Chapter 11 - Cross Sections

Changes in template design and the data stored in the DTM have made it necessary to change the Create Cross Section dialog box. At the same time, the dialog box layout has been redesigned. To display a set of Cross Sections:
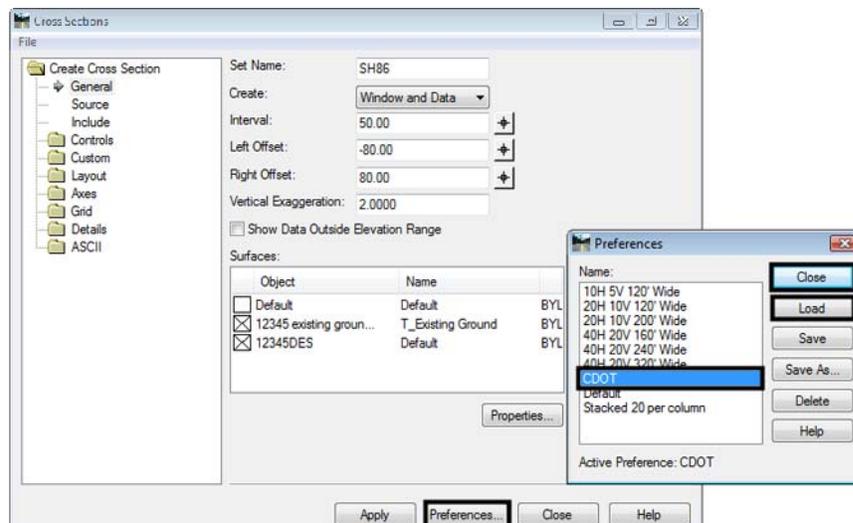
Chapter Objectives:

- Demonstrate the process of creating and displaying cross section
- Illustrate how to annotate a set of cross sections
- Describe updating cross sections

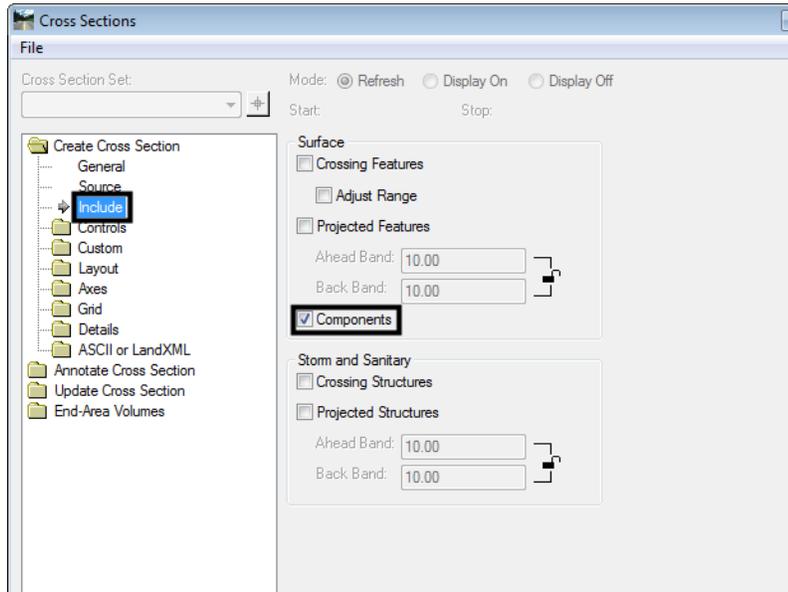# Creating and Displaying Cross Sections

While completing the following steps, pay particular attention to the preferences and settings used to create and display cross sections. Understanding what preferences and settings to use whill save a lot of time.

1. Select **Evaluation > Cross Section > Cross Sections** from the InRoads bar menu.

2. From the ***Create Cross Sections*** dialog box, **<D>** the **Preferences** button.

3. From the ***Preferences*** dialog box, highlight the desired preference and **<D> Load**.

4. **<D> Close** to dismiss the ***Preferences*** dialog box.

