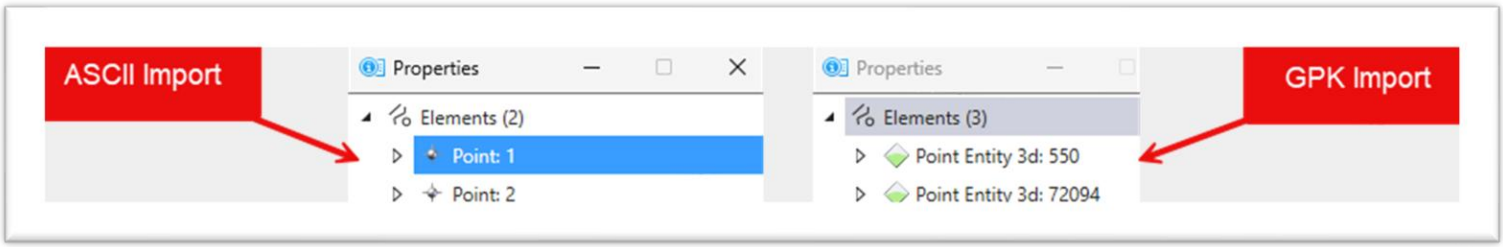
Effective May 2025, this guidance has been updated.
To foster consistency, this is currently the recommended method of importing data into OpenX products.

- Issue: Points imported via GPK file come in as "Point Entity 3D" vs importing from ASCII which shows points as a Point element (Bug 928038)
  - As of May 2025, this issue persists in all versions of software from Bentley
  - When the issue is resolved, this document will be updated and provided to KDOT ROW Engineering and posted with the next KDOT workspace release.



IMPORTING COGO/XML DATA FROM FILE INTO OPENX

Guidance for Bureau of Right of Way

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KDOT CADD Support

Updated May 2025 by KCS LRB

Table of Contents

Overview

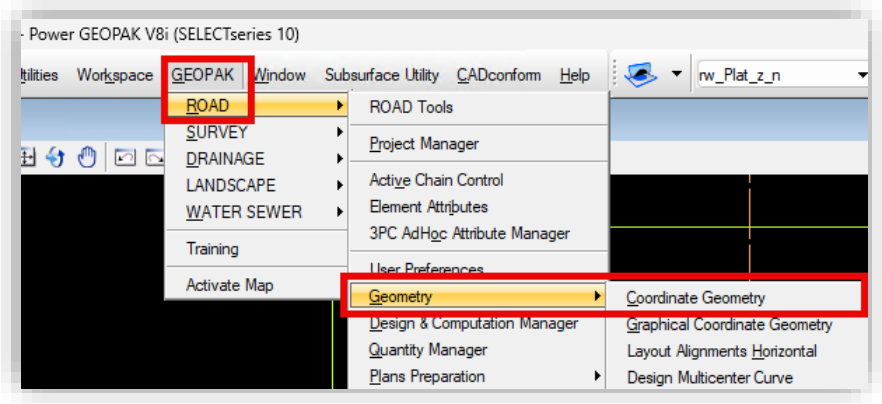
It should be noted that the processes outlined below are assuming there is existing data that needs to be moved from legacy v8i to OpenX Connect. KDOT does not mandate the use of GeoPak or other COGO products, only providing guidance on transferring COGO data, where COGO was used for Point placement. Questions related to ROW processes and workflows should be directed to KDOT Right of Way Engineering. Questions related to KDOT Workspace resources, Software Use Policy, etc. should be referred to kdot.cadd.support@ks.gov

