

LAB 19 - Create a Title Sheet

In this lab, you'll learn how to insert a Vicinity Map into the Project Title Sheet.

Chapter Objectives:

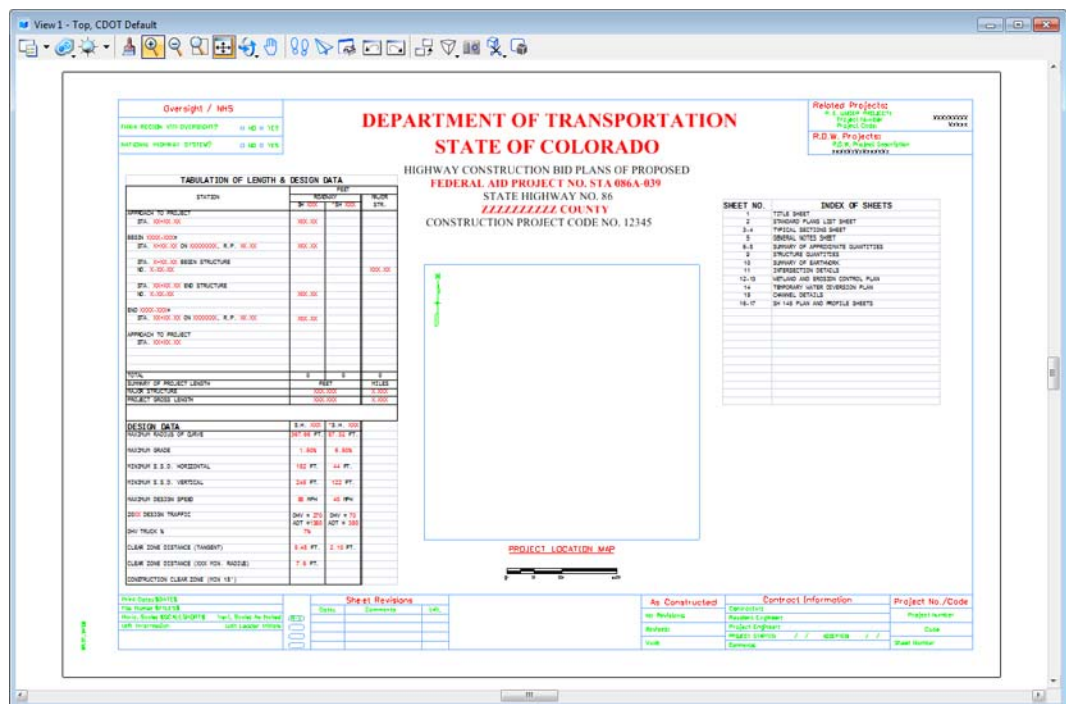
After completing this exercise you will know how to:

- Open a project Title Sheet.
- Locate a vicinity map.
- Attach a vicinity map as a reference to the Title Sheet.
- Move and Clip the vicinity reference.

Lab 19.1 - Create Project Title Sheet

Open the Title Sheet file

1. Start MicroStation and open the file 12345DES_TitleSht.dgn for the C:\Projects\12345\Design\Drawings folder.

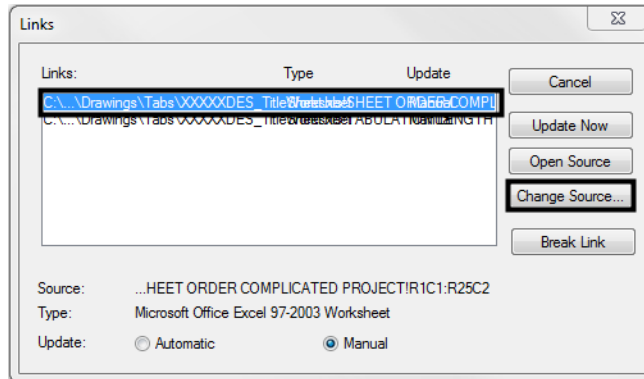


This file was automatically generated by the Create Project Utility program and contains a link to an Excel spreadsheet file in the generic project template folder. You will need to update these links to the 12345DES_TitleSht.xls file in the project folder.