5. Toggle on the surfaces to include in the cross sections.

6. Select ***Include*** from the dialog box explorer.

7. Verify that **Components** is toggled on.

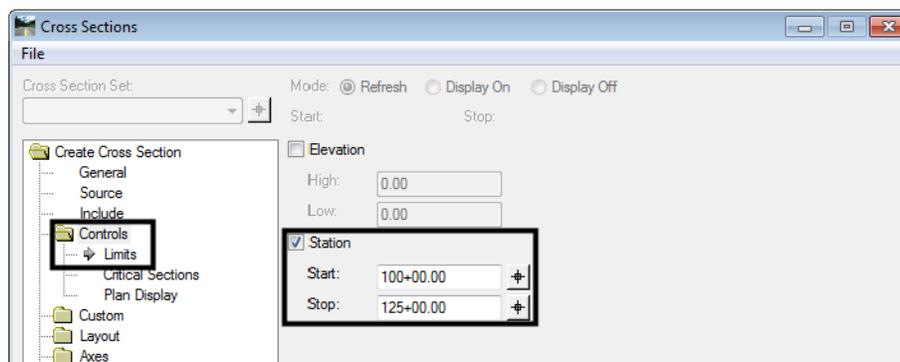8. Toggle on other options as desired.

Note: The user does not have the option to choose which features are displayed from this dialog box. All features from the selected surfaces that can be displayed will be displayed.

Note: **Annotate** runs the Annotate Cross Section command using the preference specified in the Surface Properties for the annotation preference.

Note: **Volumes** runs the End Area Volumes command using the Tools > Options > General > Preferred Preference as the preference for the volumes command.
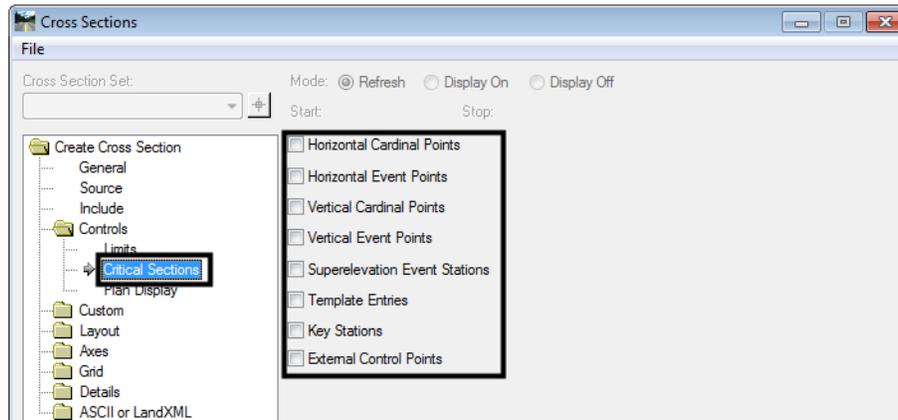
9. Select **Controls > Limits** from the dialog box explorer.

10. Set the **Station Limits** as desired.

11. Select **Controls > Critical Sections** from the dialog box explorer.
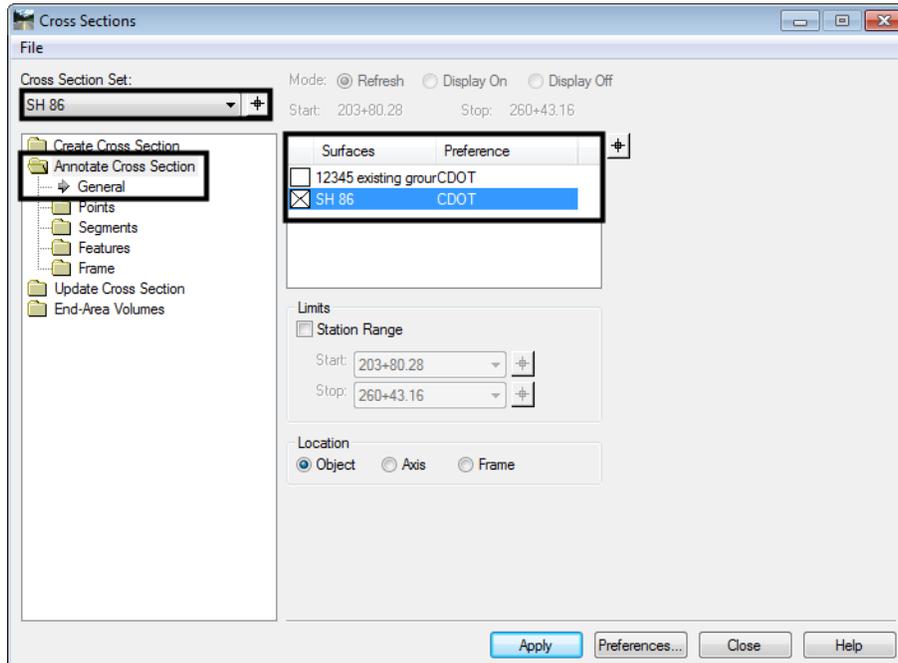
12. Toggle on the desired critical sections.