Preparing COGO File for Import to OpenX Product

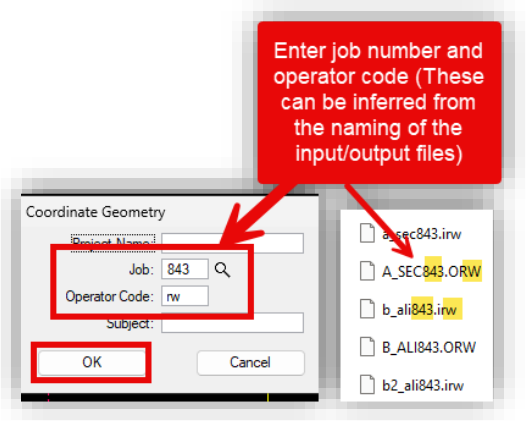
Exporting Points to an ASCII/Text File

Video Demo

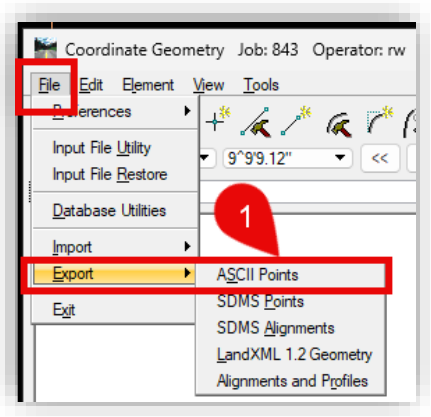
In PowerGEOPAK – Open COGO
GEOPAK→Road→Geometry→Coordinate Geometry



Login using the Job number for the and Operator code “RW”



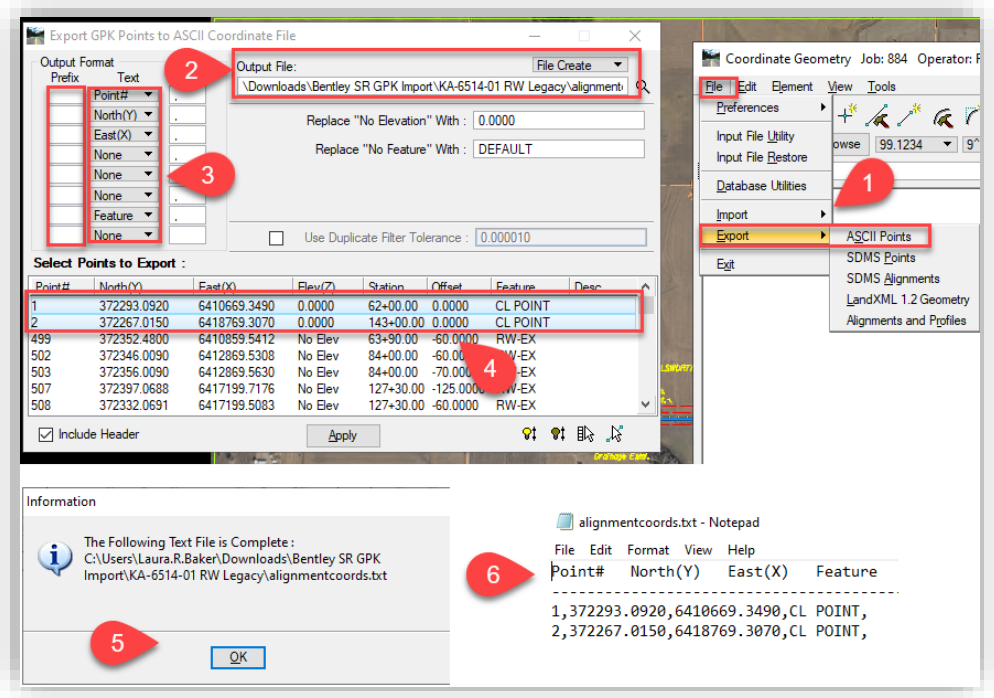
1. Within the COGO dialog, Select File→Export—ASCII Points



2. In the "Export GPK Points to ASCII Coordinate File Dialog Box, select the output file and name it something meaningful.
3. Example File Name: kaXXXXXX_a_ali.txt or kaXXXXXX_ali_coords.txt
4. Delete everything in the Prefix column and set Text to None on everything except Point#, North(Y), and East(X)
5. This will only export these fields.
6. Select the points for this file (IE all alignment points) and click Apply.
    a. A message will pop up indicating the file is complete. This will take a minute or so.
    b. Review the .txt file that was generated

✳REPEAT STEPS 2-6 for the Section and EXRW points, making sure to update the file name in step 2

