

---

## Topic #6: How to Create Proposed Right of Way – Takes and Remains Using ORD

---

### About this Write Up

We will be outlining multiple workflows in this document to aid in your development of proposed right of way – takes and remains. The purpose will be to provide takes and remainders to Right of Way for others' use in creating legal documents.

### ORD Version

This workflow is intended for OpenRoads Designer version 10.08.01.33. The directions outlined below may respond differently in other versions of the Program.

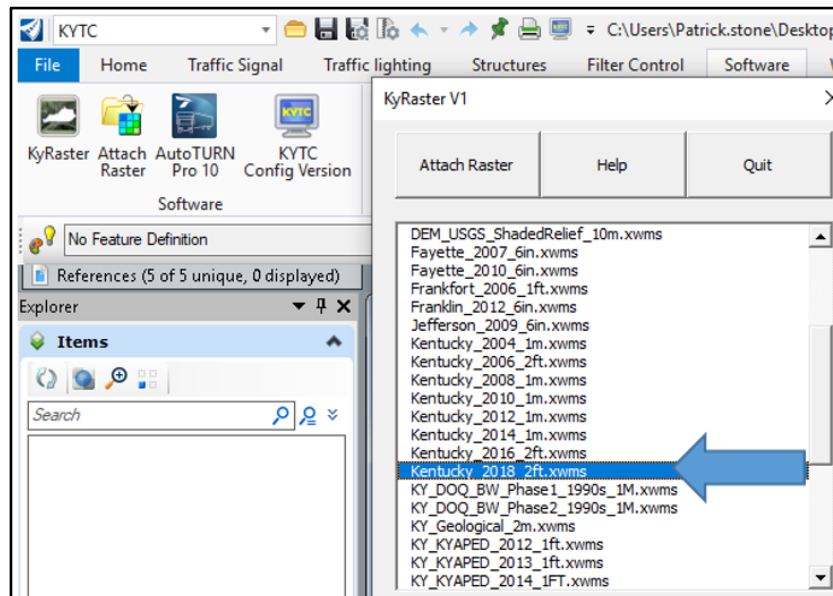
### Contact Information

This workflow was produced by Patrick Stone. Please send all questions, errors or overall complaints to [KYTCCaddSupport@ky.gov](mailto:KYTCCaddSupport@ky.gov) or call 502-564-3280.

### Getting Started

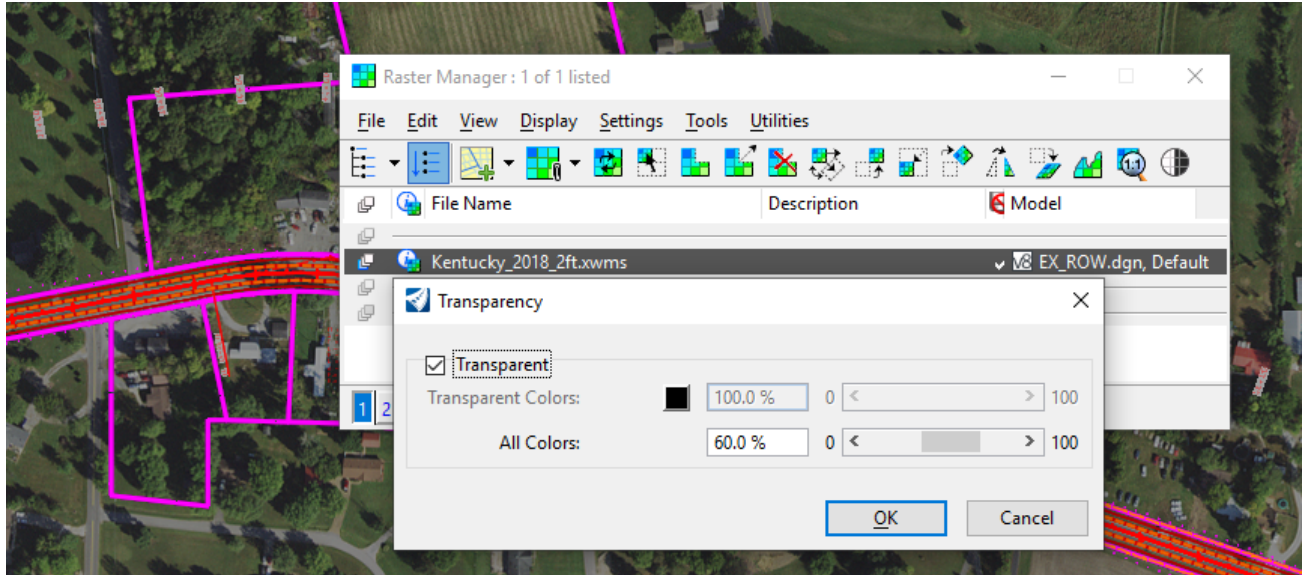
The first step we will need to complete is creating a proposed right of way file from a seed. For this example, we will call it PR\_ROW.dgn. Next, we will reference in our Corridor file with the nesting depth set to one, along with our Terrain file (or you can reference the files in one at a time). The next step is to set your terrain to active (doing so by hovering over the edge of the terrain and selecting the “set to active” button). At this point, I like to attach an image so I can start laying out the existing right of way. There are several ways to attach the image (I will list three):

1. View attributes background map - currently this uses Bing maps and the quality of the map will be determined by the area of the state you are working in.
2. KyRaster - these maps are generally better quality than the Bing maps, but once more, it depends on where in the State you are working. These are located under the KYTC workflow and the software tab.
3. Drawing Utilities - Geographic Capture Google Earth Image.  
For this workflow, we will be using Method 2: KyRasters.



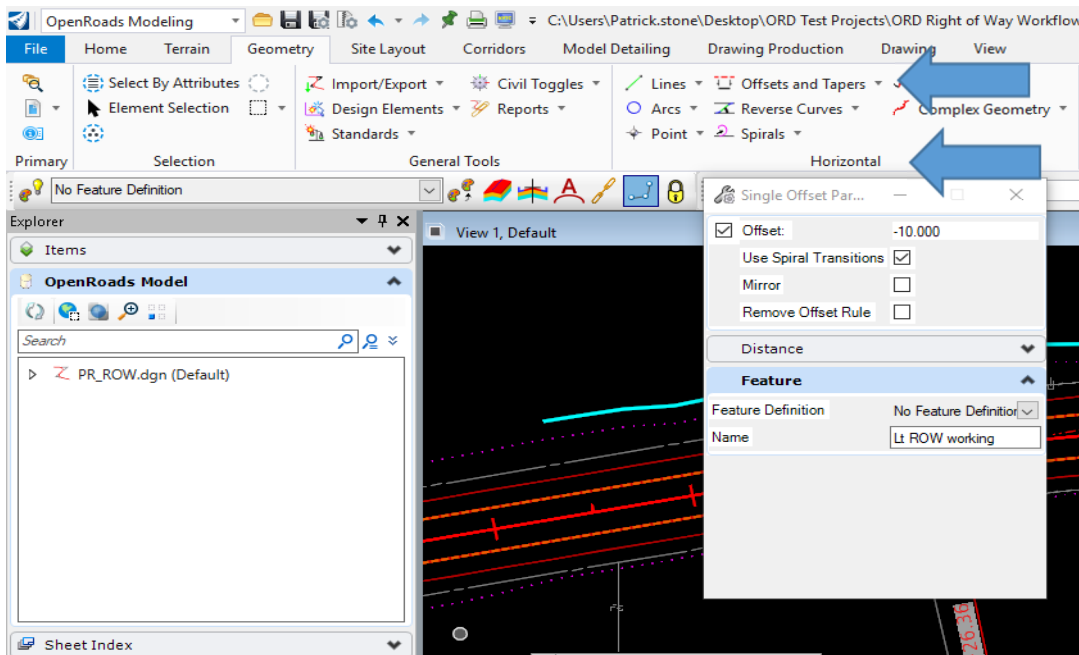
After selecting the map of our choice, select the Attach Raster button.

Your drawing should now look like the one pictured below. I would suggest that you set your Transparency to 60%. This will allow you to see the Existing Right of way lines and Property lines easier.

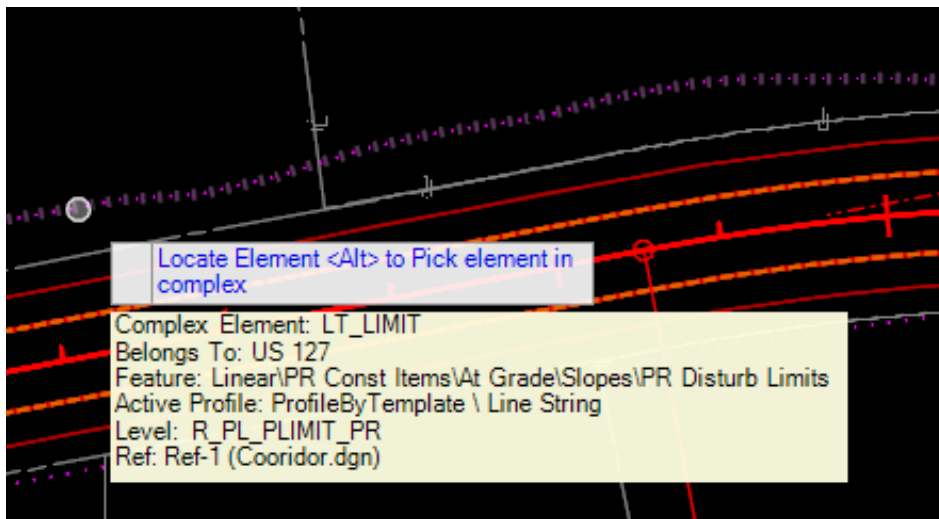
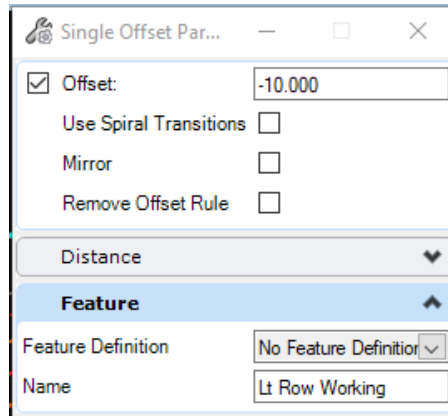


### Setting Proposed Right of Way

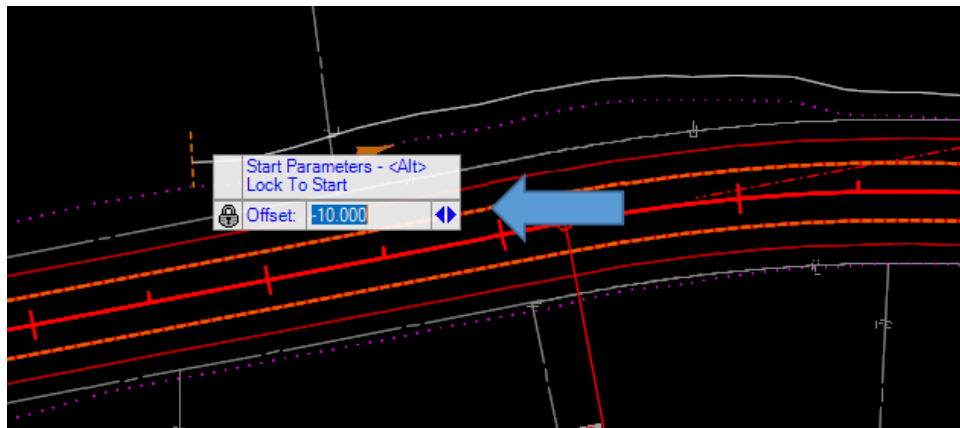
Next, we are going to focus on setting our proposed right of way and our takes. Firstly, we will set the right of way for this project this will be a rough offset that will have odd stations and offsets that we will make more precise later in the process (we have chosen a 10' offset from the limit for this project). Note that there are many ways to create the Proposed Right Of Way; for this example, we will be using the Offsets and Tapers command under the Horizontal tab, detailed below.



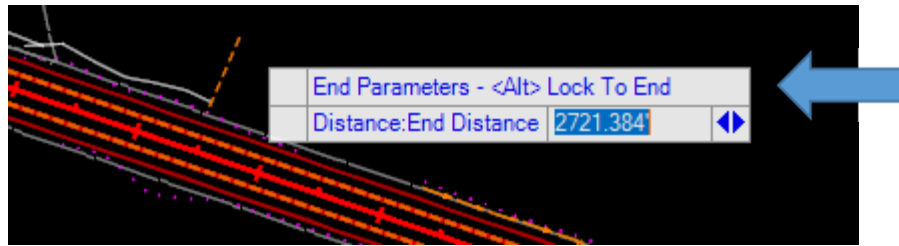
For this example, we will set the Offset to 10'. Turn on or off the appropriate options. Do not set a feature Definition at this point this is just a basic construction element and I find it easier to track the construction elements if they are white and level default. Name the Feature LT Row Working, as seen below Next, you will follow a series of prompts what ORD will ask for. First, locate the element:



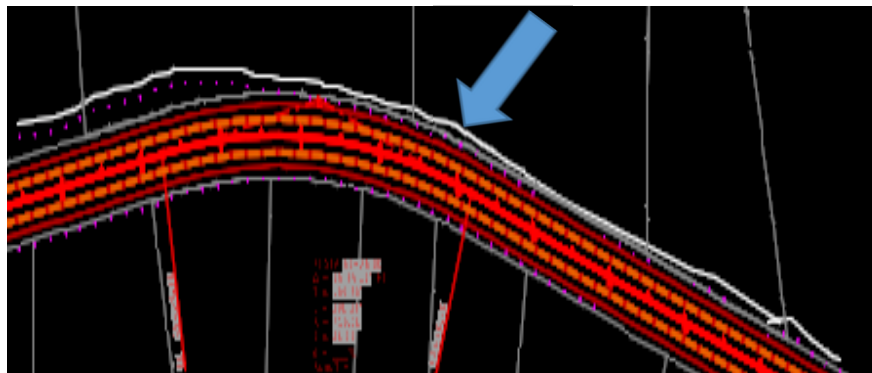
Next, set the start or <Alt> to lock to begin, and key in the offset of -10.



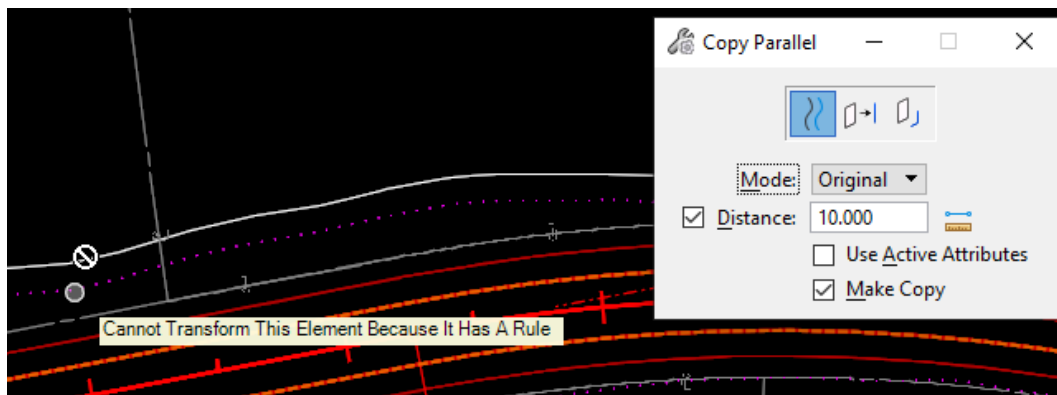
Now, set the end or <Alt> to lock to End.



Notice you now have your LT Row Working element placed after completing the series of prompts (see below). Remember that since we did not set the Feature definition it will be white. We did set the feature name to LT ROW working.

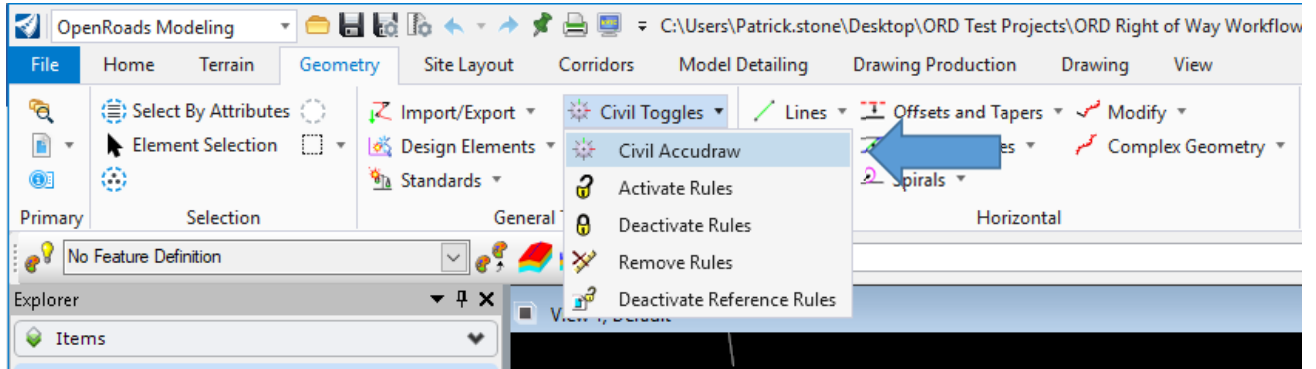


Please note we did not use the copy parallel command because the limit line has a Rule and is in a reference file.