13. **<D> Apply**, then **<D>** in the view window to place the cross sections.

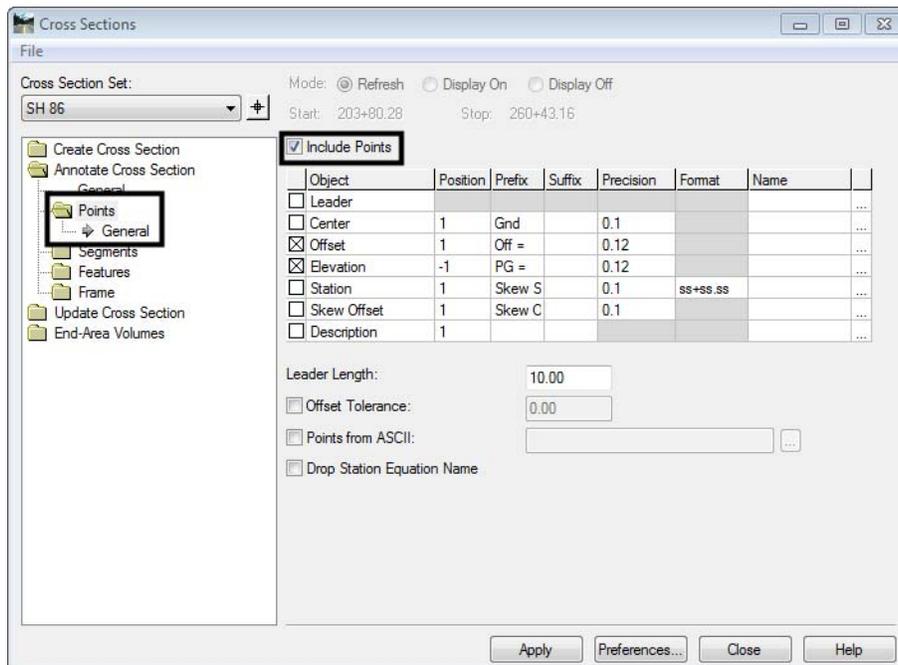14. **<D> Close** to dismiss the *Create Cross Sections* dialog box.

Annotating Cross Sections

1. Select **Annotate Cross Section > General** from the dialog box explorer.

2. From the *Annotate Cross Sections* dialog box, **<D>** the **Preferences** button.

3. From the *Preferences* dialog box, Highlight the desired preference and **<D> Load**.

4. **<D> Close** to dismiss the *Preferences* dialog box.

