

## Exercise 19-5

This continues a series of exercise that demonstrate a method for determining bridge length using cross-sections. The previous exercises in the series are 15-1 and 19-2 through 19-4.

1. Open the MicroStation file:  
**t:\br-proj\a\_geopak\d5\j5p0100\data\pattern\_shape\_j5p0100.dgn.**

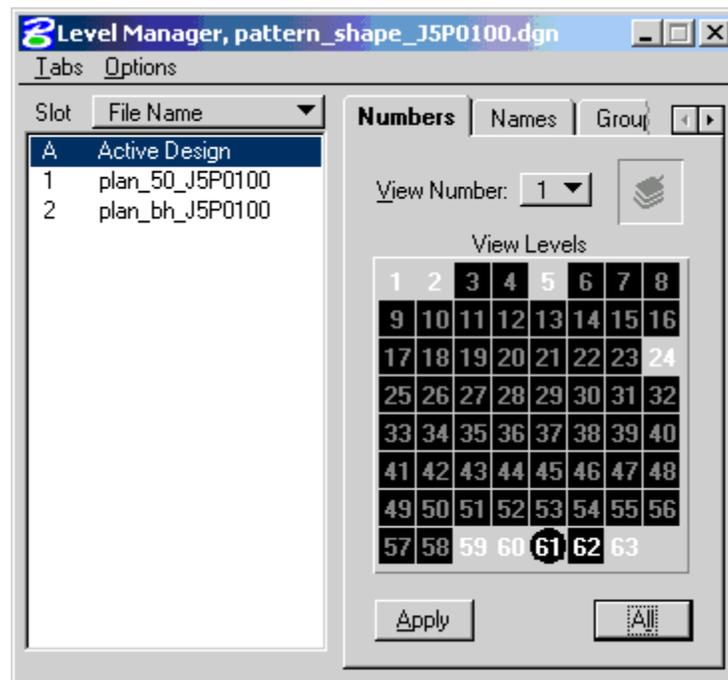
2. Open the project **t:\br-proj\a\_geopak\d5\j5p0100\project\j5p0100.prj.**

Enter the as user **userc.**

Go into **Road.**

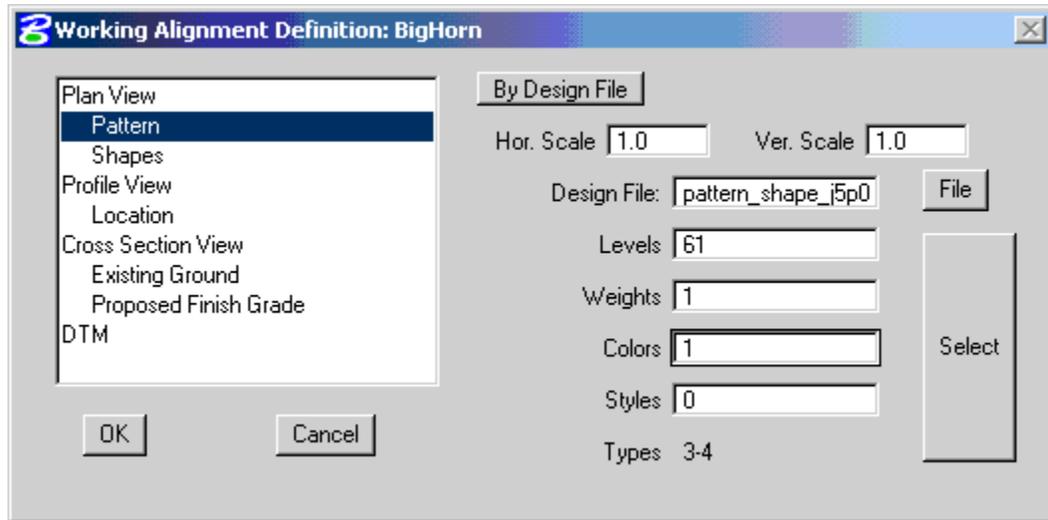
Select the **BigHorn** Working Alignment.

