Geopak for MoDOT Right of Way & Location Survey Plans

Introduction

- *Introductions*
- *Course Description:*
  - The course will introduce the workflow and processes for developing R/W and/or Location Survey Plans.
- *Course Schedule:*
  - First day 9:30 to 3:30
  - 2nd and 3rd days 8:00 to 3:30
  - 1 hour lunch each day
  - Breaks every hour

Introduction

- *Topics Covered*
  - **Workflow for locations surveys.**
  - **Locating survey monuments.**
  - **COGO commands for storing geometric elements related to R/W .**
  - **COGO commands used to store parcels and parcel information.**
  - **Using Design & Computational Manager for placing 2D line R/W geometry.**
  - **Creating legal descriptions.**
  - **Detailing survey plats and/or R/W plans using Microstation tools.**
- *Course Objectives*
  - **Ability to develop a set of R/W plans and/or Location Survey plans.**
  - **For designers and surveyors to understand their roles in the development of the plans.**

Introduction

- *Design Materials and Manual*
  - **Manual includes**
    - **Power points used**
    - **Geopak exercises**
    - **Plats and deeds used for the exercises**

Workflow

The Workflow

The Workflow – R/W Plans

- *Surveyor receives information from designer and R/W staff.*
- *Surveyor re-establishes R/W in the field.*
  - *Locates known monuments*
  - *Locates existing MoDOT R/W as alignments*
  - *Calculate any new points, monuments, etc.*
- *Surveyor provides the following deliverables to the design staff:*
  - *Geopak coordinate geometry (.gpk) with alignments and points.*
  - *2D-design file (.dgn) as mapped from the Geopak import (land corners, monuments and existing R/W markers and lines).*

The Workflow – R/W Plans

- *The designer draws 2D geometry based on:*
  - *The field information provided by the surveyor.*
  - *Deeds/plats provided by the R/W staff.*
  - *Project design.*

- *Designer develops plan sheets*
  - *Cut sheets.*
  - *Detail sheets.*

<u>NOTE:</u>

It is assumed that the survey centerline has already been picked up by surveyor and provided to designer during the conceptual study/preliminary plans stage.

The Workflow – Location Surveys

- *The designer provides the R/W plans for surveyor review of boundary lines.*
- *Legal descriptions are written and placed on sheets.*

Re-establishing R/W

Prior to Field Work

- *Project Summary*
- *Information available (review with class)*
  - *Deeds, plats*
  - *Old highway plans*
  - *Proposed area of project (project limits, proposed alignments, any borrow areas, etc.)*
- *Locating at least 2 corners per section*

Geopak Survey Work

- *(Handout/Exercise)*
  - *Review GPK file*
  - *Review DGN file*

Design & Development of Plan Sheets

Geopak COGO Tools for R/W

- *COGO TOOLS FOR R/W*
  - *COGO Elements for R/W(Handout)*
  - *Legal Description (Handout)*
- *EXERCISES*

Geopak D&C Manager Tools for R/W

- *D&C MANAGER TOOLS*
  - *Drafting Standards for R/W – Parcel and R/W Lines (Handout)*
  - *3PC Tools (Handout)*
- *EXERCISES*

Geopak Labeling Tools for R/W

- *TEXT TOOLS*
  - *Plan View Labeler (Handout)*
  - *Tables (Handout)*
- *EXERCISE*

Summary

The Workflow Summary

- *Preliminary design established by Designer.*
- *Surveyor re-establishes R/W in the field.*
- *Surveyor provides COGO information.*
- *Designer draws 2D geometry*
- *Designer develops/details plan sheets*
- *Designer provides R/W plans for surveyor review*
- *Legal descriptions are written*
- *Plats are developed*

Reestablishment of ROW

Survey Work Flow

While each survey project is unique and may pose its own particular adjustments to procedures, the following is provided as a general guideline for orderly project conduct and execution.

1. Evidence Gathering

Collecting and compiling available records containing pertinent information associated to the lands of the survey project area.

- Compile copies of assessor's maps and aerial photomaps.
- Acquire names and addresses of possible affected parties.
- Acquire deeds and plats for affected properties.
- Acquire title records and abstracts (may include deeds of record, title certification, etc.).
- Compile evidence from recorded surveys.
- Gather highway plans in the affected area.
- Field books from previous surveys in the area.
- Gather right-of-way deeds.
- Search records for available survey control.
- Attain copies of USGS quad maps for the project area.
- Acquire copies of aerial photography for the area.
- Attain corner certification records.
- Acquire descriptions, plats and notes from original government surveys.
- Attain copies of survey plats and notes that have been made by county surveyors and private surveyors over the time frame from the original surveys to current date.
- Acquire geodetic control data for the project area. Evidence may have to be expanded to include other resources and other data such as unrecorded devices that may be provided from affected parties, private surveys that have been performed in the area, title policies for affected lands, limits of incorporation, etc.

2. Preliminary Field Survey

The field survey work to inspect the project location and affected parcels. Physical evidence may be recovered as well as initial measurements made.

- During field reconnaissance and contacts with affected parties, witness evidence may be taken and locations of existing monuments and evidence of possession may be recovered.
- Search and recover monuments called for in written conveyances acquired from title research. Locate accessories where monument evidence may not be found.

EPG 238.3.1.31 Land survey ties

The Location Survey includes ties between the highway survey alignment and corners of the U.S. Public Land Survey System. A legal land survey corner is defined as one that is witnessed or monumented by a professional land surveyor. Location survey plans, with certification and seal, of these witnessed or monumented corners and reference ties, are filed with the county recorder of deeds. All existing corners within the right-of-way corridor must be referenced. The appropriate state land surveyor form is also completed by the surveyor for submitting to the State Land Surveyor. The survey must be tied to all existing corners of each ¼ section through which the survey passes. Ties must be sufficient to ensure that at least one public corner per section, and all other pertinent public corners are referenced to the highway survey alignment. The ties between the highway survey alignment and the land survey corner monument include the station and angle at the highway survey alignment, and the distance to the monument. Bound notebooks or data collectors are used for recording the field notes and observations. The description of the land survey corner monuments must be complete and definite; e.g., 4" x4" (100 mm x 100 mm) Limestone, 1/2" (12 mm) Steel Pin, or 1" (25 mm) Axle, S 1/4 cor. of Sec. 6, T56N, R14W. The project development engineer is advised early in the survey concerning the location and number of corner monuments that need to be re-established or witnessed so this work can be completed prior to submittal of plans to the Right of Way Division.

EPG 238.2.1.12 Subdivision or lot ties

The survey includes ties between the survey tangent line, and the legal land survey corner monuments that may be recorded subdivision or lot corner monuments. At least two ties are required in each subdivision or lot. The best ties are to the subdivision corner monuments nearest the highway survey line. The ties are measured and recorded in bound notebooks, similar to the requirements for land survey corner monuments. The ties include a complete and definite description of the monument being tied. The project development engineer is advised early in the survey concerning the corner monuments that need to be re-established or witnessed, so that this work can be completed and the information added to the plans prior to submittal of the plans to Right of Way.

EPG 238.2.1.13 Reestablishing corner monuments

The county surveyor or a registered land surveyor may witness or reestablish survey corner monuments. Establishment of reference monuments for corners that MoDOT might destroy will require the submittal of "temporary" corner forms to the Department of Natural Resources. These monuments are considered a reference monument set for the purpose of reestablishment of a permanent monument in the previous corner position when the project is complete. Corners that are in or near roadways or in other unsafe areas like medians will require establishment of permanent reference monuments in a suitable area on the right-of-way between the ditch slope and the utility easement. Standard monuments for replacing corners are to be used.

3. Evidence and Survey Analysis

The compilation and analysis of gathered evidence and results of field measurements includes the following:

- Perform mathematical checks of control survey traverses. Check all measurement and observation data.
- Execute appropriate data adjustments. Perform additional measurements if necessary.
- Confirm compliance with the survey tolerances found in minimum standards.
- Perform computations for any necessary public land corner reestablishment.
- Prepare public corner certification documents.
- Execute field survey needed for any public corner reestablishment.
- File the certification documents with the State Land Surveyor.

4. Final Field Survey

The measuring and placing of the right-of-way monuments and the development of the location survey plan includes the folowing.

- Check layout computations for point locations of right-of-way corridor breaks.
- Review prior documents, measurements and check computations. Prepare the location survey plan and record.
- Perform a staking survey prior to acquisition in the area of each parcel. Staking survey should include placing permanent monuments at locations of right-of-way breaks and permanent easements as well as temporary monuments at the corners of temporary easements.
- Place a witness post at Location Survey monument locations on right-of-way. It is not necessary to place witness posts on any easement point unless it is at a Location Survey monument.

- Confirm land descriptions are written by referral, with calls to the right-of-way survey plan, the monuments and the survey.

GEOPAK TOOLS TO AID IN THE ANALYSIS OF SURVEY DATA

COGO KEY-IN COMMANDS AND INVERSE DIALOG BOX

Mathematical Functions

2.1 Evaluate

The **EV**ALUATE command computes the result of a mathematical expression. Command syntax for the **EV**ALUATE command is:

EVALUATE <expression>

ARITHMETIC OPERATORS		
OPERATOR	**ACTION**	**EXAMPLE**
-	**Subtraction, minus**	**EV -3 -3**
+	**Addition**	**EV 4 + 7**
*****	**Multiplication**	**EV 2 * 3**
/	**Division**	**EV 1 / 2**
^	**Power**	**EV 2 ^ 4**
!	**Factorial**	**EV 3!**
( )	**Parenthetical Grouping**	**EV (2 + 3)!**

The use of trigonometric and logarithmic mathematical functions are supported by the **EVALUATE** command. All trigonometric functions are expressed in degrees. The following comprises a list of supported mathematical functions:

ABS (x)	**Absolute value: | x |**
COS (x)	**cosine of x**
ACOS (x)	**arc cosine of x**
COSH (x)	**hyperbolic cosine of x**
SIN (x)	**sine of x**
ASIN (x)	**arc sine of x**
SINH (x)	**hyperbolic sine of x**
TAN (x)	**tangent of x**
ATAN (x)	**arc tangent of x**
ATAN2 (x,y)	**arc tangent (x,y) quadrant considered**
TANH (x)	**hyperbolic tangent of x**
INT (x)	**integer value of x truncated**
EXP (x)	**natural antilogarithm of x: ex**
LOG (x)	**natural logarithm of x: log x**
LOG10 (x)	**common logarithm of x: log10x**
SQRT (x)	**square root of x**

***Examples*:**

EV **SIN(45)** returns 0.7071

EV **LOG10(34.5678)** returns 1.5387

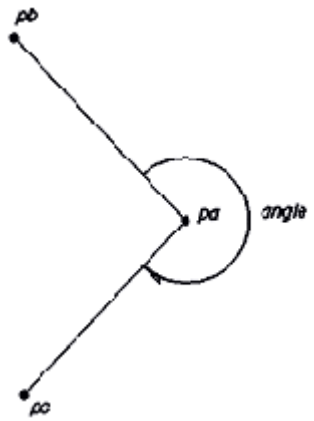
EV **EXP(4)** returns 54.5982

EV **5*SIN(34.56)** returns 2.8363

EV **678.90 - 230.56** returns 448.3400

2.2 Angle At

The **Angle At** command will measure an angle in a clockwise direction between lines formed by points pa (occupied point) to pb (backsight) and pa to pc (foresight).



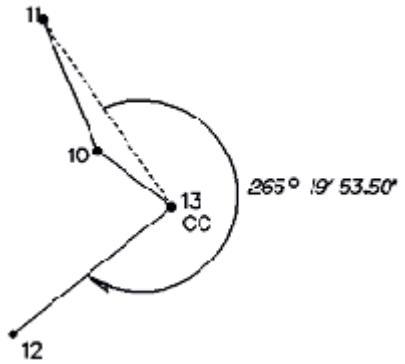
Command Line Syntax

ANGle **AT** pa pb **TO** pc

Example:

ANG AT 13 11 TO 12

Angle at 13 from 11 to 12 (clockwise) = 265° 19' 53.50"



2.3 Sectionalized Lands

GEOPAK is capable of storing standard sectional land sections with two methods.

The first one is to store the section defined by **4** outside corner of the section: **SW corner, NW corner, NE corner** and **SE corner** in any order of travel around (clockwise) the section.

The second is if the section includes the quarter corners then **8** points will be stored: the **SW corner, WEST 1/4, NW corner, NORTH 1/4, NE corner, EAST 1/4, SE corner** and **SOUTH 1/4**. The starting point may be any corner or quarter corner, keeping the above sequence.

Duplication of the first point to close the parcel is permitted. The section is stored using a name with a maximum of 9 alphanumeric characters.

Command Line Syntax

Store **SEC**tion **name list**

Examples:

S SEC 10-52-42 31 32 33 34

S SEC 10T10R5 40 37 81 20 33 56 134 76 40

Once you have stored your parcel you can store parcels by aliquot parts as per property description using the key in store parcel.

Store Parcel Name Legal. . .

STORE PARCEL name legal (LESS list) (EAS list) (AND legal..) (AND ..)

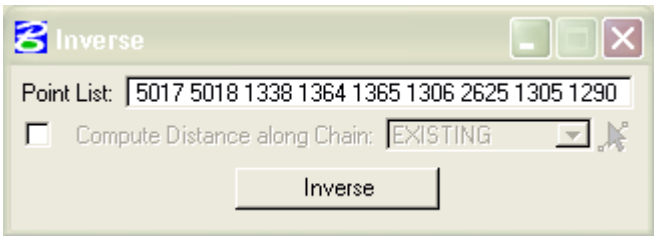
Where: legal is any combination of **1/4**, **1/2**, **LESS** and **EAS** required to describe the parcel. The optional **AND** allows two or more legales under the same parcel and owner.

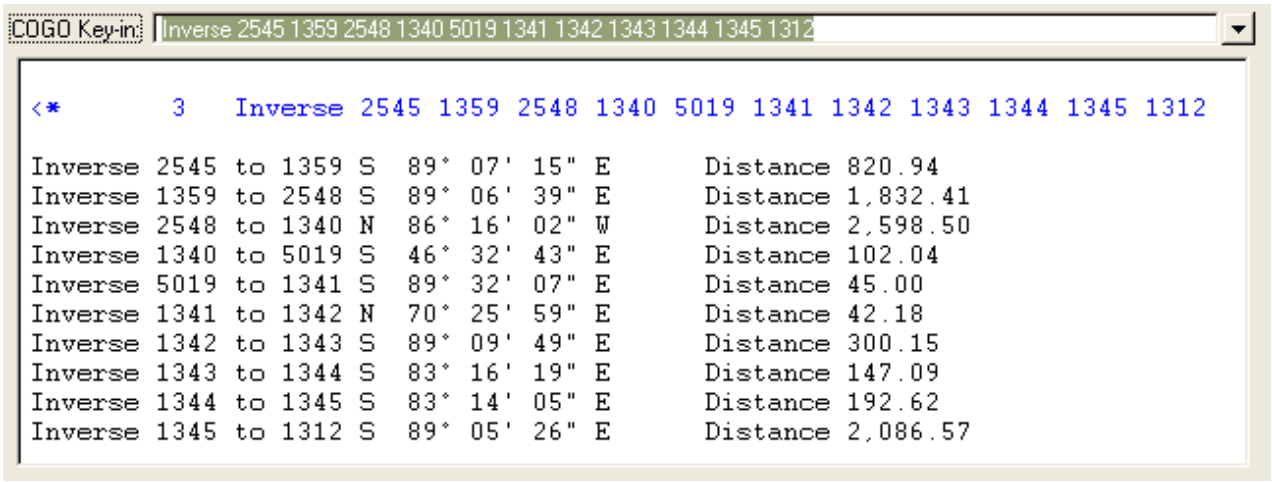
Examples:

1. **NW 1/4 OF NE 1/4 OF SEC 10-52-42**
2. **S 1/2 OF NE 1/4 LESS E 20 OF SEC 10-52-42**
3. **E 200 OF SE 1/4 EAS S 30 OF SEC 10-52-42**
4. **W 100 OF NW 1/4 AND W 100 OF NW 1/4 OF SW 1/4 AND SW 1/4 OF SW 1/4 LESS S 20 OF SEC 10-52-42**
5. **NE 1/4 OF NE 1/4 OF SEC 10-52-42 AND SE 1/4 OF SE 1/4 OF SEC 3-52-42**

2.4 Inverse

The **Inverse** command computes and displays the distance and direction between each pair of specified points. The Point list can consists of a minimum of two points, but can also contain more. GEOPAK generates the distance and direction between each two points. Order is important and the direction is computed from the first point to the second point. If the points are separated by a space, i.e., 101 105, only the distance and direction between 101 and 105 is computed. However, if a hyphen is utilized, i.e., 101-105, then the distance and direction between each consecutive pair of points is computed, i.e., 101 to 102, 102 to 103, 103 to 104, and 104 to 105.





If the **Compute Distance Along Chain** toggle is active, the point is projected onto the specified chain and the distance is computed along the chain, rather than linearly from point to point. This is a great way to check the alignment against the found right-of-way points.

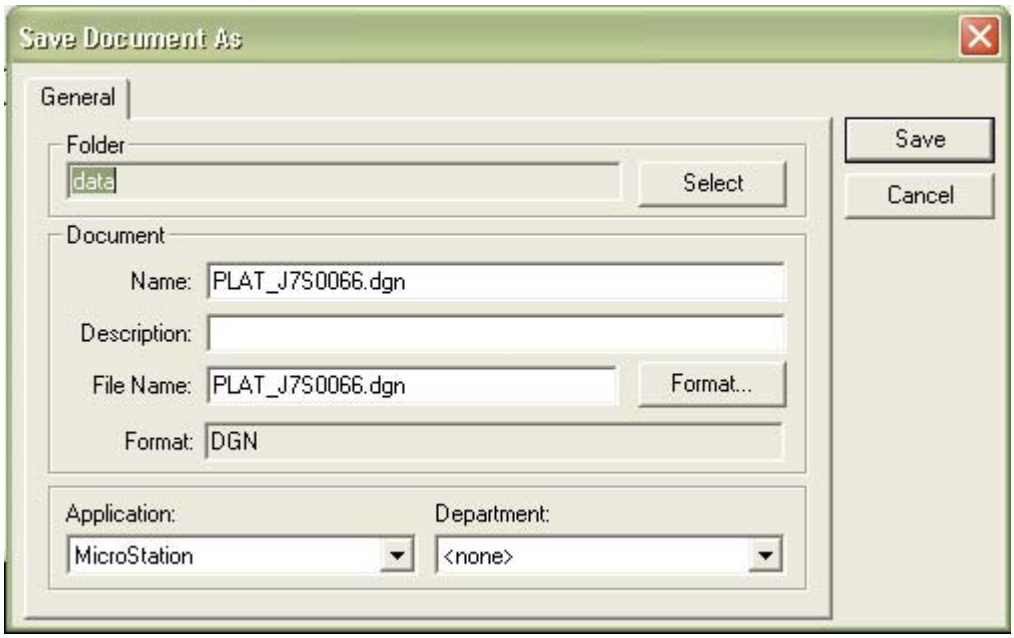
COGO Key-in: Inverse Along EXISTING 2545 1359 2548 1340 5019 1341 1342 1343 1344 1345 1312 1291 1347 1339

```
<*        5   Inverse Along EXISTING 2545 1359 2548 1340 5019 1341 1342 1343 1344 1345 1312 1291

     Point              X               Y          Station/Region      Offset     Distance
---------------- ---------------- ---------------- ----------------- ----------- ----------
2545                2,800,935.45     333,932.64       78+79.70  1         0.00      820.94
1359                2,801,756.29     333,920.05       87+00.64  1        -0.00      820.94
2548                2,803,588.48     333,891.61      105+33.04  1         0.00    1,832.41
1340                2,800,995.49     334,060.78       79+37.76  1      -129.05    2,595.28
5019                2,801,069.56     333,990.60       80+12.91  1       -60.01       75.14
1341                2,801,114.56     333,990.24       80+57.90  1       -60.33       44.99
1342                2,801,154.30     334,004.36       80+97.42  1       -75.07       39.52
1343                2,801,454.42     333,999.98       83+97.57  1       -75.30      300.15
1344                2,801,600.49     333,982.75       85+43.89  1       -60.31      146.32
1345                2,801,791.77     333,960.06       87+35.50  1       -40.55      191.61
1312                2,803,878.08     333,926.94          ***          Undefined   Undefined
1291                2,803,910.37     333,927.07          ***          Undefined   Undefined
1347                2,800,972.96     333,801.82       79+19.21  1       130.24   Undefined
1339                2,801,067.24     333,870.63       80+12.42  1        59.98       93.21

ERROR: ***  No projection found for point(s).
```

You can copy the information within the command output window and save it to a word document to store with your text files.

1. Open any empty dgn file within the data folder of your job.

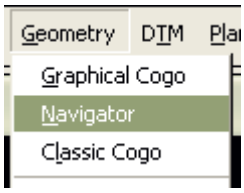
Now do a FILE SAVE AS and name it PLAT_job#.



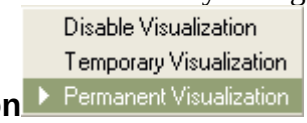
2. Once you are in the newly created file open the **Project** and select a **User**.

3. Now we are going to visualize all the right-of-way, property and land corners we have picked up since the beginning of the project.

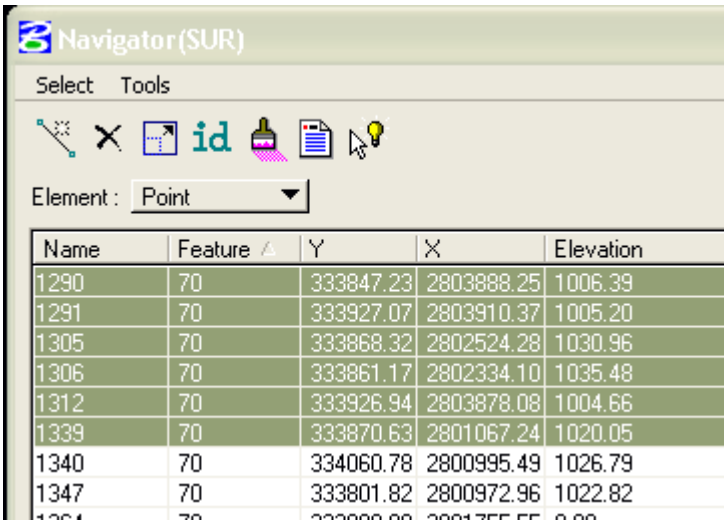
On the survey menu bar under **Geometry** select **Navigator.** *This will bring up the Coordinate Geometry dialog box and the Navigator dialog box.*



4. In the Coordinate Geometry dialog box make sure the visualization is set to **Permanent Visualization**



5. Now we need to select all of the **Feature** codes associated with right-of-way, property and land corners. Most of these will be in the 70 –79 range, so if double click in the **Feature** area of the Navigator dialog box it will be resorted based on feature code. You can select these point in a couple of ways: select the first one then hold down the shift key and select the last one, hold down the control key and select every one ind , use the mouse and select the first one and hold the left button down and scoll to the last one.



Name	Feature	Y	X	Elevation
1290	70	333847.23	2803888.25	1006.39
1291	70	333927.07	2803910.37	1005.20
1305	70	333868.32	2802524.28	1030.96
1306	70	333861.17	2802334.10	1035.48
1312	70	333926.94	2803878.08	1004.66
1339	70	333870.63	2801067.24	1020.05
1340	70	334060.78	2800995.49	1026.79
1347	70	333801.82	2800972.96	1022.82

Then select visualize element tool. This will draw the elements into your file so you can start calculating the alignment and existing right-of-way. You may need to use the **fit veiw** tool to bring the elemnets into veiw.

Now that our points are where we can work with them we are ready to start creating our centerline and existing right-of-way chains.

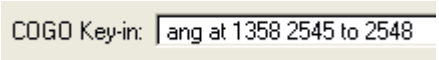
6. We can use **Inverse** tool and **COGO Key-in** to preform some calculation to see how well our points our fitting the old plans.

To check the distances between points select the **Inverse** tool , this will bring up the Inverse dialog box. For this example will will use 2545, 1358 and 2548 as our centerline control found in the field. Once we have these numbers in the Point List we can select the Inverse button in the dialog box.*Make sure the compute distance along Chain is unchecked!).*

Once the inverse command has been exacuted the results will be shown in the **Command output window**.

```
<*        1    Inverse 2545 1358 2548

Inverse 2545 to 1358 S  89° 07' 14" E      Distance 1,399.59
Inverse 1358 to 2548 S  89° 06' 24" E      Distance 1,253.76
```

To check angle at points we can use **COGO Key-in.** you will need to type in **ang at 1358** (occupied point) **2545** (backsight point) **to 2548** (foresight point) then hit the **Enter** key.

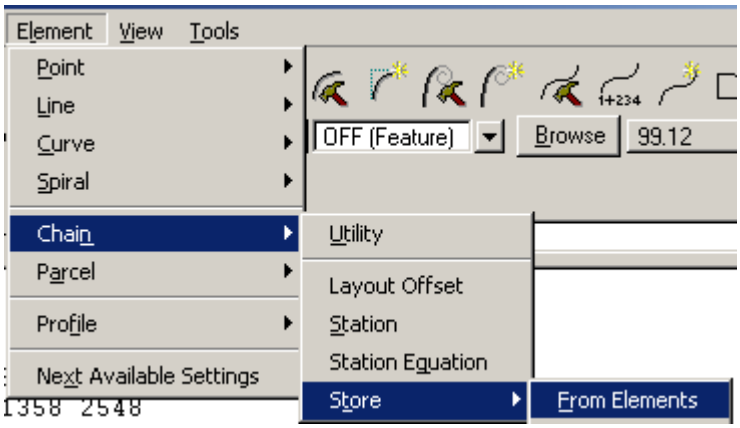


Once the angle at command has been exacuted the results will be shown in the **Command output window**.

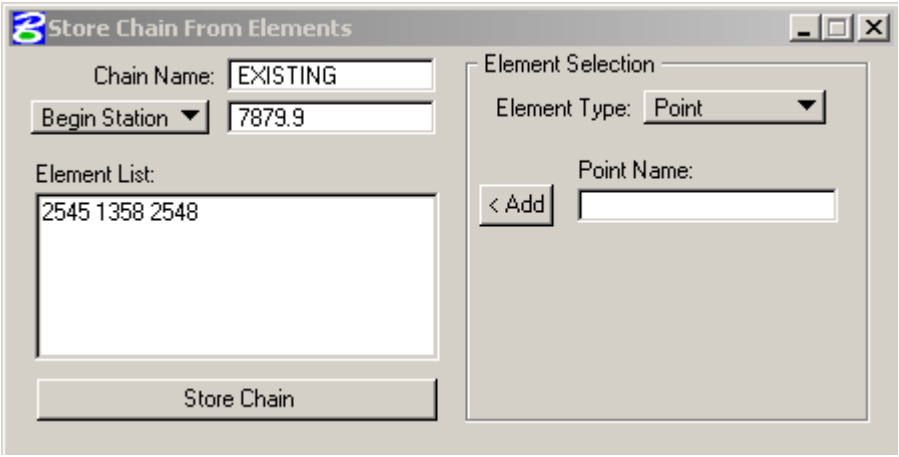
```
Angle at 1358 from 2545 to 2548 (CLOCKWISE) =         180° 00' 50"
```

*If additional points are needed along the existing centerline the **Traverse** and **Intersection** tools are great tools to aid in the process and will be covered later.*

7. Now that our centerline points check we need to create a existing centerline chain. The best tool for this is the **Element / Chain / Store / From Elements** tool**.**



Once selected the **Store Chain From Elements** dialog box will open.

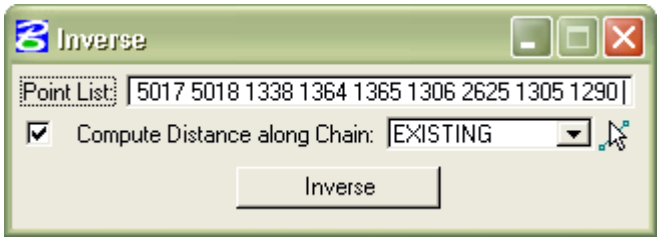


First we need to name the chain. We will call this one **EXISTING.**

Then select the Station tab to **Begin Station** and enter in the station value at your beginning point **(7879.9).**

Now enter in the points that represent your chain **(2545 1358 2548)**. Then select the **Store Chain** button to run the command.

8. Now we can check some of the points we found on the right-of-way by using the **Inverse** tool again, but this time we will use the **Compute Distance along Chain** to find the station and offset of each point.



Keyin or select all of the right-of-way points.

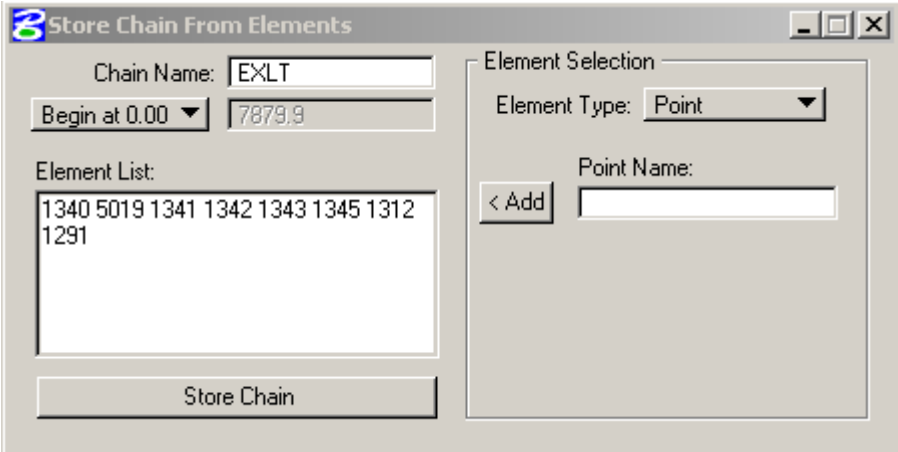
Check on the **Compute Distance along Chain**, select the **EXISTING** chain and then select the Inverse button.

Once the inverse command has been exacuted the results will be shown in the **Command output window**.

Point	X	Y	Station/Region		Offset	Distance
2545	2,800,935.45	333,932.64	78+79.70	1	0.00	820.94
1359	2,801,756.29	333,920.05	87+00.64	1	-0.00	820.94
2548	2,803,588.48	333,891.61	105+33.04	1	0.00	1,832.41
1340	2,800,995.49	334,060.78	79+37.76	1	-129.05	2,595.28
5019	2,801,069.56	333,990.60	80+12.91	1	-60.01	75.14
1341	2,801,114.56	333,990.24	80+57.90	1	-60.33	44.99
1342	2,801,154.30	334,004.36	80+97.42	1	-75.07	39.52
1343	2,801,454.42	333,999.98	83+97.57	1	-75.30	300.15
1344	2,801,600.49	333,982.75	85+43.89	1	-60.31	146.32
1345	2,801,791.77	333,960.06	87+35.50	1	-40.55	191.61
1312	2,803,878.08	333,926.94	***		Undefined	Undefined
1291	2,803,910.37	333,927.07	***		Undefined	Undefined
1347	2,800,972.96	333,801.82	79+19.21	1	130.24	Undefined
1339	2,801,067.24	333,870.63	80+12.42	1	59.98	93.21
5017	2,801,102.25	333,870.09	80+47.44	1	59.99	35.02
5018	2,801,152.04	333,854.32	80+97.46	1	74.99	50.02
1338	2,801,402.13	333,850.72	83+47.58	1	74.75	250.12
1364	2,801,755.55	333,880.08	87+00.51	1	39.97	352.93
1365	2,801,755.52	333,870.05	87+00.64	1	50.00	0.13
1306	2,802,334.10	333,861.17	92+79.28	1	50.00	578.64
2625	2,802,524.14	333,858.32	94+69.35	1	49.88	190.08
1305	2,802,524.28	333,868.32	94+69.34	1	39.88	0.01
1290	2,803,888.25	333,847.23	***		Undefined	Undefined

*If additional points are needed along the right-of-way the **Locate On Element** tool is great tools to aid in the process and will be covered later.*

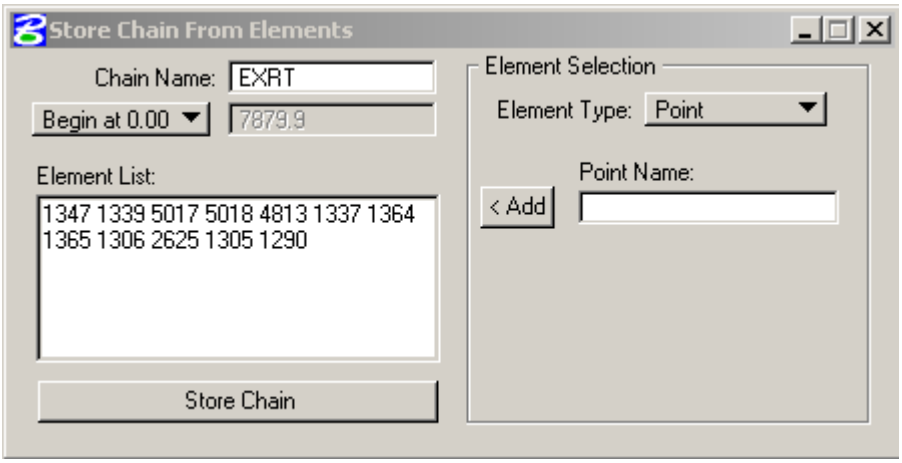
9. Now we need to create the existing right-of-way chains. The best tool for this is the **Element / Chain / Store / From Elements** tool**.**



For the left side name the chain **EXLT** for existing left**.**

Then select the Station tab to **Begin at 0.00.**

Now enter in the points that represent your chain. Then select the **Store Chain** button to run the command.



For the right side name the chain **EXRT** for existing right**.**

Then select the Station tab to **Begin at 0.00.**

Now enter in the points that represent your chain. Then select the **Store Chain** button to run the command.

COGO
For ROW

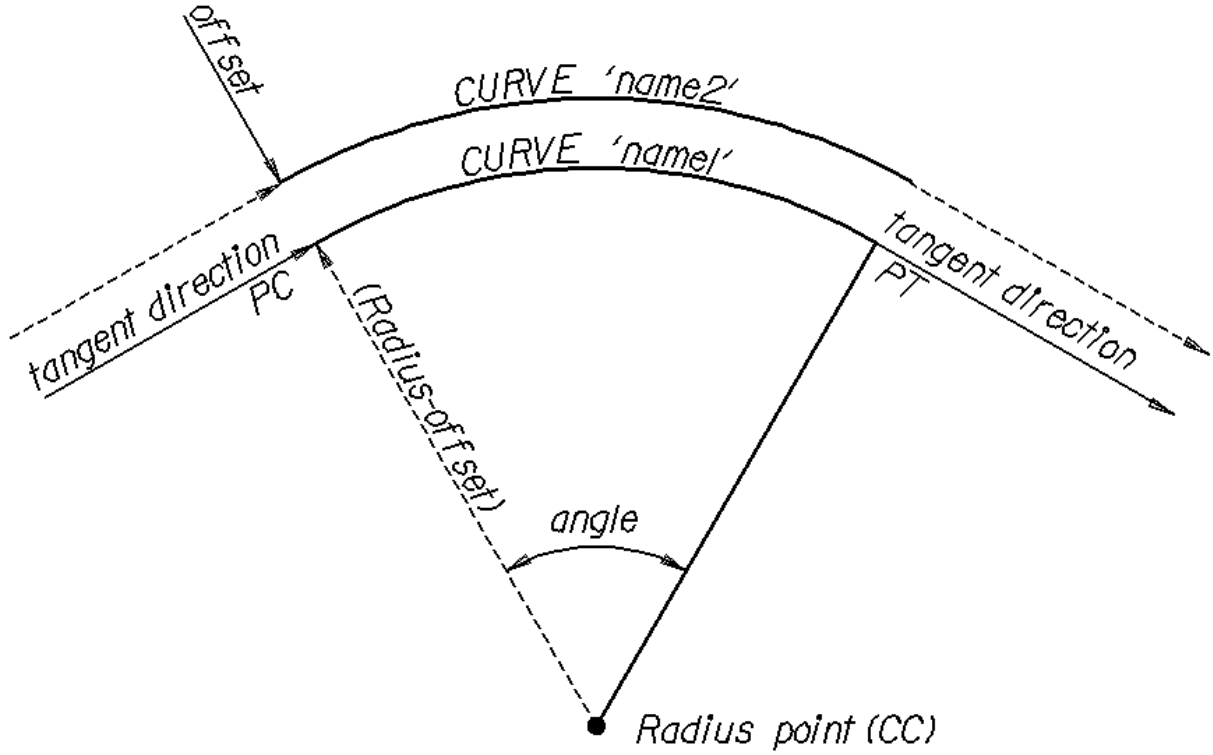
3 COGO R/W Elements

One of COGO's advantages is that it lets you keep track of geometric information. In a previous course this ability was used to store alignments as chains. Once these chains are stored, they can be used as the basis for other COGO elements. This ability and other COGO tools are used in this chapter to store and manipulate R/W elements. The following tools are presented:

- Storing concentric curves;
- Segmenting curves;
- Transposing curves;
- Locating points on curves and chains with or without offsets;
- Various intersection commands with or without offsets;
- Translation and rotation of previously stored elements; and
- Store Parcel Dialog.

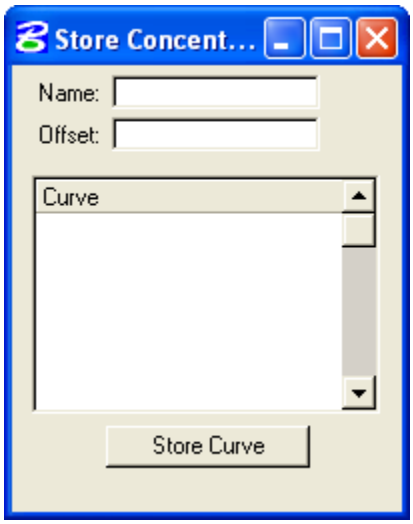
3.1 Storing Concentric Curves

COGO has the ability to store a new curve based on an existing curve using the Store Concentric Curve command, which defines and stores a new curve utilizing the same radius point (CC), tangent directions and deflections as a previously defined curve. The tangents are shifted by the value of an offset, and all remaining data is recalculated. The radius of the new curve is equal to the radius of the original curve plus or minus the offset value. A plus or positive offset is to the right of the curve as viewed from the PC, a minus or negative offset is to the left of the curve as viewed from the PC. The explanatory diagram is depicted below.



The key-in command is

STORE CURVE name CONCENTRIC CURVE name1 OFFSET offset.

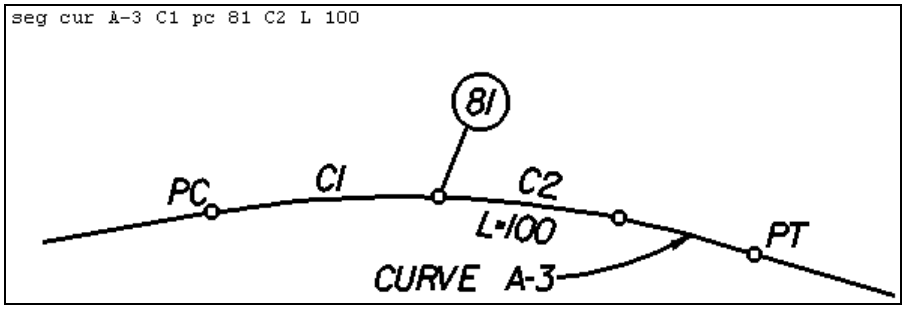


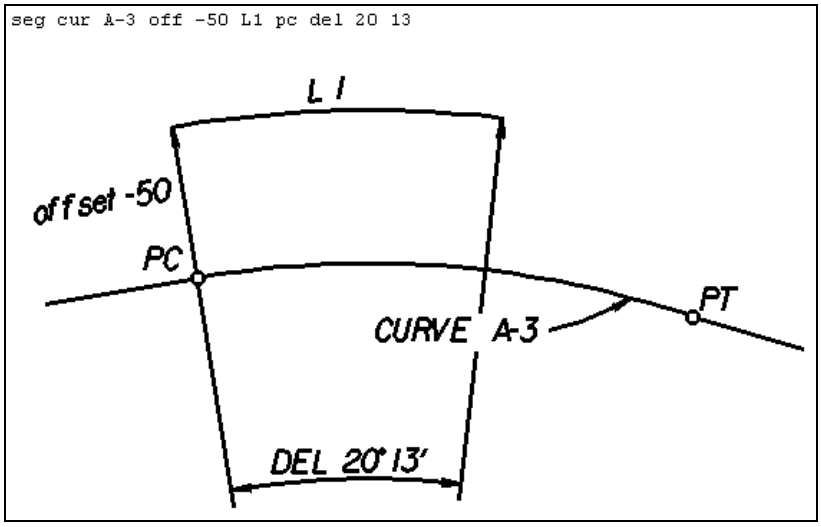
Where the underlined portions are the required or abbreviated form of the command; the upper case words are command words; and the lower case words have the following user defined values: **name** is the name of the new curve to be stored, **name1** is the name of the original curve, and **offset** is the (+/-) offset.

