# LAB 6 - Fieldbook Edits

Lab 6.1 - Correcting Fieldbook Code Errors

Errors may include Survey Feature Styles (numeric codes) that are not defined in the Style Manager or control codes that are not defined by Survey>Control Codes.

Section Objectives:

♦ Find and correct feature coding errors.

Use the log file that was generated when importing the raw survey data. This file logged all errors to be corrected. ***ResolveCodeErrors_All.txt***
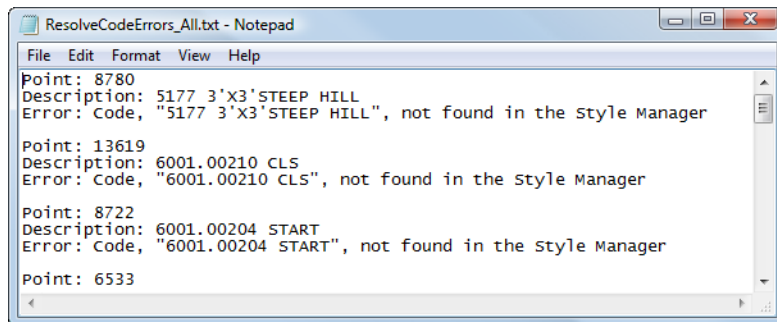
1. **<D>** the Fieldbook 🔲 button from the Survey tool bar. The Survey Fieldbook will appear.

2. From the Fieldbook dialog select the **Find / Replace Codes** 🔲 button. The ***Point Code Find a Replace*** dialog will appear.
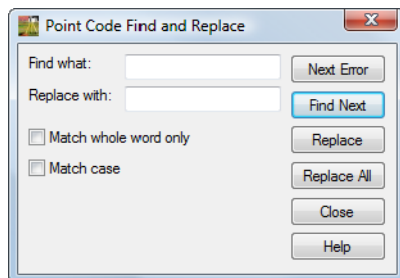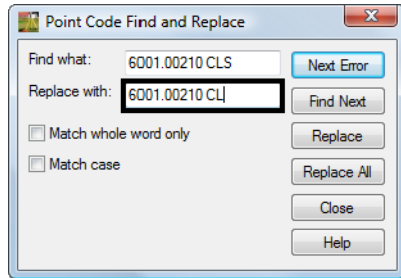

3. Select the **Next Error** button. The command will look in the current fieldbook and return the first code error it finds.
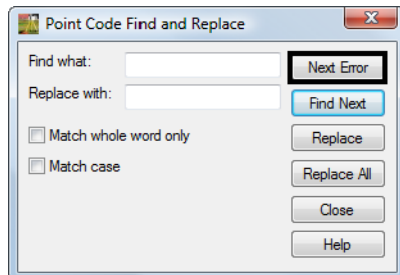

***Note:*** This error has an incorrect Control Code for Close.

4. Type the correction in the field *Replace with: 6001.00210 CL*

5. **<D>** the **Replace** button. The code in the fieldbook will be updated. The dialog will automatically locate the next error which is the first of multiple shots incorrectly coded as 675

6. In the Point Code Find and Replace dialog, **Replace** code 675 with code 6075
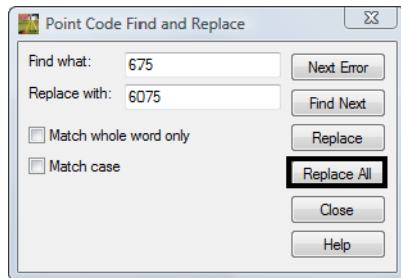
7. **<D>** the **Replace All** then **Close** buttons to replace the mis-coded points.

8. If not still open, reopen the **Find Observation** dialog by **<R>** on an observations in the **Fieldbook Data** dialog and select **Find** from the popup menu.

9. Key-in the **Point Name: [13995-13997]**

    Note: The point range must be enclosed in brackets.

10. **<D>** the **Apply** button. The point names within the defined range populate the list.
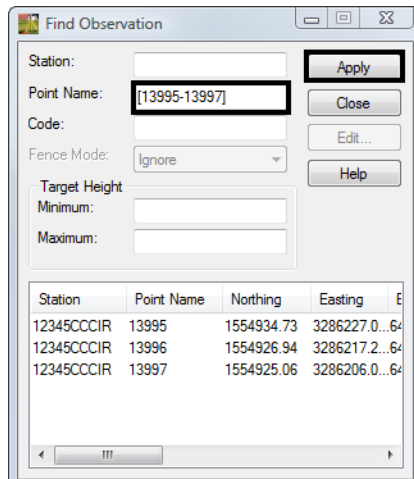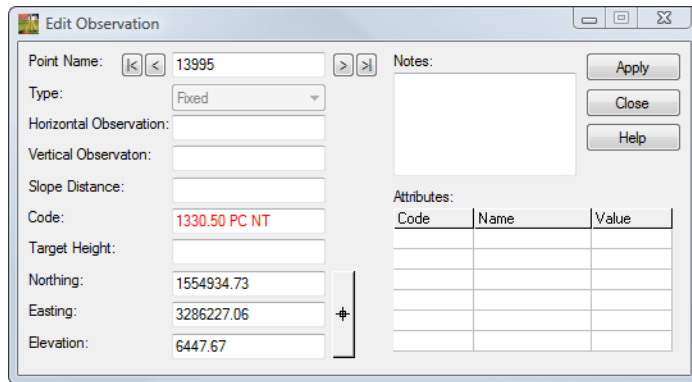
11. Select the point name **13995** and **<R>.** From the popup menu select **Center**. The point 13995 will center to MicroStation View 1.
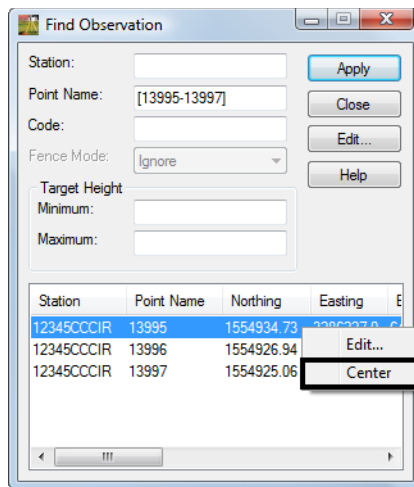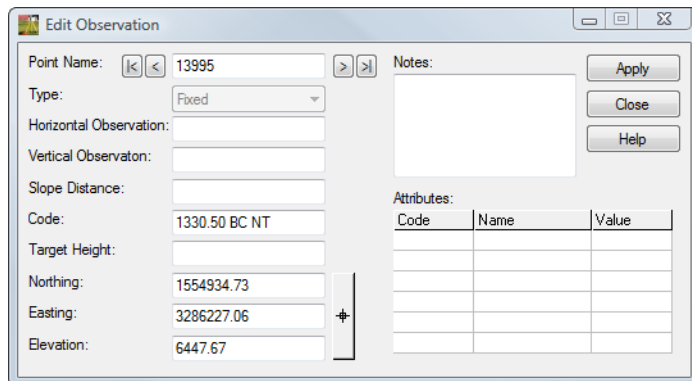

Note: The current zoom factor for the window will not change.
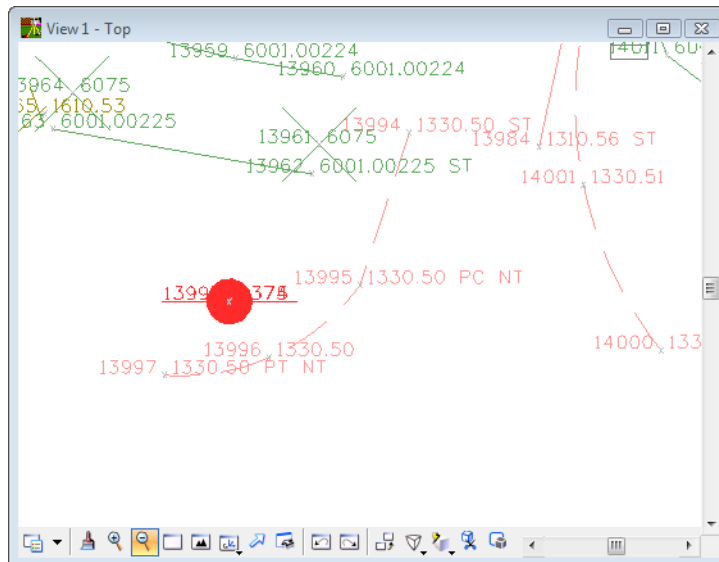
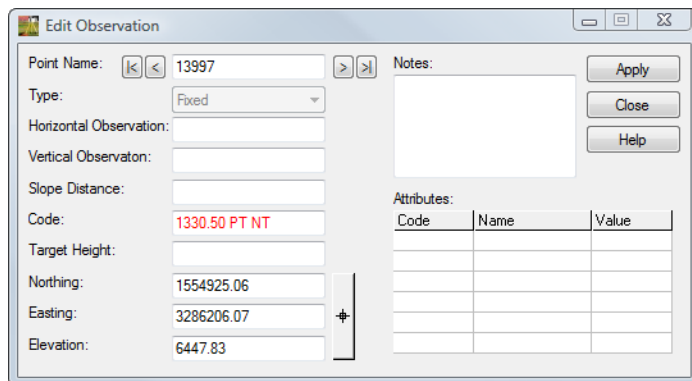12. From the *Find Observation* dialog select the **Edit** button.   The *Edit Observation* dialog will appear.