3. Open level manager and turn on level 62 and turn off levels 1-2, 5, 24, 59-60, and 63 as shown below.



Do a MicroStation Fit View. All that should be visible are the pattern lines for Route 50 and the BigHorn shapes.

4. Pattern lines need to be drawn for Big Horn Drive. They need to be different from those for Route50. The easiest way to do this is by using a different color. Enter the **BigHorn Working Alignment Definition**, highlight **Pattern**, and change **Colors** to 1.



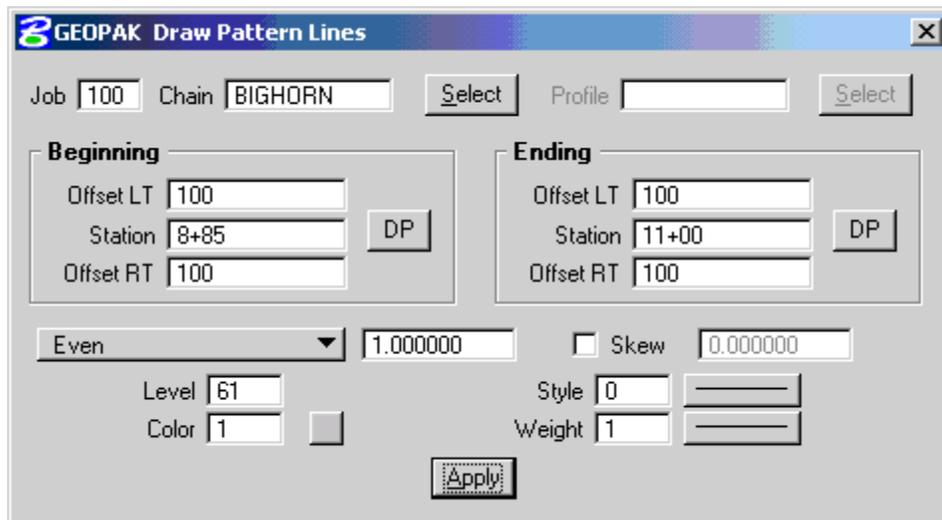
Click **OK** to save the changes to the alignment definition.

5. Select **Draw Pattern** from the Road Project dialog.

Draw Pattern

Copy the MoDOT run to **BigHorn** and enter that run. Use the following settings:

Job:	<b>100</b>	Chain:	<b>BIGHORN</b>
Beginning		Ending	
Offset Lt:	<b>100</b>	Offset Rt:	<b>100</b>
Station:	<b>8+85</b>	Station:	<b>11+00</b>
Offset Lt:	<b>100</b>	Offset Rt:	<b>100</b>
Even:	<b>1</b>		



Save the changes to the MicroStation file.

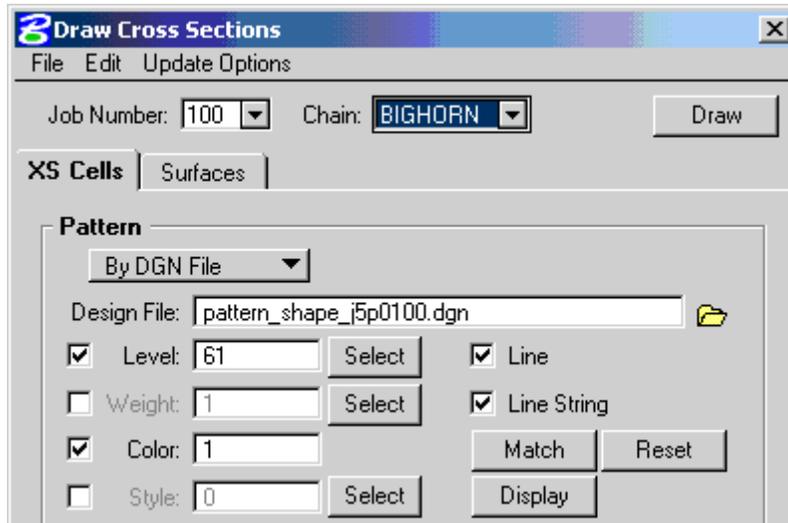
# GEOPAK Road for Bridge Ex. 19-5 Big Horn Cross Sections

6. **Open** the MicroStation file `t:\br-proj\a_geopak\d5\j5p0100\data\xs_j5p0100.dgn`. Save it as `t:\br-proj\a_geopak\d5\j5p0100\data\xs_bh_j5p0100.dgn`.