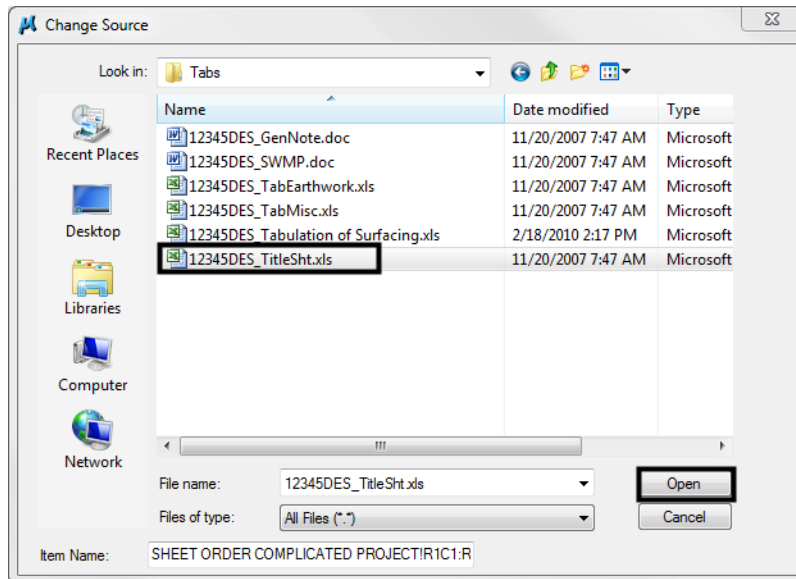
Updating Links

1. Select Edit > Links.

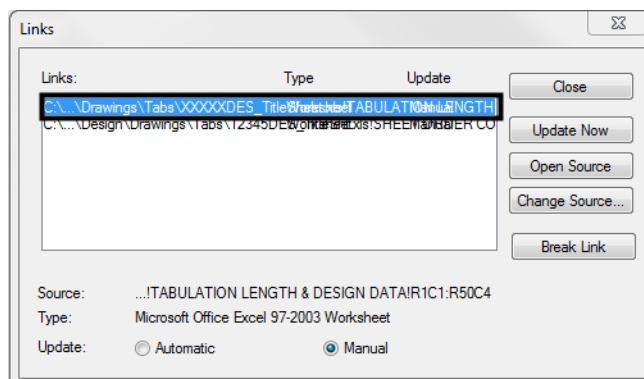
- Highlight the first link in the list and select **Change Source**.



- In the **Change Source** dialog box, set the Look in folder to C:\Projects\12345\Design\Drawings\Tabs and select the file 12345DES_TitleSht.xls.



- Select **Open** to update the link.
- Repeat this process for the second link.



Note: If the text is garbled (like in the image above), look for the “XXXXX” in the file path. Those are the links that need to be updated.

6. Close the Links dialog box.
7. Save Settings (File > Save Settings).

The Title sheet design file is now linked to the Excel spreadsheet file in the project-specific folder. You can now edit the Excel file for your project-specific requirements.

Edit the spreadsheet file

1. Double-click on the Tabulation of Length & Design Data link.
2. Excel starts and opens the 12345DES_TitleSht.xls file.
3. In the *Design Data* portion of the file, make the following edits:

31	DESIGN DATA	S.H. XXX	*S.H. XXX
32	MAXIMUM RADIUS OF CURVE	367.66 FT.	87.32 FT.
33			
34	MAXIMUM GRADE	1.50%	6.50%
35			
36	MINIMUM S.S.D. HORIZONTAL	152 FT.	44 FT.
37			
38	MINIMUM S.S.D. VERTICAL	245 FT.	122 FT.
39			
40	MAXIMUM DESIGN SPEED	88 MPH	40 MPH
41			
42	20XX DESIGN TRAFFIC	DHV = 270	DHV = 70
43		ADT = 1350	ADT = 350
44	DHV TRUCK %	7%	
45			
46	CLEAR ZONE DISTANCE (TANGENT)	5.48 FT.	2.10 FT.
47			
48	CLEAR ZONE DISTANCE (XXX MIN. RADIUS)	7.6 FT.	
49			
50	CONSTRUCTION CLEAR ZONE (MIN 18')		
51			

4. When finished, select File > Exit In Excel. When prompted to save changes to the file, select Yes.

- Switch back to the MicroStation file and note that the edits are now updated in the DGN file.