13. Type in the *Code:* **1330.50 BC NT**

14. **<D>** the **Apply** button.

15. **<D>** the **Next** [>] button at the top of the dialog, stop at point **13997**.

16. Type in the *Code:* **1330.50 EC NT**

17. **<D>** the **Apply** the **Close** buttons. Review your results in MicroStation View 1.
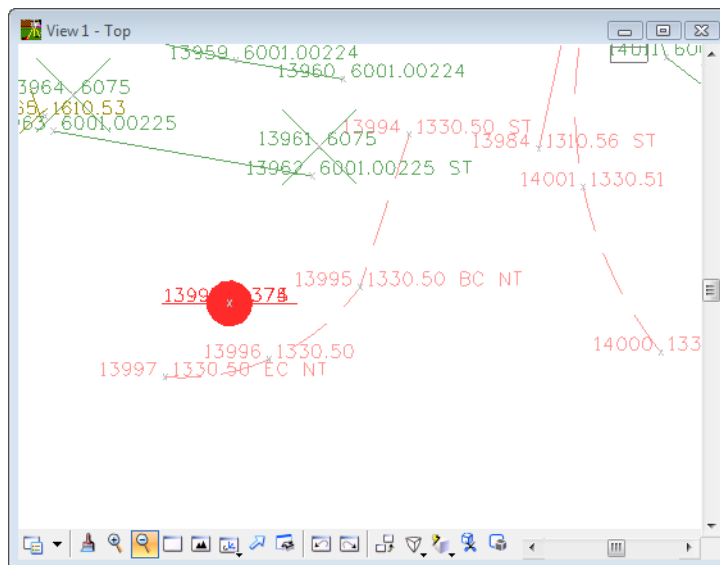
18. From the **Fieldbook** dialog select the **Find / Replace Codes** button. The *Point Code Find a Replace* dialog will appear.

19. **<D>** the **Next Error** button. The command will look in the current fieldbook and return the first code error it finds.

20. **<D>** the **Close** button. The incorrect point will be located in the *Fieldbook Data* dialog.
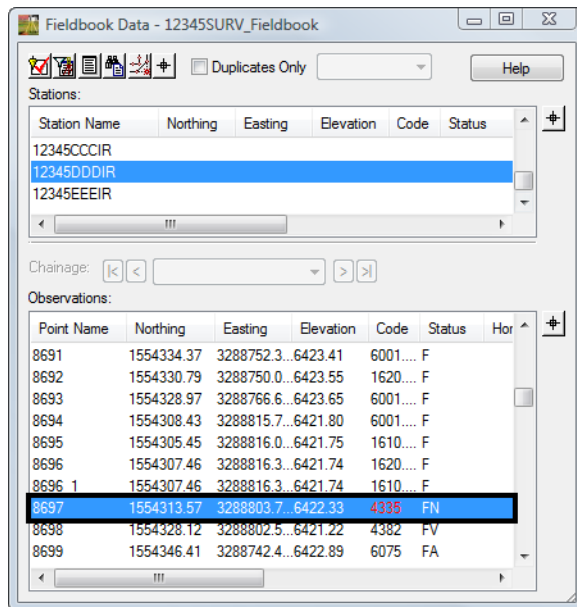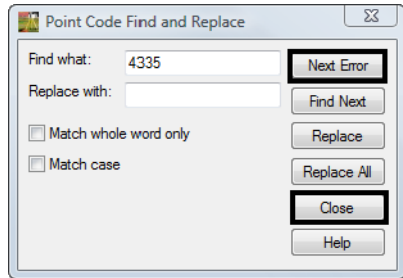
> *Note:*   This error has an incorrect Feature Code for a power pole.

21. In the *Fieldbook Data* dialog **<R>** on the point name *8697* from the popup menu select **Center**. The point name will be centered to the MicroStation View 1.

22. Again in the *Fieldbook Data* dialog *<R>* on the point name *8697* from the popup menu select **Edit**. The *Edit Observation* dialog will appear for point 8697.

23. Type in the *Code: 4375*

24. **<D>** the **Apply** then Close buttons. In the MicroStation View 1 the point has been updated and a power pole cell is at the location.
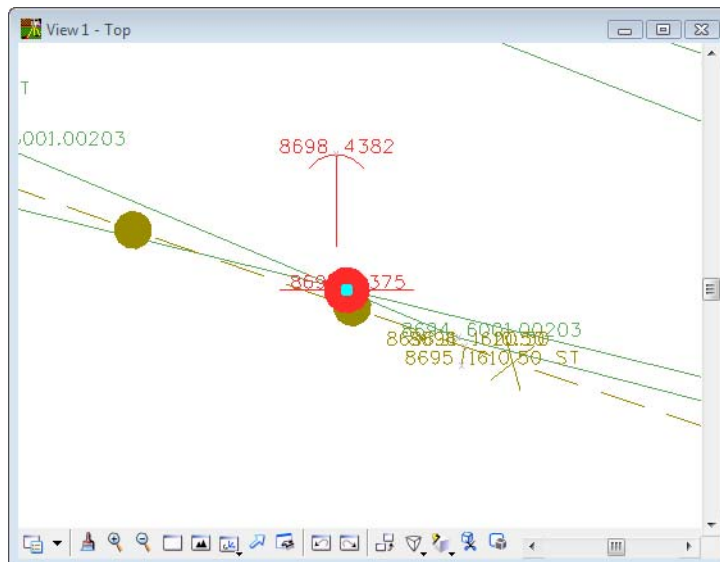
25. From the *Fieldbook* dialog select the **Find / Replace Codes** button. The *Point Code Find a Replace* dialog will appear.

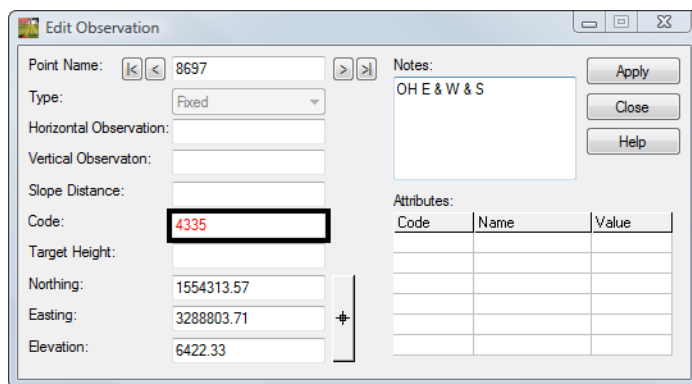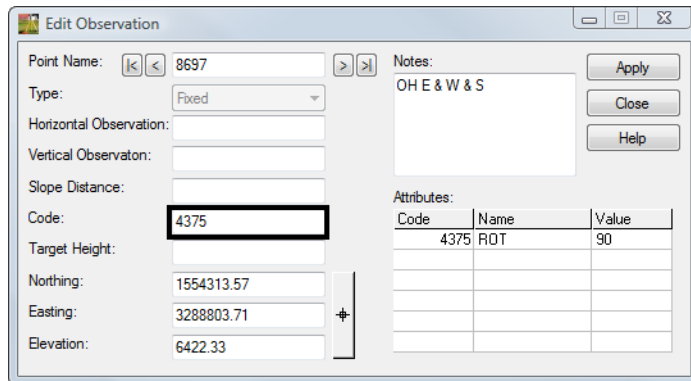26. Select the **Next Error** button. The command will look in the current fieldbook and return the first code error it finds.

Note: This error has an incorrect Control Code for Start.

27. Type the correction in the field *Replace with:* **6001.00210 ST**

28. **<D>** the **Replace** button. The code in the fieldbook will be updated. The dialog will automatically locate the next code error **5177 3'X3'STEEP HILL**

29. **<D>** the **Close** button in the *Point Code Find and Replace* dialog. The point name 8780 will be selected in the *Fieldbook Data* dialog.

30. **<R>** the point name 8780 and from the popup menu select **Edit**. The *Edit Observation* dialog will appear.
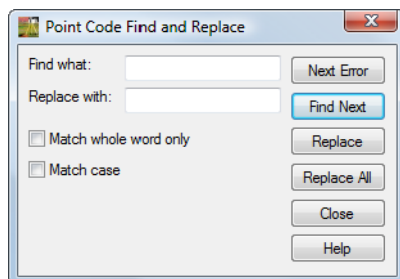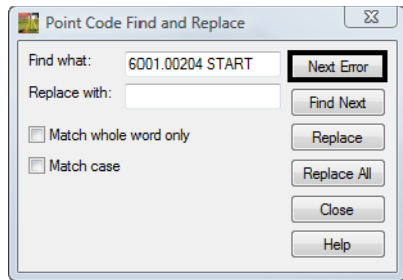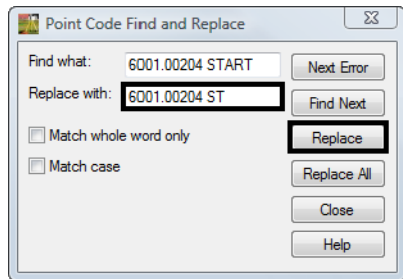
This error is because a note is entered into the code field. The note will be cut and then pasted into the *Notes* field, where it belongs.