7. Choose **Existing Ground Cross Sections** from the **Project Manager** dialog. Copy the **MoDOT** run to **BigHorn** and enter the **BigHorn** run.

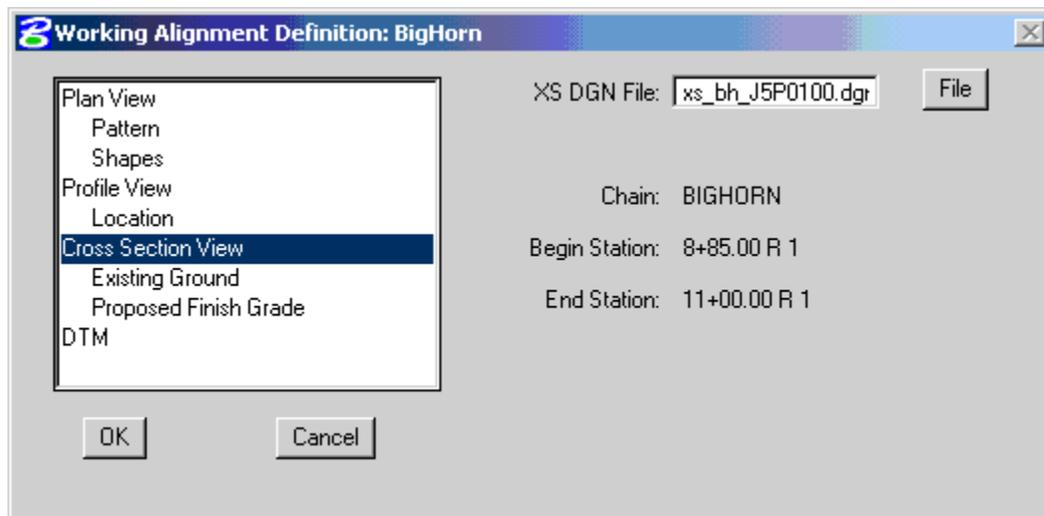
Existing Ground  
Cross Sections

8. Set the **XS Cells** tab as shown below and have the **50clear.tin** as the only one listed in the **Surfaces** tab.

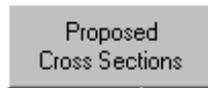


Select **Draw** to draw the existing ground cross section and **Save** the MicroStation file. Exit the run, saving the settings.

9. Reenter the working alignment definition for **BigHorn** and change the **XS DGN File** to `t:\br-proj\a_geopak\d5\j5p0100\data\xs_bh_J5P0100.dgn` in the **Cross Section View** section as shown below. Click **OK** to save the changes to the alignment definition.



