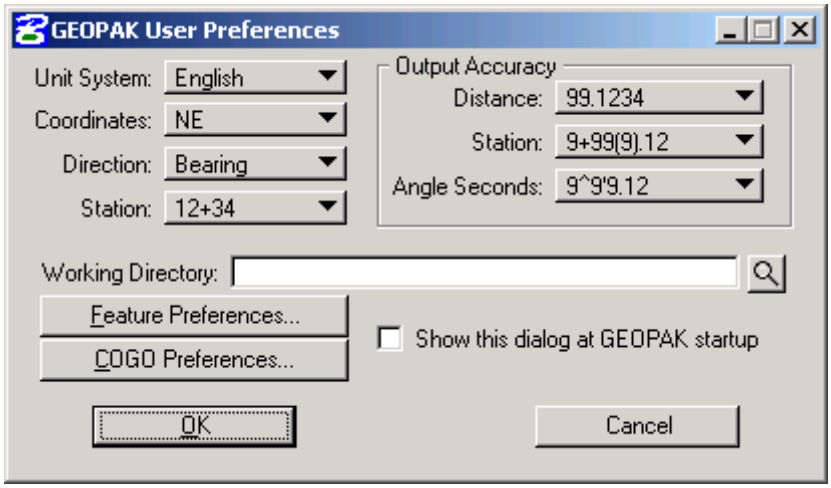
Exercise 5-1

This is an individual exercise to practice using COGO. All of the steps are given to you. Make sure you understand each step, because later you will need to determine which tools are needed to store COGO elements

1. Open the MicroStation file **t:\br-proj\Exercise_Rte_24\Route_24.dgn**.

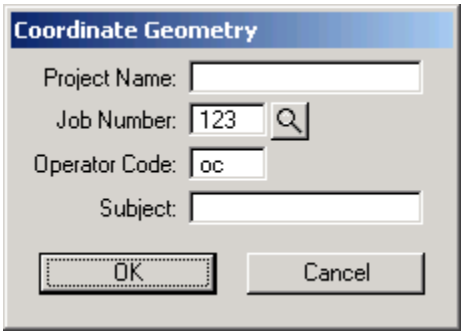
2. Go to **Applications>>Geopak Road>>User Preferences** and delete the working directory and set the **Coordinates** to Northing and Easting (**NE**).