DESIGN DATA	S.H. XXX	*S.H. XXX
MAXIMUM RADIUS OF CURVE	367.66 FT.	87.32 FT.
MAXIMUM GRADE	1.50%	6.50%
MINIMUM S.S.D. HORIZONTAL	152 FT.	44 FT.
MINIMUM S.S.D. VERTICAL	245 FT.	122 FT.
MAXIMUM DESIGN SPEED	88 MPH	40 MPH
20XX DESIGN TRAFFIC	DHV = 270 ADT = 1350	DHV = 70 ADT = 350
DHV TRUCK %	7%	
CLEAR ZONE DISTANCE (TANGENT)	5.48 FT.	2.10 FT.
CLEAR ZONE DISTANCE (XXX MIN. RADIUS)	7.6 FT.	
CONSTRUCTION CLEAR ZONE (MIN 18')		

Print Date: \$DATE\$	<input type="checkbox"/> (R-X) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Sheet Revisions	
File Name: \$FILES\$		Date:	Comments
Horiz. Scale: \$SCALESHORT\$ Vert. Scale: As Noted			
Unit Information Unit Leader Initials			

- Window in on the *Index of Sheets* link on the right side of the sheet.

OF PROPOSED
086A-039

D. 12345

SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	STANDARD PLANS LIST SHEET
3-4	TYPICAL SECTIONS SHEET
5	GENERAL NOTES SHEET
6-8	SUMMARY OF APPROXIMATE QUANTITIES
9	STRUCTURE QUANTITIES
10	SUMMARY OF EARTHWORK
11	INTERSECTION DETAILS
12-13	WETLAND AND EROSION CONTROL PLAN
14	TEMPORARY WATER DIVERSION PLAN
15	CHANNEL DETAILS
16-17	SH 145 PLAN AND PROFILE SHEETS

- Using what you've learned, Edit the 12345DES_TitleSht.xls file and update the DGN file to read as shown below.

Note: When entering page ranges (e.g. 3-4) be sure to put a quote mark (‘) at the beginning of text entry, otherwise Excel will interpret this as a date (i.e. March 4).

Note: You can insert and delete rows as needed in Excel.

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8. Edit the Border Text
9. Use the **Edit Text** command to make project specific edits to the border as shown.
10. **Window** in to the top center of the title sheet and edit the project numbers, highway number and county name as shown.

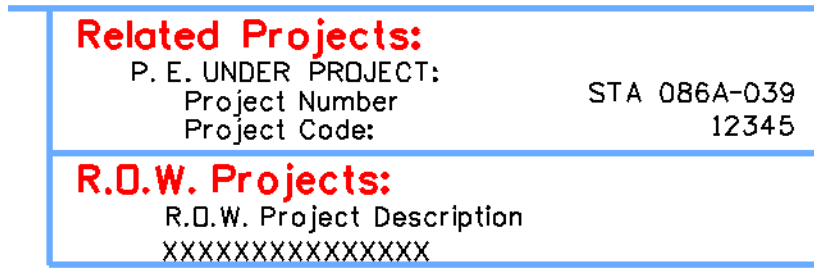
**DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO**

	HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. STA 086A-039 STATE HIGHWAY NO. 86 ZZZZZZZZZZ COUNTY CONSTRUCTION PROJECT CODE NO. 12345	SHEET _____ _____ _____
MAJOR STR.		

11. **Window** in to the lower-right corner and make the project edits as shown.

Project No./Code
STA 086A-039
12345
Sheet Number

- Window in to the upper-right corner and make the project edits as shown.