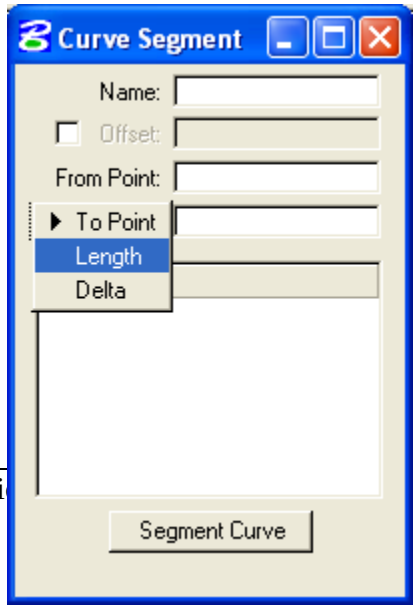
The COGO menu path **Element** > **Curve** > **Store** > **Concentric** brings up the dialog box shown to the right. The user types in the **Name** of the new curve and the desired **Offset**.

3.2 Segmenting Curves

The **Segment Curve** command defines new curves by dividing the stored curve name into segments, which either lie on top of the existing curve as show in the first figure below or at an offset as depicted in the second figure below.







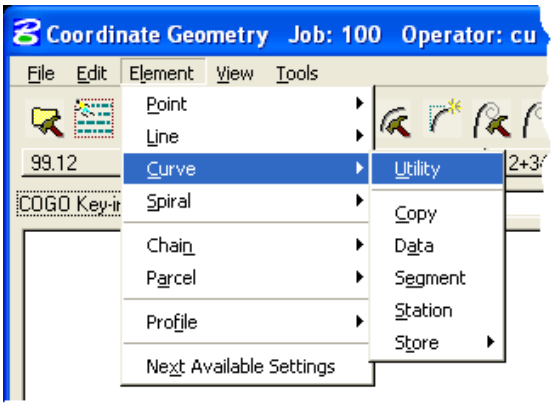
The key in command is too varied to present all the options here. For additional information use the **MicroStation** pull down **Applications** > **GEOPAK Road** > **Help** and search for **Segment Curve** under the **Curve Commands**.

The pull down **Element** > **Curve** > **Segment** dialog is depicted to the right. Key in the new curve **Name**, and if an **Offset** is desired, activate the **Offset** toggle and type in the offset value. The **From Point** can be a control point of the curve (PC or PT) or any previously defined point on the curve. Three distance options to define the end of the segment are supported as shown:

- **To Point** - segments the curve at the specified point (or projected point)
- **Length** - Measured along the curve
- **Delta** - angle measured from the initial point

Select the name of the previously defined curve to be segmented from the list box, and then press the **Apply** button to commence the command.

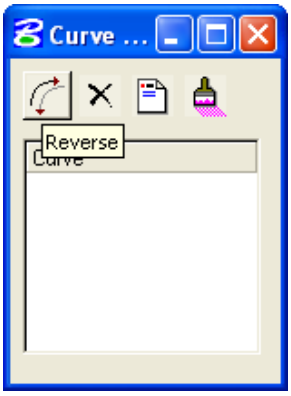
3.3 Transpose Curve



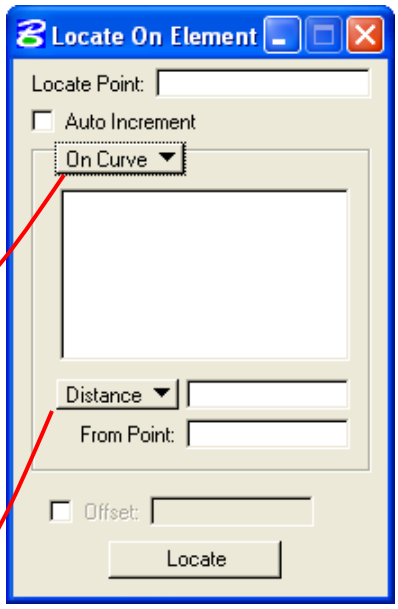
Transpose Curve commands reverse the forward sense and curve direction of a stored curve. The values of the curve elements and the position of the curve are unchanged. Transposing a curve is an element utility, so to access go to pull down **Element** > **Curve** > **Utility.** Once in the Curve Utility Dialog, the user has the **"Reverse"** option to transpose the selected curve.

- **Reverse** - Each time the command is processed, the direction of the curve is reversed, i.e. the PC and PT are reversed.

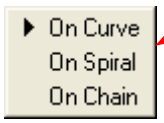
For the command to work the **Redefine** toggle must be on since a change in the curve definition is required to complete the command.



3.4 Locating On Element Commands

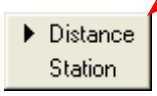


The **Locate On Element** commands locate and store a new point on a previously stored curve, spiral or chain. When the pull down **Tools > Locate > On Element** is selected the dialog depicted to the right opens.



If **On Curve** is chosen, the command locates and stores a new point on a previously stored curve using either:

- A given arc distance (measured in the direction of stationing) from a point on the curve, or
- A given station along the curve.



For both formats, the curve is extended if necessary to locate the point. If the previously defined reference point is not on the curve (+/- 0.001), the point is not located. If an optional offset is specified, the point is located on a line radial to the curve.

The list box displays all stored curves in the active project. Select the desired curve, which highlights. Below the list box is the **Distance / Station** option and key in fields.

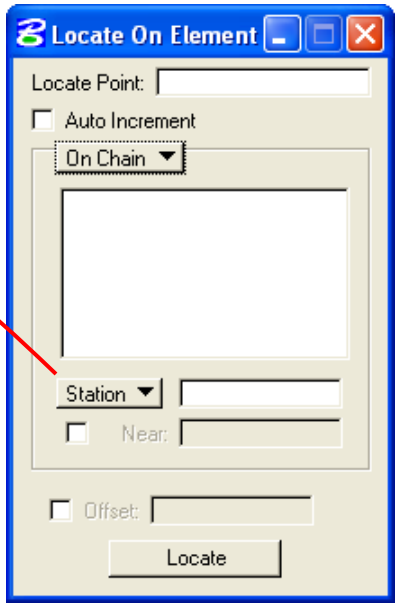
Select the desired option, then key in the appropriate information: **Distance** in master units (i.e. feet or meters) or **Station** value. If the Distance option is utilized, the **From Point** dictates to the software where to commence measuring. The **From Point** may be a previously defined point on the curve or one of the control points of the curve (i.e. P.C. or P.T.). The toggle to the left activates the optional Offset. Specify the desired **Offset** (in master units), a positive offset is to the right of the curve, and a negative offset is to the left. When the dialog is completed, pressing the **Apply** button commences the computation.

The command line syntax, using the convention defined in Section **4.1 Storing Concentric Curves**, is

LOCATE n ON CURVE name distance (FROM) pa (OFFSET offset).

Where **n** is the new point to be located, **name** is the previously stored curve, **distance** is measured in master units along the curve, from the previously defined point or curve control point, **pa**. The **offset** from the curve is optional.

The **Locate on Chain** commands locate and store a new point on a previously stored chain, at the first given station to be found. If a region is specified, the point is located in that region, unless the given station is not found, in which case the point is not located. The qualifier locates the point in the same region as the qualifier point. If an offset is specified, the point is located at a radial offset distance from the chain. The dialog is depicted to the right.



Key in the new point number in the **Locate Point** field. If the **Auto Increment** is activated, each selection of the **Apply** button will increase the **Locate Point** number by one. The list box displays all stored chains in the active project. Select the desired chain, which will highlight. Below the list box is the **Station/Project** option. Select **Station**, then key in the desired station, or select **Project**, then key in the previously defined point to be projected. When the dialog is completed, pressing the **Apply** button commences the computation.

The command line syntax is in two forms. If a **Station** value is given the form is

LOCATE n (ON) CHAIN name STATION station (R region) (OFFSET offset).

Where **n** is the new point on a previously stored chain **name**, at the first given **station** to be found. If a **region** is specified, **n** is located in that **region**, unless the given **station** is not found, in which case **n** is not located. The qualifier (**NEAR px**) locates **n** in the same region as **px**.

If an **offset** is specified, **n** is located at a radial **offset** distance from the chain. If **Project** is used, the form is

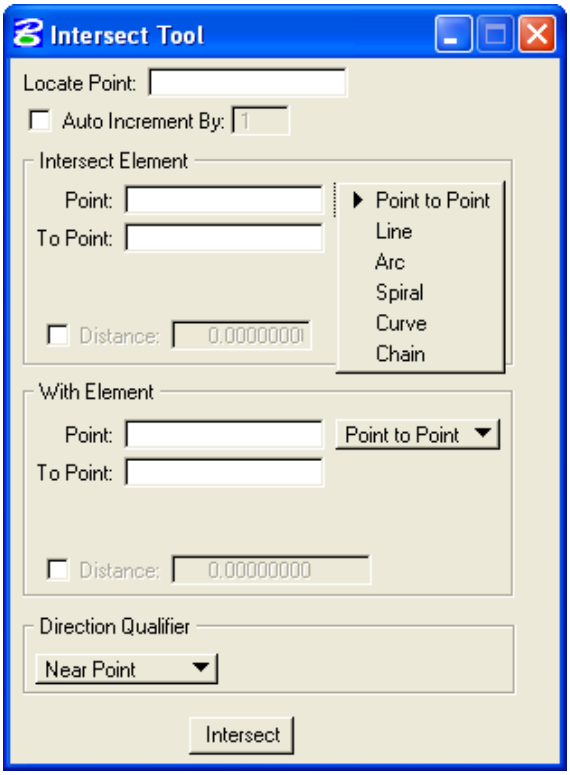
LOCATE n PROJECT pa ON CHAIN name (NEAR px) (OFFSET offset),

Where **n** is the new point on a chain **name** at the point of radial projection from point **pa**. Where multiple radial projection locations are possible, the location at the lowest station is selected by default. The qualifier (**NEAR px**) selects the first projection location ahead of **px** along the chain. If an **offset** is specified, **n** is located at a radial **offset** distance from the chain. Point **n** is stationed relative to the chain in the output.

3.5 Intersect Commands

The Intersect commands enable the user to locate and store points at intersections defined by previously stored points, curves, lines, spirals and chains, all from one dialog. GEOPAK supports a myriad of different intersect commands, as listed below.

- Line-Line Intersection
- Line-Arc Intersection
- Line-Curve Intersection
- Line-Spiral Intersection
- Arc-Arc Intersection
- Arc-Spiral Intersection
- Curve-Curve Intersection
- Curve-Spiral Intersection
- Line-Chain Intersection
- Curve-Chain Intersection
- Spiral-Chain Intersection
- Chain-Chain Intersection



When the Intersect tool is selected (pull down **Tools > Intersect**), the dialog depicted to the right is displayed. Unless stated otherwise, the optional **Distance** can be utilized by toggling on the **Distance** and typing in the **Distance** value, in terms of master units, i.e., feet or meters.

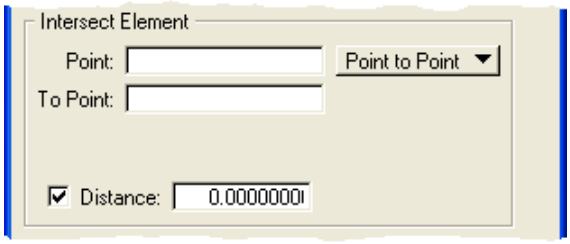
Standard surveying convention is utilized for selection of **Right** and **Left**. A negative (-) sign will be added to the distance value or if a negative (-) value is keyed in for the distance value, the directional toggle will change to **Left**.

At the top of the dialog is the new point number to be located. When the **Auto Increment** toggle is active, the point number increments by one each time the **Intersect** button is pressed. The rest of the dialog is split into two groups each defining one element of the intersection. As each element type is selected, the dialog dynamically changes to reflect the selection. Supported intersection elements include:

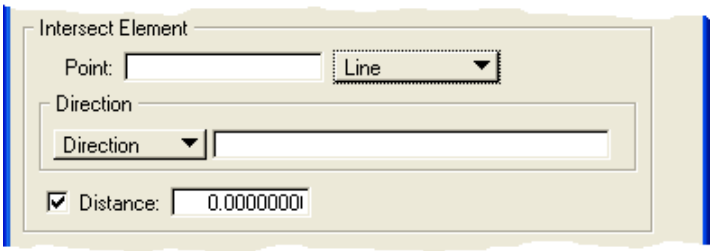
- Point to Point
- Line
- Arc
- Spiral
- Curve
- Chain

The following table details the input requirements for each element.

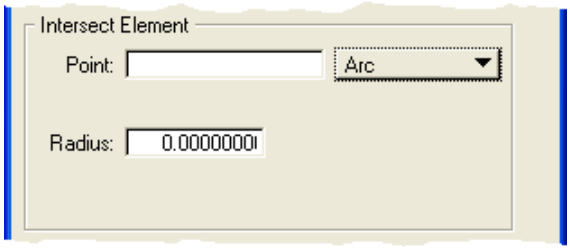
Point to Point The line input requirements consist of two Point fields. The optional Offset can be utilized by toggling on the desired offset and typing in the **Distance** value, in terms of master units, i.e., feet or meters. Standard surveying convention is utilized for selection of **Right** and **Left**.



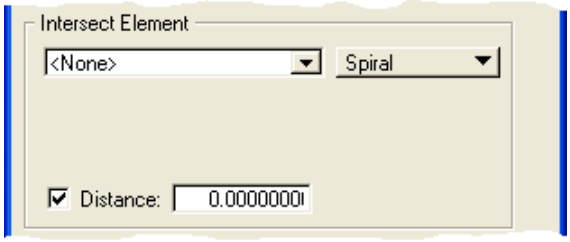
Line The line input requirements consist of **Point** and **Direction** options. These include **Bearing, Azimuth, QDD.MMSS, pa TO pb,** and **Direction Back, Direction Ahead** and **Direction of Chord** for **Curves** and **Spirals**. Optional offsets can be utilized by toggling on the desired offset and typing in the **Distance** value, in terms of master units, i.e., feet or meters. Standard surveying convention is utilized for selection of **Right** and **Left**. If the intended directions do not create an intersection, one or both lines are extended to make an intersection. A warning message is printed to indicate extended lines.



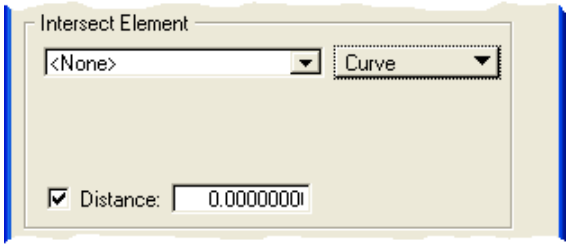
Arc The **Arc** group box consists of the **Center Point** and **Radius** key in fields, but no offsets. The **Center Point** number must be a previously defined point and the **Radius** is specified in terms of master units. Note that arc-chain and arc-curve intersections are not supported.



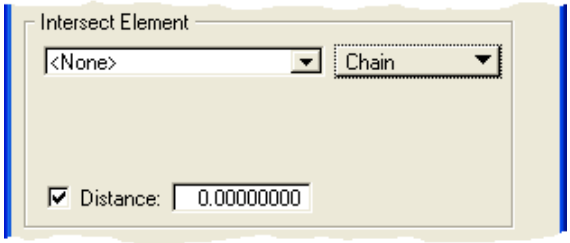
Spiral The **Spiral** group box consists of the **Spiral Name** key-in combo field and optional **Offset**. The **Spiral Name** can be selected from the list of stored curves or typed into the field. The optional **Offset** is activated by the toggle to the left of the **Distance**. Specify the desired **Offset** (in master units).



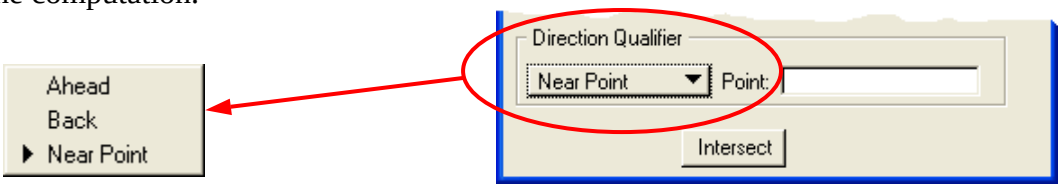
Curve The Curve group box consists of the **Curve Name** key-in combo field and optional **Offset**. The **Curve Name** can be selected from the list of stored curves or typed into the field. The optional **Offset** is activated by the toggle to the left of the **Distance**. Specify the desired **Offset** (in master units).



Chain The Chain group box consists of the **Chain** key-in combo field and optional **Offset**. The **Chain** can be selected from the list of stored curves or typed into the field. The optional **Offset** is activated by the toggle to the left of the **Distance**. Specify the desired **Offset** (in master units).

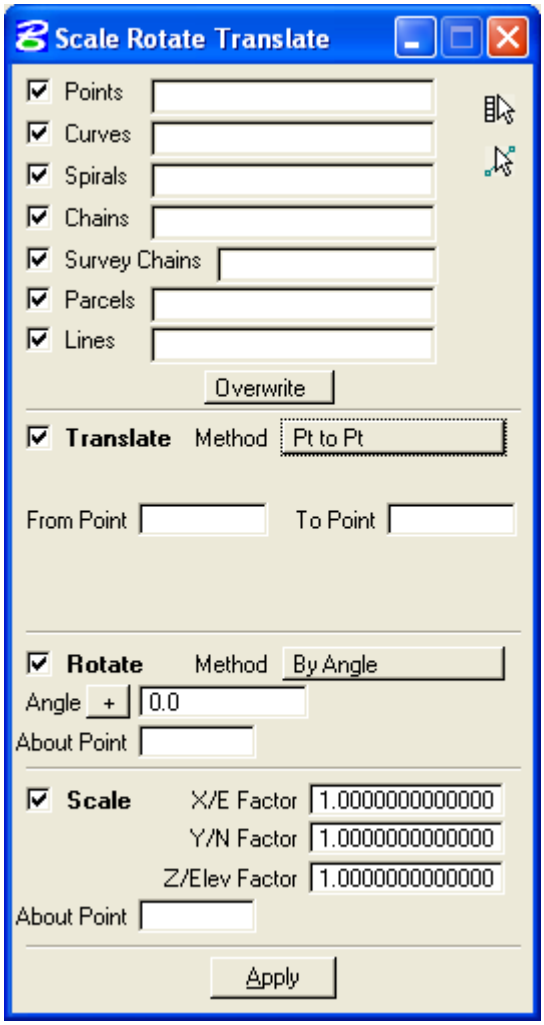


Three directional qualifiers (**Back, Ahead**, and **Near Point**) are supported in intersection options where multiple solutions are possible. The qualifiers signal to the software which intersection is desired when there are two solutions. When the dialog is completed, clicking **Intersect** commences the computation.



3.6 Translation and Rotation Commands

The **Translation** and **Rotation** commands translate and/or rotate the coordinate values of COGO elements and stores the new position of the resulting element coordinates. A variety of options to specify the distance and direction of the translation, as well as several rotation methods provide maximum user flexibility. When invoked using the COGO menu path **Tools** > **Translation and Rotation**, the dialog depicted to the right is displayed.



The top of the dialog displays the variety of COGO elements that can be translated, rotated or scaled. To utilize an element, simply activate the toggle to the left of the element name. Then populate the input field with the names of the elements. This can be done by manual input, selection set, or from the COGO navigator. To use manual entry, type in the names separated by comas. For a range, utilize a hyphen. For the selection set option, place the desired elements in a MicroStation selection set, activate the desired element toggles, and then press (the bottom icon in the upper right corner of the dialog). GEOPAK scans the selection set and populates the dialog automatically. For elements from the navigator, access the COGO navigator and highlight the desired element names. Then press the top icon in the upper right corner. Once again, GEOPAK automatically populates the dialog.

Another option in the top of the dialog is whether to create new elements or to overwrite the existing elements. The **Overwrite / Increment** button controls which of these two options are used.

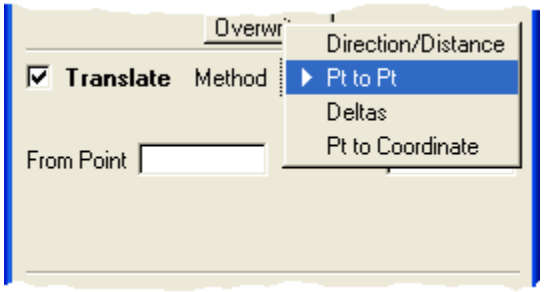
Increment This option stores new points. The increment must be specified, as shown in the figure to the right. This value is added to each existing element to obtain the translated element name.

Overwrite If the points are overwritten, no new point number is required; hence, the field is not shown.

The rest of the dialog consists of the three types of supported processes: **Translate, Rotate, and Scale**. More than one type may be processed simultaneously. For example, elements can be just translated, or just rotated, or translated and rotated and scaled. Activating the desired toggles allows you to populate the appropriate fields.

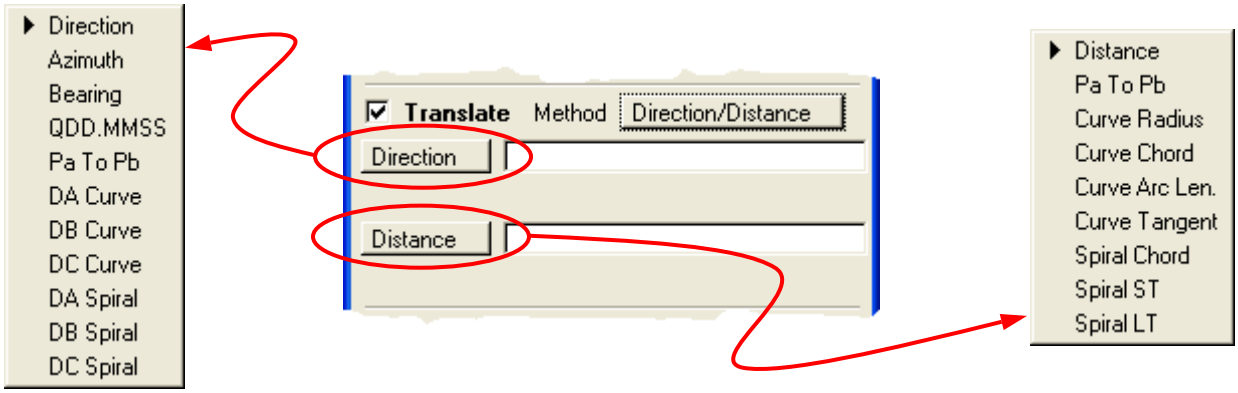
3.6.1 Translate

Four methods are supported. When selected, the dialog dynamically changes to reflect the selection.



3.6.1.1 Direction / Distance

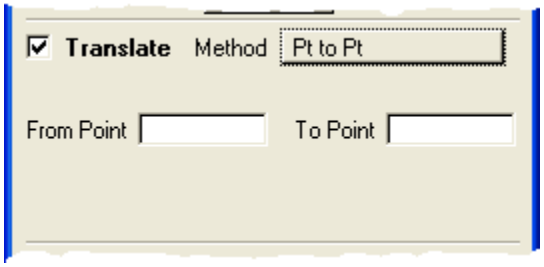
In this option, the user specifies the direction and the distance that each point is moved. These direction options follow the standard GEOPAK format for giving a Direction, Azimuth, Bearing, QDD.MMSS, two points, and direction based on a curve or spiral. For curves and spirals, the direction ahead or back as well as the direction of the chord is supported.



The distance options, include: distance value, distance between two points, curve radius, chord, length, or tangent, and spiral chord, short tangent, and long tangent.

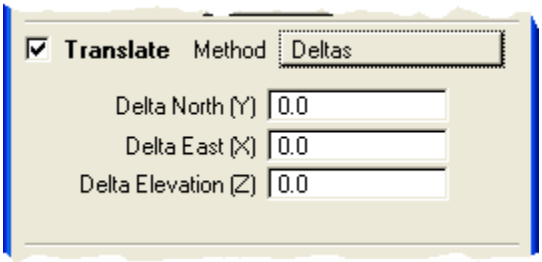
3.6.1.2 Point to Point

The distance and direction between the two specified points are used to translate all points, moving them by the same distance and direction.



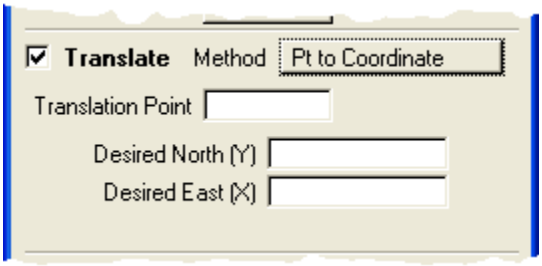
3.6.1.3 Deltas

In this method, all points are translated by the designated change in coordinates, i.e., change in North, East, and Elevation. Note: For those not needed, set the Delta to 0.00.



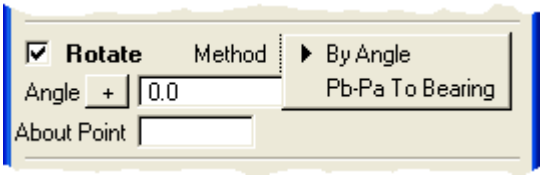
3.6.1.4 Point to Coordinate

For the last method, the distance and direction from the **Translation Point** to the **Desired North and East** is determined, then all points are moved the same distance and direction.



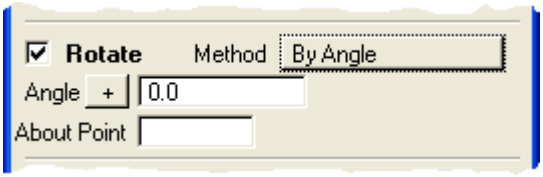
3.6.2 Rotate

The second process is **Rotate**, which can be utilized by activating its toggle. Two methods are supported for rotation. The dialog dynamically changes as each is selected.



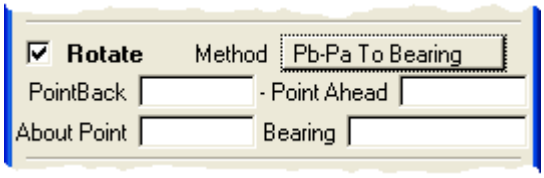
3.6.2.1 Angle

For this method, the elements are rotated by a specified angle about a previously stored point, which is entered in the **About Point** field. The angle is specified in the **Angle** field with right or left determined by the + or - buttons respectively.



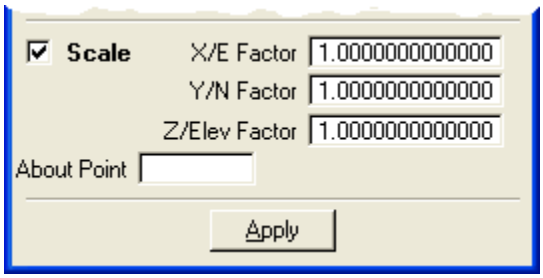
3.6.2.2 Line Between Two Points To Bearing

In the **About Point**, specify a previously defined point. In addition, two points (**Point Back** and **Point Ahead**) are specified, and GEOPAK computes the direction between them. It then determines the rotation angle by comparing the computed direction and the desired bearing.



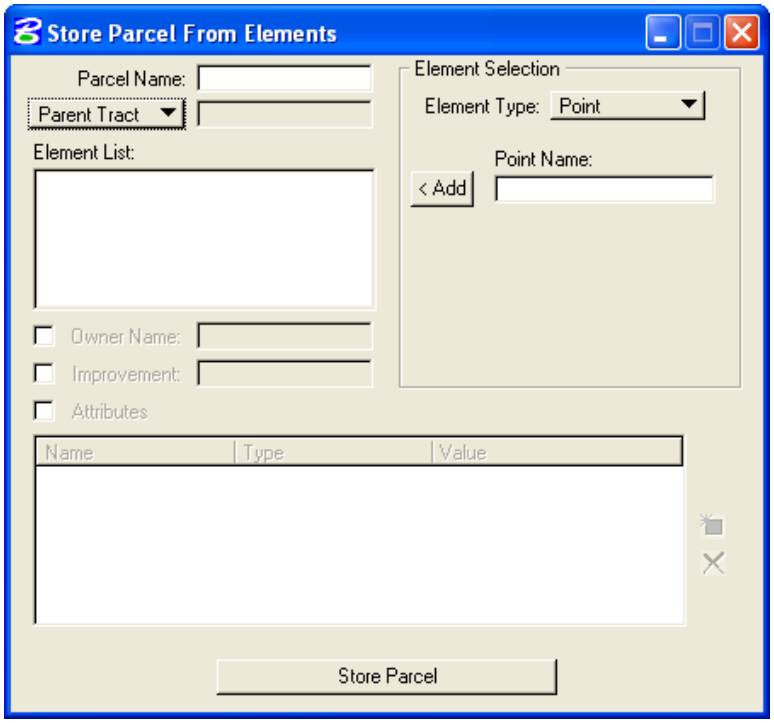
3.6.3 Scale

The third process available is **Scale**, which can be utilized by activating the toggle to the left of Scale. All elements are scaled about a previously stored point utilizing the specified scale factor. If scaling is not desired for one factor, set the value to 1.00 (default).

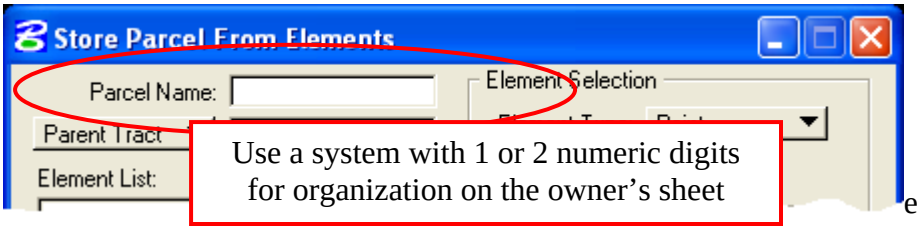


3.7 Store Parcel Dialog

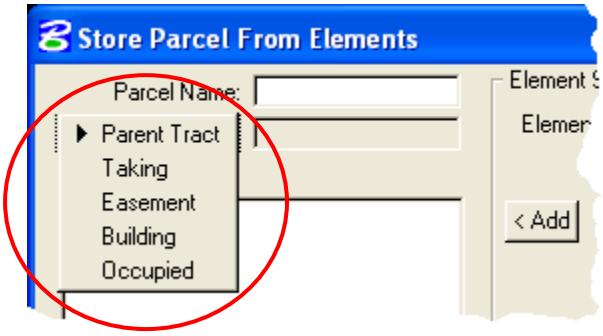
The **Store Parcel** dialog is accessed from the COGO menu path **Element > Parcel > Store**. The **Store Parcel** tool stores a parcel utilizing an ordered list of its elements. Points and curves are the only elements allowed to define the boundary of a parcel. The order of elements comprising a list must coincide with the sequence of elements comprising the parcel in a clockwise or counterclockwise direction around the perimeter.



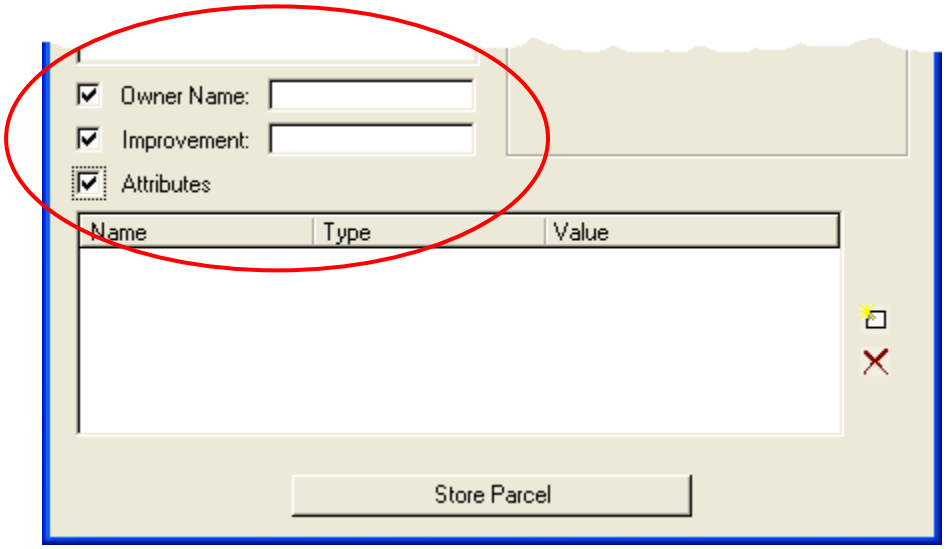
Begin by entering the **Parcel Name**. Then select whether it's the **Parent Tract**, or **Taking**, **Easement**, **Building**, or **Occupied**.



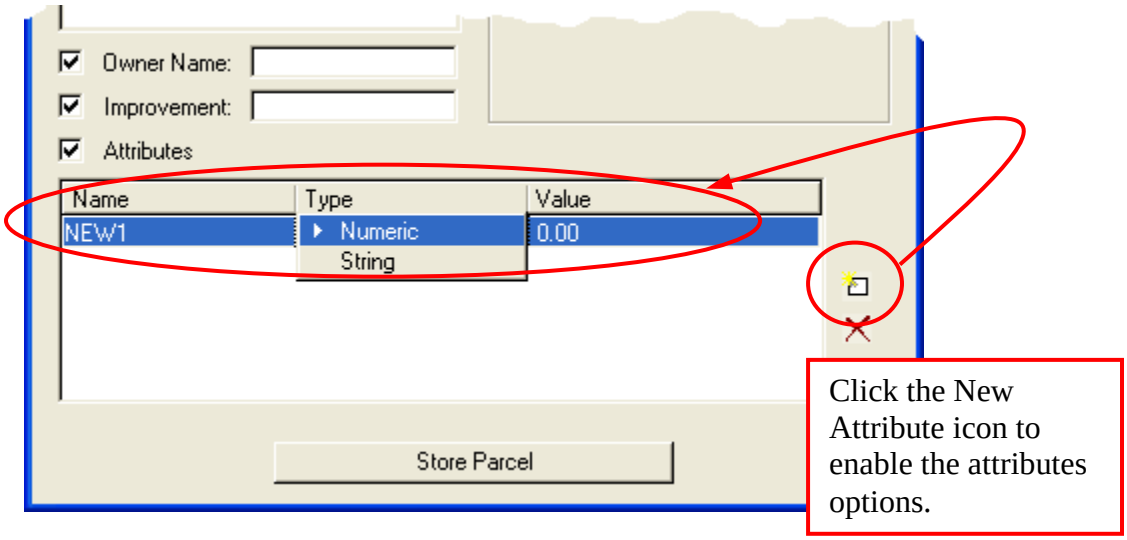
The Parent Tract of a particular parcel must be stored first before the other options are used. However, once the parcel is stored, any or all of the other options may be defined in any order.



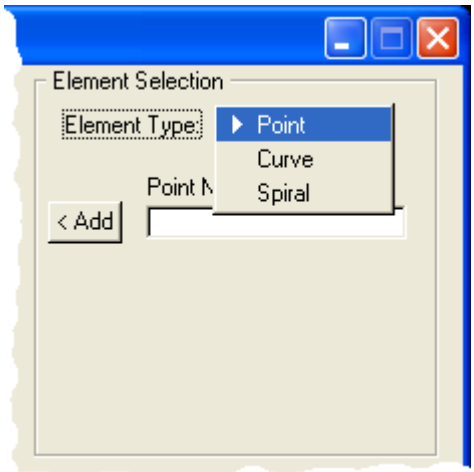
To Store an Owner Name or Improvement, toggle on the option and enter the name or improvement.

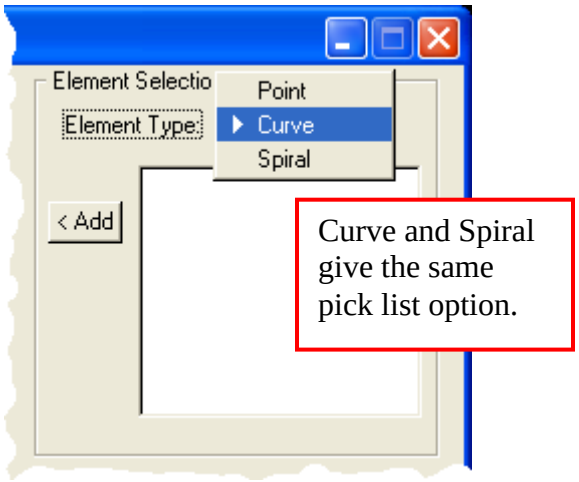


User Attributes may also be added. If there are any Default Attributes (as defined in the Default Attribute preferences) they are automatically displayed and the Attributes toggle is on. These defaults can be modified or more attributes added. Click Add User Attribute, which adds another line to the list box. Enter the Name, Type (Numeric or String) and value. The maximum attribute name length is 24 and maximum string size is 256. These attributes can be exported out of COGO using the Element Selection tool in the COGO Navigator.



To add points to the parcel list, set the option to **Point**, then type the desired point number, and click <**Add**. To add curves, spirals, or chains, set the option to the desired element, and a list box containing all of the desired elements stored in the active project are displayed. Select the desired element and click <**Add**.





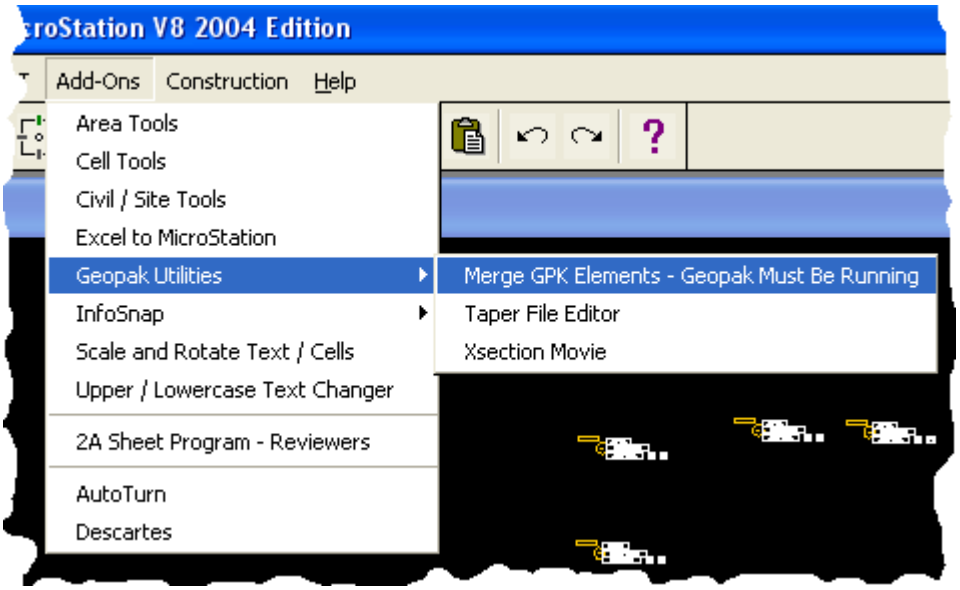
The **command line syntax**, using the same convention as used earlier in this chapter is:

STORE PARCEL name list

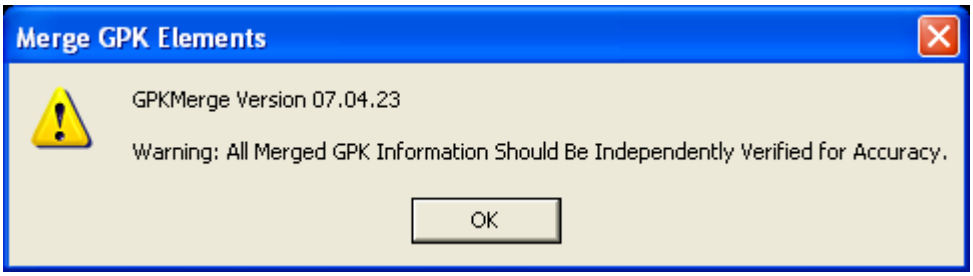
Where **name** is the 1-9 character name of the parcel. The order of elements in the **list** must coincide with the sequence of elements comprising the parcel in a clockwise or counterclockwise direction around the perimeter. Also, the orientation of curves and spirals must be in the same direction as this sequence.

