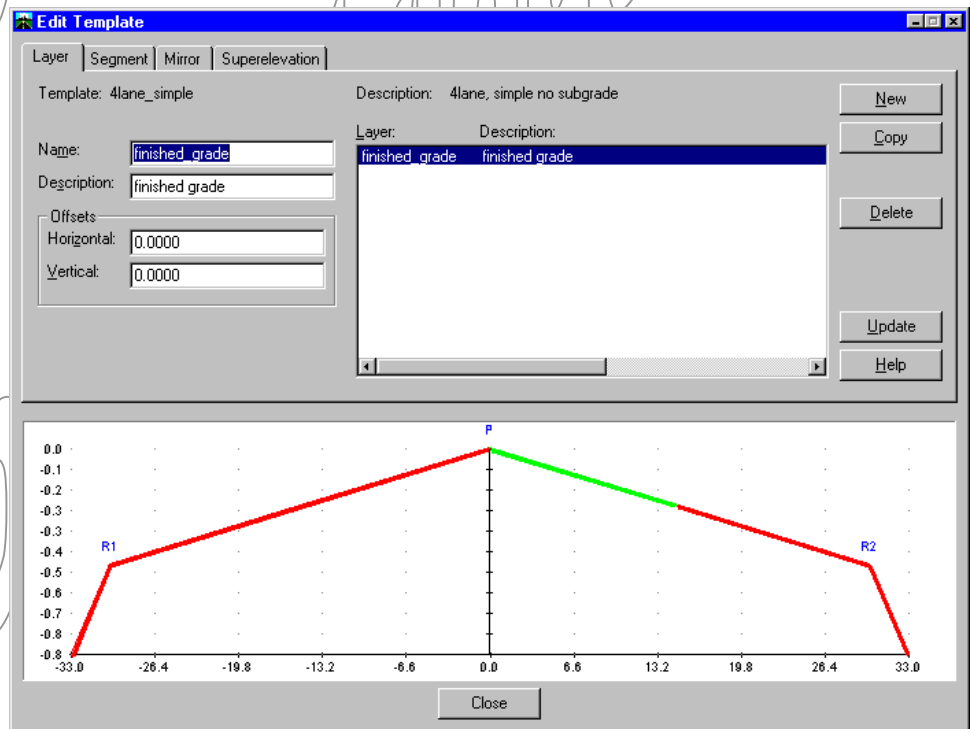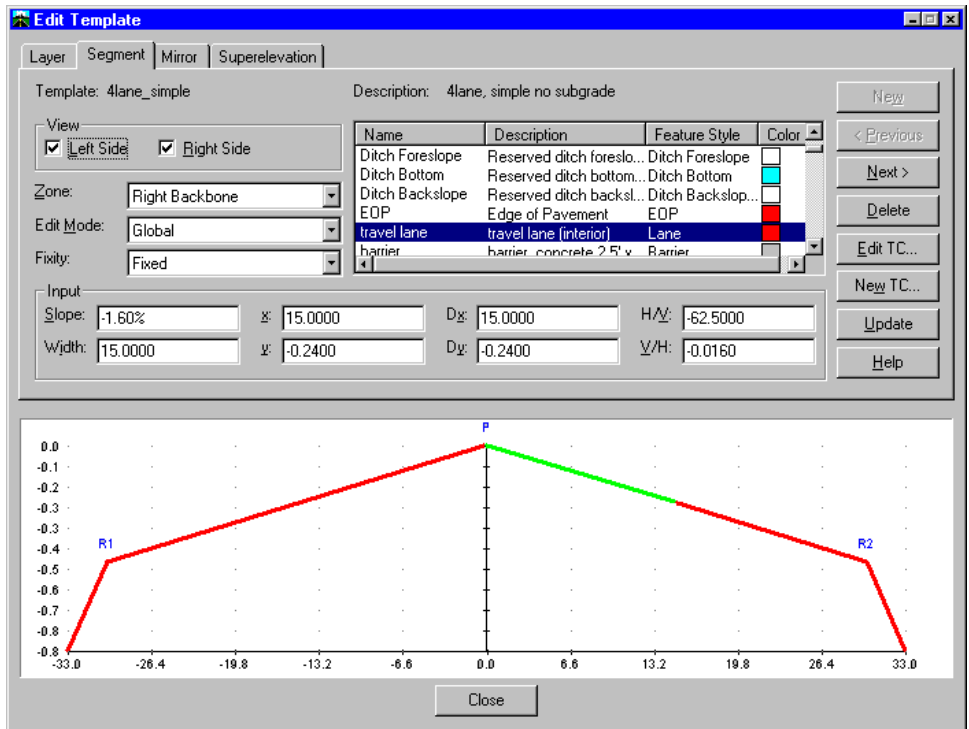
3. Select the Segment tab.