5. Select the desired *Cross Section Set* from the drop down menu or use the target button.
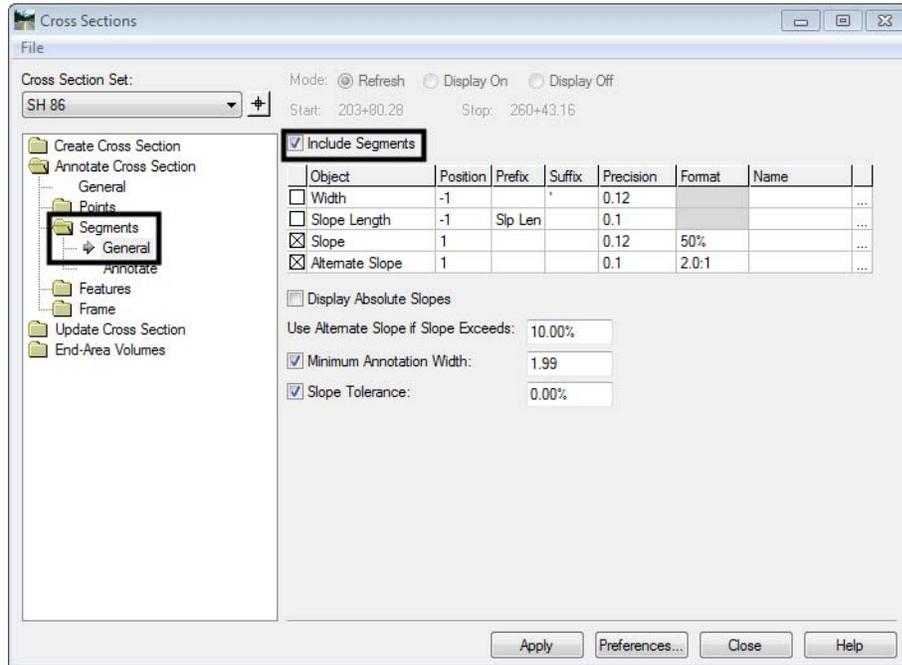
6. Toggle on the surface(s) to annotate.

7. Select **Points** from the dialog box explorer.

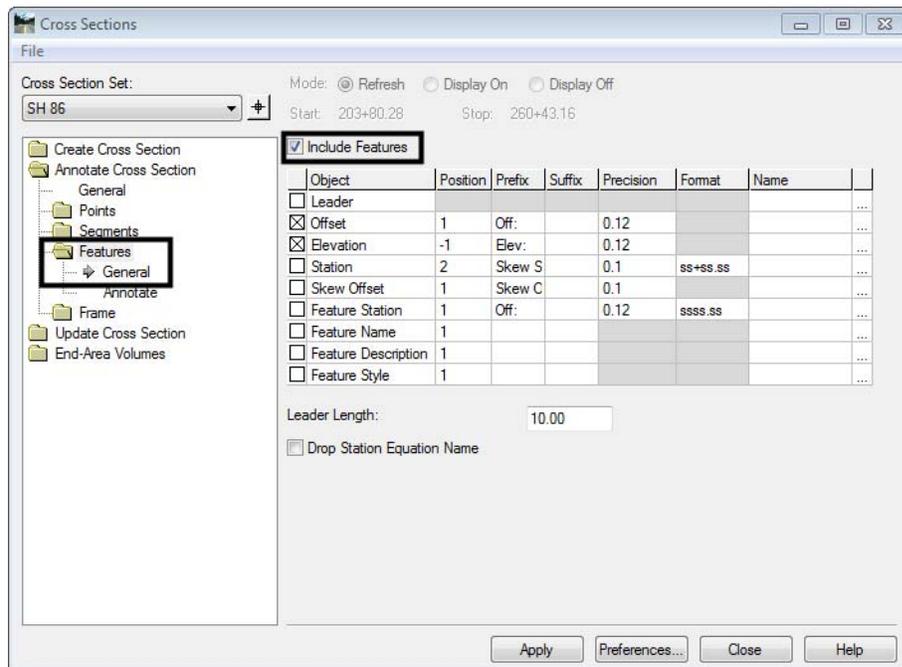8. Toggle on *Include Points* to display point annotation.