3.8 Merge GPK Tool

This tool will take cog elements from one gpk and copy them into another gpk.

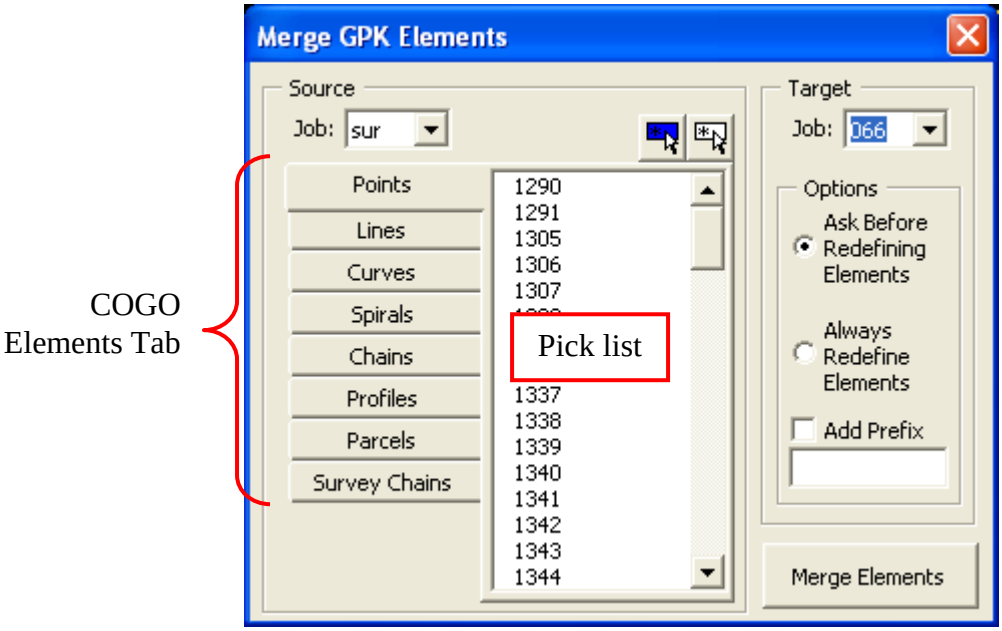


A warning box will pop up once the Merge GPK Elements tool is selected.

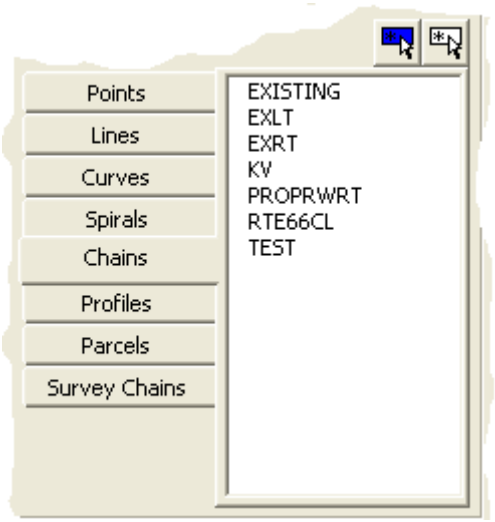


The Source Job (GPK) is the GPK that the information is being copied from and the Target Job (GPK) is the GPK that will receive the COGO elements.

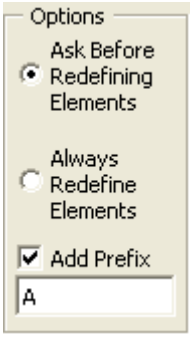
The elements that can be copied are listed as tabs on the left side of the dialog box to include: Points, lines, curves, spirals, chains, profiles, parcels and survey chains.



The pick list will change options to match the tabs on the left. See example below.



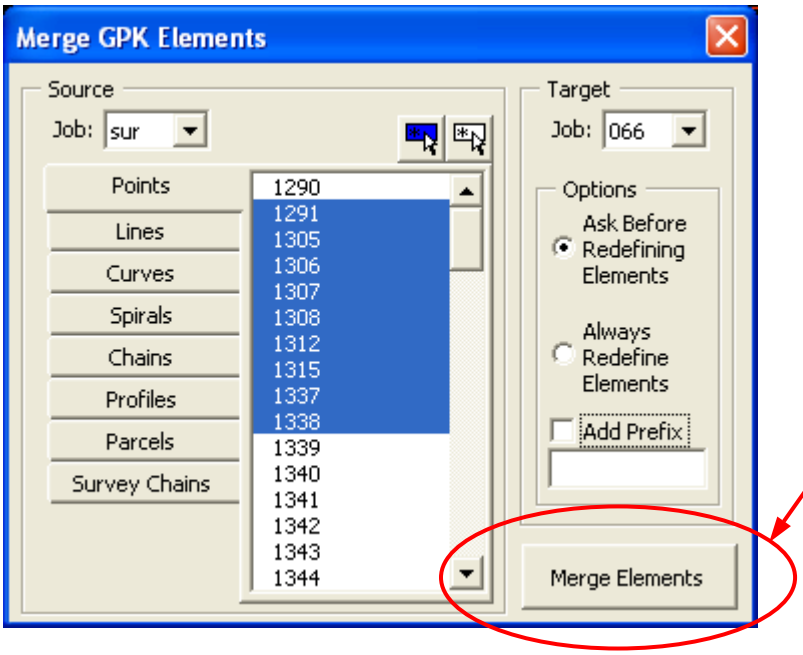
The Options box allows for elements that are named the same from one GPK to the other GPK to be redefined. It is highly recommended that the "Ask Before Redefining Elements" option be the option toggled on.



The "Add Prefix" option will keep elements from being redefined.

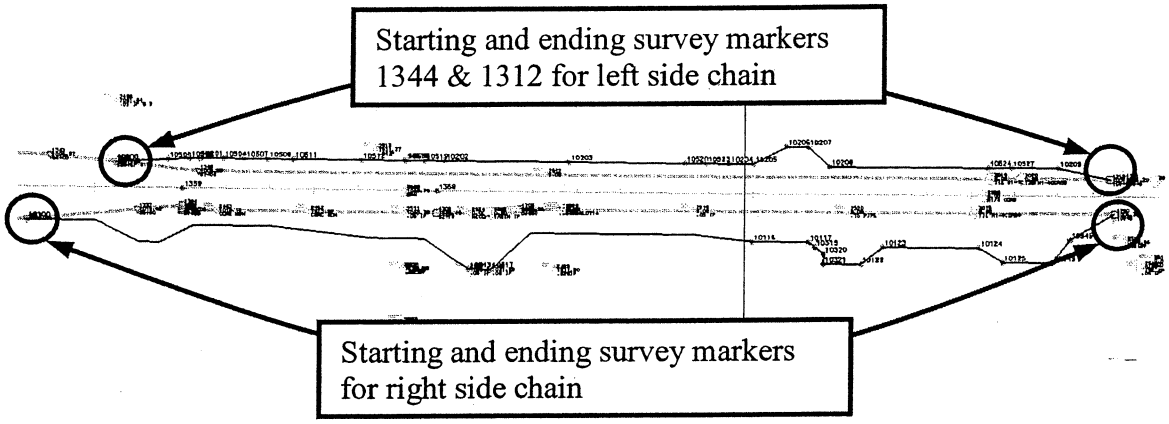
The left icon will select all the COGO elements from the Source GPK and the icon on the right will unselect all the COGO elements from the Source GPK.

Once elements have been selected the Merge Elements button will start the process.

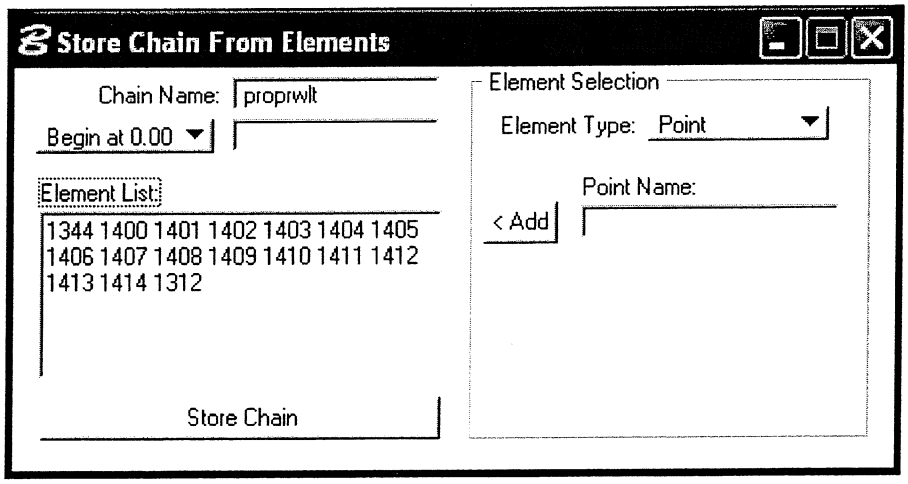


Exercise 3-1

1. Open file RW_J7S0066.dgn. Create the Proposed Right of Way chains from the provided survey data. You will create two chains; a north (left side) chain and give it the name of proprwlt and a south (right side) chain and give it the name of prort to store in the gpk file.

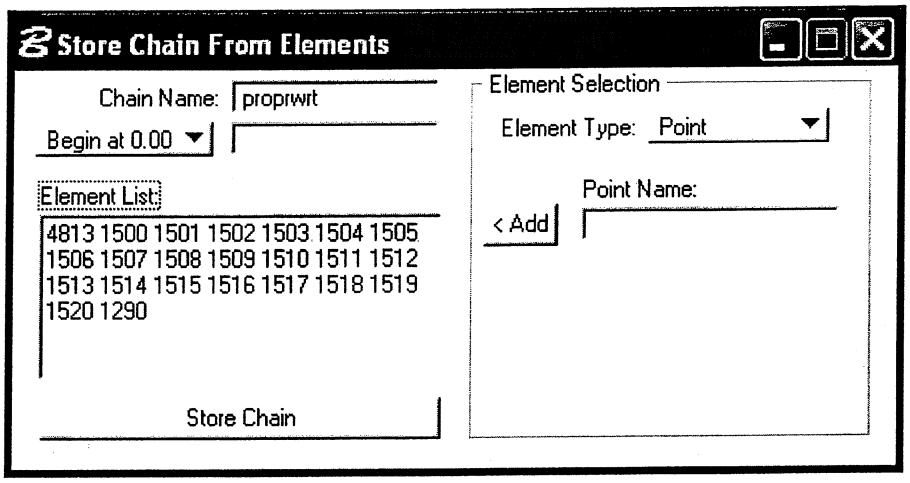


2. The left side of the Proposed Right of Way chain begins at survey marker 1344 and ends at survey marker 1312. Use the Store Chain From Elements tool to create the chain. Name the chain proprwlt. Use the point numbers listed in the dialog box below.



Select the Store Chain button once you have the dialog filled with the information needed to create your chain.

3. The right side of the Proposed Right of Way chain begins at survey marker 4813 and ends at survey marker 1290. Use the Store Chain From Elements tool to create the chain. Name the chain proprwrt. Use the point numbers listed in the dialog box below.

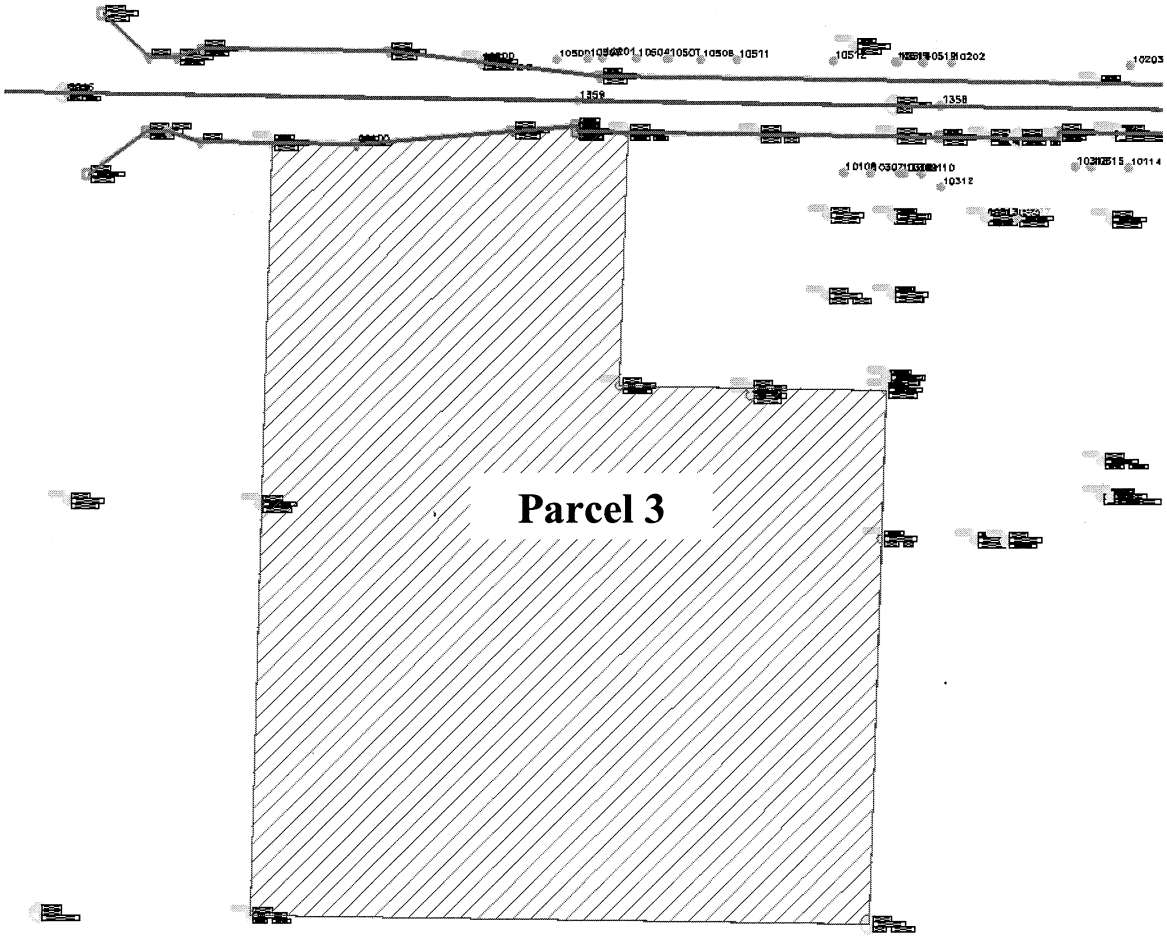


Select the Store Chain button once you have the dialog filled with the information needed to create your chain.

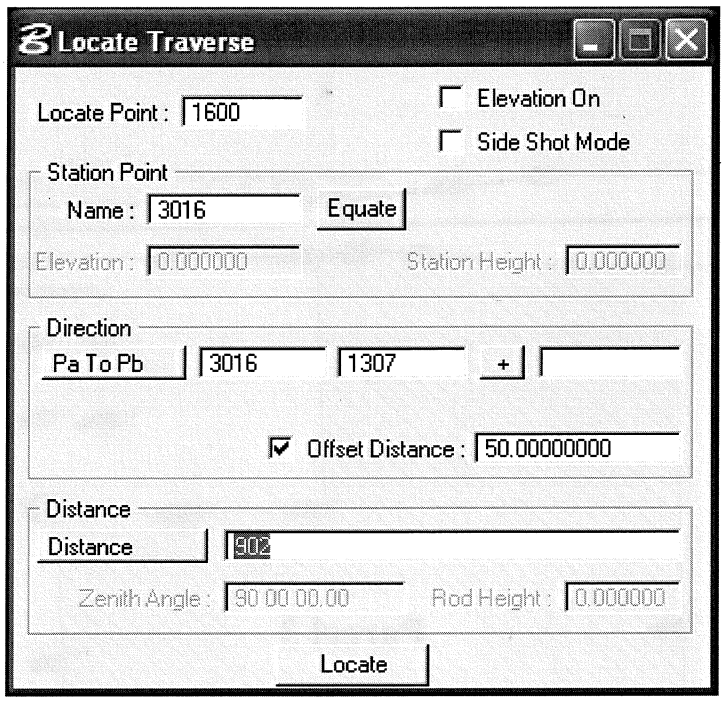
Exercise 3-2

Instruction: Using land descriptions from the deed for parcel 3 (provided in the appendix) titled to Nona Trahan Ancell place points using GEOPAK cogo tools to include the Intersect tool, Locate On tool and various other tools. We will use the points created in order to store parcel 3.

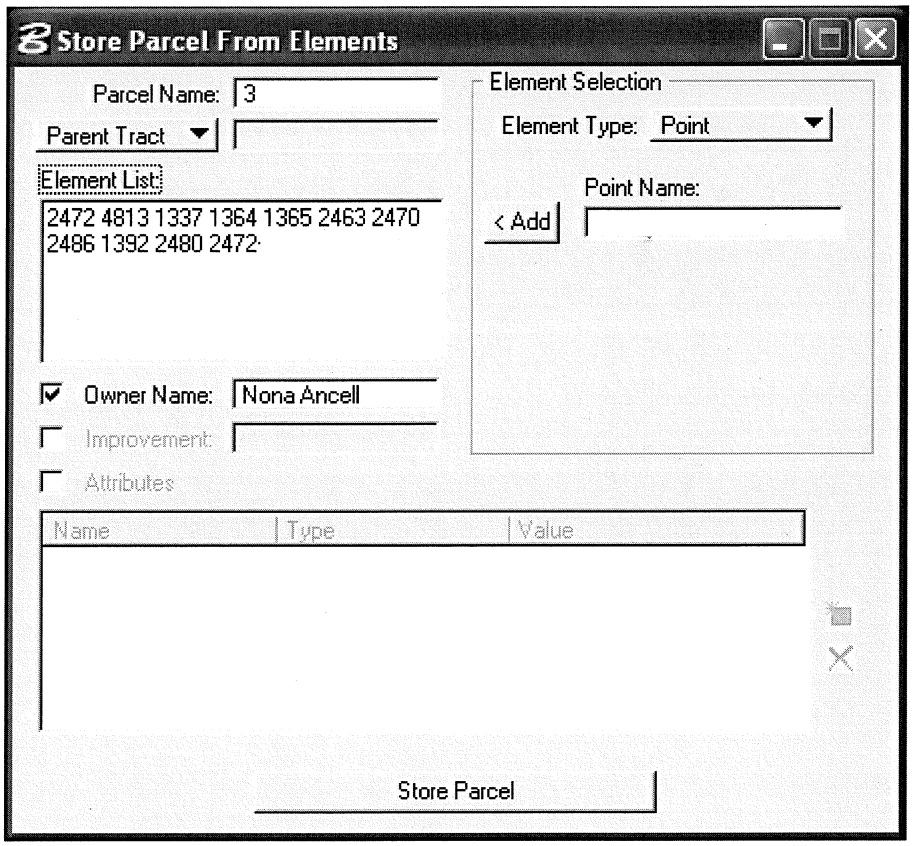
**More instructions are included on the back of this page.



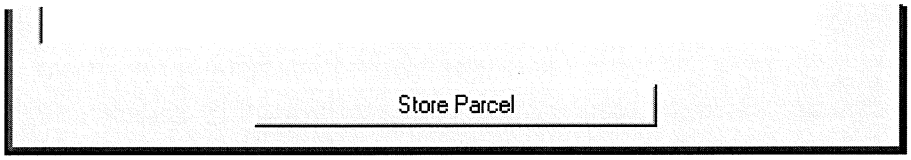
1. Using the description given of "All of the *East 30 Acres* of the *Northwest Quarter* of the *Northwest Quarter* of *Section 8*, *Township 27*, *Range 32*, a part of which is located in the *Village of Duquesne*, Jasper County, Missouri, EXCEPT a tract of land beginning at a point *902 feet East* of the *Northwest corner* of *Section 8* and *50 feet South* of the *North Section line*…." Along with the GEOPAK tool of Locate Traverse plot this point.
The point names will start with 1600.



2. Use the Store Parcel from Elements Tool to create parcel 3 with the owner name Nona Ancell. Start at the iron pin numbered 2472 and connect the survey points that make up the parcel. Use the point numbers listed in the dialog box below.

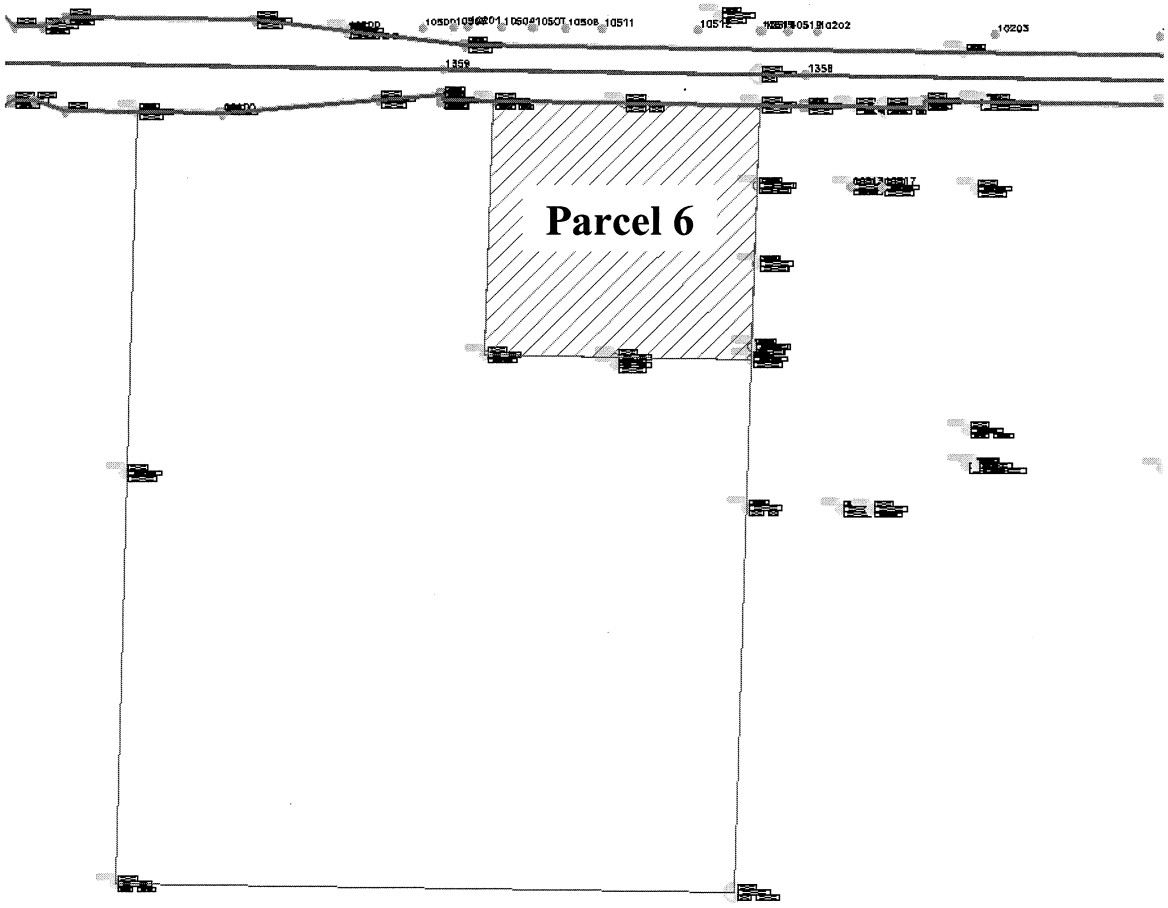


3. Select Store Parcel to store the parcel into your gpk file.

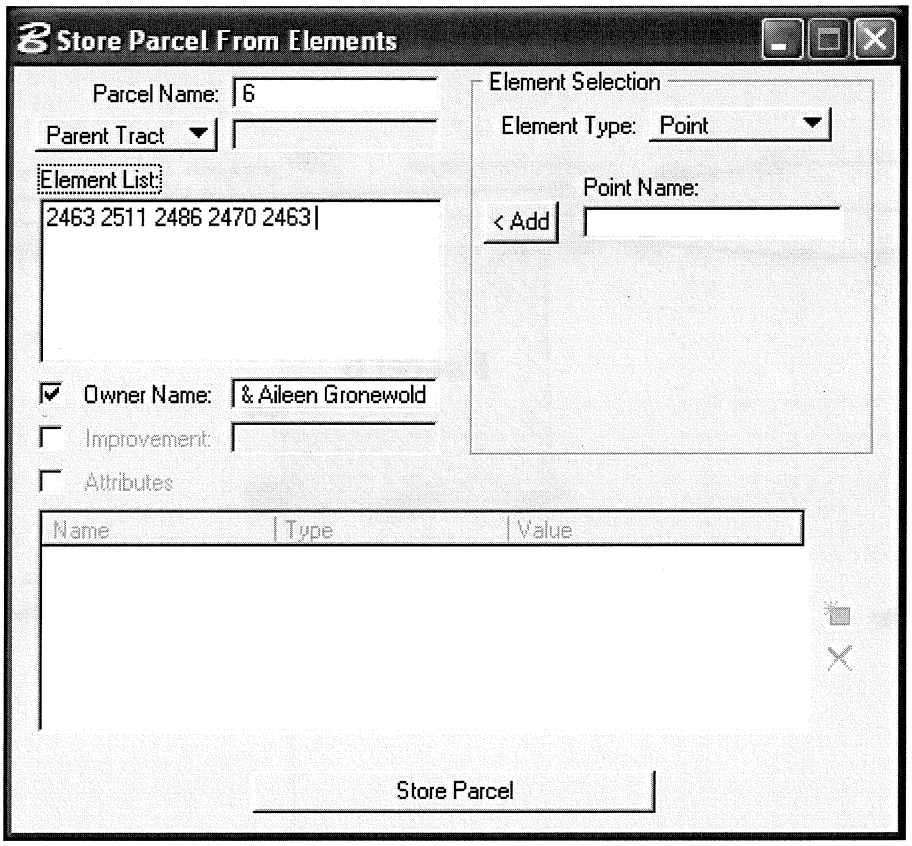


Exercise 3-3

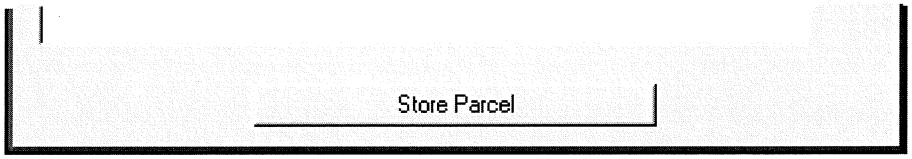
1. Open drawing RW_J7S0066.dgn and store parent tract parcel 6 using the found iron pins provided by the surveyors.



2. Use the Store Parcel from Elements Tool to create parcel 6 with the owner name Roger & Aileen Gronewold. Start at the iron pin numbered 2463 and connect the survey iron pins that make up the parcel. Use the point numbers listed in the dialog box below.

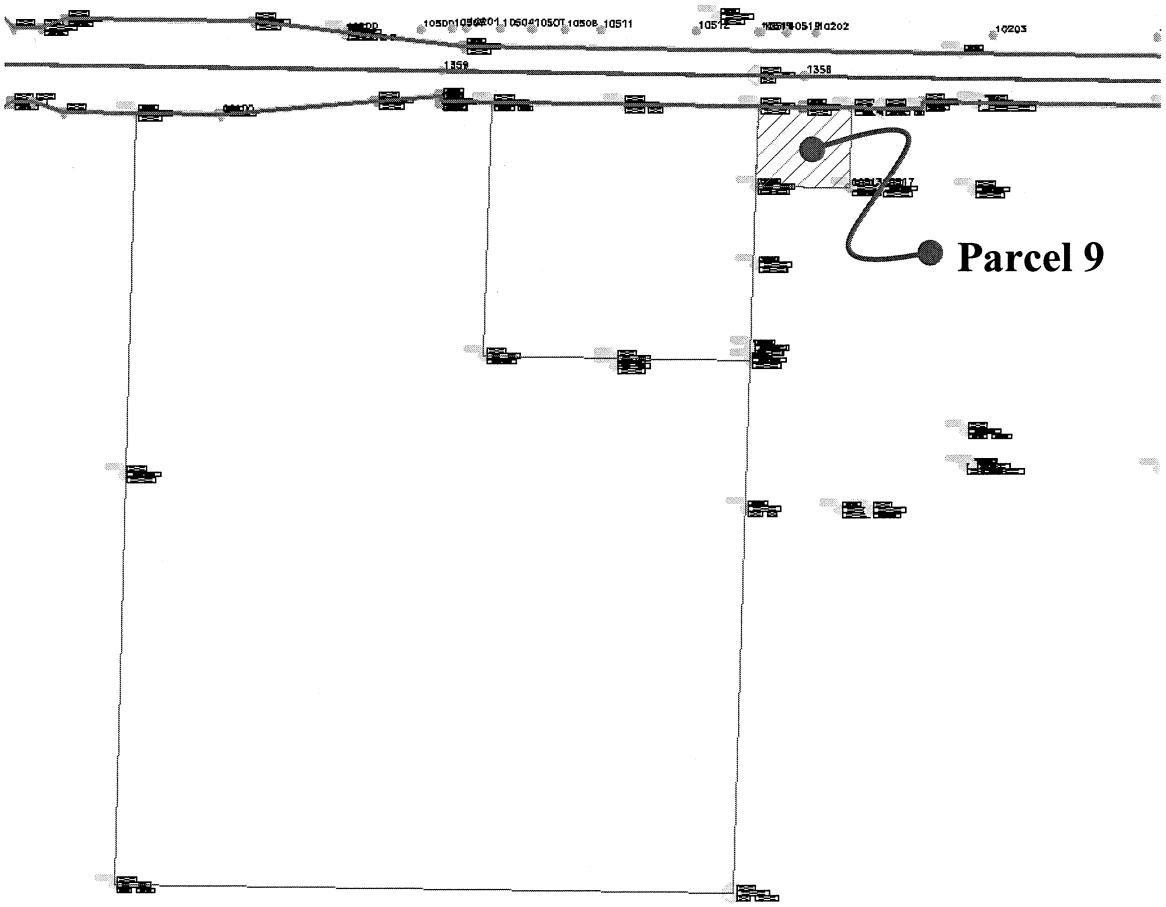


3. Select Store Parcel to store the parcel into your gpk file.

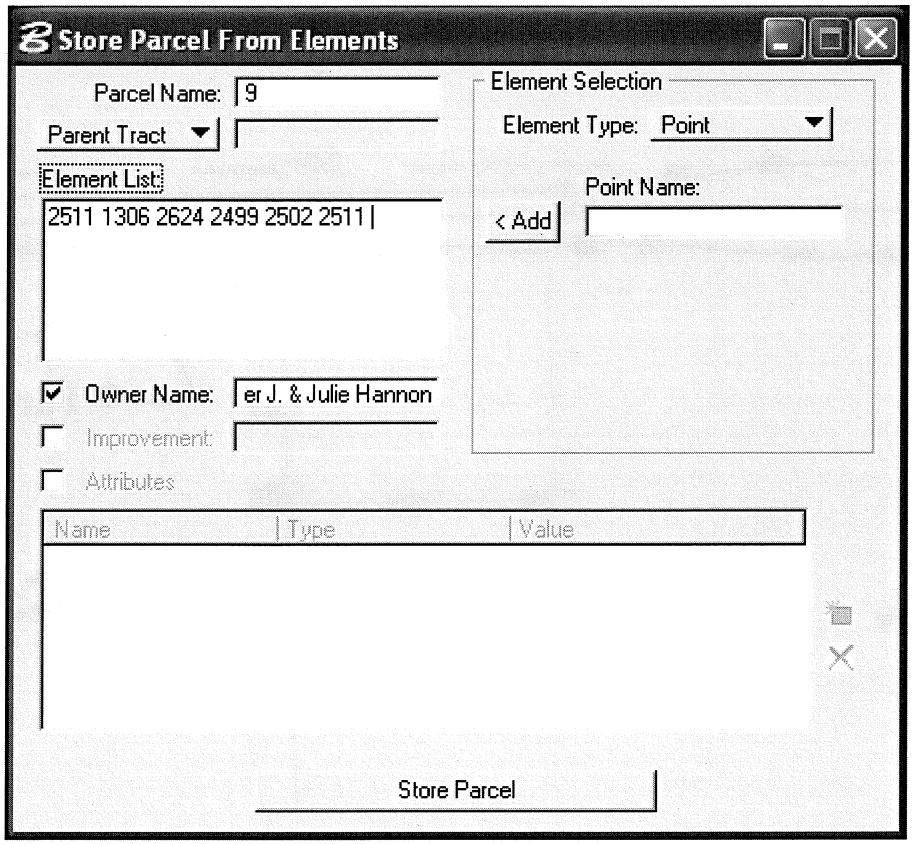


Exercise 3-4

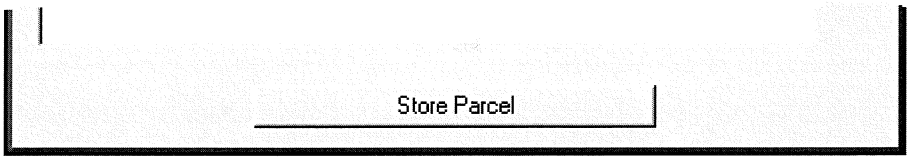
1. Open drawing RW_J7S0066.dgn and store parent tract parcel 9 using the found iron pins provided by the surveyors.



2. Use the Store Parcel from Elements Tool to create parcel 9 with the owner name Peter J. & Julie Hannon. Start at the iron pin numbered 2511 and connect the survey points that make up the parcel.

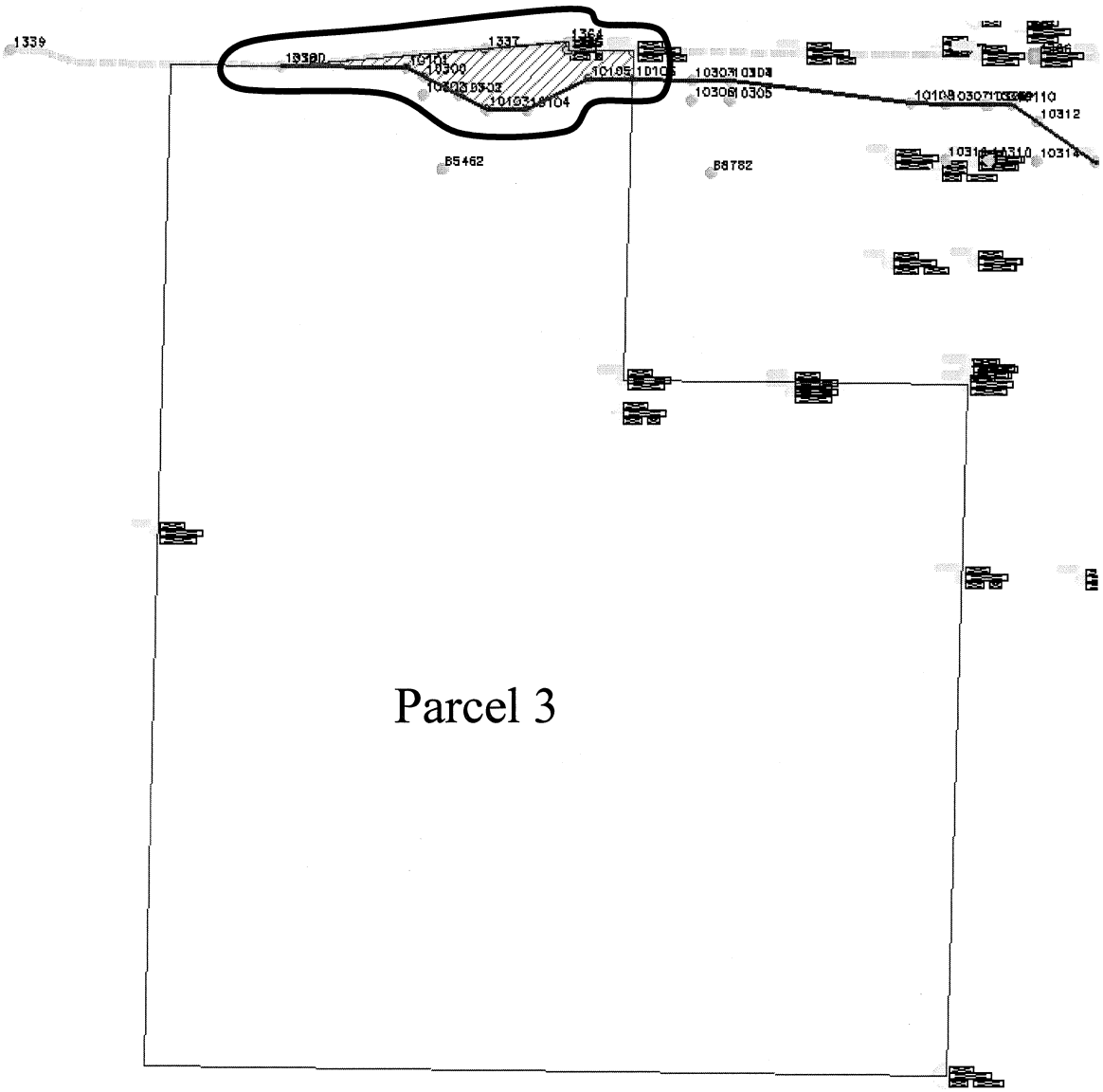


3. Select Store Parcel to store the parcel into your gpk file.

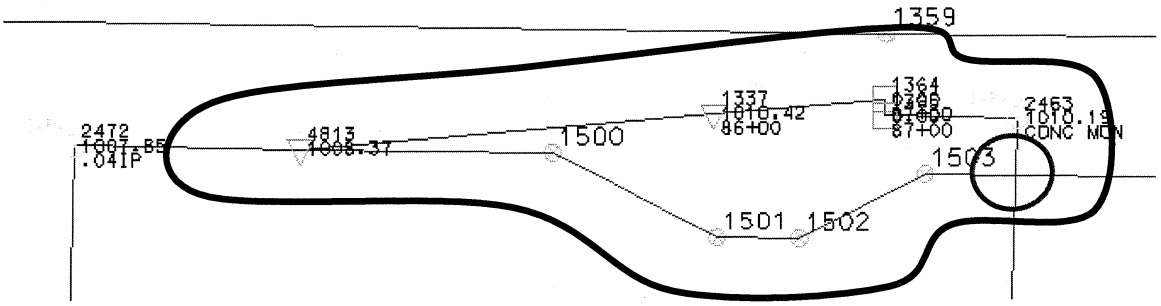


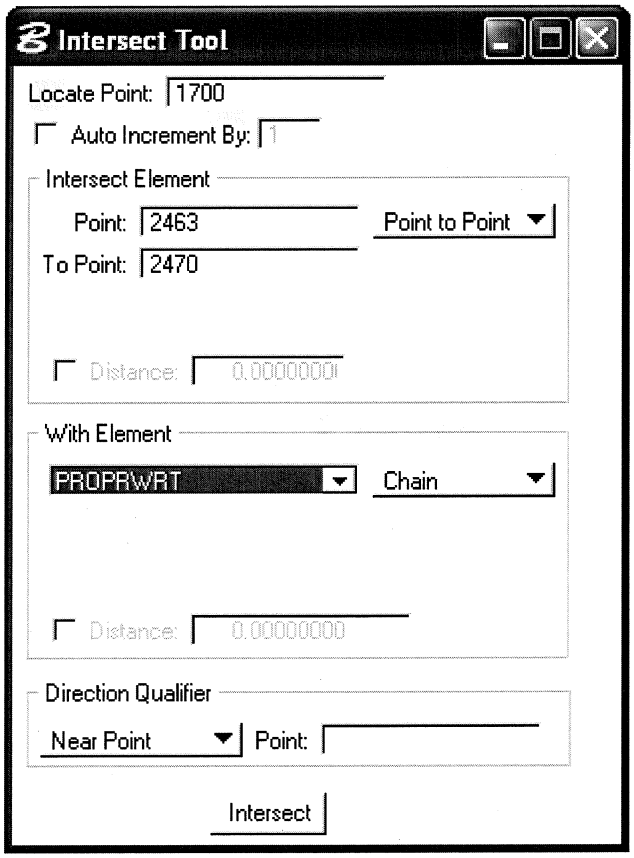
Exercise 3-5

1. As shown below. Parcel 3 has a portion of the proposed r/w crossing it's boundary. There will have to be a "taking" created from the parcel.



