# LAB 21 - Vicinity Map - Vector

Vicinity maps can be referenced to the title sheet. These maps can be in the form of vector files (CADD elements) or raster files (images).

The CDOT standard procedure is to use county maps that have been translated from GIS information, these maps can be found on the shared drive at: \\public\CADD County Maps\. The county of interest should be copied to your project location drawings folder and can be attached as a reference file to the Title Map. The local map can be edited as desired without affecting the original.

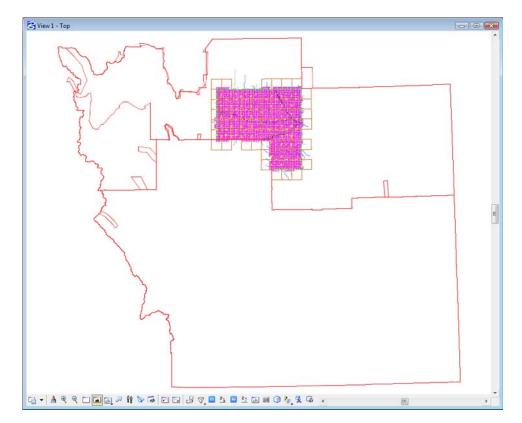
## **Chapter Objectives:**

- Reference CADD County Map into Title Sheet
- Trim Vicinity Map reference file

For training purposes, a vicinity map has been stored in the *References* folder.

Review the vicinity map.

1. *Open* the MicroStation file Elbert.dgn this file is located in: C:\Projects\12345\Design\Drawings\Reference\_Files



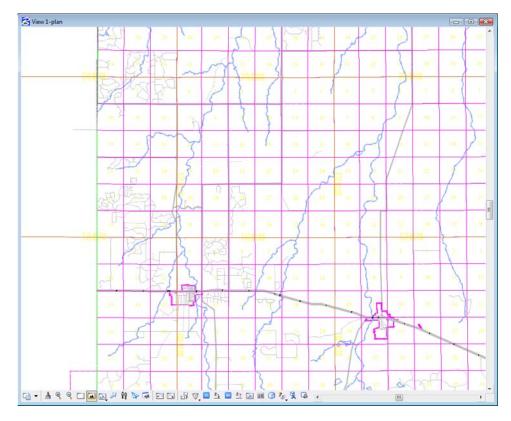
This file contains a Saved View to assist in attaching it as a reference file.

- 2. Select **Utilities > Saved Views** from the MicroStation pull-down menu.
- 3. **<D>** on the saved view by the name of *plan*

4. **<D>** in the MicroStation view

| Eg Ac | tive File    | - 1    | 50 📉 | 🚰 🗙 🌮 📭   🕞 |  |
|-------|--------------|--------|------|-------------|--|
| Туре  | Show         | Status | Name | Description |  |
|       | $\checkmark$ |        | plan |             |  |
|       |              |        |      |             |  |
|       |              |        |      |             |  |
| 4     |              |        | III  |             |  |

The MicroStation view updates to the limits of the saved view.



5. Use other MicroStation view commands to investigate the contents of the drawing.

Open the MicroStation Level Display dialog to investigate level stratification by choosing, Settings > Level > Display. Note all information resides on GIS\_\* levels.

| Level Display            | iplay 💌 |        |   |
|--------------------------|---------|--------|---|
| None) - Le               |         |        |   |
| 1 Elbert.dgn             |         |        |   |
|                          |         |        |   |
| Name                     | Logical | Used 🚿 | 1 |
| GIS_Bridges              |         | •      | = |
| GIS_Cities               |         |        |   |
| GIS_County-Lines         |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
| GIS_Maintenance-Sections |         | •      |   |
| GIS_Milepoints           |         | •      |   |
|                          |         |        |   |
| GIS_ROADS-Local          |         |        |   |
| GIS_ROADS-Major          |         |        |   |
| GIS_ROADS-Ramps-Frontage |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
| GIS_Townships-Text       |         |        |   |
|                          |         |        |   |
|                          |         |        |   |
|                          |         |        |   |

6. Turn level displays on and off to verify data stratification, then Close the Level Display dialog.

### Attaching a vicinity map as a reference file

Attach the vicinity file as a reference file to the title sheet. Once attached, move, scale, and constrain the display limits.