There are a lot of controls on this form, but you will come to appreciate what a good interface this is.

Color Scheme
The Active Segment, the segment whose information is shown in the fields, is Green. Other Segments in the Active Template Layer are shown in Red. Additional, non-Active template layers are shown in black.

The three critical attributes of a template segment are:

  Slope
  Width
  What it is

Template segments typically correspond to "real world" engineering objects. In InRoads this correlation mechanism is the Feature Style (Object Type). Each segments has a Feature Style associated with it. This is reflected as the highlighted row in the list.

The Next and Previous buttons are used to move to adjacent segments.
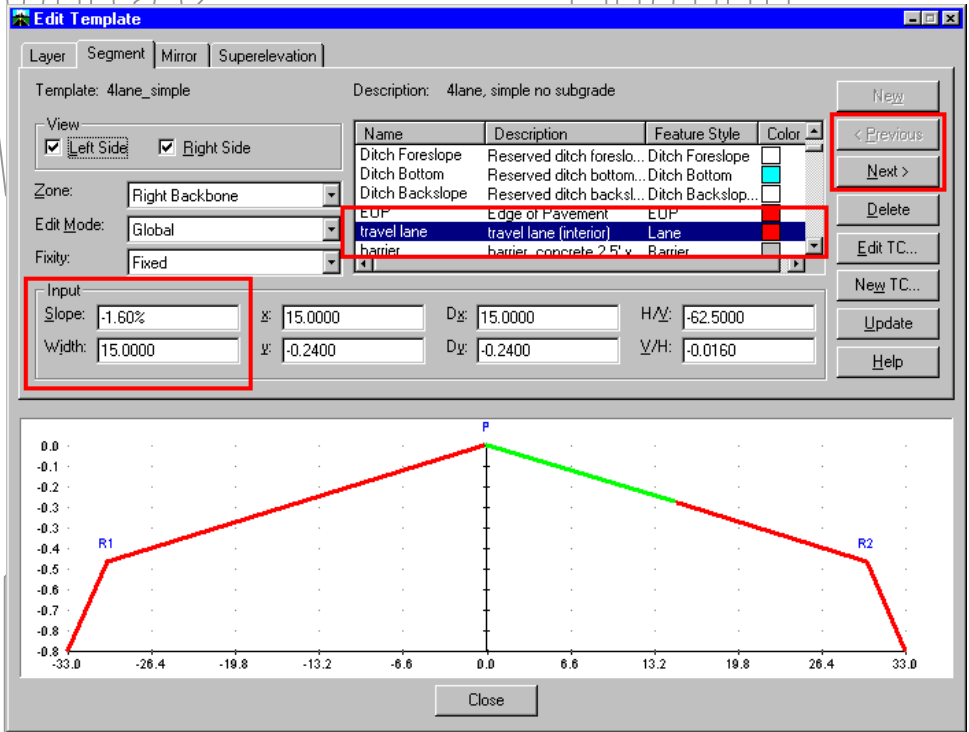
The Input frame shows positional information in a number of ways. The Slope, H/V and V/H are different formats of the same value. The x and y fields represent the outside end point relative to the attachment point (which really correspond to horizontal and vertical offsets). The Dx and Dy is the Delta X and Delta Y along the segment itself.

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The View shown of the template can vary according to two criteria: whether the Left Side and/or Right Side toggles are on and which Zone is displayed.

We will View only the Right Side for the time being. The View "zooms in" as far as possible so that the scale is a large as possible.