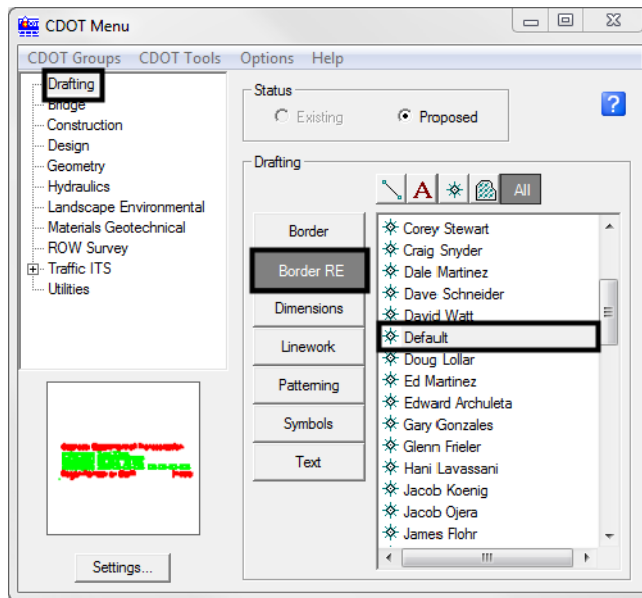
- Window around the bar scale and edit the text as shown.

PROJECT LOCATION MAP




Place the RE cell

- From the CDOT Menu, select **Border RE** from the **Drafting** group.



- Place the **Default RE** cell in the location shown by snapping to the lower-left corner.

The screenshot shows a portion of a title sheet layout. On the left, there is a grid with dimensions: 3 FT., 2.10 FT., and 1 FT. To the right is a 'PROJECT LOCATION MAP' with a scale bar from 0 to 4 Miles. Below the map is a table with the following structure:

Sheet Revisions			Colorado Department of Transportation		As Constructed	
Date:	Comments	Init.		Street Address	No. Revisions:	
				XXXXXXXXXXXXXXXXXX		
				City, State Zip Code		
				Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX		
				Region Number or Staff	Initials	
					Revised:	
					Void:	

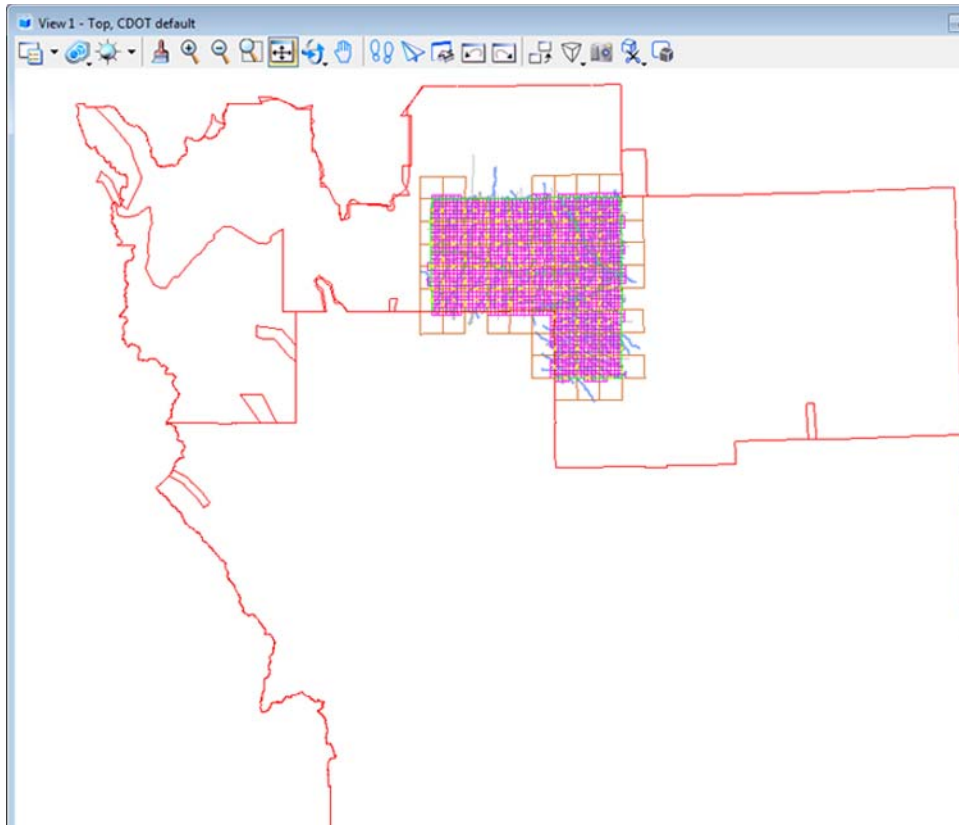
- Fit the View.
- Save Settings.