Reopen the title sheet: *12345ROW\_TitleSht.dgn*. Once open:

- 1. Select File > References from the MicroStation menu bar.
- 2. In the References dialog box, select **Tools > Attach**

| Tools Settings                           | , 0 displayed)   |                                     |
|--|--|-------------------------------------|
| <u>A</u> ttach                           | ⇒ <>> ≥ ? ?  ?  ?  > | 🔬 <u>H</u> ilite Mode: Boundaries 👻 |
| <u>D</u> etach                           | Model Description  | Logical Prese                       |
| Detach All                               |  | _                                   |
| R <u>e</u> load                          |  |                                     |
| Reload A <u>I</u> I                      |  |                                     |
|  |  |                                     |
| Exchange                                 | m  | •                                   |
| E <u>x</u> change<br>Open in New Session | III Orientation  | Rotation                            |
|  | Orientation  |                                     |
| Open in New Session                      | ] : Orientation  |                                     |

- 3. **<D>** the file *Elbert.dgn* from the ....*Design\Drawings\Reference\_Files* directory.
- 4. **<D> Open**

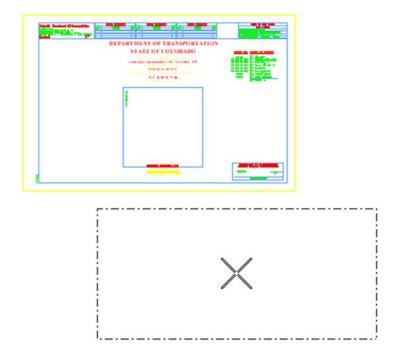
| 😤 Attach Referen | nce - C:\Projects\1       | 2345\Design\Draw     | ngs\Reference_ | Files | ١       |                  |          |                   |
|------------------|---------------------------|----------------------|----------------|-------|---------|------------------|----------|-------------------|
| Look in:         | Reference_Fil             | es                   | •              | 0     | 🏂 📂 🛄 🕇 | 1                | <u>s</u> | 3D - V8 DGN       |
| Recent Places    | Name                      | ^                    | Date taken     |       | Tags    | Size<br>1,355 KB | Rating   |                   |
| Desktop          |                           |                      |                |       |         |                  |          |                   |
| CDOT_User        |                           |                      |                |       |         |                  |          | Attachment Method |
| Computer         |                           |                      |                |       |         |                  |          | Interactive •     |
| Network          | •                         |                      | Ш              |       |         |                  | Þ        |                   |
|                  | File name: Elbert.dgn 🔹 O |                      |                |       |         |                  | Open     |                   |
|                  | Files of type:            | CAD Files (*.dgn;*.d | wg;*.dxf)      |       |         | • C              | ancel    |                   |
|                  | •                         | Save Relative Pa     | th             |       |         | 0                | ptions   |                   |

- 5. Key-in the Logical Name: *Vicinity*
- 6. Key-in the Description: GIS locator map for title sheet
- 7. Select the *Saved View > plan* option in the *Orientation* section of the dialog box.
- 8. GIS maps have been designed to be inserted at a scale factor of 1:*5280* (Master : Reference). Enter that value for the Scale option.

#### 9. **<D>OK**

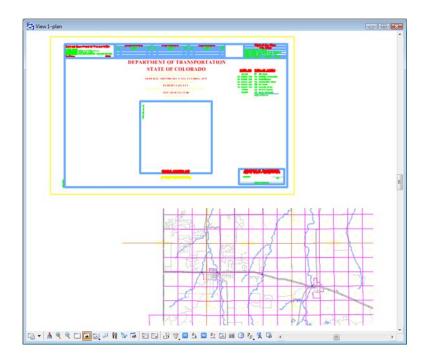
| 🚰 Reference Attachme   | ent Settings for Elbert.dgn  | 23 |
|--|--|----|
| <u>Fi</u> le Name: Elber<br>Full Path:\12<br><u>M</u> odel: CDO1   | 345\Design\Drawings\Reference_Files\Elbert.dgn   | •  |
| Logical Name: Vicini   | ty   |    |
| Description: GIS lo  | ocator map for title sheet   |    |
| Orientation:   |  |    |
| View   | Description  |    |
| Coincident   | Aligned with Master File   |    |
| Coincident - World<br>Standard Views   | Global Origin aligned with Master File   | =  |
| <ul> <li>Gaved Views</li> <li>⇒ plan</li> <li>Top</li> <li>Bottom</li> <li>Left</li> </ul>   |  | -  |
| Toggles:<br>Sc <u>al</u> e (Master:Ref)  | Image: Constraint of the state of |    |
| Named Groug:<br>Revision:<br>Clip Boundary Element:<br>Level:<br><u>N</u> ested Attachments:<br>Display Overrides:<br>Ne <u>w</u> Level Display:<br>Global Line Style Scale: | v       Copy To Master       v       Copy To Master       v       Observation       Allow       V       Use MS_REF_NEWLEVELDIt       Master       QK   |    |

In the MicroStation view window, the limits of the saved view dynamically display relative to the location of the cursor.



- 10. **<D>** in the MicroStation view window area to attach and display the contents of the reference file.

11. Select the MicroStation *Fit* command.

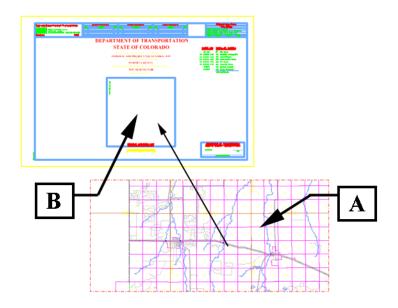


Move the reference file to align with the title sheet.