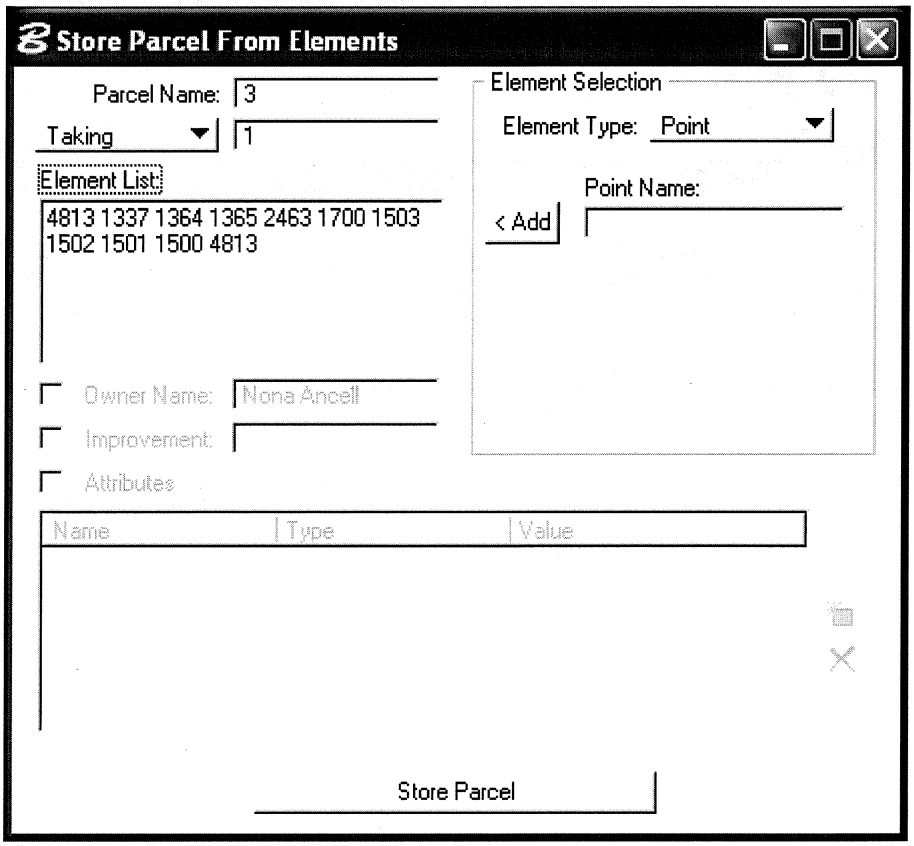
2. You can see from the picture below that a point needs to be placed at the intersection of the parcel line and the proposed r/w line for the taking to be properly created. Create a point 1700 by using the Intersect tool.





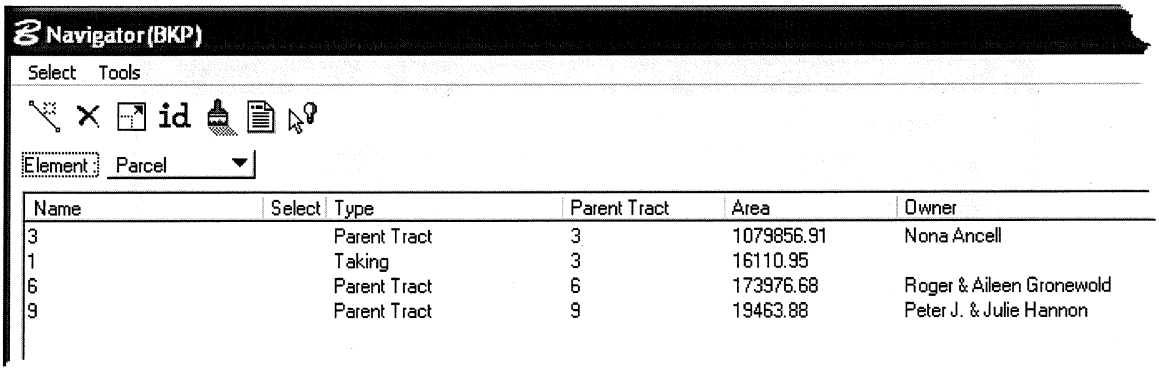
Intersect the proposed r/w chain and two iron pins that are defining the parcel leg that intersect the chain as a point-to-point option.

2. Using the Store Parcel from Elements tool create a taking from parcel 3 and name the taking 1. Choose the elements to make up the taking.



3. Select Store Parcel button to store the parcel taking into your gpk file.

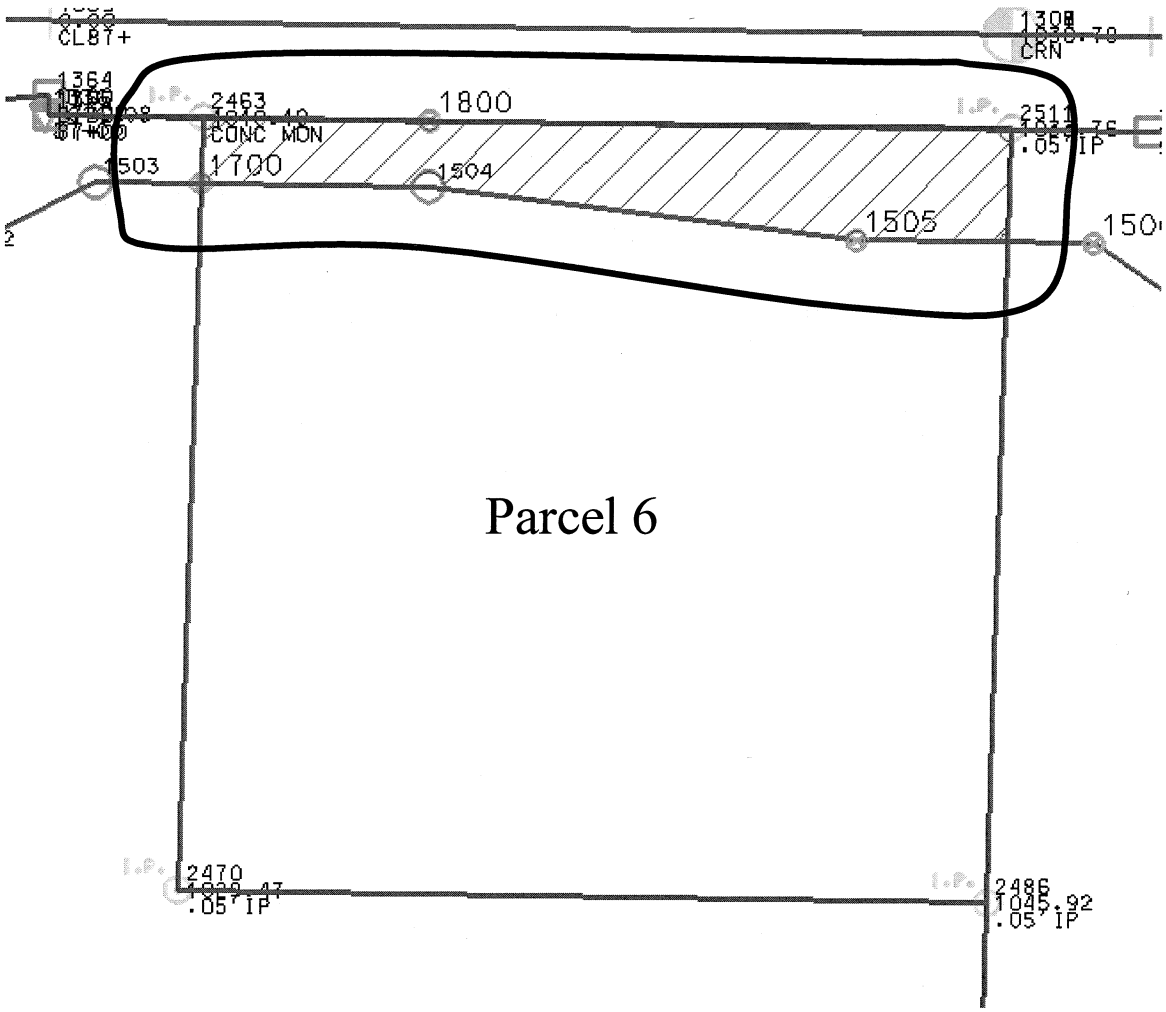
4. A quick look at the COGO Navigator shows the new taking.



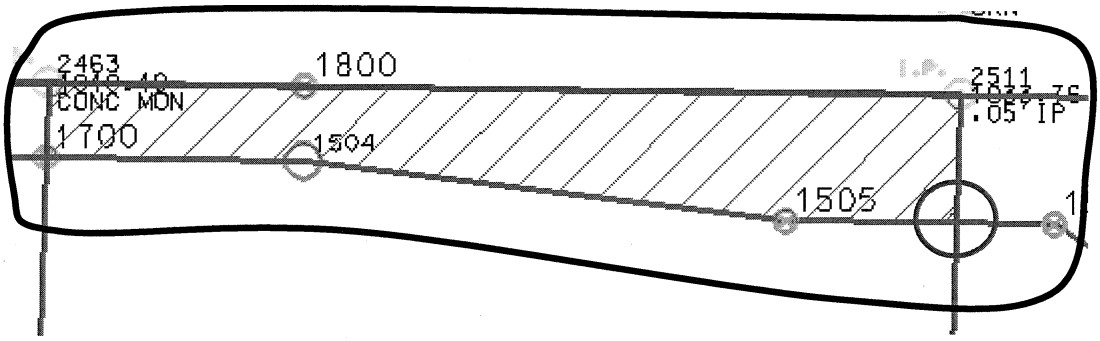
Name	Select	Type	Parent Tract	Area	Owner
3		Parent Tract	3	1079856.91	Nona Ancell
1		Taking	3	16110.95	
6		Parent Tract	6	173976.68	Roger & Aileen Gronewold
9		Parent Tract	9	19463.88	Peter J. & Julie Hannon

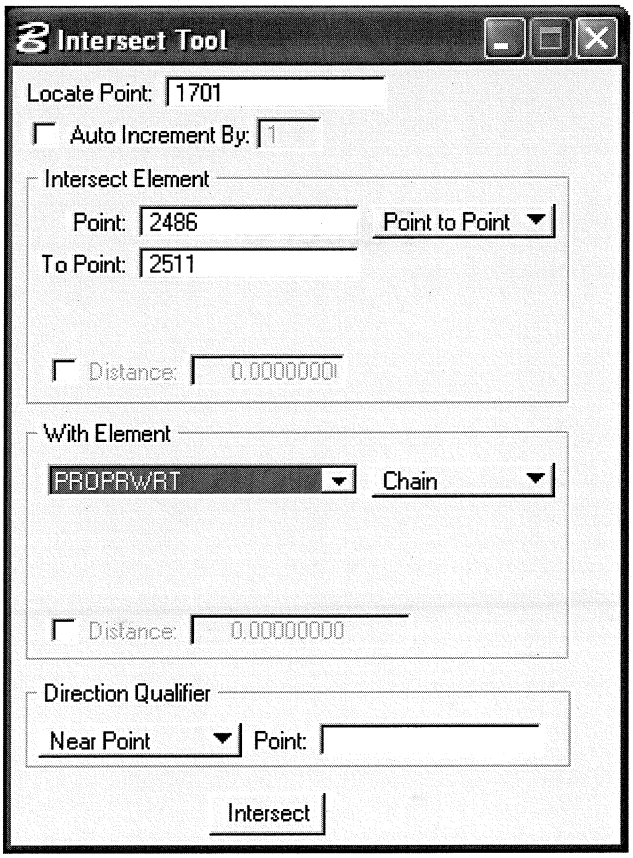
Exercise 3-6

1. Parcel 6 has a portion of the proposed r/w crossing it's boundary. A taking needs to be created for this parcel.



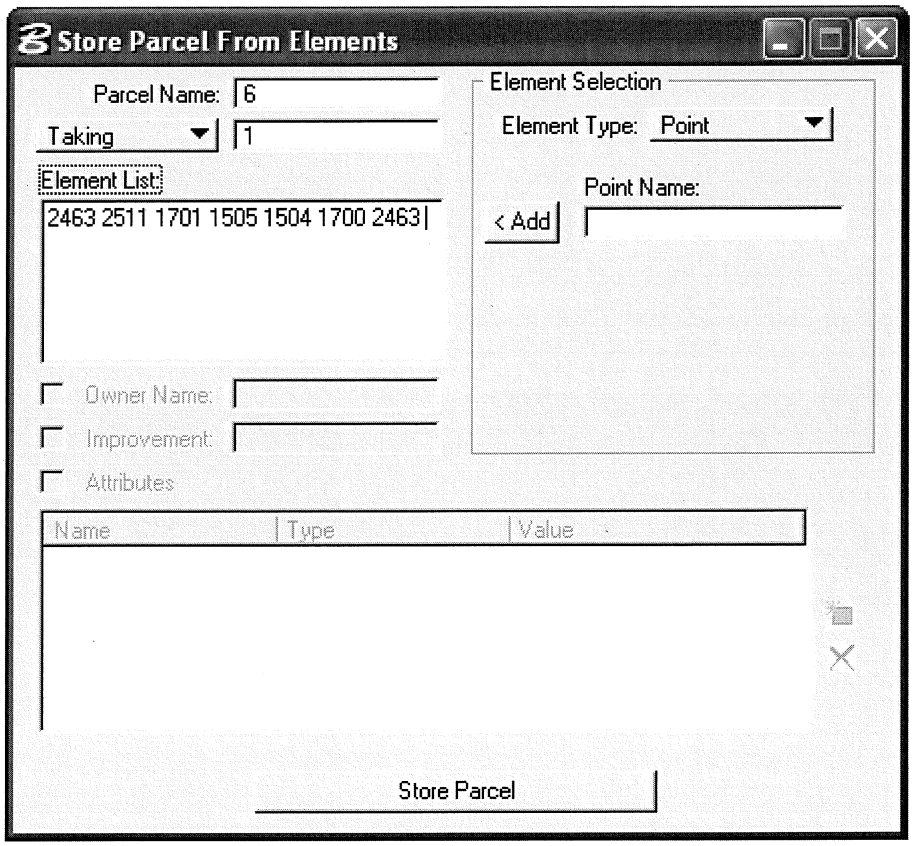
2. You can see from the picture below that a point needs to be placed at the intersection of the parcel line and the proposed r/w line for the taking to be properly created. Create a point 1701 by using the Intersect tool.





Intersect the proposed r/w chain and two iron pins that are defining the parcel leg that intersect the chain as a point-to-point option.

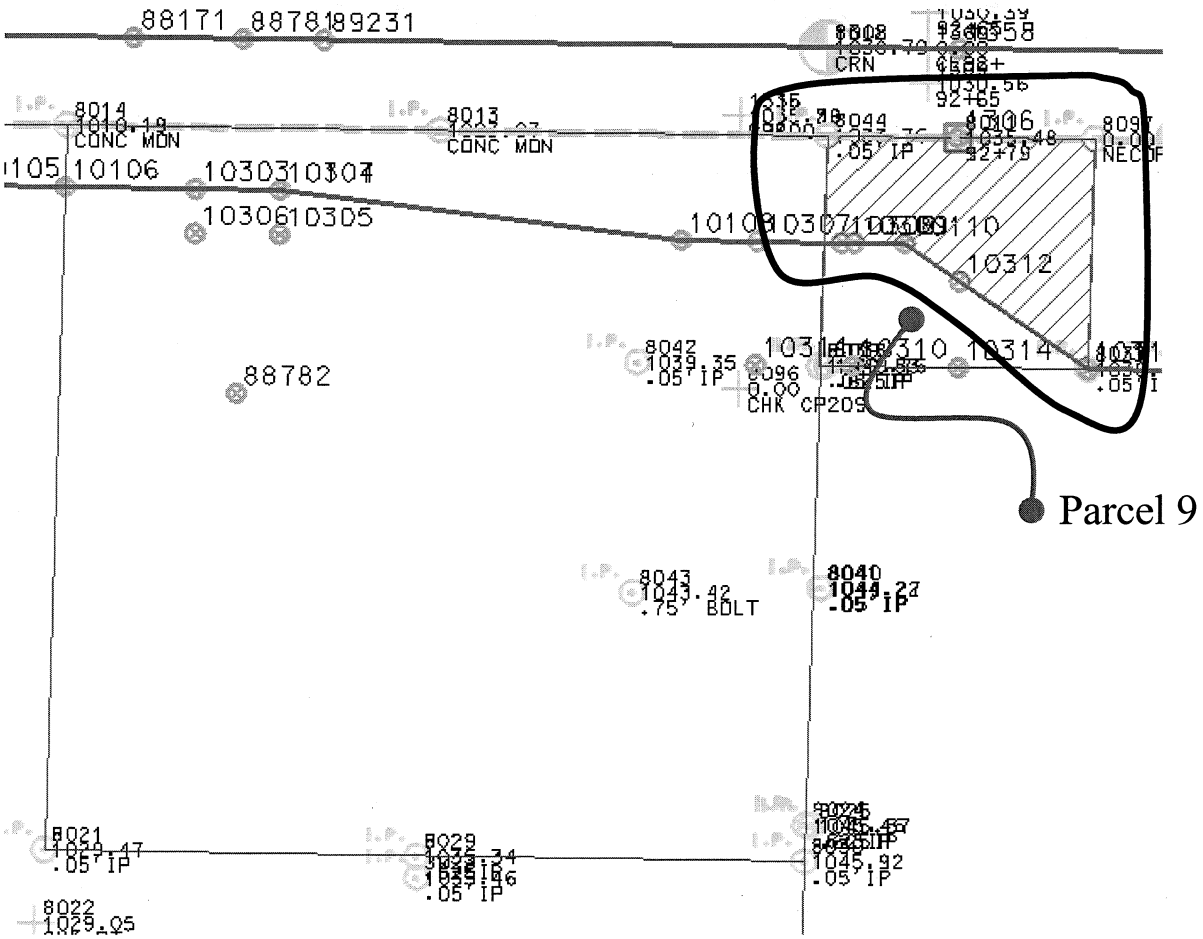
2. Using the Store Parcel from Elements Tool create a taking from parcel 6 and name the taking 1. Choose the elements to make up the taking as we did in the previous taking exercise.



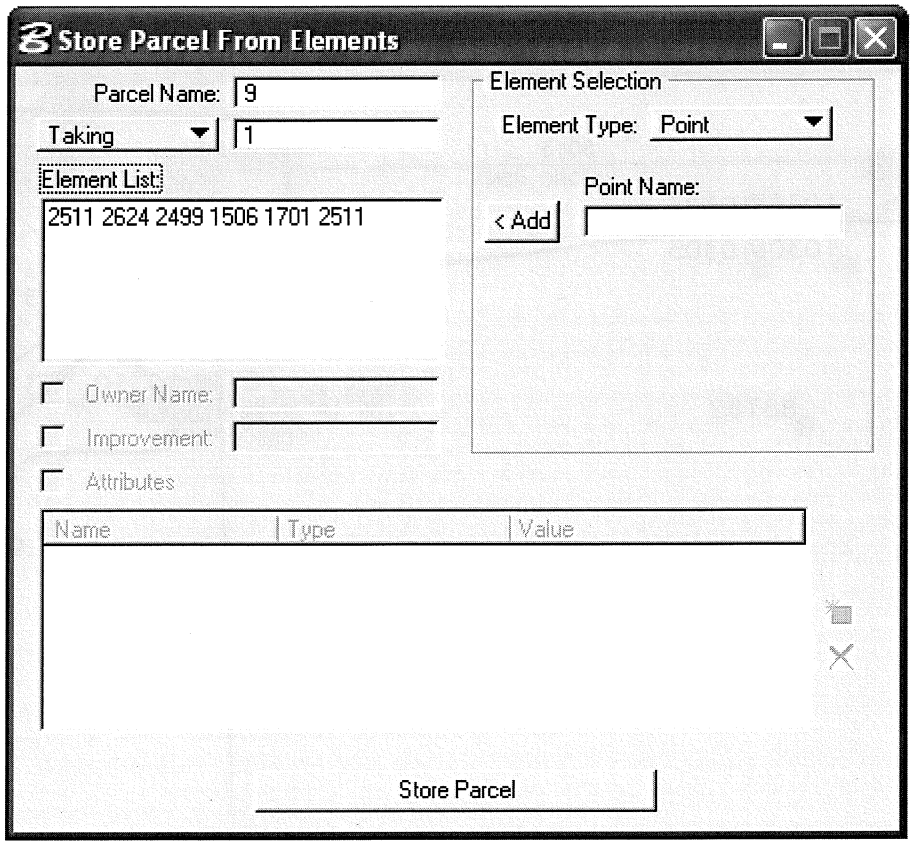
3. Select Store Parcel button to store the parcel taking into your gpk file.

Exercise 3-7

1. Parcel 9 has a portion of the proposed r/w crossing it's boundary. A taking needs to be created for this parcel.



2. Using the Store Parcel from Elements Tool create a taking from parcel 9 and name the taking 1. Choose the elements to make up the taking as we did in the previous taking exercise.



3. Select Store Parcel button to store the parcel taking into your gpk file.

D&C Manager

4.1 Definitions

The **Design and Computation Manager** (D&C Manager) is a tool that allows MoDOT to standardize graphics elements for drafting and pay item quantities.

4.2 Accessing the D&C Manager

The D&C Manager can be accessed from one of three locations. It is available in the menu path **Applications > GEOPAK Road > Design & Computation Manager**. It can also be selected from the Road toolbox as shown to the right.

The third way that the D&C Manager can be accessed is from the **Road Project** dialog by clicking on **Plan View Design**, shown below on the left. This will bring up the Plan View Design tool pallet shown below on the right. The D&C Manager is the first one in that tool pallet, as outlined below.

4.3 Database

A hierarchical database is used with the **Design and Computation Manager**. For MoDOT the default database is **MoDOT_English.ddb**. The database stores information concerning functional classification and display preferences for each feature and item used in a Microstation file.

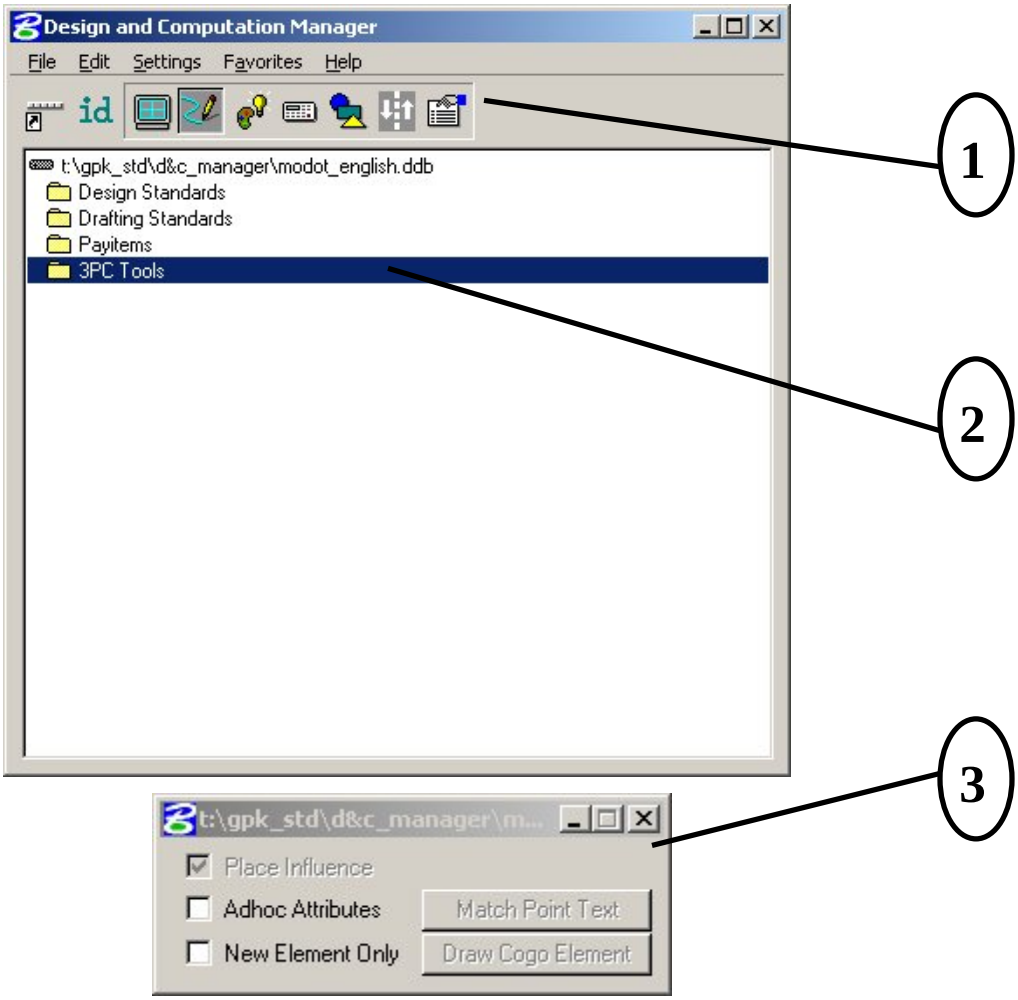
Categories are used to group and classify the features and items used in creating construction drawings. The content the MoDOT databases are divided into four overall categories – **Design Standards/, Drafting Standards**/, **Pay Items**/, and **3PC Tools**. The first three categories each contain sub-categories. The sub-categories break down each classification into more specific sections. (See dialog box next page). **3PC Tools** has a list of the various tools available.

For example, **Pay Items**/ is broken into several additional categories like **Pipes/** and **Lighting and Signals/**. **Pipes/** is broken into many different categories representing various types of pipes and pipe features that may be used in the design of your project like **Flared End Sections/**. Within the category **Flared End Sections/** the different pay items for flared end sections are listed.

CADD Support personnel maintain this database. You will find commands within the D&C menu that require a password before execution. This is a security measure to protect the integrity of the database file and ensure its consistent application on a statewide basis.

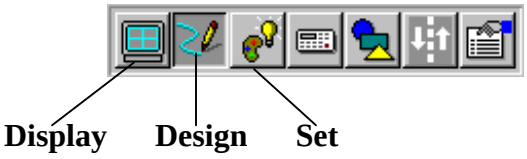
4.4 Basic Dialog

Once you enter the D&C Manager, the following dialogs will appear.



The D&C Manager dialog box is composed of three distinct areas:

1) The D&C Manager may be configured to operate in seven different modes. A single click on an icon will change operational modes. For the R/W class, we will be only covering three modes and they are: **Display Design Set**

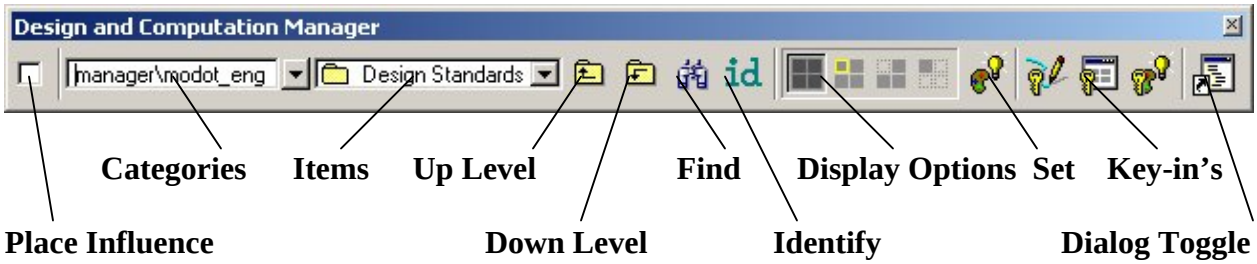


2) The **Content box** lists the sub-categories or items available at your current position within the database structure.

3) The **Operations box** will appear differently depending on the set mode of operation.

The D&C Manager dialog box can be used in two different modes. The dialog mode as shown on the previous page, allows the user to access items in from a “directory tree” structure. The icons at the top of the dialog allow the user to access the different operational modes of D&C Manager.

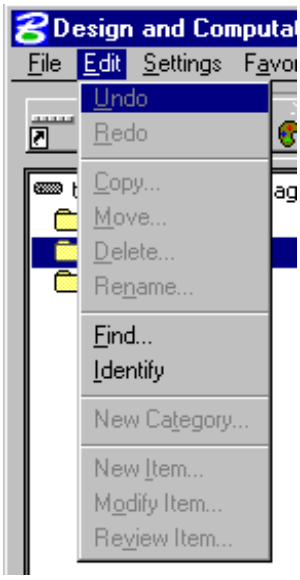
The toolbox mode as shown below, allows the D&C Manager dialog to be docked on the Microstation toolbars. With this format, the user accesses items from the pull-down menus, and can toggle the various tools from the tool bar.



The dialog box can be toggled using the appropriate icons.

Switch to toolbox mode

Switch to dialog mode

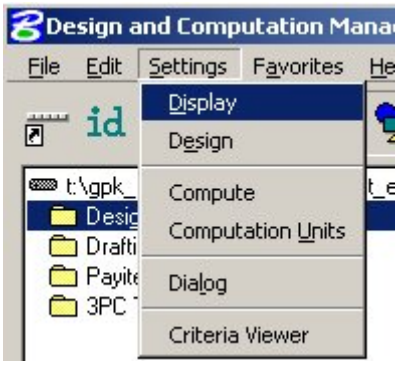


4.4.1 Edit Commands

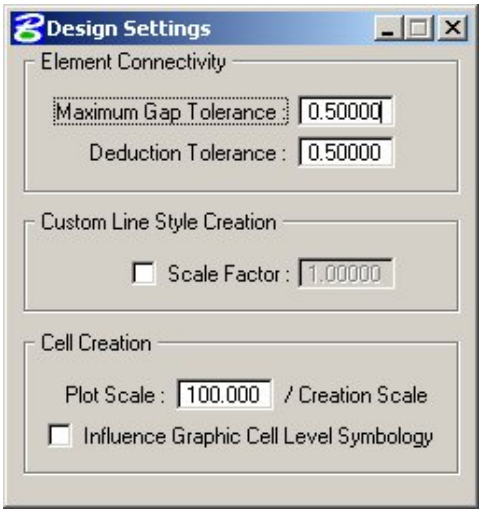
Find - will search the database (from your current location) for an item or category. The display in the D&C Manager dialog box will change to each item/category as it is found.

Identify – will show the item name and description attached to an element in the design file.

4.4.2 User Commands



Display Settings - temporarily changes the display of elements on the screen to one common color, then the user may specify additional elements to be viewed in their original colors. This tool enhances visualization when working on a complex project.



Design Settings - sets the *maximum gap* tolerance and *deduction tolerance* used in computations and the drawing scale for placing cells. **Do not use the Custom Line Style Creation option.** The **Project** in the Microstation Manager handles the line style scaling in the MoDOT Microstation configuration. This dialog also sets the cell scale to adjust the cell size appropriate to the drawing scale.

4.4.3 Recall Commands

Add to Favorites - saves current D&C Manager path for easy recall in the future.

Organize Favorites – allows the user to edit and save the Favorites list.

4.5 Operational Modes

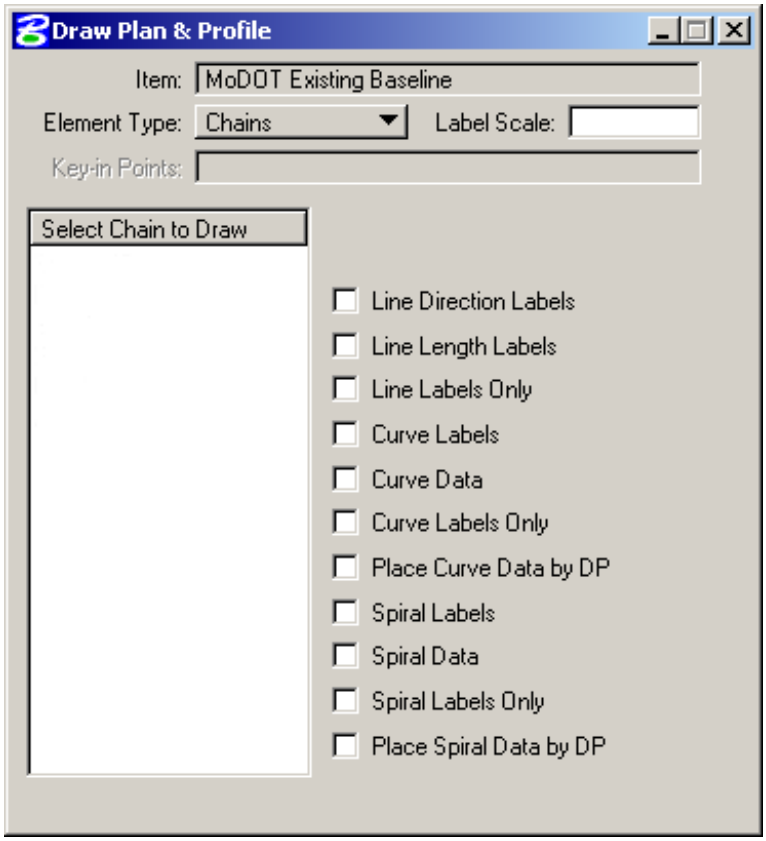
4.5.1 Design

The Design mode allows the user to tag each roadway element as it is placed in the design file based on item parameters and/or write COGO elements to the file.

Place Influence will set the level, symbology and attribute tags of elements drawn or copied using Microstation commands. When **Place Influence** is **On**, elements are drawn using the level, symbology and attributes as defined in the Geopak database file. When **Place Influence** is **Off**, elements are drawn using the active level, symbology and attributes of Microstation.

The **Draw Cogo Element** button is for drawing Cogo elements to a design file. A single click to this button prompts the user for a job number then opens a dialog box that allows the user to choose a COGO item to draw.

If a drafting item is chosen, the **Draw Cogo Element** button changes to **Draw Plan and Profile**. A single click to this button prompts the user for a job number, and then opens the **Geopak Plan and Profile Draw** box shown to the right.



There are nine possible COGO elements that may be recalled from the .gpk file: points, lines, curves, spirals, chains, stationing, parcels, profiles, and parallel chain. Each of these options changes the dialog box to offer relevant draw and label features used when placing an element in a graphics file. When using **Plan and Profile Draw**, be sure to turn off **Place Influence**.

The points and lines dialog boxes have a key-in field that allows the user to specify the names of the COGO elements to be drawn. To use the line operation, the user must use point numbers to specify the ends of the line. The points/lines are drawn immediately after you enter their respective names and press the enter key. To draw more than one point or line, place a dash in-between the point numbers. To draw a line without using consecutive point numbers, use a forward slash.

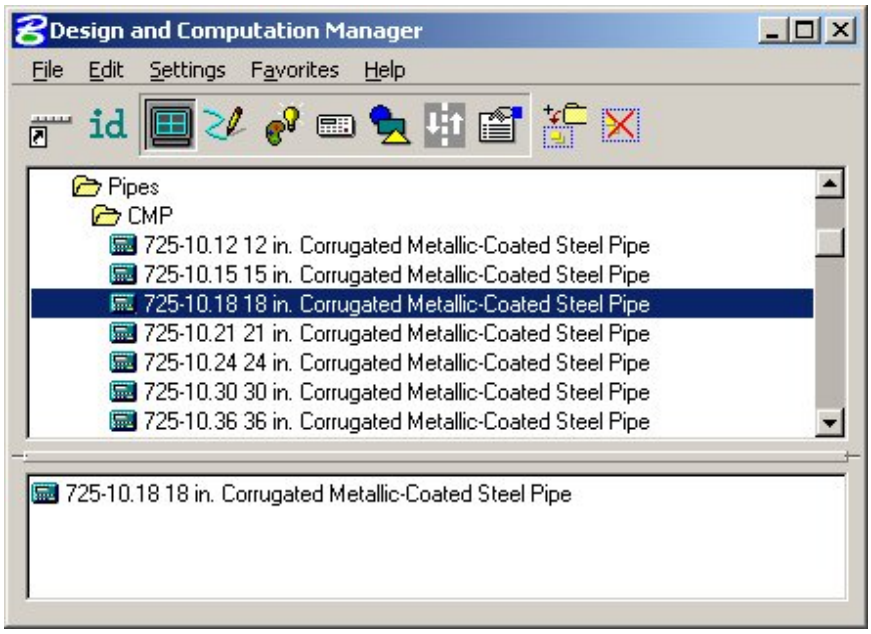
The dialog boxes for curves, spirals, chains, stationing, parcels, and profiles have a list box that display the names of all stored curves and chains. Highlighting one of the available elements causes it to be drawn into the file. Each type of item has a list of options that can be plotted.

**Note that Geopak can draw elements to levels not turned on. After elements are drawn, it may be necessary to turn on appropriate levels and fit screen.

Remember that **Place Influence is for drawing Microstation elements. **Draw Plan & Profile** is for drawing **Cogo** elements. **Do Not** have **Place Influence** on when using **Draw Plan & Profile**.

4.5.2 Display

Display mode is used to enhance on screen visualization.

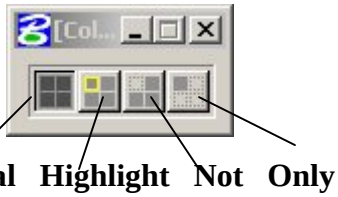


The pay item to be visualized is added to the **Collection** box. Three display options are available for the display of the items in the **Collection** box.

Highlight - will change those items stored in the collection area to the Microstation highlight color.

Not - simply turns off the display of the collection items leaving everything else on.

Only - will turn off everything but the collection items.



4.5.3 Set

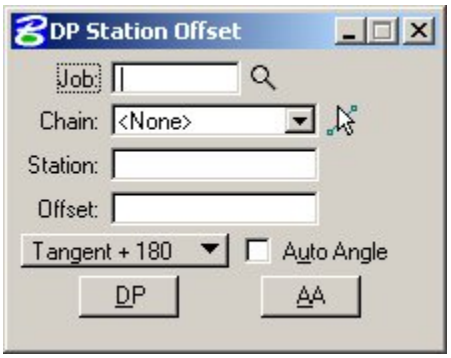
The **Set** mode allows you to assign attributes from the D&C Manager database to existing graphical elements in the file. With the Use **Complex Chain** option turned off, the **Set** mode is the same as MicroStation *Element Select*. The user may tag several elements by

depressing the Ctrl key while data pointing each element or by using the MicroStation *Power Selector*. This allows you to affect multiple elements with one Set command.

The **Complex Chain** option automatically creates a chain from graphic elements and applies the attributes of the highlighted item in the content box.

4.6 DP Station/Offset

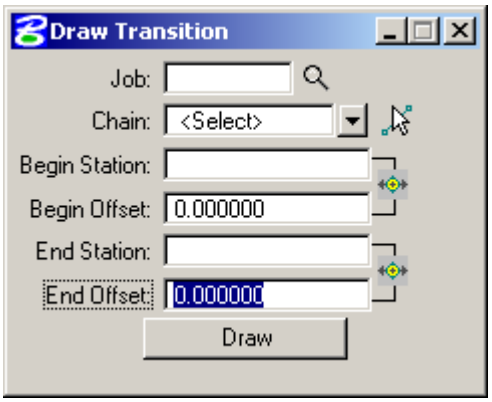
The **DP Station/Offset** command works in conjunction with Microstation commands and the D&C Manager. It can be used as the *data point* for any Microstation command. **DP Station/Offset** provides precision placement of elements based on a station and offset of a stored chain. Uses for this command include precision placement of elements and window functions.