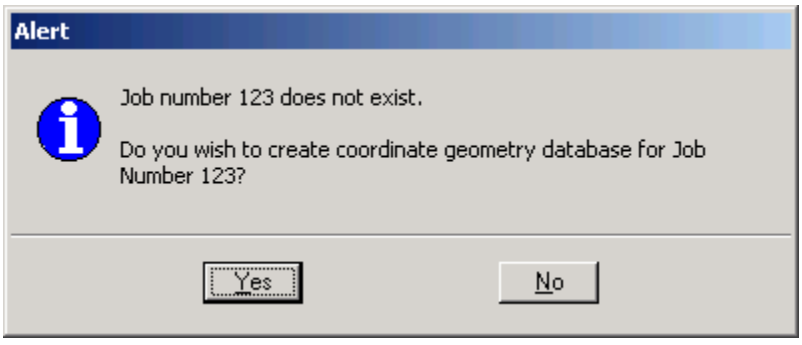


3. Open the **Coordinate Geometry** dialog. 

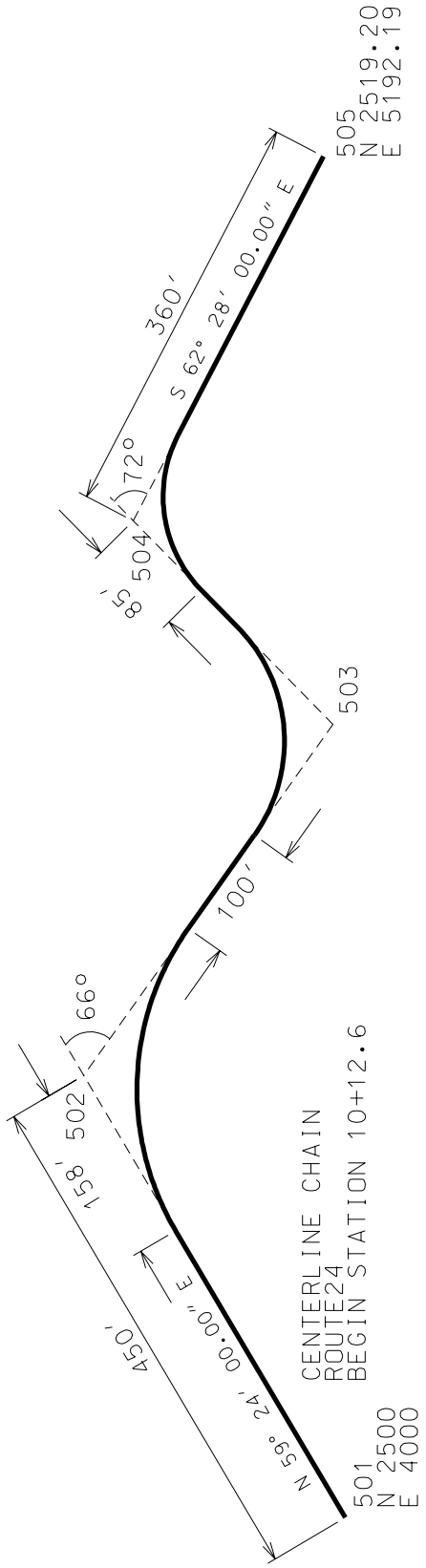
   Use the settings shown to the right:
   Create **Job Number: 123**
   Set the **Operator Code** to your initials.

   Say Yes to create the coordinate geometry database when the following Alert dialog box appears:

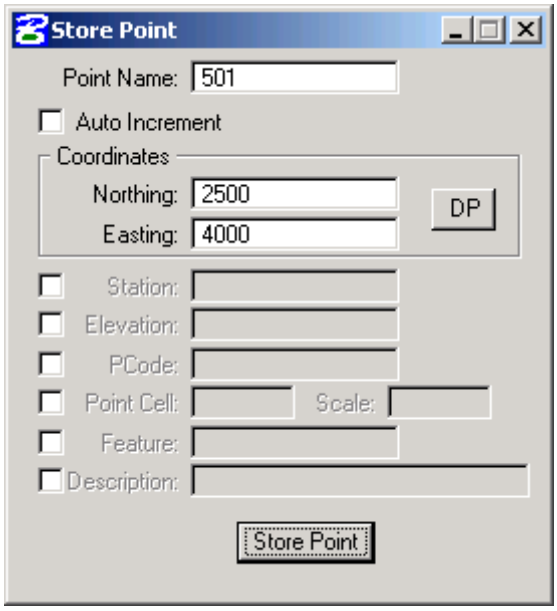


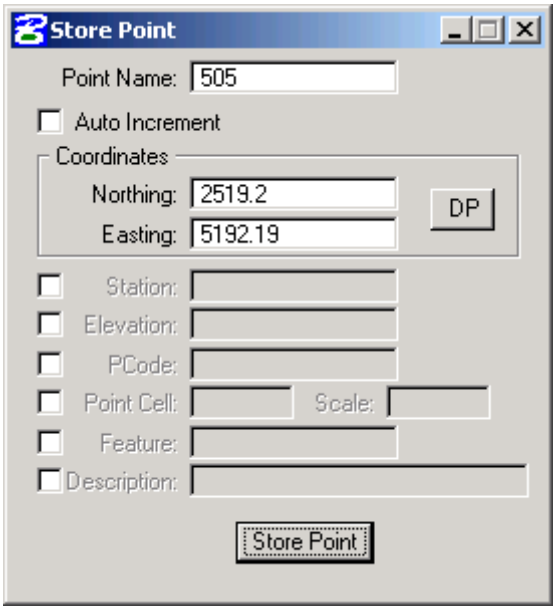


Create the following alignment as shown on the following pages.