31. In the Code field highlight the additional text in the code line **"3'X3'STEEP HILL"**

32. **<R>** on the highlighted note and select **Cut** from the popup menu.
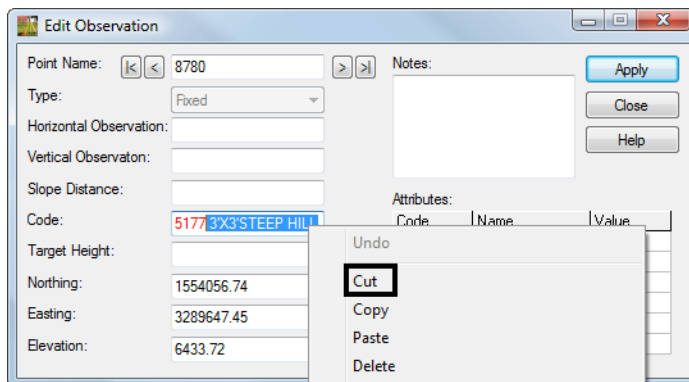
33. **<D>** in the *Notes* field so the field has focus.

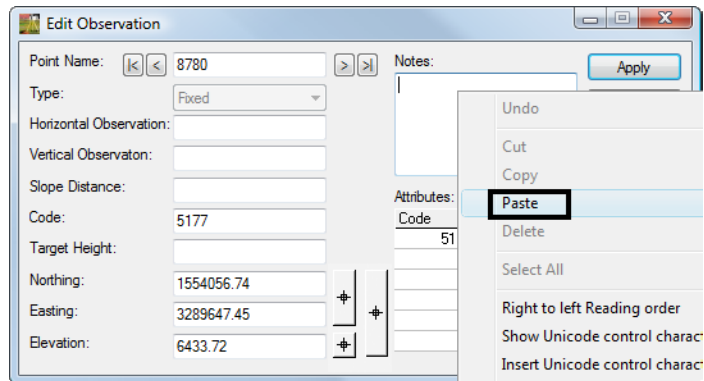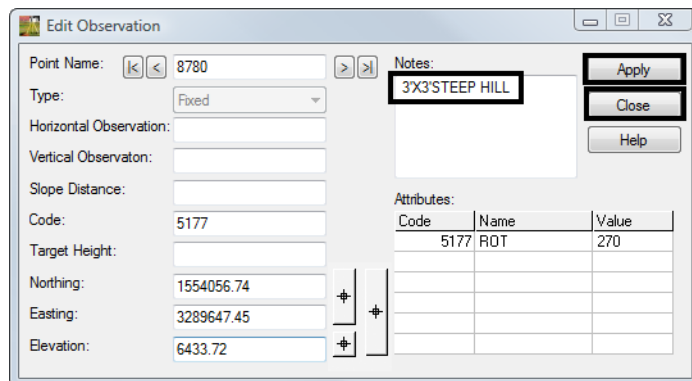34. **<R>** in the *Notes* field and select **Paste** from the popup menu.

35. In the *Edit Observation* dialog **<D>** the **Apply** then **Close** buttons.

36. From the **Fieldbook** dialog select the **Find / Replace Codes** button. The *Point Code Find a Replace* dialog will appear.

37. Select the **Next Error** button. The command will look in the current fieldbook and return the last coding error in this fieldbook.

38. **<D>** the **Close** button in the *Point Code Find and Replace* dialog. The point name 10153 will be selected in the *Fieldbook Data* dialog.

39. **<D> <D>** the point name *10153*. The *Edit Observation* dialog will appear.

Again this error is because of the note being entered into the code field. The note will be cut and then pasted into the Notes field, where it belongs.

40. In the Code field highlight the additional text in the code line "**ICE**"

41. **<R>** on the highlighted note and select **Cut** from the popup menu.
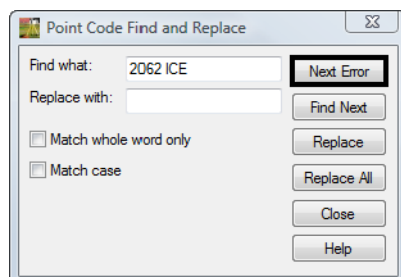
42. **<D>** in the *Notes* field so the field has focus.

43. **<R>** in the *Notes* field and select **Paste** from the popup menu.

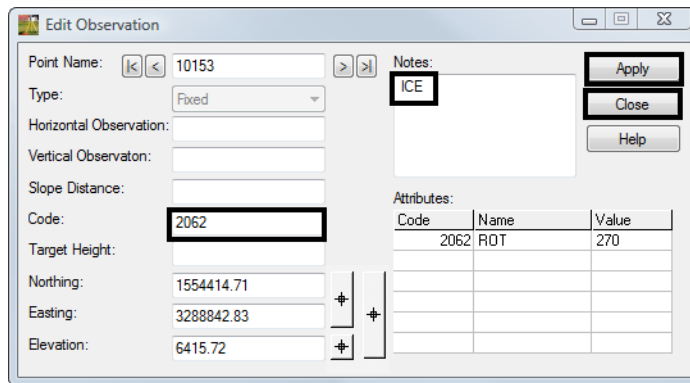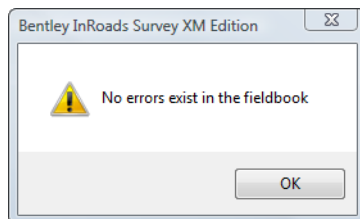44. In the ***Edit Observation*** dialog **<D>** the **Apply** then **Close** buttons.

This should have taken care of all errors in the fieldbook.

45. Verify this by opening the ***Point Code Find and Replace*** dialog and selecting **Next Error**. An alert dialog will appear stating that no errors exist in the fieldbook.


46. Save the Survey fieldbook. From the Workspace Bar **<R>** on **12345SURVFieldbook01** select Save from the shortcut menu.

# Lab 6.2 - Correcting Fieldbook Control Code Errors

Control codes are the drawing tools for InRoads Survey. When collecting data in the field think of the range pole as a large pencil and using control codes allows you to draw the lines. Even though CDOT has standardized on Numeric feature codes, InRoads Survey is configured to allow the use of Alpha control codes only.

Section Objectives:

♦   Find and correct control coding errors.

♦   Add additional control coding to observations.

1.   From the pull-down menu **Survey > Find Point in View** The *Find Point in View* dialog will appear.

2.   Key-in the *Point Name: 22006*
             Radius: 50
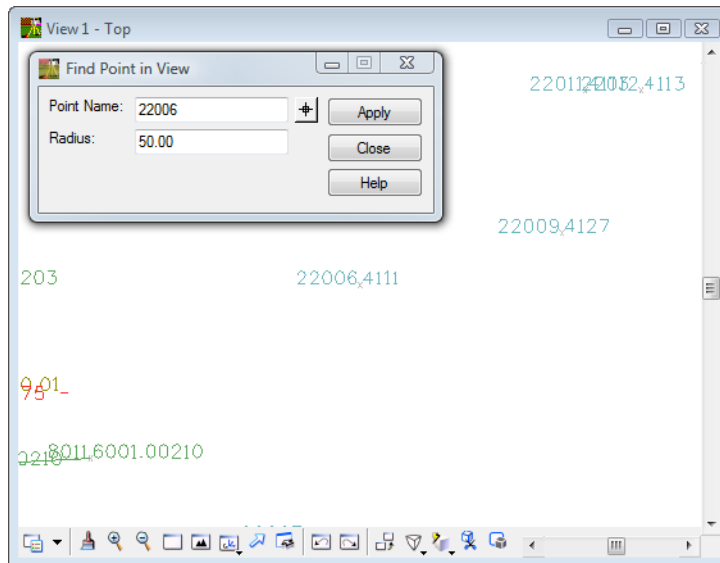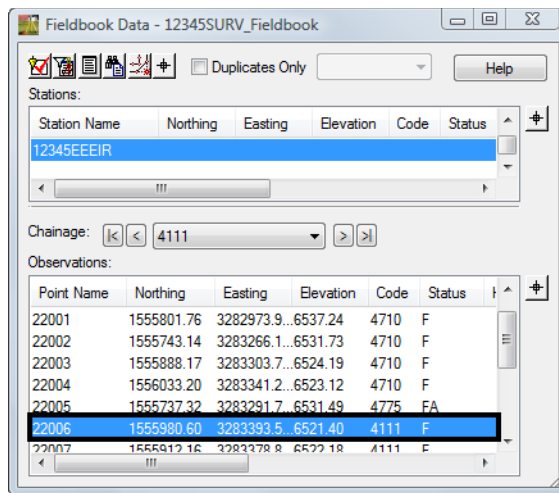
3. Open the *Fieldbook Data* dialog **Survey > Fieldbook Data**
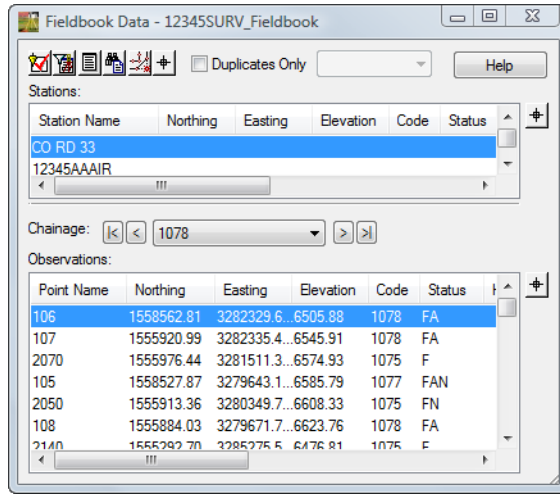
4. From the *Fieldbook Data* dialog **<D>** the **Select Observation** target button. The *Fieldbook Data* dialog will minimize allowing more of the view to be displayed.
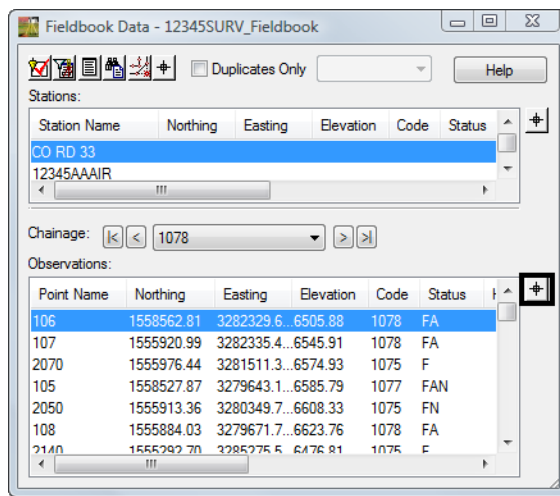
5. **<D>** point *22006* in the MicroStation View 1. The **Fieldbook Data** dialog will restore to the screen and the point name *22006* will be highlighted in dialog.


