

Disclaimer:

The purpose of this document is to describe the process of Translating Design Graphics that are using Project Datum Graphics to obtain "State Plane Graphics". Keep in mind that this is only a approximate process and should not be used for Design or Construction purposes.

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Given:

Project Datum Factor of 1.00003459. This comes from the Coordinate Control Plan Sheet. Without it, this process will have no value.

Set of Design Graphics that will be on Project Datum. The State Plane Coordinate System is Kentucky North.

Set of Project Datum Coordinates on at least one point. You will also want to check other points to see how close they are after this process is over.

These will be our work set Project Datum Coordinates. Choose these as close to center of project site as possible. The good thing about this process is that the PD Coordinates and State Plane Coordinates are still using the same Rotation so this process ends up being just a translation and a slight scaling process.

Easting = 1,527,486.31 US Survey Feet Kentucky North Zone

Northing = 141,518.86 US Survey Feet Kentucky North Zone

Next step is to get our set of "State Plane Coordinates".

Take the Easting and Northing Coordinates above and divide them by the Project Datum factor that is given above.

Easting: $1,527,486.31/1.00003459 = 1,527,433.476$ US Survey Feet Delta = 52.83'

Northing: $141,518.86/1.00003459 = 141,513.965$ US Survey Feet Delta = 4.90'

Next, subtract the State Plane Coordinates from the Project Datum Coordinates to see how far you will need to translate. Take the square root of the sum of the squares and you get

SQRT of $52.83^2 + 4.90^2 = 53.067'$. This is how far we will need to translate the Project Datum Coordinates to the "State Plane Coordinates"

Next, we need to get the coordinates plotted on the plan set so the Translating can take place. How you want to do this part is up to you. What I do is place the Project Datum Coordinate and State Plane Coordinates into a csv file and import them using the text import wizard in ORD.

Once the points are plotted, draw a long line from the PD Coordinates and a long line from the SP coordinates to go up past the graphics. We are going to use a fence inside command and we do not want the end points of these lines to move as these will be our snap to points when doing the translation. See graphics illustration below concerning this.

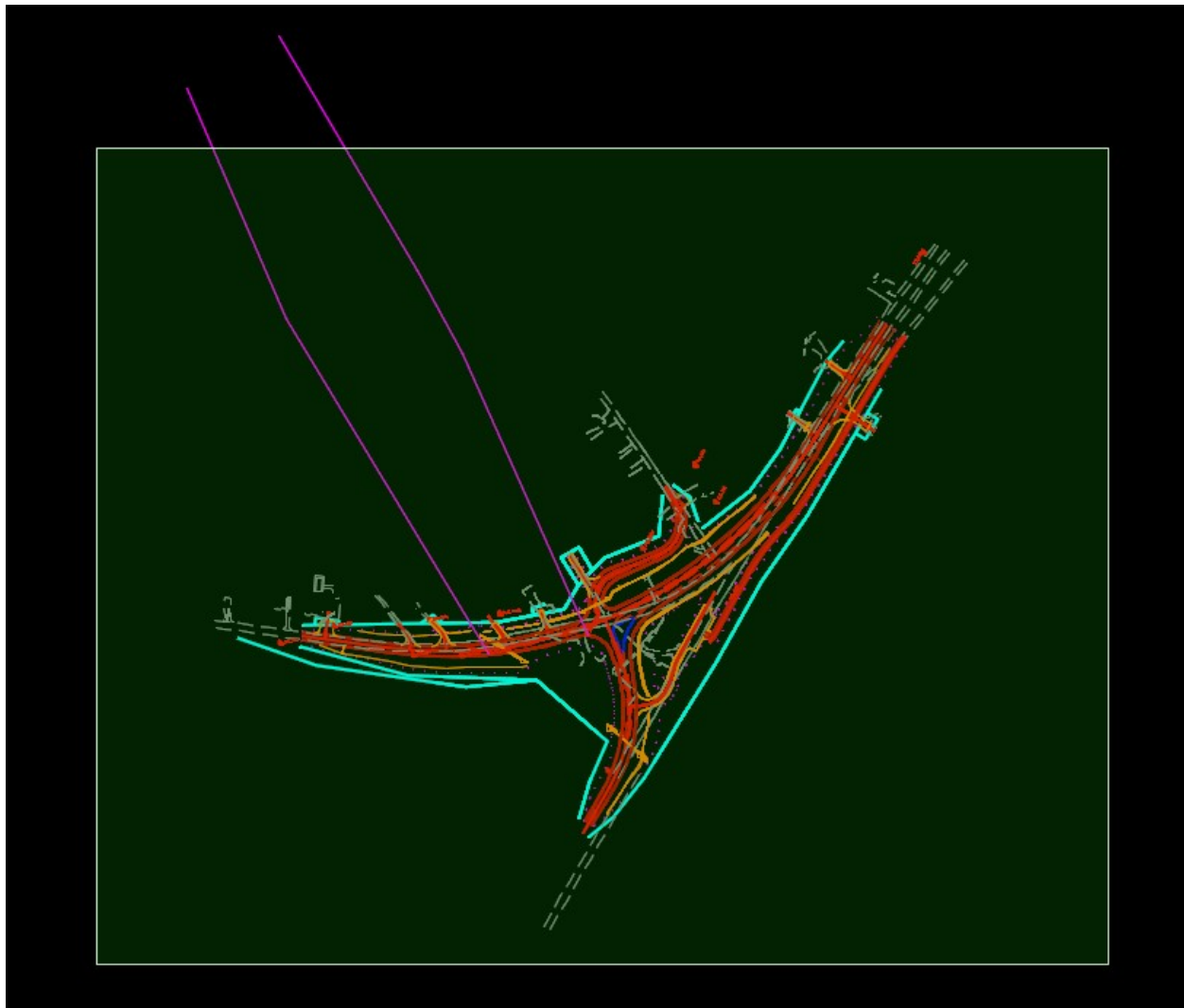
To make this easier, you may want to open another screen in MicroStation.