4.7 Draw Transition

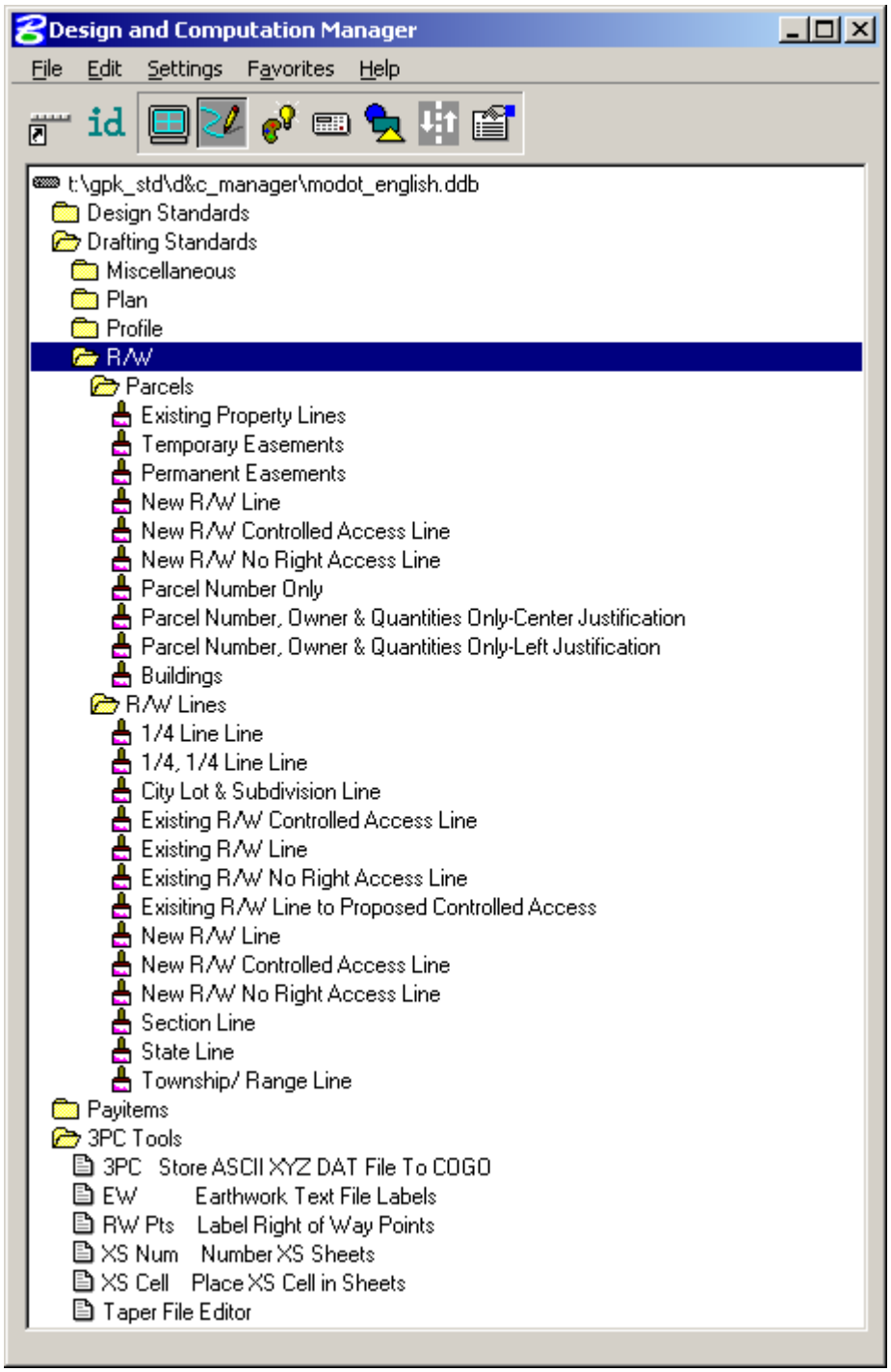
Draw Transition will draw a line/curve based on a beginning station/offset and an ending station/offset relative to a selected chain. Use of this command includes turn lanes, mail box widening and lane transitions.

Note: Elements placed with **Draw Transition** will have Microstation element type **curve** when the beginning and ending offsets are different and will have Microstation element type **line** and/or **arc** when the beginning and ending offsets are the same.



4.8 Main R/W Items

To plot Right of Way lines go to **Drafting Standards \ R/W** in the Design and Computation Manager, as depicted in the figure to the right. Right of way labels can be plotted using a Three Port Criteria (3PC) tool. It is **3PC Tools \ RW Pts Label Right of Way Points**, as shown near the bottom of the figure.



4.9 Parcels

There are ten drafting standards for plotting parcel information. The purpose for each is indicated in the following list.

- **Existing Property Lines Only** plots the parcel boundary as an Existing Property Line. The MicroStation Cell Tools (MicroStation pull down menu **Add-Ons > Cell Tools**) provides an easy way to add the property line symbol.

- **Temporary Easements Only** plots easement boundaries using the Temporary Easement standard. This option will plot all the easements using this standard. Therefore if the parcel contains both temporary and permanent easements, the line style for one of the types will need to be modified using the D & C Manager **Set** tool.

- **Permanent Easements Only** plots easement boundaries using the Permanent Easement standard. This option will plot all the easements using this standard. Therefore if the parcel contains both temporary and permanent easements, the line style for one of the types will need to be modified using the D & C Manager **Set** tool.

- **New R/W Line Only** plots taking boundaries using the New R/W Line standard.

- **New R/W Limited Access Line Only** plots taking boundaries using the New R/W Limited Access Line standard.

- **New R/W No Right Access Line Only** plots taking boundaries using the New R/W No Right Access Line standard.

- **Parcel Number Only** plots the parcel number inside of a circle as shown on plan sheets when the parcel information is not included on the plan sheet.

- **Parcel Number, Owner & Quantities Only-Center Justification** plots the parcel number inside of a circle along with the parcel information as shown when the parcel information is plotted on the plan sheet.

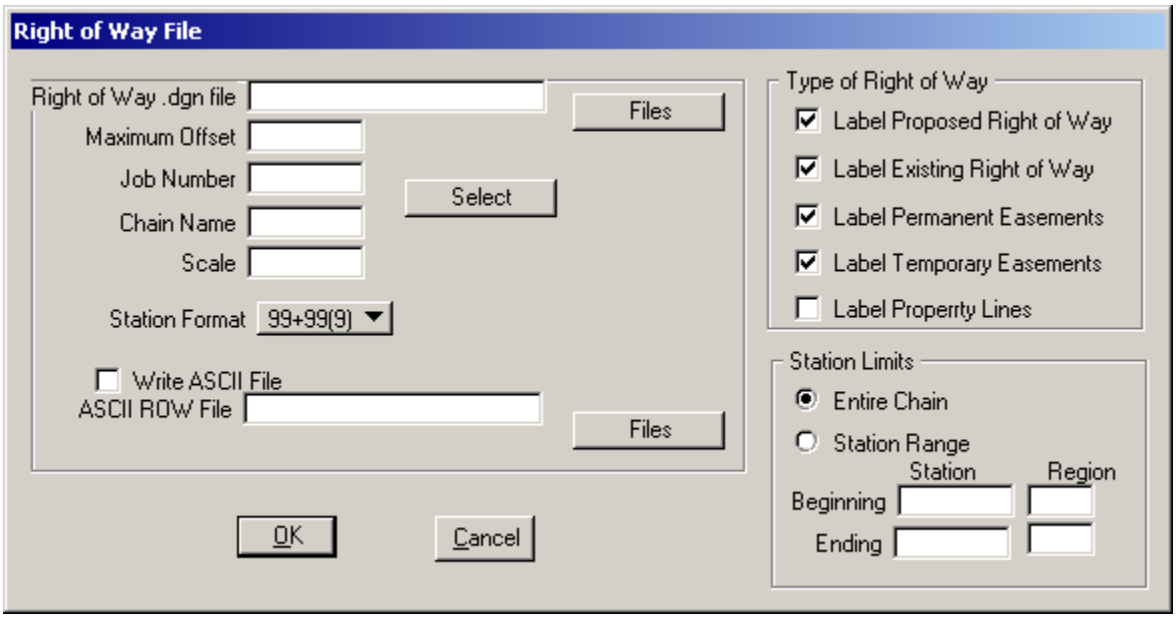
- **Parcel Number, Owner & Quantities Only-Left Justification** plots the parcel number inside of a circle along with the parcel information as shown when the parcel information is plotted on a separate sheet. Once this information is plotted, it can be lined up in rows and columns.

- **Buildings Only** plots the buildings stored with the parcel.

Each of the individual items listed above opens the **Plan & Profile Draw** dialog with the toggle activated for that item. The user can activate additional items to plot more than one item at a time.

4.10 3PC Tools \ RW Points

To start a 3PC tool, double click on the desired item in the list under **3PC Tools** in D & C Manager. The **RW Pts** tool searches a MicroStation file for R/W lines and plots the station and offset labels in the current MicroStation file. Due to this flexibility, the labels can be plotted in one file based on the R/W lines in the same or a different file. Activating the RW Pts tool brings up the following dialog, which allows the user to control the tools settings.



The dialog options are described below:

- **Right of Way.dgn file** is the name of the file containing the right of lines. It can either be typed into the field, or it can be selected from a list of files by clicking on the **Files** button to the right of the field.

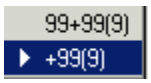
- **Maximum Offset** controls the search distance for the R/W elements from a specified chain. Any vertices with an offset greater than the Maximum Offset are ignored.

- **Job Number** specifies the COGO Job number. It can be typed into the field or selected from a list of GPK files by clicking on the **Select** button to the right of the field.

- **Chain Name** is the name of the reference chain. It must be typed in.

- **Scale** controls the size of the text in the labels.

- **Station Format** determines whether a full or partial station value is plotted, as indicated by the two options shown to the right. The number of decimal places displayed in the label is controlled by the current decimal settings in the GEOPAK User Preferences dialog. The **Station Decimal** setting determines the



number of decimal places for station if the full station option is selected. The **Distance Decimal** setting controls the number of decimal places for the offset. It also controls decimal places for the station value if the partial station option is chosen.

- The **Write ASCII File** toggle determines whether a comma separated text output file is generated containing the stations and corresponding offsets. **ASCII ROW File** is used to give the name of the file. It can be typed into the field or it can be selected from a list of files by clicking on the **Files** button to the right of the field.

- The **Type of Right of Way** toggles on the right side of the dialog controls which types of labels are plotted.

- **Station Limits** controls how much of the chain is labeled. R/W labels can be placed for the **Entire Chain** by selecting that option or for a **Station Range** by toggling on that option and typing in the beginning and ending stations for the range.

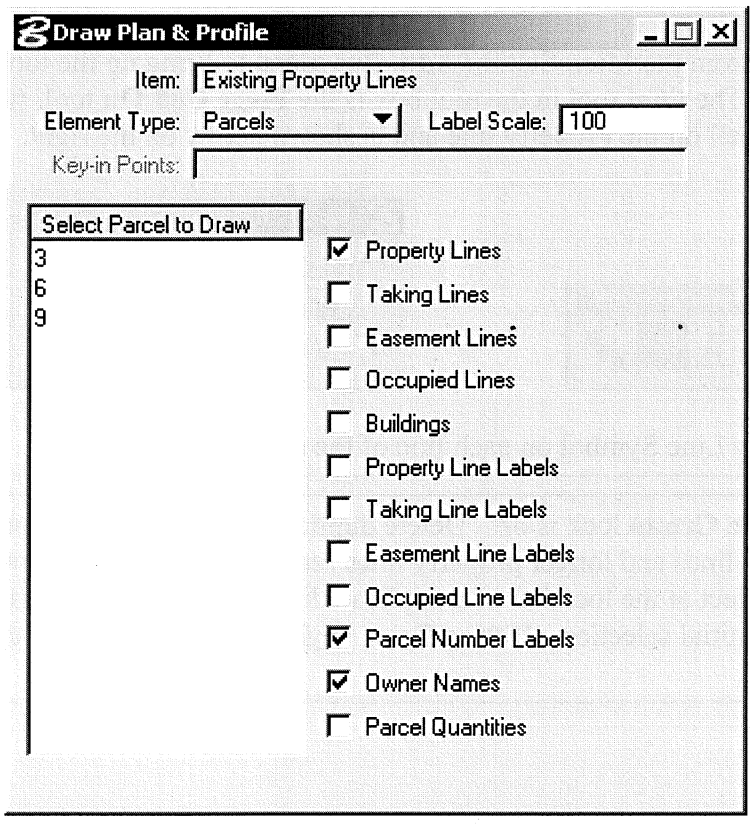
4.1 Exercise

1. Open the MicroStation file **rw_j7s0066.dgn**. Do a fit view and turn **Display** off for all reference files.

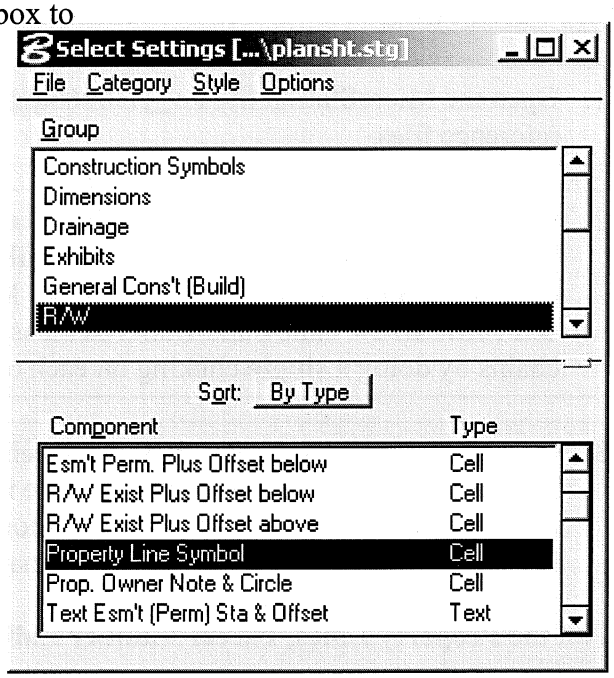
2. Start D & C Manager. Go to **Drafting Standards \ R/W \ R/W Lines**. Select **New R/W Line** and click on the **Draw Plan & Profile** button in the **Operations** box. Select Job **066** in the **Job Number** dialog box. Click **OK**. Make sure the Operation is on **Chains** in the **Plan & Profile Draw** dialog and **Label Scale** is set to **100**. Plot the **proprwlt** and **proprwrt** chains by doing a **single** clicking on each of the chain names.

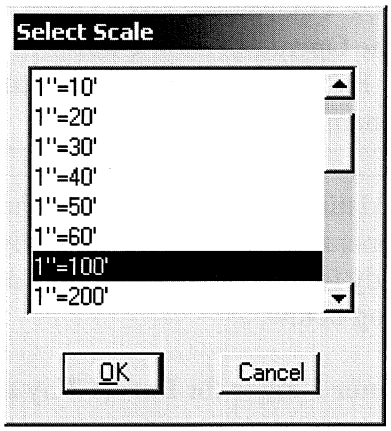
3. Go to **Drafting Standards \ R/W \ Parcels**. Select **Existing Property Lines** in the D & C Manager dialog by double clicking on the item. The operation should automatically switch to **Parcels**. The Property Lines option should be already toggled on. Toggle on **Parcel Number Labels** and **Owner Names** to match the dialog below.

Plot the **Property Lines, Parcel Number Labels** and **Owner Names** for **Parcel 3** by **single** clicking on the name.



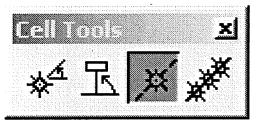
4. To add the property line symbol, select the MicroStation menu **MoDOT > Plan Sheet**, which will display the **Select Settings** dialog box to the right. Select **Category > Scale** from the menu for that dialog to bring up the **Select Scale** shown below. Select the **1"=100'** scale and click **OK** to set the active scale to match the text already plotted in the drawing.

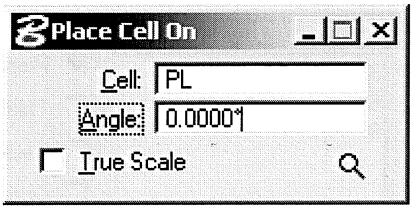




In the **Select Settings** dialog, choose the component **Property Line Symbol** in the **R/W** group to make it the active cell.

Select **Cell Tools** from the MicroStation **Add-Ons** menu to bring up the toolbox shown below on the left. The third tool in the tool box is the **Place Cell On** tool, which will be used to place the "PL" cell on the Property line and is shown below on the right.

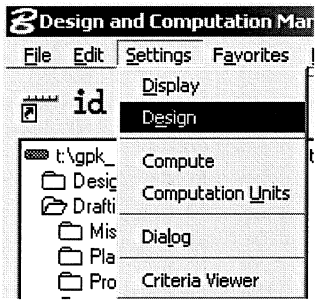


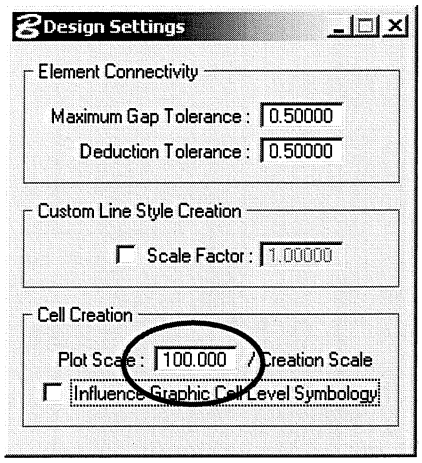


Place the Property Line Symbol on each line of the property.

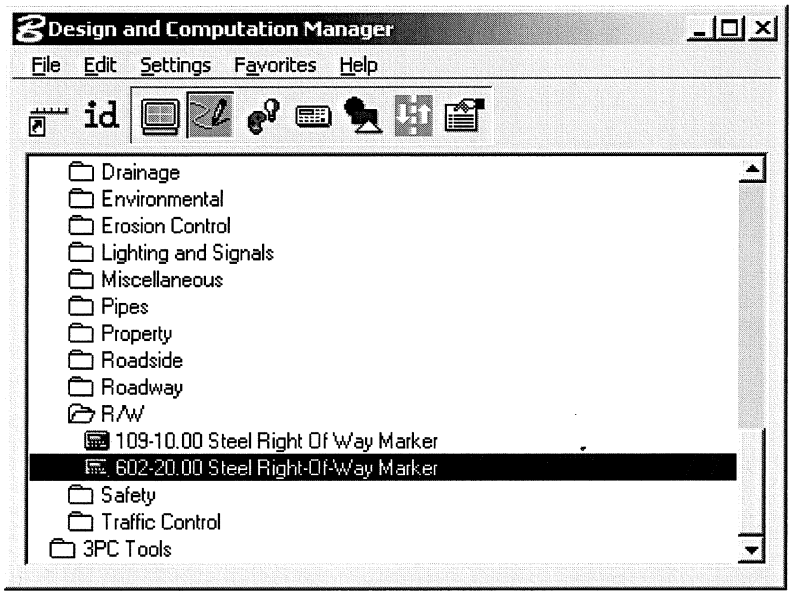
5. Make sure **Graphic Group** lock is off. Delete duplicate lines with R/W lines remaining instead of property lines and longer property lines remaining instead of shorter property lines. **Hint**, when you select at the location of a duplicate line, MicroStation picks the line that was plotted first as its initial selection. Hitting **Reset** (right mouse button) will cycle through the duplicate elements.

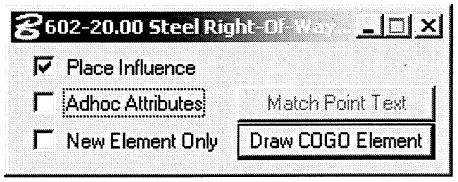
6. In D & C Manager, open the **Settings > Design** dialog box. Set **Plot Scale = 100.** Close dialog.



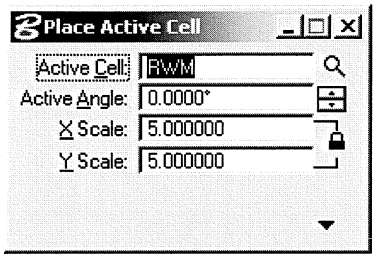


Switch the active item to **Payitems \ R/W \ 602-20.00 Steel Right of Way Marker**. Double click on the item and make sure **Place Influence** is on.





Using your snaps, place the cell at the kinks on the **new R/W** lines for the **proprwrt** chain.



7. Save the changes to the MicroStation file.

4.2 Exercise

1. Open the MicroStation file **rw_j7s0066.dgn**.

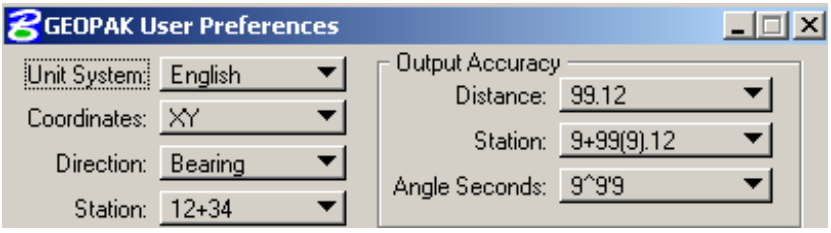
2. Use D & C Manager to plot the property lines, property line symbols, and parcel numbers for parcel 6 and parcel 9. Delete any duplicate lines, using the same criteria as those for Step 5 in the previous exercise. Also, add the **Steel Right of Way Marker** cell at the kinks in the **new R/W** line for chain **proprwlt**. Save the changes to the MicroStation file.

4.3 Exercise

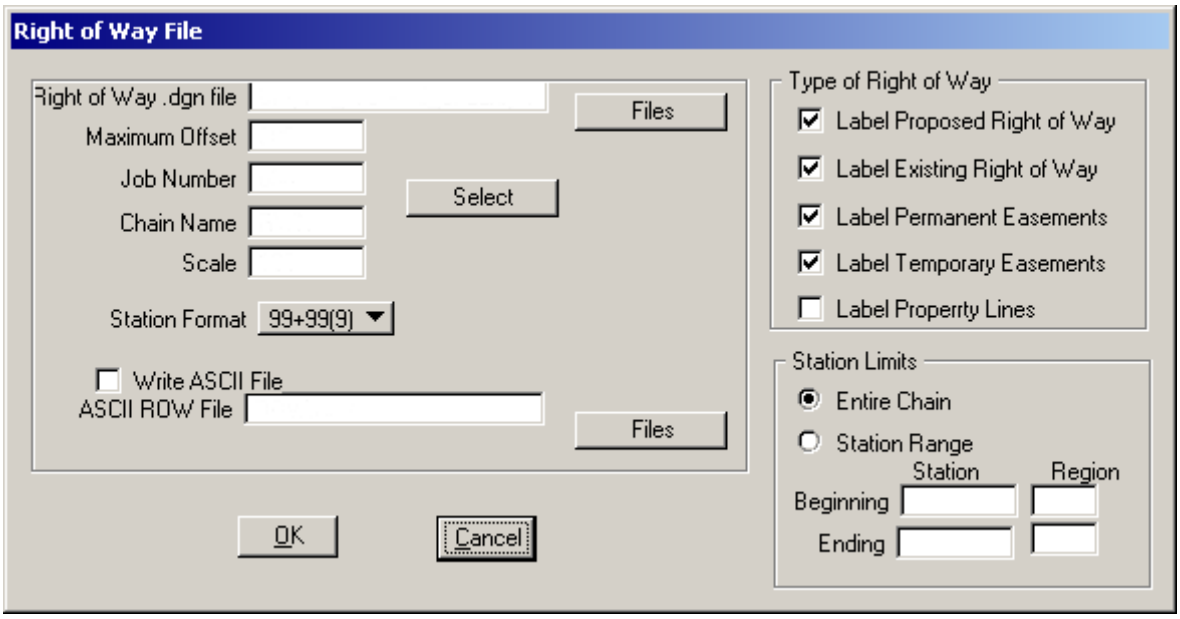
This is a group exercise to demonstrate the use of the 3PC Tool RW Pts.

1. Open the MicroStation file **rw_j7s0066.dgn**. Do a fit view.

2. In MicroStation, go to **Applications > GEOPAK Road > User Preferences**. Set the **Distance Decimal** to two places as shown below.



3. Start D & C Manager. Go to **3PC Tools** and double click on **RW Pts**. Here is what the dialog box should look like.



4. Now plot the Right of Way labels for the proposed alignment using the following settings:

Right of Way.dgn file:	**rw_j7s0066.dgn**
Maximum Offset:	**200**
Job Number:	**066**
Chain Name:	**propcl660**
Scale:	**100**
Station Format:	**+99(9)**
Write ASCII File:	**On**
ASCII ROW File:	**RW.csv**
Label Proposed Right of Way:	**On**
Label Existing Right of Way:	**On**
Label Permanent Easements:	**Off**
Label Temporary Easements:	**Off**
Label Horisontal Control Points:	**Off**
Stain Limits:	**Entire Chain**

5. In MicroStation, go back to **Applications>GEOPAK Road>User Preferences**. Reset the **Distance Decimal** to four places.

Geopak
Labeler

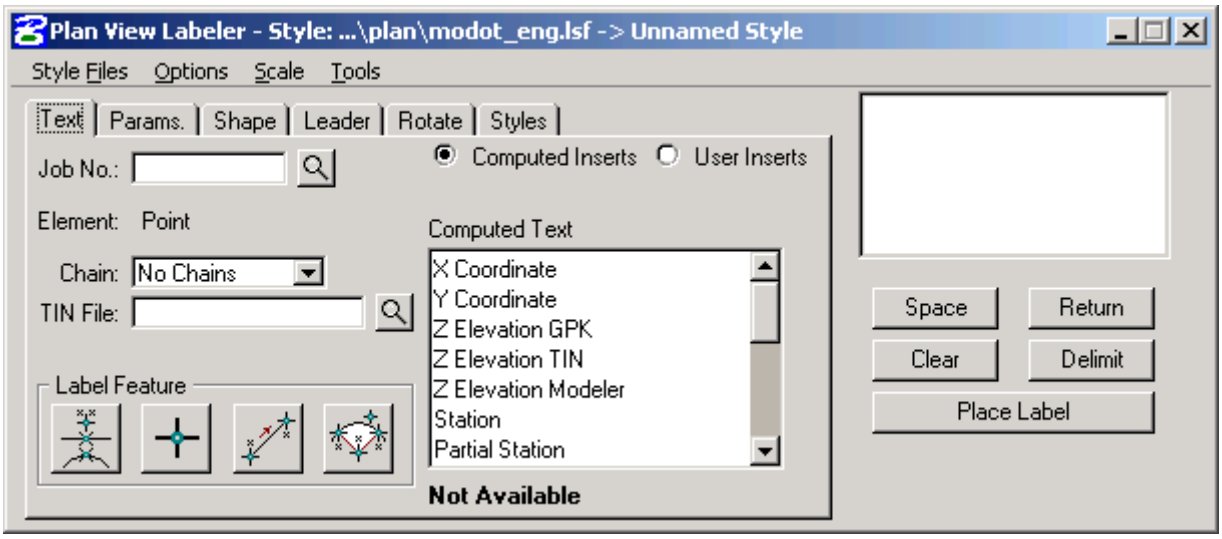
5.1 Accessing the Plan View Labeler

The Plan View Labeler can be accessed from one of three locations. It is available in the menu path **Applications > GEOPAK Road > Plans Preparation > Plan View Labeling**. It can also be selected from Plans Preparation tool pallet, which is the pallet outlined in the Road toolbox shown to the right. It is the first icon in the **Plans Preparation** tool pallet shown below.

The third way that the Plan View Labeler can be accessed is from the **Road Project** dialog by clicking on **Plan View Design**, shown below on the left. This will bring up the Plan View Design tool pallet shown below on the right. The Plan View Labeler is the last one in that tool pallet, as outlined below.

5.2 Basic Dialog

When you enter the Plan View Labeler, the dialog shown below will appear. The dialog has four different parts.



5.2.1 Banner

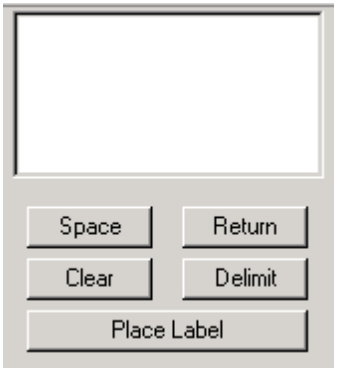
The window banner (shown below) displays which labeler is active, the name of the labeler style file (LSF), and the name of the style selected. If a predefined style from the active LSF is not selected, the banner displays "Unnamed Style." In the following figure the Plan View Labeler is active, the name of the LSF is "…\plan\modot_eng.lsf", and a predefined style is not selected.

5.2.2 Menu Area

Immediately under the window banner are the pull-down menus shown below. The menu options are discussed below in Section 55.10 Menus.

5.2.3 Label Content

The label to be placed is displayed in the box on the right side of the dialog, shown in the figure to the right. Clicking in the box activates a text curser, which indicates where information will be placed in the label. With this cursor active, the user may use the keyboard to type text for the label.



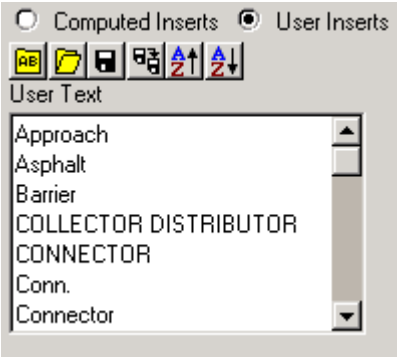
Under the box are several buttons. The **Space** button puts a space in the label at the cursor position. The **Return** button starts a new line. The **Clear** button clears the box to start a new label. The **Delimit** button places a line above or below a line of text. The **Place Label** button starts the place label process. **Note**: Follow the **Status Bar** prompts located in the lower left hand corner of the MicroStation window when placing a label.

5.2.4 Option Tabs

The final area (shown below) contains tabs, which allow the user to define various options for the label. Each of these tabs are discussed next

5.3 Text Options

The **Text** tab allows the user to add either **Computed Inserts** or **User Inserts** to the label. If the User Inserts is selected, the right side of the text tab changes to the one shown below. This allows the user to view and insert predefined text into the label from a User Insert File (INS). The contents of the file are displayed in scrollable window below the icons. Double click on one of the predefined pieces of text to add it to the label.



The icons serve the following functions:

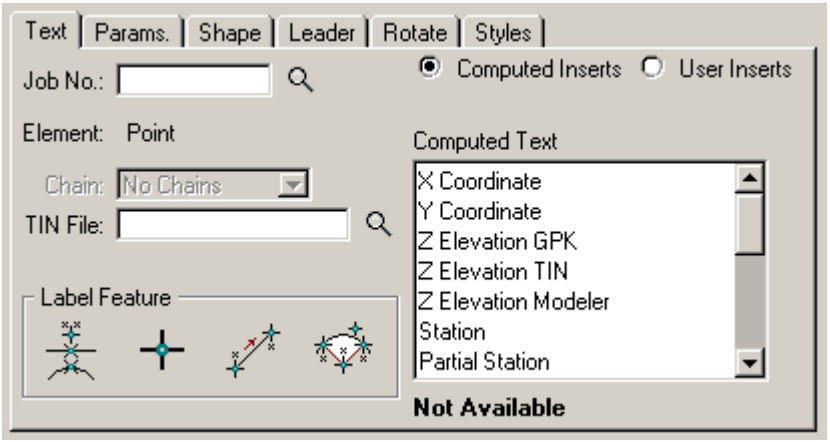
- **Edit the Insert File.**
- **Open an Insert File.**
- **Save the Insert File.**
- **Save the Insert File As…**
- **Sort the contents in ascending alphabetical order.**
- **Sort the contents in descending alphabetical order.**

Often it is easier to type directly into the label content box unless the user is unsure of spelling or acceptable abbreviation. The predefined user insert files are those that come with GEOPAK. The user is able to edit these files or create one. If you do have a personal inserts file, it is a good idea to save it to some location other than the GEOPAK …\bin\ folder to keep in from being overwritten during program upgrades.

The Computed Inserts section and the contest of the rest of the text options tab changes depending on which labeler is active. Each of these is presented in the following subsections.

5.3.1 Plan View Labeler Computed Text Options

The text options tab for the Plan View Labeler using Computed Inserts is shown below.



To use the station and offset computed inserts, the job number and the chain need to be selected. If elevations are to be calculated, a .tin file must be chosen. The **Job No:** may be typed in or the GPK may be selected from a list of available files in the working directory by clicking on the magnifying glass icon to the right of the Job No: field.

The **Computed Inserts** are items that Geopak has the ability to calculate for the chosen item. The list of **Computed Inserts** changes with the type of element that is chosen. If a line is chosen, the list of **Computed Inserts** will show inserts of bearing, and length. If a curve is chosen the list of **Computed Inserts** will change to show inserts of radius, curvature, chord length, etc.

The user can select different elements by using the icons in the **Label Feature** section.

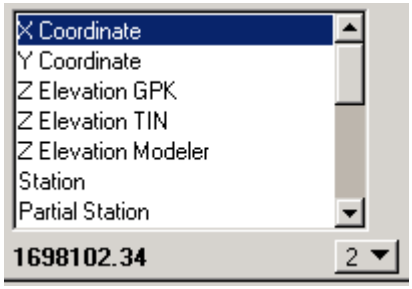
Allows the user to select a graphical element such as a point, line, or curve.

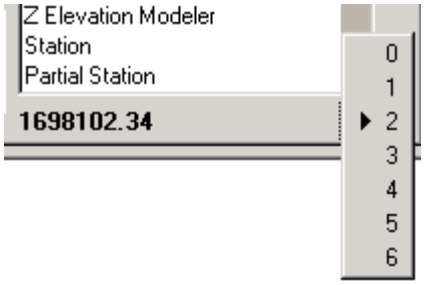
Allows the user to data point a location on the screen.

Allows the user to choose two visualized COGO points to represent a line.

Allows the user to select the curve start point, ending point, and either the curve center or a point on curve using visualized name COGO points. Only elements listed as Points in the COGO navigator may be used for this option.

To use the computed inserts, select the Label Feature icon for the type feature you want to label. Next, follow the prompts in the lower left corner of the MicroStation window to select the feature. Once the feature is selected, the list of Computed Text will reflect those values that the labeler can calculate for that type of element. To view the computed value, select one of the items from the list. The computed value will appear in the bottom center of the dialog, as shown in the following figure on the left. To change the decimal accuracy of the value, click on the pull down to the right of the value and select the desired accuracy as shown below in the figure on the right.

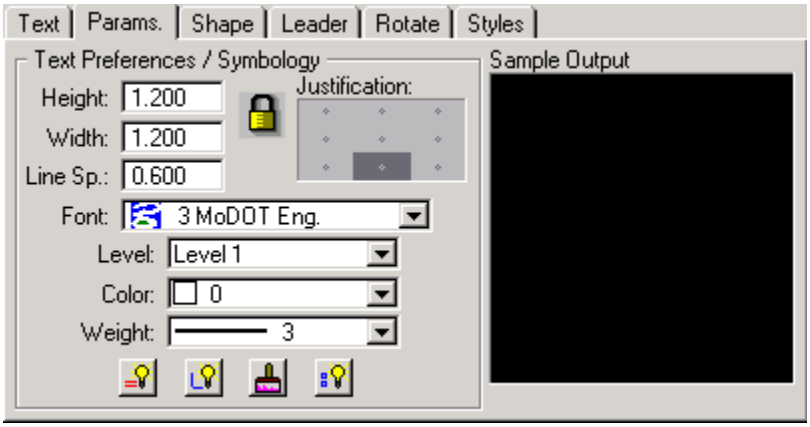




Once the accuracy is set, double click on the highlighted item in the Computed Text list to add the value to the label being created.

5.4 Parameters Tab

The **Parameters** Tab controls the text settings for a label. It is exactly the same for all three labelers. The tab lets the user set the text **Height**, **Width**, **Line Spacing**, **Justification**, **Font**, and placement symbology, as shown in the following figure.



The buttons at the bottom of tab allow the user to quickly set all of the symbology as follows:

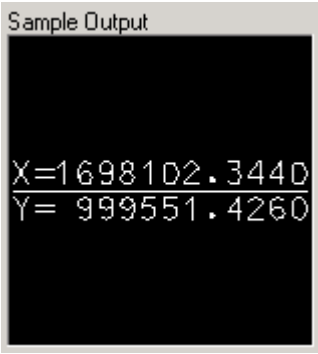
Sets the symbology to the current MicroStation settings.

Allows the user to set the symbology by choosing a MicroStation element.

Sets the symbology using D&C Manager symbology

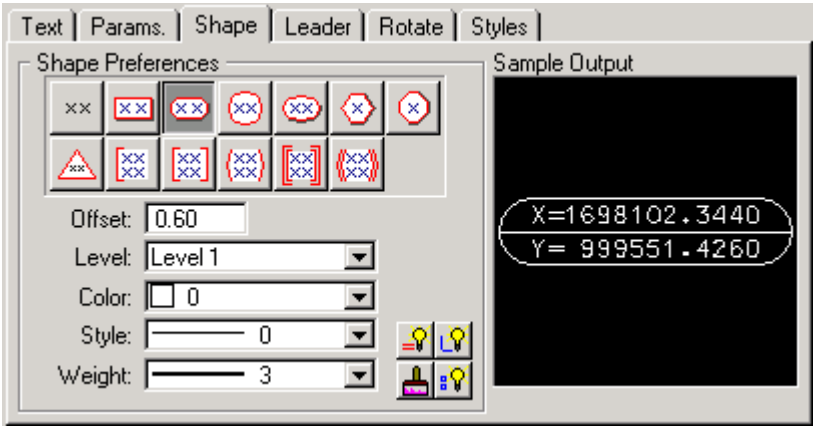
Sets the symbology for all of the other label element tabs (Shape and Leader) to match the settings in the current tab.

The Sample Output section of this and the remaining tabs gives a preview of the label. The sample output of a coordinate label is shown below.



5.5 Shape Tab

The **Shape** tab allows the user to place a shape around the label and set the symbology for the shape. The user can select the shape to be placed around the text. The shape **Offset** is used to determine the distance between the shape and the text. The symbology icons are the same as those described under the Parameters tab. An example with a balloon shape and an offset equal to half of the text height and width is shown below.



The **Shape Preferences** are:

None

Balloon

Ellipse

Octagon

Single Square Bracket

Round Bracket

Double Round Bracket

Rectangular

Circle

Hexagon

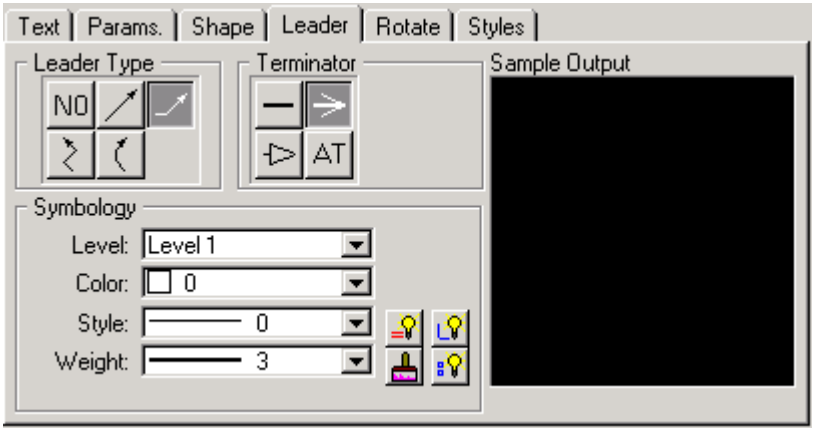
Triangle

Square Bracket

Double Square Bracket

5.6 Leader Tab

The **Leader** tab allows the user to attach a leader from the label to the label. Different leader types and terminators are available. The active terminator, as defined in MicroStation pull down menu Element> Cell can also be used. The symbology icons are the same as those described under the Parameters tab.