6. **<D> <D>** the point name *22006*. The Edit Observation dialog for point 22006 will appear.

The brick house point code is missing the control code ST to start the line work. Also the distance control code DIST will be utilized to complete the planimetrics of the house.
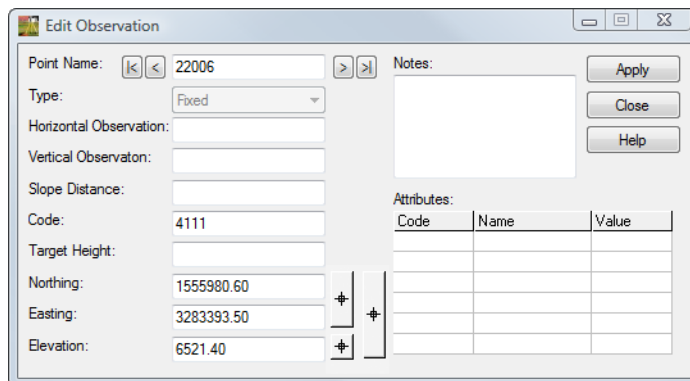
7. Type in the *Code:* ***4111 ST***
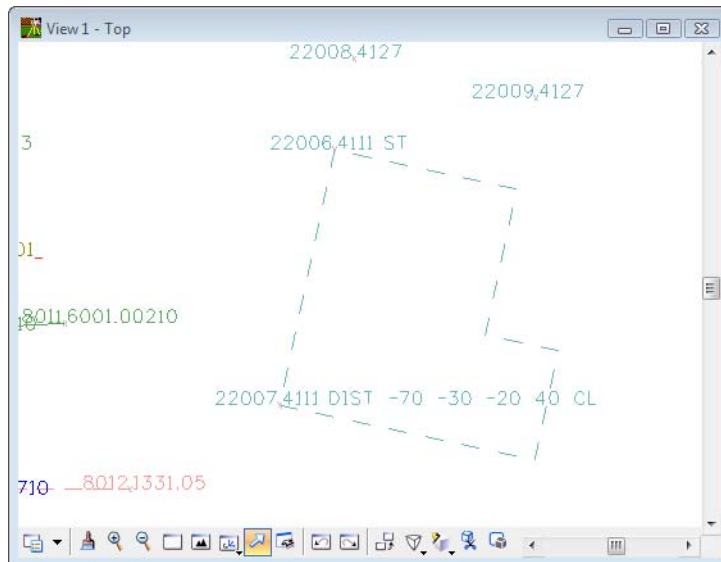
8. **<D>** the **Apply** button. The line work for the house will start.

9. **<D>** the **Next** ⊵ button in the Edit Observation dialog stop at point name **22007**.

10. Type in the *Code:* ***4111 DIST -70 -30 -20 40 CL***

11. **<D>** the **Apply** button.
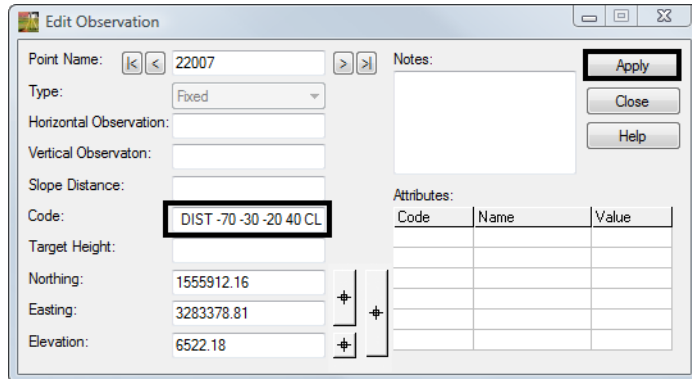
Note: A *positive number* will place the line to the *right* of the two base line points. A *negative number* will place the line to the *left side* of the two base line points.

12. Locate point name **22008** in the *Fieldbook Data* dialog. Also *center* it in the MicroStation window.

13. **<D> <D>** the point name *22008*. The ***Edit Observation dialog*** will appear.

The next edits will be to create the deck on the back of the house using two shots and a measured distance with the rectangle RECT control code.

14. Type in the *Code: **4127 ST***

15. **<D>** the **Apply** button. The line work for the deck will start.

16. **<D>** the **Next** ▷ button in the Edit Observation dialog stop at point name ***22009***.

17. Type in the *Code: **4127 RECT 25***

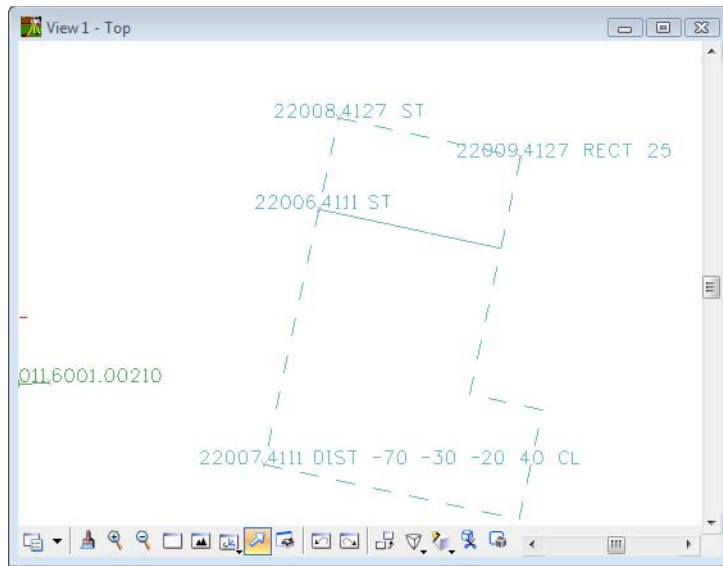**Note:** A positive number will place the rectangle on the right side of the two base line points. A negative number will place the rectangle on the left side of the two base line points.

18. **<D>** the **Apply** button the rectangle control code will have finished creating the line work.
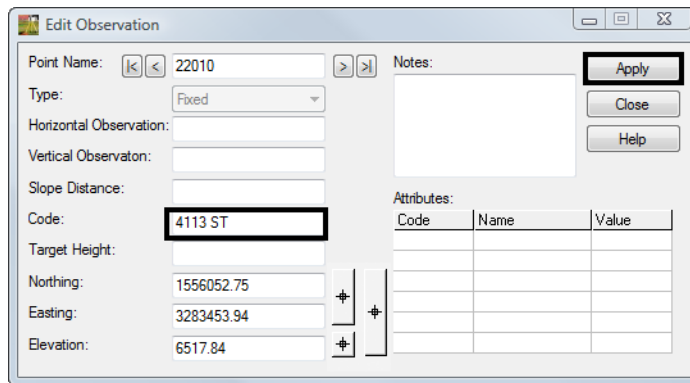

19. Locate point name *22010* in the **Fieldbook Data** dialog. Also *center* it in the MicroStation window.

20. **<D> <D>** the point name *22010*. The *Edit Observation* dialog will appear.

