CHAPTER C
RIGHT OF WAY

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GETTING STARTED

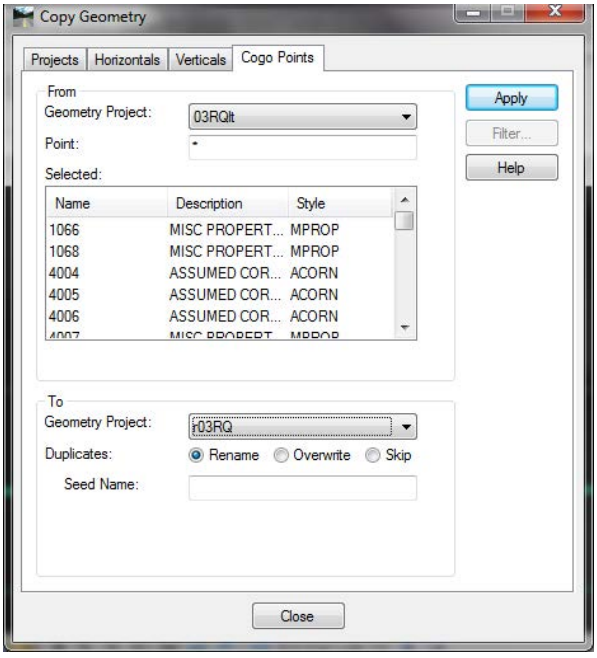
1. Open project folder, Create one if necessary.
   a) Open Windows Explorer
   b) Go to u:\rd\prj
   c) Create New Folder, naming it **COUNPCN#**
2. Create & Open **rPCN#.dgn**
3. Attach reference files **PCN#It.dgn** and **tPCN#(r, u, or s).dgn**
   a) Files are located at **u:\regionXX\prj\COUNPCN#**
4. **File > Save Setting**

Hint: After files are referenced it's helpful to do a fit view

5. Using InRoads Create & Open **rPCN#.alg**
   a) **File > New > Geometry** tab
      1) **Type: Geometry Project**
      2) **Name: rPCN#**
      3) **Apply, Close**
   b) **File > Save As** (Make sure its saving to correct project folder)
      1) **File Name: rPCN#** (this will populate once type is selected)
      2) **Save as type: Geometry Project (*.alg)**
      3) **Save, Cancel**

Hint: It's helpful to have Write Lock, Delete Lock, & Pen Lock **ON** at all times while in InRoads

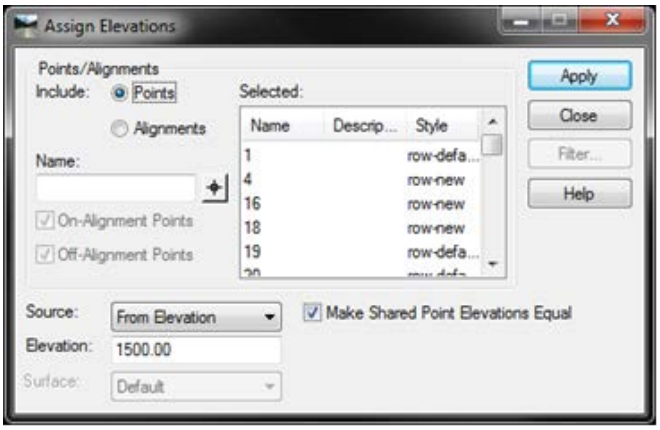
6. Copy **PCN#lt.alg** into **rPCN#.alg**
   a) **File > Open**
      1) **Look in:** u:\regionXX\prj\COUNPCN#\PCN#lt.alg
         Note: the geometry file needs to be opened before you can copy
      2) **Open, Cancel**
   b) **Geometry > Copy Geometry > Cogo Points** tab
      1) Under **From**
         a. **Geometry Project:** Select **PCN#lt**
         b. **Point: *** (wildcard), so everything is copied
      2) Under **To**
         a. **Geometry Project:** Select **rPCN#**
         b. **Duplicates:** Rename
      3) **Apply, Close**
      4) Repeat for **Horizontals** if necessary



7. Close **PCN#lt**
   a) Under **Geometry Project**
      1) Select **rPCN#** > right click > **Set Active**
      2) Select **PCN#lt** > right click > **Close**
         a. A pop up asks if you want to close PCN#lt, **Yes**. Another box comes up asking, Do you want to save changes to geometry project PCN#lt, **No**.

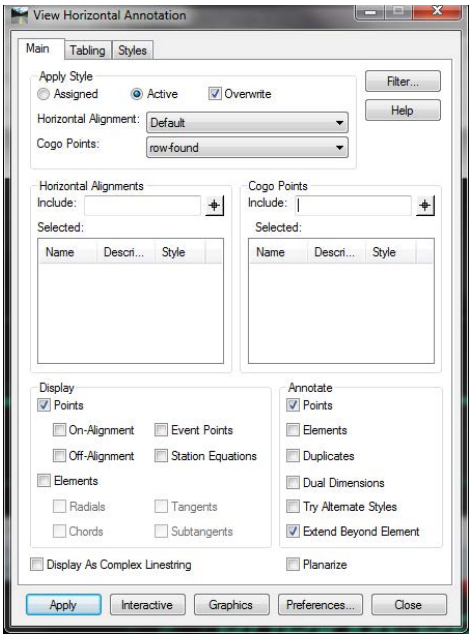
8. Make **rPCN#** the Active Geometry file, if it's not already
   a) **Geometry > Active Geometry**
      1) Select **rPCN#**
      2) **Apply, Close**

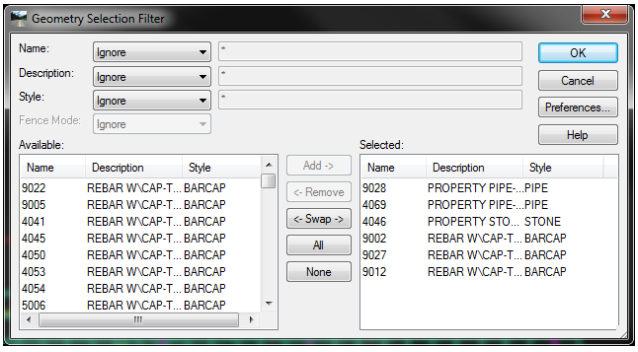
9. Change the elevation of all points to 1500
   a) **Geometry > Utilities > Assign Elevations**
      1) Toggle on **Points**
      2) **Name:** * (wildcard), point numbers, or select point
      3) **Source: From Elevation**
      4) **Elevation: 1500**
      5) Check **Make Shared Point Elevation Equal**
         a. This will pick up the PI's, etc that are being shared with the point
      6) **Apply, Close**
   b) **File > Save > Geometry Project**



10. Display Cogo Points (the land tie cogo point style will need to be changed to row-found or row-assumed before displaying)
    a) **Geometry > View Geometry > Horizontal Annotation > Main** tab
        1) **Preferences … > row-cogo-points > Load, Close**
        2) Under **Apply Style**
            a. Toggle on **Active** & check **Overwrite**
            b. **Cogo Points : row-found** or **row-assumed**
        3) Under **Cogo Points**
            a. **Include:** * (wildcard) for all points or type point numbers
            b. **Filter > Geometry Selection Filter** dialog box comes up
                1. Under **Available**
                    a) Sort the points by style or description, & highlight the points you want
                    b) **Add**, this moves points to **Select:** box
                    c) Assumed corner-tie are to be displayed as **row-assumed** & anything not an assumed corner are to be displayed as **row-found**
                    d) After you have the points selected > **Ok**
            c. Apply, Close

Hint: It's helpful to do a fit view to see the cogo points

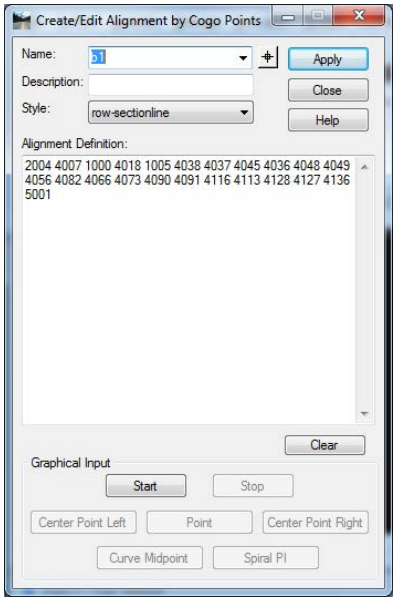




11. Save Geometry Project
    a) **File > Save > Geometry Project**

ESTABLISHING EXISTING RIGHT OF WAY

1. Change Seed Alignment Name for property boundaries (section line, ¼ line, property line, etc.)
   a) **File > Project Options > Geometry** tab
      1) **Seed Alignment Name: b1**
      2) **Seed Point Name: 100** (optional)
      3) **Preferences**
         a. **Default > Save >Close**
      4) **Apply, Close**

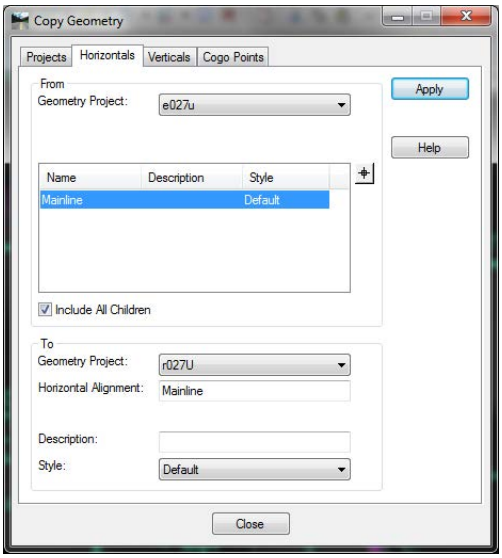


2. Create Alignment (section line, ¼ line, property line, etc)
   a) **Geometry > Utilities > Create/Edit Alignment by Cogo Points**
      1) **Name:** b# or leave black (it will assign the next available #)
      2) **Description:** (optional)
      3) **Style:** Select from pull down
      4) **Alignment Definition:** type in point #
         OR
      5) Under **Graphical Input**
         a. **Start** > data near points > **stop**
            1. Have your point snap lock on in InRoads
      6) **Apply, Close**

3. Establishing existing highway row & section line row, etc.
   a) Change Seed Alignment Name for existing row
      1) Follow steps from number 1 above
         a. **Seed Alignment Name: e1**
         b. Everything else will be the same settings
   b) Parallel Horizontal Alignment
      1) **Geometry > Utilities > Parallel Horizontal Alignment**
         a. **Mode: Specify**
         b. Under **From**
            1. **Horizontal Alignment:** Select alignment wanting to parallel
            2. **Offset:** type in distance
         c. **Under To**
            1. **Alignment Name:** e# or leave blank (it will assign next available number)
            2. **Description:** Fill in (optional)
            3. **Style: row-exist** (depends on what type of line putting in)
            4. **Apply, Close**
   c) Create Usable cogo points for alignments
      1) It will be necessary edit the alignment. When you try and edit it using **Create/Edit Alignment by Cogo Points**, a box comes up asking **if you want to assign point names** to the alignment **NO**, **Apply**. (If you click YES, it assigns alignment numbers not cogo numbers). You then end up with two different set of numbers. To make these numbers usable Cogo points, do the following: **Hint: Make sure the alignment you want to assign points to is set active**
         a. **Geometry > Horizontal Curve Set > Events**
            1. Under **Add As**, toggle on **Alignment Point to Cogo**.
            2. **Description:** (Optional)
            3. **Style: row-exist** (depends on type of line putting in)
            4. **Apply**, **Close**.
      2) The next time you try and edit the alignment, a box comes up asking **if you want to assign point names** to the alignment **Yes**, **Apply**. (Now the alignment numbers and cogo numbers should be the same number). Make sure that you do the step above before assigning numbers to the alignments.
   d) **File > Save > Geometry Project**

ESTABLISHING PROPOSED RIGHT OF WAY

1. Copy the Designer's Alignments.
   a) Right click on **Geometry Project > Open**
      1. **rPCN#** & **ePCN#**
      2. **Open**



   b) **Geometry > Copy Geometry > Horizontals** Tab**.**
      1. Under **From**
         a) **Geometry Project:** Select **ePCN#**
         b) Select **Mainline** (or the appropriate **Horizontal Alignment)**
      2. Under **To**
         a) **Geometry Project:** Select **rPCN#**
         b) **Horizontal Alignment: Mainline** (or the appropriate **Horizontal Alignment)**
         c) **Description:** Fill in (Optional)
         d) **Style:** Keep the same style as line selected
      3. **Apply**, **Close**

2. **!!!!!!!!!!!! THIS IS VERY IMPORTANT !!!!!!!!!!!!**
   Make your rPCN# the Active Geometry Project and then **CLOSE** the ePCN#.

   a) Under Geometry Projects
      1. Select **rPCN# > right click > Set Active**
      2. Select **ePCN# > right click > Close**
         a) A pop up asks if you want to close ePCN#, **Yes**. Another box comes up asking, Do you want to save changes to geometry project ePCN#, **No**.

NOTE: This only closes the COPY of the ePCN#. This MUST be done promptly after the alignments have been copied.

3. Displaying the Alignment
   a) **Geometry > View Geometry > Active Horizontal**

4. View the stationing for the Horizontal Alignment.
   a) **Set Active** alignment needing stationing added
   b) **Geometry > View Geometry > Stationing**
   c) View Stationing Dialog Box

1. **Horizontal Alignment: Mainline** (or the appropriate **Horizontal Alignment)**
2. **Preference > Default or Urban > Load > Close**
3. **Apply**, **Close**

d) If Stationing is the wrong size:

1. **File > Project Options**
2. **Factors > Preferences**
3. Select project type **> Load > Close**
4. **Apply, Close**

5. Parallel Horizontal Alignment

a) **Geometry > Utilities > Parallel Horizontal Alignment**

1. **Mode: Interactive by Element**
2. Under **To**
   a) **Alignment Name: A#**
   b) Description: Fill in (optional)
   c) **Style: row-new**
3. **Apply**

b) In MicroStation (follow prompts in bottom left hand corner)

1. Select **Alignment** (line wanting to parallel)
2. Select the **first element** and **last element**
3. **Key in distance** (base bar) & use positive or negative (depending on direction/side of road)
4. **Accept/Reject**

NOTE: If you are going between Create/Edit Alignment by Cogo Points and Parallel Horizontal Alignment to check the alignment, remember to close the Create/Edit window before paralleling more alignments.

6. To create usable Cogo points for an alignment

It will be necessary edit the alignment. When you try and edit it using **Create/Edit Alignment by Cogo Points**, a box comes up asking **if you want to assign point names** to the alignment **NO**, **Apply**. (If you click YES, it assigns alignment numbers not cogo numbers). You then end up with two different set of numbers. To make these numbers usable Cogo points, do the following: **Hint: Make sure the alignment you want to assign points to is set active**

a) **Geometry > Horizontal Curve Set > Events**

1. Under **Add As**, toggle on **Alignment Point to Cogo**.
2. **Description:** (Optional)
3. **Style: row-new** (depends on type of line putting in)
4. **Apply**, **Close**.

The next time you try and edit the alignment, a box comes up asking **if you want to assign point names** to the alignment **Yes**, **Apply**. (Now the alignment numbers and cogo numbers should be the same number). Make sure that you do the step above before assigning numbers to the alignments.

b) **File > Geometry > Save**

7. Updating Horizontal Alignments from the ePCN#

If the Engineer has made changes to any alignments that affect Right of Way requirements, then the **rPCN#** will need to be updated**.** If the alignment already exists within the **rPCN#,** delete it using:

a) **Geometry > Delete Geometry**

1. **Type: Horizontal Alignments**
2. **Geometry Project: rPCN#**
3. Select the **Alignment** you wish to delete
4. **Apply, Close**

Then proceed in copying the alignments from the ePCN# as previously described.

MOSAIC & RIGHT OF WAY PLANS

1. Create and open **mosaic.dgn.**
2. Attach the reference files in this order: **dPCN# (d); rPCN# (r); tPCN# (t); cgPCN# (cg);** and **fPCN# (f)** (when needed**);** to your **mosaic.dgn**

Option 1 (Urban Photos): Attach raster reference files to mosaic.dgn:

1. Use Horizon Aerial photos (#.tif). If none are available snip photos from Arc Map (#.jpg)
   a) **Open Arc Map 10.3.1 > Road Design Map.mxd**
   b) Add Imagery
      1. **Add Data > Add Basemap > Imagery > Add**
      2. Toggle off all layers except Imagery
   c) Rotate View (if needed)
      1. **Right click** on **Layers > General Tab > Rotation: type in angle**
   d) **Zoom** into location of project
      1. Urban Photos use **Scale – 1:800**
   e) Snipping Photos
      1. Use the **Snipping Tool**
      2. **Save As #.jpg** file to **u:\rd\AerialPhotos\counpcn#\ #.jpg**
   f) Find date for imagery (can vary through town)
      1. **Identify >** select imagery > year displayed on line SRC_DATE2
2. **Raster Manager > File > Attach > u:\rd\AerialPhotos\counpcn#\#.tif** or **#.jpg**
   a) Attach all the #.tif or #.jpg files
   b) **NOTE:** When attaching reference files make sure the toggle is **ON** for the Open Raster Files Read Only.
3. **Raster Manager > Edit > Rotate** images the direction of the project (if needed)
4. **Draw lines** between image points and topog points.
   a) Find common points in #.tif and topog reference file (Intersecting roads and buildings corners work well)
   b) **NOTE:** you need at least three reference lines per image.
   c) **HINT:** it is easier to use 2 views for this, one on the photo and one on the project
   d) **HINT:** do not snap lines directly to topog
5. **Edit > Warp >** method-**Similitude** (move, scale and rotate)
   a) Start with end of lines on image then to match topog line end.
   b) Repeat for each #.tif file
6. **Copy** over all text from rpcn.dgn (20, 33) & change to color 4
   a) Refer to the Mosaic Information on next page
7. **Save Settings**
8. **Save As** rowplan.dgn

Option 2 (Rural Photos): Attach raster reference files using FSA Aerial photos to mosaic.dgn:

1. **Create > New**
   a) **Name: Mosaic.dgn > Browse**
      1. **U:\rd\Bentley\V8i\MicroStation\Seed\ENGLISH\(North or South Zone)**
      2. Zone depends on what county project is in
2. **Detach** all raster files not to be used.
   a) Select all rasters (**highlight one** and then **ctrl A)**
   b) De-select the county you desire (**ctrl select**)
   c) Select **detach** in the raster file manager and only the county you will be using is left.
3. **Copy** over all text from rpcn#.dgn (20, 33) & change to color 4
   a) Refer to the Mosaic Information on next page
4. **Save Settings**
5. **Save As** rowplan.dgn

NOTE: When attaching raster files make sure Open Raster Files Read Only is toggled on.

MOSAIC INFORMATION

1. Horizontal Alignment with Stationing, Begin / End Note, Equations, etc.
2. Section Lines, 1/4 Lines, Lot Lines, Property Lines, etc.
3. Existing Right of Way Lines
4. Section-Township-Range
5. Subdivisions, Lots, Blocks, Tracts, City, etc.
6. Present Highway, Intersecting Roads, Local Landmarks
7. Work Limits, Entrances
8. Proposed Right of Way Lines (Abandonment, Private Access, etc.)
9. Dimension Existing and Proposed Right of Way
10. Curb & Gutter, Edge of Shoulder
11. North Arrow, Photo Legend (Mosaic ONLY)
12. Sidewalk Label, Colored Concrete, Grass Boulevard, Pavement Markings if available (Mosaic Only & Use Photo Legend Settings)

	Level	Color	Line Style	Weight	Transparency
Grass Boulevard	3	3 (& Fill)	0	1	TIF – 70, FSA – 60
Colored Concrete	3	6 (& Fill)	0	1	TIF – 70, FSA – 60
Sidewalk Label	3	2	(All CAPS, Text size – Fit in sidewalk area)		
Pavement Markings		12	Use Level Manager (see instructions below)		

RIGHT OF WAY PLAN INFORMATION (IN ADDITION TO MOSAIC INFORMATION)

14. Project Number, Sheet Number, Total Sheets, Flown Date, North Arrow
15. Hatch Previously Acquired Right of Way within Proposed Right of Way Lines
16. Parcel Numbering with Ownership Note and Right of Way Taking Area
17. Temporary Easement Note with Area
18. Stationing for Existing Right of Way Lines Crossing Horizontal Alignment

Refer to Figure 9-12 Right of Way Plan Sheet Guide in Chapter 9

Mosaic Scale: In mosaic.dgn all text will need to be scaled (Urban, Suburban, & Rural) according to the following table.

Mosaic Scale	Urban (40)	Suburban (100)	Rural (200)
Land Owner Descriptions, Lots, Government Lots, Blocks	2	1.8	1.5
Dimensions, Section Line,1/4 Lines, 1/16 Lines	2.5	2.3	2
Street Names (**Bold** Mainline & Cross Roads), City Limits	3	2.8	2.5

***When plotting/printing the mosaic leave approximately 6" of white space on EACH SIDE for notes if possible.**

Pavement Markings (For mosaic ONLY)

1. **Settings > View Attributes >** Turn ON **Level Manager**
2. **Settings > Levels > Manager**
3. Level Manager Dialog Box
   a) Symbology: **Overrides**
   b) **Right Click** on one folder (mosaic, rPCN#, dPCN#, cgPCN#, tPCN#, fPCN#, …)
      1) **Left Click** under Name column **> Select All**
      2) **Left Click** under one of the remaining columns (Color, Style, Weight) **> All Overrides Off**
      3) Repeat for each column in each folder
   c) **Select** Level showing Pavement markings **> Right click** on space next to level and under Color Column **> Color 12**

Right Of Way Photo Levels and Reference Levels

STArow.dgn 1 thru 59
(d) dPCN# 13, 16, 17 & 32
(r) rPCN# 1, 2, 13, 21-29 (7, 8 opt.) *
(t) tPCN#? (1-63 temp)
(cg) cgPCN# 19
(p) planrow.bdr 1-56,

***If you need to use a different Mainline Alignment scale in the same project; then open In Roads and redisplay the stationing to the desired scale in STArow.dgn.**

Right of Way Plan Sheet Border

1. Copy **planrow.bdr** and paste into project folder
    a) **planrow.bdr** is located at **U:** > **rd** > **bentley** > **V8i** > **MicroStation** > **bdr** > **English**
2. Enter project number and flown date into title block

STArow.dgn (Right of Way Plans)

1. Open **rowplan.dgn**
2. Attach **planrow.bdr**
   a) Use the reference tool bar to move, scale, and rotate border, if necessary
   b) Scale border for suburban and urban projects, scale factor is in the table below
3. Create **STArow.dgn**
   a) **Save As** the **STArow.dgn,** move border and **Save Settings**, continue process until project is captured
      1. Rural photos are cut from section line to quarter line.
      2. Suburban photos are cut along alignment to show approximately 16 stations
      3. Urban photos are cut along alignment to show approximately 6 stations
   b) Rotate the view the using Z axes L to R (if needed).
   c) Turn off the #.tif(s) that are not needed for each STArow.dgn
4. Clip/cut all referenced and raster files to fit plan sheet
5. Photos need to include project information, refer to Mosaic/Right of Way Plan Information and STArow.dgn Table
6. Parcel Notes
   a) If there is more than one area on a plat combine into one note for photos
   b) Attach construction dgns and copy temporary easement notes
   c) Refer to figures in Chapter 9 for example of completed photo

STArow.dgn All font is Arial

AS = 1 200 Scale Rural (11 x 17 sheet) Description	Text-(Size)	Level	Color	Weight
Owner names, description, Lots, BLOCKS, dimension, ¼ Lines, Section Line & etc.	18	20	4	
Proposed ROW dimension	18	20	4	
Outlots & TRACTS	20	20	4	
Additions	22.5	20	4	
Section Township & Range	30	20	4	
City	45	20	4	**Bold**, *Italic*
Ex ROW hatching	Spacing 30; Angle 45	20	50	0; Line Style 0
Easement hatching	Spacing 10; Angle 45	13	3	0; Line Style 1

AS =.5 100 Scale Suburban (11 x 17 sheet) Description	Text-(Scale)	Level	Color	Weight
Owner names, description, Lots, BLOCKS, dimension, ¼ Lines, Section Line & etc.	9	20	4	
Proposed ROW dimension	9	20	4	
Outlots & TRACTS	10	20	4	
Additions	11	20	4	
Section Township & Range	16	20	4	
City	22.5	20	4	**Bold**, *Italic*
Ex ROW hatching	Spacing 15; Angle 45	20	50	0; Line Style 0
Easement hatching	Spacing 5; Angle 45	13	3	0; Line Style 1

AS = .2 40 Scale Urban (11 x 17 sheet) Description	Text-(Scale)	Level	Color	Weight
Owner names, description, Lots, BLOCKS, dimension, ¼ Lines, Section Line & etc.	3.6	20	4	
Proposed ROW dimension	3.6	20	4	
Outlots & TRACTS	4	20	4	
Additions	5	20	4	
Section Township & Range	6	20	4	
City	9	20	4	**Bold**, *Italic*
Ex ROW hatching	Spacing 10; Angle 45	20	50	0; Line Style 0
Easement hatching	Spacing 2.5; Angle 45	13	3	0; Line Style 1

PLAT CREATION

1. Create/Open **STAp.dgn**
   a. Example: A plat beginning at 10+00 would be 010p and beginning at 256+90 would be 256p
2. **Attach** reference file rPCN#.dgn (bring in at Full Scale)
3. Place and scale plat border cell
   a. Scale border to encompass entire property being defined by the plat
4. Add basic project information in border
   a. eg. project number, county, datum, drawn by
5. Levels to have on from rPCN# **22-26, 28, 29**
6. **Save As** for each plat
   a. **Move** and **Rescale** plat border
   b. If more than one plat is needed for same stationing add 1 behind the file name (ex. 256p1, 256p2)
7. Clip reference file to fit border and Save Settings
8. Copy property specific information
   a. Property and other text, proposed Right of Way, etc.
9. Generate and place tables/area notes
   a. eg. Right of Way table, Right of Way areas, and dimension area/ties
10. Add property specific information
    a. eg. parcel information, hatch existing Right of Way area, shade proposed area
11. Verify and/or edit legal description
12. Create file in plot organizer and add plats in numerical order

NOTE: Refer to Plat Guide for information needed.

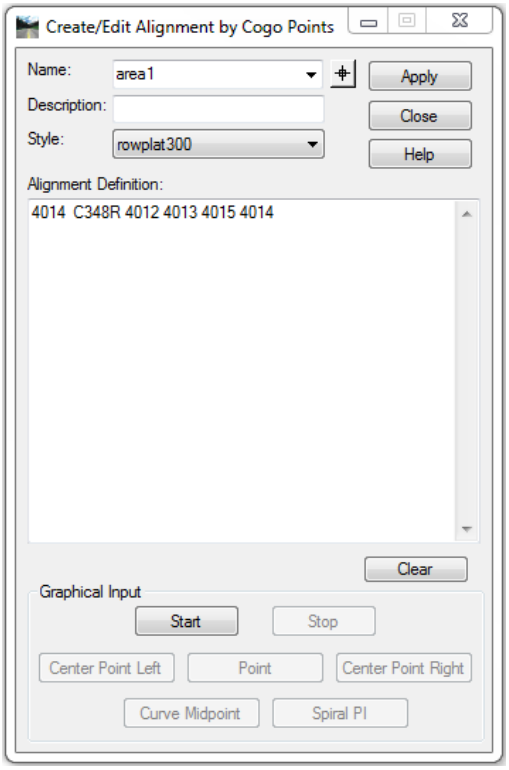
PLAT Guide: Refer to Figure 9-3 Plat Guide in Chapter 9

Description	Level	Color
Levels to have on from the rpcn# – 22-26, 28		
1. Parcel		
2. Heading	1	4
3. Property Description	1	4
4. Project		
5. County		
6. Scale		
7. Legend		
8. North Arrow		
9. Corner Description	1	9
10. Corner Coordinates	30	7
11. Corners Ties	1	9
12. Section Line	20	50
13. Existing Right of Way Dimension	20	50
14. Proposed Right of Way Dimension	20	9
15. Lot, Block, Tract, Subdivision	20	50
16. Existing Right of Way (hatched) - angle 45° - spacing 30 - weight 0 - line style 0	1	9
17. Proposed Area (shaded) – fill – opaque – outline color 10 – weight 5	1	9
18. Dimension Table	1	4
19. Acreage Note – Proposed (**Bold**) – Existing	1	4
1. Section Number (Urban Only)	20	50
21. Dimension Label – leader lines – line style 1- weight 0	1	9
22. 1/16 Line	20	50
23. Present Highway	20	50
24. Property Line	20	50
25. City – Italic, All CAPS	20	50
26. Street	20	50
27. 1/4 Line	20	50
28. Datum Note	20	
29. Revised Date	1	
30. Drawn By: Date:		
31. Checked By: Date:		
32. Project Control Number		
33. File Number		
34. Inset – line style 3 – weight 2	20	9
35. Temporary Easement (hatched) - angle 45° - spacing 30 - weight 0 - line style 1	13	3
Plat Scales		
a. 1” = 40’ scale = 0.13333		
b. 1” = 50’ scale = 0.166667		
c. 1” = 60’ scale = 0.20000		
d. 1” = 100’ scale = 0.33333		
e. 1” = 200’ scale = 0.66667		
f. 1” = 300’ scale = 1.00000		

Text on Plats	40	50	60	100	200	300
Lot, Dimension, Section Line, BLOCK, Highway/Street, Aliquot Parts	3.6	5	6	10	20	30
Outlot, TRACTS	4	5.5	6.7			
ADDITION	5	6	7.5	12.5	25	37.5
City – Italic	9	10	12	20	40	60

CREATING AREAS & TIE ALIGNMENTS

1. Establishing an Alignment
   a) **Geometry > Utilities > Create/Edit Alignment by Cogo Points**



1. **Name: area#** or **T#** (or leave blank, if left blank, the previously set preference for the *seed alignment name* will automatically assign the next available alignment number.)
   a) Name accordingly: Areas – area# ; Tie Alignments – T#
2. **Description:** fill in. (optional)
3. **Style: rowplat - #** (the # is based on the scale being used for the plat)
4. Under **Graphical Input > Start**
5. Click near the Cogo points or type in Cogo point numbers in Alignment Definition box
   a) Run area clockwise from tie
6. Under **Graphical Input > Stop**
7. **Apply**
8. **This command will be repeated to establish all the alignments for calculating areas.**

CREATING THE TABLE FOR THE PLATS

To compose the table for the areas alignments, you need to first set your attributes.

1. **Geometry > View Geometry > Horizontal Annotation**
   a) **Preference**
      1. Select **rowplats**
      2. **Load, Close**.
   b) **Main** Tab under **Horizontal Alignments**
      1. **Click** inside **Include:** box > **Filter**
         a) Select alignment names. making sure to start with the ties then the area,. (ex. **Include:** T#, area#, T#, area#,…)
   c) **Tabling** Tab make sure seed numbers are set to desired numbers
   d) **Apply**

NOTE: Follow the example above and it will create one table with all the line/curve bearing & distance in the order entered.

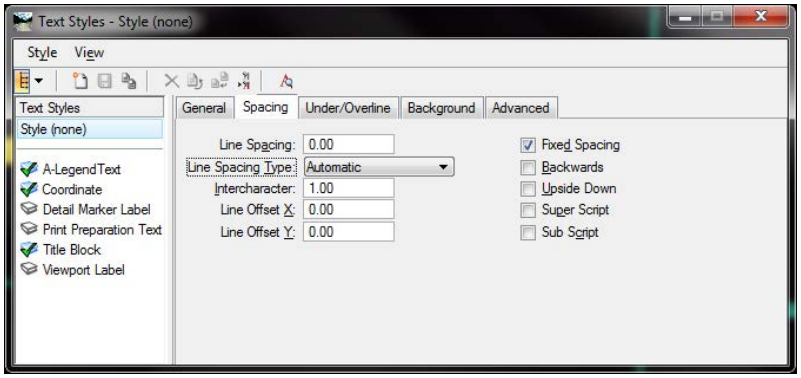
2. A **Report Browser** comes up, select **SDDOT**, then **ROWTable.xsl, ROWTableCruve.xsl,** or **Exhibit Table.xsl**
3. **Highlight** and right click **Copy** the text from the .xml report into your file. Use **Ctrl v** to past into MicroStation..

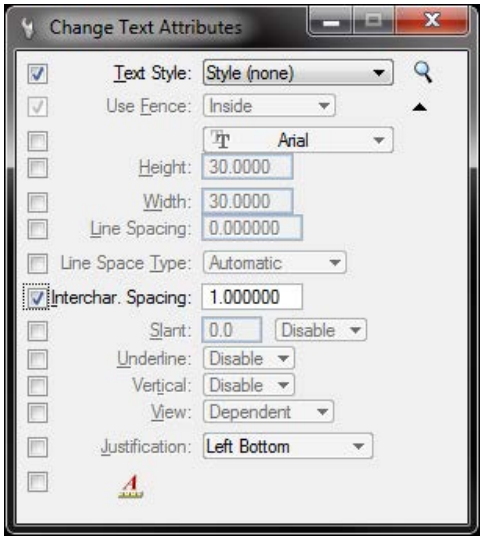
	Bearing	Length
L1	N 87°41'31" E	36.46
L2	N 87°41'31" E	16.00
L3	S 02°41'53" E	7.00
L4	S 87°18'07" W	16.00
L5	N 02°41'53" W	7.11

	Bearing	Length	Chord	Radius
C1	S 30°28'33" E	87.70	87.70	2764.79R
L1	S 60°25'59" W	49.47		
L2	N 00°49'51" W	100.00		

	Length
L1	593.04
L2	28.00
L3	36.00
L4	28.00
L5	36.00

Do NOT edit it as we are going to utilize it just the way it comes up.





To get the **text lined up** you need to do a **fix width** by utilizing the **Change Text Attributes**. Select the **magnifying glass**, which then brings up a dialog box.

a) Under **Spacing** tab
   1. **Check** box **Fixed Spacing**
   2. **Type 1.00** in **Intercharacter** box
   3. **Close**

b) **Change Text Attributes**
   1. Select the **down arrow** to expand
   2. **Check** boxes **Text Style** and **Interchar. Spacing**

c) Select the text just copied over.

d) Once table is changed go back and change Text Attributes back to previous settings (**Fixed Spacing Off**).

	Length
L1	593±
L2	28.00
L3	36.00
L4	28.00
L5	36.00

	Bearing	Length
L1	N 87°41'31" E	36.46
L2	N 87°41'31" E	16.00
L3	S 02°41'53" E	7.00
L4	S 87°18'07" W	16.00
L5	N 02°41'53" W	7.11

	Bearing	Length	Chord	Radius
L1	S 02°38'44" E	0.45		
L2	N 87°39'37" E	148.40		
C1	N 55°39'10" E	183.87	174.46	164.57L
L3	S 02°37'38" E	88.47		
L4	S 61°02'17" W	8.93		
L5	S 87°39'37" W	140.40		

AREA REPORT FOR PLATS

1. **Tools** > **XML Reports > Geometry**
   a) Under **Horizontal Alignments**
      1. **Include:** type in the alignment name or select it with the data point
      2. **Apply**.
   b) A **Report Browser** comes up, select **SDDOT**, then **ROW.xsl**
   c) **Highlight** and **Copy** the text from the .xml report into your file. Use **Ctrl v** to past into MicroStation.

NOTE: Changing decimal place for Area: While in the Report Browser **Tools > Format Options > Area Units: 0**

CORNER COORDINATES

1. **Turn Delete Ink Lock Off**
2. **Geometry > View Geometry > Horizontal Annotation**
   a) Under **Apply Style**
      1. **Active**
      2. **Cogo Points: rowfcoor** - # (# is scale of plat)
   b) Under **Cogo Points**
      1. **Include:** Select Data Point (for one) or click in box (for multiple)
         a) If clicked in box, select **Filter**
         b) **Available:** Sort by Style and select all **row-found > Add > OK**
   c) **Apply**

LABELING STATIONING & STATION OFFSET

1. **Geometry > View Geometry > Station Offset Annotation**
   a) **Method: Clearance**
   b) Under **From**
      1. **Horizontal Alignment: Mainline**

c) **Select Preferences**
    1. **Select ROWoffsta (station offset)** or **ROWsta (stationing)**
    2. **Load > Close**
d) Under **To**
    1. **Annotate: Select points or type them in**
e) **Apply**

PRINTING TO & FROM THE .PDF

1. Open a MicroStation dgn and select **File > Print Organizer**
2. Creating a new .pset
    a) **File > Add Files to Set > Add >** Select desired files > **Done**
    b) Select **Magnifying Glass** > Select desired print style > **Ok**
    c) Right click **Title** sheet (right column) > **Properties**
        1. **Main** Tab under **Area**
        2. First change **View: TITLER**
        3. **Print Area: Fence**
        4. **Ok**
    d) **File > Save As >** PCN#_ROW(Plans or Plats).pset **> Ok**
3. Creating PDF
    a) **File > Print >** the name should be the same as the .pset
4. Printing PDF
    a) **File > Print**
    b) Under **Size Options:**
        1. **Actual Size**
        2. **Choose paper source by PDF page size**
    c) Preview should be 11 x 17 & print according to your needs

NOTE: When updates or revisions occur **ONLY** the updated pages should be replaced in the .PDF & **MUST** be updated at that time.

ADDING & REMOVING PRELIMINARY BORDER

1. Open **PCN#_ROWPlans.pdf**
2. Adding Border
    a) **Tools > Action Wizard > SDDOT ROW Plans – Preliminary**
3. Removing Border
    a) **Tools > Action Wizard > SDDOT ROW Plans – Release to ROW**

ADDING HW07 PARCEL INFORMATION

1. Open **HW07 ROW Parcel Inventory**
2. Under **Search For**
3. **PCN:** Type in PCN# > **Search**
4. **Parcel** > **Create Parcel from Strip**
    a) **Create All Parcels** or **Select strips** > **Create Individual Parcels**
    b) **Close**
5. Under **Search For**
    a) **Parcels**
6. Double click on Parcel wanting to edit
    a) Under **Parcel**
        1. **Parcel #:** Renumber according to plat/plans (needed for all types of parcels)
        2. **Property Description:** Edit to match plat/plans (needed for all types of parcels)
        3. **Taking Note – Lot(s)/Acre/Square Feet:** Note need to match what is on the plat (needed only for plats)

4. Verify Landowner Name

7. **Parcel** > **Delete Parcel(s)**
   a) Select Parcels not needed
   b) **Delete**

OMITTING PARCELS

1. Open **STA.dgn**
2. **Place Text** across plat reading **OMITTED**
3. Replot that individual parcel and insert into the **Plats.pdf**
4. Open **STArow.dgn**
5. Edit Parcel Note on ROW plan sheet
   a) If there are other easements on property besides ones being omitted
      1. Replace ROW Taking note with Omitted
   b) If there is nothing else on property but the note being omitted
      1. Replace entire note with **Parcel #**
         Omitted
6. Replot the sheet and insert into the **ROWplans.pdf**

NOTE: Make sure to only replace the affected sheets and plats

STAMPING CHECKED PLATS

1. **Open PCN#_plats.pdf**
2. Adding Stamp
   a) **Comment > Annotation > Add stamp > SDDOT > checker name/date? >** place on plats

NOTE: (if Stamp doesn't show, run this batch file U:\rd\Adobe\Acrobat.bat)
NOTE: (if your name doesn't show Fill-in Identity under Edit>Preferences.
Option: for multiple stamping, right click on Add Stamp Icon > Select Keep Tool Selected)

3. To Save PCN#_plats.pdf
   a) **File > Action Wizard > SDDOT Plats > Next > Next > Close > Exit**

MISCELLANEOUS

A. In **Cogo**, the delimiters are as follows:
   a = **azimuth** between two points.
   g = **gradient** between three points.
   d = **distance** between two points.

B. To get a bearing and distance:
   1. You can use the "**Inverse Direction**" command in the '**Geometry**' palette.
      To use it, you can either data or keyin the first point, then data the second point. You can read the information on the bottom of the screen.

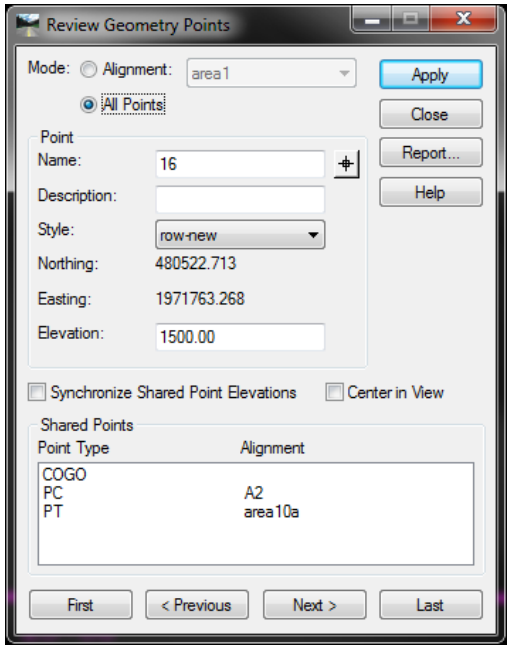
C. To get coordinates of the P.I.'s, you need to annotate alignment with "off element point numbers" on.

D. Always leave the AUTO PLOT lock on.

E. Whenever you create a Cogo point between two alignments, you have to be sure and go back in the "Horizontal Edit" command and insert the new Cogo point in the alignment.

F. When storing an alignment and you get a message "unequal curve radii", you can review horizontal alignment (single alignment) and see what the problem is.

G. **Geometry > Review Geometry Points.**
1. Under **Mode**, toggle on **All Points**.
2. **Name:** type in the point number (in this case 16) or data the collapsible box and select a point graphically.
3. Hit Tab and this will immediately give you the coordinates of the point and also will identify which alignment the point is associated with.



4. **Report…** and it will give you a listing of all the points and their coordinates.

<u>Proposed Right of Way Miscellaneous</u>

1. School and Public Land Plats
   a. Show the amount of taking in each 40 acre tract
   b. Do not hatch existing Right of Way
   c. Draw 1/16 lines to designate each 40 acre tract
2. Government Land Plats
   a. On land that is owned by the United States Fish and Wildlife Services the Chief, Division of Realty, Region 6 acknowledgment certificate shall be placed on the cover sheet of the portfolio.

3. Parcel numbers underline
   a. Select Text
   b. **Change Text Attributes** > **Browse** (next to Text Style)
   c. Under **Advanced** tab > under **Underline /Overline Goup** > **Underline Offset: .2** and **Underline Weight: 1**