Lab 19.2 - Review the Vicinity Map

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).

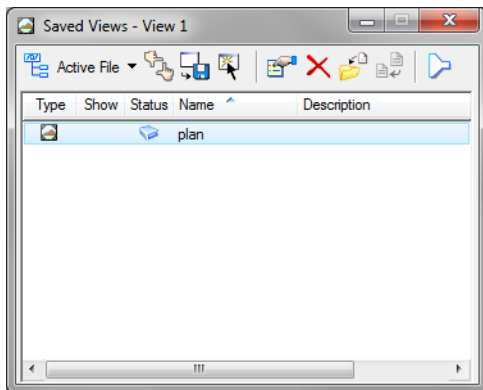
The CDOT standard procedure is to use county maps that have been translated from GIS information, these maps can be found on the shared drive at: <\\public\CADD County Maps>. The county of interest should be copied to your project's ... \Design\Drawings\Reference_Files folder and can be attached as a reference to the project's Title Sheet file.

5. Select **File > Open** and open **Elbert.dgn** from the **C:\Projects\12345\Design\Drawings\Reference_Files** folder.

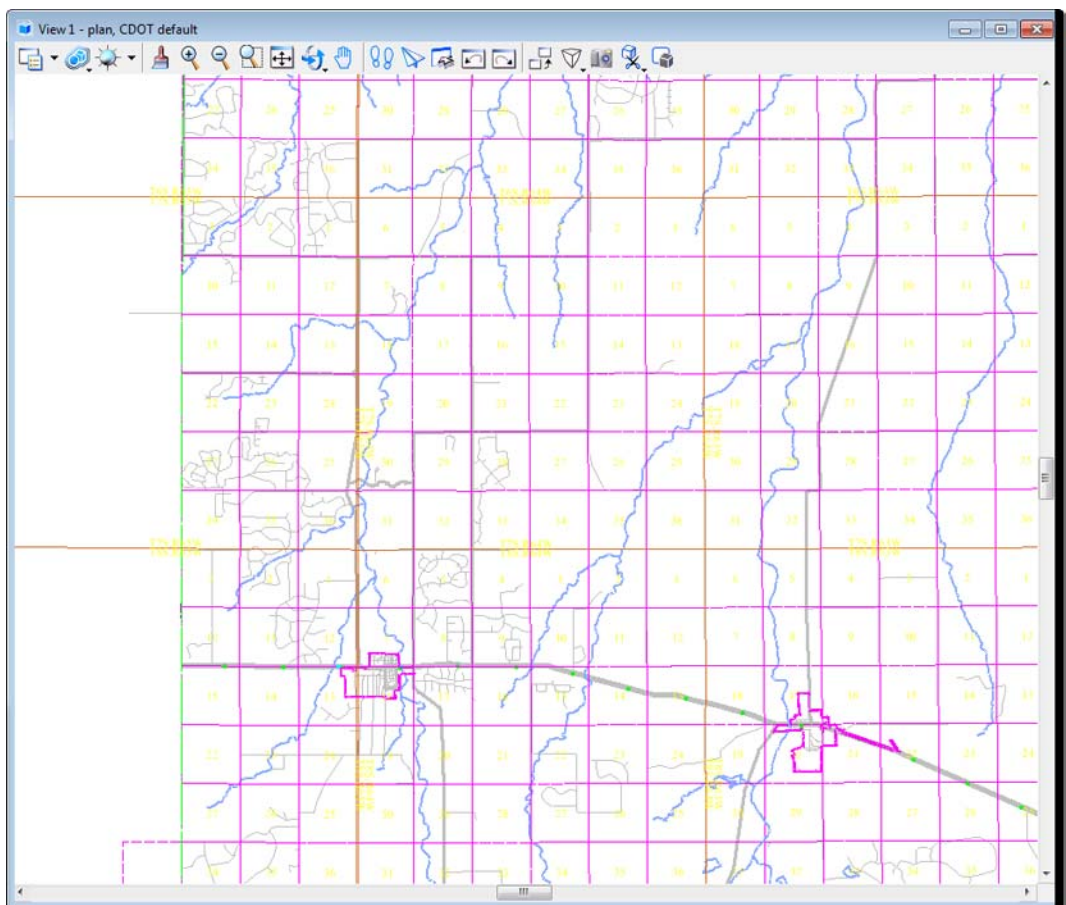
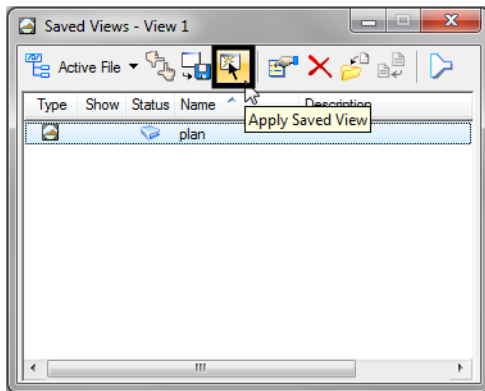