The **Leader Types** are:

No Leader

One Point Leader with no bends in the leader

Two Point Leader with a single bend in the leader

Three Point Leader with two bends in the leader

Arc Leader.

The **Terminators** are:

No Terminator

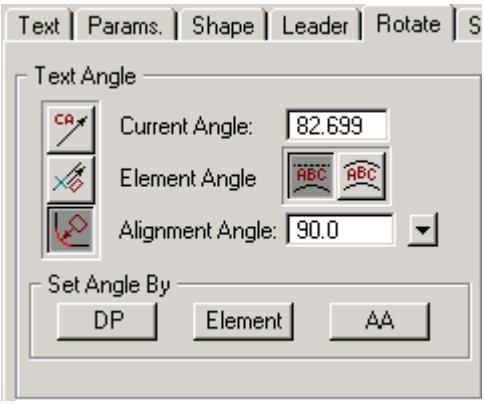
Open Terminator

Closed Terminator (filled or unfilled)

Active Terminator

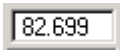
5.7 Rotate Tab

The **Rotate** tab allows the label to be rotated.



Plan View Labeler Rotate Tab

The following **Text Angle** icons may be used to set the rotation of the label:

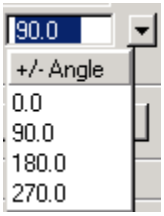
Rotates the label text to the current angle, which is displayed and may be set in the field to the right 

Rotates the label text to the angle of the element being labeled. The **Plan View** text maybe plotted:

Straight or

Curved

The alignment angle rotated by +/- 0°, 90°, 180°, or 270° using the pull down shown to right.



The user may also rotate the label by using the follow **Set Angle By** options:

Set the text angle by two data points

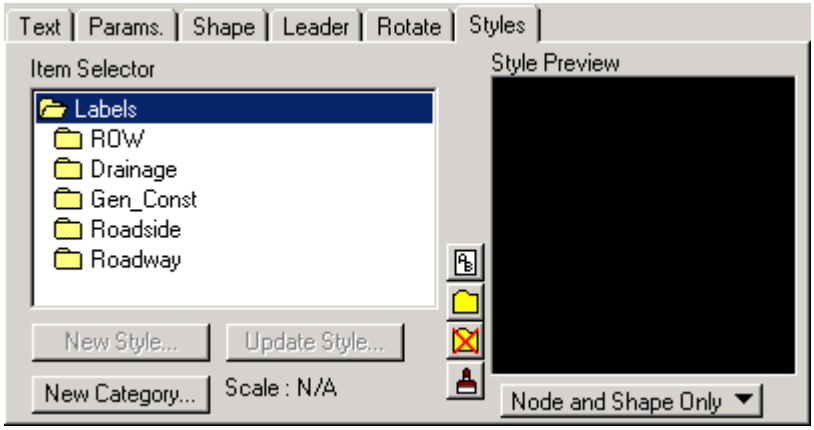
Set the text angle by any MicroStation element

Set the text angle by the MicroStation active angle

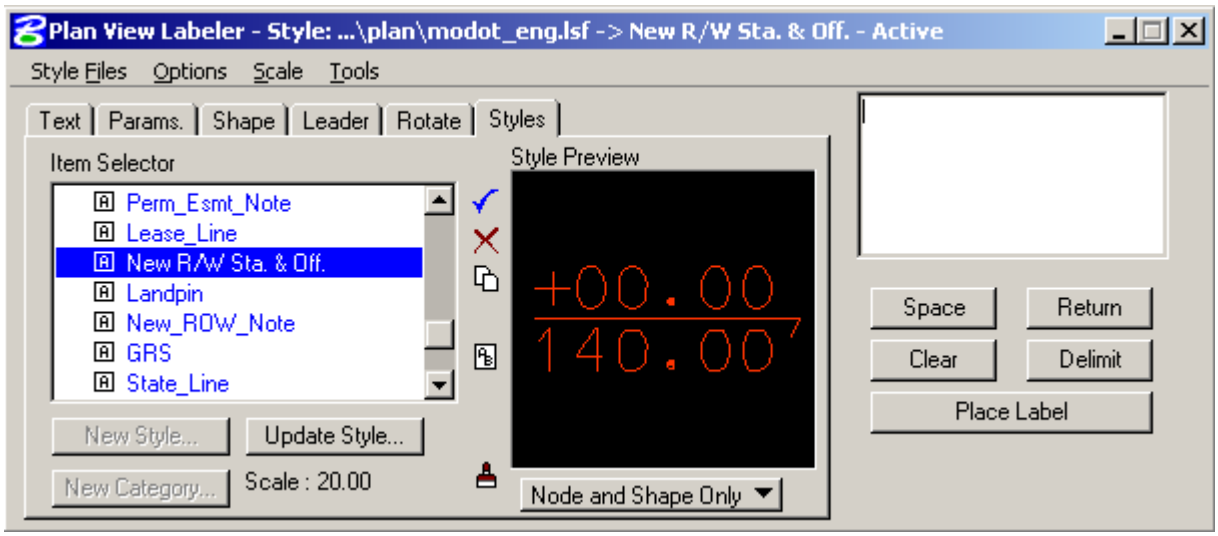
5.8 Styles Tab

The **Styles** tab allows the user to choose label formats from a library of pre-defined styles. When the user chooses a style, all of the parameter, shape, leader, and rotate options are set. The Plan View Labeler has MoDOT default files and the styles are grouped in folders.

The **Plan View Labeler Style File** contains the five folders shown in the following figure. Most of the items in the plan LSF file are regular text. Computed text labels have been created in the **ROW** folder for existing and proposed right of way and easement points. They plot the partial station and offset. The **Roadway** folder contains to labels with computed text for the station and offset of pavement and shoulder points.



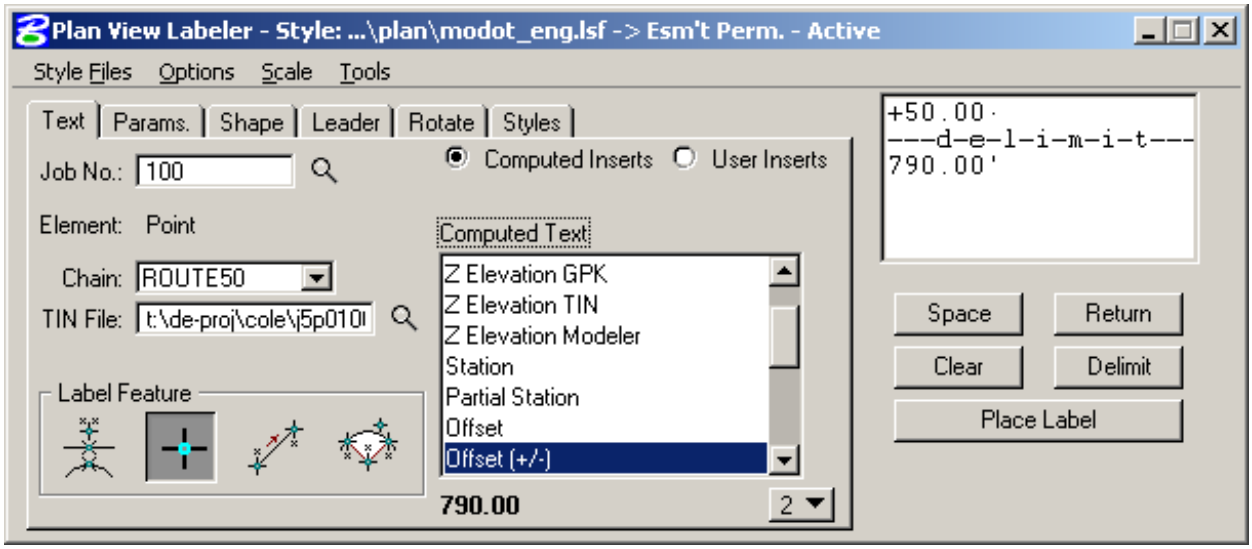
When an individual label style is selected, a preview of the label is given in the **Style Preview** window, as shown above on the left. (**Note**: The **Scale** value in that figure list the scale used to create the label, not the current scale.) The style can be transferred to the box in the upper right hand corner of the labeler dialog by clicking on it.



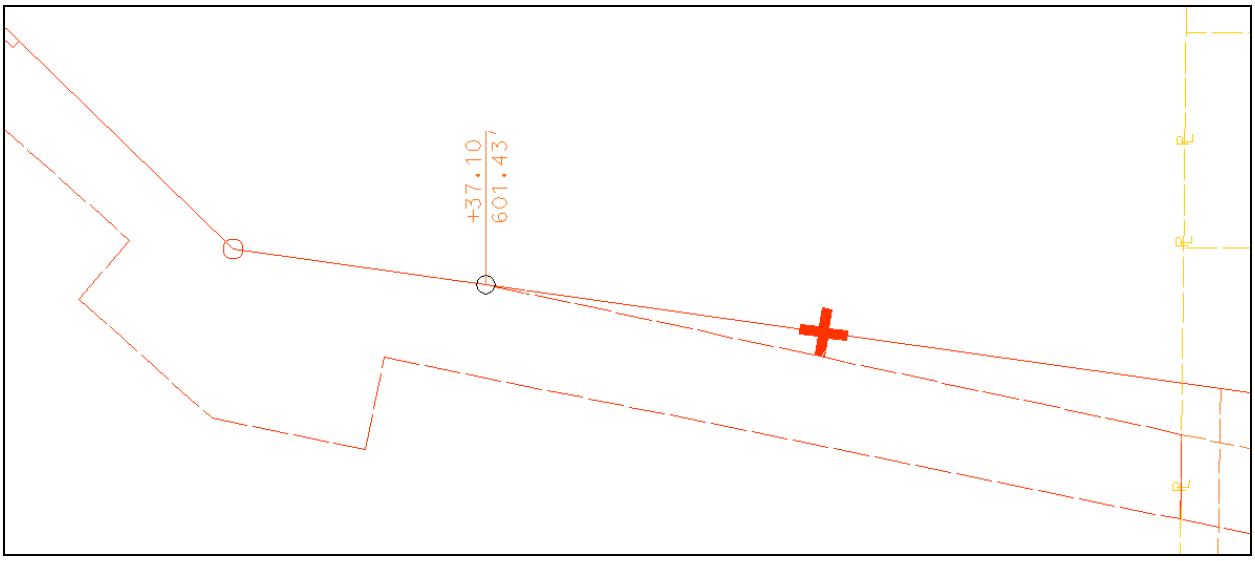
5.9 Examples of R/W Labels

5.9.1 Permanent Easement

Permanent easement labels are placed by selecting the **Easm't Perm.** style. After selecting the style, switch to the **Text** tab. This form of the dialog box is shown below. Complete the fields that specify the project data. Select the tool from the **Label Feature** box and data point on the location to be labeled. Next, data point where you want the label to be placed. Next, indicate with a data point where you want the leader to come off of the label. The final data point locates the bend (if any) in the leader.



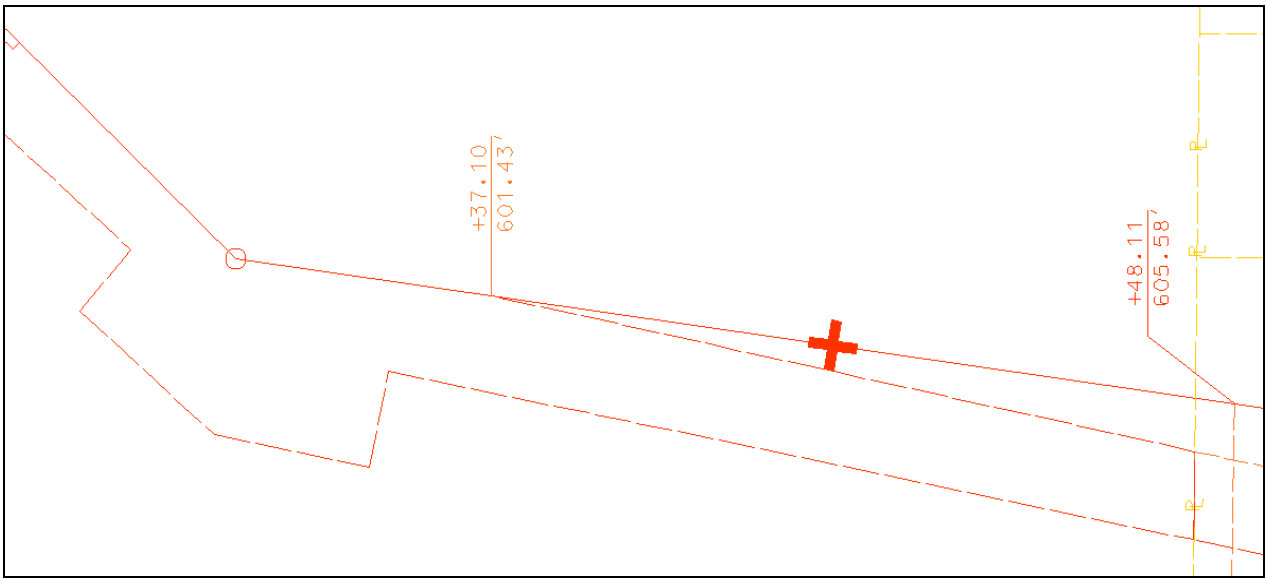
An example of a completed label is shown below.



As with any of the labels, the style can be modified by clicking on any of the other tabs and modifying the settings.

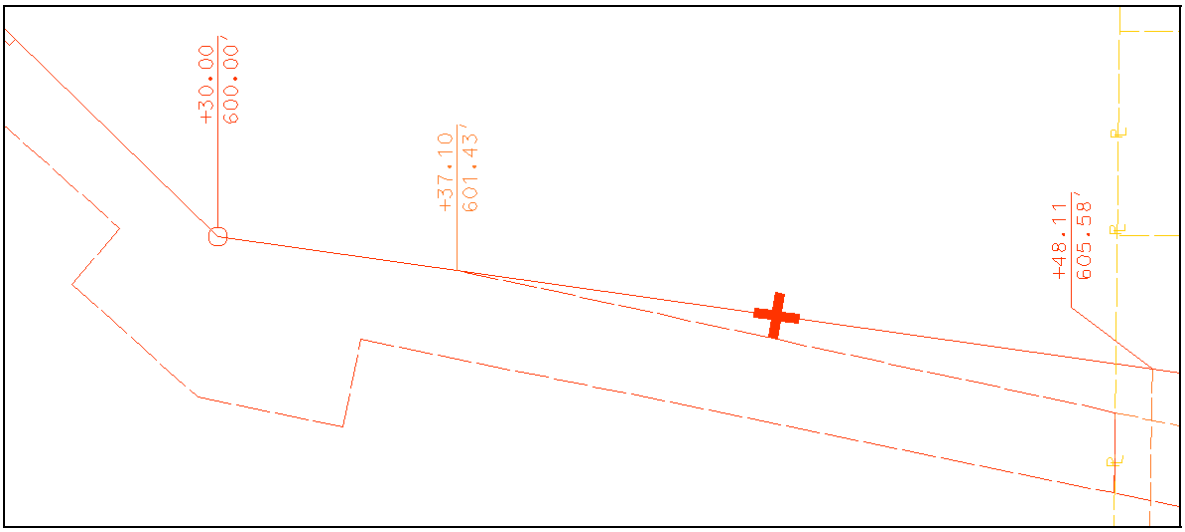
5.9.2 Temporary Easements

Temporary easement labels are placed by selecting the **Easm't Temp.** style. An example of this label has been added to the example, as shown in the follow figure. Note that in this case, the leader has been bent to move it out of the way of other elements.



5.9.3 Existing and New R/W Partial Station and Offset

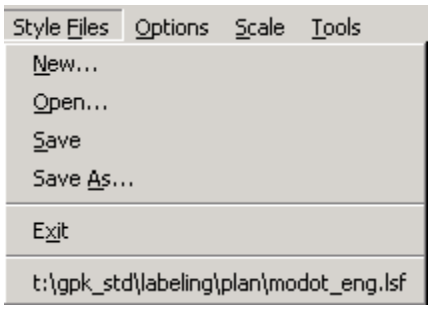
The procedure for placing these labels has an added step. Normally the leader does not point right to the point, but stops at the edge of the cell. To accomplish this, place the label as before. After placing the label, move it so the leader points to the location desired as shown with the label that has been added below.



5.10 Menus

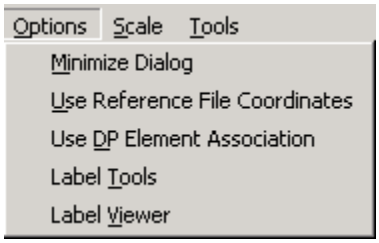
5.10.1 Style Files

The **Style Files** menu allows the user to manage style library files. While the default MoDOT style files will load automatically, the user may create a personalized file by saving a file to a location with write permission. Recently opened style files appear at the bottom of the menu. This allows for quickly switching between files,

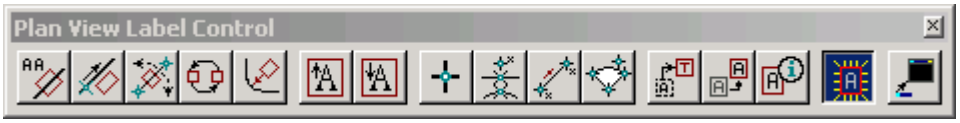


5.10.2 Options

The **Options** menu offers several ways to customize the way the labeler works.



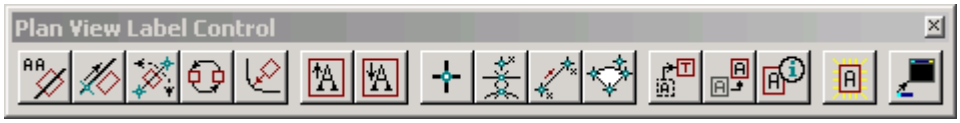
Minimize Dialog only works with the Plan View Labeler. If it is checked, the labeler dialog box minimizes when **Place Label** is chosen and the **Label Viewer** (shown to the right) and the Plan View Label Control (shown below) boxes open. This allows the user to see more of the screen while placing a label.. You may notice that the second icon from the right in the Label Control tool pallet is active. This indicates that the labeler is in **Place Label** mode. The last icon on the right is the **Restore Label Dialog** button. Clicking on it closes the **Plan View Label Control** box and restores the full labeler dialog. The rest of the icons in the Plan View Label Control are discussed below in the section dealing with Label Tools. Many of the icons on the left side of the pallet are available in the different tabs of the labeler itself.



Use Reference File Coordinates is available only in the Plan View Labeler. It is intended to allow the user to use the coordinates of a reference file instead of the active MicroStation file. Since MoDOT uses the same coordinates for all of its files and attaches files using Coincident – World, the coordinates in the reference file should be the same as the active file and this option is not needed.

Use DP Element Association is also available only in the Plan View Labeler. Labels that are placed when it is checked are associated to MicroStation element. (See Associating Elements in the MicroStation Help for more information on element association.) This works with both the graphic Element and Data Point (DP) label feature icons if the DP is snapped to a graphic element. If the element is modified, the label will update automatically when the Label Update feature is used as long as the element is in the active file. The association cannot be applied to referenced geometry. See Section 55.10.4 Tools for information about the Label Updater.

Label Tools brings up one of the tool pallets shown below. Each of the pallets corresponds to the labeler that launches it, as is indicated in the pallet banners below.



The first group of icons, shown to the right, is the label rotate icons. They provide the following options:

Rotate Label To Active Angle

Rotate Label By Element Angle

Rotate Label By Two Data Points

Rotate Label By 180 Degrees

Rotate Label By Alignment Angle

The second group icons may be used to increment the label text size by the increment value defined in the **Inc. / Dec. Text Size** dialog shown to the right. Each time the user clicks on one of the two icons in the group, the text size is incremented. The icons are:

Increase Text Size

Decrease Text Size

The third group of icons contains the Feature Label options. Not all options are available for all labelers. The icons are:

Data Point

Plan View Graphic Element

2 COGO Points

Arc Defined by 2 COGO Points

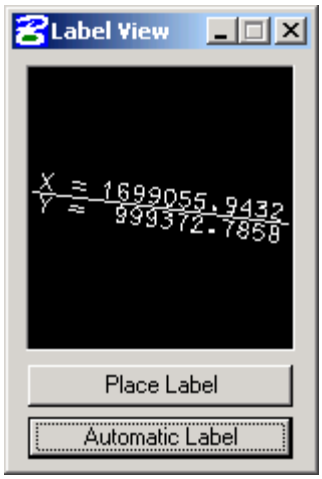
Profile or Cross Section Element

The fourth group of icons is for label modification. The individual icons are:

Edit Label, which allows the user to edit an already placed label. It loads the label in the labeler dialog for editing. The label must be placed again after it is edited.

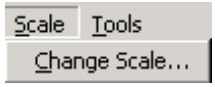
Move Label, which allows the user to move an already placed label.

Extract Label, which allows the user to extract the format of an already placed label and load it into the labeler so a label of the format may be placed at another location.

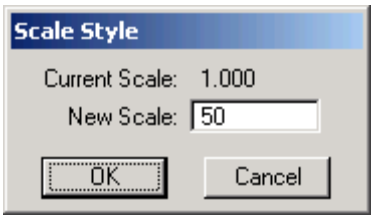


Label Viewer brings up the dialog shown to the right. It allows the user to view and place a label. **Automatic Label** copies a label with computed inserts to a new location and the newly computed values. To use this option, identify a label you want to copy by extracting or placing a label. Use a Label Feature icon to indicate another item to be labeled and click on Automatic Label. This will place a label at the new location using the placement settings as the previous label.

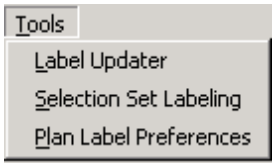
5.10.3 Scale



The **Label Scale** menu, shown to the right, allows the user to choose a plan scale. All labels are adjusted according to the new scale. After selecting the menu option, the following dialog appears. The user simply keys in a scale, and clicks **OK**. All size parameters are adjusted by the difference in the Current and New Scale values. **Note**: This scale should not be confused with the scale shown in the Styles tab, which gives the scale used to create the style and not the current scale. The only way to find the current scale is by the relative text size or by going to Scale > Change Scale.



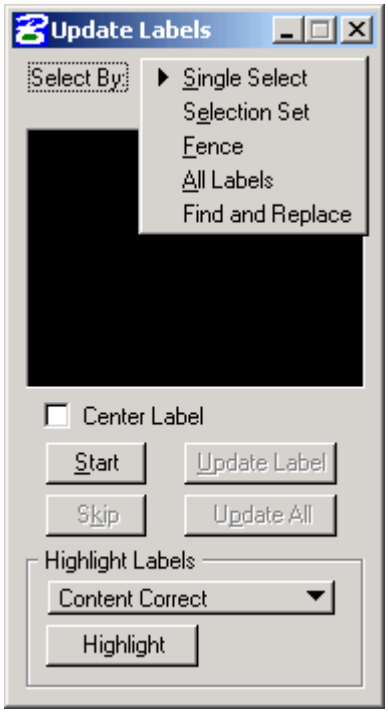
5.10.4 Tools



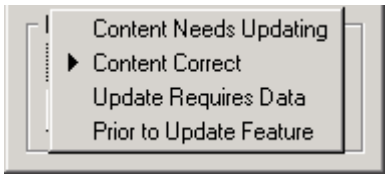
The **Tools** menu, shown to the right, provides the user with some specialized tools.

The **Label Updater** allows the user to update a label's computed inserts if any of the following is changed: the alignment, the TIN, a labels position, etc. Several **Select By** options are available, as shown in the figure below and on the right: **Single Select**, **Selection Set**, **Fence**, **All Labels**, and **Find and Replace**.

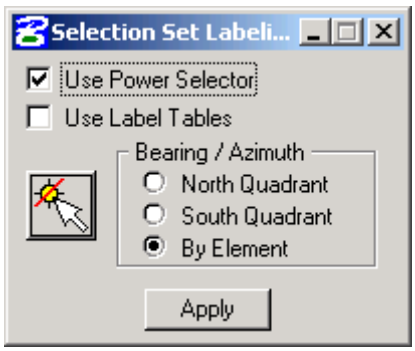
Clicking on the **Start** button starts the update process.



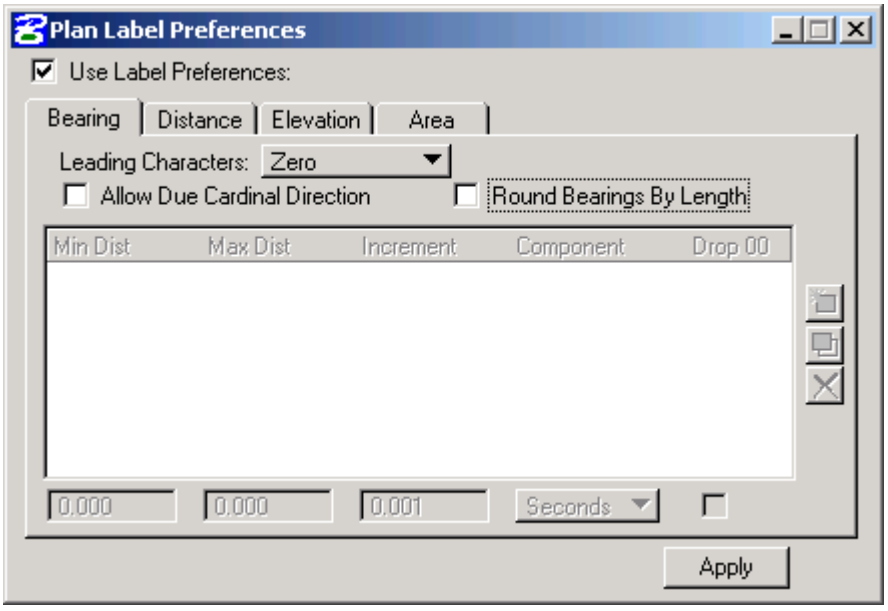
In addition, the **Highlight Labels** section of the dialog (shown below on the left) may be used to scan the labels and highlights those that meet the selected option. The four options are shown below and on the right.



Selection Set Labeling allows the user to update multiple labels to a selected style using a MicroStation selection set. See the GEOPAK help for more information on using this tool.



Plan Label Preferences allows the user control the label preferences. To use the tool toggle on **Use Label Preferences** and activate the options you wish to use. See the GEOPAK help for more information on using this tool.



5.11 Tables

The GEOPAK Tables tool allows for the plotting of bulk text into MicroStation from GEOPAK data files or from user defined text files. Plotting parcel data from the GPK file is the only use of this tool presented here. To learn more about using the tool to plot information from other types of files go to the MicroStation pull down **Applications > GEOPAK Road > Help** and select **Plans Production** from the index. Select the topic **Tables.**

5.11.1 Accessing the Tables Tool

The Tables tool can be accessed using the icon shown to the right. It is the last icon in the Plans Preparation toolbox depicted below.

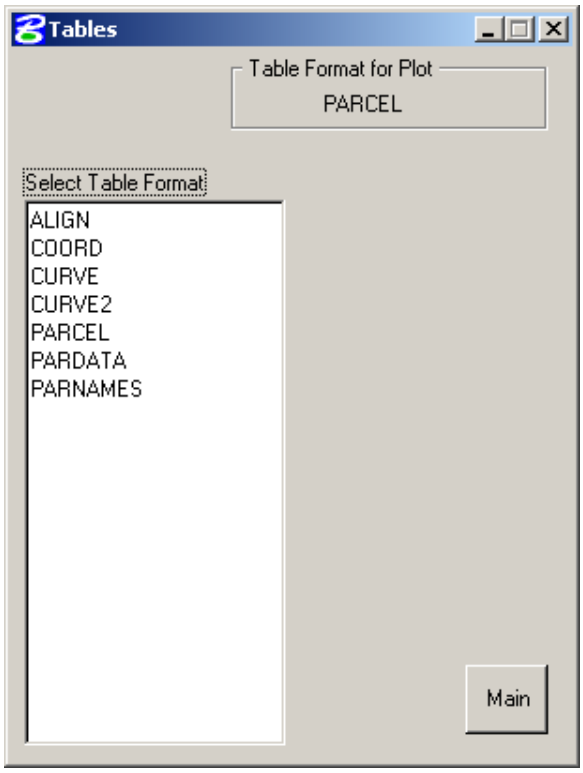
It can also be accessed from the MicroStation pull down math **Applications > GEOPAK Road > Plans Preparation > Tables**. Once the tool is selected, the dialog box shown to the right appears.

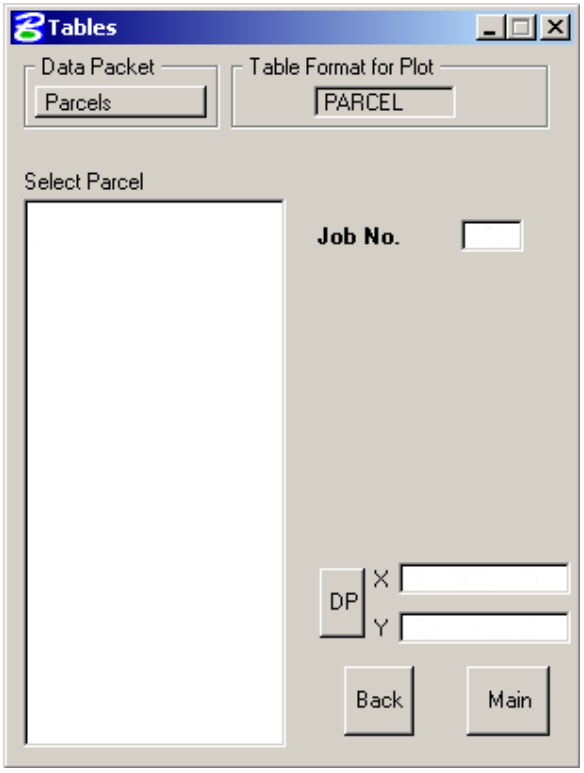
As the figure shows, three **Select Operations** are available: Plot, Operations, and Layout. **Plot** does what its name implies. It is the button used to plot data using predefined table formats. The **Operations** button allows the user to analyze (view MicroStation parameters and data pakets), copy, delete, and rename the established formats. **Layout** is used to setup new table formats. Only Plot is presented here. Refer to online GEOPAK Help to learn more about the other two Select Operations.

5.11.2 Plot

Once Plot is selected, the dialog changes to display the various defined table formats, as shown in the first figure on the next page. The first four formats (**ALIGN**, **COORD**, **CURVE**, and **CURVE2**) come predefined with GEOPAK. The last three have been developed for plotting right of way information stored with the parcel in the GPK. **PARCEL** plots the full parcel data (parcel number, owners, area taken for right of way, easement area, and area remaining). **PARDATA** plots the areas but not the parcel number nor the owner's name. **PARNAMES** plots just the parcel number and the owner's name. The button labeled **Main** in the lower right hand corner of the dialog returns the user to the opening or main dialog.

To use one of the table formats, select it from the list in the **Select Table Format** part of the dialog. If a GPK job number has not been previously selected, the dialog changes to the form shown below on the right. If this happens, enter the job number in the field labeled **Job No.**; then select the table format again.

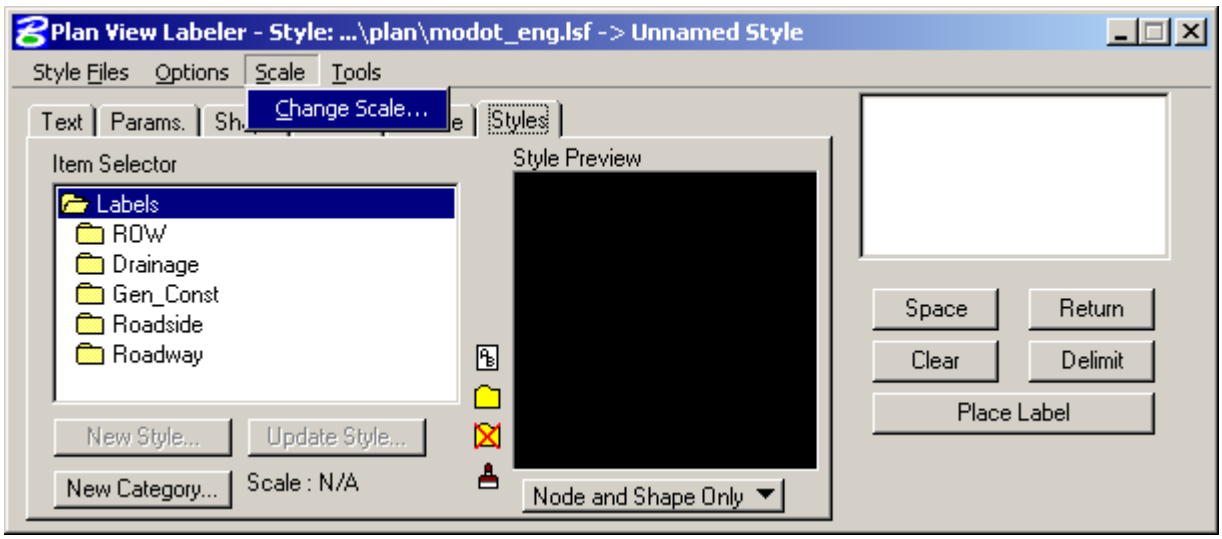


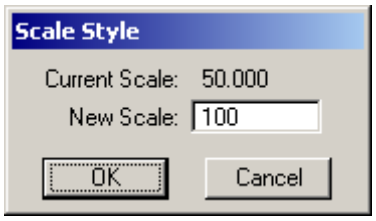


5.1 Exercise

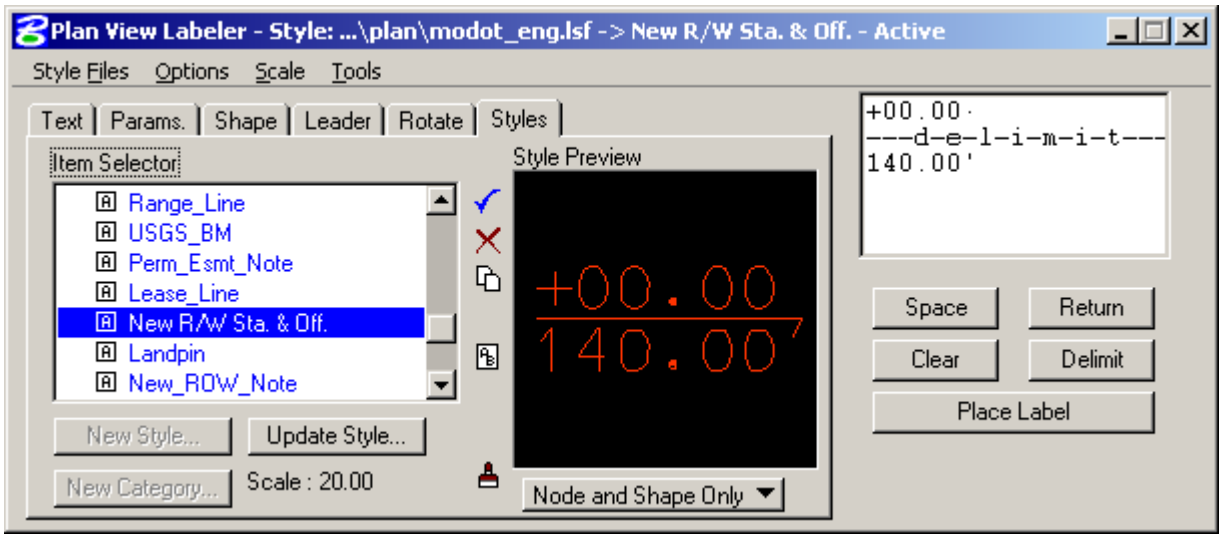
1. Open the MicroStation file **rw_j7s0066.dgn**. Do a fit view and turn **Display** off for all reference files.

2. Start the **Plan View Labeler**. Go to the **Scale** pulldown and select **Change Scale**. Set the Scale Style to **100** so the labels plot out to the correct scale.

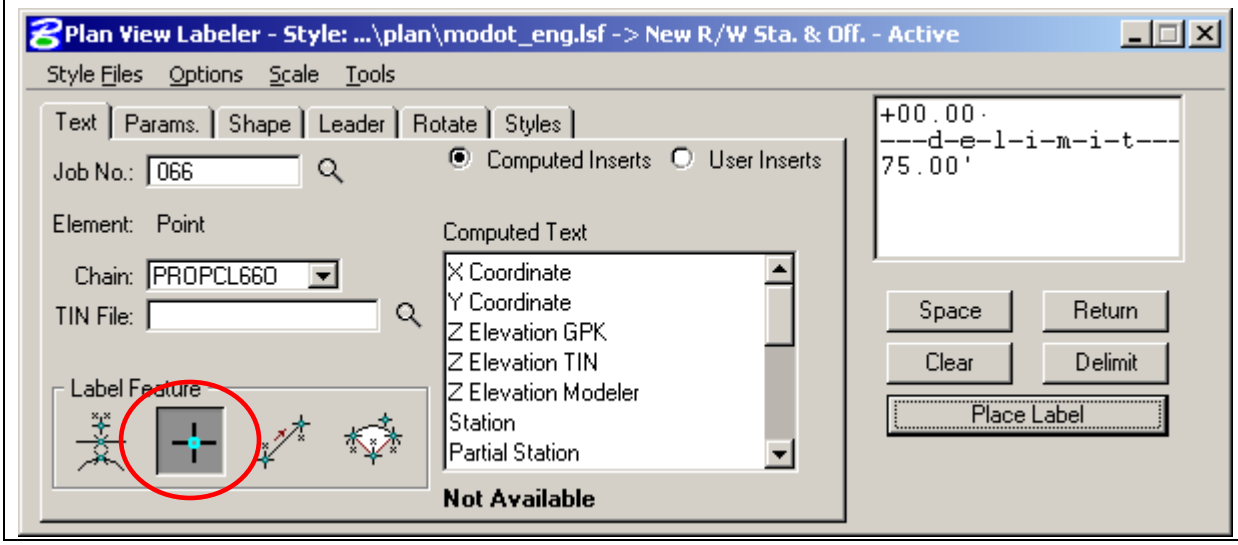




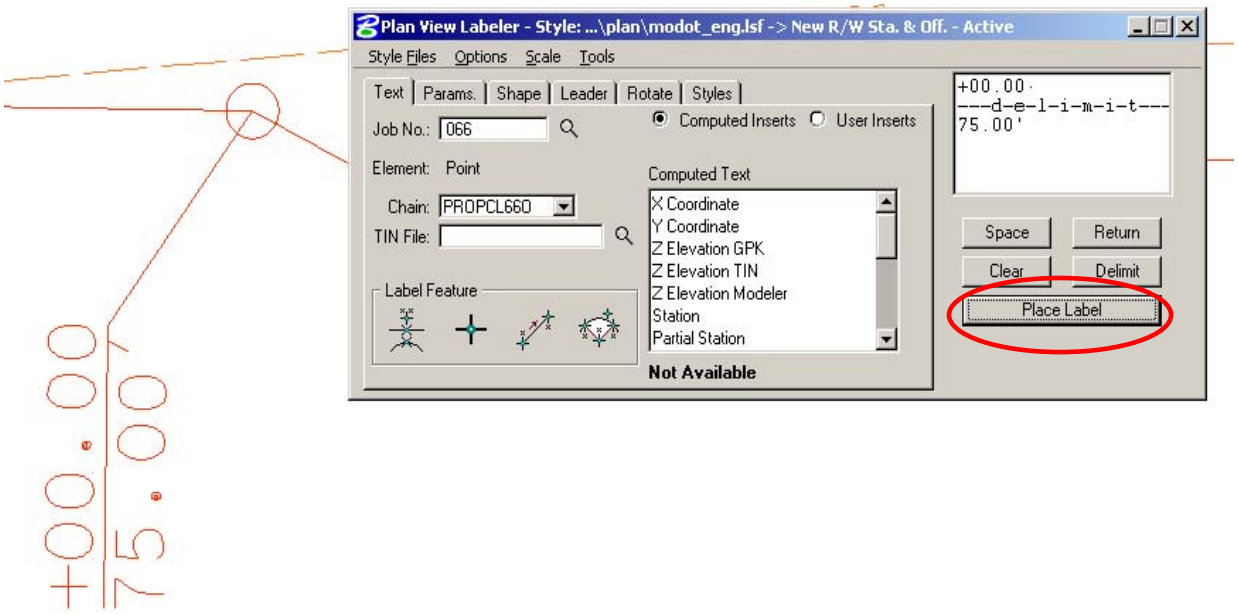
3. In the Plan View Labeler, go to the **Styles** tab. In this tab, select the **ROW** folder and then single click on the desired right of way label. Use the **New R/W Sta. & Off.** for this exercise. You will now see the preview of the selected style in the preview window. If this is the desired style for the label, double click on the style and it will automatically place in the white window box in the upper right corner of the Labeler dialog.



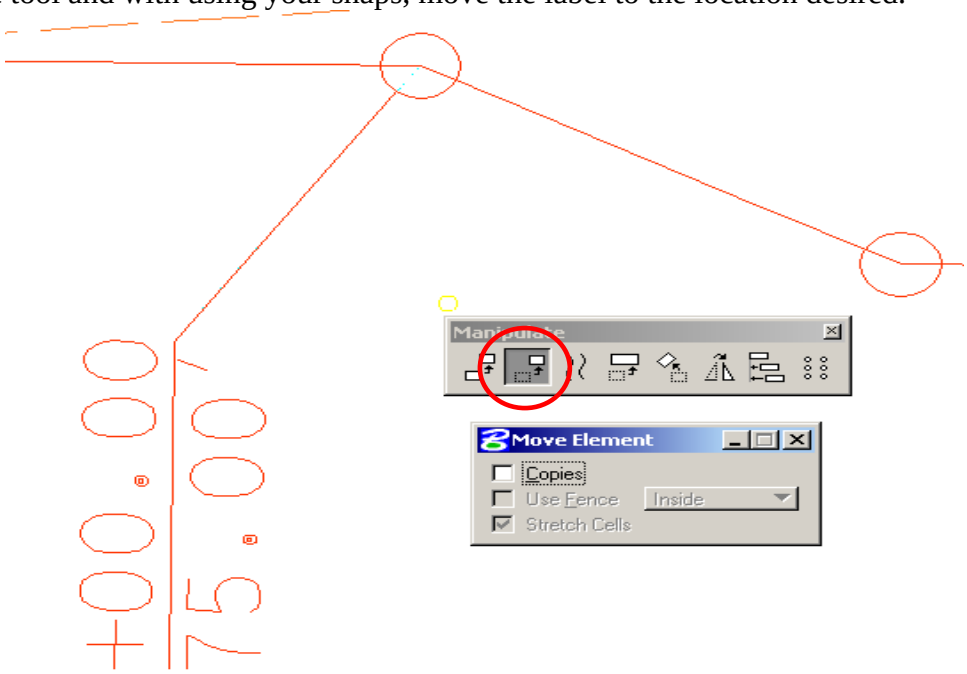
4. Now that the style of label has been selected, go back to the **Text** tab. In the dialog box, set the job number to **066** and the chain to **propcl660** if they are something different. Go and click on the **Data Point** option in the Label Feature area and in the file, snap on the desired point along the right of way line. Once it is selected, you will see the station and offset change in the white window box. Now the label is ready to be placed.



5. To place the label in the MicroStation file, click on **Place Label** in the dialog box first. Next in the MicroStation file, click in the area where you want the label to be placed at. Finally click again in the file to finish the leader portion of the label.



6. Now with existing or new R/W labels, normally the leader doesn't point right to the point. It usually stops at the edge of the cell. Therefore, after the label is place, use the MicroStation **Move** tool and with using your snaps, move the label to the location desired.



7. Save the changes to the MicroStation file.

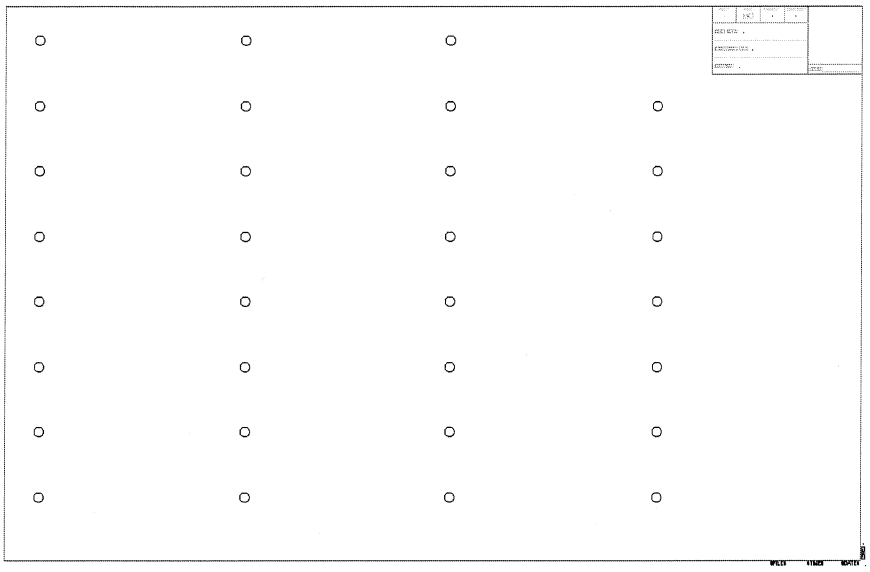
5.2 Exercise

1. Open the MicroStation file **rw_j7s0066.dgn**.

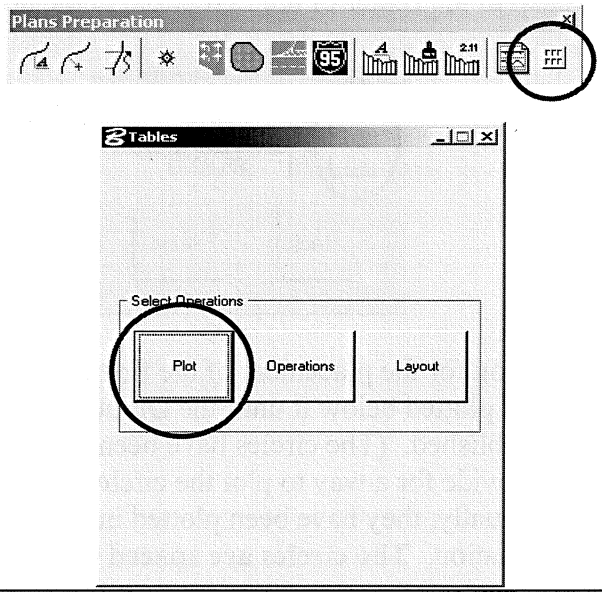
2. Using the **Plan View Labeler**, go through the file and label all the new right of way kinks for both sides of the proposed alignment. You will mainly use the previous steps 4-6 to complete the task. Save the changes to the MicroStation file.

5.3 Exercise

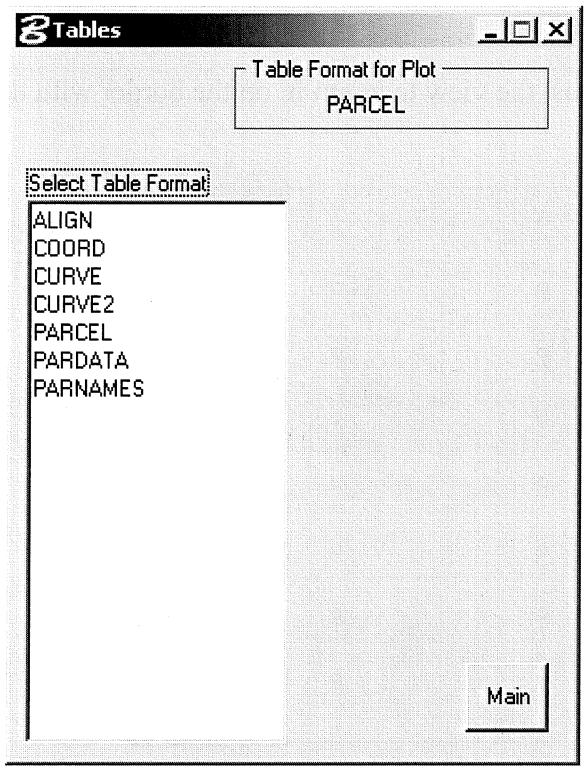
1. Open Microstation file **owners.dgn**. Adjust the view to zoom in on the border with the circles in it as shown below.

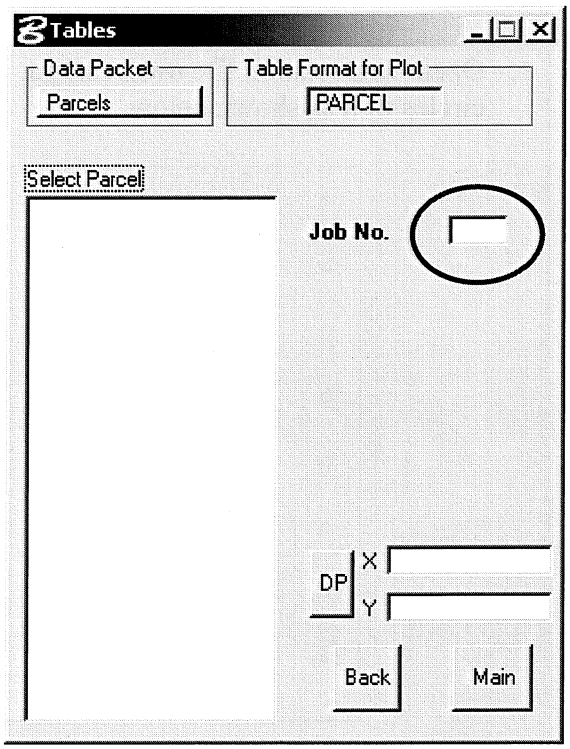


2. Select the **Tables** tool from the Plans Preparation tool pallet. Select **Plot** in the Select Operations dialog.

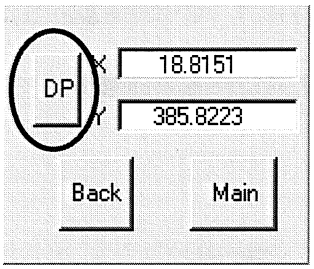


3. Select **PARCEL** in the Select Table Format field and enter job number **066** if prompted for one.



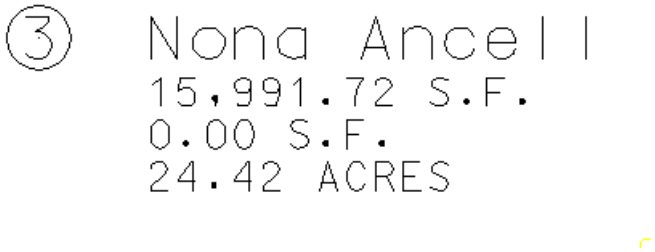


4. Change the MicroStation snap to Center Snap Circle. Click on the DP button in the Tables dialog and snap to the center of the first circle in the upper left hand corner of the border and accept.



NOTE: This sets the location for the placement of the first data packet. After the first one is placed, the next one will be plotted below it until the DP button is selected again and a new beginning data point is established. (The circles have been plotted in the drawing because the Tables tool does not provide for a way to plot the circle around the parcel number. Since these need to be added manually, they have been plotted in the drawing for you to aid in the display of the parcel information. **The circles are spaced 48' apart vertically and 140' apart horizontally.)**

5. Plot the information for a parcel, click on its name once in the Select Parcel field. Continue to click on successive parcel names until the first column is filled.



Parcel #, Owners Name
R/W taken
Easement area
Remaining area

Repeat the process for each column. When you run out of circles, place more circles outside the border and re-arrange. The text will need to be edited to show all the information on the right of way plans.

Save the MicroStation file.

Legal Descriptions

Legal Descriptions

Legal Descriptions

There is a major difference in the tools that GEOPAK offers for creating legal descriptions. If all you need is a quick working legal description for a stored parcel, the COGO command option is probably the best tool. However, if you need a description that will serve as the basis for a deed, the more versatile Legal Description Editor is the better choice.

1. Make Legal COGO Command

Make Legal creates a legal description by metes and bounds. It generates a legal description as an ASCII text-file including the parent tract, takings, and easements based on the stored elements. By default, the wording used is stored in a file named MKLEGAL.INP, which can be redefined by the user and stored under a different file name. The command line syntax is displayed below.

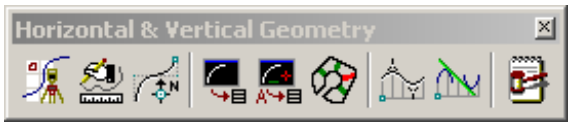
MAKE LEGAL (FOR) PARCEL name (IN) text_file (USING user-defined)

Where **name** is the 1-9 character name of the parcel; **text_file** is the name of the ASCII file to which the legal description is to be written; and the optional **user-defined** is the name of the file that supersedes the default wording (MAKLEGAL.INP) and uses the file redefined by the user.

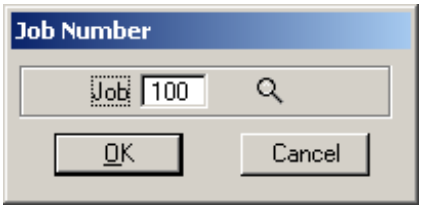
Use the MAKE LEGAL command to create a legal description for parcel 30 in the text file parcel30.txt. View the file, which will be located in the working directory.

2. Legal Description Editor

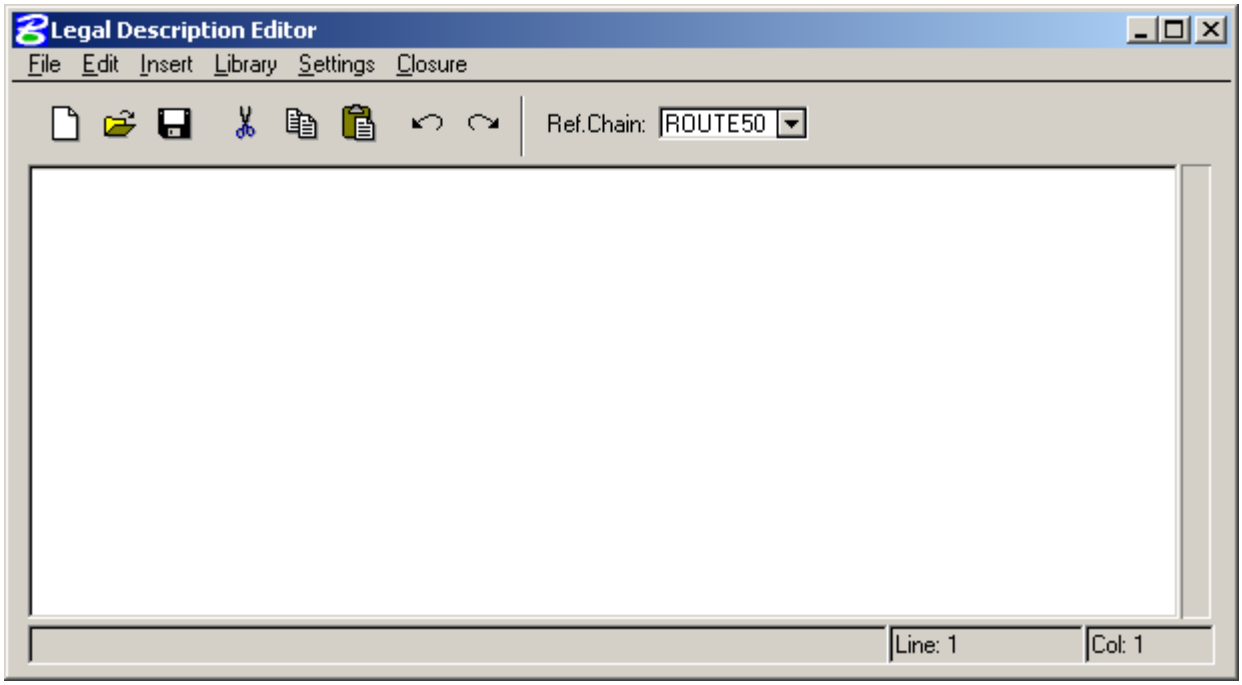
The Legal Description Editor can be accessed using the icon shown to the right. It is the last icon in the Horizontal & Vertical Geometry toolbox depicted below.



The MicroStation pull down path is **Applications > GEOPAK Road > Geometry > Legal Description**. When the tool is invoked, the first dialog asks for the Job Number as shown below. **Enter Job 100 and click OK**.



This will display the main dialog box shown below. It is resizable. The actual descriptions are generated in this dialog by manual typing, the usual Windows tools, or by using information stored in the Legal Description Library.

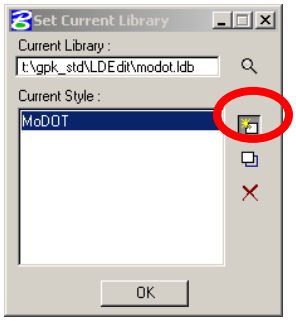


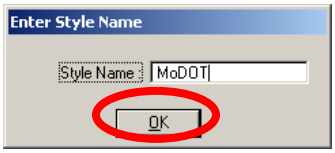
Key parts of the dialog are presented in the following subsections.

2.1 Library

The Legal Description Editor uses a library containing certain pre-defined parameters, which allow the user to select pre-defined default phrases and settings to write a meets and bound legal description.

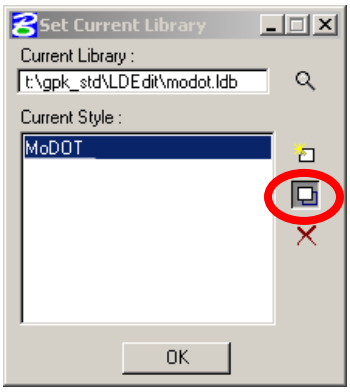
To set the current library go to **Library > Set Current Library/Style**, which will display the **Set Current Library** dialog depicted below. CADD Support has created a legal description library and it's located on the server. Select the **modot.ldb** by clicking on the File button and navigating to **t:\Gpk_Std\LDEdit\modot.ldb.** After selecting the current library, select on the Add button to enter the Style Name. Enter the Style Name **MoDOT** if not already there and click **OK**.

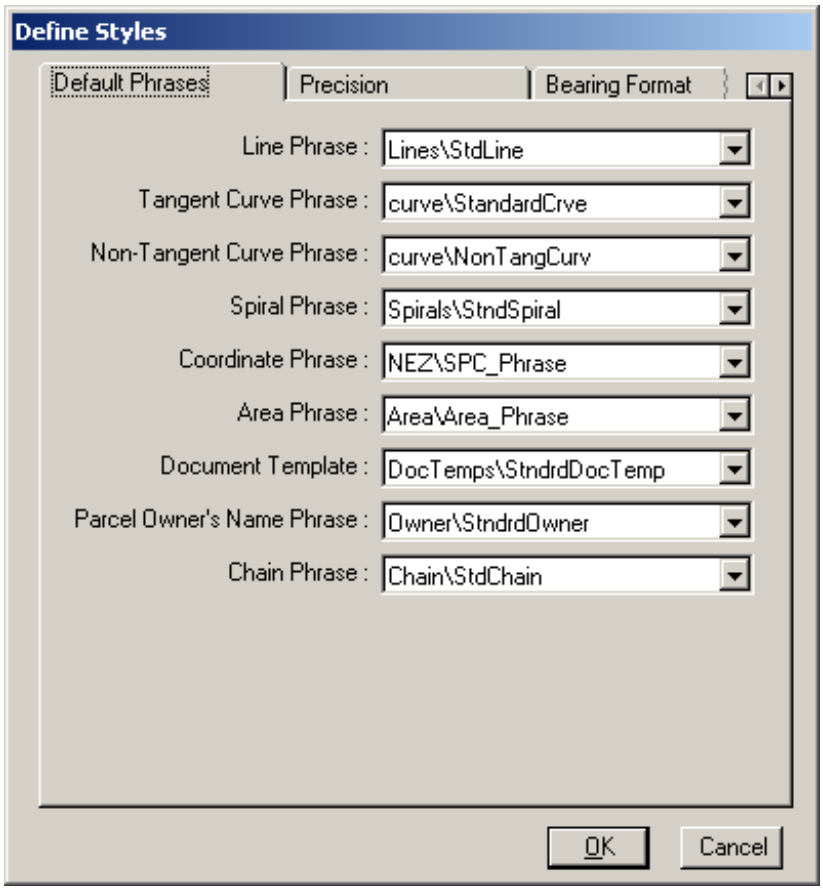




Legal Descriptions

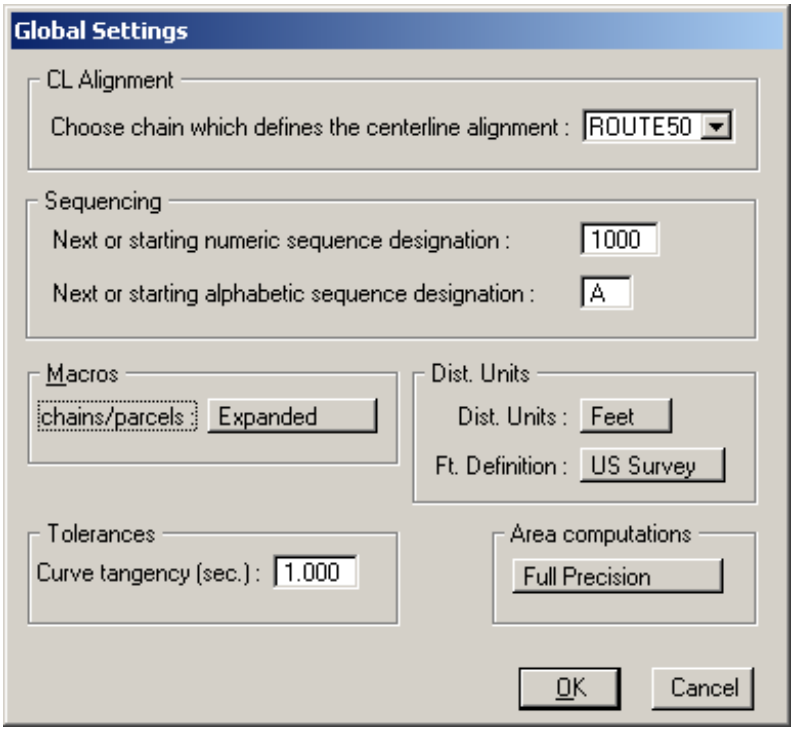
If a current style is already set up for **"MoDOT"**, simply select the style and click on the modify icon. This will bring up the **Define Styles** dialog below.





View the different tabs if you wish, but do not change anything. When finished, click **OK**. You will again return to the Set Current Library dialog. This time click **OK**.

2.2 Settings



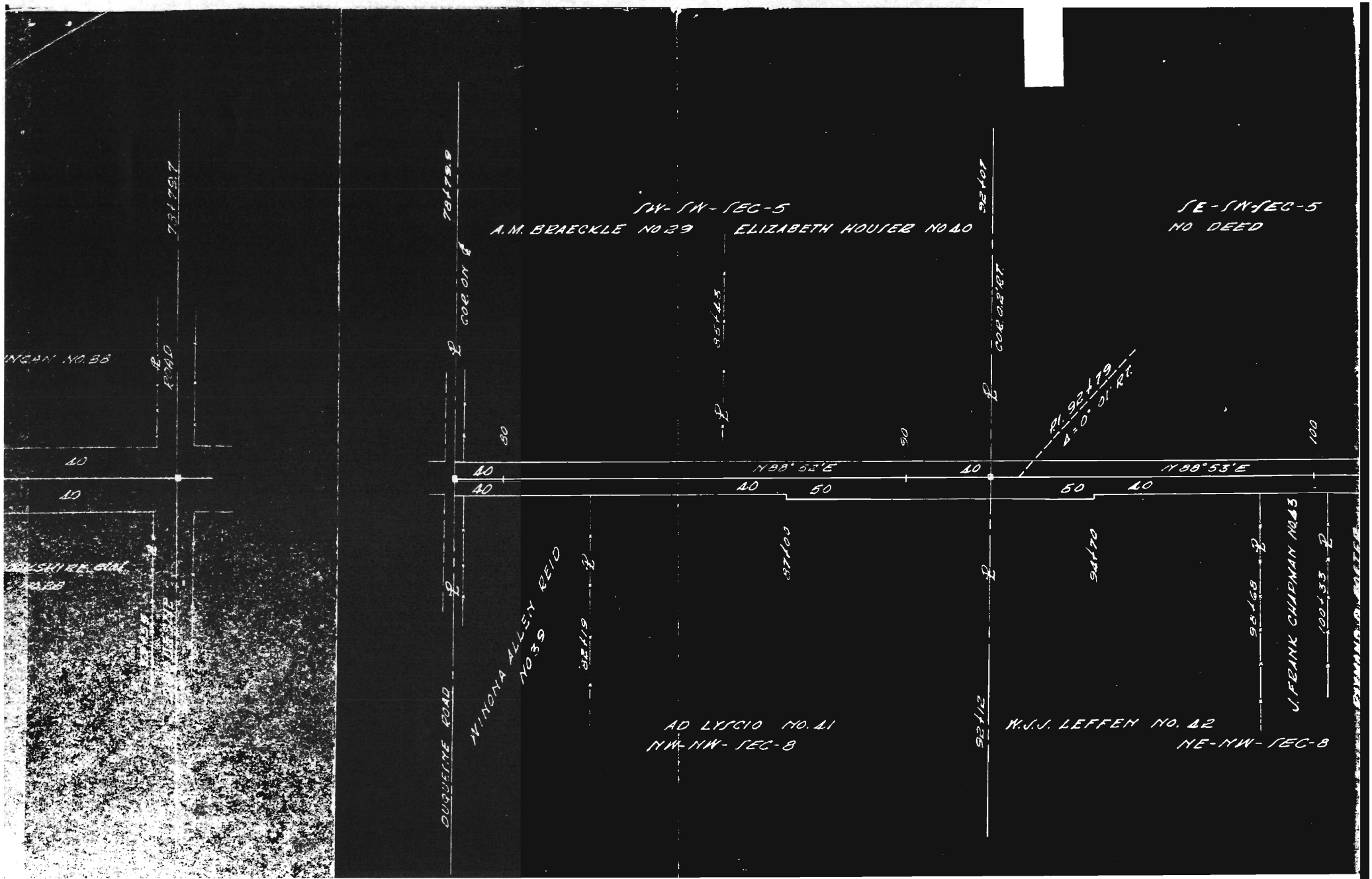
The **Settings > Define Global settings** dialog, shown above, may be used to set various settings as listed below.

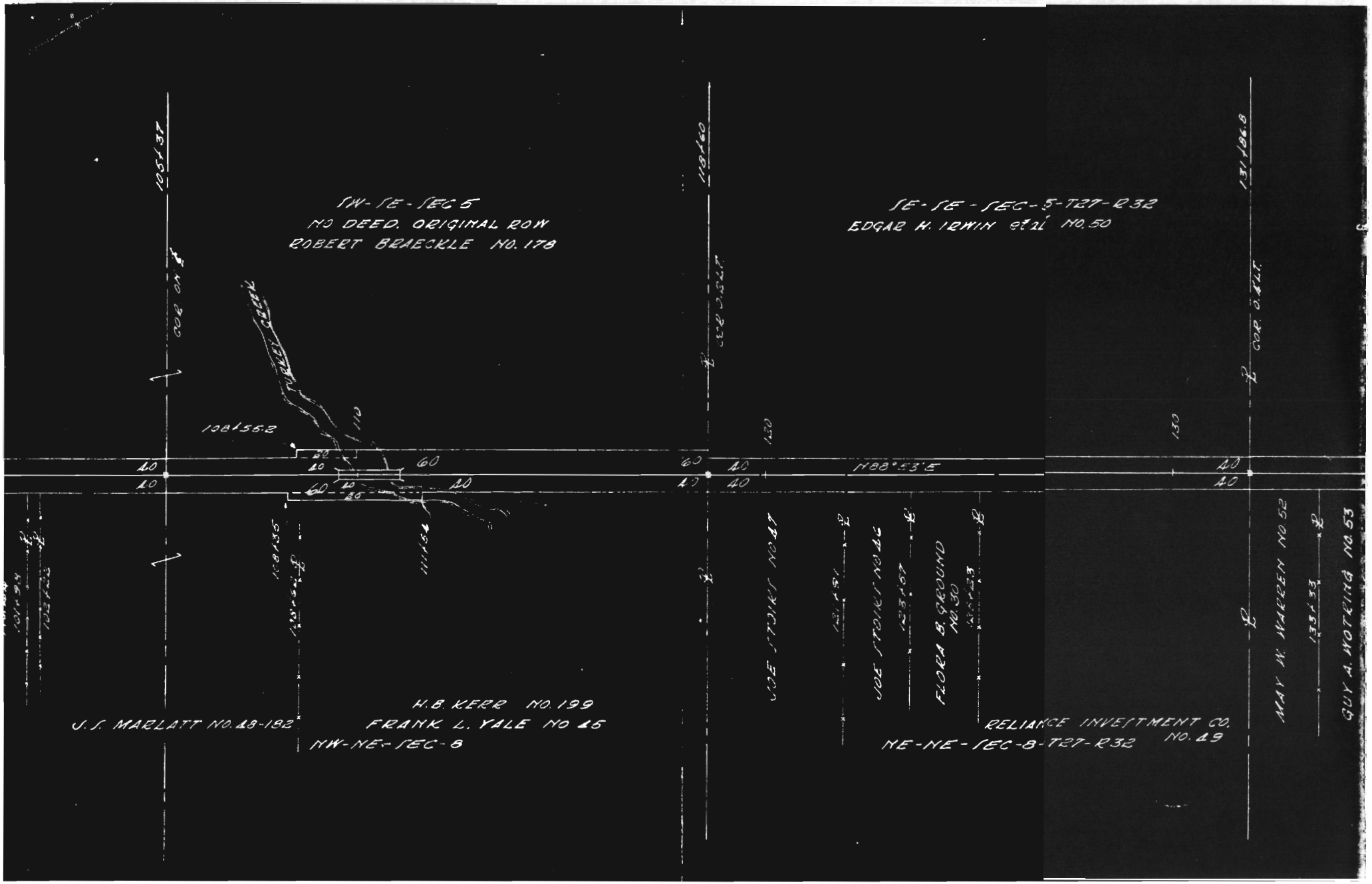
- **CL Alignment**, selected from the listing of all chains within the specified coordinate geometry database, is utilized for all station / offset requirements. The alignment can also be set in the main dialog box using the list box shown to the right.

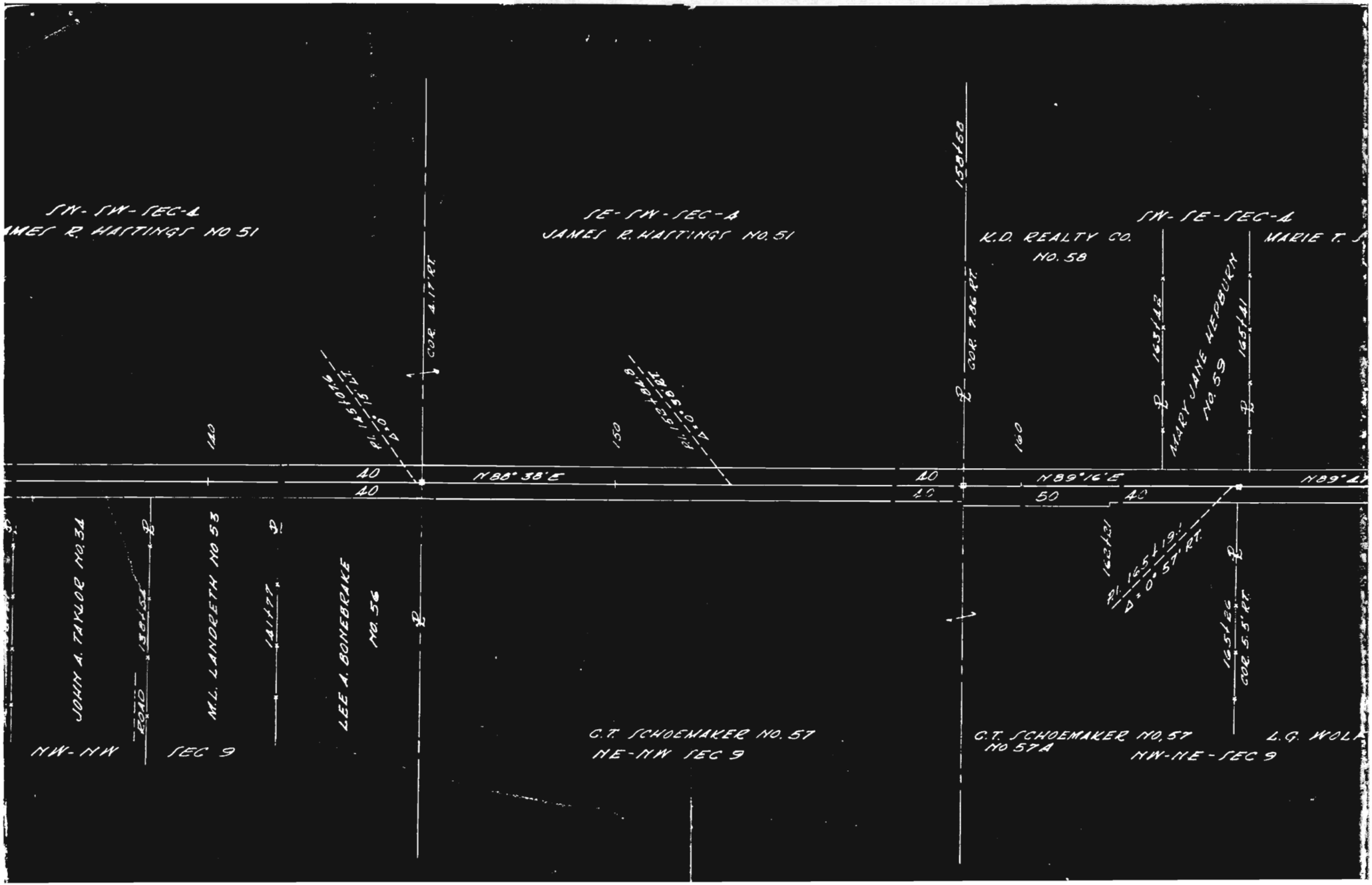
- **Sequencing** is set in the next part of the dialog. Two fields identify what the initial number or letter is utilized when sequencing. For example, if the number is set to 1000, numeric sequencing would be 1000, 1001, 1002, etc.
- **Dist. Units** specifies distance units, i.e., feet or meters. The **Feet** option includes both the U.S. and International Foot. The foot options are utilized when converting coordinates from Metric to English or English to Metric. MoDOT uses the **US Survey** foot for conversions.
- **Area Computations** can be calculated using either full double precision or a rounded value that reflects the rounded bearings and distances as inserted to the legal description. Use **Full Precision** unless you are checking a less accurate program.
- **Tolerances** determines whether the line / curve combination is tangent or non-tangent. If the difference in bearing of the line going into the curve and the PC-PI line of the curve is less than the specified tolerance, GEOPAK utilizes tangent syntax. If the difference is greater than the specified tolerance, then non-tangent syntax is utilized.

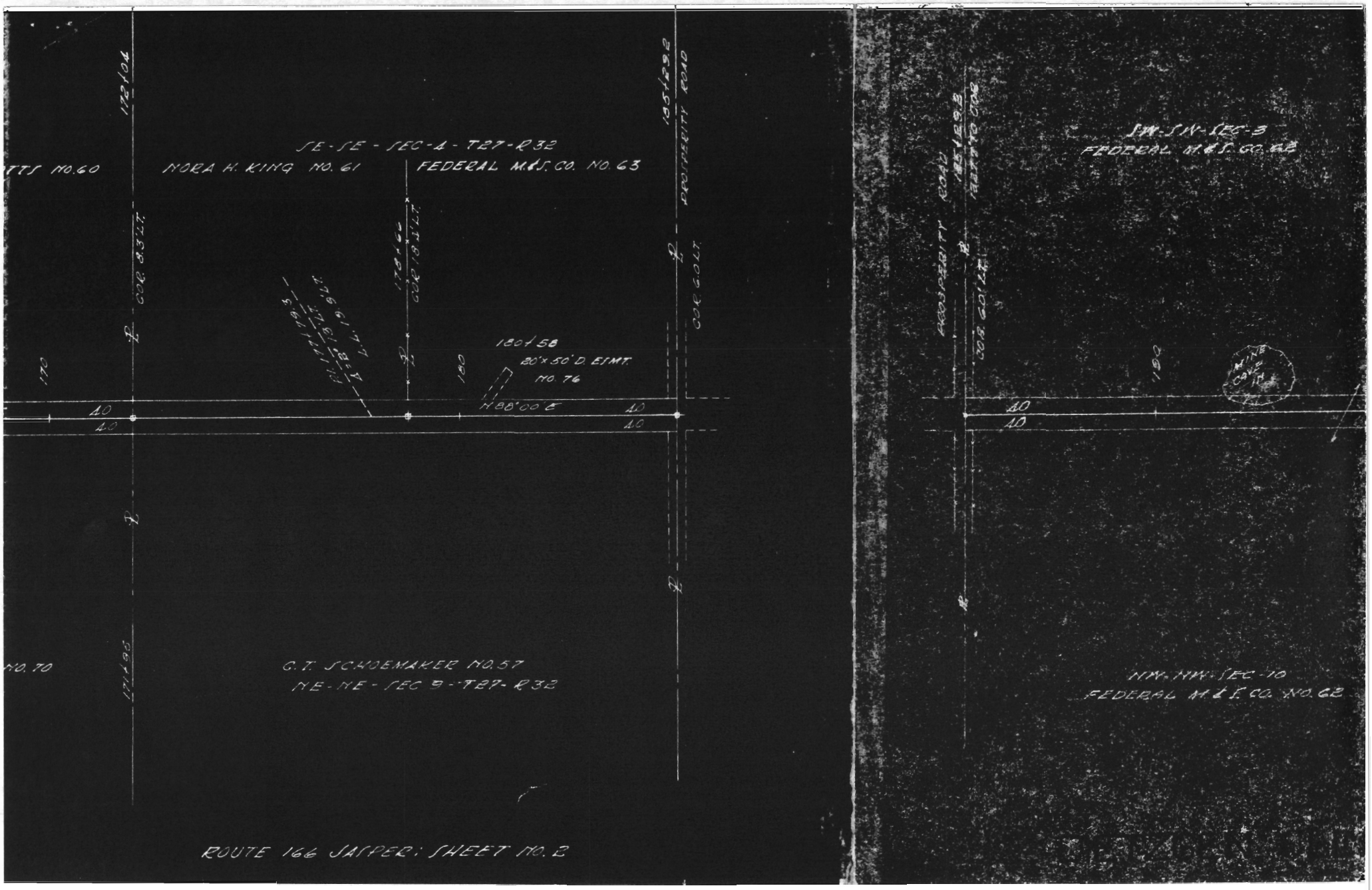
Once the settings are checked, click **OK**.