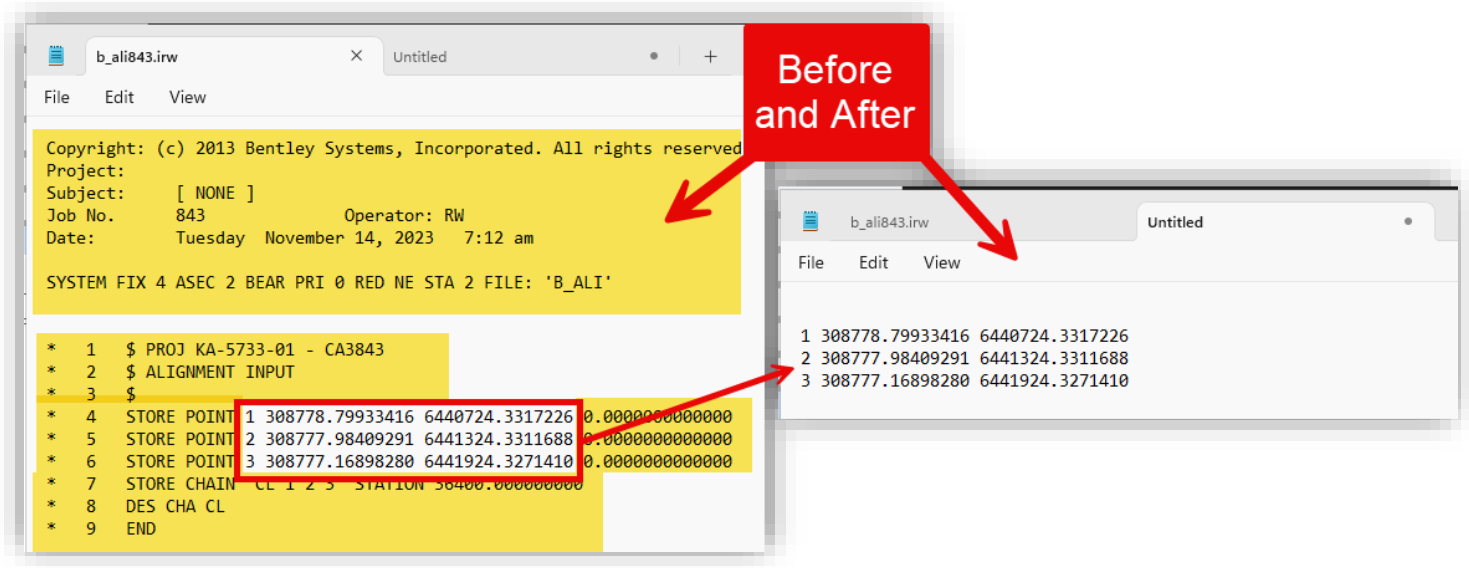
- You can click in the "Output File" field and change the name to the next file, select the next set of points, and click apply, and it will generate the new text file.



Alternative Creation of ASCII File for Import

KDOT understands that although we have projects in legacy v8i products, not every entity has access to the software. With that in mind, guidance is being provided on creation of ASCII files from the legacy v8i data provided by KDOT ROW Engineering staff without needing Power GEOPAK. Be aware this process could be cumbersome on longer projects.

1. Locate and open the b_ali_XXX.IRW (input) file in the project files using the notepad application of your choice.
2. Remove everything in the document except the lines listing the points and northing/easting coordinate values (as shown below, the highlighted information was removed.
3. Click File→Save As and name the document something meaningful as with the process outlined in the previous section.
4. This will need to be done for each "IRW" file. File names begin with an alpha starting with "a" and ends with the type of point expected.
    a. Example: a_sec (Section Corner Points), b_ali (Alignment Points, c_xrw (Existing ROW Points), d_pl (Property Line points, e_prw (Proposed ROW points) with additional alpha characters used for supplemental changes such as f_xrw for additional existing ROW points).
    b. Where COGO in GEOPAK combines all these and lists all points in the file, care will need to be taken to ensure points from all applicable files are imported.
    c. There could be more than one IRW file for each type of point as noted in the examples above.



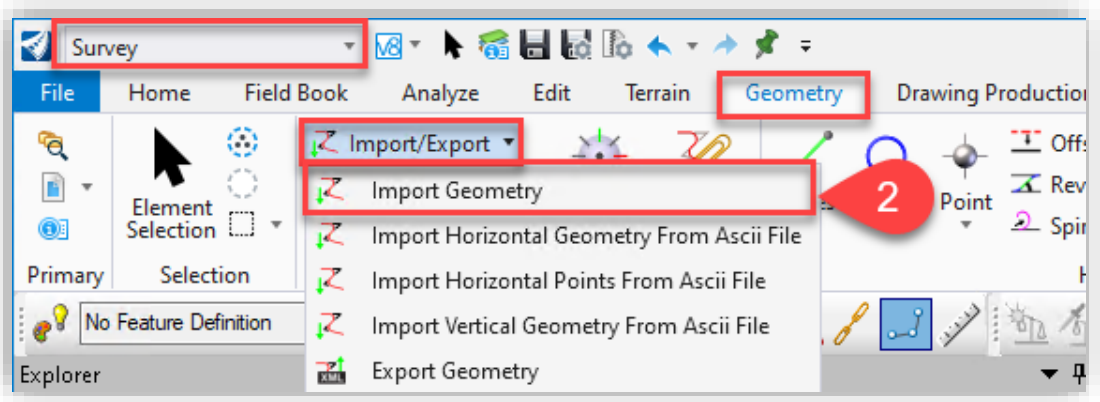
Creating Design File for Proposed Right of Way