The Elbert county map was translated from GIS and copied from the [\\public\CADD County Maps](#) shared drive. This file contains a *Saved View* to assist in attaching it as a reference file.

6. Select **Utilities > Saved Views** from the MicroStation pull-down menu



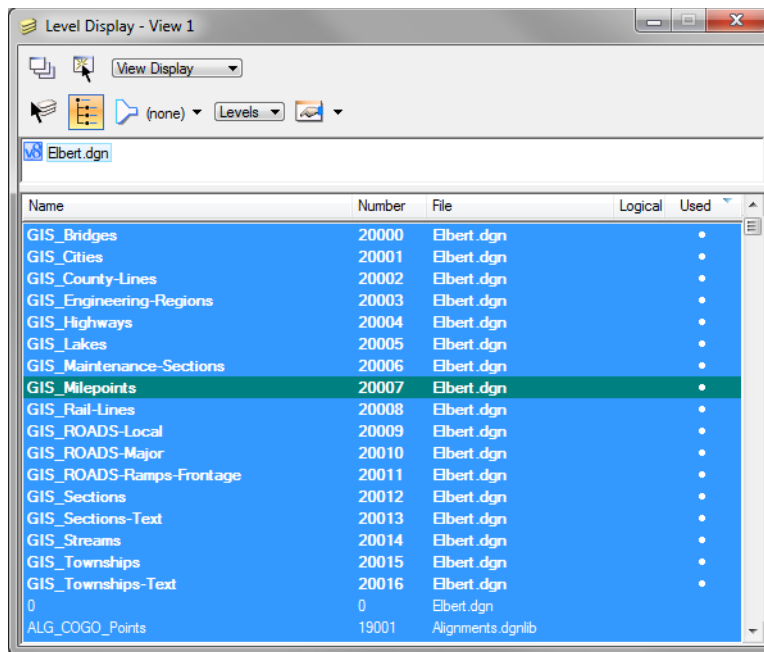
7. <D> on the saved view by the name of *plan* and select the **Apply Saved View** button, then <D> in the view.



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

8. Close the **Saved Views** dialog box.

- Open the Level Display from the Primary toolbar. Note that all information resides on GIS_* levels.



- Turn level displays on and off to verify the data is on the correct levels. Turn all levels on when finished.

Attaching a vicinity map as a reference file

In the next series of steps, you will attach the vicinity file as a reference to the title sheet. Once attached, you can move, scale and clip the reference to fit the display limits in the sheet file.

- Select **File > Open** and reopen the title sheet **12345DES_TitleSht.dgn** from the project's ... \Design\Drawings folder.
- Select **References** from the **Primary** toolbar.
- In the **References** dialog, select **Tools > Attach**.
- Set the directory to the project's ... \Design\Drawings\Reference_Files folder and select **Elbert.dgn**.