The next edits will be to create the shed using three shots with the close rectangle CLR control code.
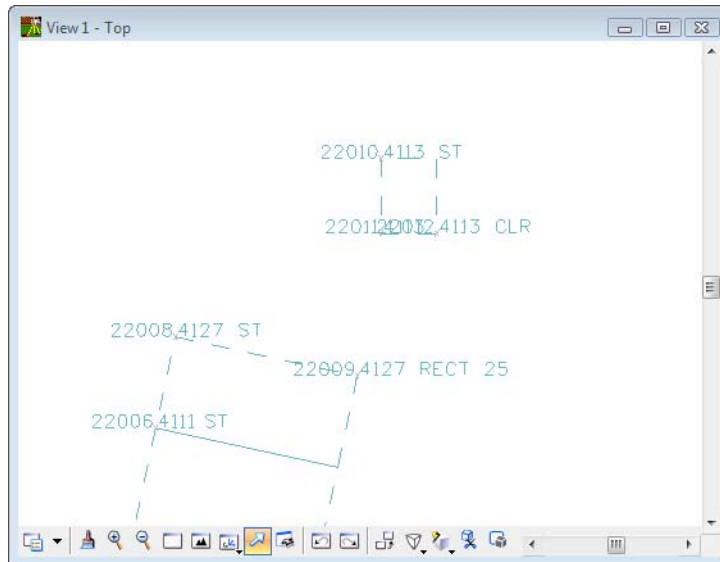
21. Type in the *Code: 4113 ST*

22. **<D>** the **Apply** button. The line work for the deck will start.

23. **<D>** the **Next** ▷ button in the *Edit Observation* dialog stop at point name *22012*

24. Type in the *Code: 4113 CLR*

25. **<D>** the **Apply** button the close rectangle control code will have finished creating the line work.

The watermain and a hydrant have been surveyed The control code JNC will be utilized to tie the hydant to the watermain.

26. From the pull-down menu **Survey > Find Point in View** The *Find Point in View* dialog will appear.

27. Key-in the *Point Name: 22000*
                        Radius: 100
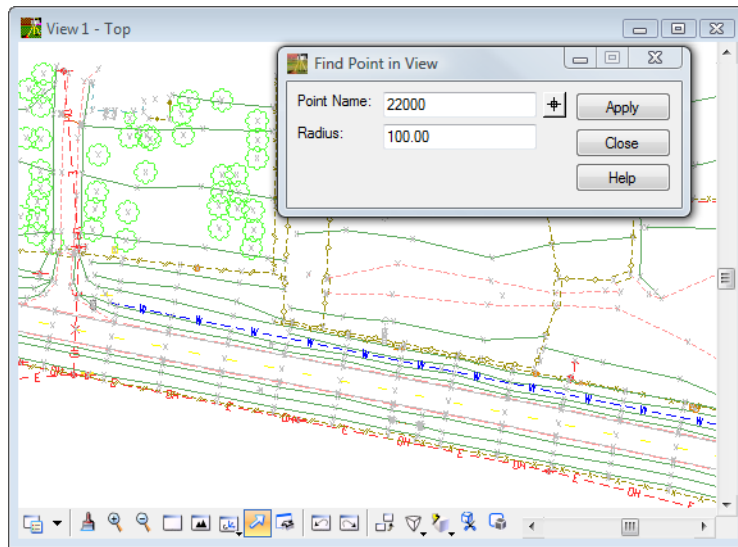
28. Locate point name *22000* in the *Fieldbook Data* dialog.

29. **<D> <D>** the point name *22000*. The *Edit Observation* dialog will appear.

<D> the figure shown in the MicroStation View 1. The *Fieldbook Data* dialog will restore to the screen and the point name *8026* will be highlighted in dialog.

30. Type in the *Code: 4710 ST*
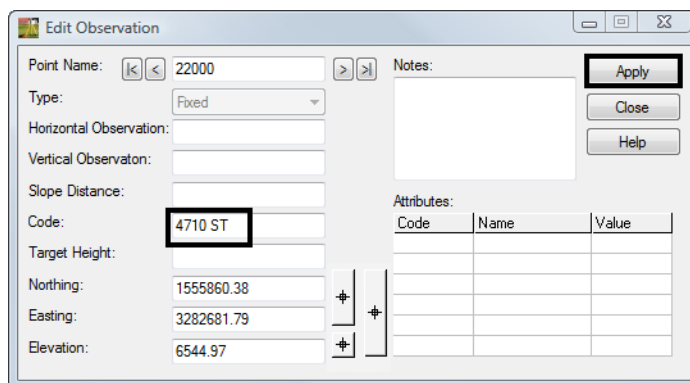
31. **<D>** the **Apply** button. The line work for the deck will have started.

32. **<D>** the **Next** ⊳ button in the *Edit Observation* dialog stop at point name *22002*

33. Type in the *Code:* **4710 JNC 4775**

> ***Note:*** The Join Nearest Code JNC will locate the nearest fire hydrant 4775 feature code and connect a line to that code.
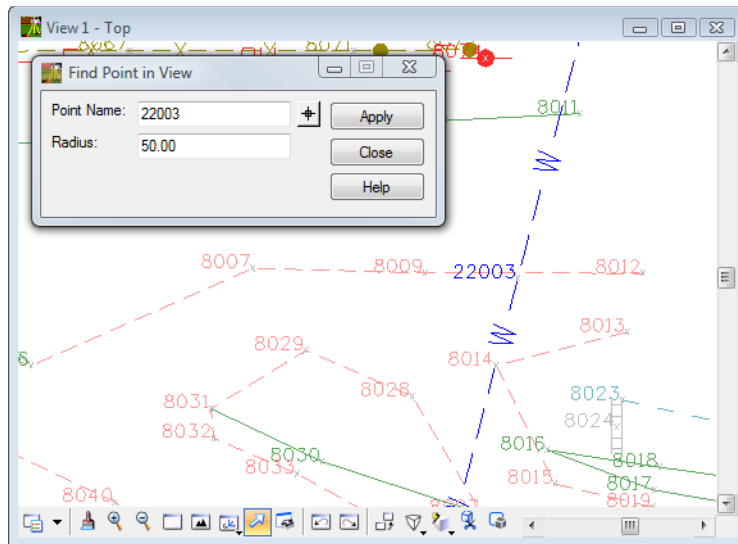
34. **<D>** the **Apply** button the Join Nearest Code control code will have finished creating the line work.
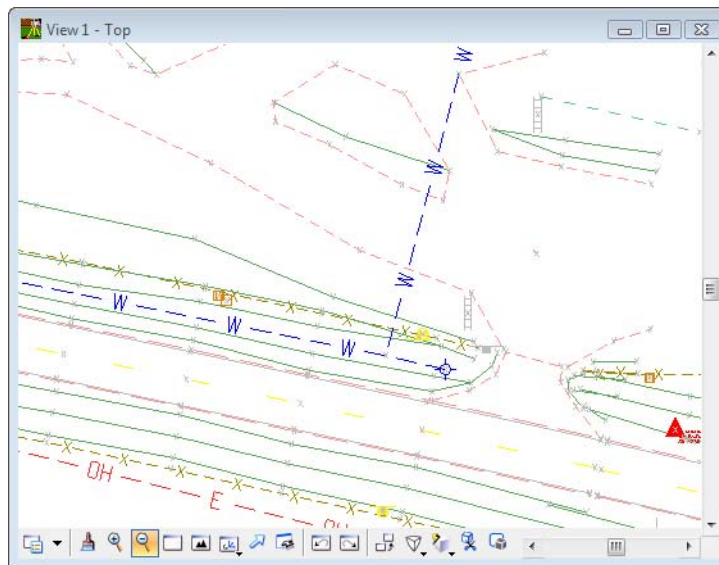
The next edits will smooth he edge of driveway using the begin curve BC control code.

35. From the pull-down menu **Survey > Find Point in View** The *Find Point in View* dialog will appear.

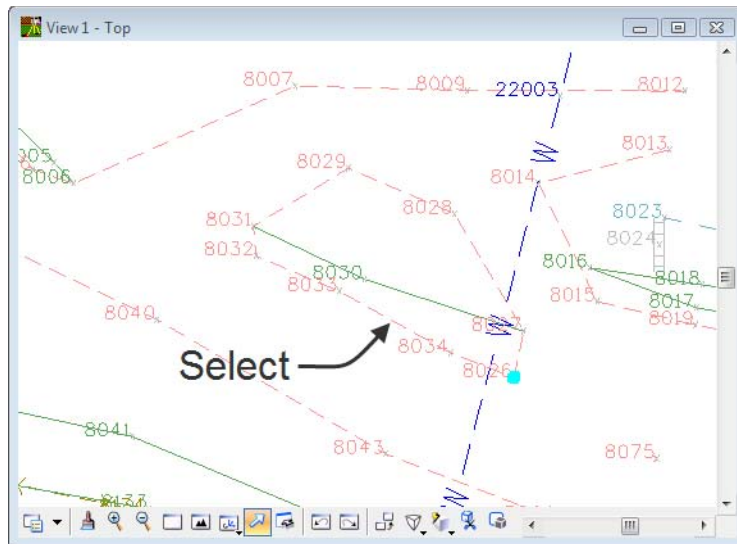36. Key-in the *Point Name:* **22003**
   *Radius:* **50**

