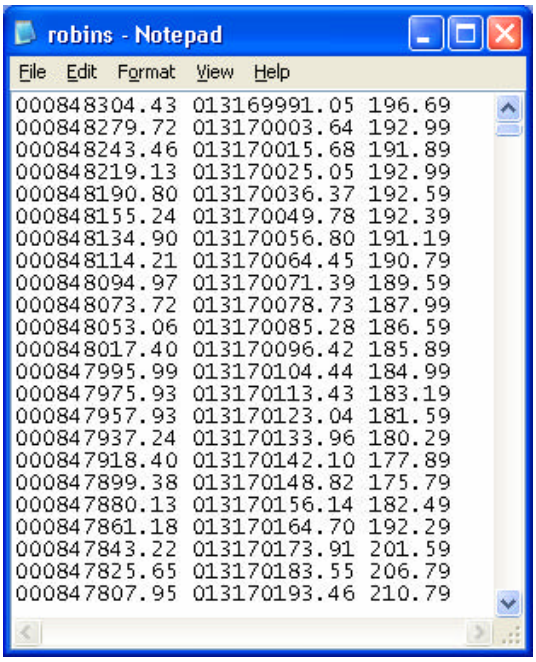
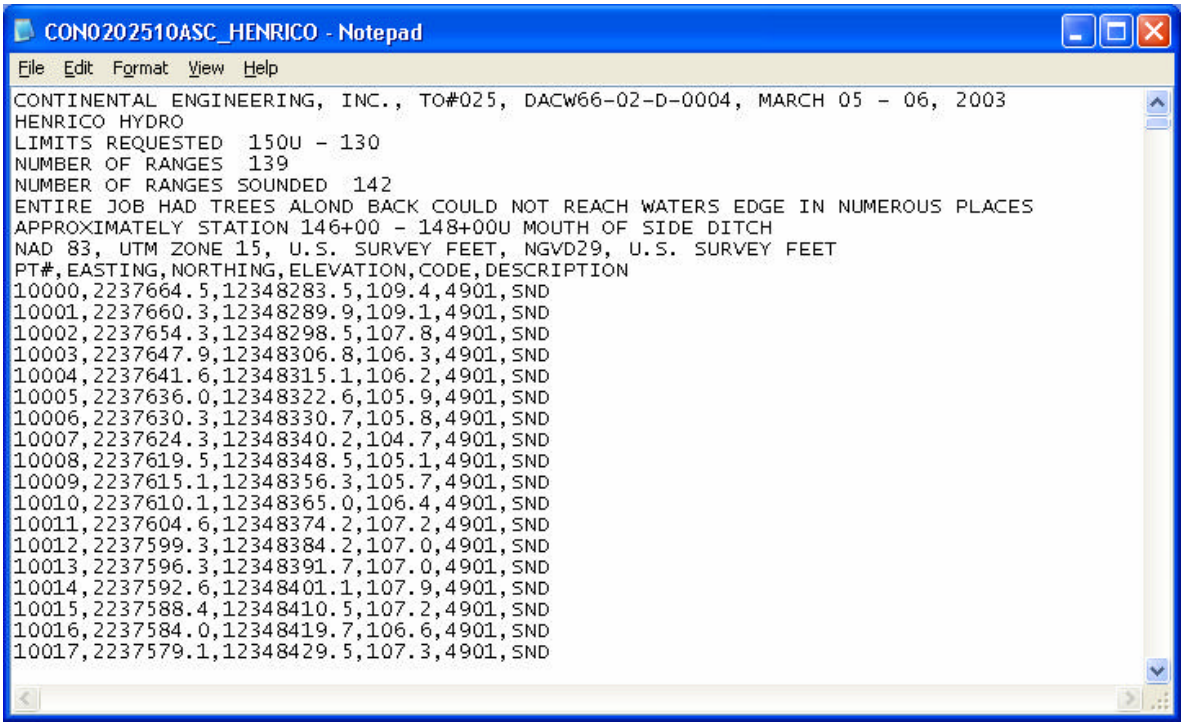
Steps for Comparing the As-builts to the Survey information

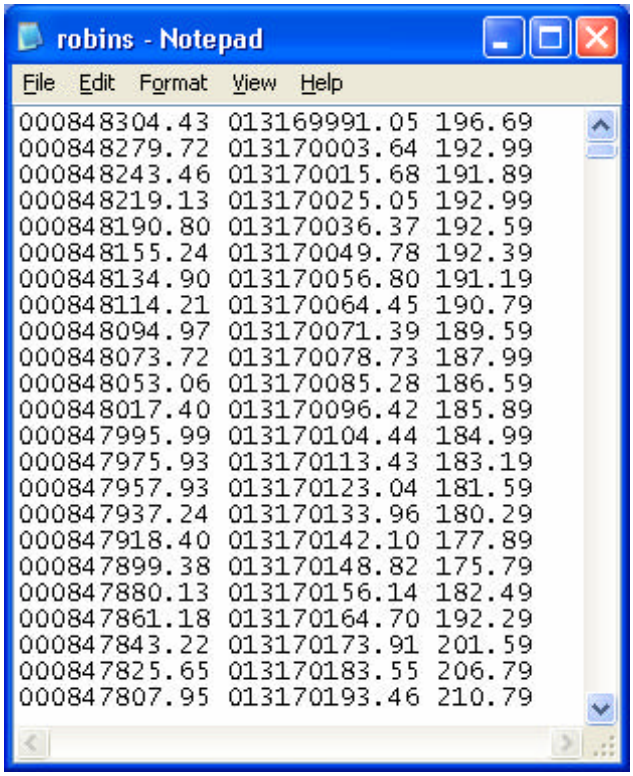
1. Setup a directory for all the annuals – you can copy the previous year's directoy from the server
2. Clean up the design files so that they only have the baseline and revetment outlines on them
3. Open the design file with which you want to work using Inroads
4. Open the As-built surface (*abi.dtm)
5. Open the revet2.ini file
6. Open the survey text file using Notepad or some equivalent
    a. Check the header information so that you will know how to import the file in InRoads – You may want to keep this file open so that you may refer back to it when you import the file
    b. Usually survey files from Rufus and George do not have header information. These files will be set up like this: Easting <space> Northing <space> Elevation



    c. Usually files from the Contractor will have some header information and their information will be separated by commas

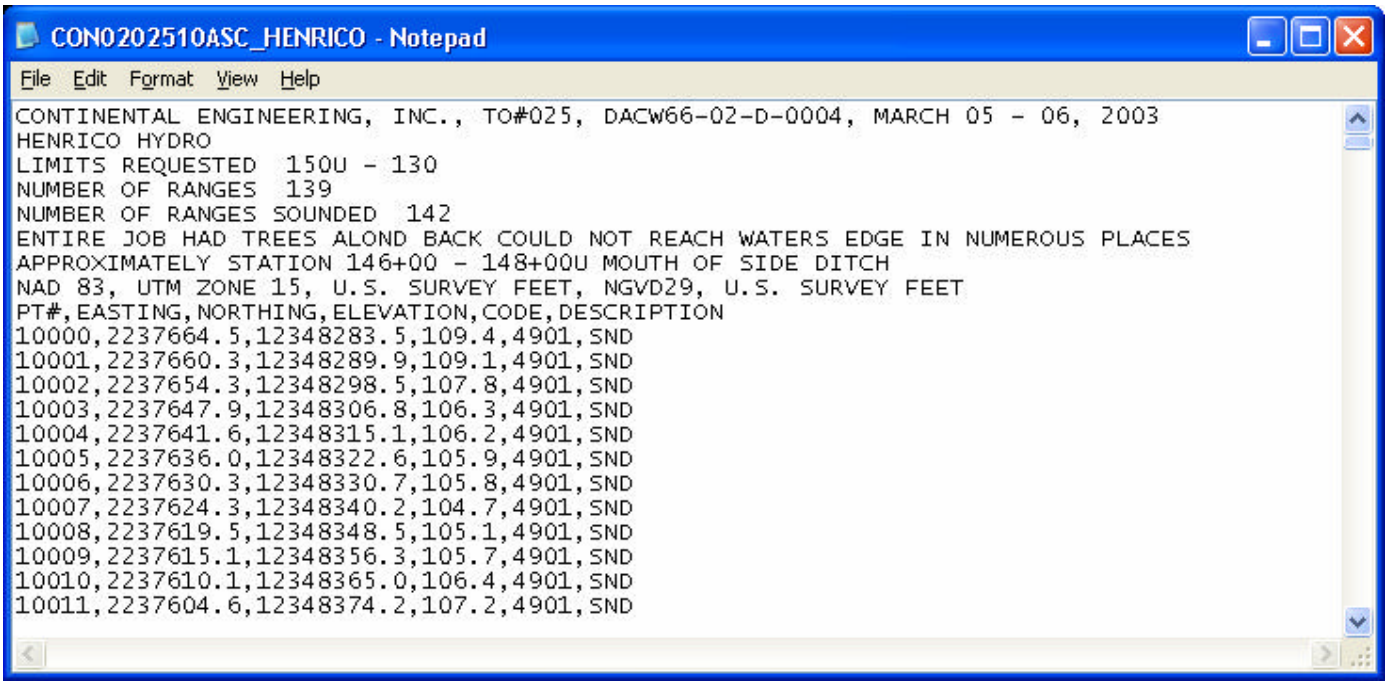


7. Import the ascii file for the most recent survey
    a. In InRoads, Go to File…Import…Surface
    b. Click on the Ascii tab at the top of the Import Surface window
    c. Fill in the following blanks
        i. Surface - year_survey
        ii. Seed Name – year_survey
        iii. File Name –
            1. browse for the ascii file from the survey by clicking in the blank area and clicking on the browse button
            2. go to the directory where the file is located
            3. select the file
            4. click on the open button
        iv. Start at line – make this number coincide with the number of lines that it takes to get to the survey data whether (easting, northing, and elevation information)
        v. Delimeter – choose whether the information is separated by a comma or space
        vi. Columns – fill in the appropriate column header information
            1. For Rufus and George's survey this will be as follows:
                a. Column 1 – Easting
                b. Column 2 – Northing
                c. Column 3 – Elevation



Notice that all the information is separated by a space.

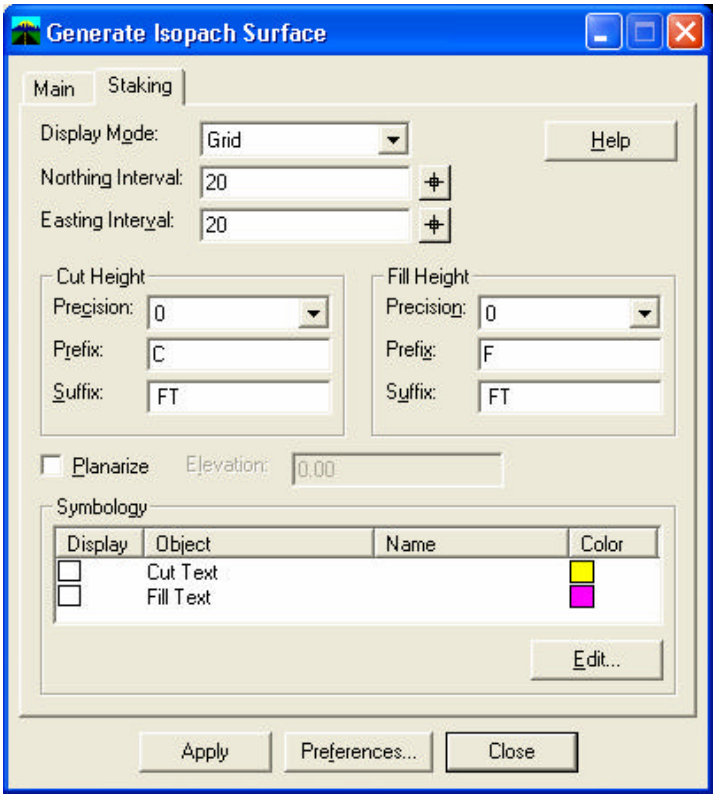
2. For contractor's, they are usually labeled right before the survey data begins. This example has id, easting, northing, elevation, code, description. All of these are separated by commas.



vii. Click on the Apply button
viii. Click the Close button to close the Import Surface window

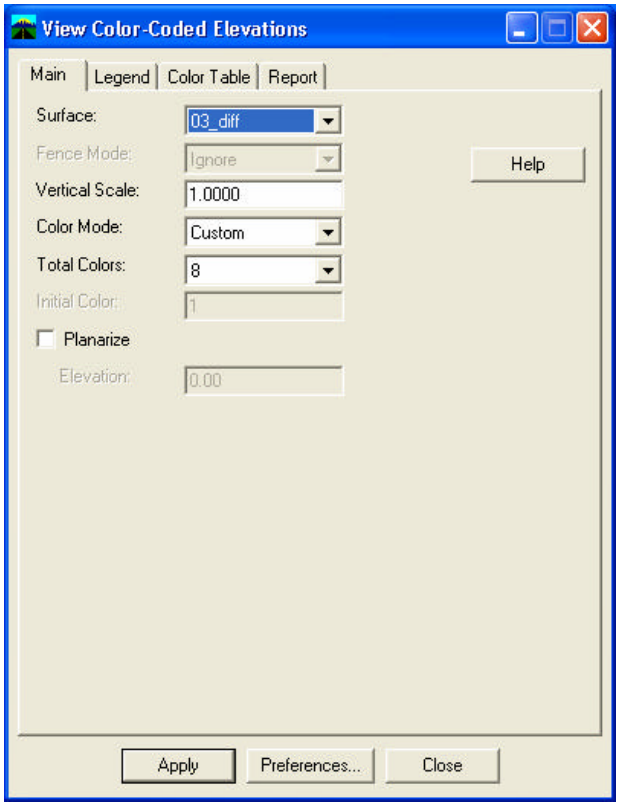
8. Triangulate the survey surface that you have just imported
   a. Go to Surface…triangulate surface
   b. Set the maximum length to 300.00
   c. Click the Apply button
   d. Notice the Results which displays the number of points, number of triangles, and seconds that it took to perform the work
   e. Click on the Close button to close the triangulate window
9. Save this new surface
   a. Go to File…Save As
   b. Choose the Save As Type to be dtm
   c. Make sure that your survey surface that you just imported in is the active surface
   d. Name should appear the same as you have set for the seed name if not it should be <year_survey>
   e. Click on the Save button
   f. Click on the Cancel button to close the Save As window
10. Display the survey limits using View Triangles
   a. Go to Surface…View Surface…Triangles
   b. Make sure the surface = <year_survey>
   c. Click the apply button
   d. Record the limits surveyed in the Excel spreadsheet (annuals95-03.xls)
   e. Just to make sure that you will not have any complications in the comparison, look at the limits of the as-built surface also. You may want to display these in another color so as not to get them confused.
      i. Make sure the surface = *abi.dtm
      ii. Click on the apply button
      iii. Just check to make sure that there are not big breaks in the survey
   f. Click the close button to Close the View Triangles window

11. Generate the Isopach
    a. Go to Surface…Design Surface…Generate Isopach Surface
    b. Load the gen_isopach preference
        i. Click on the Preferences button
        ii. Highlight the gen_isopach preference
        iii. Click on the load button
        iv. Click the Close button to close the preference window
    c. Click on the Main tab and fill in the following information:
        i. First surface – as-built surface
        ii. Second Surface – survey surface
        iii. Check the box beside the words Isopach Surface and fill in the box to the right with <year_diff>
    d. All of the boxes on the Staking tab should already be filled in and look like the following

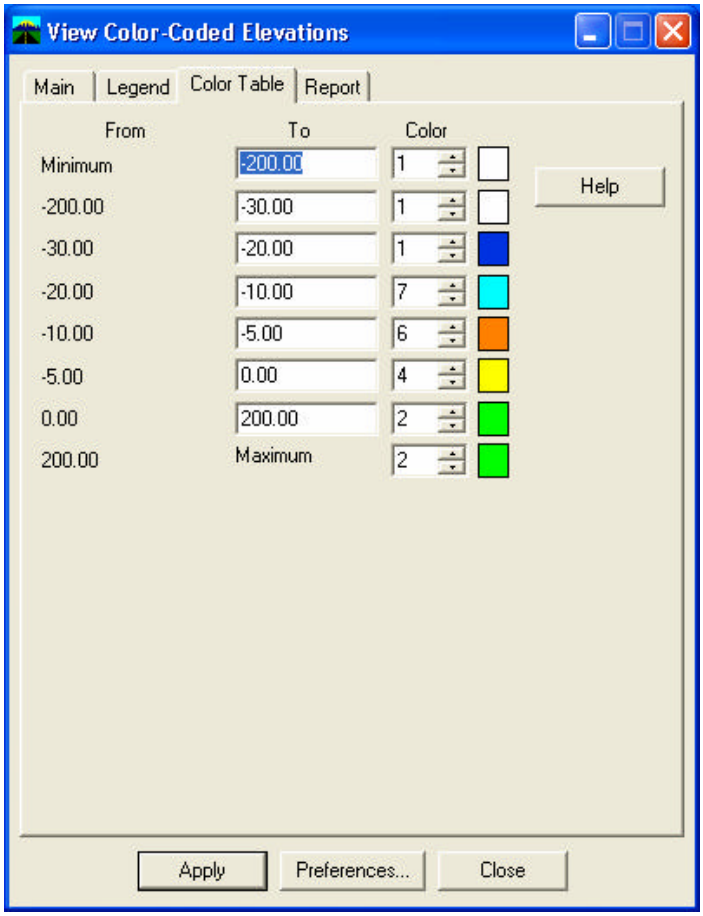


    e. Click the Apply button
    f. Click on the Close button to close the Generate Isopach window
    g. Notice in the main InRoads window that there should be a surface named <year_diff> in addition to the as-built and survey surfaces
12. Triangulate the <year_diff> surface
    a. Go to Surface…triangulate surface
    b. Set the maximum length to 300.00
    c. Click the Apply button
    d. Notice the Results which displays the number of points, number of triangles, and seconds that it took to perform the work
    e. Click on the Close button to close the triangulate window
13. Save the <year_diff> surface
    a. Go to File…Save As
    b. Choose the Save As Type to be dtm
    c. Make sure that your survey surface that you just imported in is the active surface
    d. Name should appear the same as you have set for the seed name if not it should be <year_survey>
    e. Click on the Save button
    f. Click on the Cancel button to close the Save As window

14. View the color coding for the <year_diff> surface
    a. Go to Surface…View Surface…Color-Coded Elevations
    b. Load the color_coding preference
        i. Click on the Preferences button
        ii. Highlight the color_coding preference
        iii. Click on the load button
        iv. Click the Close button to close the preference window
        v. Once the preference is loaded, you should not have to do anything else except apply it
    c. With the color_coding preference loaded, the Main tab should look like the one on the right



    And the Color Table Tab should look like the one below.



    d. Click on the Apply button
    e. Click in the screen out of the area where the survey work has been performed. The Microstation command states “Identify Legend Location.”
    f. Click on the Close button to close the View Color-Coded Elevations window
15. Look at the colors generated. If there is some light blue, dark blue, or especially some white areas, these need to be noted in excel file under the <year> Limits Checked column.
16. If there is a large area of white water:
    a. Cut cross sections in the immediate area and look for the scour. This can be done using a mdl application created for V8 and not InRoads dependent which is called “isocross.” This file should be located in the c:\Program Files\Bentley\Program\MicroStation\mdlapps directory. If you do not have this application, push the CTRL button on the keyboard and left click the mouse button to take you the file through this hyperlink: mdl applications\tent.ma.
    b. Go to the server to check if revetment has been laid in the area. (\\Mphscaddriver\river_data\Revetment\91-01_MSU_FILES)
    c. If there has not been revetment laid in the area, then this may be a potential site.