Appendix


SW-SW-SEC-5
A.M. BRAECKLE NO 29
ELIZABETH HOUSER NO 40
SE-SW-SEC-5
NO DEED
N 88° 52' E
N 88° 53' E
Rt. 92.179
Δ = 0° 01' Rt.
DUQUESNE ROAD
WINONA ALLEN REID
NO 39
AD LYSCIO NO. 41
NW-NW-SEC-8
W.J.J. LEFFEN NO. 42
NE-NW-SEC-8
J. FRANK CHAPMAN NO 43


SW-SE-SEC 5
NO DEED. ORIGINAL ROW
ROBERT BRAECKLE NO. 178
SE-SE-SEC-5-T27-R32
EDGAR H. IRWIN 9.21 NO. 50
TURKEY CREEK
N88°53'E
COR. 0.42 FT.
J. S. MARLATT NO. 48-182
H.B. KERR NO. 199
FRANK L. YALE NO 45
NW-NE-SEC-8
JOE STONER NO 47
JOE STONER NO 46
FLORA B. GROUND NO. 30
RELIANCE INVESTMENT CO. NO. 49
NE-NE-SEC-8-T27-R32
MAY W. WAEREN NO 52
GUY A. WOTRING NO 53


SW-SW-SEC-4
AMES R. HASTINGS NO 51
SE-SW-SEC-4
JAMES R. HASTINGS NO. 51
SW-SE-SEC-4
K.D. REALTY CO.
NO. 58
MARIE T.
MARY JANE HEPBURN
NO. 59
COR. 4.17 RT.
COR. 7.06 RT.
COR. 5.5' RT.
N88°38'E
N89°16'E
N89°4
JOHN A. TAYLOR NO 34
M.L. LANDRETH NO 53
LEE A. BONEBRAKE
NO. 56
G.T. SCHOEMAKER NO. 57
NE-NW SEC 9
G.T. SCHOEMAKER NO. 57
NO 57A
NW-NE-SEC 9
L.G. WOLA
NW-NW
SEC 9


SE-SE-SEC-4-T27-R32
TTS NO.60
NORA H. KING NO. 61
FEDERAL M.&S. CO. NO. 63
PROSPERITY ROAD
COR. 0.0 LT.
COR. 8.3 LT.
COR. 18.1 LT.
180+58
20'x50' D. ESMT.
NO. 76
N88°00'E
40
40
170
180
190
NO. 70
G.T. SCHOEMAKER NO. 57
NE-NE-SEC 9-T27-R32
SW-SW-SEC-3
FEDERAL M.&S. CO. NO. 62
MINE CAVE
NW-NW-SEC-10
FEDERAL M.&S. CO. NO. 62
ROUTE 166 JASPER: SHEET NO. 2

SCHEDULE A

Commitment No.: **00-9919 2ND REVISION**
Order No.: **00-9919**
Effective Date of Commitment: **February 4, 2002 at 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
520 East 32nd Street P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ TO BE AGREED UPON**
   Proposed Insured:
   TO BE AGREED UPON

   (b) [] ALTA Loan Policy 10-17-92 **$ TO BE AGREED UPON**
   Proposed Insured:
   TO BE AGREED UPON

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   WANDA D. ALLEN AND DICK A. GLAZE

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   ALL OF LOT NUMBERED TWO (2) IN EAST PARK PLACE ADDITION, IN JASPER COUNTY, MISSOURI, ACCORDING TO THE RECORDED PLAT THEREOF.

ABBEY TITLE COMPANY
520 E. 32nd ST
JOPLIN MO 64804
(417) 623-1910

COUNTERSIGNED: Linda L Herron
Authorized Officer or Agent

Jasper TM50594

(12)

SCHEDULE B

Commitment Number: **00-9919 2ND REVISION**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) TAXES: ID#18.131002

3. **The lien of General State and County Taxes for the year 2002, due November 1, 2002.**
   The General State and County Taxes for 2001 and prior years are paid. 2001 Tax Amount $1,399.48.

4. **Deed of Trust executed by Wanda D. Allen and Dick A. Glaze, dated April 9, 1987, filed April 14, 1987 at 10:03 a.m., recorded in Book 1326 at Page 791, to James B. Fleischaker, Trustee for Financial Federal Savings and Loan Association, to secure a note in the amount of $76,500.00, as last assigned of record to Bankers Trust Company of California, N.A., as Trustee under that certain Pooling and Servicing Agreement dated March 1, 1992, for RTC Mortgage Pass-Through Certificates, Series 1992-4, by instrument filed September 12, 1997 at 8:55 a.m., recorded in Book 1540, at Page 1182.**

5. **Notice of Federal Tax Lien against Dick A. Glaze, Plaza Motel and Coast to Coast, dated November 5, 1992, filed November 16, 1992 at 8:01 a.m., as Document No. 17717 in the Office of the Recorder of Deeds in the amount of $38,079.26, plus any costs, interest, and attorney fees.**

6. **Transcript Judgment TJ#7655 filed in the office of the Clerk of the Circuit Court of Jasper County, at Joplin, Missouri, filed December 23, 1997, against W.D.G. Transport, Inc. and Wanda D. Glaze, in favor of Associates Leasing, Inc., in the amount of $ 12,723.18, plus any costs, interest, and attorney fees.**

7. **Notice of Federal Tax Lien against Dick A. Glaze and Wanda D. Glaze, dated May 10, 2001, filed May 14, 2001 at 4:26 p.m. as Document No. 8853 in the Office of the Recorder of Deeds of Jasper County in the amount of $2,583.70, plus any costs, interest, and attorney fees.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 00-9919
Commitment Number: 00-9919 **2ND REVISION**

8. Transcript Judgment TJ#8037 filed in the office of the Clerk of the Circuit Court of Jasper County, at Joplin, Missouri, filed September 1, 1998, against Route 66 Logistics Inc., Wanda Glaze and Dick A. Glaze, in favor of Multi Service Corporation, in the amount of $ 2,863.01, plus any costs, interest, and attorney fees.

9. Judgment 29V029800791 filed in the office of the Clerk of the Circuit Court of Jasper County, at Carthage, Missouri, filed December 14, 1998, against WDG Transport and Wanda Glaze, in favor of Gelco Corporation d/b/a GE Capital Fleet Services, in the amount of $ 84,507.70, plus any costs, interest, and attorney fees.

10. Easement for utilities over the East 10 feet of herein described premises as set forth on the recorded plat of said Addition.

11. Easement to American Telephone and Telegraph Company filed August 3, 1929 at 2:42 p.m. in Book 365 at Page 590.

12. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

13. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7340** (2nd Revision)
Order No.: **06-C7340**
Effective Date of Commitment: **November 16, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Roger L. Gronewold and Aileen A. Gronewold, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

See Legal Description on Continuation Sheet - Schedule A-1

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 6
Gronewold

CONTINUATION SHEET
SCHEDULE A-1

Order Number: 06-C7340
Commitment Number: 06-C7340 (2nd Revision)

Tract 1:
All of a tract of land described as Beginning at a point 902 feet East of the Northwest corner of Section 8, Township 27, Range 32, and 50 feet South of the North Section line, thence South 208.7 feet, thence East 208.7 feet, thence North 208.7 feet, thence West 208.7 feet to the point of beginning, in Jasper County, Missouri; also, Beginning 902 feet East of the Northwest corner of Section 8, Township 27, Range 32, and 258.7 feet South of the North Section line, thence South 201 feet, thence East 208.7 feet, thence North 213 feet, thence West 208.7 feet to the point of beginning, all in Jasper County, Missouri.

Tract 2:
All of a tract of land described as Commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South along the East line of said 40 acres, 180.0 feet to the point of beginning, thence South 89 degrees 43 minutes 20 seconds West 106.0 feet, thence South 130.0 feet, thence North 89 degrees 43 minutes 20 seconds East 106.0 feet, thence North 130.0 feet to the point of beginning, also an ingress and egress easement described as commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South 50.0 feet to the point of beginning, thence South 130.0 feet, thence West 20.0 feet, thence North 130.0 feet, thence East 20.0 feet to the point of beginning.

All of a tract of land described as Commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South 50.0 feet to the point of beginning, thence continuing South 130 feet along the East line of said 40 acres, thence South 89 degrees 43 minutes 20 seconds West 106.0 feet, thence South 130.0 feet, thence North 89 degrees 43 minutes 10 seconds East 106.0 feet, thence South 150.0 feet, thence West parallel to the North line of said 40 acres, 216.2 feet, thence North 410.0 feet to a point 50.0 feet South of the North line of said 40 acres, said point being on the South right-of-way line of business route I-44, thence East along said right-of-way 216.0 feet to the point of beginning.

SCHEDULE B

Commitment Number: **06-C7340** (2nd Revision)

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes.

3. **TAXES: ID#2-200275-0 Parcel #20-3-8-20-2-48**
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $1309.00.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 1.

   TAXES: ID#2-200274-0 Parcel #20-3-8-20-2-47
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $399.41.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 2.

   TAXES: ID#2-200274-1000 Parcel #20-3-8-20-2-47.001
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $317.36.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 2.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used East Seventh Street, aka Business Route I-44, vs Tracts 1 & 2.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7340
Commitment Number: 06-C7340 (2nd Revision)

5. Pole Line Permit to the Empire District Electric Company filed October 17, 1958 in Book 887 at Page 616, vs Tract 2.

6. Subject to easement for ingress and egress over and across the East 20 feet of the North 130 feet of subject premises, notice of which is given by instrument filed December 19, 1991 at 8:01 a.m. in Book 1401 at Page 1045, vs Tract 2.

7. Deed of Trust executed by Roger L. Gronewold and Aileen A. Gronewold, husband and wife, dated May 29, 2003, filed June 4, 2003 at 3:30 p.m., recorded in Book 1791 at Page 1753, to Danny R. Nelson, Trustee for Mid-Missouri Mortgage Co., to secure a note in the amount of $73,000.00, as last assigned of record to Mortgage Electronic Registration Systems, Inc., its successors and assigns by instrument filed March 3, 2004 at 1:28 p.m., in Book 1847 at Page 0944, vs Tract 1.

8. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

   Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

   Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

   Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Roger L. Gronewold and Aileen A. Gronewold.

9. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

Commitment No.: **00-9919 2ND REVISION**
Order No.: **00-9919**
Effective Date of Commitment: **February 4, 2002 at 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
520 East 32nd Street P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ TO BE AGREED UPON**
   Proposed Insured:
   TO BE AGREED UPON

   (b) [] ALTA Loan Policy 10-17-92 **$ TO BE AGREED UPON**
   Proposed Insured:
   TO BE AGREED UPON

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   WANDA D. ALLEN AND DICK A. GLAZE

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   ALL OF LOT NUMBERED TWO (2) IN EAST PARK PLACE ADDITION, IN JASPER COUNTY, MISSOURI, ACCORDING TO THE RECORDED PLAT THEREOF.

ABBEY TITLE COMPANY
520 E. 32nd ST
JOPLIN MO 64804
(417) 623-1910

COUNTERSIGNED: Linda L Herron
Authorized Officer or Agent

Jasper TM50594

(12)

SCHEDULE B

Commitment Number: **00-9919 2ND REVISION**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) TAXES: ID#18.131002

3. **The lien of General State and County Taxes for the year 2002, due November 1, 2002.**
   The General State and County Taxes for 2001 and prior years are paid. 2001 Tax Amount $1,399.48.

4. **Deed of Trust executed by Wanda D. Allen and Dick A. Glaze, dated April 9, 1987, filed April 14, 1987 at 10:03 a.m., recorded in Book 1326 at Page 791, to James B. Fleischaker, Trustee for Financial Federal Savings and Loan Association, to secure a note in the amount of $76,500.00, as last assigned of record to Bankers Trust Company of California, N.A., as Trustee under that certain Pooling and Servicing Agreement dated March 1, 1992, for RTC Mortgage Pass-Through Certificates, Series 1992-4, by instrument filed September 12, 1997 at 8:55 a.m., recorded in Book 1540, at Page 1182.**

5. **Notice of Federal Tax Lien against Dick A. Glaze, Plaza Motel and Coast to Coast, dated November 5, 1992, filed November 16, 1992 at 8:01 a.m., as Document No. 17717 in the Office of the Recorder of Deeds in the amount of $38,079.26, plus any costs, interest, and attorney fees.**

6. **Transcript Judgment TJ#7655 filed in the office of the Clerk of the Circuit Court of Jasper County, at Joplin, Missouri, filed December 23, 1997, against W.D.G. Transport, Inc. and Wanda D. Glaze, in favor of Associates Leasing, Inc., in the amount of $ 12,723.18, plus any costs, interest, and attorney fees.**

7. **Notice of Federal Tax Lien against Dick A. Glaze and Wanda D. Glaze, dated May 10, 2001, filed May 14, 2001 at 4:26 p.m. as Document No. 8853 in the Office of the Recorder of Deeds of Jasper County in the amount of $2,583.70, plus any costs, interest, and attorney fees.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 00-9919
Commitment Number: 00-9919 **2ND REVISION**

8. Transcript Judgment TJ#8037 filed in the office of the Clerk of the Circuit Court of Jasper County, at Joplin, Missouri, filed September 1, 1998, against Route 66 Logistics Inc., Wanda Glaze and Dick A. Glaze, in favor of Multi Service Corporation, in the amount of $ 2,863.01, plus any costs, interest, and attorney fees.

9. Judgment 29V029800791 filed in the office of the Clerk of the Circuit Court of Jasper County, at Carthage, Missouri, filed December 14, 1998, against WDG Transport and Wanda Glaze, in favor of Gelco Corporation d/b/a GE Capital Fleet Services, in the amount of $ 84,507.70, plus any costs, interest, and attorney fees.

10. Easement for utilities over the East 10 feet of herein described premises as set forth on the recorded plat of said Addition.

11. Easement to American Telephone and Telegraph Company filed August 3, 1929 at 2:42 p.m. in Book 365 at Page 590.

12. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

13. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7340** (2nd Revision)
Order No.: **06-C7340**
Effective Date of Commitment: **November 16, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Roger L. Gronewold and Aileen A. Gronewold, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

See Legal Description on Continuation Sheet - Schedule A-1

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 6
Gronewold

CONTINUATION SHEET
SCHEDULE A-1

Order Number: 06-C7340
Commitment Number: 06-C7340 (2nd Revision)

Tract 1:
All of a tract of land described as Beginning at a point 902 feet East of the Northwest corner of Section 8, Township 27, Range 32, and 50 feet South of the North Section line, thence South 208.7 feet, thence East 208.7 feet, thence North 208.7 feet, thence West 208.7 feet to the point of beginning, in Jasper County, Missouri; also, Beginning 902 feet East of the Northwest corner of Section 8, Township 27, Range 32, and 258.7 feet South of the North Section line, thence South 201 feet, thence East 208.7 feet, thence North 213 feet, thence West 208.7 feet to the point of beginning, all in Jasper County, Missouri.

Tract 2:
All of a tract of land described as Commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South along the East line of said 40 acres, 180.0 feet to the point of beginning, thence South 89 degrees 43 minutes 20 seconds West 106.0 feet, thence South 130.0 feet, thence North 89 degrees 43 minutes 20 seconds East 106.0 feet, thence North 130.0 feet to the point of beginning, also an ingress and egress easement described as commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South 50.0 feet to the point of beginning, thence South 130.0 feet, thence West 20.0 feet, thence North 130.0 feet, thence East 20.0 feet to the point of beginning.

All of a tract of land described as Commencing at the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, Jasper County, Missouri, thence South 50.0 feet to the point of beginning, thence continuing South 130 feet along the East line of said 40 acres, thence South 89 degrees 43 minutes 20 seconds West 106.0 feet, thence South 130.0 feet, thence North 89 degrees 43 minutes 10 seconds East 106.0 feet, thence South 150.0 feet, thence West parallel to the North line of said 40 acres, 216.2 feet, thence North 410.0 feet to a point 50.0 feet South of the North line of said 40 acres, said point being on the South right-of-way line of business route I-44, thence East along said right-of-way 216.0 feet to the point of beginning.

SCHEDULE B

Commitment Number: **06-C7340** (2nd Revision)

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes.

3. **TAXES: ID#2-200275-0 Parcel #20-3-8-20-2-48**
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $1309.00.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 1.

   TAXES: ID#2-200274-0 Parcel #20-3-8-20-2-47
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $399.41.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 2.

   TAXES: ID#2-200274-1000 Parcel #20-3-8-20-2-47.001
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $317.36.
   The General State and County Taxes for 2006 and prior years are paid, vs Tract 2.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used East Seventh Street, aka Business Route I-44, vs Tracts 1 & 2.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7340
Commitment Number: 06-C7340 (2nd Revision)

5. Pole Line Permit to the Empire District Electric Company filed October 17, 1958 in Book 887 at Page 616, vs Tract 2.

6. Subject to easement for ingress and egress over and across the East 20 feet of the North 130 feet of subject premises, notice of which is given by instrument filed December 19, 1991 at 8:01 a.m. in Book 1401 at Page 1045, vs Tract 2.

7. Deed of Trust executed by Roger L. Gronewold and Aileen A. Gronewold, husband and wife, dated May 29, 2003, filed June 4, 2003 at 3:30 p.m., recorded in Book 1791 at Page 1753, to Danny R. Nelson, Trustee for Mid-Missouri Mortgage Co., to secure a note in the amount of $73,000.00, as last assigned of record to Mortgage Electronic Registration Systems, Inc., its successors and assigns by instrument filed March 3, 2004 at 1:28 p.m., in Book 1847 at Page 0944, vs Tract 1.

8. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

   Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

   Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

   Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Roger L. Gronewold and Aileen A. Gronewold.

9. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7334(2nd Revision)**
Order No.: **06-C7334**
Effective Date of Commitment: **November 15, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Brandon Cline

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   All of a tract of land beginning at a point 305.75 feet South of the Northeast corner of the West One-half of the Southeast Quarter of the Southwest Quarter of the Southwest Quarter of Section 5, Township 27, Range 32, Jasper County, Missouri, thence South 315.0 feet to the North right-of-way line of Seventh Street, thence West 138.28 feet, thence North 315.0 feet, thence East 138.28 feet to the point of beginning.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ast
Authorized Officer or Agent

Tract 5
Cline

SCHEDULE B

Commitment Number: **06-C7334(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. **Tax I.D. #2-200236-0 Parcel # 20-3-5-0-0-24**

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $784.27.**

   The General State and County Taxes for 2006 and prior years are paid.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Route 66 a/k/a 7th Street.**

5. **Easement in favor of American Telephone and Telegraph dated April 22, 1932.**

6. **Deed of Trust executed by Brandon Cline, unmarried, dated November 9, 2005, filed November 14, 2005 at 10:13 a.m. recorded in Book 1959 at Page 0429, to Robert M. Landman, Trustee for "MERS" solely as nominee for Molton, Allen, & Williams Mortgage Co. LLC, to secure a note in the amount of $102,393.00.**

7. **Water Line Easement to AM Properties, L.L.C., filed March 6, 2007 at 3:54 p.m. in Book 2035 at Page 1511.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7334
Commitment Number: 06-C7334 (2nd Revision)

8. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 and the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

9. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

   Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

   Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

   Note: We find no unsatisfied Federal Tax liens, State Tax Liens, or unsatisfied judgments of record during the past 10 years against the following: Brandon Cline.

SCHEDULE A

Commitment No.: **06-C7379(2nd Revision)**
Order No.: **06-C7379**
Effective Date of Commitment: **November 20, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Harold Storie and Nina Storie, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

ALL THAT PART OF THE WEST THREE-FOURTHS OF THE WEST ONE-HALF OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 27, RANGE 32, LYING NORTH OF THE CENTER OF TURKEY CREEK IN JASPER COUNTY, MISSOURI, EXCEPT THE EAST 165 FEET, AND EXCEPT BEGINNING AT THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 27, RANGE 32, THENCE SOUTH TO THE CENTER OF TURKEY CREEK, THENCE IN AN EASTERLY DIRECTION ALONG THE CENTER OF TURKEY CREEK TO A POINT 98 FEET EAST OF THE WEST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 8, THENCE NORTH 143 FEET, THENCE EAST 21 FEET, THENCE NORTH TO THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, THENCE WEST TO THE POINT OF BEGINNING, EXCEPT HIGHWAY RIGHT OF WAY, ALL IN THE WEST THREE-FOURTHS OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 27, RANGE 32, JASPER COUNTY, MISSOURI.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ast
Authorized Officer or Agent

Tr. 28
Storie

SCHEDULE B

Commitment Number: **06-C7379(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. Tax I.D. #2-200257-0 Parcel #20-3-8-10-1-9

3. **The General State and County Taxes for 2007 and prior years are paid. 2007 Tax Amount $767.71.**

4. **Right-of-way to the City of Duenweg, as set forth in instrument filed February 22, 1977 at 8:31 a.m. in Book 1197 at Page 458.**

5. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Highway 66 a/k/a Loop 44.**

6. **Easement to the Empire District Electric Company filed March 11, 1985 at 9:09 a.m. in Book 1290 at Page 522.**

7. **Right of Way to Home Telephone Company filed May 17, 1916 at 9:20 a.m. in Book 282 at Page 205.**

8. **Right-of-way to the State of Missouri as set forth in instrument filed April 14, 1931 at 8:58 a.m. in Book 380 at Page 67.**

9. **The rights of upper and lower riparian owners to the free and unobstructed flow of the water of Turkey Creek, which forms a portion of the boundary of the subject land, without diminution or pollution.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7379
Commitment Number: 06-C7379(2nd Revision)

10. The consequence of any past or future change in the location of Turkey Creek, which forms a portion of the boundary of the subject land, or any dispute arising over the location of the old bed of Turkey Creek or any variance between the boundary of said land as originally conveyed and the boundary thereof as now used and occupied.

11. Sewer Easement to the City of Joplin, dated December 16, 2004, filed March 7, 2005 at 10:29 a.m. in Book 1912 at Page 1743.

12. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

    Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Harold Storie and Nina Storie.

13. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED JAN 0 3 2008

Commitment No.: **06-C7362**(2nd Revision)
Order No.: **06-C7362**
Effective Date of Commitment: **November 22, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Agreed Upon

   (b) [] ALTA Loan Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Agreed Upon

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Seward Insulation Company, Inc., a Missouri Corporation

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   All that part of the Southwest Quarter of the Southeast Quarter of Section 4, Township 27, Range 32, Jasper County Missouri, described as beginning 40 feet North and 55 feet East of the Southwest corner of said Southwest Quarter of the Southeast Quarter, thence East 199.5 feet, thence North 250 feet, thence West 199.5 feet, thence South 250 feet to the point of beginning.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 46

SCHEDULE B

Commitment Number: **06-C7362(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. ID # 2-200149-0 Parcel # 20-2-4-0-0-40

3. **The General State and County Taxes for the year 2007 and prior years are paid, 2007 Tax Amount $2885.75.**

4. **Right-of-Way to the State of Missouri as set forth in instrument filed August 25, 1931 at 8:30 a.m. in Book 336 at Page 610.**

5. **Easement to the Empire District Electric Company filed April 30, 1946 at 1:46 p.m. in Book 516 at Page 515.**

6. **Easement to the Empire District Electric Company filed April 29, 1959 at 2:01 p.m. in Book 907 at Page 397.**

7. **Right of the public, State of Missouri, County and the Municipality in and that part of the premises in question, if any, taken or used for Highway 66 aka Loop 44.**

8. **Right-of-Way to the City of Duenweg as set forth in instrument filed February 27, 2001 at 12:11 p.m. in Book 1656 at Page 1238.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number:06-C7362
Commitment Number:06-C7362(2nd Revision)

9. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 and the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

10. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

    Note: We find no unsatisfied Federal Tax liens, State Tax Liens, or unsatisfied judgments of record during the past 10 years against the following: Seward Insulation Company, Inc., a Missouri Corporation.

SCHEDULE A

RECEIVED JAN 0 3 2008

Commitment No.: **06-C7384** (2nd Revision)
Order No.: **06-C7384**
Effective Date of Commitment: **November 20, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Loren Dale Noland and Norma E. Noland, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   TRACT 1:
   ALL THAT PART OF THE WEST ONE-HALF OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 27, RANGE 32, JASPER COUNTY, MISSOURI, DESCRIBED AS FOLLOWS: COMMENCING AT A POINT 165 FEET EAST OF THE NORTHWEST CORNER OF SAID WEST ONE-HALF OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER, THENCE EAST 165 FEET, THENCE SOUTH 1320 FEET, THENCE WEST 165 FEET, THENCE NORTH 1320 FEET TO THE POINT OF BEGINNING.

   TRACT 2:
   ALL OF THE WEST 165 FEET OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 27, RANGE 32, JASPER COUNTY, MISSOURI.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 33

SCHEDULE B

Commitment Number: **06-C7384(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. **Tax I.D. #2-200184-0 Parcel #20-2-9-0-0-38**

3. **The Lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $2,912.57, plus penalties and interest, vs Tract #1.**

   The General State and County Taxes for 2006 and prior years are paid.

   Tax I.D. #2-200185-0 Parcel #20-2-9-0-0-39
   The General State and County Taxes for 2007 and prior years are paid. 2007 Tax Amount $960.55, vs Tract #2.

4. **The rights of upper and lower riparian owners to the free and unobstructed flow of the water of Turkey Creek, extending through the subject land, without diminution or pollution.**

5. **Easement to the Empire District Electric Company filed August 12, 1999 at 11:11 a.m. in Book 1608 at Page 135.**

6. **Right-of-way Deed to the City of Duenweg for Sanitary Sewer Easement as set forth in instrument filed March 23, 1977 at 8:37 a.m. in Book 1198 at Page 232, vs. Tract #1.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7384
Commitment Number: 06-C7384 (2nd Revision)

7. Amended Right-of-way Deed to the City of Duenweg for Sanitary Sewer Easement as set forth in instrument filed February 17, 1978 at 8:37 a.m. in Book 1209 at Page 245, vs. Tract #1.

8. Right-of-way to the State of Missouri filed February 29, 1932 in Book 384 at Page 220, vs. Tract #1.

9. Right-of-Way Deed to the City of Duenweg for Sanitary Sewer Easement as set forth in instrument filed April 25, 1977 at 11:45 a.m., recorded in Book 1199 at Page 453, vs. Tract #2.

10. Amended Right-of-Way to the City of Duenweg for Sanitary Sewer Easement as set forth in instrument filed February 14, 1978 at 8:31 a.m., recorded in Book 1208 at Page 2484, vs. Tract #2.

11. Easement to the Empire District Electric Company filed August 12, 1999 at 11:11 a.m. in Book 1608 at Page 135, vs. Tract #2.

12. Right-of-way to the City of Duenweg filed February 27, 2001 at 12:08 p.m. in Book 1656 at Page 1207, vs Tract #1.

13. Right-of-way to the City of Duenweg filed February 27, 2001 at 12:08 p.m. in Book 1656 at Page 1209, vs Tract #2.

14. Easement to the City of Duenweg, dated December 21, 2000, filed February 27, 2001 at 12:08 p.m. in Book 1656 at Page 1207, vs Tract #1.

15. Easement to the City of Duenweg, dated December 21, 2000, filed February 27, 2001 at 12:08 p.m. in Book 1656 at Page 1209, vs Tract #2.

16. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

    Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Loren Dale Noland and Norma E. Noland.

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7384
Commitment Number: 06-C7384 (2nd Revision)

17. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED JAN 0 7 2008

Commitment No.: **06-C7378(2nd Revision)**
Order No.: **06-C7378**
Effective Date of Commitment: **November 20, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Randall E. Friend

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   ALL OF A TRACT OF LAND DESCRIBED AS BEGINNING AT THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 27 NORTH, RANGE 32 WEST, THENCE SOUTH TO THE CENTER OF TURKEY CREEK, THENCE IN AN EASTERLY DIRECTION ALONG THE CENTER OF TURKEY CREEK TO A POINT 98 FEET EAST OF THE WEST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 8, THENCE NORTH 143 FEET, THENCE EAST 21 FEET, THENCE NORTH TO THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, THENCE WEST TO THE POINT OF BEGINNING, EXCEPT HIGHWAY RIGHT OF WAY, ALL IN THE WEST THREE-FOURTHS OF THE WEST HALF OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 27 NORTH, RANGE 32 WEST, JASPER COUNTY, MISSOURI.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tn. 27
Friend

SCHEDULE B

Commitment Number: **06-C7378** (2nd Revision)

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. Tax I.D. #2-2002580 Parcel #20-3-8-10-1-10

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $607.61, plus penalties and interest.**

   The General State and County Taxes for 2006 and prior years are paid.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Highway 66 a/k/a Loop 44.**

5. **Easement to the Empire District Electric Company filed March 11, 1985 at 9:09 a.m. in Book 1290 at Page 522.**

6. **Right of Way to Home Telephone Company filed May 17, 1916 at 9:20 a.m. in Book 282 at Page 205.**

7. **Right-of-way to the State of Missouri as set forth in instrument filed April 14, 1931 at 8:58 a.m. in Book 380 at Page 67.**

8. **The rights of upper and lower riparian owners to the free and unobstructed flow of the water of Turkey Creek, which forms a portion of the boundary of the subject land, without diminution or pollution.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7378
Commitment Number: 06-C7378(2nd Revision)

9. The consequence of any past or future change in the location of Turkey Creek, which forms a portion of the boundary of the subject land, or any dispute arising over the location of the old bed of Turkey Creek or any variance between the boundary of said land as originally conveyed and the boundary thereof as now used and occupied.

10. Sewer Easement to the City of Joplin, dated December 17, 2004, filed February 3, 2005 at 10:09 a.m. in Book 1907 at Page 0927.

11. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

    Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

    Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

    Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Randall E. Friend.

12. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED JAN 0 3 2008

Commitment No.: **06-C7370** (2nd Revision)
Order No.: **06-C7370**
Effective Date of Commitment: **November 20, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 $ **To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 $ **To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Hal D. Roper and J. Darlene Roper, Trustees of the Hal D. Roper Revocable Trust Agreement dated November 19, 1993

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   ALL THAT PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 27, RANGE 32, JASPER COUNTY, MISSOURI, DESCRIBED AS BEGINNING AT THE SOUTHWEST CORNER OF THE WEST ONE-HALF OF THE SOUTHEAST QUARTER OF SECTION 5, THENCE NORTH 875 FEET, THENCE EAST 875 FEET, THENCE SOUTH 875 FEET, THENCE WEST 875 FEET TO THE POINT OF BEGINNING, EXCEPT ALL THAT PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 27, RANGE 32, JASPER COUNTY, MISSOURI, LYING WEST OF THE WEST BANK OF TURKEY CREEK.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 23

SCHEDULE B

Commitment Number: **06-C7370(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. Tax I.D. #2-200245-0 Parcel #20-3-5-0-0-29.004

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $3,681.48.**

   The General State and County Taxes for 2006 and prior years are paid.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Loop 44, aka Route 66.**

5. **Easement to the Empire District Electric Company filed June 6, 1958 at 2:35 p.m. in Book 876 at Page 626.**

6. **Easement to the Empire District Electric Company filed September 28, 1983 at 9:49 a.m. in Book 1269 at Page 1418.**

7. **Right-of-way to the State of Missouri as set forth in instrument filed August 22, 1950 at 2:15 p.m. in Book 651 at Page 613.**

8. **The rights of upper and lower riparian owners to the free and unobstructed flow of the water of Turkey Creek, which forms a portion of the boundary of the subject land, without diminution or pollution.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7370
Commitment Number: 06-C7370(2nd Revision)

9. The consequence of any past or future change in the location of Turkey Creek, which forms a portion of the boundary of the subject land, or any dispute arising over the location of the old bed of Turkey Creek or any variance between the boundary of said land as originally conveyed and the boundary thereof as now used and occupied.

10. Right-of-way to the City of Duenweg by Report of Commissioners filed August 15, 1977 at 9:13 a.m. in Book 1203 at Page 65.

11. Sewer Easement to the City of Joplin dated July 2, 2003 filed December 11, 2003 in Book 1833 at Page 0504.

12. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

13. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: HAL D. ROPER and J. DARLENE ROPER

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7348** (2nd Revision)
Order No.: **06-C7348**
Effective Date of Commitment: **November 19, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

   (b) [] ALTA Loan Policy 10-17-92 **$ To be agreed upon**
   Proposed Insured:
   To be determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Buford A. Balay and Irene Balay, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   All of the East One-Half of the Northeast Quarter of the Northeast Quarter of the Northwest Quarter, and all of the West 66 feet of the West One-Half of the Northwest Quarter of the Northwest Quarter of the Northeast Quarter, all in Section 8, Township 27, Range 32 in Jasper County, Missouri.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 17
Barclay

SCHEDULE B

Commitment Number: **06-C7348** (2nd Revision)

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes.

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007.**

   Tax I.D. #2-200271-0 Parcel #20-3-8-20-1-1
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $774.58.

   The General State and County Taxes for 2006 and prior years are paid.

   Tax I.D. #2-200263-0 Parcel #20-3-8-10-3-7
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $23.44.

   The General State and County Taxes for 2006 and prior years are paid.

4. **Loss or damage caused by the discrepancy in legal description used by Tax Assessor and legal description herein.**

5. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Highway 66 a/k/a 7th Street.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7348
Commitment Number: 06-C7348(2nd Revision)

6. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

   Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

   Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

   Note: We find no unsatisfied Federal Tax liens, State Tax liens, or unsatisfied judgments of record during the past 10 years against the following: Buford A. Balay and Irene Balay.

7. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 And the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7342** (2nd Revision)
Order No.: **06-C7342**
Effective Date of Commitment: **November 16, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Determined

   (b) [] ALTA Loan Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Peter J. Hannon and Julie Hannon, husband and wife

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   All of Lot Numbered One (1) in EAST PARK PLACE, in Jasper County, Missouri, according to the recorded Plat thereof.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ash
Authorized Officer or Agent

Tract 9
Hannon

SCHEDULE B

Commitment Number: **06-C7342(2nd Revision)**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes. **ID # 18-131001-0 Parcel # 20-3-8-20-2-30**

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $1167.14.**

   The General State and County Taxes for 2006 and prior years are paid.

4. **Easement for utilities over the West 10 feet of herein described premises as set forth on the recorded plat of said Addition.**

5. **Easement to American Telephone and Telegraph Company filed August 3, 1929 at 2:42 p.m. in Book 365 at Page 590.**

6. **Deed of Trust executed by Peter J. Hannon and Julie Hannon, husband and wife, dated August 1, 2003, filed August 5, 2003 at 4:10 p.m. recorded in Book 1805 at Page 1680, to Richard T. Mueller, Trustee for Chase Manhattan Mortgage Corporation, to secure a note in the amount of $120,000.00.**

   NOTE: Request for Notice of Foreclosure Sale was filed by Southwest Missouri Bank-Duquesne on November 7, 2006 at 3:15 p.m., in Book 2017 at Page 2126 on Deed of Trust filed in Book 1805 at Page 1680.

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number:06-C7342
Commitment Number:06-C7342(2nd Revision)

7. Future Advance Deed of Trust executed by Peter J. Hannon and Julie Hannon, husband and wife, dated October 30, 2006, filed November 7, 2006 at 3:15 p.m., recorded in Book 2017 at Page 2120, refiled August 9, 2007 at 2:53 p.m. in Book 2059 at Page 2157, to John J. Podleski, Trustee for Southwest Missouri Bank, to secure a note.

8. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 and the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

9. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

   Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

   Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

   Note: We find no unsatisfied Federal Tax liens, State Tax Liens, or unsatisfied judgments of record during the past 10 years against the following: Peter J. Hannon and Julie Hannon.

SCHEDULE A

RECEIVED DEC 1 0 2007

Commitment No.: **06-C7341(2nd Revision)**
Order No.: **06-C7341**
Effective Date of Commitment: **November 15, 2007 @ 7:00 a.m.**

Inquiries Should be Directed to:

Abbey Title Company
2902 Arizona Avenue P. O. Box 3641
Joplin, Missouri 64803
417-623-1910 Fax 417-623-5777

1. Policy or Policies to be issued: Amount
   (a) [] ALTA Owner's Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Determined

   (b) [] ALTA Loan Policy 10-17-92 **$To Be Agreed Upon**
   Proposed Insured:
   To Be Determined

2. The estate or interest in the land described or referred to in this Commitment and covered herein is a Fee Simple.

3. Title to said estate or interest in said land is at the effective date hereof vested in:
   Nona Trahan Ancell, as Trustee of the Nona Trahan Ancell Living Revocable Trust dated March 9, 2007

4. The land referred to in this Commitment is located in the County of **Jasper** State of Missouri and described as follows:

   All of the East 30 Acres of the Northwest Quarter of the Northwest Quarter of Section 8, Township 27, Range 32, a part of which is located in the Village of Duquesne, Jasper County, Missouri, EXCEPT a tract of land beginning at a point 902 feet East of the Northwest corner of Section 8, and 50 feet South of the North Section line, thence South 208.7 feet, thence East 208.7 feet, thence North 208.7 feet, thence West 208.7 feet to the point of beginning; ALSO EXCEPT beginning at a point 902 feet East and 258.7 feet South of the Northwest corner of the Northwest Quarter of the Northwest Quarter, thence South 201 feet, thence East 208.7 feet, thence North 213 feet, thence West 208.7 feet to the point of beginning, AND EXCEPT a tract of land beginning at a point 50 feet South of the Northeast corner of the Northwest Quarter of the Northwest Quarter of Section, thence South along the East line of said 40 acres, 410 feet, thence West parallel to the North line of said 40 acres, 216.2 feet, thence North 410 feet to a point 50 feet South of the North line of said 40 acres, said point being on the South right-of-way line of the highway, thence East along said right-of-way 216.2 feet to the point of beginning.

Abbey Title Company
120 E. 4th Street
Carthage, MO 64836
(417) 358-1975
Fax (417)359-5522

COUNTERSIGNED: Beverly Ell
Authorized Officer or Agent

Tract 3
Ancell

SCHEDULE B

Commitment Number: **06-C7341**(2nd Revision)

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

PLEASE READ THE EXCEPTIONS AND THE TERMS SHOWN OR REFERRED TO HEREIN CAREFULLY. THE EXCEPTIONS ARE MEANT TO PROVIDE YOU WITH NOTICE OF MATTERS WHICH ARE NOT COVERED UNDER THE TERMS OF THE TITLE INSURANCE POLICY AND SHOULD BE CAREFULLY CONSIDERED.

1. Defects, Liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Standard Exceptions:
   (a) Rights or claims of parties in possession not shown by the public records.
   (b) Easements or claims of easements not shown by the public record.
   (c) Encroachments, overlaps, conflicts in boundary lines, shortages in area or other matters which would be disclosed by an accurate survey and inspection of the premises.
   (d) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
   (e) Taxes or special assessments which are not shown as existing liens by the public records.

   Special Exceptions:
   (a) Taxes.
   ID # 2-200273-0 Parcel #20-3-8-20-2-43

3. **The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $5503.91.**

   The General State and County Taxes for 2006 and prior years are paid.

   ID# 16-125471-0 Parcel # 20-3-8-20-2-49
   The lien of General State and County Taxes for the year 2007, due November 1, 2007, in the amount of $38.38.

   The General State and County Taxes for 2006 and prior years are paid. The General City Taxes for the Village of Duquesne are not certified.

4. **Rights of the public, State of Missouri, County and the Municipality in and to that part of the premises in question, if any, taken or used for Route 66, aka East 7th Street.**

5. **Right-of-way to the State of Missouri as set forth in instrument dated January 22, 1985, filed February 15, 1985 at 1:37 p.m. in Book 1289 at Page 823.**

6. **Easement to Southwestern Bell Telephone Company filed October 19, 1999 at 9:05 p.m. in Book 1614 at Page 11.**

See Continuation Sheet - Schedule B

CONTINUATION SHEET
SCHEDULE B

Order Number: 06-C7341
Commitment Number: 06-C7341(2nd Revision)

7. Easement to the Empire District Electric Company filed October 21, 1999 at 9:16 p.m. in Book 1614 at Page 594.

8. Grant of easement as set forth in instrument filed May 26, 1995 at 11:59 a.m. in Book 1478 at Page 855.

9. There is no certification as to the accuracy of acreage given as the legal description of the subject property as shown in Schedule A; the policy to be issued will not insure against any loss or damage by reason of the actual acreage being different than that stated in Schedule A.

10. The actual value of the estate or interest to be insured must be disclosed to the Company, and subject to approval by the Company entered as the amount of the policy to be issued. It is agreed that, as between the Company, the applicant for this commitment, and every person relying on this commitment, the amount of the requested policy will be assumed to be $1,000.00 and the total liability of the Company, on account of this commitment, shall not exceed that amount until such time as the actual amount of the policy to be issued shall have been agreed upon and entered as aforesaid and the Company's applicable insurance premium charges for same shall have been paid.

11. Any bankruptcy proceeding that is not disclosed by the acts that would afford notice as to said land, pursuant to Title 11 U.S.C. 549(C) The Bankruptcy Reform Act of 1978, as amended.

Note: No inquiry, search, or examination has been made of the Federal Courts for pending bankruptcy proceedings.

Note: We find no Request for Notice of Foreclosure Sale of record vs. subject property.

Note: We find no unsatisfied Federal Tax liens, State Tax Liens, or unsatisfied judgments of record during the past 10 years against the following: Nona Trahan Ancell, Trustee