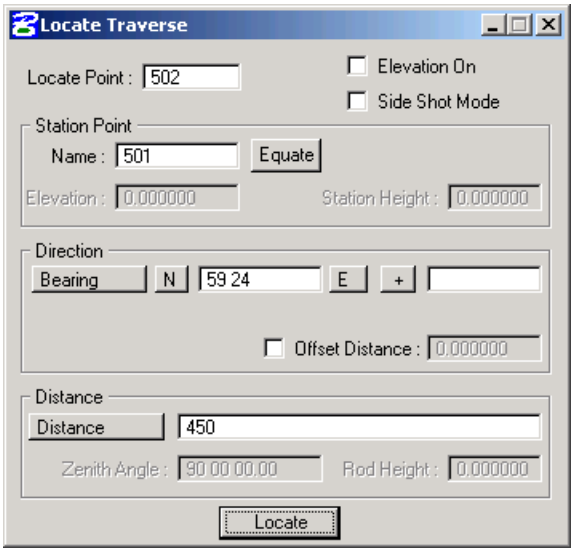
4. Store points 501 and 505 with the coordinates shown (**Element > Point > Store**).

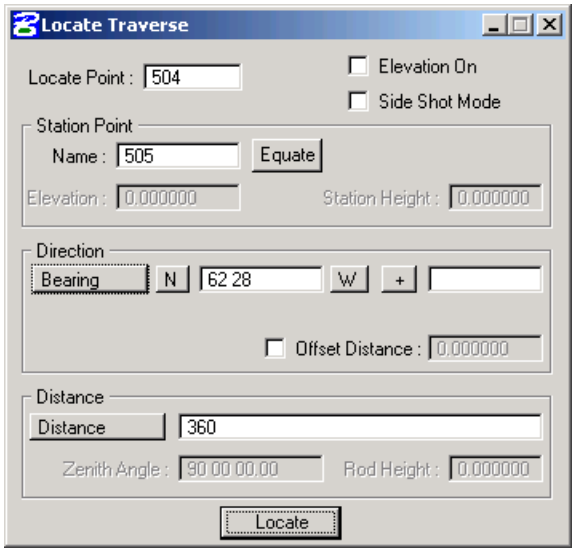




Key-in Commands:
Store Point 501 2500 4000
Store Point 505 2519.2 5192.19

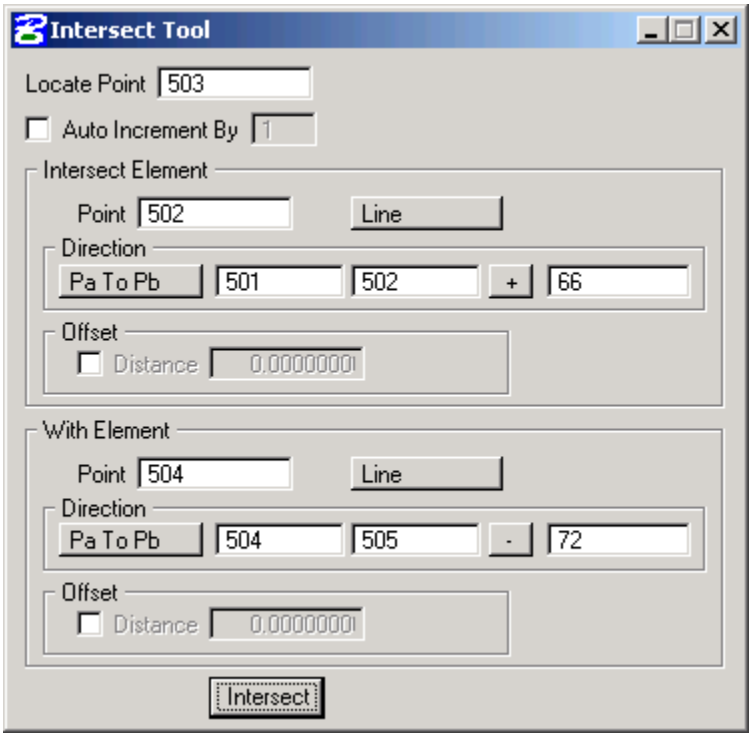
5. Locate points 502 and 504 (**Tools > Locate > Traverse**).