12. Select **Tools > Move** in the **References** dialog.

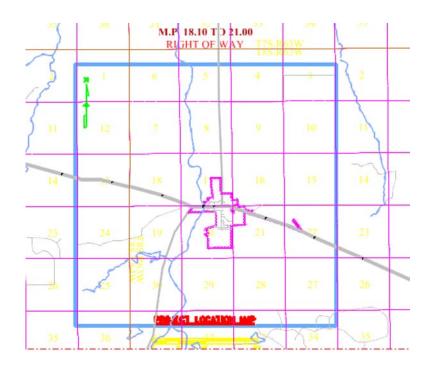
| Attach       Detach         Detach       Image: Constraint of the section of t |          |
|--|----------|
| Detach     Model     Description     Logical       Detach All     CDOT default     GIS locator map for title sheet     Vicinity       Reload     Reload All     Exchange     Vicinity       Open in New Session     III     III     III       Move     : 5280.000000     Orientation     Top   | es 👻     |
| CDOT default     GIS locator map for title sheet     Vicinity       Reload All     Exchange  | Present  |
| Move         : 5280.000000         Orientation         Top         Botation         0°0'0"   | Wirefrar |
|  |          |
|  | •        |
| Copy         Y         -181669.685         Z         -178956.997           Scale         Image: Solution of the streng of the stren                  | •        |

13. **<D>** at point **A** and then **<D>** at point **B** to move the attached reference file.



Execute additional move commands to reposition the reference file as necessary.

- 14. **<R>** to exit the Move References command.
- 15. Zoom into the *Project Location Map* area of the Title Sheet.

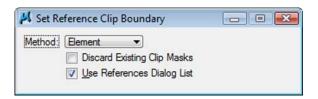


Constrain the display limits of the reference file (clip boundary)

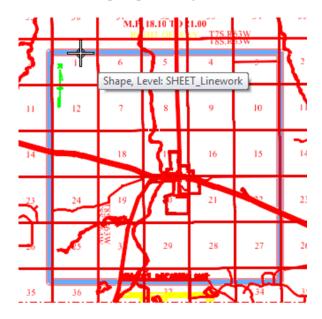
16. Select **Tools > Clip Boundary** from the Reference File dialog.

| References (1 of 1 unique,   | 1 displayed)  | - • 🔀                         |
|--|---|-------------------------------|
| Tools     Settings       Attach     Detach       Detach     Detach       Reload     All       Exchange     Open in New Session       Move     Copy       Scale     Rotate       Merge Into Master     Make Direct Attachment | Image: Second system       Image: Second system <th< th=""><th>Logical F<br/>Vicinity V<br/>0"</th></th<> | Logical F<br>Vicinity V<br>0" |
| Mirror <u>H</u> orizontal<br>Mirror <u>V</u> ertical<br>Clip <u>Boundary</u><br>Clip Mas <u>k</u><br>Delete Clip<br>Clip <u>F</u> ront<br>Clip Back  |   |                               |

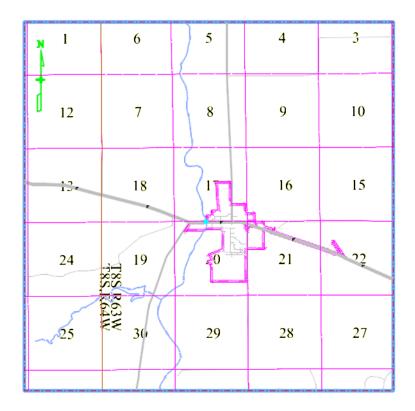
17. In the *Tool Settings* dialog. Set method to Element



18. **<D>** on the shape representing the limits of the location map display.



19. **<D>** a second time (anywhere on the screen) to accept the displayed solution.



20. Use the MicroStation command *Modify Element* command to resize the shape identified to define the clip boundary.

| Modify |   |   |    |    |    |    |    | ×          |
|--------|---|---|----|----|----|----|----|------------|
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The reference file clip boundary will reconfigure with the shape modifications.

*Note:* The exercise just completed used an existing MicroStation shape to define reference file clipping boundaries. The same process can be followed by using a MicroStation Fence to define (and redefine) the reference file clip boundary.

### Challenge Exercises:

- Move the shape used to define the reference file limits. What happens to the graphics limits displayed?
- Use the References dialog to move the vicinity map after it has been clipped.
- Delete the shape used to define the reference file limits. What happens? (select undo, to restore the shape)
- Turn levels on and off for the reference file attachment
- Constrain the reference file display using a fence block
- Try using a circular fence to define the clipping limits
- Define a clip mask within the reference file limits

• Modify elements in the file Elbert.dgn, what happens to the graphics displayed in the vicinity map?