Next, do a Fence Inside and make sure all graphics are inside of the fence. Next zoom in around the set of the two points and then do a MicroStation **Move** Command. Click on the PD coordinates point first and then move everything to the State Plane Coordinates point. Data click to make sure move holds. Next back out of the Move command before you mistakenly move anything else. You have now translated the Project Datum Graphics to the “State Plane Coordinates” location.

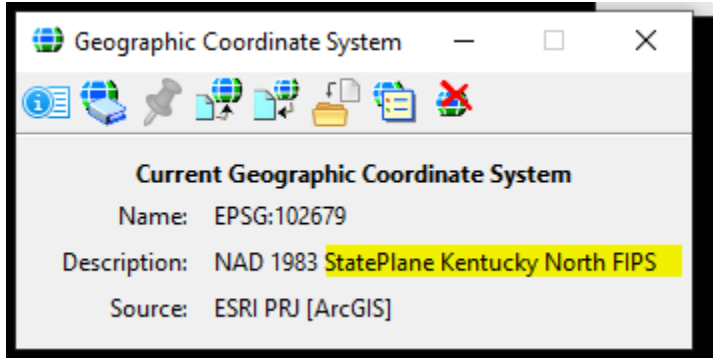
Next, while everything may still be fenced, do a MicroStation **Scale** command using the reciprocal of the Project Datum Factor. Be sure to do another Fence Inside mode before doing the Scale command. Be sure to Scale at the Center most point that you used for translation.

$1/1.00003459 = \underline{0.999965411196}$. You will not notice any difference but what this does is to scale down the graphics so the distance between graphical points will be as close to Grid distances.

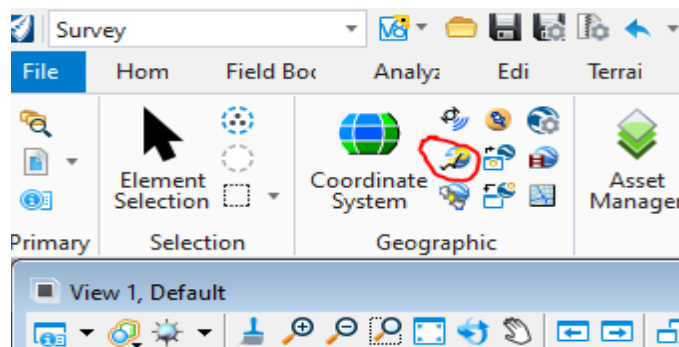
Use end points inside of the fence of magenta lines for your snap points when translating graphics. This is just an example.



Next, if we want to get a KMZ from Google Earth, make sure you are using a State Plane Zone. Does not matter which zone as long as it is State Plane. I think ORD reads this information and then creates behind the scenes the needed Latitudes and Longitudes to make the proper projection and location..



Next, go into the Utilities tab of ORD and then click on the icon as shown below.



It should now open up Google Earth and show you the KMZ that was created.