37. From the *Fieldbook Data* dialog **<D>** the **Select Figure** [+] target button. The *Fieldbook Data* dialog will minimize allowing more of the view to be displayed.
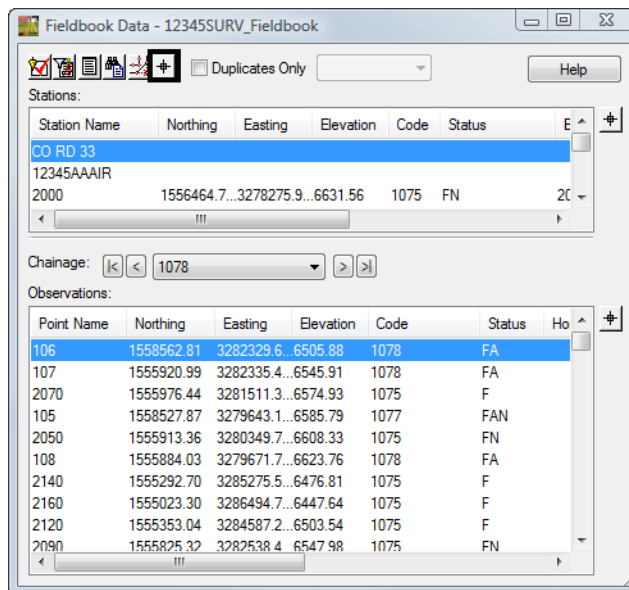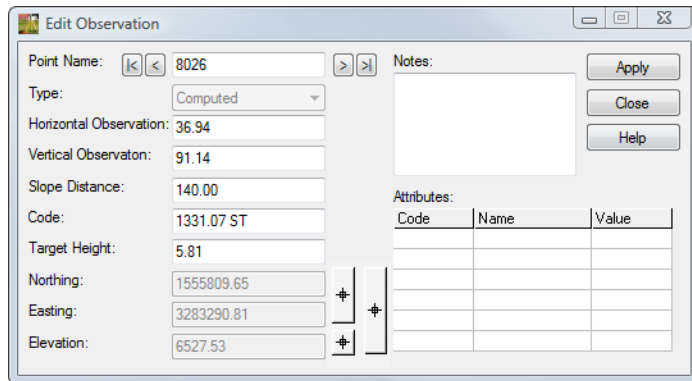
38. **<D>** the figure shown in the MicroStation View 1. The **_Fieldbook Data_** dialog will restore to the screen and the point name **_8026_** will be highlighted in dialog.
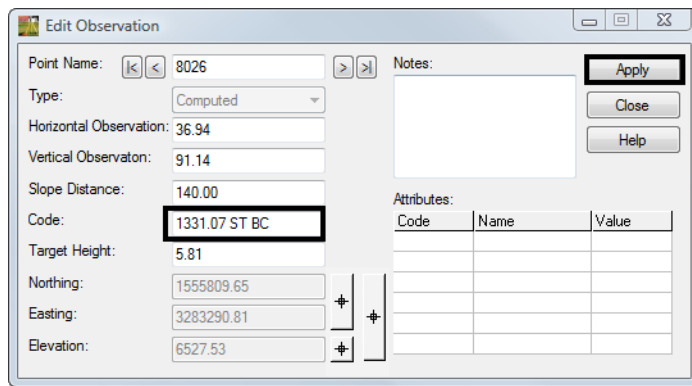

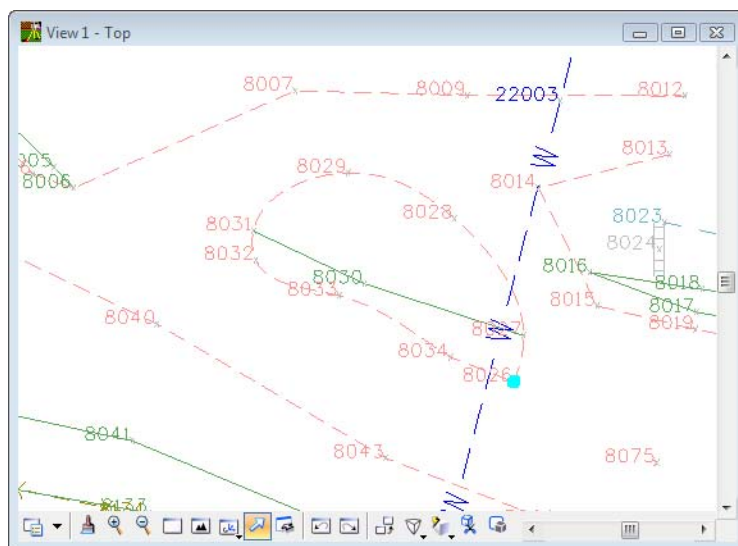39. **<D> <D>** the point name **_8026_**. The **_Edit Observation_** dialog for point **_8206_** will appear.
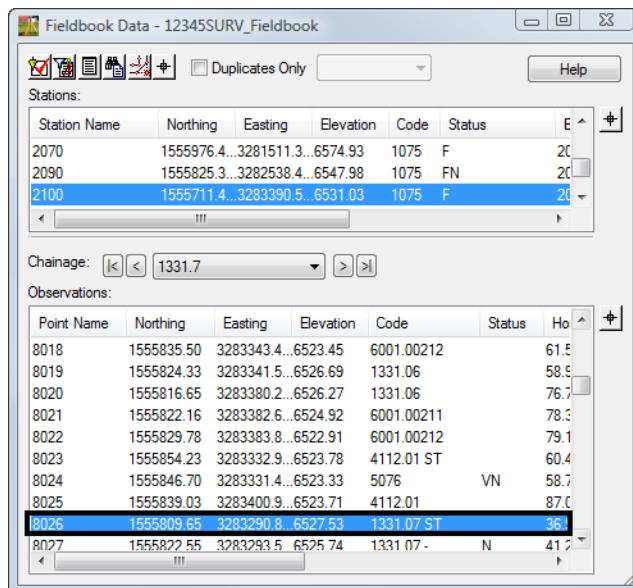
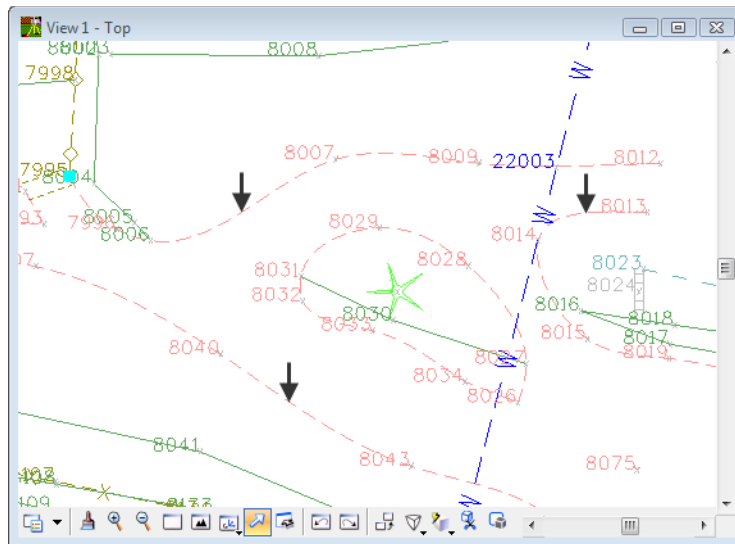The figure shown in plan view has sharp edges and should be smoothed for a better looking basemap.

40. Type in the *Code:* **1331.07 ST BC**

41. **<D>** the **Apply** button. The line work for the figure will be smoother.
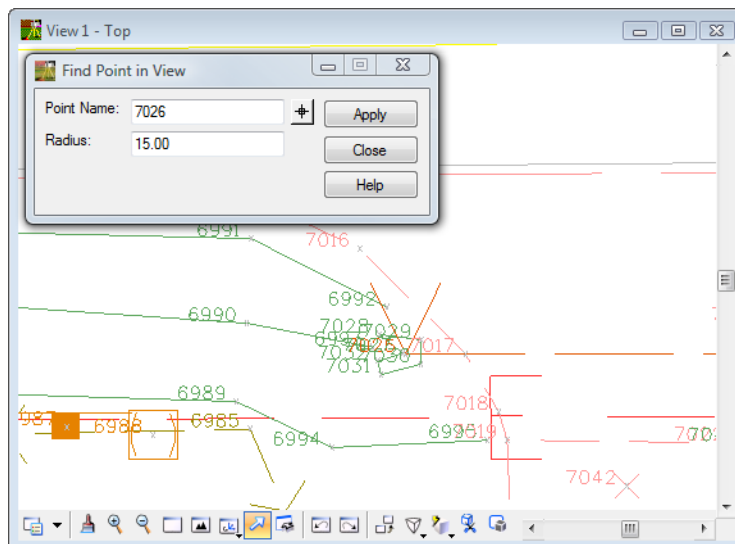
42. Continue to edit the rest of the Dirt Driveway figures in the area with the Begin Curve BC control code.

The next edit will be to rotate culvert end wall to the correct orientation

43. From the pull-down menu **Survey > Find Point in View** The *Find Point in View* dialog will appear.

44. Key-in the *Point Name:* **7026**
                Radius: **15**

45. Locate point name *7026* in the *Fieldbook Data* dialog.

46. **<D> <D>** the point name **7026**. The *Edit Observation* dialog will appear.

The next edits will be to rotate the culvert end sections into the direction of the pipe.