9. Select **Segments > General** from the dialog box explorer.

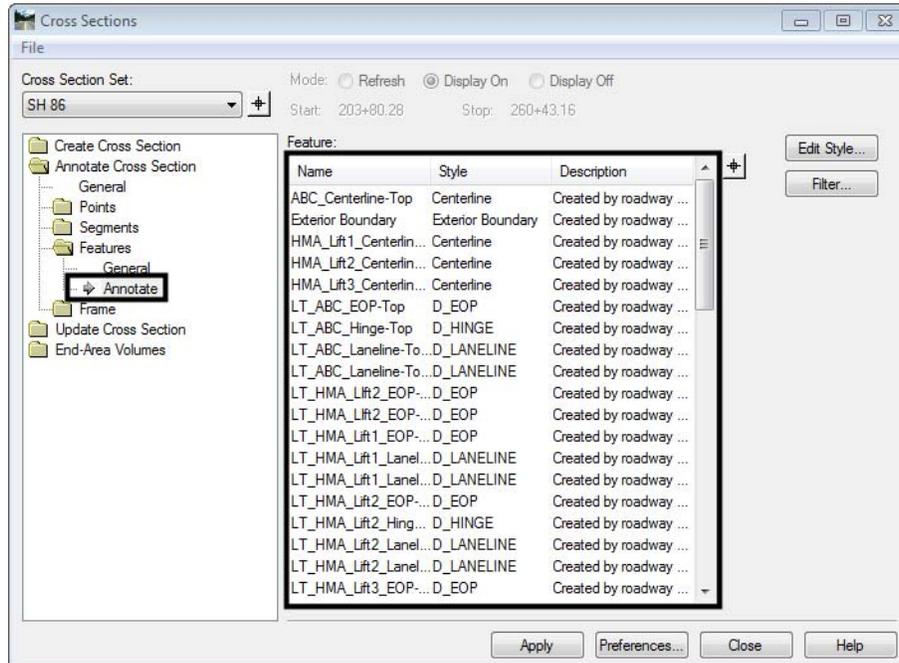10. Toggle on ***Include Segments*** to display segment annotation.

11. Select **Features > General** from the dialog box explorer.

12. Toggle on ***Include Features*** to display feature annotation.

13. Select **Features > Annotate** from the dialog box explorer.

14. Highlight the features to annotate.

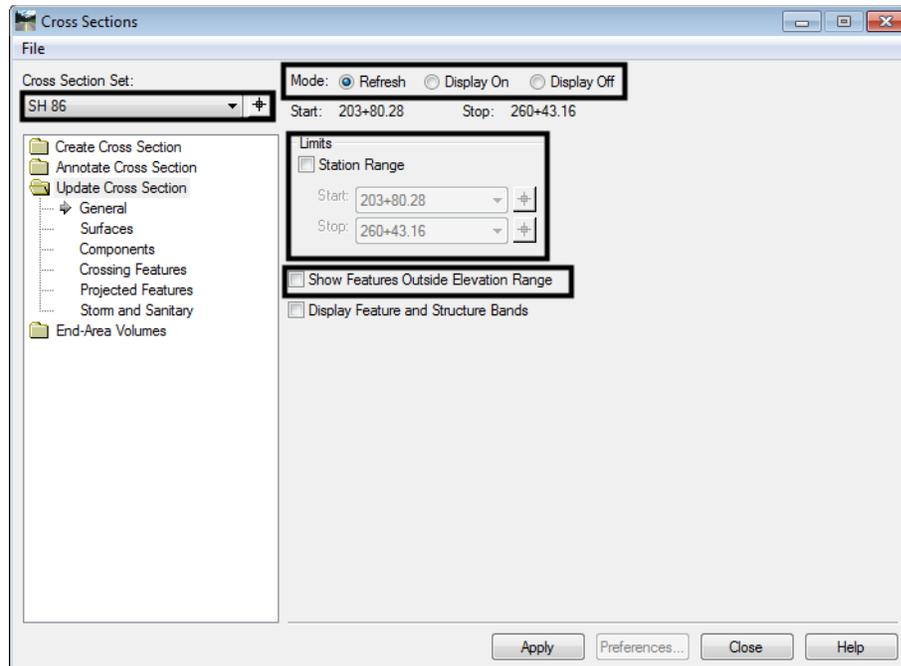*Note:* Only features that are currently displayed in the cross sections can be annotated.

15. <D> **Apply** to annotate the cross sections.