The Zones are Left and Right sides of the Backbone and Cut and Fill definitions.

Note that the active segment is 15' wide ending at an Edge of Pavement.
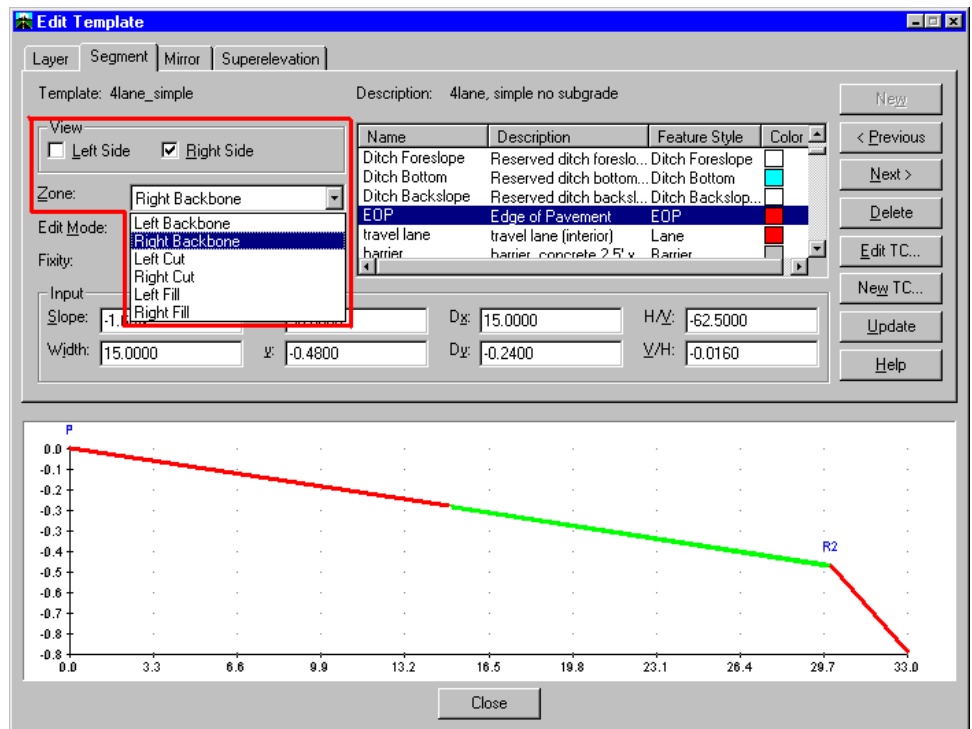
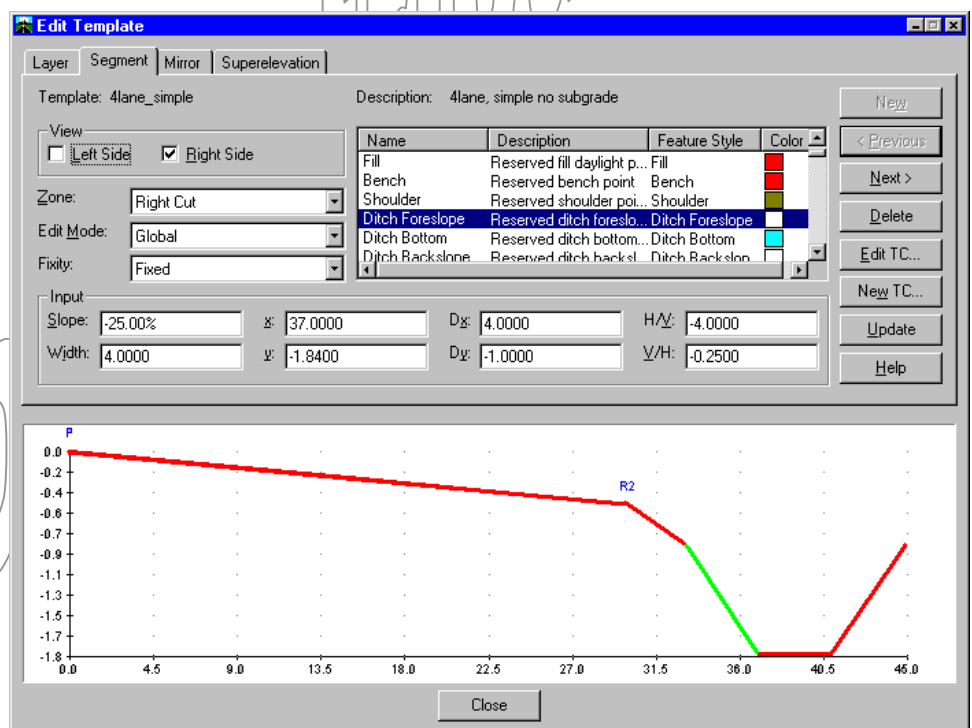4. Use the Next and Previous buttons to examine all the Segments in the Right Backbone.
5. Fill in the table below:

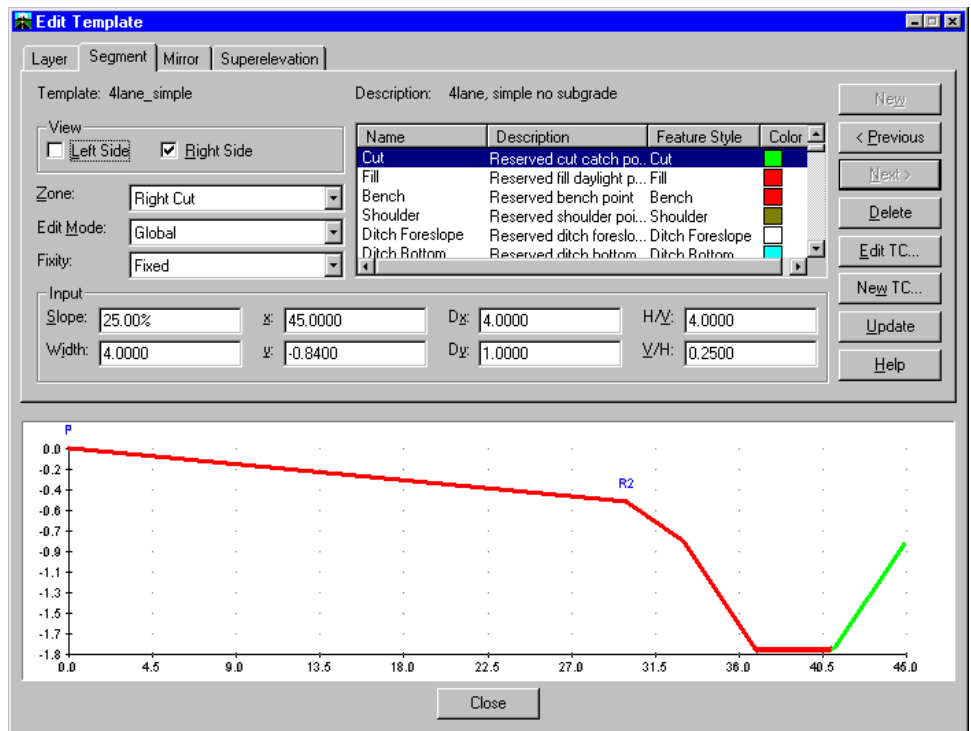| Segment	Slope (%)	Width	What is it?
1			
2			
3			

6. Switch the Zone to Right Cut

What is going on here?