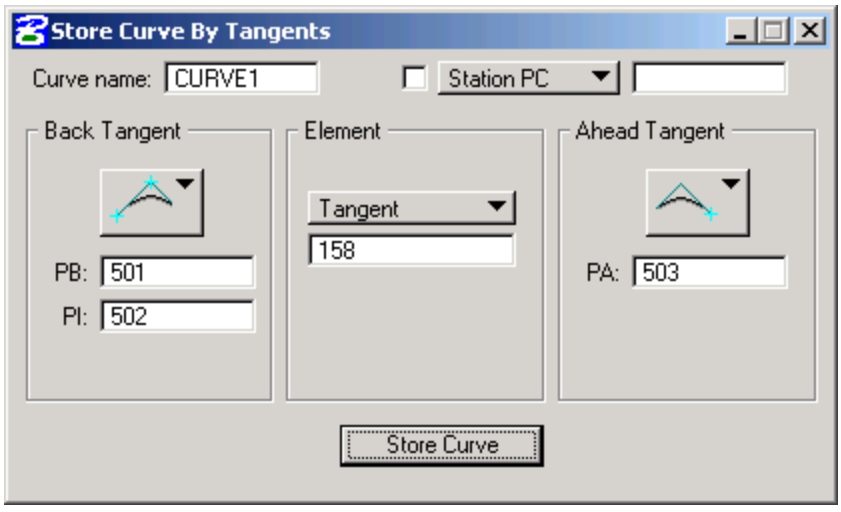
Key-in Commands:
LOCATE 502 TRAVERSE 501 DIS 450 N 59 24 E
LOCATE 504 TRAVERSE 505 DIS 360 N 62 28 W

6. Locate point 503 by using the **Intersect** tool (**Tools > Intersect**).



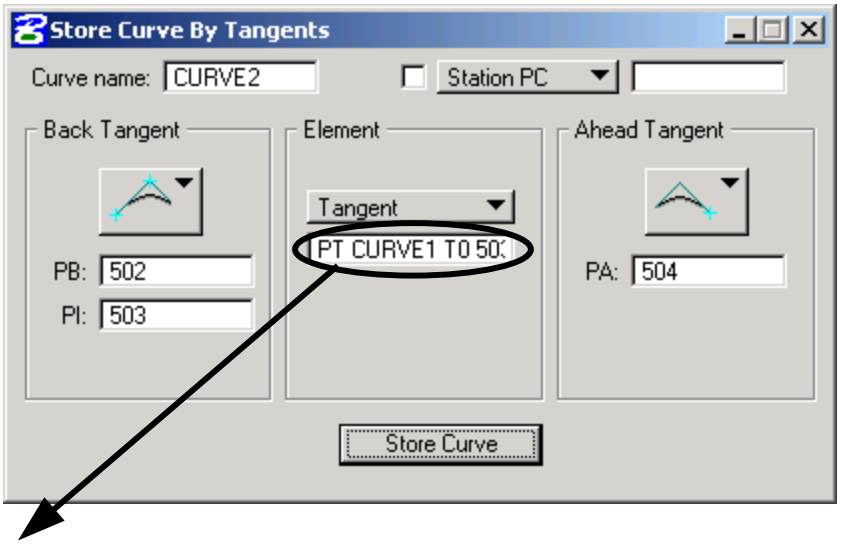
Key-in Command:
LOCATE 503 INTERSECT LINE 502 501 TO 502 P 66 LINE 504 504 TO 505 M 72