## Using Civil AccuDraw

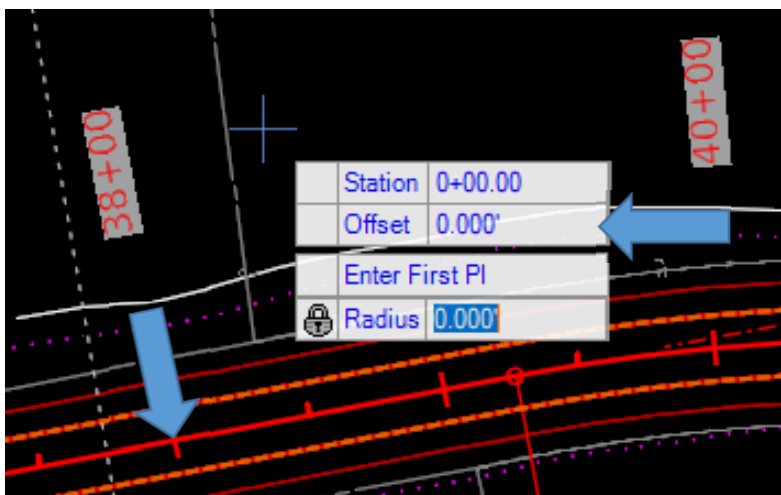
We will use Civil AccuDraw to place our Proposed Right of Way line at even station and offsets where practical. We will only be using a few options with the Civil AccuDraw tool. For a detailed explanation of Civil AccuDraw please see the workflow titled Why You Need Civil AccuDraw delivered with the KYTC Workspace under KYTC Workflows. The Civil AccuDraw tool is located under OpenRoads Modeling – Geometry – General – Civil Toggles – Civil AccuDraw



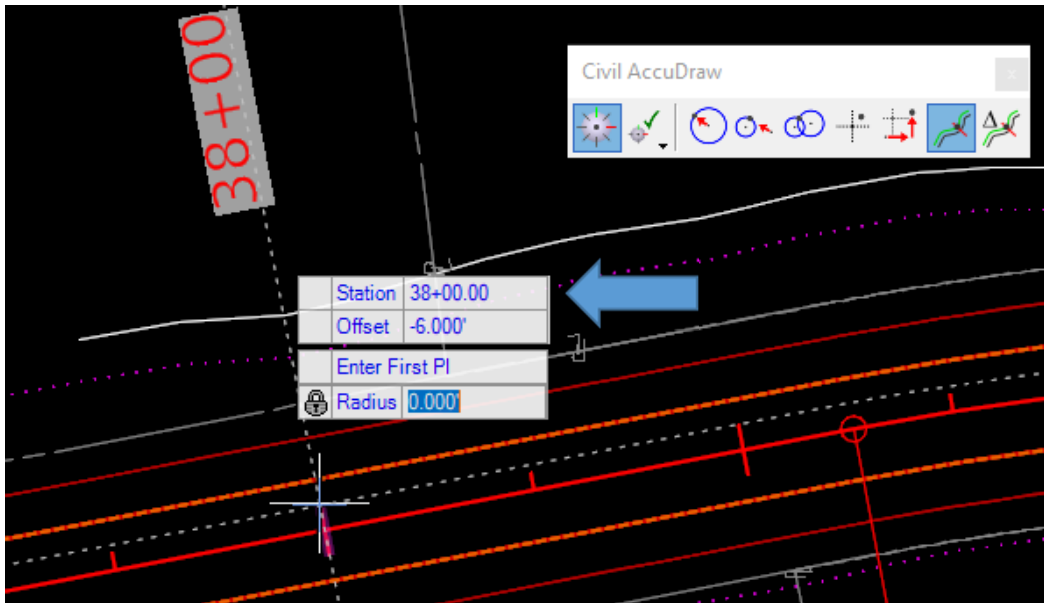
With the Civil AccuDraw tool open we need to make sure the tool is toggled on. With Civil AccuDraw toggled on we will be using the Station – Offset option. Make sure this tool is toggled on as well.



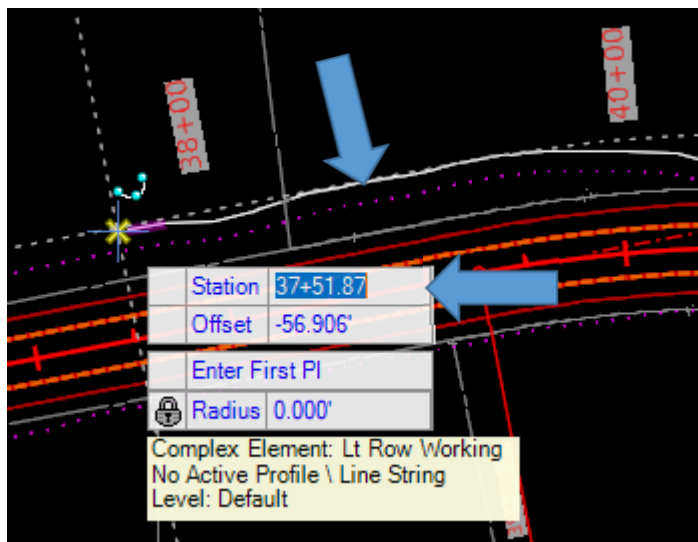
Notice the Station and offset currently we have a Station of 0+00 and an offset of 0.00'. You can tell from the image below that our alignment is clearly at Station 38+00. In order for us to place our Proposed Right of Way at the correct offset we must first set the Station origin to our centerline.



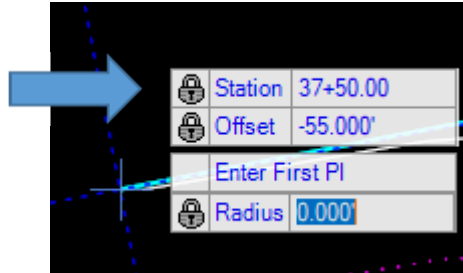
To set the Station origin to our centerline we will tab to the Offset key in field and key in the letter “O” this will set the Origin to the centerline we need to track from. Please note that you can enter the “O” into the Station field for first instance after that it will not work this is because you could enter a station equation example (O 38+00) that’s why it is highly recommended to tab to the Offset field and enter the letter “O” this will eliminate this issue. This “O” origin snap will persist until you O snap again or exit the session of Openroads. Now with the O snap set the the appropriate alignment you can see that we will be setting our proposed right of way off the correct alignment. If the alignment moves our proposed right of way will move with it.



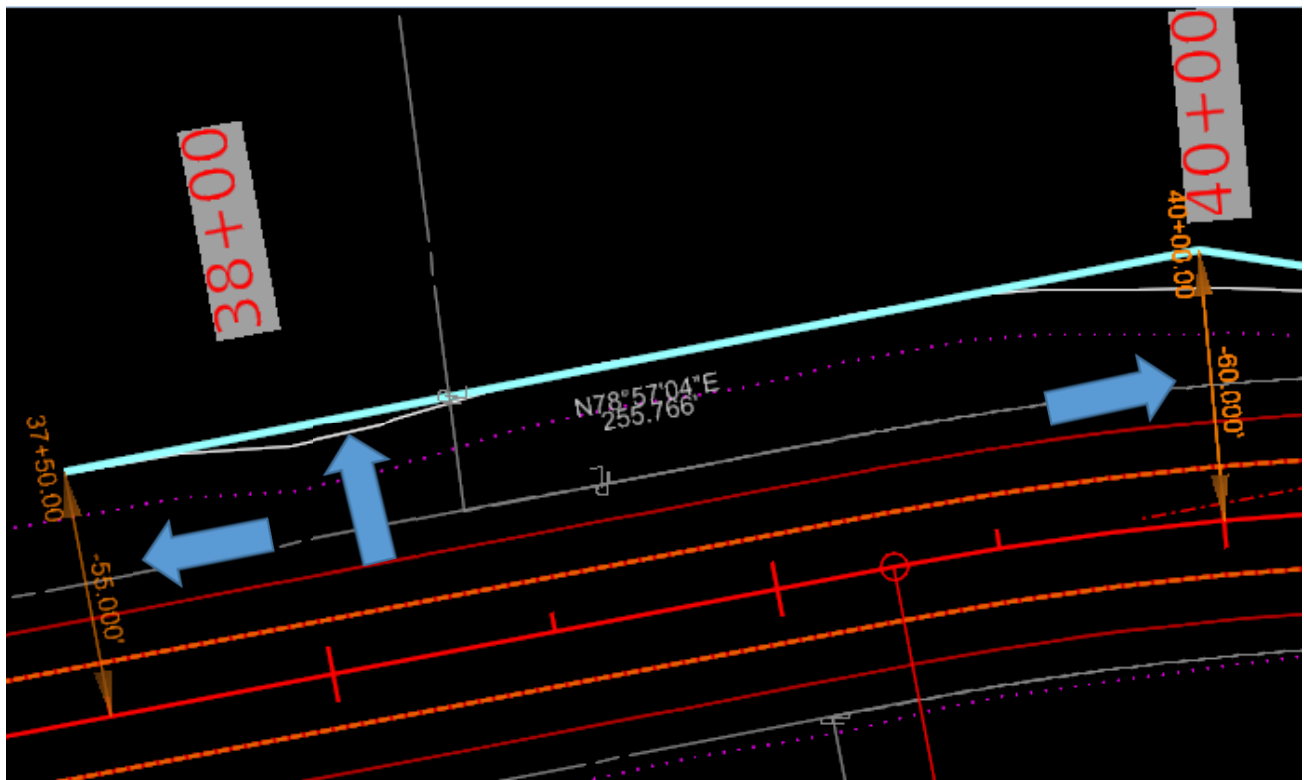
Remember the LT Row Working element created earlier? We will use that element as a guide to place our Proposed Right of Way we will hover over the beginning of the line as shown below. We can see that the station and offset are at odd numbers. We can simply type in the desired numbers in this case we will use 37+50 tab and -55.00. You will need to tab into the field tab the the nex field then data point to accept.



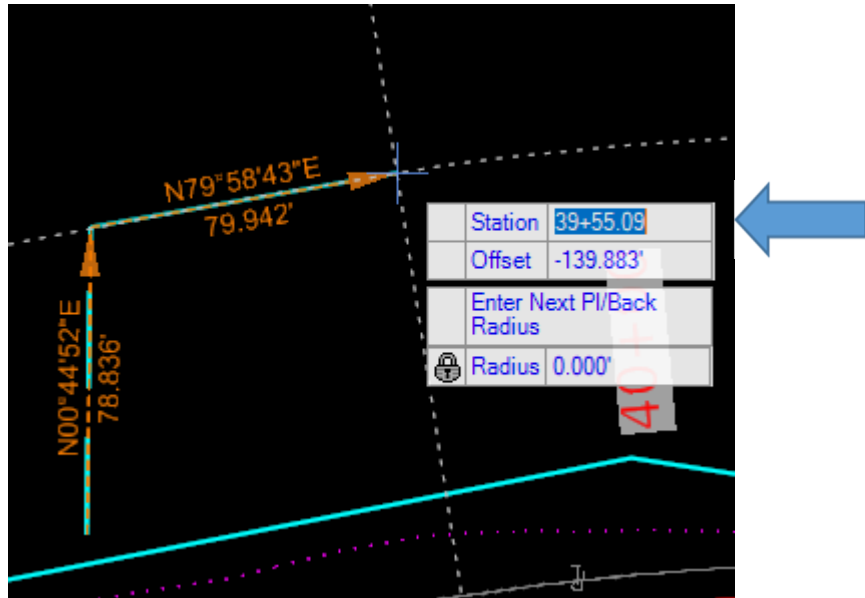
Notice as you tab between fields they will have a lock symbol indicating that you have entered the Station and the Offset. Now you will be prompted to data point to accept. Repeat this process for the remainder of the Proposed Right of Way on this side of the Alignment.



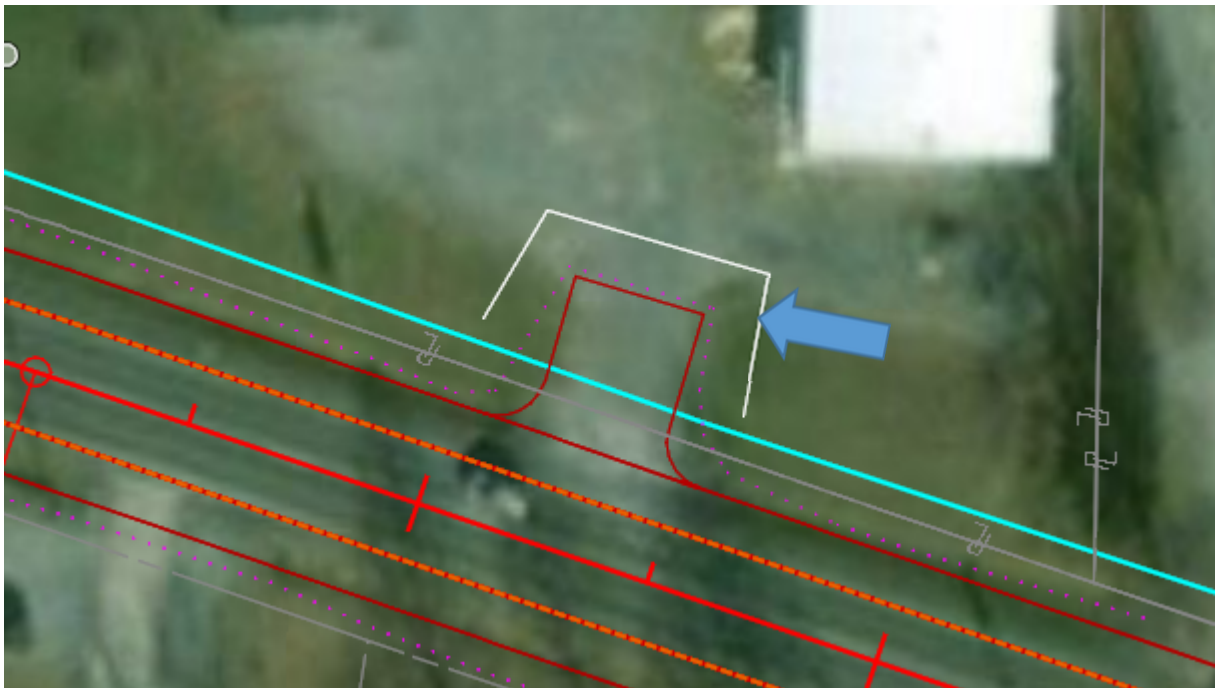
It is important to note that as of this writing you must type in the station and offset for the rule to take affect merly data pointing the point will not assign a civil rule. A button to enable data point input has been requested but has not been created as of yet. Your proposed right of way should look like the one below. Notice the Civil Rules and that we have set the proposed right of way at even station and offsets. Now we can delete our construction line.



As a temporary solution, in a Geometry command you can use the Enter on your keyboard and it will 'lock' to the station, then again for the offset (based on your cursor location). That way you don't have to type anything into the fields. Notice that these Station and offsets are at odd stations and offsets.



We will use this method to set a temporary construction easement around the entrance below. We have Set a 10' offset construction line around our entrance to aid in constructing our temporary construction easement.

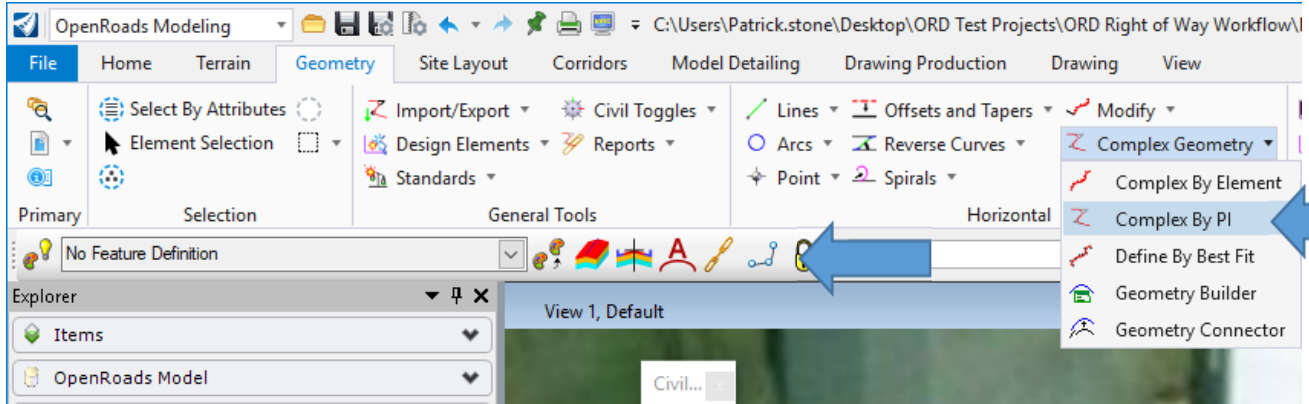


Remember to turn on Civil AccuDraw. The Civil AccuDraw tool is located under OpenRoads Modeling – Geometry – General – Civil Toggles – CivilAccudraw.



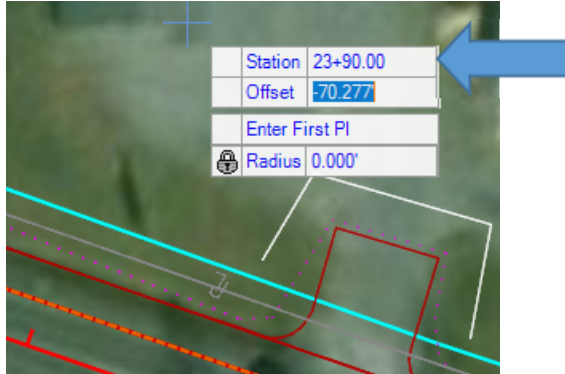
## Complex by PI

To place our Temporary construction easement we will be using the Complex by PI command. Located under OpenRoads Modeling – Geometry – Horizontal – Complex Geometry – Complex By PI.

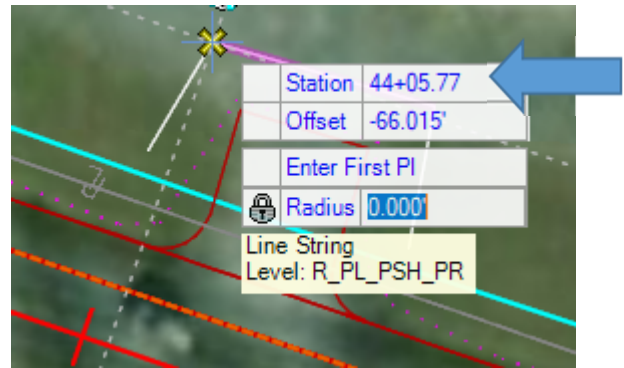


With the Persist Snap turned on and the Civil AccuDraw turned on select Complex By PI command. Tab down to Offset and hit the letter “O” origin snap now select your centerline. Now you should be tracking on your centerline.

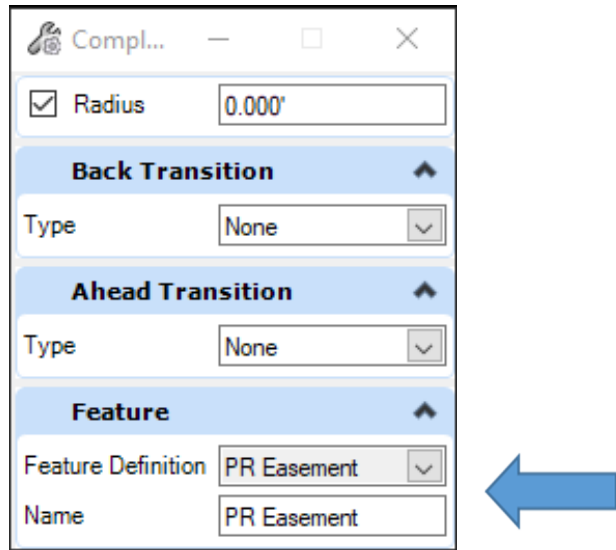
Before O Snap



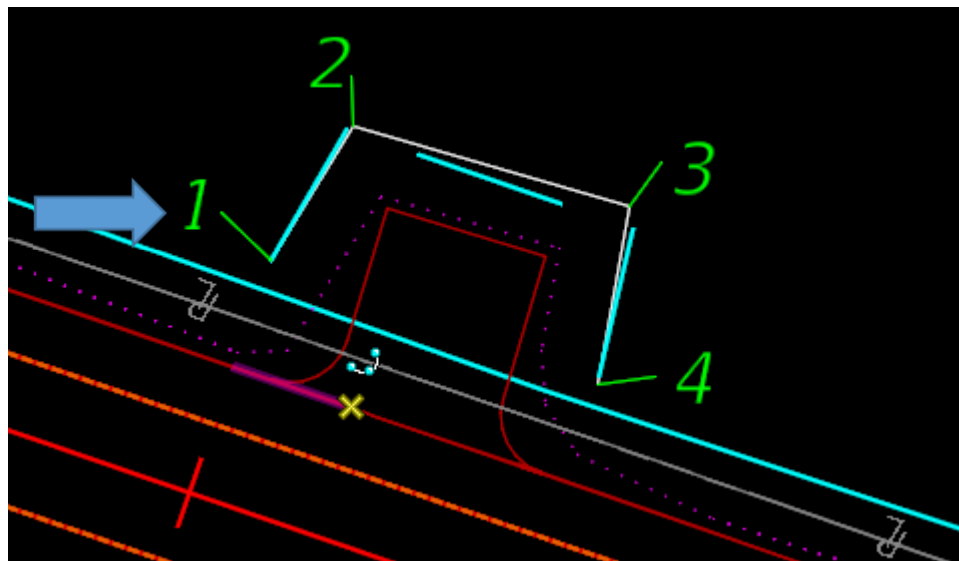
After O Snap



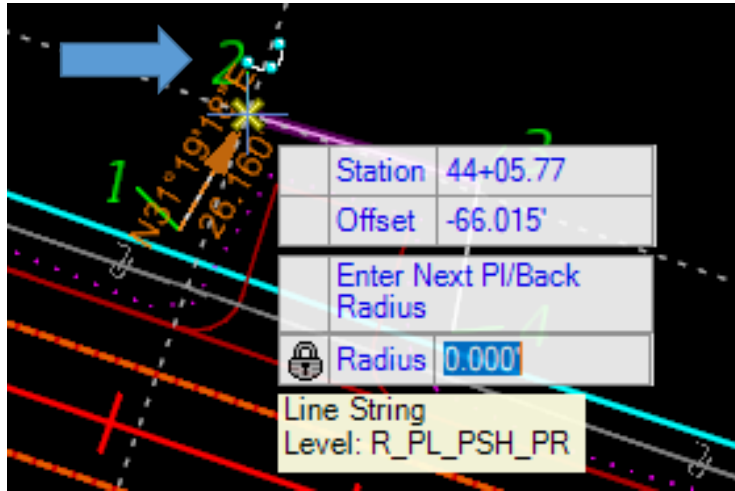
With the Complex By PI command active we will select four input points. Points 1 and 4 will not be placed with station and offset at this point we don't know the exact station and offset we will set points 1 and 4 to we will set them in the next step. Make sure the persist snap is turned on. Set the Radius to 0 the Transitions to none set the Feature Definition to PR Easement and we will leave the name set to PR Easement for this example.



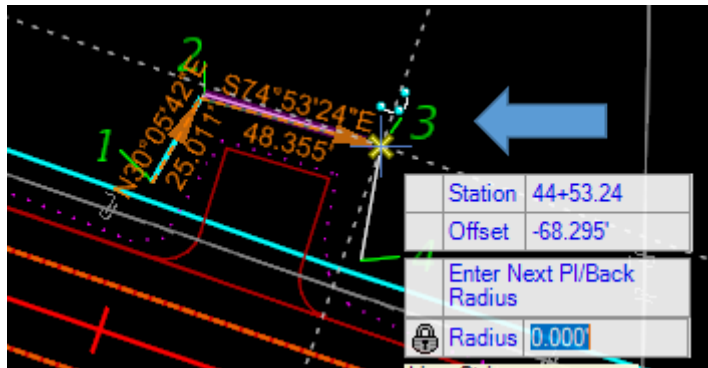
For point 1. Data point to the end of the construction line.



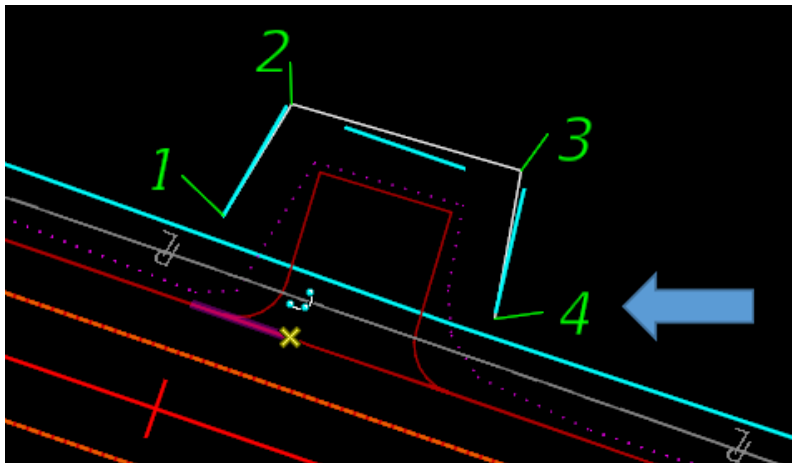
For Point 2. Hover over point two. Change Station to 44+05 and the Offset to -65. Hit Enter.



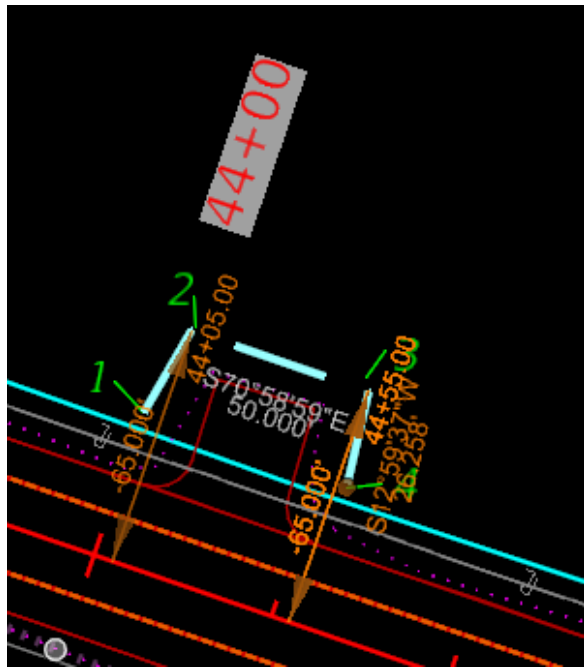
3. Hover over point three. Change Station to 44+55 and the Offset to -65. Hit Enter.



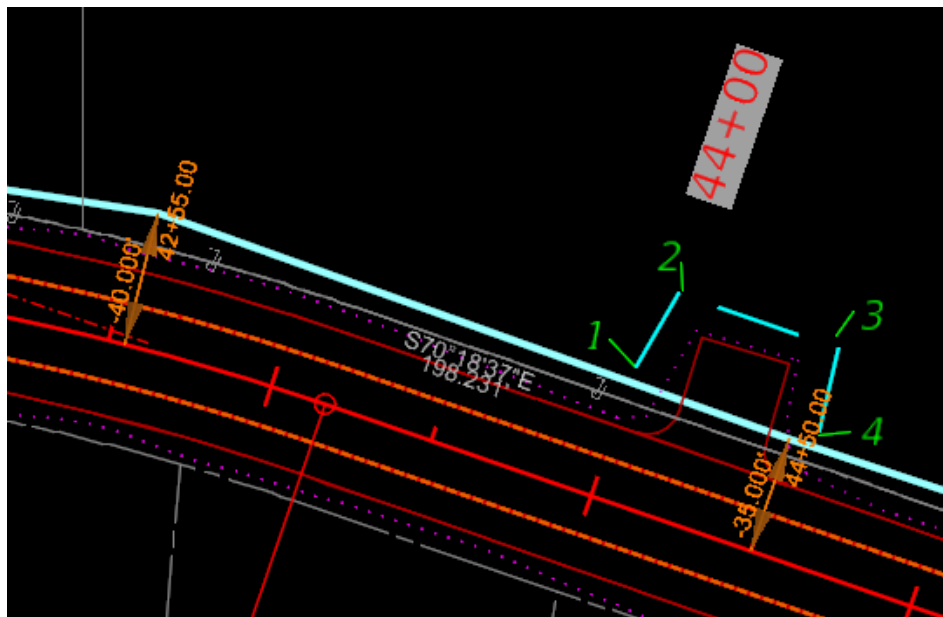
4. Data point to the end of the construction line.



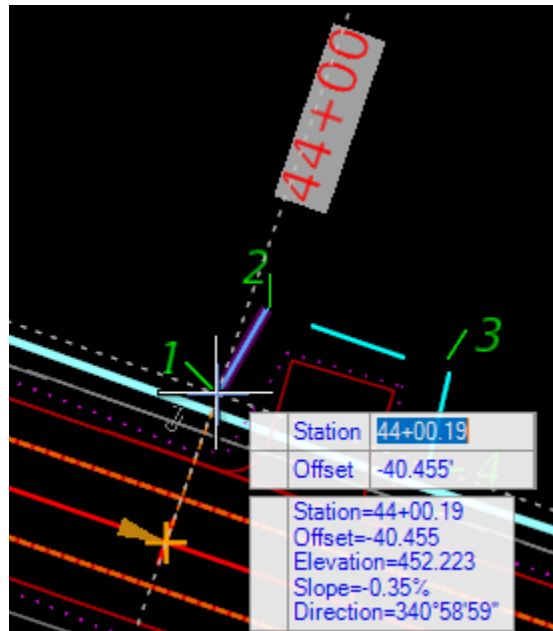
Notice how point 2 (Station 44+05 offset -65') and 3 (Station 44+55 offset -65') have Civil Rules based on Station and offset from our Centerline and that points 1 and 4 do not.



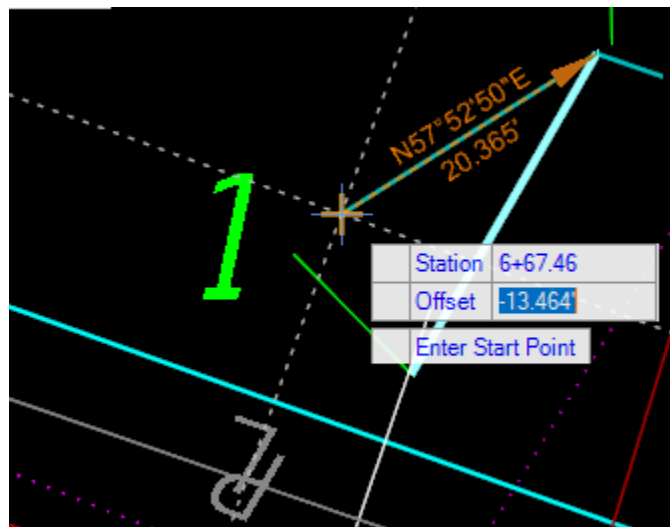
Let's take a closer look at points 1 and 4 notice that we have a taper on the proposed right of way. This will make points 1 and 4 be placed at an odd offset so the best we can do here is to set an even station for both points 1 and 4.



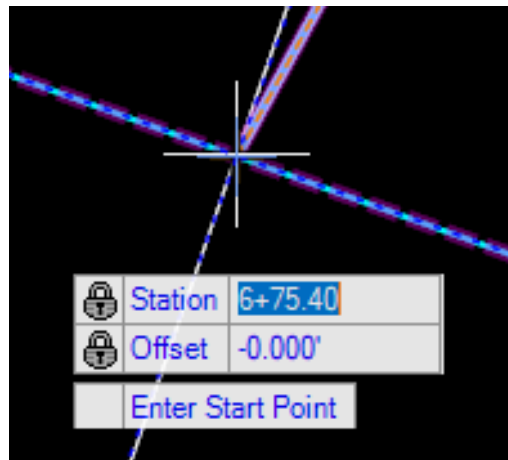
We can see that the closest rounded station is 44+00. There are multiple ways to set this Proposed Temporary Easement we will simply place a non-geometry line at Station 44+00 with multiple offsets.



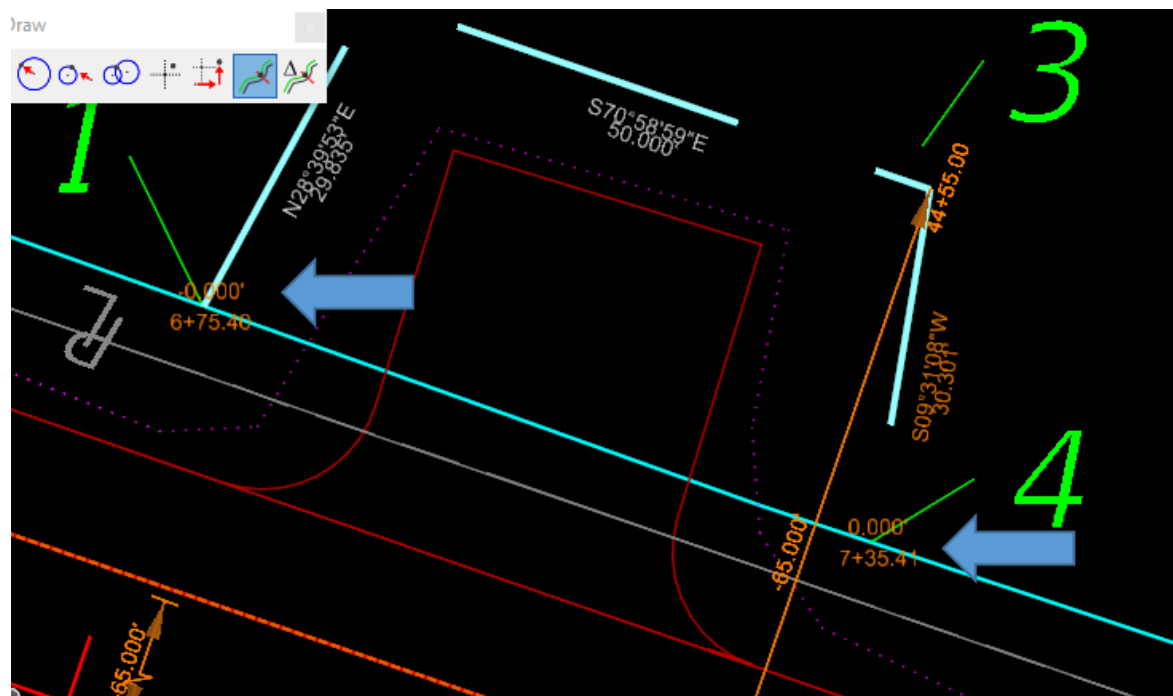
Now we have drawn a line at Station 44+00 with multiple offsets. Now we will move our Temporary Easement to the intersection using the modify element command. We will now rule this easement to the Proposed Right of way line this way if the Proposed Right of Way line is adjusted then our Temporary Easements will be adjusted automatically with the Proposed Right of Way. To create a civil rule to the proposed right of way you can use any modify tool we will use the element selection tool. With Civil AccuDraw enabled pick the point you want to move. Tab to the Offset input and enter the letter 'O' Origin when prompted to select the reference element select the Proposed Right of Way line. Notice that the Station and offset is now tracking the Proposed Right of Way instead of the Centerline.



Notice that the Station of the Proposed Right of Way is 6+75.40 offset 0. To Rule the Easement to the Proposed Right of Way you have two options 1 tab to Station and Key in the Station then Tab to offset key in the Offset. 2. Snap to the intersection point and hit the Enter Key once to accept twice to lock for both station and offset. Then Data point to accept. Repeat this process for the other end of the Easement. You can now delete your construction elements.



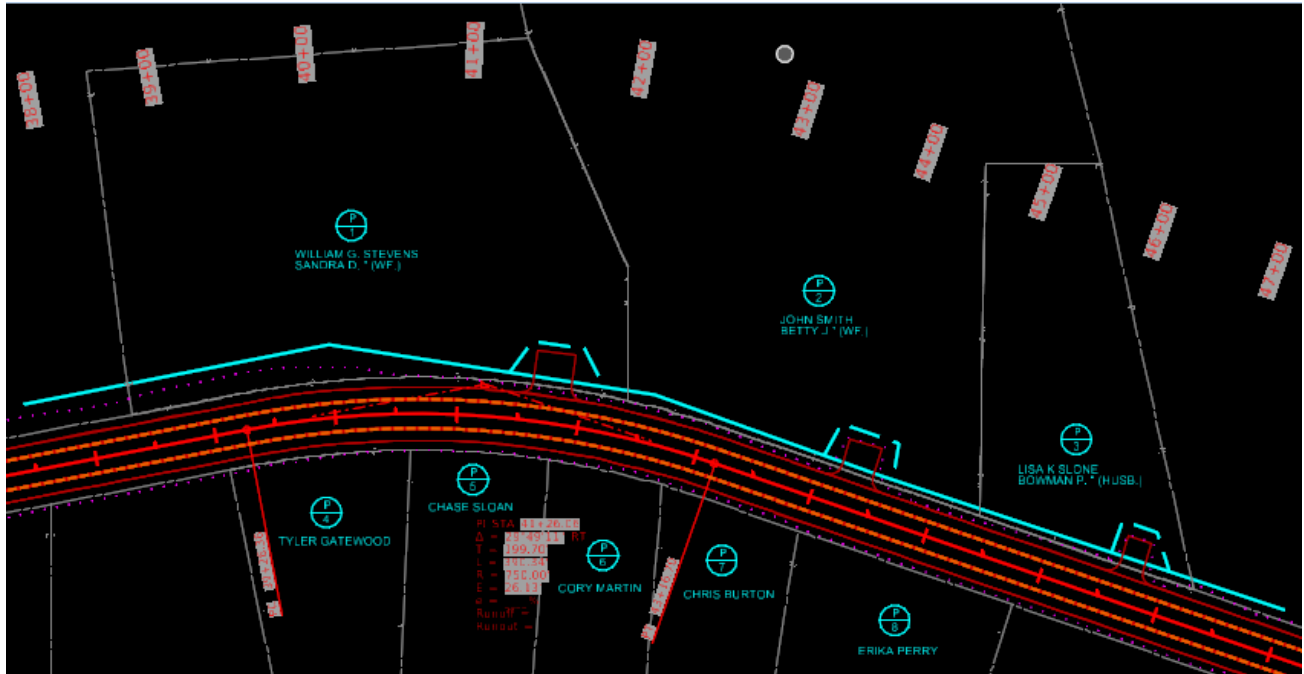
Below you can see our new Civil Rules we have added to the easement.



Now if the Proposed Right of Way needs to be moved our Temporary Easements will move with it.

## Creating Takes

Now that we have our Existing and Proposed Right of Way we have a couple different options for creating takes and remainders. Which method you choose will depend on how good your existing parcels are if your existing property descriptions close. If they close you may choose to use the takes and remainders command. If you have just sidelines of property and no closed shapes you may choose to use the flood method. We will only discuss the flood method. Cad Productivity teaches the Takes and Remainders tool in detail in the Upgrading to Microstation Connect class.

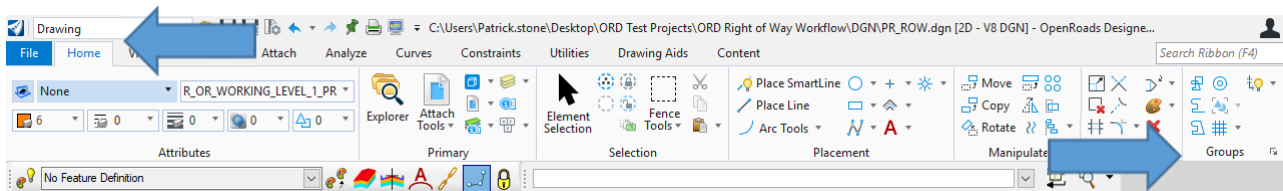


For the flood command to work you will need to turn off all reference files with the exception of the EX\_ROW.dgn. Your file should look like the one below. We will be working north of the Centerline because we haven't set any right of way to the south yet.

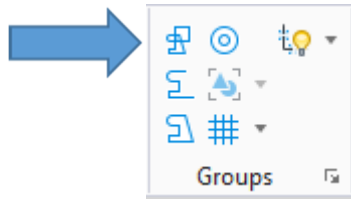


## Create Regions

We will be working with the create regions tool. This tool is located under Drawing – Home – Groups.

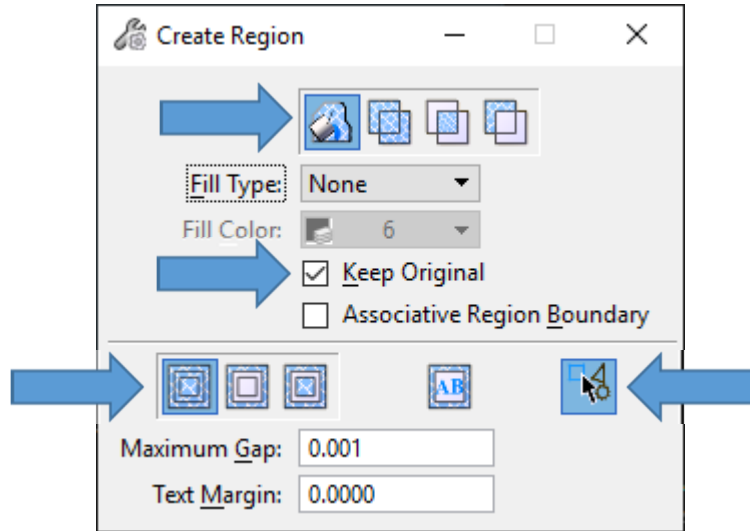


Launch the Create Regions Tool.

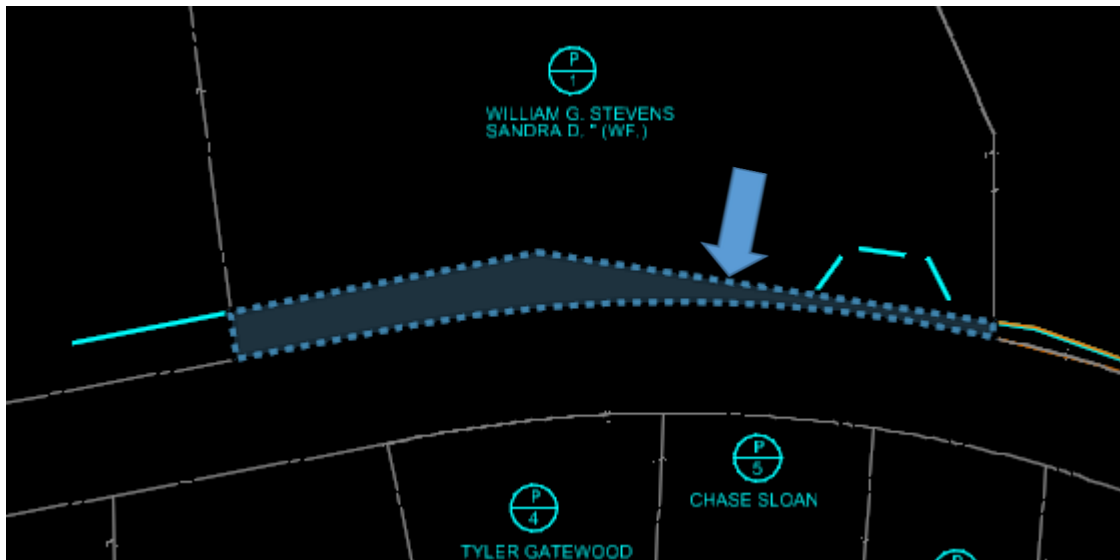


We will briefly discuss some of the options on the Create Regions tool and how we will use them in the Right of way Process. Please note that this method is recommended to be used in a 2D drawing or Model. We will set the method to flood the fill type to none. You could set this up to shade for use in the Right of Way process. For now we will leave the Fill Type set to none. We will need to turn on Keep Original. If you forget to turn this on your Originals will be deleted. We will set the method to ignore interior shapes and we will turn on the Dynamic area locate. I find this handy for getting a preview of what you are about to select.

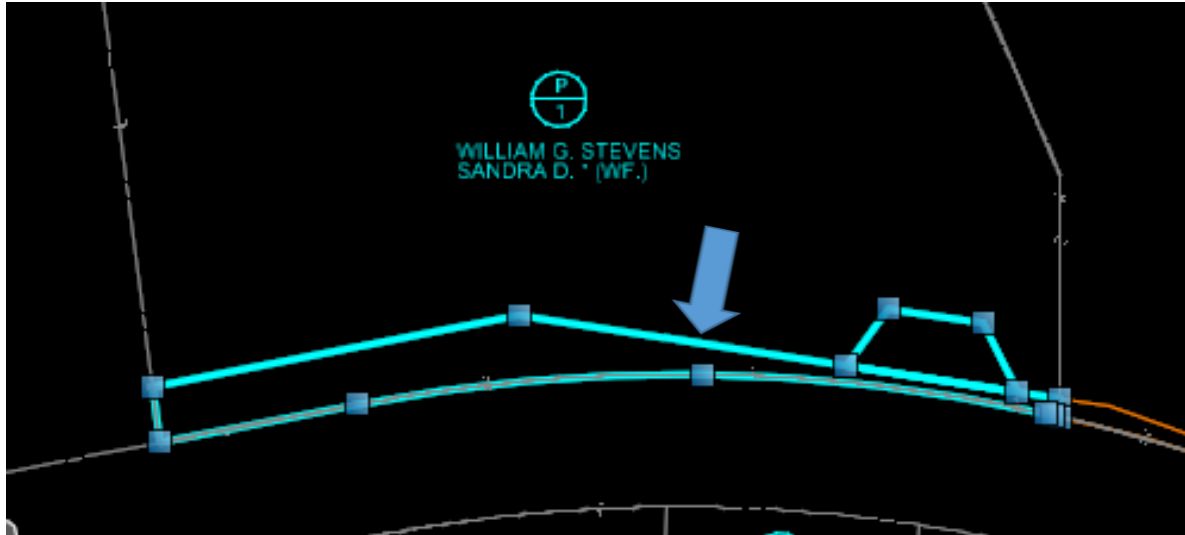




With the Create Region command set up as previously discussed select inside the proposed Right of Way for P1. Notice that with the Dynamic locate on you get a dotted outline preview of what is about to be created. Data point to accept and repeat the process for the easements for the entire project.



The Create Region command creates a complex shape and puts the shape on the active level. I have set the active level to R\_OR\_WORKING\_LEVEL\_1\_PR for this example. Please note at this point these are mere graphical shapes with no intelligence. You can tell they have no intelligence due to not having any bearings and distances below.

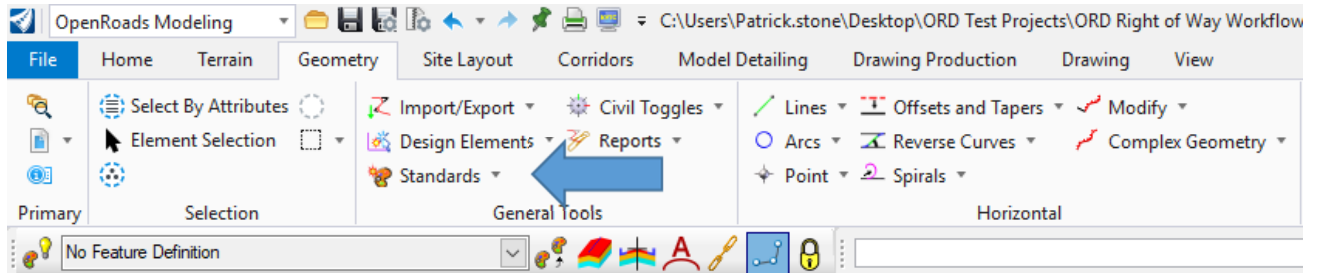


You can still create reports but they will have limited information. You will just get perimeter information and will not have names assigned. You will get bearings and distances and area of the parcel. No station and offsets. This can be useful for preliminary checks. See report below.

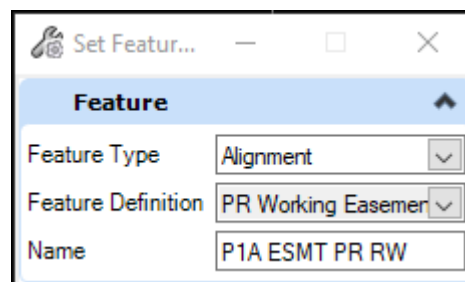
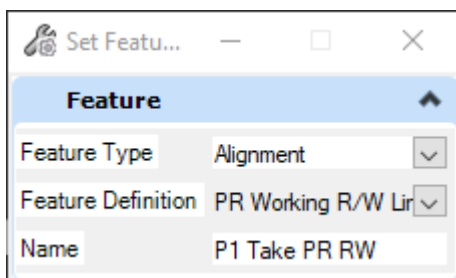
<p><b>Alignment Name:</b> Unnamed</p> <p><b>Alignment Description:</b></p> <p>Beginning at a point thence South 79 Degrees 11 Minutes 50 Seconds West a distance of 91.11 feet thence North 07 Degrees 26 Minutes 21 Seconds West a distance of 25.42 feet thence North 78 Degrees 57 Minutes 04 Seconds East a distance of 169.02 feet thence South 81 Degrees 16 Minutes 19 Seconds East a distance of 248.64 feet thence South 00 Degrees 00 Minutes 00 Seconds East a distance of 8.32 feet thence along an arc 7.04 feet to the left, having a radius of 780.00 feet, the chord of which is North 77 Degrees 28 Minutes 07 Seconds West for a distance of 7.04 feet, thence along an arc 314.14 feet to the left, having a radius of 780.00 feet, the chord of which is North 89 Degrees 15 Minutes 54 Seconds West for a distance of 312.02 feet and the POINT OF BEGINNING.</p> <p>The above described parcel contains 0.172 acres (7507.105 sq. ft.)</p>
<p><b>Alignment Name:</b> Unnamed</p> <p><b>Alignment Description:</b></p> <p>Beginning at a point thence North 36 Degrees 19 Minutes 11 Seconds East a distance of 31.83 feet thence South 81 Degrees 48 Minutes 29 Seconds East a distance of 43.46 feet thence South 26 Degrees 52 Minutes 48 Seconds East a distance of 35.20 feet thence North 81 Degrees 16 Minutes 19 Seconds West a distance of 78.69 feet and the POINT OF BEGINNING.</p> <p>The above described parcel contains 0.040 acres (1735.889 sq. ft.)</p>

### Set Feature Definition

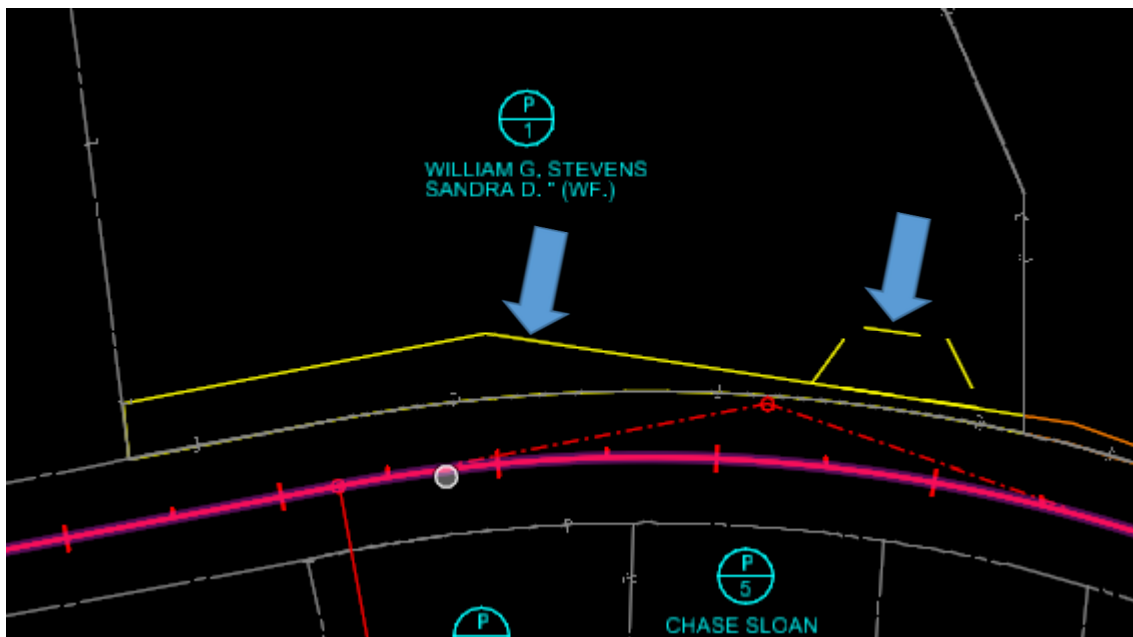
In order to have Names assigned and Station and offset from the centerline we will need to assign a feature definition using the Set Feature Definition command located under OpenRoads Modeling – Geometry – General Tools – Standards



With the Set Feature Definition set the Feature Type to Alignment. The Feature Definition to PR Right of Way Working and the name to the Parcel number and the type for this example we will use P1 Take PR RW. Select your Complex shape and accept. Set the Feature Definition for the Easement also.

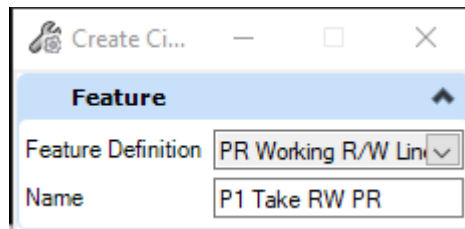
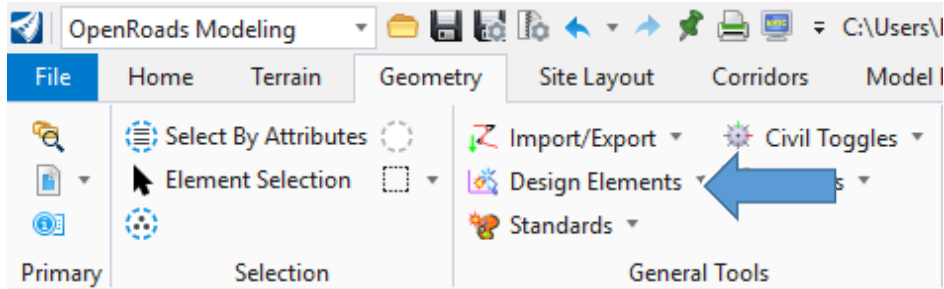


We have set the PR Working R/W Line and the PR Working Easement to a color of yellow and the level to be construction so they will not plot. That will allow us to turn these levels off later in the process so we do not get duplicate elements stacked on top of the proposed and existing features.



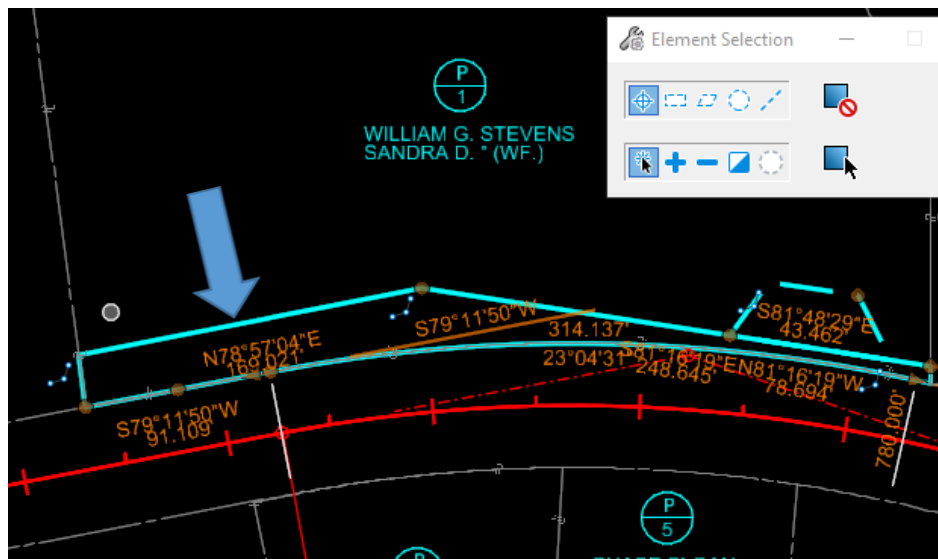
## Create Civil Rules

We will now create Civil Rules for the take and the easement. This will give us additional editing options for later use. The Create Civil Rules command is located under OpenRoads Modeling – Geometry – General Tools –Design Elements -



Create Civil Rules for both the Take and the Easement.

Now you can see they both have civil rules. Please note that you do NOT have to have civil rules to run reports you only have to have the feature definition set that is an alignment.



Now when you run the report you will get Alignment Names Station and offsets from centerline.

**Project:** Default  
**Description:**  
**File Name:** C:\Users\Patrick.stone\Desktop\ORD Test Projects\ORD Right of Way Workflow\DGN\PR\_ROW.dgn  
**Last Revised:** 4/16/2020 10:38:17  
**Input Grid Factor:** **Note:** All units in this report are in feet unless specified otherwise.

**Alignment Name:** P1 Take PR RW  
**Alignment Description:**

Beginning at a point 30.00 feet left of PR Centerline at Station 39+26.36 thence South 79 Degrees 11 Minutes 50 Seconds West a distance of 91.11 feet to a point 30.00 feet left of PR Centerline at Station 38+35.25 thence North 07 Degrees 26 Minutes 21 Seconds West a distance of 25.42 feet to a point 55.37 feet left of PR Centerline at Station 38+36.74 thence North 78 Degrees 57 Minutes 04 Seconds East a distance of 169.02 feet to a point 60.00 feet left of PR Centerline at Station 40+00.00 thence South 81 Degrees 16 Minutes 19 Seconds East a distance of 248.64 feet to a point 38.11 feet left of PR Centerline at Station 42+33.44 thence South 00 Degrees 00 Minutes 00 Seconds East a distance of 8.32 feet to a point 30.00 feet left of PR Centerline at Station 42+35.19 thence along an arc 7.04 feet to the left, having a radius of 780.00 feet, the chord of which is North 77 Degrees 28 Minutes 07 Seconds West for a distance of 7.04 feet, to a point 30.00 feet left of PR Centerline at Station 42+28.42 thence along an arc 314.14 feet to the left, having a radius of 780.00 feet, the chord of which is North 89 Degrees 15 Minutes 54 Seconds West for a distance of 312.02 feet and the POINT OF BEGINNING.

The above described parcel contains 0.172 acres (7507.088 sq. ft.)

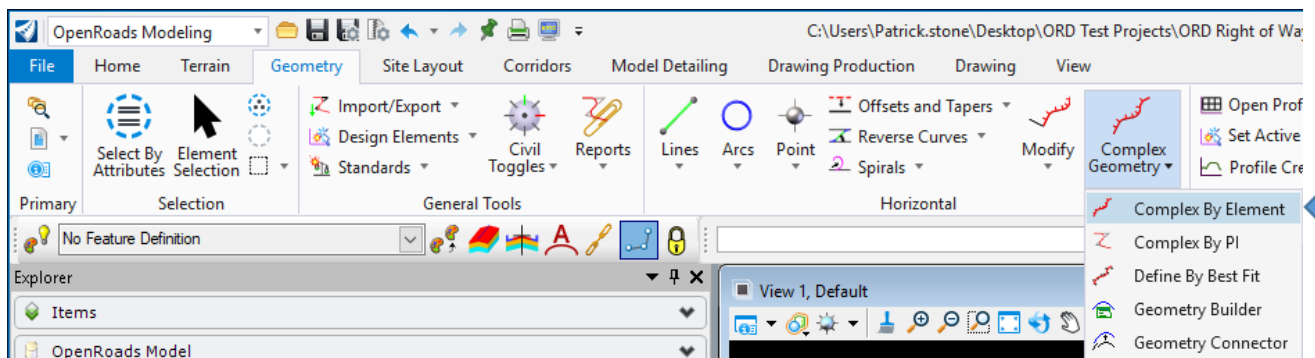
**Alignment Name:** P1A ESMT PR RW  
**Alignment Description:**

Beginning at a point 37.50 feet left of PR Centerline at Station 41+40.00 thence North 36 Degrees 19 Minutes 11 Seconds East a distance of 31.83 feet to a point 65.00 feet left of PR Centerline at Station 41+55.00 thence South 81 Degrees 48 Minutes 29 Seconds East a distance of 43.46 feet to a point 65.00 feet left of PR Centerline at Station 41+95.00 thence South 26 Degrees 52 Minutes 48 Seconds East a distance of 35.20 feet to a point 37.02 feet left of PR Centerline at Station 42+15.00 thence North 81 Degrees 16 Minutes 19 Seconds West a distance of 78.69 feet to a point 37.50 feet left of PR Centerline at Station 41+40.00 and the POINT OF BEGINNING.

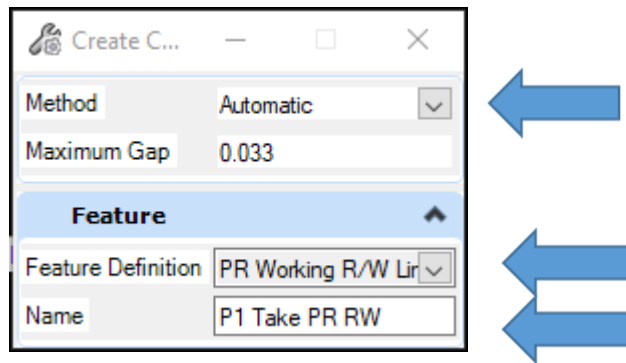
The above described parcel contains 0.040 acres (1735.889 sq. ft.)

## Complex by Element

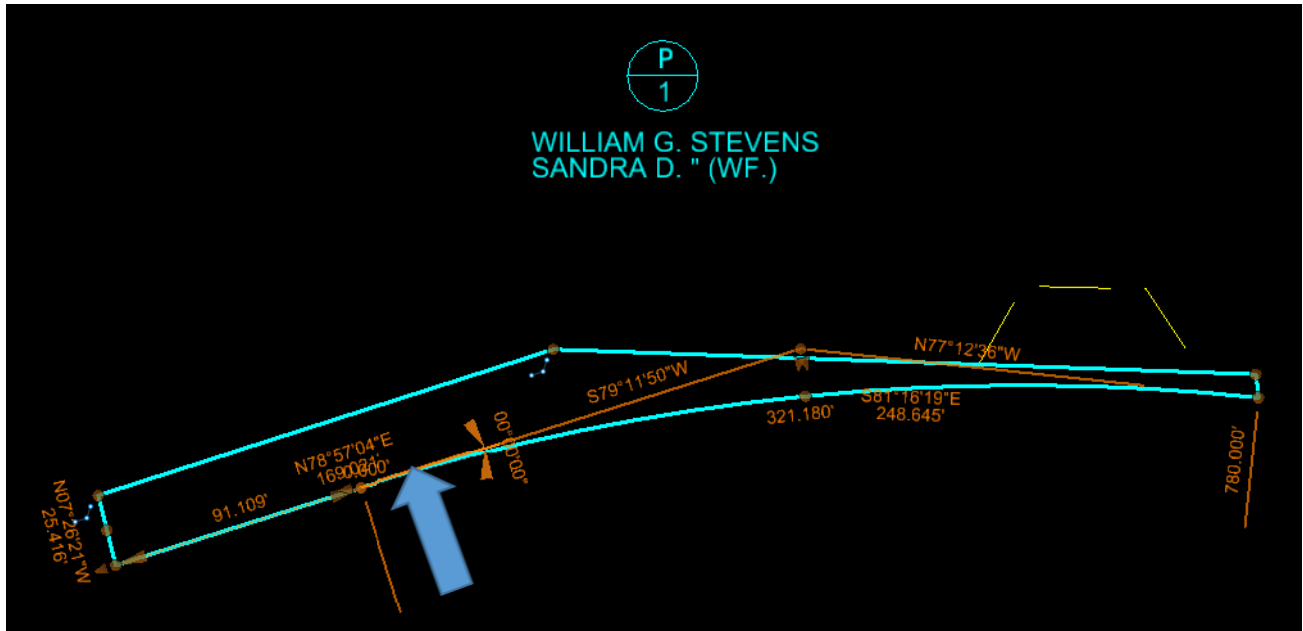
Now we will annotate the Takes and Easements. In order to annotate the takes and remainders using the create regions command as of version 10.08.00.88 we will have to perform one additional step. The additional step is to re-complex the element to do so go to OpenRoads Modeling – Geometry – Complex Geometry – Complex by Element.



We will need to set the Method to Automatic. We will set the Gap to .033 this can be increased depending on your situation. Set the Feature Definition to PR Working R/W Line this is important because later in the process we will be able to turn off this level and still see our bearing and distance annotation. We will have to reenter the name if not it will name it PR Working R/W Line and then the number.



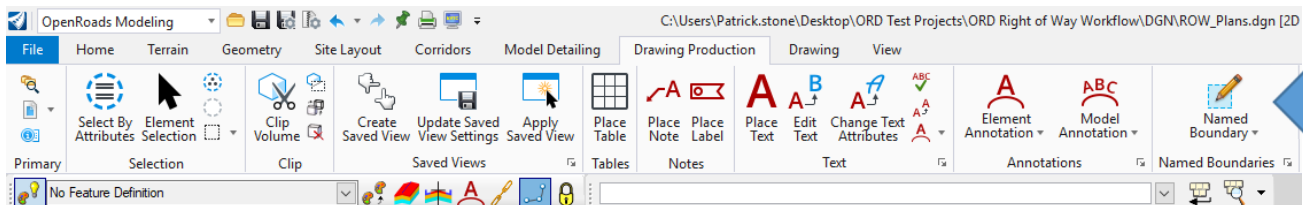
I find it easiest to select the features with everything else turned off similar to what I have done below. Select the Proposed take. Before proceeding I think it's a good check to make sure the calls are going in the clockwise direction as the calls below show. The orange text is heads up annotation. This is not the annotation.



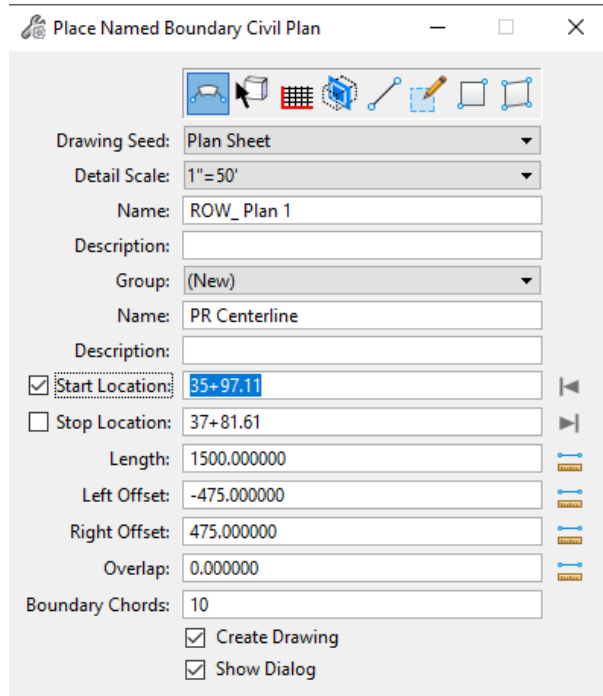
As of this write up we believe the best place to annotate is in the Drawing Model. In order to place text in the Drawing Model we must first create a new drawing to create the Drawing Models and Sheet Models. As always it is recommended to start with a fresh seed file.

### Named Boundary

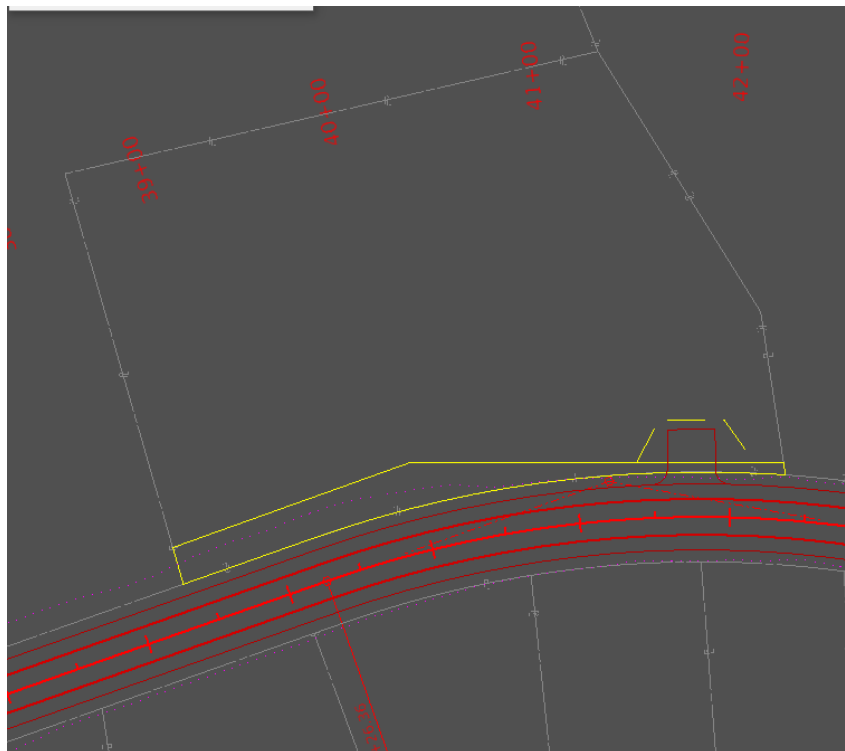
For this example we will use the KYTC\_ORD\_2D\_Seed.dgn. We will name the File ROW\_Plans.dgn once the file is created attach the appropriate reference files. To avoid extra cleanup it is important to have your Design model levels set to display your desired levels if you skip this step as of this writing you will have turn the levels on or off in each model. Once the Design model is set the way you want it cut your sheets. Go to OpenRoads Modeling - Drawing Production – Named Boundary.



For this example we will only create one plan sheet with the following settings.



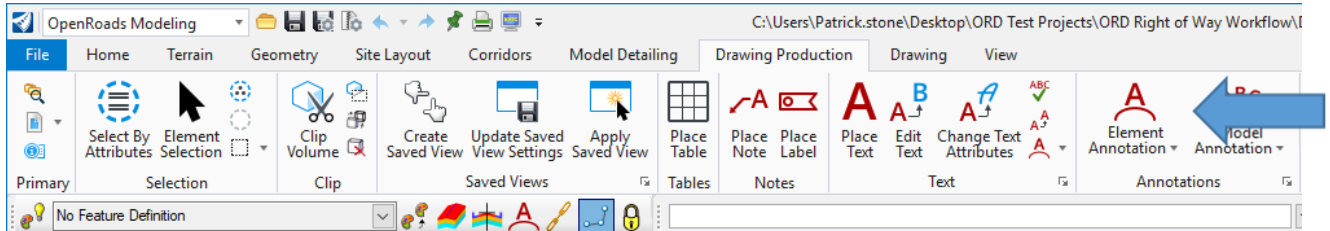
Open the Drawing Model we just created it should look like the one below. The models can be found in the lower left corner in OpenRoads Designer.





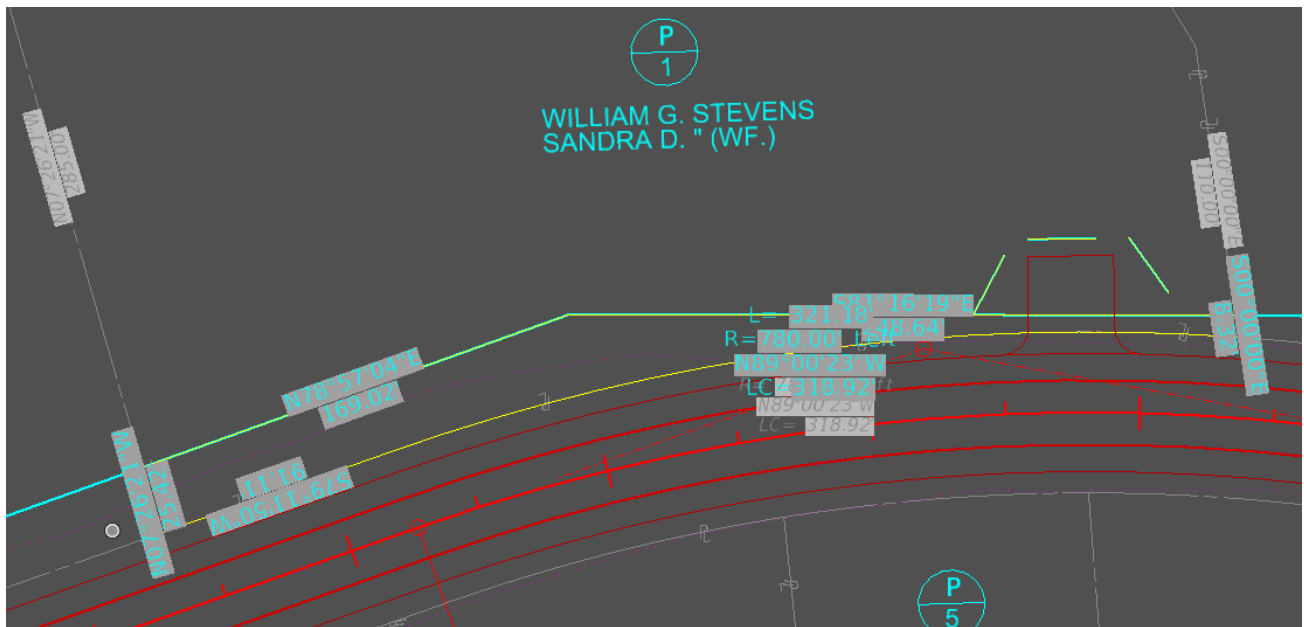
## Element Annotation

We can now annotate the bearings and distances around our Take. To do so go to OpenRoads Modeling – Drawing Production – Annotations – Element Annotation.



Select the Takes you would like to annotate. You will be prompted for the following.

Locate Elements – We will locate all the elements that we want to annotate. After selections are made reset to complete. Your drawing should look like the one below. We realize that there will be some cleanup needed to make the plan sheets legible and we will do that later in the process.



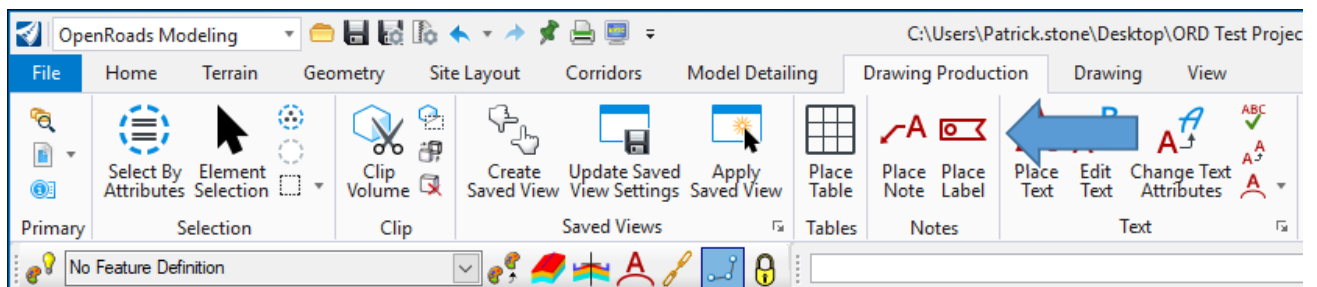
If you use the Element Annotation command and you get partial Annotation or no annotation the most common issue is the civil rules are not working properly simply remove the civil rules then add them again. Then complex by element and make sure you have the correct feature definition selected. This should fix the annotation not displaying issue.

## Place Label

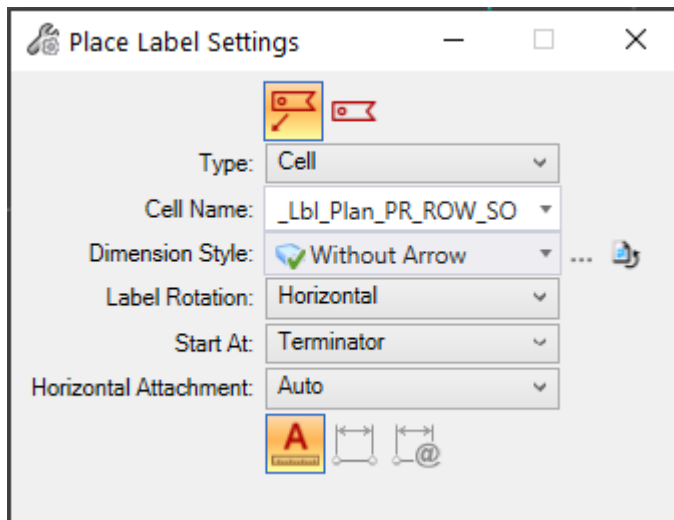
We will now work on annotating the Station and offsets for the Right of Way. We have two ways to do this at this point.

1. We will manually place labels this will require us to pick on every point. It should be noted that if you place these notes in your drawing model then recut your sheets you will lose your annotation you have placed. We will be placing ours in the Design Model default.
2. We will discuss an automated way of placing the stations and offsets via an MDL app written by Bentley as a stop gap until a permanent solution is provided from Bentley.

The Place label command is located under OpenRoads Modeling – Drawing Production – Notes – Place Label.



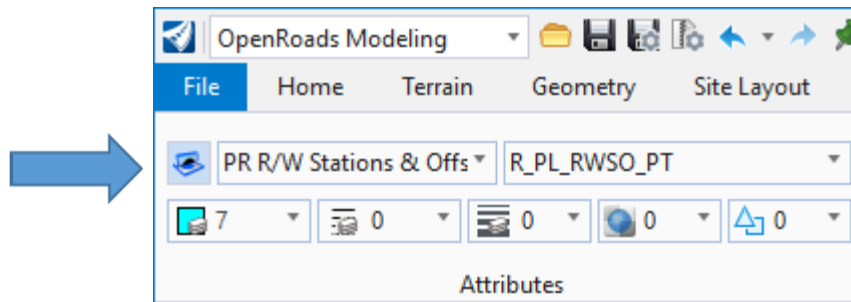
We will review the highlights of the Place Label Settings dialoge.



1. The first two icons are with leader or without.
2. Type - Cell or Text Favorite these notes are set up as Cells.
3. Cell Name - we have multipule cells set up we have placed ( ) in front of the names to move them to the top of the list.
4. Dimension Style - we have created With Arrow and Without Arrow. Without Arrow Should be used with Station and offset.
5. Label Rotation - we have two options Horizontal and Vertical.
6. Start At -Terminator or Placement
7. Horizontal Attachment - we have three options Auto, Left and Right.

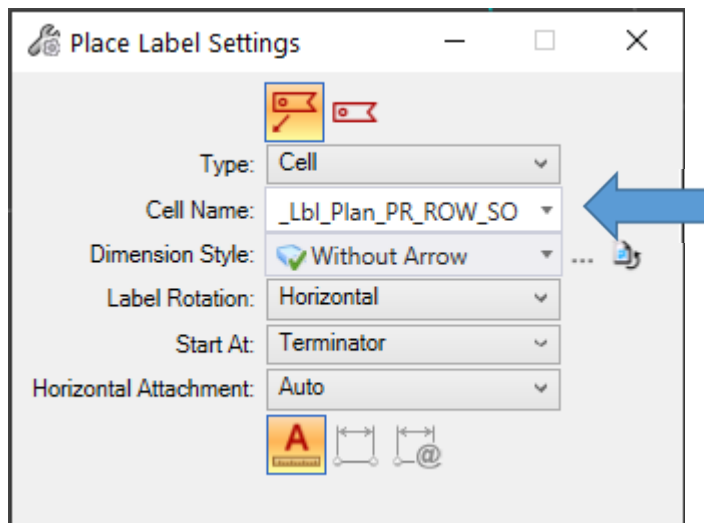
I prefer to leave the relative associations off.

Please note that these labels are placed on you active level so it is important to select the appropriate element template for this example we will select the PR R/W Stations & Offsets-Plan Text.

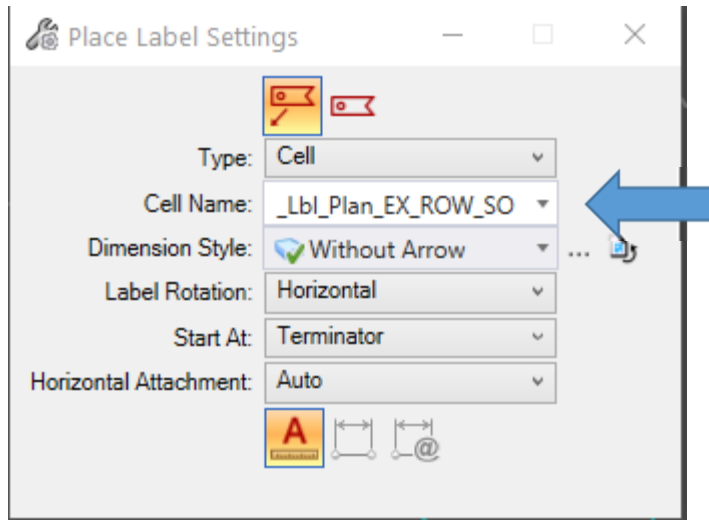


With the appropriate Element template selected we can now place the Station and offset notes. We have Element templates for Proposed and Existing Right of Way.

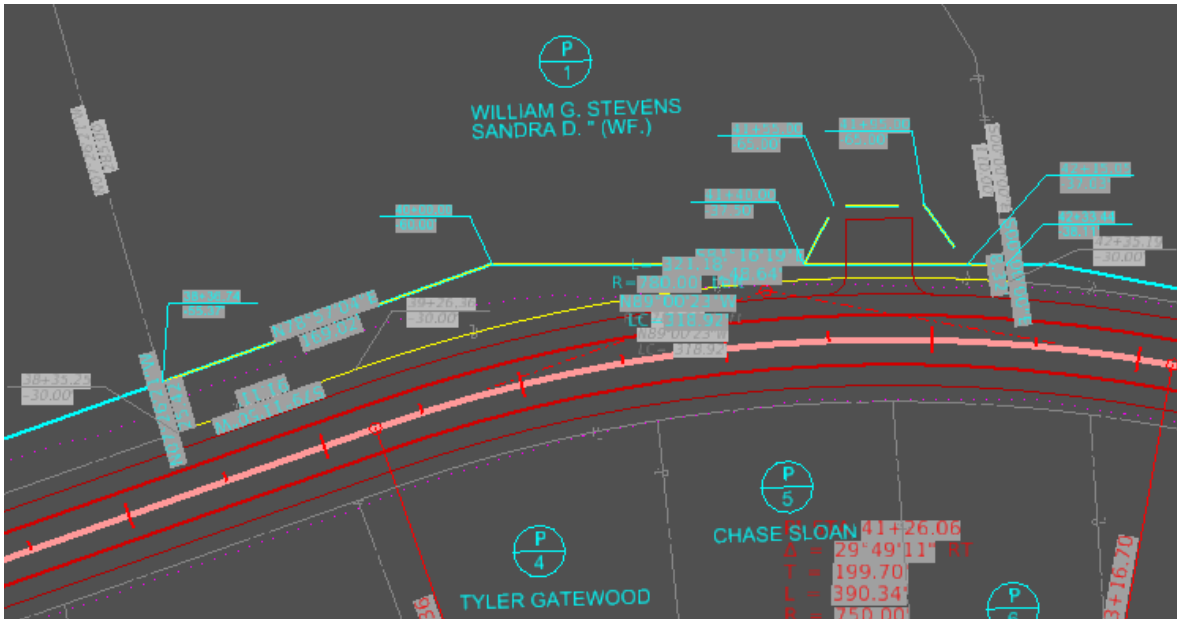
Now we can place the Station and offset notes. The Place label command is located under OpenRoads Modeling – Drawing Production – Notes – Place Label. With the place labels command running with the following settings. Place your Proposed Right of Way Station and offsets.



Now we will switch the Cell to `_Lbl_Plan_EX_ROW_SO` and the element template to EX R/W Stations & Offsets- Plan Text.

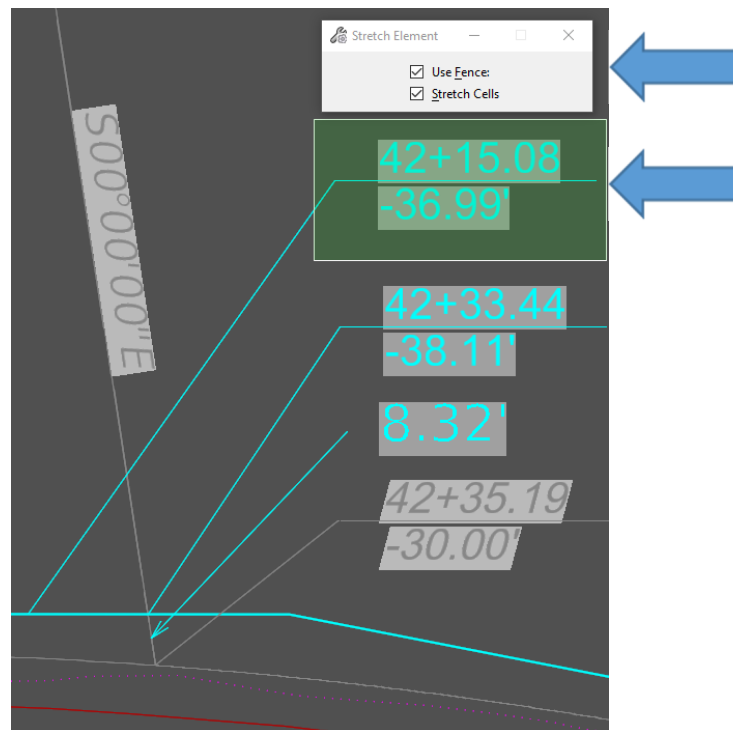


When Complete your parcel should look like the one below. As you can tell there will continue to be cleanup for the right of way annotation.

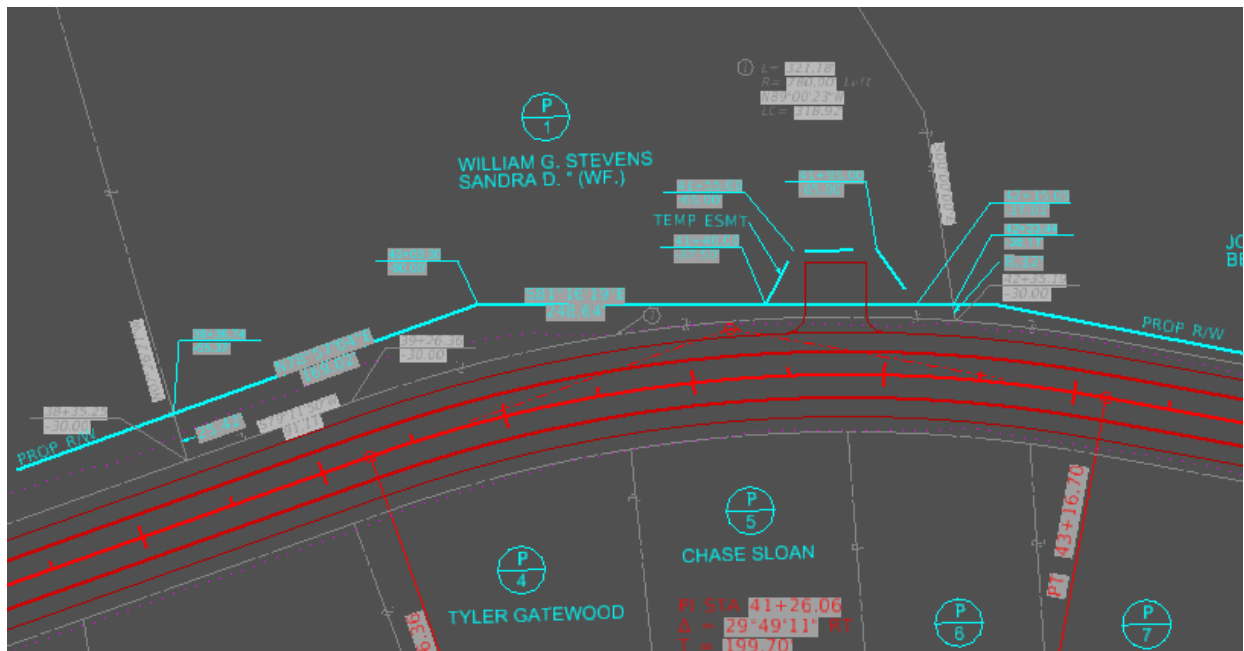


## Stretch

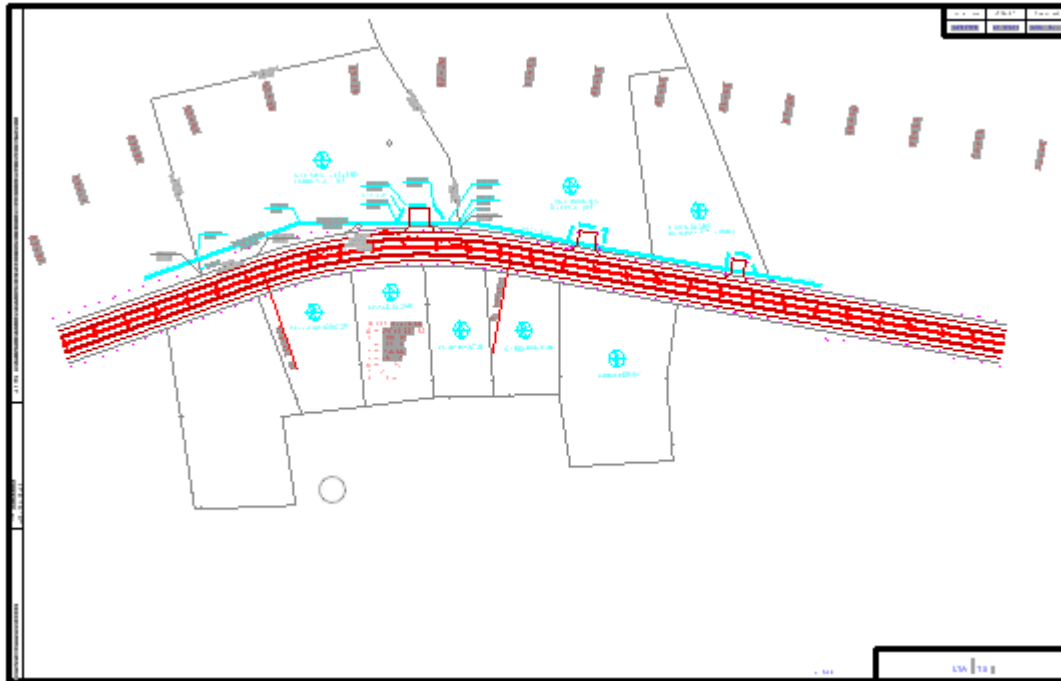
Now we will use basic Drawing commands to clean up the text and move around so the information is easy to read and match CAD standards. When moving Station and offsets consider using the fence stretch. Located under OpenRoads Modeling – Drawing – Manipulate – Stretch. Make sure you fence the leader and the text or you will not properly move the text. You will need to enable the Stretch Cells.



Below is what it looks like in the Design Model.



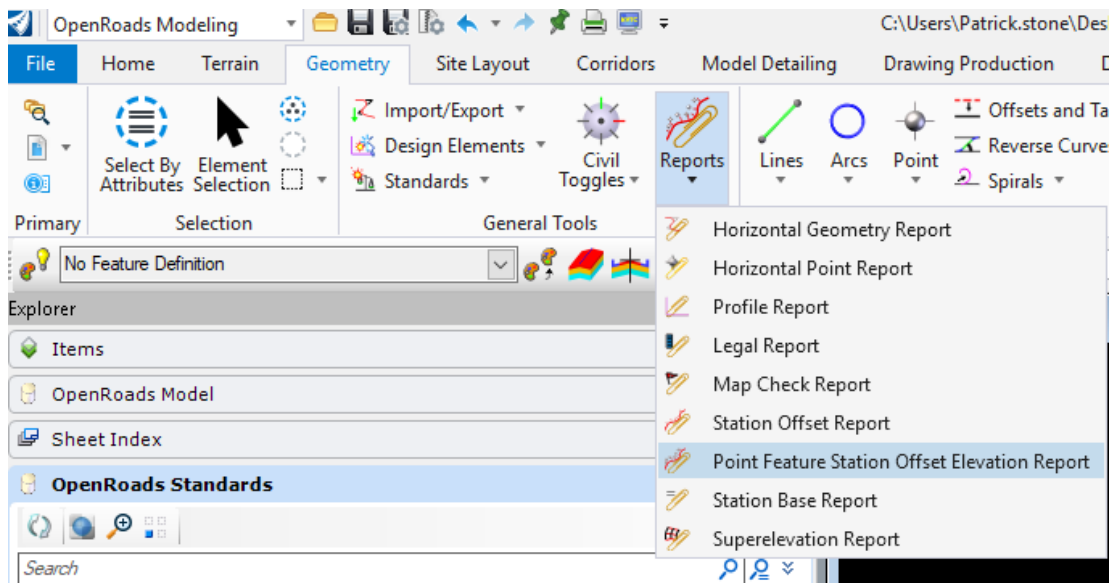
Let's open the sheet model and see how it looks.



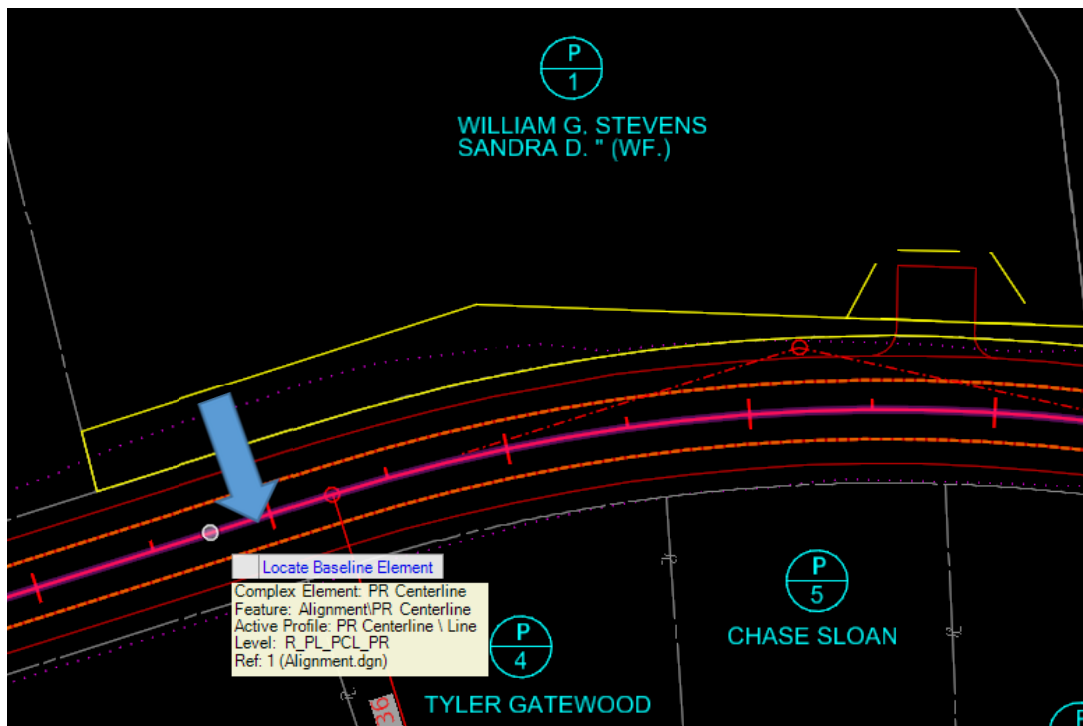
## SO Annotation

We will now discuss an automated way of placing the stations and offsets via an MDL app written by Bentley as a stop gap until a permanent solution is provided from Bentley.

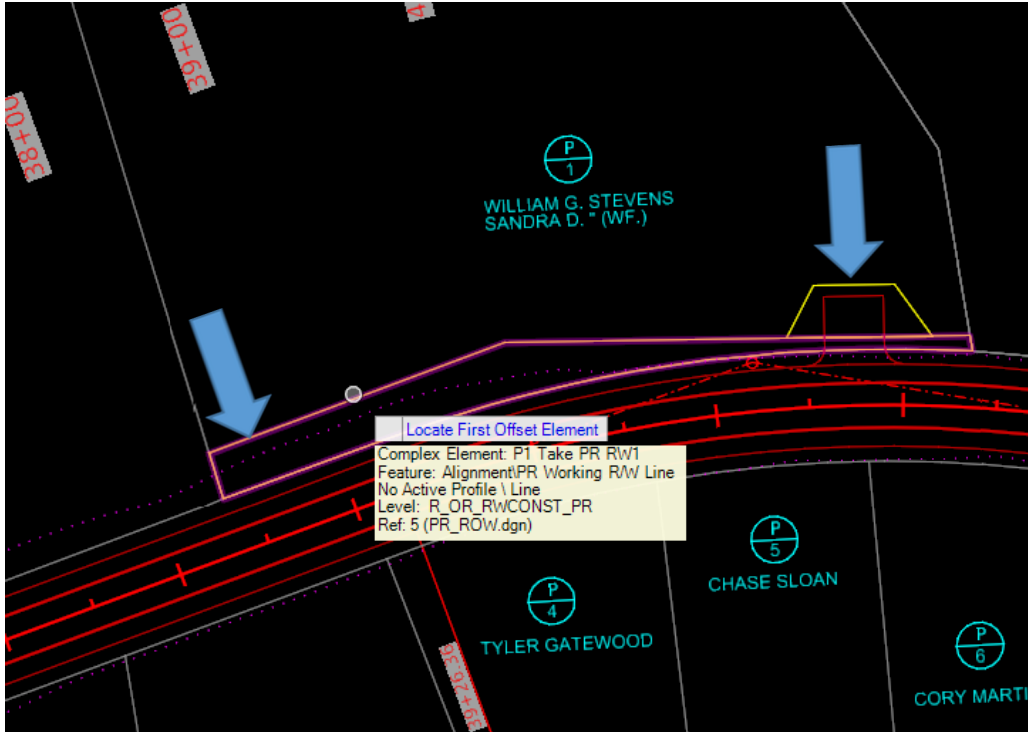
The command is called the SO Annotation Command we will be using the MDL app to annotate points (non-linear) features. You will need to run this command in the Design Model. So with the Design Model open we will first run the OpenRoads Modeling – Geometry – General Tools - Reports – Station Base Report.



To make the parcel element easier to select I like to turn off the proposed right of way, Easement and any other elements that could be accidentally selected. With the view set the way you like it. Next you will be prompted to Locate Baseline Element we will choose our centerline.



You will now be prompted to locate First Offset Element then Second and so on.



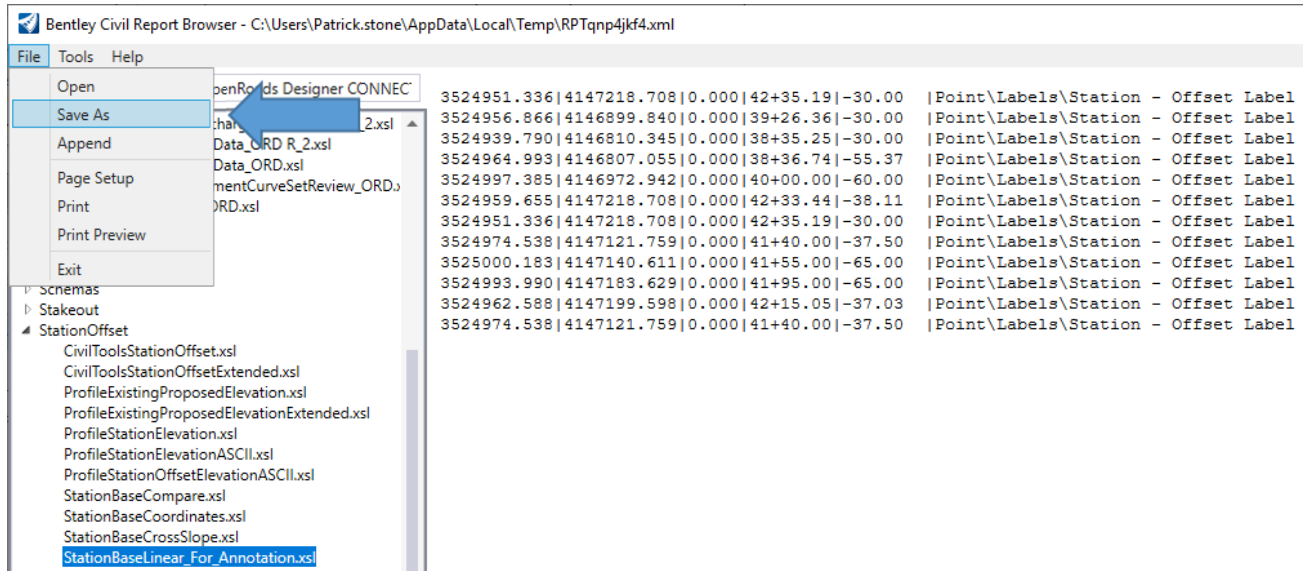
## Xml Report

You will now need to select the xml report StationBaseLinear\_For\_Annotation.xml. This XSL should be located under the StationOffset folder the location of this report could vary depending on your company set up. You will get the following report.

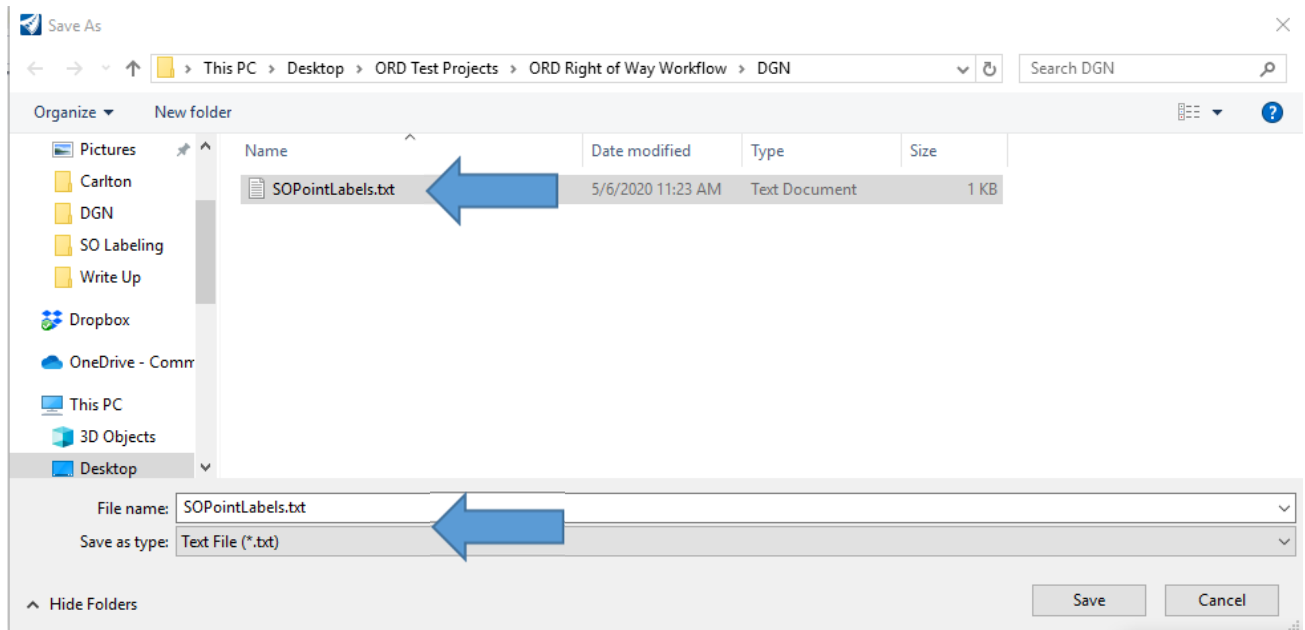
Station	Offset	Label
3524951.336	4147218.708	0.000 42+35.19 -30.00
3524956.866	4146899.840	0.000 39+26.36 -30.00
3524939.790	4146810.345	0.000 38+35.25 -30.00
3524964.993	4146807.055	0.000 38+36.74 -55.37
3524997.385	4146972.942	0.000 40+00.00 -60.00
3524959.655	4147218.708	0.000 42+33.44 -38.11
3524951.336	4147218.708	0.000 42+35.19 -30.00
3524974.538	4147121.759	0.000 41+40.00 -37.50
3525000.183	4147140.611	0.000 41+55.00 -65.00
3524993.990	4147183.629	0.000 41+95.00 -65.00
3524962.588	4147199.598	0.000 42+15.05 -37.03
3524974.538	4147121.759	0.000 41+40.00 -37.50

Now you will have to do a File Save As



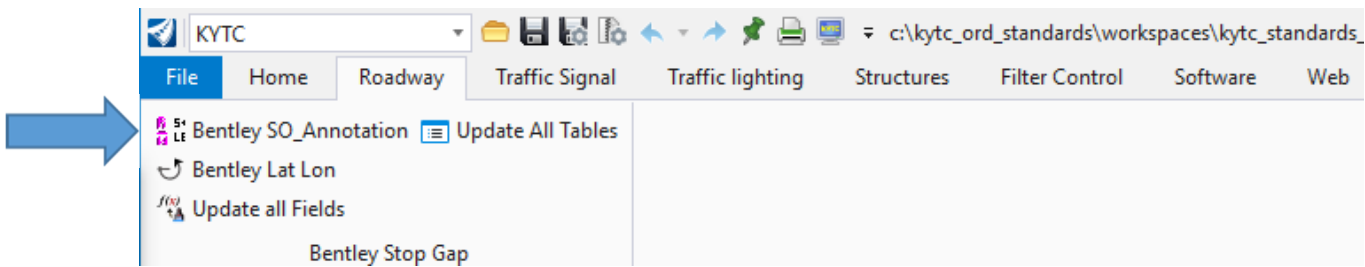


Please note that you will have to change the file type to .txt and the file must be named SOPointLabels.txt and saved to the same directory as the active DGN.

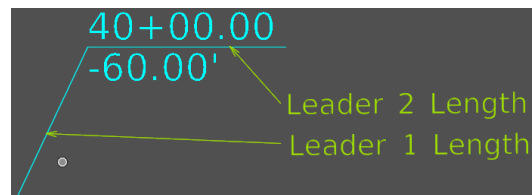


Now that we have our txt file saved lets kick off the MDL application. The command is located under KYTC - Roadway – Bentley SO\_Annotation. Launch the command.

## SO Annotation MDL



We will quickly go over the Station and offset command and what we can annotate using this MDL application.



**Leader 1 Length:** The length of Leader 1. Value can be negative or zero.

**Leader 2 Length:** The length of Leader 2. Value can be negative or zero.

**Annotation Station:** Enables the station annotation.

**Station Prefix:** Prefix is added to the beginning of the station value.

**Station Suffix:** Suffix is added to the end of the station value

**Annotate Offset:** Enables the offset annotation.

**Offset Prefix:** Prefix is added to the beginning of the offset value

**Offset Suffix:** Suffix is added to the end of the offset value.

**Use Prefix/Suffix for Side:** If ON the offset value is the absolute value of offset. This means that left offsets (normally negative) are converted to a positive value. It will also add the prefixes and suffixes that are defined below.

**Left Prefix:** Left offset prefix value.

**Left Suffix:** Left offset Suffix value.

**Right Prefix:** Right offset prefix value

**Right Suffix:** Right offset suffix value.

The way it builds a text string for the station is as follows :< Station Prefix> & 10+123.111 & <Station Suffix>

The way it builds a text string for the offset is as follows (**Use Prefix/Suffix for Side: OFF**): <Offset Prefix> & -12.345 & <Offset Suffix>

The way it builds a string for the offset is as follows (**Use Prefix/Suffix for Side: ON**): <Offset Prefix> & <Left Prefix> & 12.345 & <Offset Suffix> & <Left Suffix>

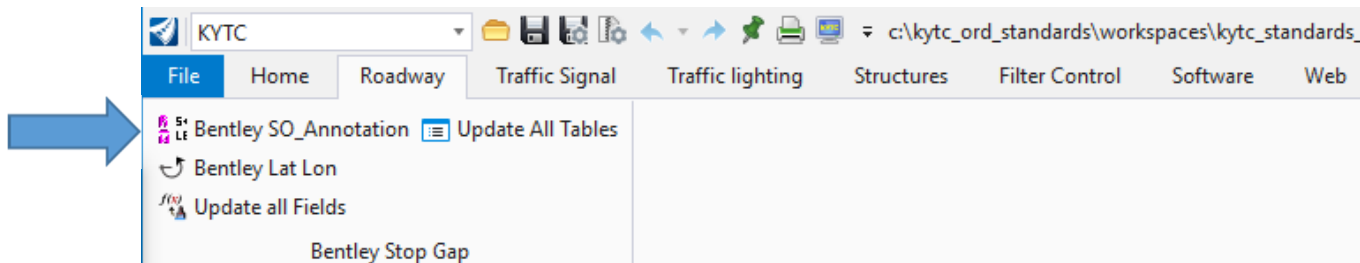
OR <Offset Prefix> & <Right Prefix> & 12.345 & <Offset Suffix> & <Right Suffix>

**Annotate Elevation:** Enables the elevation annotation prefix and suffix works the same as above.

**Annotate Coordinates:** Enables the elevation annotation prefix and Suffix works the same as above.

**Text Offset:** Text offset value. **View Independent:** Forces the text to be View independent.

Now that we have an understanding of what all the Station and offset MDL will do. Lets place some station and offsets using the Station and offset MDL. This command can be found under KYTC - Roadway – Bentley SO\_Annotation. Launch the command. It is highly recommended that you place your annotations in the Drawing Model. This allows for proper orientation of the annotation in the sheet model.



Station Offset Annotation

Leader 1 Length:

Leader 2 Length:

Annotate Station

Station Prefix:  Suffix:

Annotate Offset

Offset Prefix:  Suffix:

Use Prefix/Suffix for Side

Left Prefix:  Suffix:

Right Prefix:  Suffix:

Annotate Elevation

Elevation Prefix:  Suffix:

Annotate Coordinates

Northing Prefix:  Suffix:

Easting Prefix:  Suffix:

Text Offset:

View Independent

For this example our plan sheet is at 50 scale so I will set the leader lengths both to 35 and will not use a negative value for the leader so all of my stations will be placed above and to the right of the point.

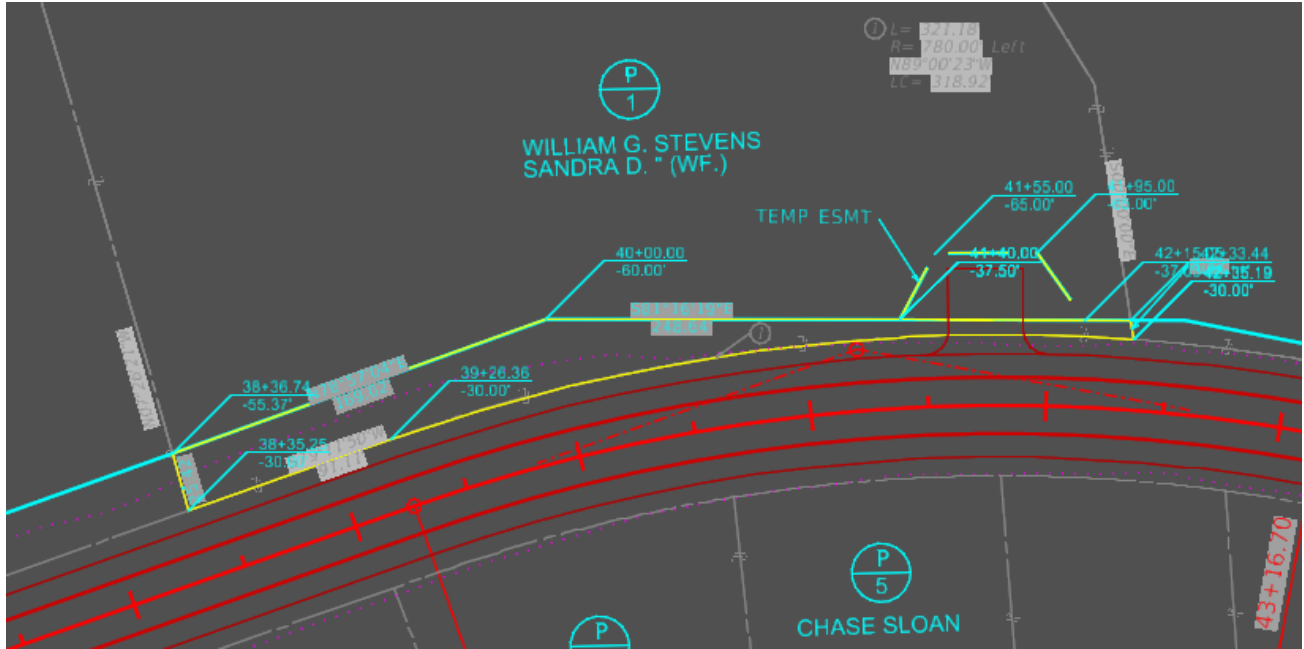
We will need to toggle on Annotate Station and we will not use a Prefix or a Suffix

We will also need to toggle on the Annotate Offset. We will leave the Prefix blank we will put the foot mark symbol (') in the Suffix field.

We will leave the rest Prefix/Suffix for side, Annotate Elevation and Annotate Coordinates toggled off.

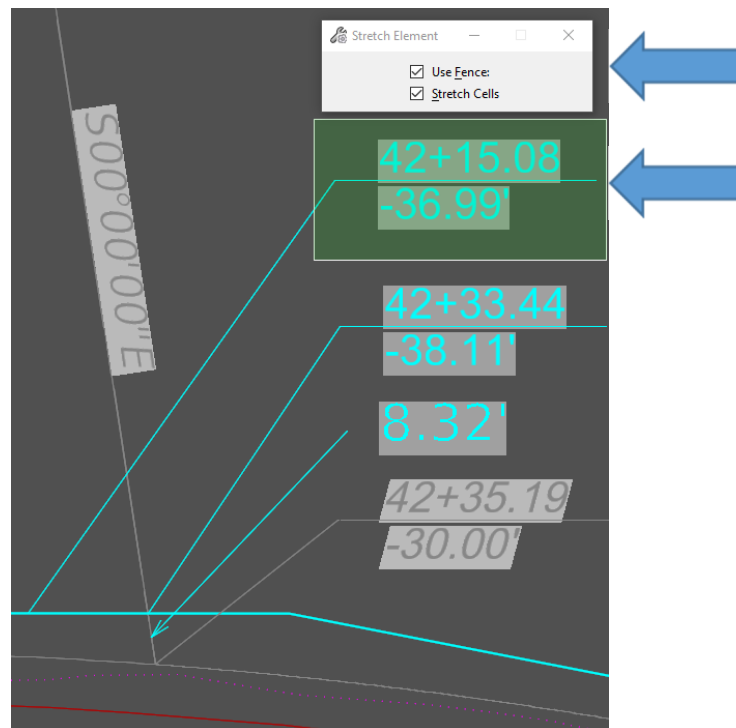
Text Offset set to 5 this is the offset from the bend in the leader to the text. For 50 Scale I use 5. 40 Scale I use 4.

For the text to orient correctly in the Drawing and sheet model the View Independent toggle must be toggled on.



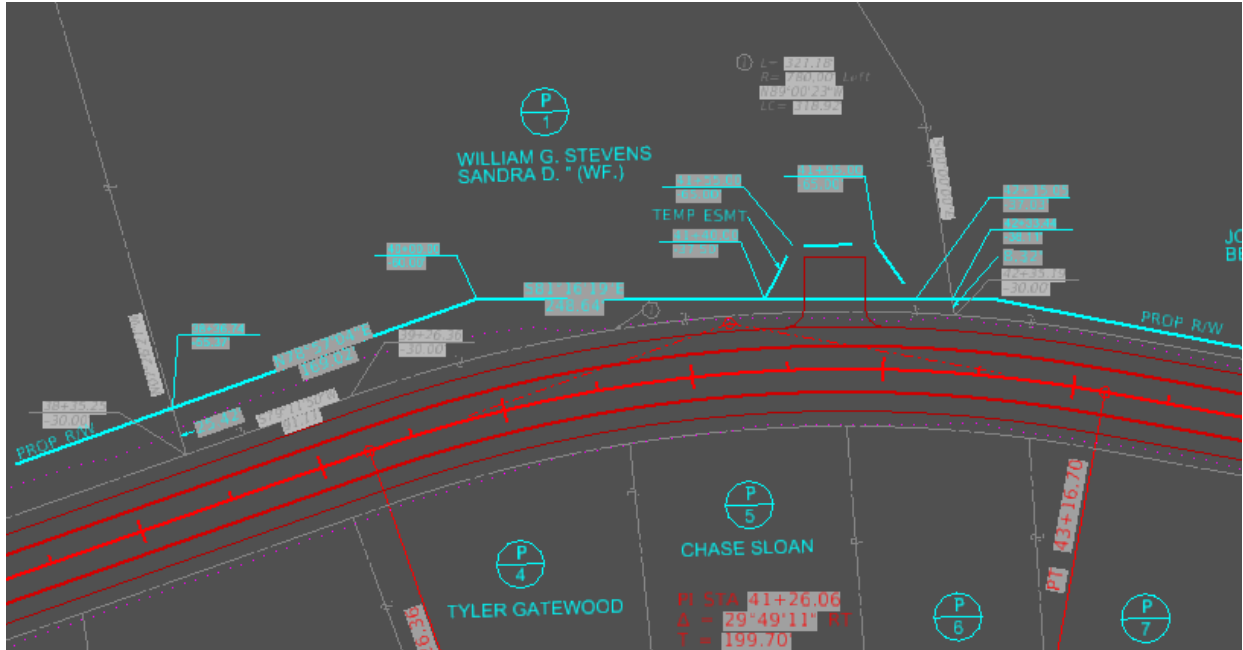
### Stretch

Now we will use basic Drawing commands to clean up the text and move around so the information is easy to read and match CAD standards. When moving Station and offsets consider using the fence stretch. Located under OpenRoads Modeling – Drawing – Manipulate – Stretch. Make sure you fence the leader and the text or you will not properly move the text. You will need to enable the Stretch Cells.

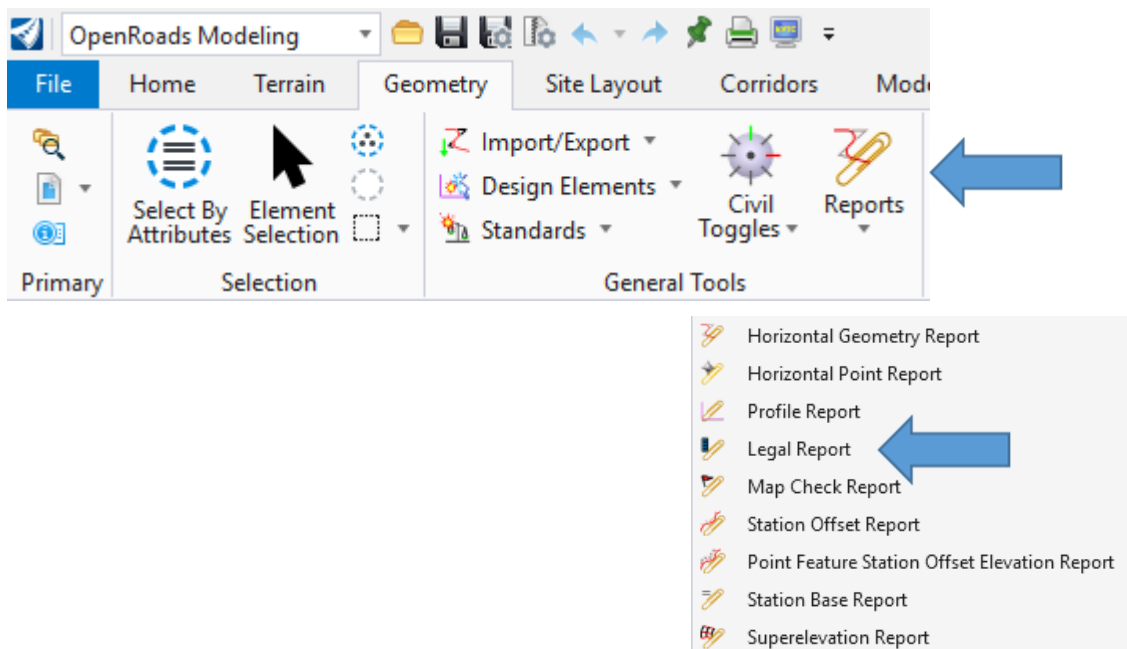


## Legal Report

Now we will create a Legal Report Located under OpenRoads Modeling – Geometry – Reports.  
Below is what it looks like in the Design Model.

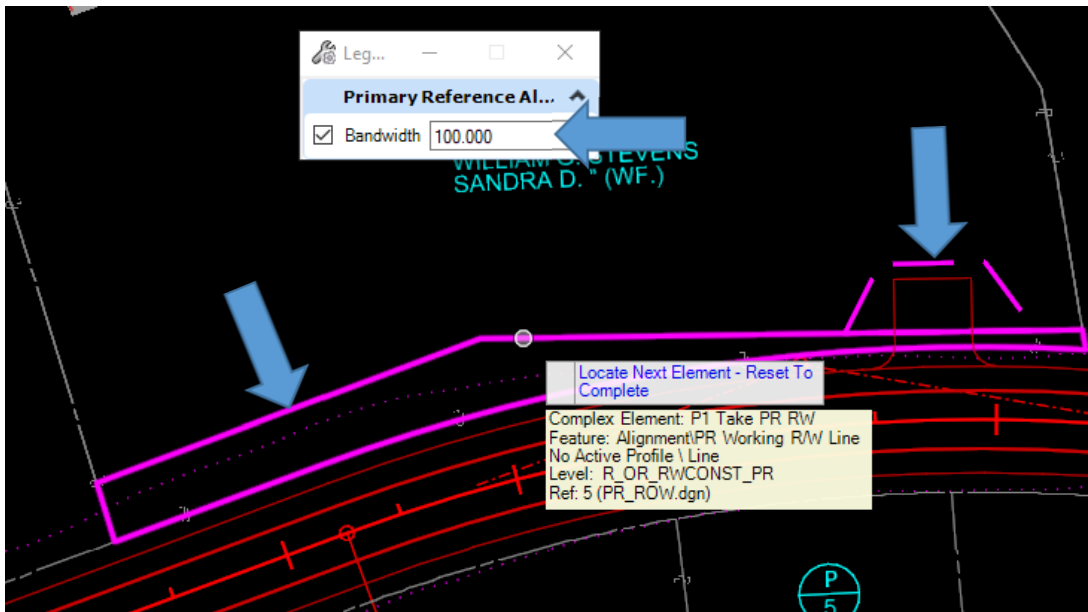


We will now create a Property description. In order to run the report you must be in the Design Model. So let's switch to the Design Model.



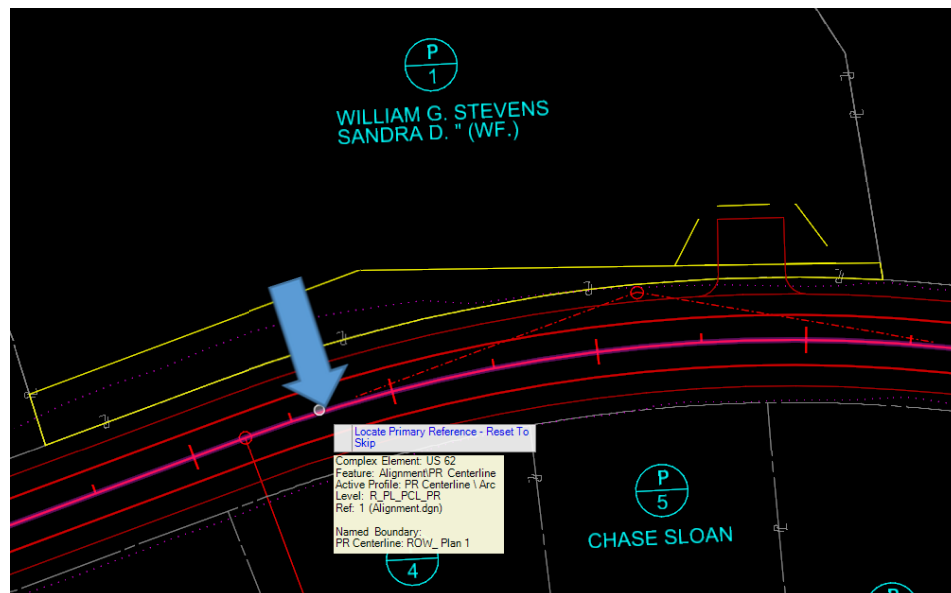
The first thing we will have to do is to set the Bandwidth this is the distance from centerline to the furthest point you want to report. For this example we will set ours to 100. We know from setting our Easement Station and offsets that 65' is the furthest point. If we had an approach and wanted the stationing off the approach alignment then we would usually set the offset to the back of radi.

We are now prompted to select the elements we would like the report to run on. We have selected the Proposed Right of way P1 Take PR RW and the Proposed Easement P1 ESMT PR RW reset to complete selection.

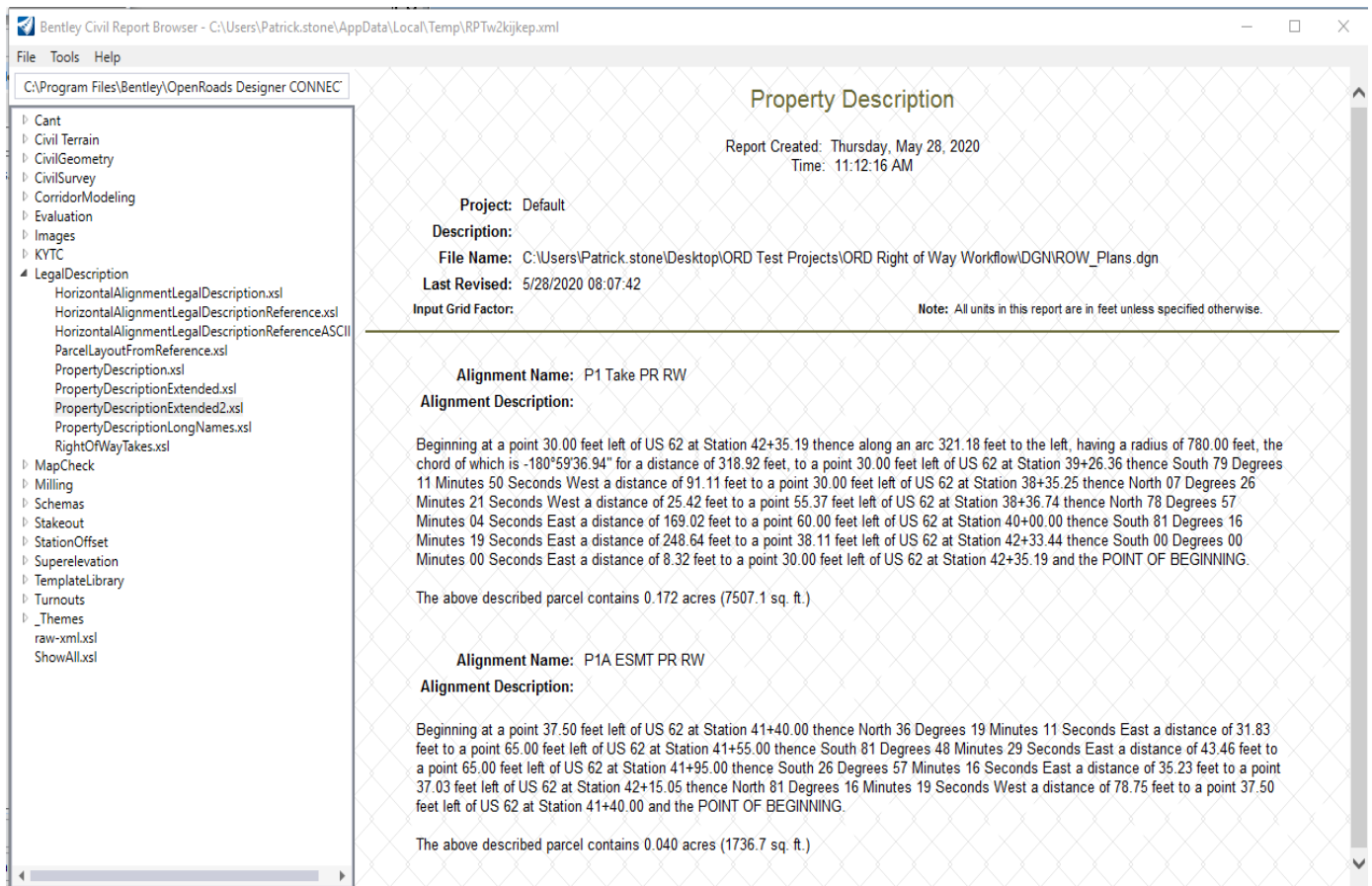


Next we will be asked to locate the Parent Element we don't have a Parent a Parent would be for example if you were subdividing since we are not we will reset.

We will now be prompted to select the Primary reference element the Primary element in this case is the Centerline we want our station and offsets from. Chose the Centerline.



Next we will be prompted to select the First Secondary reference element. We would select our Approach roads we want the deeds Station off of if we had multiple approaches we would choose all of the approaches we would like the Stations and offsets referenced from. For this example we do not have any Secondary Reference elements so we will reset to skip. When we reset to skip our report will come up.



The Property Description Extended2.xls closely formatted to our final delivery to Right of Way. Save this file to a doc extension and format it to match the example below.



## Example: Metes and Bounds Description

(Page 1 of 2)

### EXAMPLE: METES AND BOUNDS DESCRIPTION

Scott County US 25  
Item No. 7-9999.99

Parcel No. 2 Tract A  
John and Betty Smith

Being a tract of land lying in Scott County along US 25 approximately 3.7 miles north of the intersection of US 25 and US 460, and more particularly described as follows: Beginning at a point in the east existing right of way of US 25, said point being 37.50 feet right of US 25 centerline station 10+00; thence with the existing right of way North 7 degrees 27 minutes 42 seconds West, 390.21 feet to a point 37.50 feet right of US 25 centerline station 13+90.21, said point also being in the north property line of John and Betty Smith; thence with said property line South 66 degrees 07 minutes 20 seconds East, 61.43 feet to a point 89.97 feet right of US 25 centerline station 13+58.26; thence with the proposed controlled access and right of way line South 4 degrees 56 minutes 44 seconds West, 98.08 feet to a point 68.90 feet right of US 25 centerline station 12+62.47; thence continuing with the proposed controlled access and right of way line South 4 degrees 55 minutes 01 seconds East, 82.10 feet to a break in the proposed controlled access line, said point being 65.25 feet right of US 25 centerline station 11+80.45; thence with the proposed right of way line South 4 degrees 55 minutes 01 seconds East, 22.99 feet to a point 64.23 feet right of US 25 centerline station 11+57.48; thence with the proposed controlled access and right of way line South 4 degrees 55 minutes 01 seconds East, 42.69 feet to a point 62.34 feet right of US 25 centerline station 11+14.83; thence continuing with the proposed controlled access and right of way line South 4 degrees 44 minutes 33 seconds West, 117.48 feet to the point of beginning.

The above described parcel contains 10,432 sq. ft. of fee simple right of way.

Scott County US 25  
Item No. 7-9999.99

Parcel No. 2 Tract B  
John and Betty Smith

Being a tract of land lying in Scott County along US 25 approximately 3.7 miles north of the intersection of US 25 and US 460, and more particularly described as follows: Beginning at a point in the north property line of John and Betty Smith, said point being 89.97 feet right of US 25 centerline station 13+58.26; thence with said property line South 66 degrees 07 minutes 20 seconds East, 58.02 feet to a point 139.53 feet right of US 25 centerline station 13+28.08; thence South 39 degrees 38 minutes 42 seconds West, 96.41 feet to a point 68.90 feet right of US 25 centerline station 12+62.47; thence with the proposed controlled access and right of way line North 4 degrees 56 minutes 41 seconds East, 98.08 feet to the point of beginning.

The above described parcel contains 2,692 square feet of permanent easement for maintenance of drainage structures.

## EXAMPLE: METES AND BOUNDS DESCRIPTION

Scott County US25  
Item No. 7-9999.99

Parcel No. 2 Tract C  
John and Betty Smith

Being a tract of land lying in Scott County along US 25 approximately 3.7 miles north of the intersection of US 25 and US 460, and more particularly described as follows: Beginning at a point in the proposed right of way of US 25, said point being 63.50 feet right of US 25 centerline station 11+41.07; thence with the proposed right of way North 4 degrees 55 minutes 01 seconds West, 55.83 feet to a point 65.98 feet right of US 25 centerline station 11+96.85; thence South 59 degrees 24 minutes 53 seconds East, 26.62 feet to a point 86.94 feet right of US 25 centerline station 11+80.45; thence South 7 degrees 27 minutes 42 seconds East, 22.97 feet to a point 86.94 feet right of US 25 centerline station 11+57.48; thence South 47 degrees 33 minutes 08 seconds West, 28.61 feet to the point of beginning.

The above described parcel contains 874 square feet of temporary easement for entrance construction.