16. <D> **Close** to dismiss the dialog box.
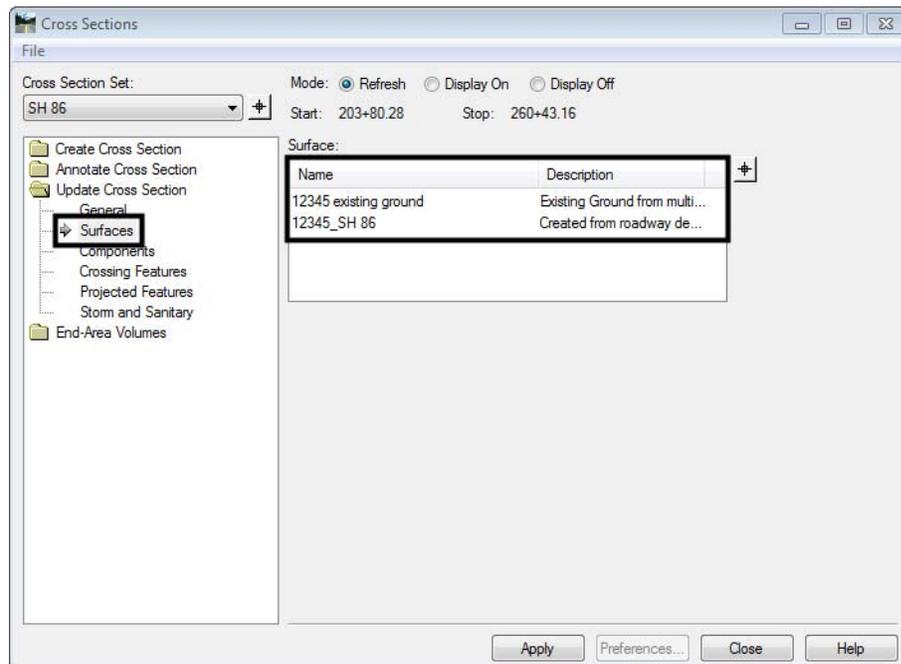
Updating Existing Cross Sections

Cross sections retain their association with the surfaces and features they display
and therefore they can be updated as desired. Update Cross Section is used for three general
situations; when the currently displayed data has changed, when new data is needed, and when
currently displayed data needs to be removed from the sections. The process for updating cross
sections is described below.

1. Select **Cross Sections > Update Cross Section** from the InRoads bar menu.

2. On the General leaf, select the *Cross Section Set* to be updated using the drop down menu
   or <D> the "target" button then <D> on the desired cross section.

3. Toggle on the desired *Mode*. These are:

   ♦ *Refresh* - used to update existing cross section data.

   ♦ *Display On* - used to add additional data to the cross sections.

   ♦ *Display Off* - used to remove data from the cross sections.

4. Set the *Station Range* as desired. To update the whole cross section set, toggle off *Station
   Range*. To update part of the set, toggle on *Station Range* and key in the desired *Start* and
   Stop stations.

5. Features that fall above or below the cross section grid are not usually displayed. To display those features, toggle on **Show Features Outside Elevation Range**.
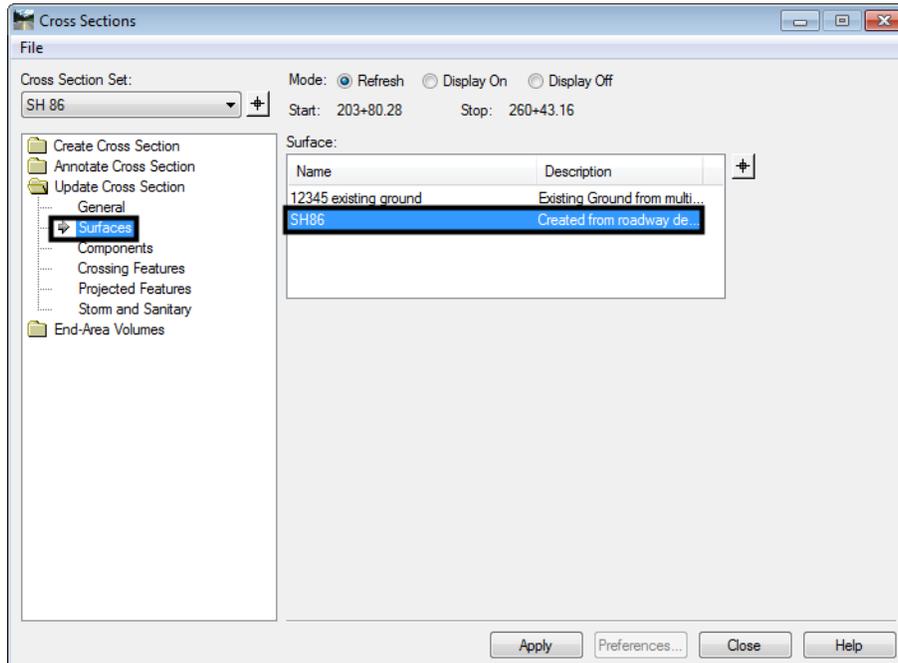