The first segment in the Right Cut is a 4' wide –1:4 Ditch Foreslope. We can tell it is the first because the Previous button is disabled.
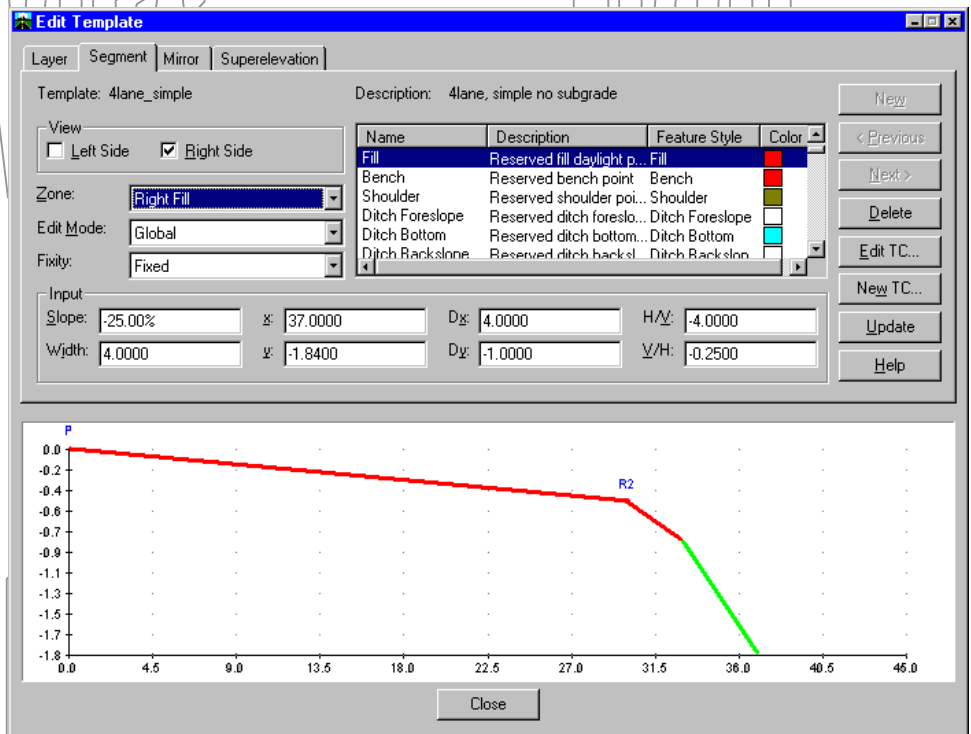
The last segment is a Cut section with a slope of 25%.

The Width reads 4.00, which is irrelevant: the outermost segment of Cut and Fill Zones will extend as needed to intersect the Target Surface.

Edit Template

Layer | Segment | Mirror | Superelevation

Template: 4lane_simple   Description: 4lane, simple no subgrade

View
☐ Left Side   ☑ Right Side

Zone: Right Cut
Edit Mode: Global
Fixity: Fixed

Name	Description	Feature Style	Color
Cut	Reserved cut catch po..	Cut	
Fill	Reserved fill daylight p...	Fill	
Bench	Reserved bench point	Bench	
Shoulder	Reserved shoulder poi...	Shoulder	
Ditch Foreslope	Reserved ditch foreslo...	Ditch Foreslope	
Ditch Bottom	Reserved ditch bottom...	Ditch Bottom	

Input
Slope: 25.00%   x: 45.0000   Dx: 4.0000   H/V: 4.0000
Width: 4.0000   y: -0.8400   Dy: 1.0000   V/H: 0.2500

New | < Previous | Next > | Delete | Edit TC... | New TC... | Update | Help

Close

7. **Switch the Zone to Right Fill**

The Right Fill consists only of a single segment: a Fill at –25%.

Edit Template

Layer | Segment | Mirror | Superelevation

Template: 4lane_simple   Description: 4lane, simple no subgrade

View
☐ Left Side   ☑ Right Side

Zone: Right Fill
Edit Mode: Global
Fixity: Fixed

Name	Description	Feature Style	Color
Fill	Reserved fill daylight p...	Fill	
Bench	Reserved bench point	Bench	
Shoulder	Reserved shoulder poi...	Shoulder	
Ditch Foreslope	Reserved ditch foreslo...	Ditch Foreslope	
Ditch Bottom	Reserved ditch bottom...	Ditch Bottom	
Ditch Backslope	Reserved ditch backsl...	Ditch Backslope	

Input
Slope: -25.00%   x: 37.0000   Dx: 4.0000   H/V: -4.0000
Width: 4.0000   y: -1.8400   Dy: -1.0000   V/H: -0.2500

New | < Previous | Next > | Delete | Edit TC... | New TC... | Update | Help

Close

8. Examine the Left Backbone, Left Cut and Left Fill

Advanced Concept: Thinking about the Engineering Model:

9. Examine the 4laneUrban template and fill out the following form: