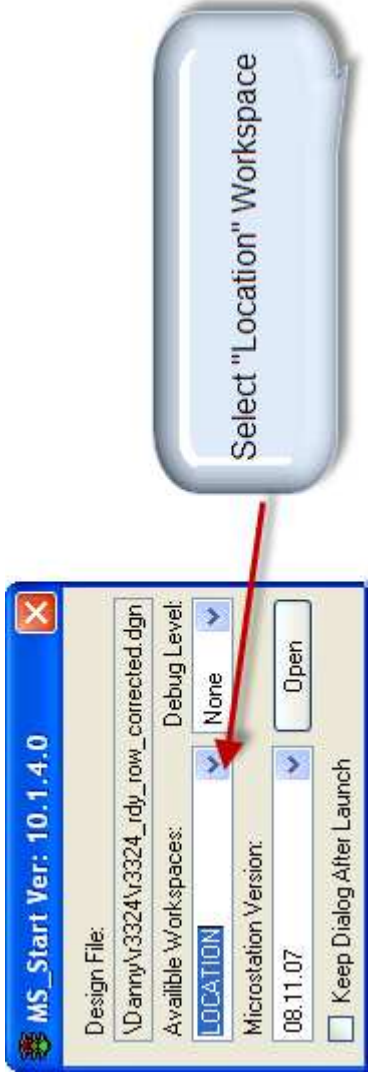


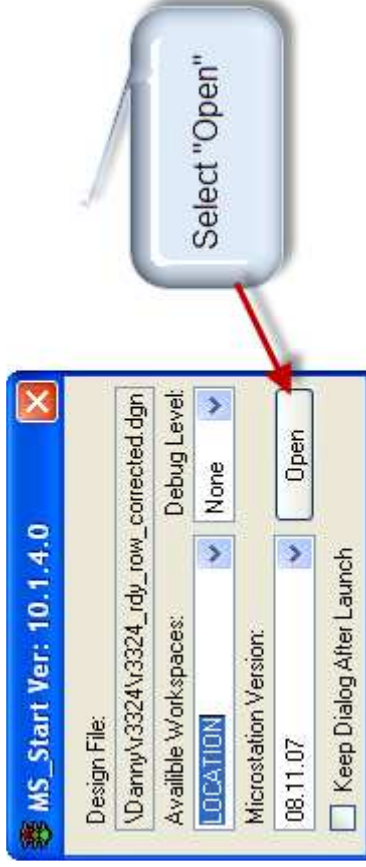
This Tutorial is a guideline for developing Survey Control Sheet 1F (Design Alignments) and Sheet 1G (ROW Markers)

Begin by opening the Right-of-Way (ROW) Roadway Design File



Select "Location" Workspace

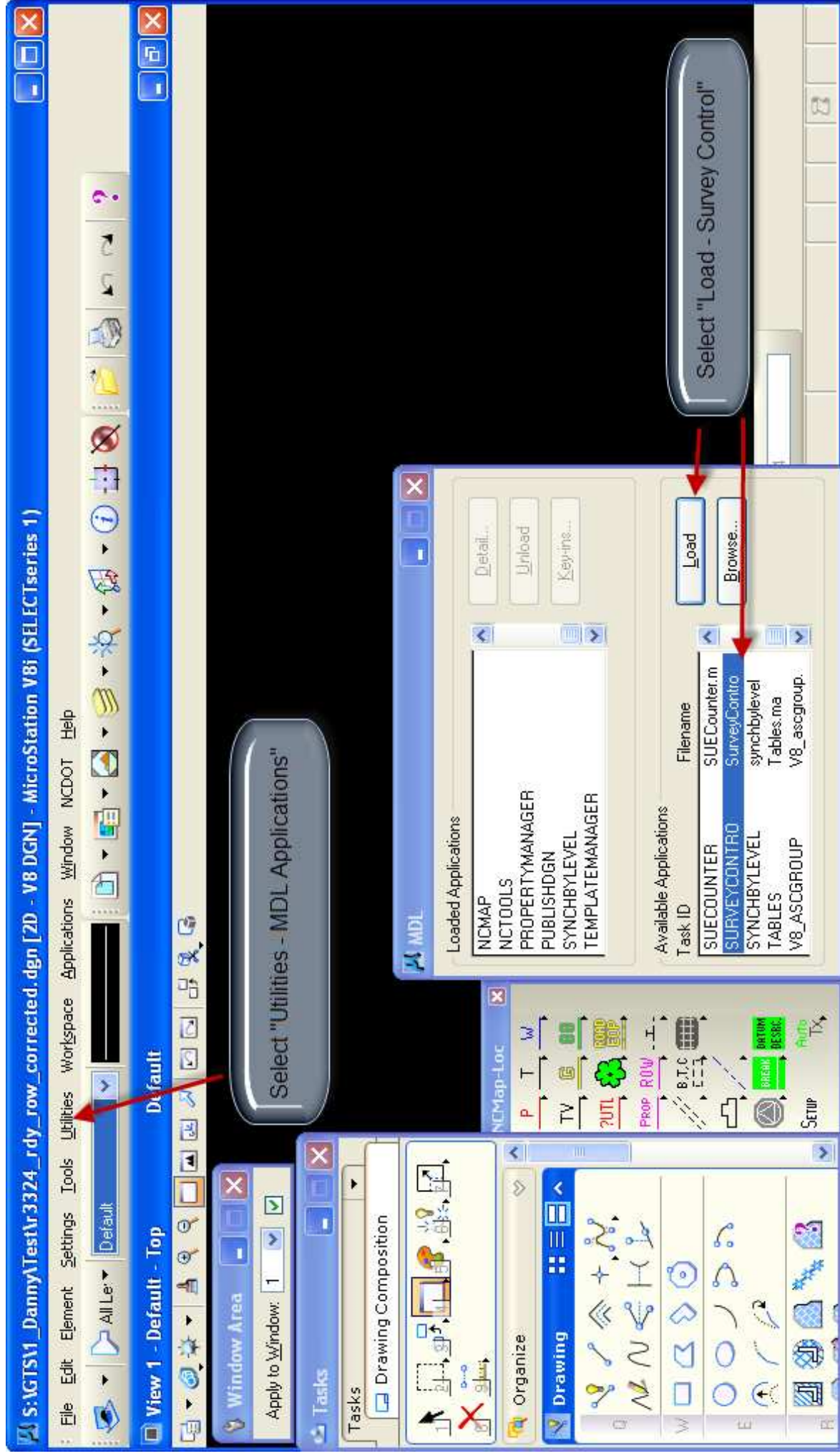
When starting Microstation, be sure to open "Location" Workspaces



Select "Open"

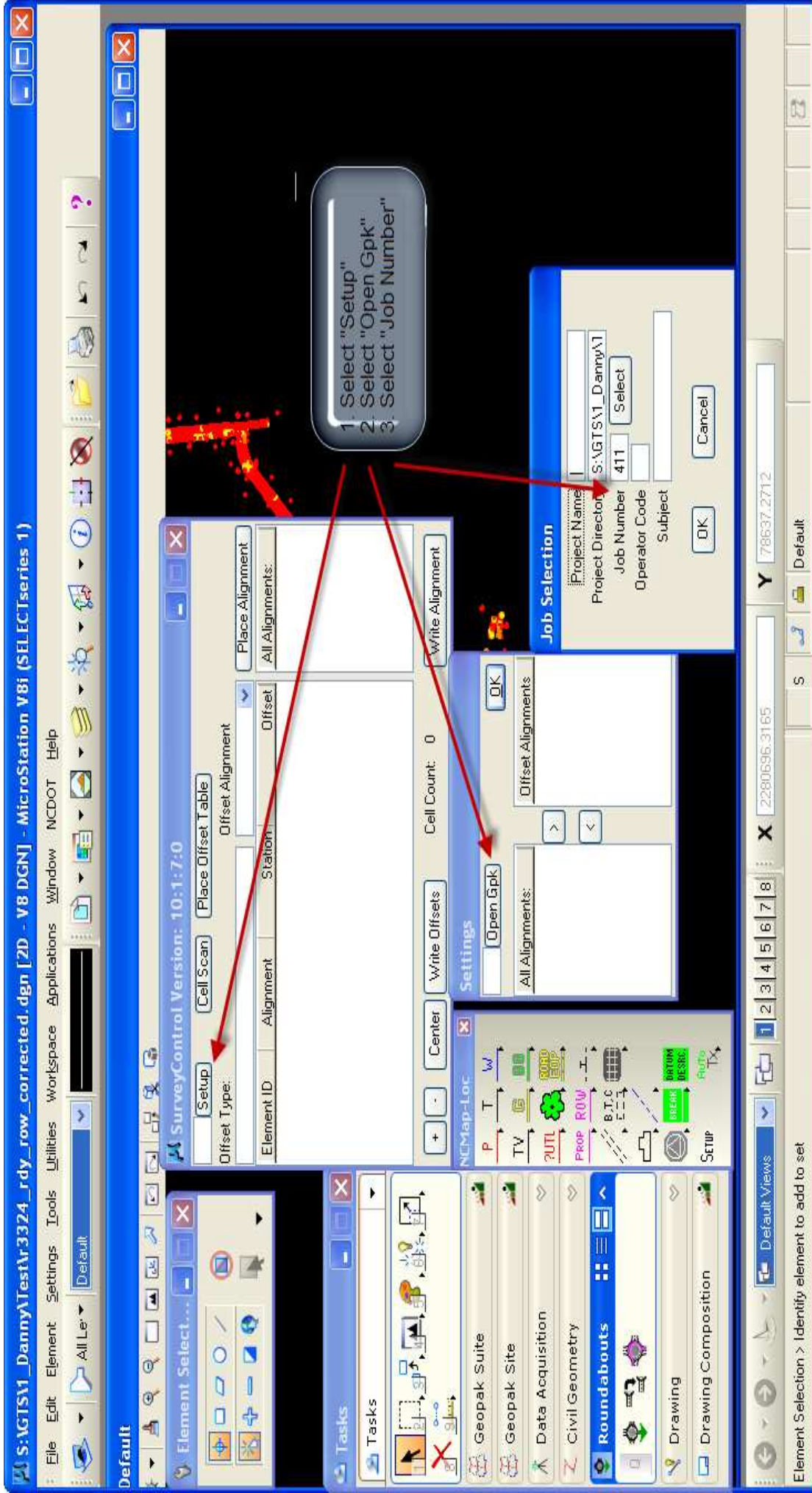
This launches the Microstation Design File.

Under "Utilities" Select "MDL Applications"

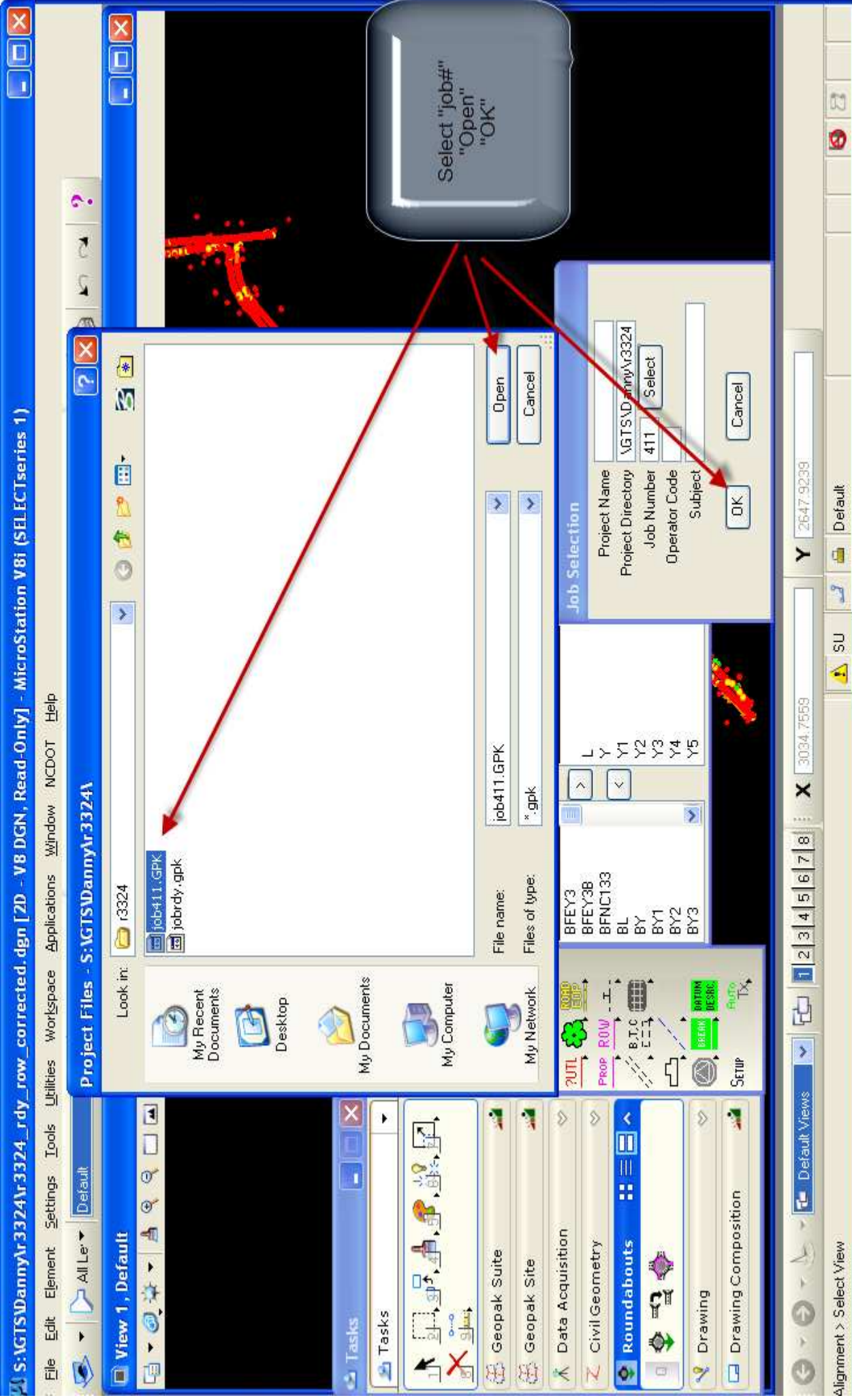


Inside the MDL Toolbox under Available Applications, scroll down to Select "Survey Control" then "Load"

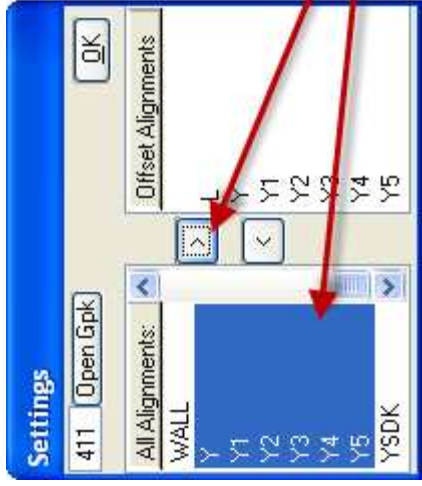
- First Select "Setup"
- This will launch the "Settings" Toolbox
- Second Select "Open Gpk"



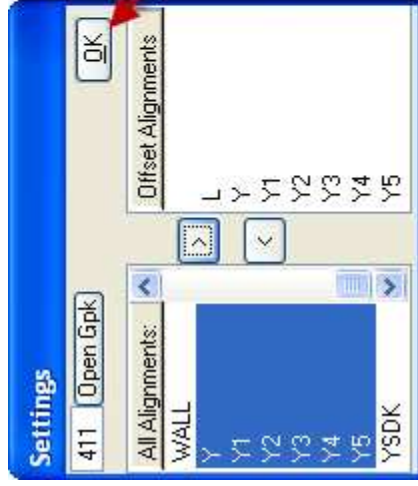
- This will launch the "Job Selection" Toolbox
- Third "Select" the Job number (Roadway Geopak file) for this project



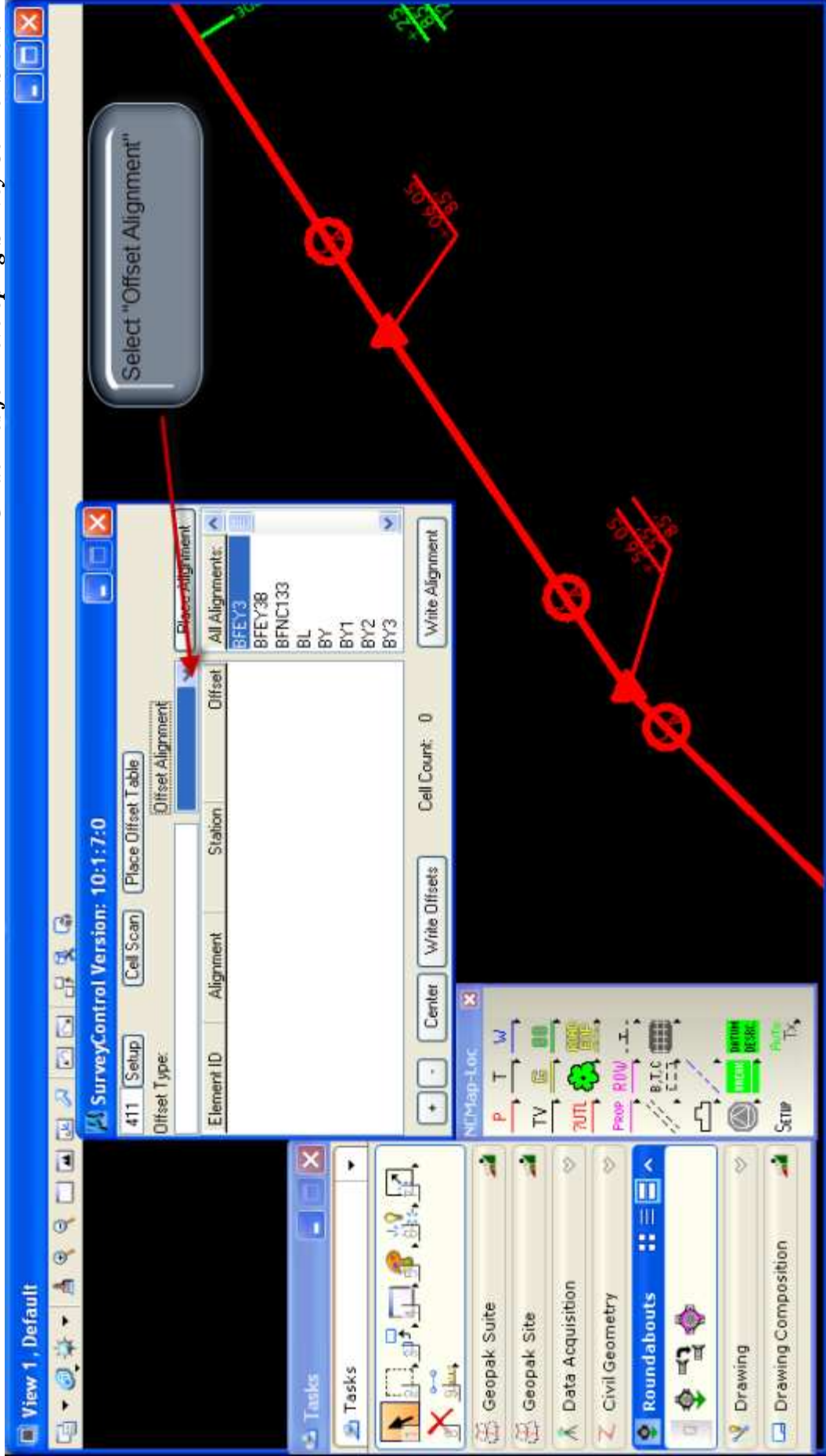
Select the Roadway Gpk file containing the Alignment control



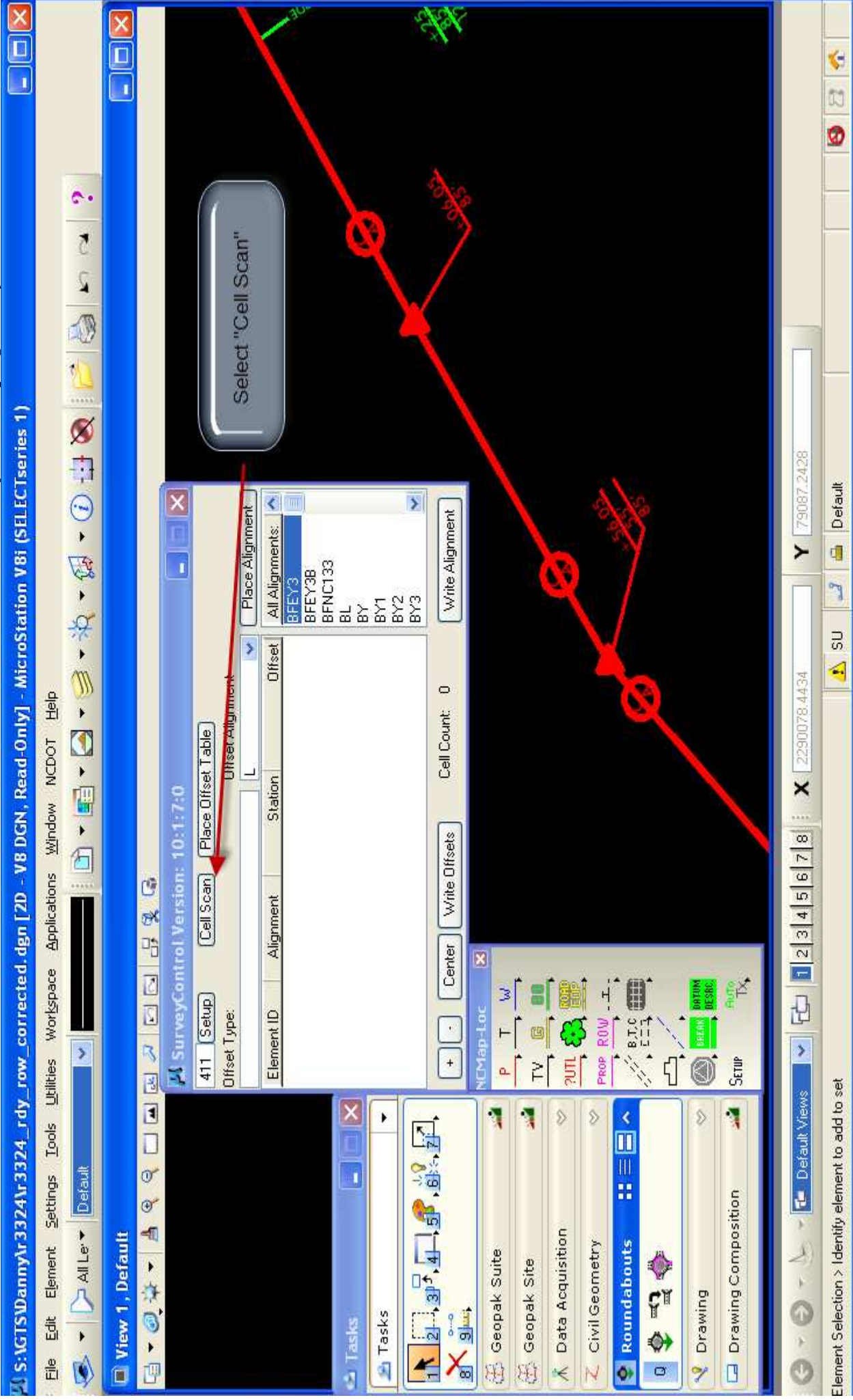
Select Alignments



Select "OK"



Select the appropriate Design Alignments (i.e. -L-, -Y-, -Y1-, etc.)  
Note: The "Blank" alignment can be used for extraneous or unused points.



Select "Cell Scan" and Data Point the R/W Cell

Guidelines for Developing Survey Control Steets IF & IG

S:\GTS\Danny\3324r3324\_rdy\_row\_corrected.dgn [2D - V8 DGN, Read-Only] - MicroStation V8i (SELECTseries 1)

File Edit Element Settings Tools Utilities Workspace Applications Window NCDOT Help



View 1, Default

SurveyControl Version: 10:1:7:0

411 Setup Call Scan Place Offset Table

Offset Type: L

Element ID	Alignment	Station	Offset

Place Alignment: All Alignments: BFEY3 BFEY3B BFNCT33 BL BY BY1 BY2 BY3

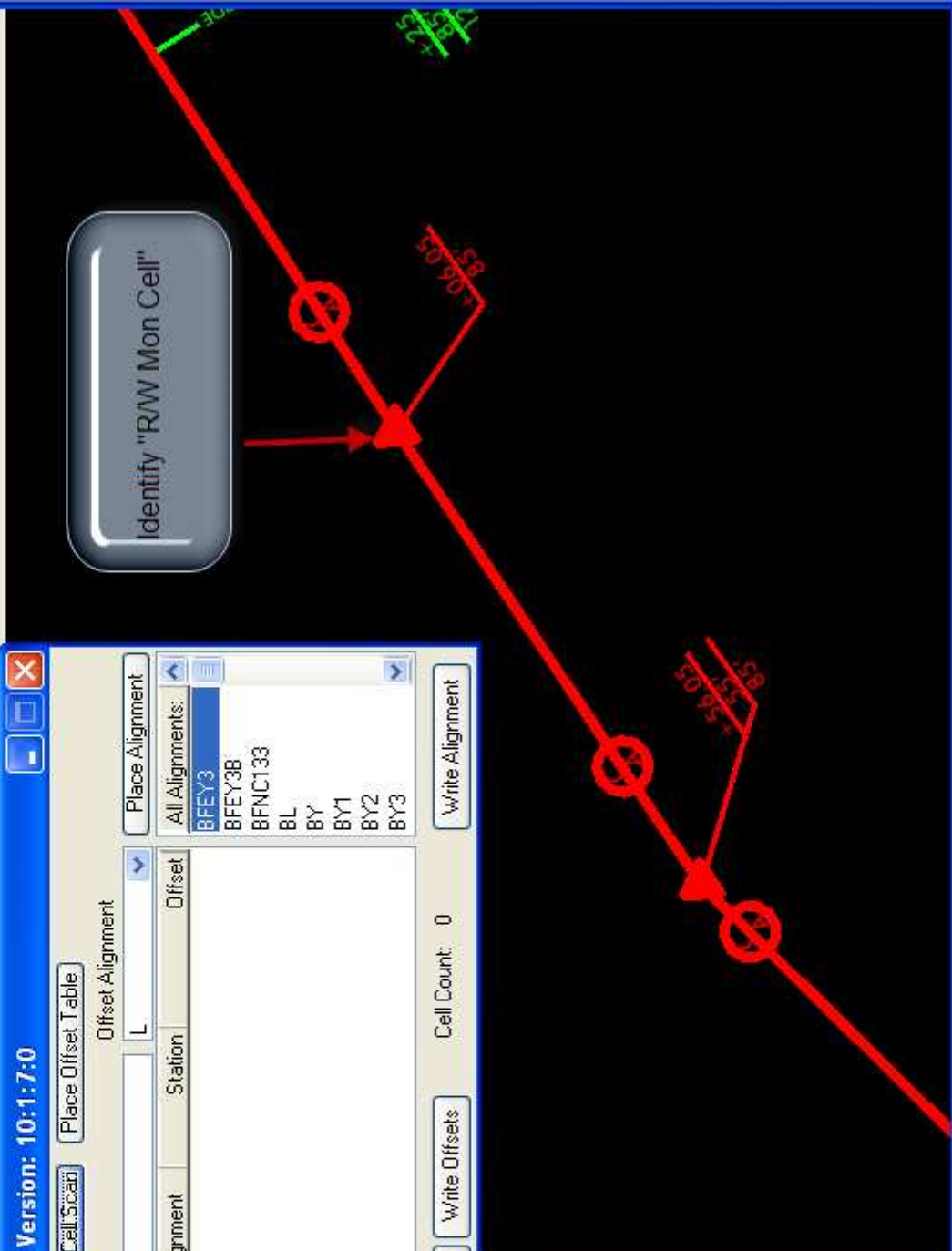
Center Write Offsets Write Alignment Cell Count: 0

NCMap-Loc

- P T w
- TV G
- ?UTL
- PROP ROW
- B.T.C
- BREAK
- DATA
- RESRC
- Auto TX

SETUP

Identify "R/W Mon Cell"



1 2 3 4 5 6 7 8

X 2290078.4434 Y 79087.2428

SU Default

Monument > Identify element

Date Compiled: 6/2/2010



SurveyControl Version: 2010:9:21:0

411 | Setup | Cell Scan | Find Cell | Place Offset Table | Ascii Point List

Offset Type: ROW Marker Iron Pin and Cap-E

Offset Alignment: L

Element ID	Alignment	Station	Offset
6909	L	22+00.00	-68.00
6912	L	19+92.61	-63.00
6915	L	19+32.57	-50.00
6920	L	23+00.00	-140.00
6923	L	24+53.34	-101.86
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00

Place Alignment: All Alignments: BFEY3 BFEY3B BFNC133 BL BY BY1 BY2 BY3

Cell Count: 135

Buttons: +, -, Center, Write Offsets, Write Alignment

Select "Station"

SurveyControl Version: 2010:9:21:0

411 | Setup | Cell Scan | Find Cell | Place Offset Table | Ascii Point List

Offset Type: ROW Marker Iron Pin and Cap-E

Offset Alignment: L

Element ID	Alignment	Station	Offset
6964	L	11+74.69	-50.00
10956	L	11+74.71	-28.04
7108	L	13+25.00	31.86
7111	L	13+30.00	65.00
18863	L	14+90.00	65.00
18866	L	16+00.27	86.00
18869	L	17+60.00	95.00
18872	L	18+25.00	70.00

Place Alignment: All Alignments: BFEY3 BFEY3B BFNC133 BL BY BY1 BY2 BY3

Cell Count: 135

Buttons: +, -, Center, Write Offsets, Write Alignment

Stations sorted

The screenshot displays the SurveyControl software interface. At the top, the title bar reads "SurveyControl Version: 10:1:7:0". Below this, there are several toolbars and panels:

- Top Panel:** Includes buttons for "411 Setup", "Cell Scan", and "Place Offset Table". Below these are "Offset Type:" and "ROW Marker Iron Pin and Cap-E" with a dropdown menu set to "L".
- Data Table:** A table with columns: Element ID, Alignment, Station, and Offset.
 

Element ID	Alignment	Station	Offset
6912	L	19+95.00	-63.00
6915	L	20+00.00	-50.00
6920	L	23+00.00	-140.00
6923	L	24+53.34	-101.86
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00
7108	L	13+30.00	31.86
- Right Panel:** Labeled "Place Alignment", it contains a list of "All Alignments:" including BFEY3, BFEY3B, BFNC133, BL, BY, BY1, BY2, and BY3. Below the list are buttons for "+", "Center", "Write Offsets", and "Write Alignment".
- Map Area:** Shows a network of red and green lines on a dark background. A blue circle highlights a specific point on a red line.
- Bottom Panels:**
  - Tasks:** A panel with various task icons.
  - NCMap-Loc:** A panel with icons for "P", "T", "W", "TV", "UTIL", "PROP ROW", "B.T.C", "BASIC", "PREVIEW", "BUTION DESCR", and "Auto TX".
  - Geopak Suite:** A panel with icons for "Geopak Suite", "Geopak Site", "Data Acquisition", and "Civil Geometry".
  - Roundabouts:** A panel with a "Roundabouts" icon.
  - Drawing:** A panel with a "Drawing Composition" icon.

Two callout boxes are present over the map area:

- A rounded rectangle containing the text "Select Element ID #".
- A rounded rectangle containing the text "Element 'Highlights'".

The screenshot displays the SurveyControl software interface. At the top, the title bar reads "SurveyControl Version: 10:1:7:0". Below this, there are several control buttons: "411", "Setup", "Cell Scan", and "Place Offset Table". The "Offset Type" is set to "ROW Marker Iron Pin and Cap-E".

The main window shows a survey control plan with various elements and their offsets. A table below lists the data for these elements:

Element ID	Alignment	Station	Offset
6912	L	19+95.00	-63.00
6915	L	20+00.00	-50.00
6920	L	23+00.00	-140.00
6923	L	24+53.34	-101.86
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00
7108	L	13+30.00	31.86

Additional controls include "Center", "Write Offsets", and "Write Alignment". A "Cell Count" of 134 is displayed. A "Zoom" tool is highlighted with a red box and labeled "ZOOM" tools. The main drawing area shows a survey plan with red lines and labels such as "EXIST. RM", "BEGIN CA", and "EXIST. RM".

The screenshot displays the SurveyControl software interface. At the top, the title bar reads "SurveyControl Version: 10:1:7:0". Below this, there are several toolbars and panels:

- Default - Top:** Contains standard window controls (minimize, maximize, close).
- Place Line:** Includes fields for "Length:" and "Angle:".
- Tasks:** A panel with various icons for drawing and editing.
- Drawing Composition:** A panel with icons for different drawing elements.
- Organize:** A panel with icons for organizing the drawing.
- NCMap-Loc:** A panel with various symbols and icons for location marking.

The main window displays a table of survey data with the following columns: Element ID, Alignment, Station, and Offset. The data is as follows:

Element ID	Alignment	Station	Offset
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00
7108	L	13+30.00	31.86
7111	L	13+30.00	65.00
8050	L	41+10.00	-95.00
8403	L	45+50.00	-65.00
8415	L	46+00.00	55.00

Below the table, there are buttons for "+", "Center", "Write Offsets", and "Write Alignment". The "Cell Count" is shown as 134.

A "Change Station" dialog box is open, showing the following fields:

- Region: 1
- Station Range: 10+00.00 - 130+80.63
- Station: 1325.000000

Buttons for "OK" and "Cancel" are present. A red arrow points from the "Station" field in the dialog to the "13+30.00" value in the table. Another red arrow points from the "Station" field to a callout box that says "Type new 'Station'". A third red arrow points from the "Station" field to a callout box that says "Double Click 'Station' to Modify".

Red annotations on the drawing area include a red circle with a slash over a station marker, a red arrow pointing to a station marker, and a red arrow pointing to a station marker with a red box around it containing the text "13+30.00".

The screenshot displays the SurveyControl software interface. A 'Change Station' dialog box is open, showing the following details:

- Region: 1
- Station: 1325.000000
- Station Range: 10+00.00 - 130+80.63

The 'OK' button is highlighted with a red arrow. In the background, a table lists survey elements with their stationing and offsets:

Element ID	Alignment	Station	Offset
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00
7108	L	13+25.00	31.86
7111	L	13+30.00	65.00
8050	L	41+10.00	-95.00
8403	L	45+50.00	-65.00
8415	L	46+00.00	55.00

Red annotations include a circle around the 'OK' button, a red arrow pointing to the '13+25.00' station value in the table, and a red 'X' over the 'Station' field in the dialog box. A blue arrow points to the 'OK' button.

The screenshot displays the MicroStation V8i interface with the 'Place Offset Table' dialog box open. The dialog box is titled 'SurveyControl Version: 10:1:7:0' and contains the following fields and options:

- 411 Setup
- Cell Scan
- Place Offset Table
- Offset Alignment: L
- Cell Count: 134
- Write Alignment

The 'Offset Alignment' table is as follows:

Element ID	Alignment	Station	Offset
6909	L	22+00.00	-68.00
6912	L	19+92.61	-63.00
6915	L	19+32.57	-50.00
6920	L	23+00.00	-140.00
6923	L	24+53.34	-101.86
6964	L	11+74.69	-50.00
7045	L	28+50.00	-105.00
7060	L	31+04.28	-114.00

The 'Write Offsets' table is as follows:

Element ID	Station	Offset
6909	22+00.00	-68.00
6912	19+92.61	-63.00
6915	19+32.57	-50.00
6920	23+00.00	-140.00
6923	24+53.34	-101.86
6964	11+74.69	-50.00
7045	28+50.00	-105.00
7060	31+04.28	-114.00

The 'ROW MARKER IRON PIN OFFSET' table is as follows:

ALIGN	STATION	OFFSET
L	22+00.00	-68.00
L	19+92.61	-63.00
L	19+32.57	-50.00
L	23+00.00	-140.00
L	24+53.34	-101.86

Annotations in the image include:

- A callout box pointing to the 'Place Offset Table' button: "Select 'Place Offset Table'"
- A callout box pointing to a red circle on the drawing: "'Data Point' for Location of Table"

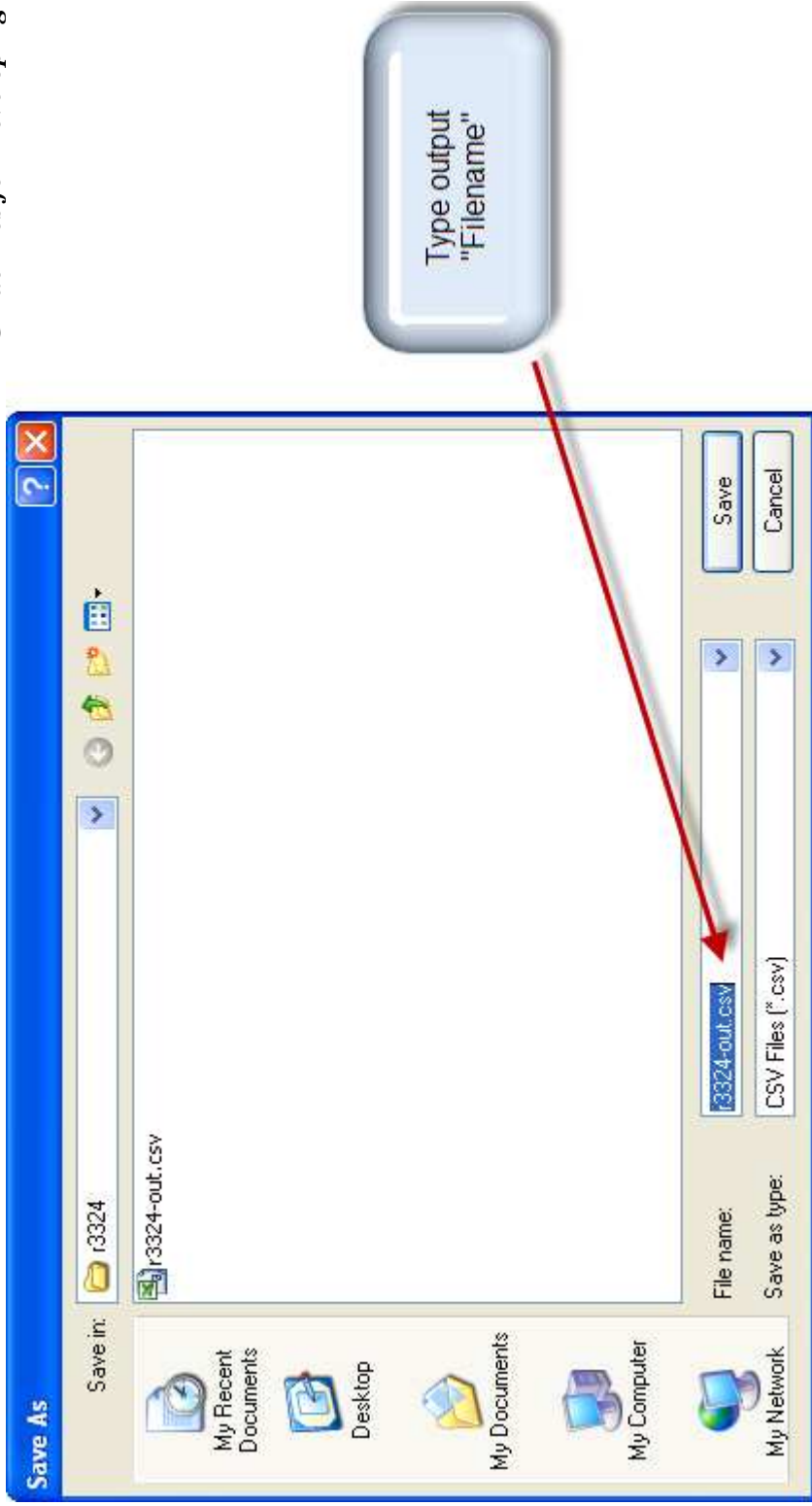
Select "Place Offset Table" to create the table. Data Point in the design file for the location of the table.

ROW MARKER IRON PIN AND CAP - E			
ALIGN	STATION	OFFSET	EAST
L	22+00.00	-68.00	73584.2807
L	19+92.61	-63.00	73423.6727
L	19+32.57	-50.00	73369.6350
L	23+00.00	-140.00	73701.2299
L	24+53.34	-101.86	73808.1512
L	11+74.69	-50.00	72793.7386
L	28+50.00	-105.00	74160.7902
L	31+04.28	-114.00	74401.4838



Select "Write Offsets" to create an output file containing the Station and offsets for the R/W monuments

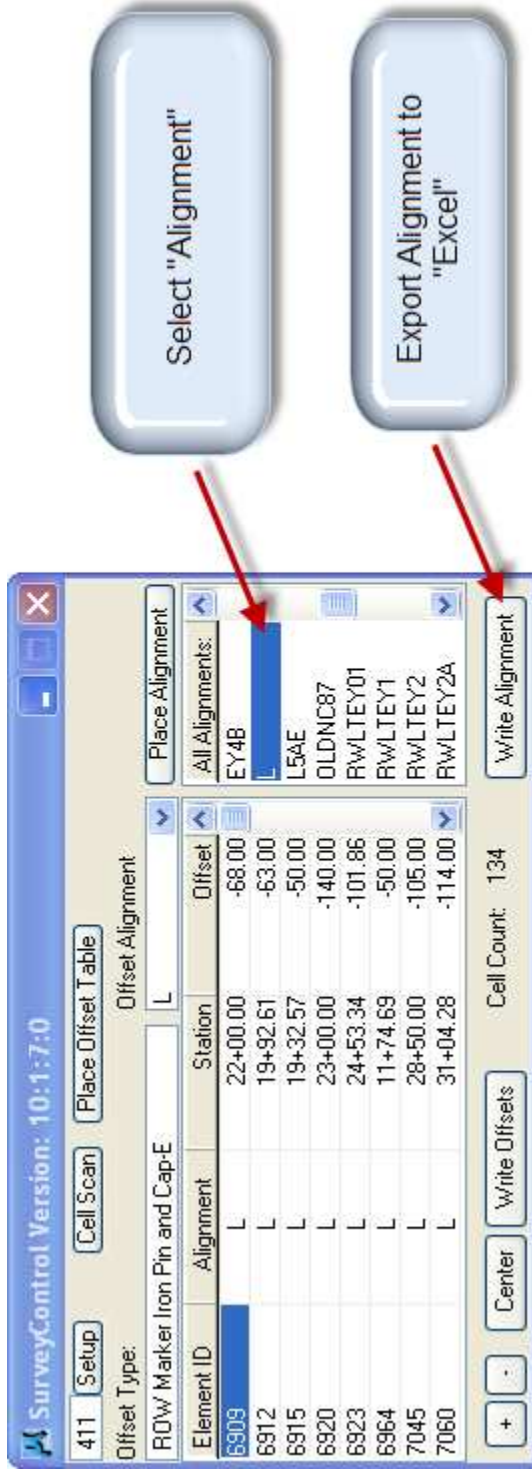




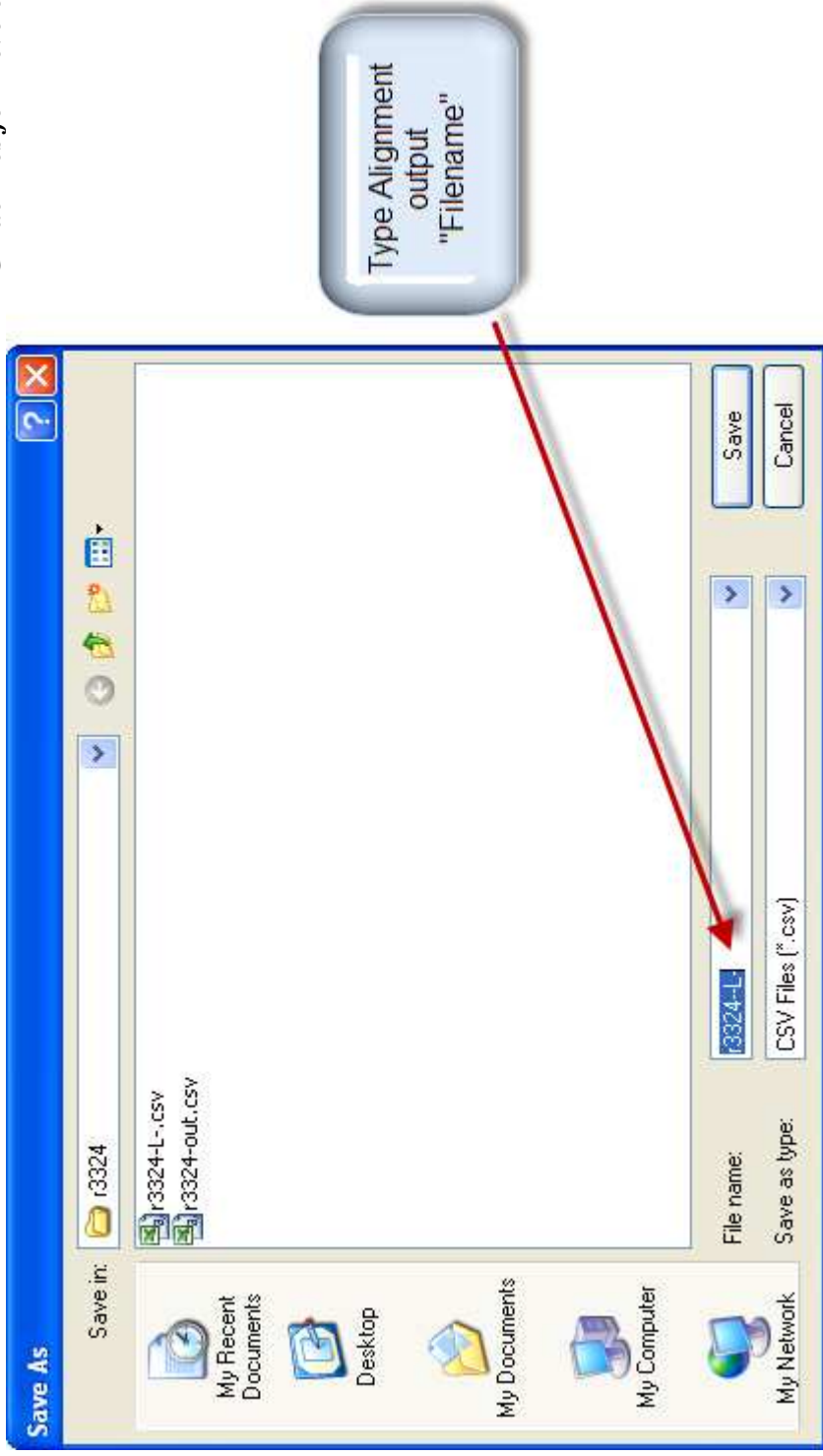


	A	B	C	D	E	F	G
1	L	6909	22+00.00	-68	73584.28	2287516	
2	L	6912	19+92.61	-63	73423.67	2287396	
3	L	6915	19+32.57	-50	73369.64	2287367	
4	L	6920	23+00.00	-140	73701.23	2287505	
5	L	6923	24+53.34	-101.86	73808.15	2287604	
6	L	6964	11+74.69	-50	72793.74	2286874	
7	L	7045	28+50.00	-105	74160.79	2287707	
8	L	7060	31+04.28	-114	74401.48	2287716	
9	L	7108	13+30.00	31.86	72858.55	2287037	
10	L	7111	13+30.00	65	72837	2287063	
11	L	8050	41+10.00	-95	75402.81	2287955	
12	L	8403	45+50.00	-65	75810.45	2288180	
13	L	8415	46+00.00	55	75778.63	2288307	
14	L	8418	44+00.00	45	75624.07	2288193	
15	L	8463	52+94.47	-70	76289.72	2288773	
16	L	8472	52+94.47	75	76167.94	2288851	
17	L	8589	61+55.68	-105	76931.73	2289229	
18	L	8598	61+55.68	75	76874.48	2289400	
19	L	8605	63+70.00	-85	77126.62	2289306	
20	L	8630	66+00.00	75	77306.68	2289521	
21	L	8671	76+32.68	55	78304.8	2289774	
22	L	8674	76+32.68	-65	78342.7	2289660	
23	L	8683	71+00.00	-60	77824.59	2289521	
24	L	8765	84+56.05	85	78908.02	2290249	
25	L	8792	84+56.05	-80	79041.25	2290152	
26	L	8815	91+55.55	85	79287.87	2290831	
27	L	8823	91+55.55	-70	79417.97	2290747	
28	L	8849	96+10.38	75	79588.74	2291192	
29	L	8865	88+25.00	-85	79250.89	2290461	
30	L	8878	96+10.38	-70	79692.59	2291091	





Select "Write Alignments" to create an output file containing the Station and offsets for the Design Alignment Control Points.



Microsoft Excel - r3324-L-.csv

	A	B	C	D	E
1	POT	10+00.00	72628.49	2286799	
2	TS	19+73.00	73367.86	2287431	
3	SC	21+23.00	73483.49	2287527	
4	CS	29+54.28	74248.15	2287823	
5	SRS	31+04.28	74397.96	2287830	
6	SC	32+54.28	74547.72	2287838	
7	CS	33+78.60	74670.6	2287856	
8	ST	36+28.60	74816.07	2287893	
9	TS	40+48.60	75317.59	2288030	
10	SC	41+98.60	75461.37	2288073	
11	CS	49+94.47	76077.91	2288553	
12	SRS	51+44.47	76154.51	2288682	
13	SC	52+94.47	76230.93	2288811	
14	CS	61+55.68	76898.34	2289329	
15	ST	63+05.68	77042.28	2289371	
16	TS	74+82.68	78178.19	2289679	
17	SC	76+32.68	78322.17	2289721	
18	CS	84+56.05	78976.66	2290199	
19	ST	86+06.05	79060.53	2290324	
20	PC	91+55.55	79359.21	2290785	
21	PT	96+10.38	79642.46	2291140	
22	TS	120+07.19	81315.13	2292856	
23	SC	121+57.19	81417.26	2292966	
24	CS	127+63.10	81661.53	2293612	
25	ST	129+13.10	81675.38	2293661	
26	POT	130+80.63	81686.97	2293828	
27					

Alignment -L- Control Points