Importing Alignment from Survey XML

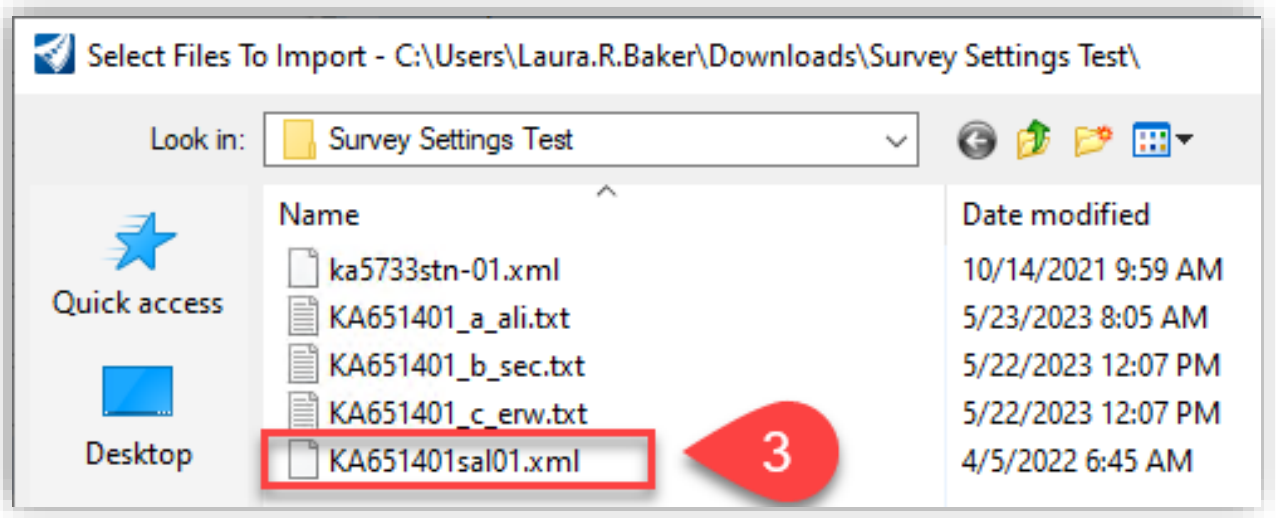
NOTE: Typically, in OpenRoads, it is recommended to reference data when possible. Right of Way uses a different stationing interval than Survey/Road, which necessitates importing of the alignment XML following the guidance below.

1. Start with a new DGN using the ROW 2D Seed file and set Coordinate System (as applicable)
    a. File name should use KDOT Bureau of Right of Way naming convention.
    b. The Right of Way seed file annotation scale is set to a default value of 1" =500'
    c. Scale can be adjusted as needed but typically is set to 1" =250' or 1" =500'

2. Navigate to the Survey Workflow→Geometry Tab→General Tools Section and select the dropdown next to Import/Export and select Import Geometry