6. Select the **Surfaces** leaf.
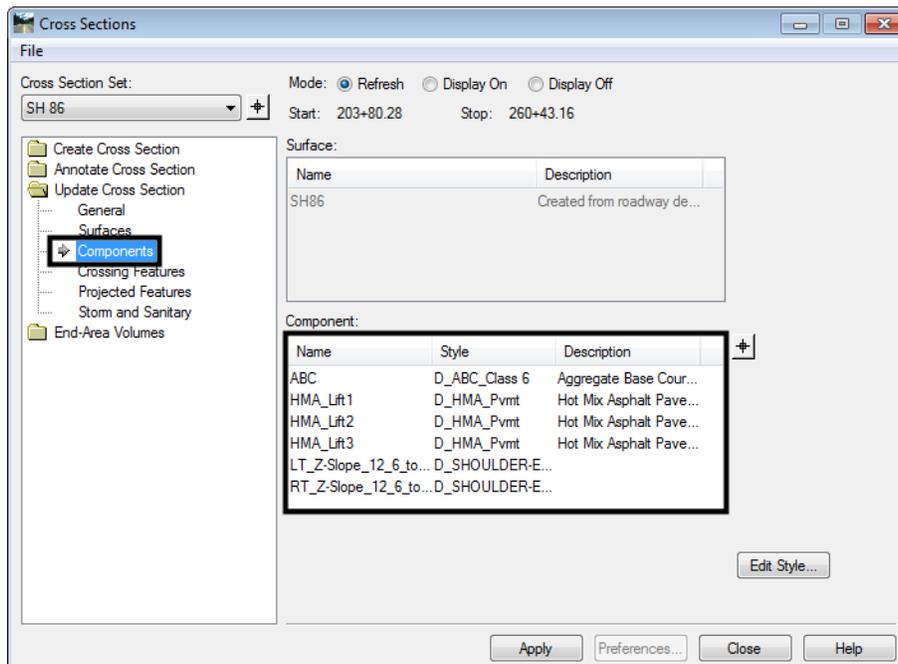
7. Highlight the surface(s) to be updated.

8. To update the components in a design surface, select the **Surfaces** leaf.

9. Highlight the surface with the components to be updated.

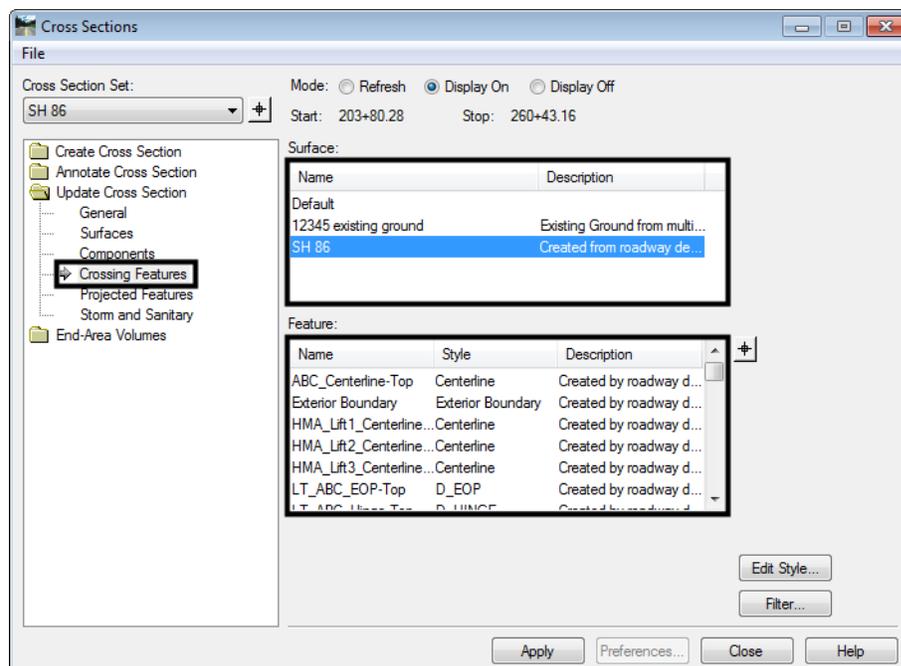

10. Select the **Components** leaf.

11. In the *Component* list, select the desired component(s). To select all of the components, <R> in the *Component* list and <D> **Select All**.