47. Move your mouse to the *Attributes* section of the dialog and **<D>** the Value for Code 2062. The Value field will open allowing keyboard input.
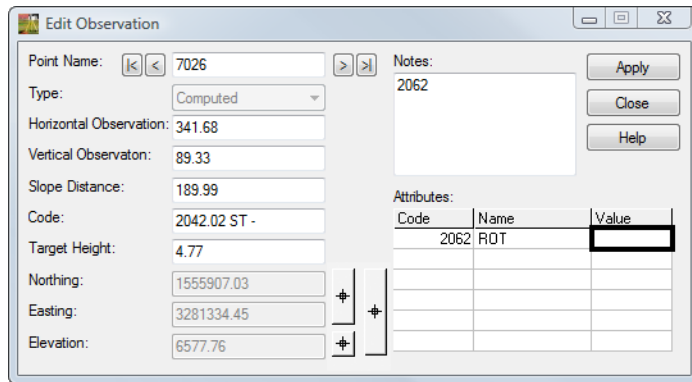
48. Type in the *Value:* **270**

49. **<D>** the **Apply** button. The end section cell will have rotated into the direction of the pipe.

50. **<D>** the **Next** ▷ button in the *Edit Observation* dialog to locate point name *7033* which is the east end of the pipe.

51. Type in the *Value: 90*

52. **<D>** the **Apply** then **Close** buttons. The end section cell will have rotated into the direction of the pipe.

The next edits will be to change the feature code 3033 (tree grove) to run counter clockwise CCW so the planimetrics will be correct.
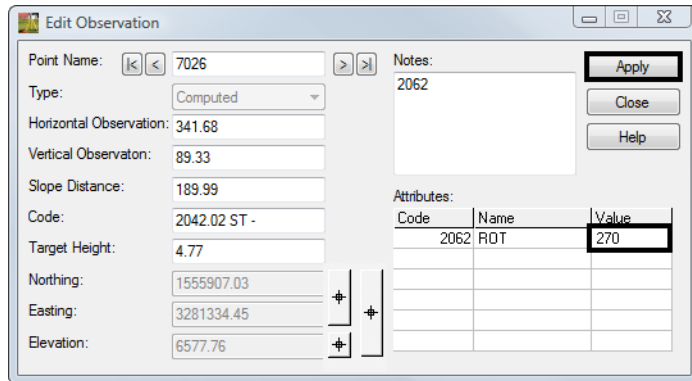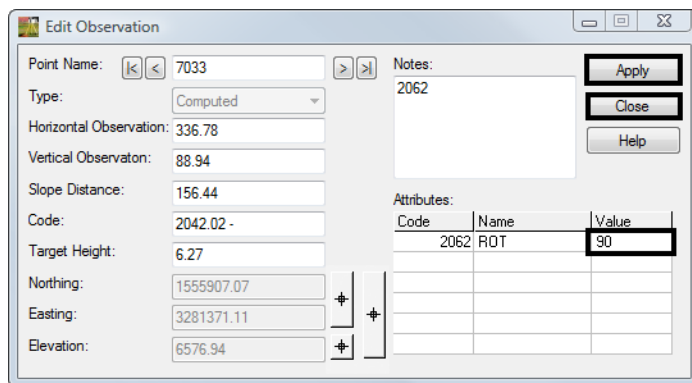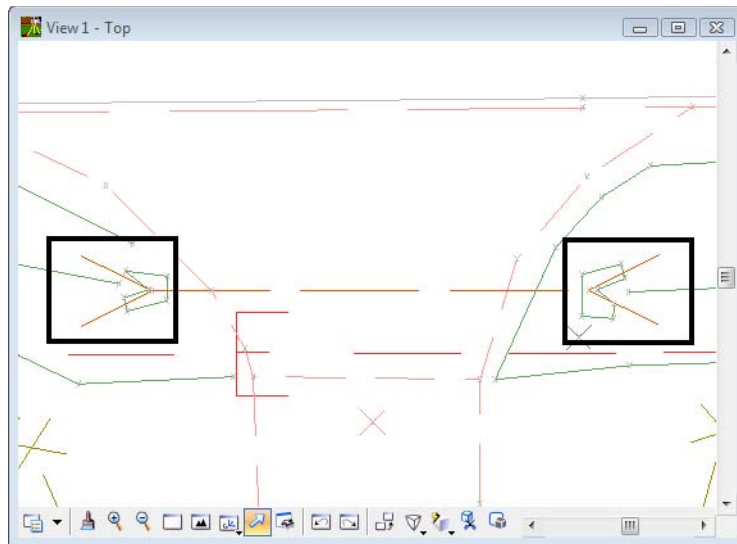
53. From the pull-down menu **Survey > Find Point in View** The *Find Point in View* dialog will appear.

54. Key-in the *Point Name:* **7734**
    Radius: **40**

55. Locate point name *7733* in the *Fieldbook Data* dialog.

56. **<D> <D>** the point name *7733*. The *Edit Observation* dialog will appear.

57. Move your mouse to the *Codes* section of the dialog.
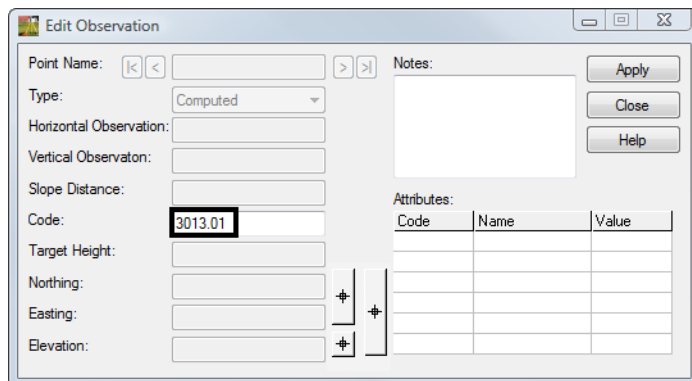
58. Type in the *Code: 3033.01 ST*

59. **<D>** the **Apply** then Close buttons. The change in direction for the feature code will correct the planimetric display.

Note: Notice that at this point the entire display of the line has disappeared. The
remaining shots that make up this figure will also need to be changed to feature
code 3033.

60. In the *Fieldbook Data* dialog **<D>** the point name *7734*, then holding down the **Shift** key
<D> the point name *7738*. A selection set of points 7734-7738 have been highlighted in
the fieldbook.
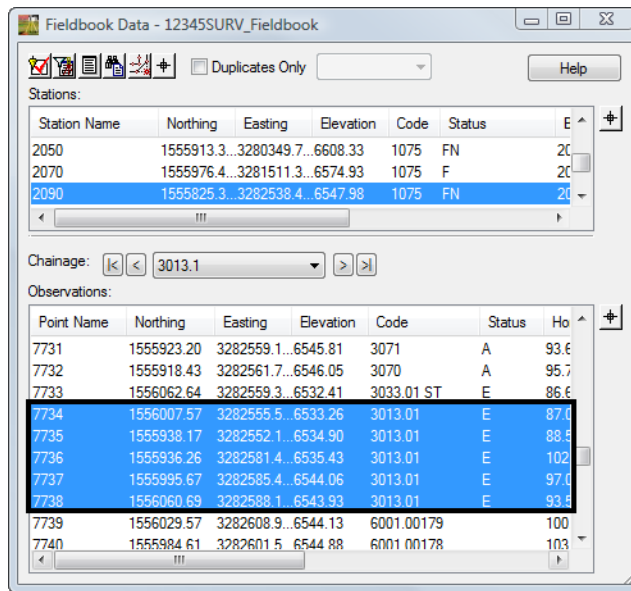
61. **<R>** the select point list. From the popup menu select **Edit**.
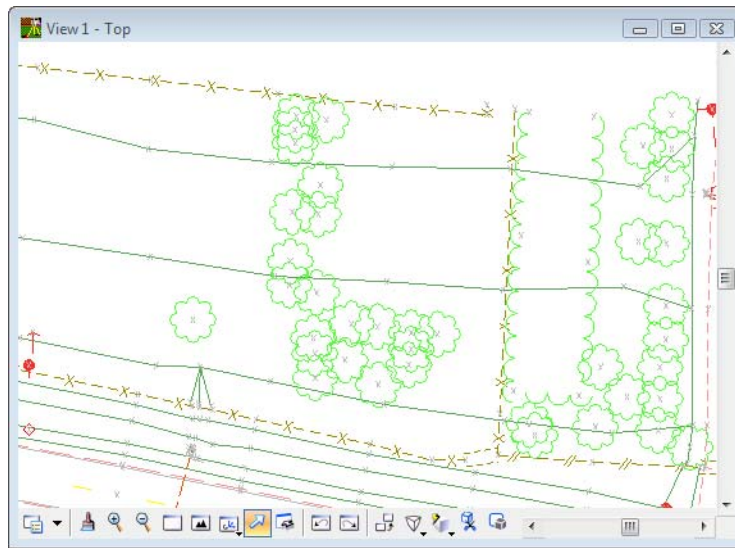

Note: Notice that the only fields that can be edited are the ones that are identical among
the selected observations.

62. Type in the *Code:* **3033.01**

63. **<D>** the **Apply** then **Close** buttons. The planimetrics will display correctly.


64. Save the Survey fieldbook. From the Workspace Bar **<R>** on *12345SURVFieldbook01* select Save from the shortcut menu.