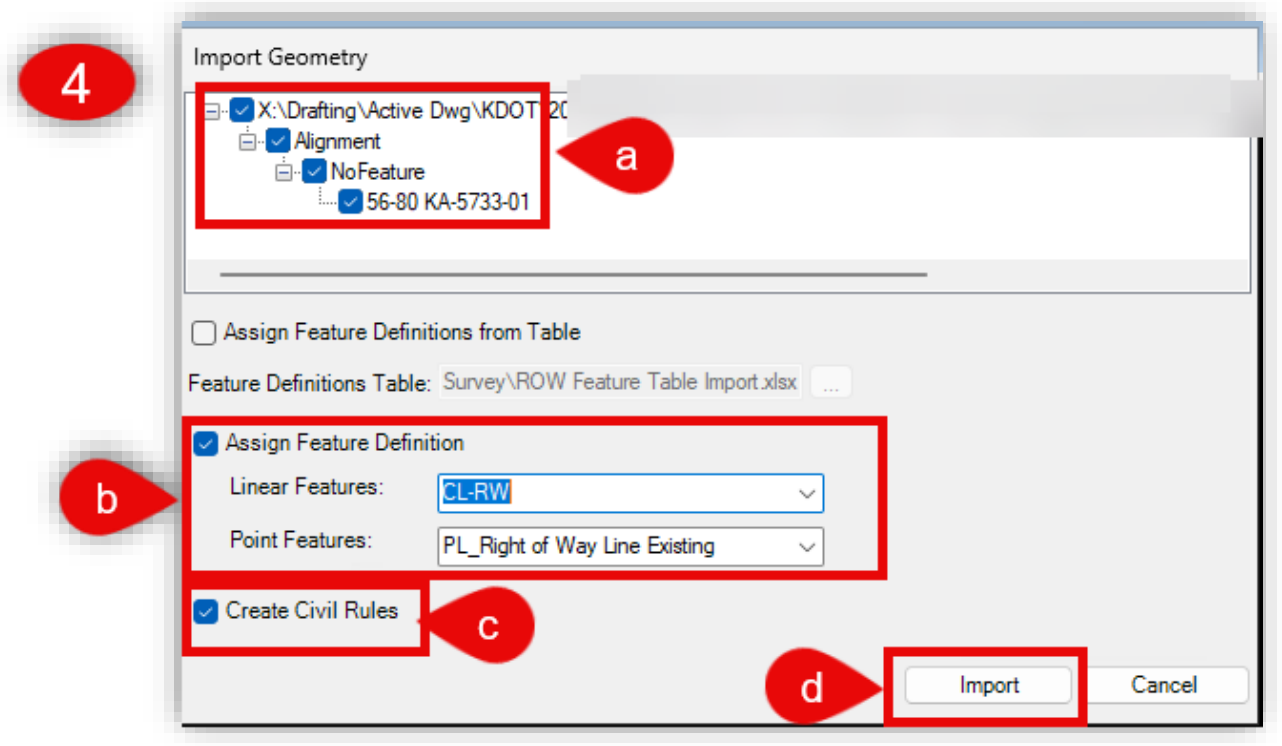
3. Next you will select the file you would like to import.
    a. Navigate to the Survey Folder of the Project and select the SAL01.xml file.



Import Geometry Dialog - OpenX 10.10+ Products

4. On the Import Geometry dialog box
    a. Expand the LandXML tree and select the CL (all the boxes above in the tree will auto-check)
    b. Check the box next to "Assign Feature Definition" and in the Linear Features drop down, select CL-RW.
    c. CL-RW has its own annotation group for alignment stationing (see Annotating the Features)
    d. Be sure Create Civil Rules is Checked
    e. Click Import

Once done you will see "Import Complete", and the dialog can be closed, and the alignment will be in the file.



Import Point ASCII Files into OpenX Products

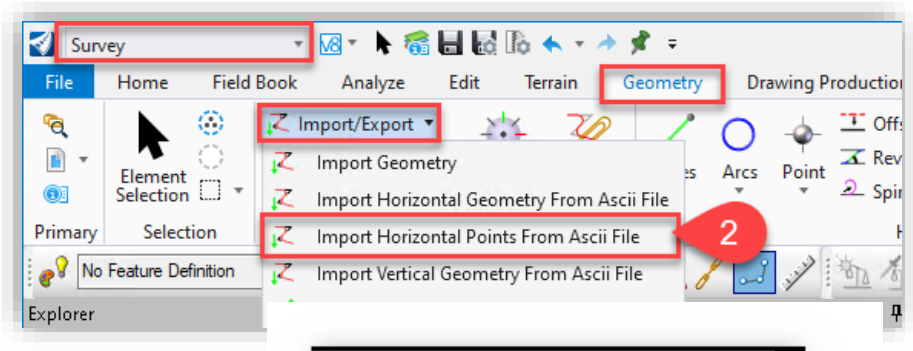
[Video Demo]

Importing Alignment Points

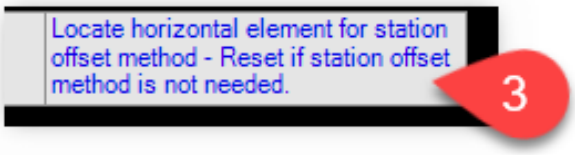
Each set of points must be imported separately.