7. Store CURVE1, CURVE2, and CURVE3 (**Element > Curve > Store > By Tangents**).



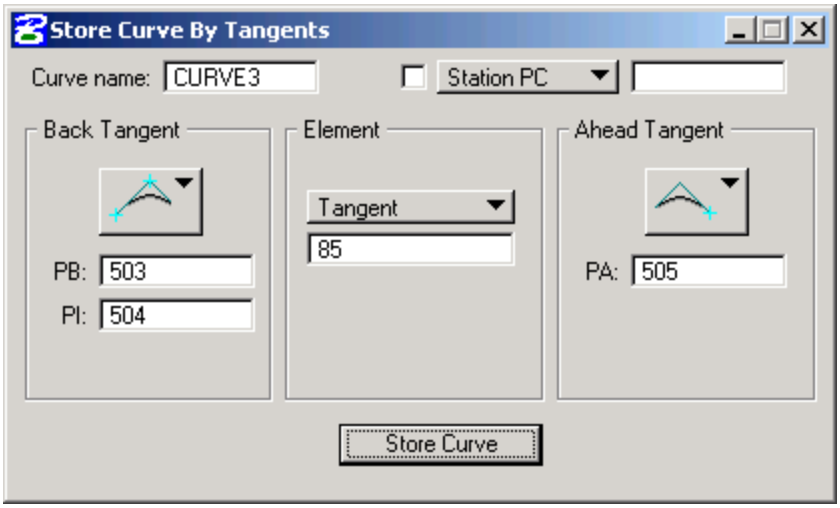
Key-in Command:
Store Curve CURVE1 PB 501 PI 502 Tangent 158 PA 503

7. (Continued)



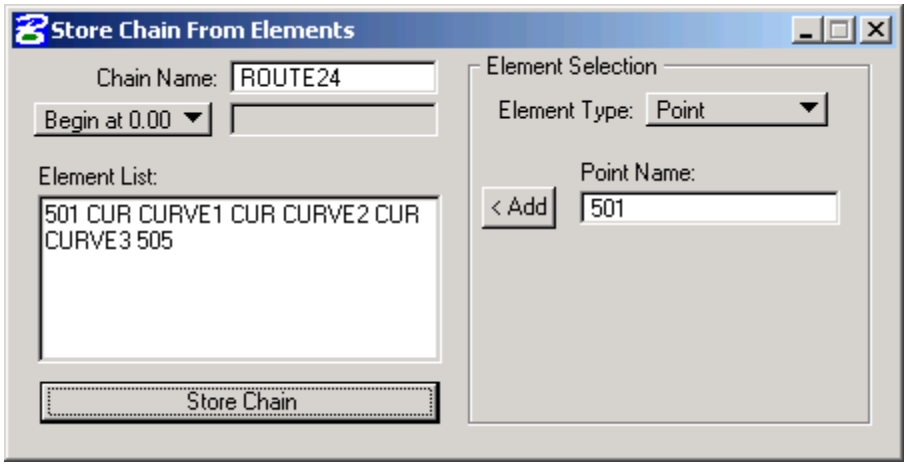
PT CURVE1 To 503 M 100

Key-in Command:
Store Curve CURVE2 PB 502 PI 503 Tangent PT CURVE1 To 503 M 100 PA 504



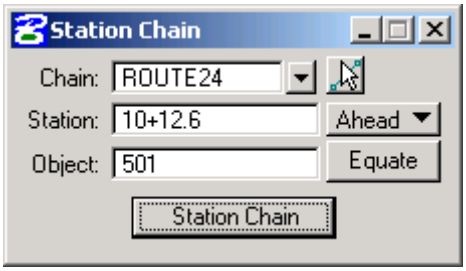
Key-in Command:
Store Curve CURVE3 PB 503 PI 504 Tangent 85 PA 505

8. Store the alignment chain Route24 (**Element > Chain > Store > From Elements**).



Key-in Command:
Store Chain ROUTE24 501 CUR CURVE1 CUR CURVE2 CUR CURVE3 505

9. Station the centerline at the beginning with station 10+12.6 (**Element > Chain > Station**).



Key-in Command:
Station Chain ROUTE24 BEG 10+12.6 501 AH

10. Describe the chain (**Element > Chain > Utility** or **Tools > Navigator**) and save the output file (**File > Utility**). Review the output file in **UltraEdit** or another text editor.

11. Use **COGO Navigator** (**Tools > Navigator**) to view the data.

12. Exit Coordinate Geometry.