Lab 6.3 - Correcting Elevation Errors

There are four shots (7733-7736) that were collected with incorrect rod heights (16.0' vs. 6.0'). The shots can be located and edited as a group.

Section Objectives:

♦ Find observations based on search criteria

♦ Correct multiple observations with a single operation.

1. **<D>** the Fieldbook 📱 button from the Survey tool bar. The Survey Fieldbook will appear.

2. In the *Fieldbook Data* dialog **<R>** any Point Name in the observation section of the dialog. From the shortcut menu Select *Find*. The *Find Observation* dialog will appear.

3. Target Height
   Minimum: 15
   Maximum: 17

4. **<D>** the **Apply** button.
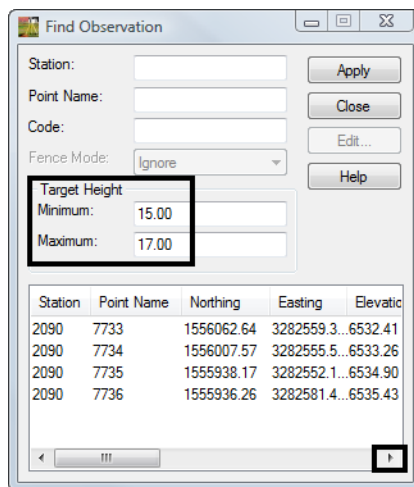
5. *<D>* the first point in the list. The Fieldbook focus will move to that point.

6. **Close** the Find Observation dialog

7. **Select** observations 7733-7736

   Note: Use the Shift and Ctrl keys on the keyboard to select and deselect multiple points in the Find Observation list.

8. *<r>* and select *Edit…* from the flyout menu. The *Edit Observation* dialog will appear.

9. Type the correct **Target Height: 6.00**

10. **<D>** the **Apply** then **Close** buttons to accept the change for all the selected points.

11. Verify the change was applied to the observations.

12. Save the Survey fieldbook. From the Workspace Bar **<R>** on **12345SURVFieldbook01** select Save from the shortcut menu.

Lab 6.4 - Adding points to the fieldbook

The ability to add points to a fieldbook is simple to accomplish. Points can be added based on computed, fixed, or known geometry locations.

Section Objectives:
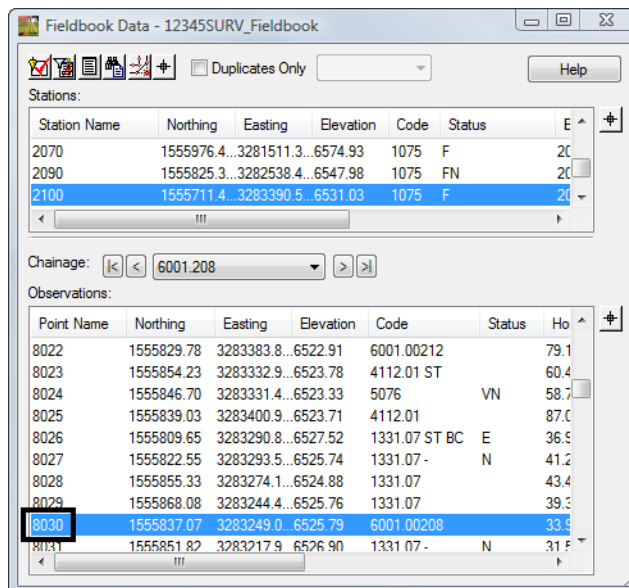
♦ To add an observation to a fieldbook by selecting the location graphically from the MicroStation file.

♦ Define the elevation for the added point and add notes to the observation.

In this example a tree will be added to the fieldbook.

1. In the MicroStation view *Find Point Name:* **8030 Radius: 30**
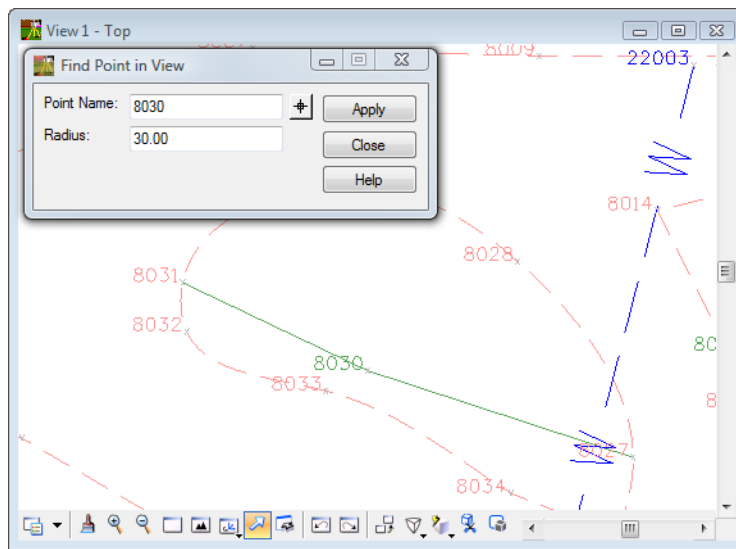
2. In the InRoads Survey Fieldbook Locate point *8030*

3. **<R>** the point name *8030* and select **Add After** from the shortcut menu. The ***Add Observation*** dialog will open.

Note: The Point Name field will populate with the next available number starting with the Point Seed number defined in Survey Options.

4. Type in the ***Code: 3077***

5. **<D>** the **Target** button for the Northing Easting and Elevation. The **Add** Observation dialog will minimize. **<D>** a point in the MicroStation view somewhere inside the island of the driveway. The ***Add Observation*** dialog will reappear.
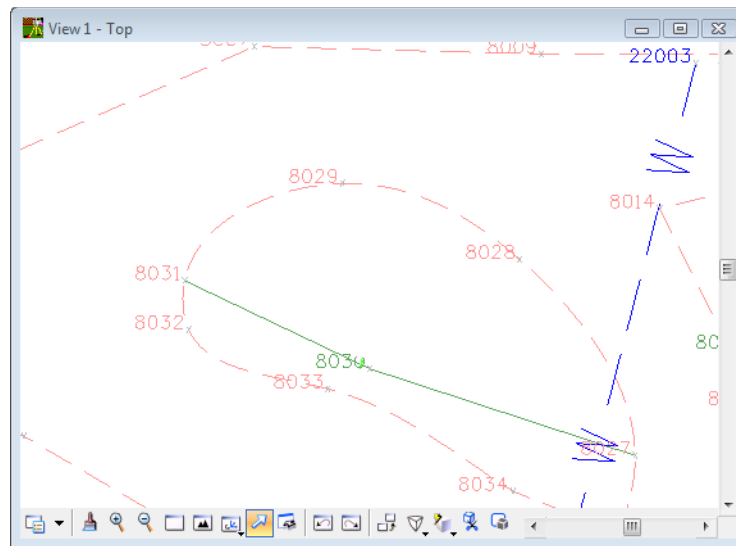
6. Type in the ***Elevation:*** **6535.00**

7. Type in the ***Note:*** **Point added graphically**

8. **<D>** the **Apply** then Close buttons. The tree will dynamically display in the MicroStation view.
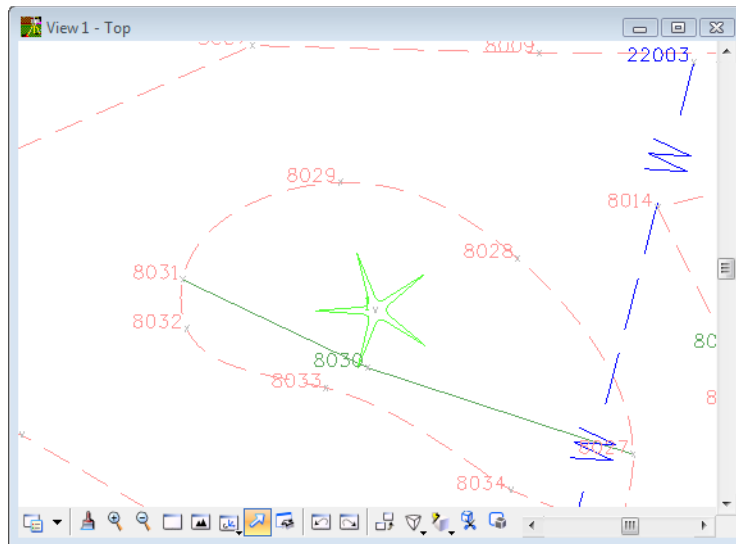
9. Save the Survey fieldbook. From the Workspace Bar **<R>** on *12345SURVFieldbook01* select **Save** from the shortcut menu.

Section Summary:

♦   In *Lab 6.1 -Correcting Fieldbook Code Errors* tools were used to both find and correct codes that were incorrectly logged in the data collector.

♦   In *Lab 6.2 -Correcting Fieldbook Control Code Errors* control codes were corrected. Additionally control code additions were made to observations to refine the data collected.

♦   In *Lab 6.3 -Correcting Elevation Errors* search criteria was used to locate a group of observations. A single edit was executed to correct multiple observations.

♦   In *Lab 6.4 -Adding points to the fieldbook* an additional observation was added to the electronic fieldbook based on a graphic location.