1. Continuing in the file created in the previous step.

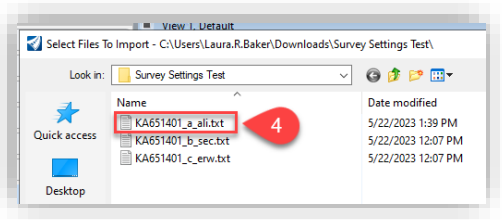
2. Navigate to the Survey Workflow→Geometry Tab→General Tools Section and select the dropdown next to Import/Export and select Import Horizontal Points from Ascii File



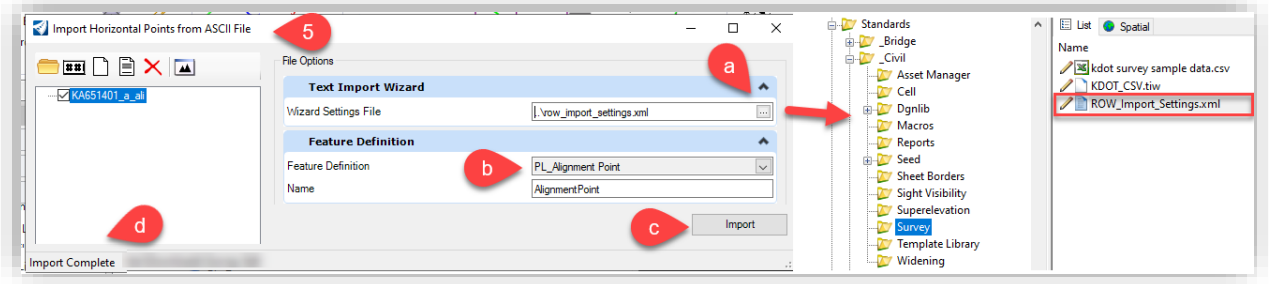
3. You will get a prompt for selecting an alignment for station offset, for Alignment points, right click to reset past this prompt. NOTE: It may be necessary to select the alignment for other point types to see the relationship via the Station-Offset Reports for Points



4. Next you will select the file you would like to import.

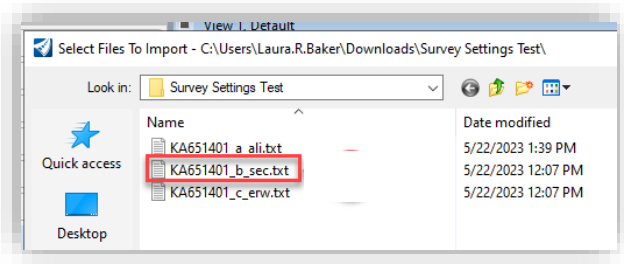


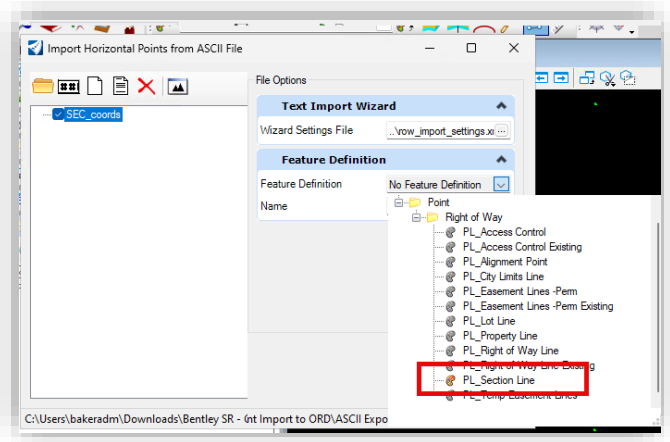
5. On the Import Horizontal Points from ASCII File dialog box
   a. Click on the ellipses next to Wizard Settings File and navigate to \WorkSpaces\KDOT\Standards_Civil\Survey\ROW_Import_Settings.xml
   b. Select the Feature Definition PL_Alignment Point
   c. Click Import
   d. Once done you will see "Import Complete", and the dialog can be closed.