To add or modify surface features in the cross sections, select the Crossing Features and/or the Projected Features leaves. Crossing features generally run parallel to the alignment. Typical crossing features are pavement features in the design surface, right of way lines, or utility lines. Projected features generally run perpendicular to the alignment. Typically, these are drainage structures or utility lines.

To display or update Crossing Features:

12. Select the Crossing Features leaf.

13. In the ***Surface*** list, select the desired surface(s).

14. In the ***Feature*** list, select the desired features(s). To select all of the features, **<R>** in the ***Feature*** list and **<D> Select All**.
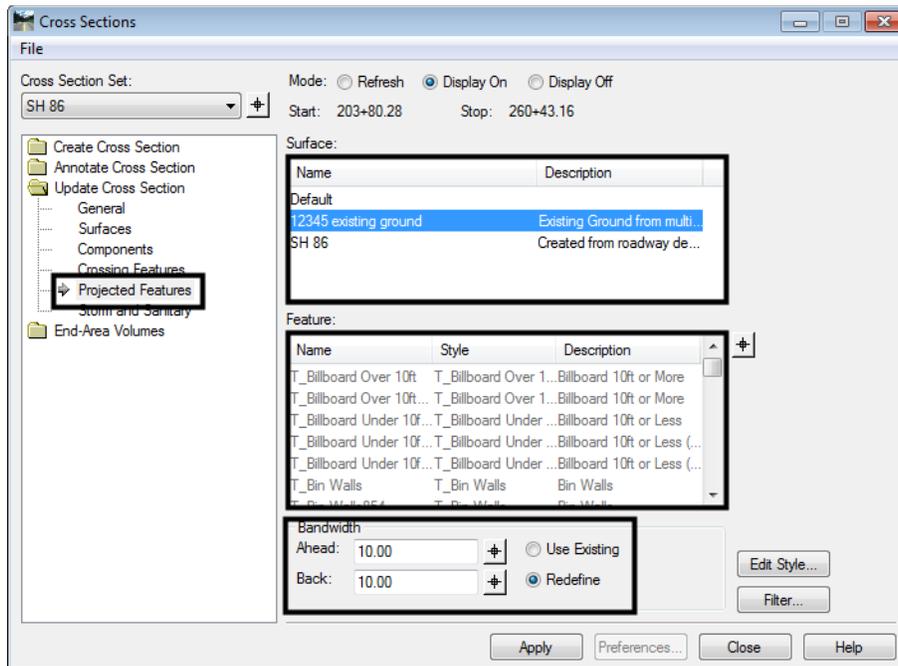

To add or modify projected features:

15. Select the Projected Features leaf.

16. In the ***Surface*** list, select the desired surface(s).

17. In the ***Feature*** list, select the desired features(s). To select all of the features, **<R>** in the ***Feature*** list and **<D> Select All**.

The Bandwidth sets the distance fromthe cross section station that data can be used for display. To set the Bandwidth:

18. Toggle on **Redefine**.

19. Key in the desired *Ahead* and *Back* values.

After making all of the desired settings:

20. **<D> Apply** to execute the command, then **<D> Close** to dismiss the Update Cross Section dialog box.

Important!   Always use this command to turn off features displayed from a design surface before running **Roadway Modeler** and recreating the same surface. Otherwise, the features will not be recognized by the new surface and cannot be turned off or updated later.

Chapter Summary:

- Use the predefined preferences before changing the dialog box settings.

- Cross section annotation and volume data can be displayed when cross sections are generated. These options use the surface Preference and the Preferred Preference.

- Annotate Cross Section is used to add text data to the cross sections.

- Update Cross Section is used to redisplay modified data, add new data, and remove unwanted data from cross sections.