10. Choose **Proposed Cross Sections** from the **Project Manager** dialog.



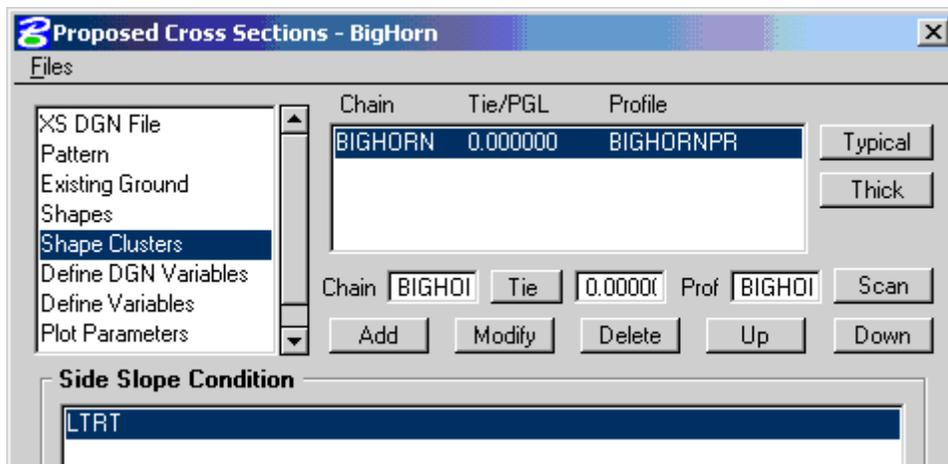
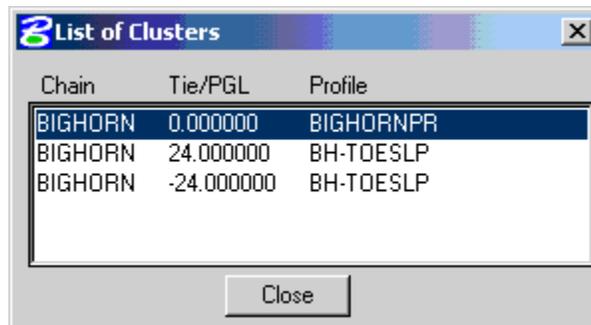
Copy the MoDOT run to **BigHorn** and enter the **BigHorn** run.

11. Be sure the following items are set in the given sections of the dialog:

XS DGN File:            **xs\_bh\_J5P0100.dgn**  
 Pattern:                **Use Working Alignment Definition**  
 Existing Ground:       **Use Working Alignment Definition**  
 Shapes:                 **Use Working Alignment Definition**

12. In the **Shape Clusters** section of the dialog add the following shape cluster by choosing the **Scan** button, highlighting the desired cluster in the List of Clusters dialog, and clicking on **Add** in the Proposed Cross Sections dialog. **Close** the **List of Clusters**.

Chain            Tie            Profile  
**BIGHORN**        **0**            **BIGHORNPR**



# GEOPAK Road for Bridge Ex. 19-5 Big Horn Cross Sections

Since the typical section for Big Horn Drive is the same on both sides of the shape cluster, there is only one Side Slope Condition: **LTRT**. Add the listed **Criteria Files**. (See the attached typical section for details.)

Side Slope: LTRT  
Criteria Files: setup.x  
pvmt\_layers.x  
cg\_b\_a.x  
berm.x  
sideslope.x

Save the Proposed Cross Section run by going to **Files > Save Settings**.

13. Switch to the **Define Variables** section of **Proposed Cross Sections**, as make sure the following are defined:

NAME OF PLAN FILE.....plan\_bh\_J5P0100.dgn  
NAME OF CROSS-SECTION FILE .....xs\_bh\_J5P0100.dgn  
NAME OF SHAPE/PATTERN FILE .....pattern\_shape\_J5P0100.dgn  
NAME OF BASELINE .....BigHorn  
PAVEMENT LAYER 1 THICKNESS (MM OR IN).....1.75  
PAVEMENT LAYER 2 THICKNESS (MM OR IN).....5.5  
AGGREGATE LAYER 1 THICKNESS (MM OR IN).....4  
BERM WIDTH (M OR FT) .....5  
RIGHT BERM SLOPE (%).....3  
FILL SLOPE 1 (1:X OR X:1).....2  
DITCH FORESLOPE 1 (1:X OR X:1).....2  
DITCH DEPTH (M OR FT).....0  
DITCH WIDTH (M OR FT).....0

Leave the remaining variables set to the defaults.

14. Save the settings for the run.

15. Run the proposed cross-sections (**Files > Run**).

Set the **Log File** to **Screen Only**.

Turn on **Pause on Each Section**.

Once you see the proposed cross sections is cutting the sections correctly, **toggle off Pause on Each Section** and click **Continue** to cut the rest of the sections without stopping