Importing Section Corner Points

- Repeat Steps 2-5 on the previous page, selecting the ASCII file for Section Corner Points and using Feature Definition "PL_Section Line."

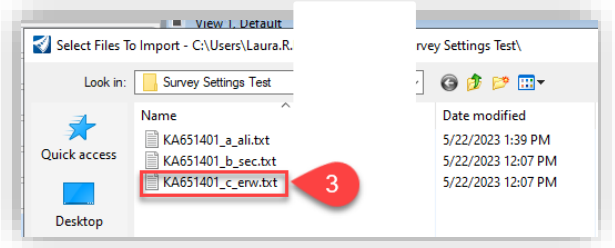


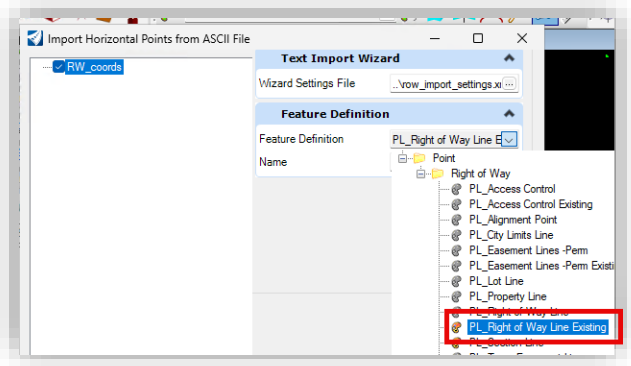


Importing Existing ROW Points

- Repeat Steps 2-5 on the previous page, selecting the ASCII file for Existing Right of Way Points and using Feature Definition "PL_Right of Way Line Existing."

NOTE: You will get a prompt for selecting an alignment for station offset. This can be done if needed for Station-Offset report, otherwise, right click to reset past this prompt.





For instructions on annotating the point names see **Annotating the Features**

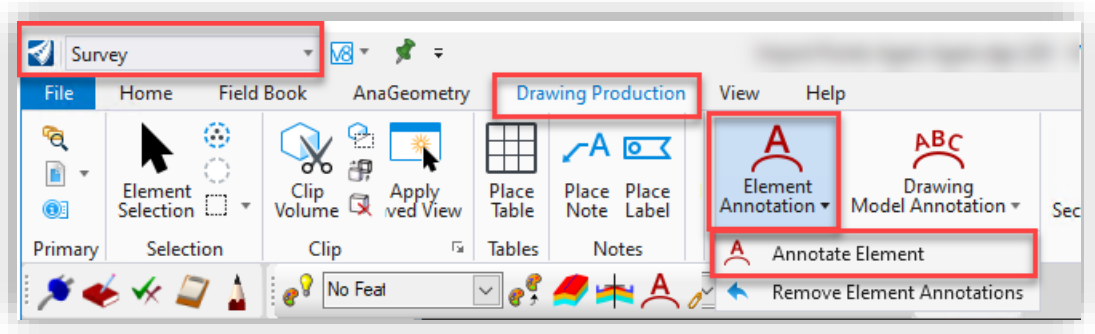
Annotating the Features

Video Demo

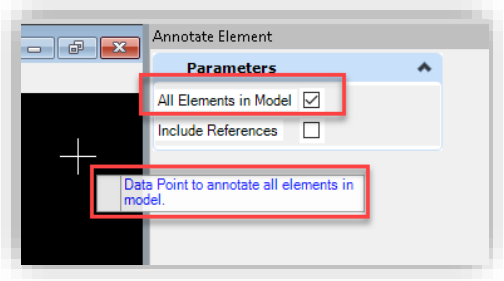
Displaying Point Names & Alignment Stationing

NOTE: Annotations may not be displayed as expected if the processes outlined in the previous sections are not followed.

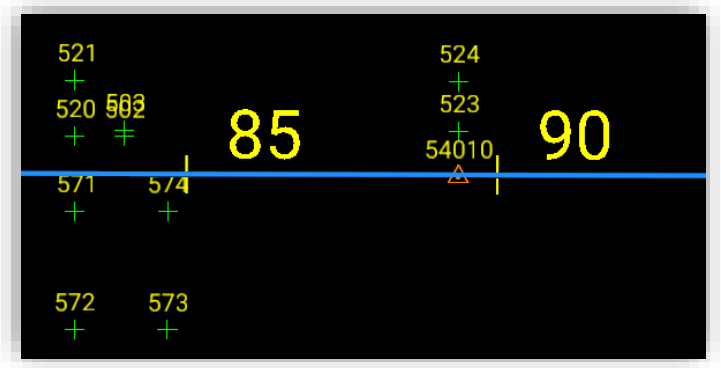
1. Navigate to the OpenRoads Modeling or Survey Workflow→Drawing Production Tab→Element Annotation and select Annotate Element



2. In the Annotate Element dialog box, check the box for "All Elements in Model" and you will see a prompt to "Data Point to annotate all elements in model"
    a. Alternatively, you can hit CTRL+A to select all elements in the model.



3. Review design file to ensure point numbers and alignment stationing have been annotated as expected.



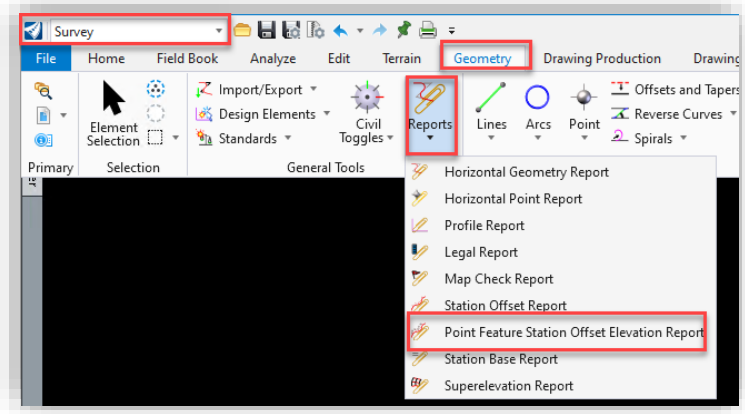
Appendix

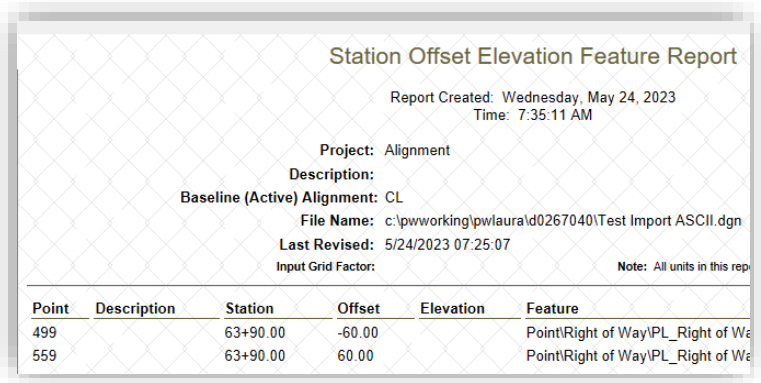
Station-Offset Reports for Points

When the alignment is used during the point import process, you will be able to generate a report showing the point locations in relationship to the alignment.

Navigate to the Survey Workflow→Geometry Tab→General Tools→Reports
Click the down arrow and select "Point Feature Station Offset Elevation Report"

The prompts will ask you to locate the alignment and left click to confirm the points.





Station Offset Elevation Feature Report

Report Created: Wednesday, May 24, 2023
Time: 7:35:11 AM

Project: Alignment
Description:
Baseline (Active) Alignment: CL
File Name: c:\pwworking\pwlaura\d0267040\Test Import ASCII.dgn
Last Revised: 5/24/2023 07:25:07
Input Grid Factor: **Note:** All units in this rep

Point	Description	Station	Offset	Elevation	Feature
499		63+90.00	-60.00		Point\Right of Way\PL_Right of Wa
559		63+90.00	60.00		Point\Right of Way\PL_Right of Wa

Contact Information

If you have any questions, issues, or changes, please submit a ticket to KDOT CADD Support via email @ ebitsm@ks.gov and cc KDOT CADD Support at kdot.cadd.support@ks.gov

Important

This guidance does not cover all possible scenarios. Coordination with the KDOT Right of Way Engineering staff may be necessary to ensure deliverables meet their expectations. Care should be exercised to use the KDOT approved version of any Bentley Platform products in accordance with KDOT's Design Software Use Policy to avoid issues with schema and product alignment. As noted in the Overview, use of GeoPak/COGO is not required.

See KDOT CADD Support Design Software (ksdot.gov) for the latest information.