5. In the Attachment Settings box:

Reference Attachment Settings for Elbert.dgn

File Name: Elbert.dgn
 Full Path: ...\\12345\\Design\\Drawings\\Reference_Files\\Elbert.dgn
 Model: CDOT default

Logical Name: Vicinity
 Description: GIS Locator map for title sheet

Orientation:

View	Description
Coincident	Aligned with Master File
Coincident - World	Global Origin aligned with Master File
<input checked="" type="checkbox"/> Standard Views	
<input checked="" type="checkbox"/> Saved Views	
plan	
Named Fences (none)	

Detail Scale: CUSTOM
 Scale (Master:Ref): 1.000000 : 5280.000000

Named Group:
 Revision:
 Level:
 Nested Attachments: No Nesting Depth: 1
 Display Overrides: Allow
 New Level Display: Use MS_REF_NEWLEVELD
 Global LineStyle Scale: Master

Synchronize with Saved View

Toggles

Drawing Title
 Create
 Name: Vicinity

OK Cancel

- ◆ Under **Orientation**, select **plan** (the saved view).
- ◆ Key in a **Logical Name** of ***Vicinity*** and a **Description** of ***GIS locator map for title sheet***.
- ◆ Key in a **Scale** of ***1:5280***

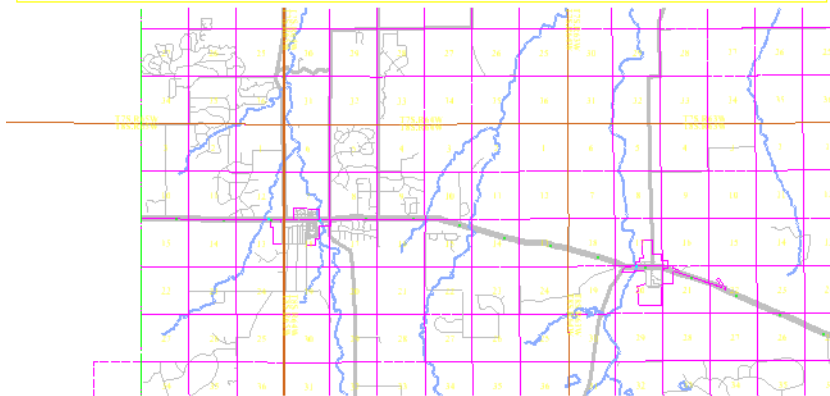
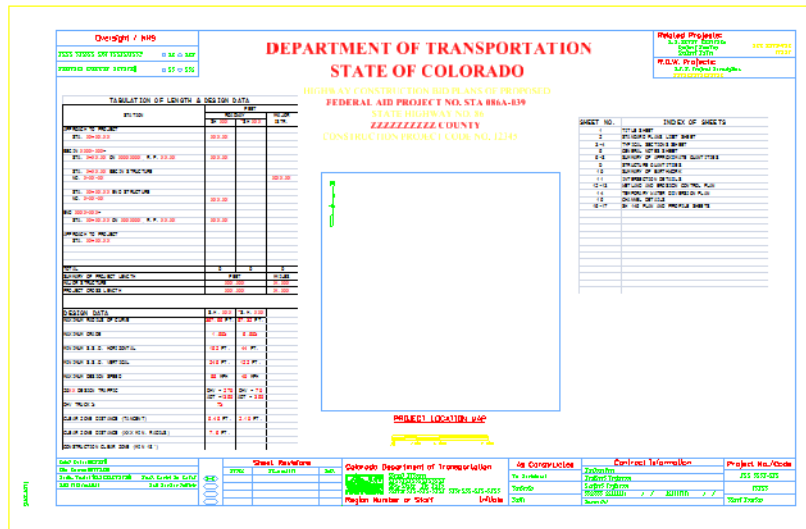
Note: CDOT GIS maps are designed based on a 1-mile insertions scale (1 inch = 1 mile) for graphics. The linestyle and text scale factors are also based on this scale.

6. Select **OK**.

The outline of the saved view reference is attached to your cursor.

7. <D> anywhere underneath the plan sheet to attach the reference.

8. Select the MicroStation Fit command

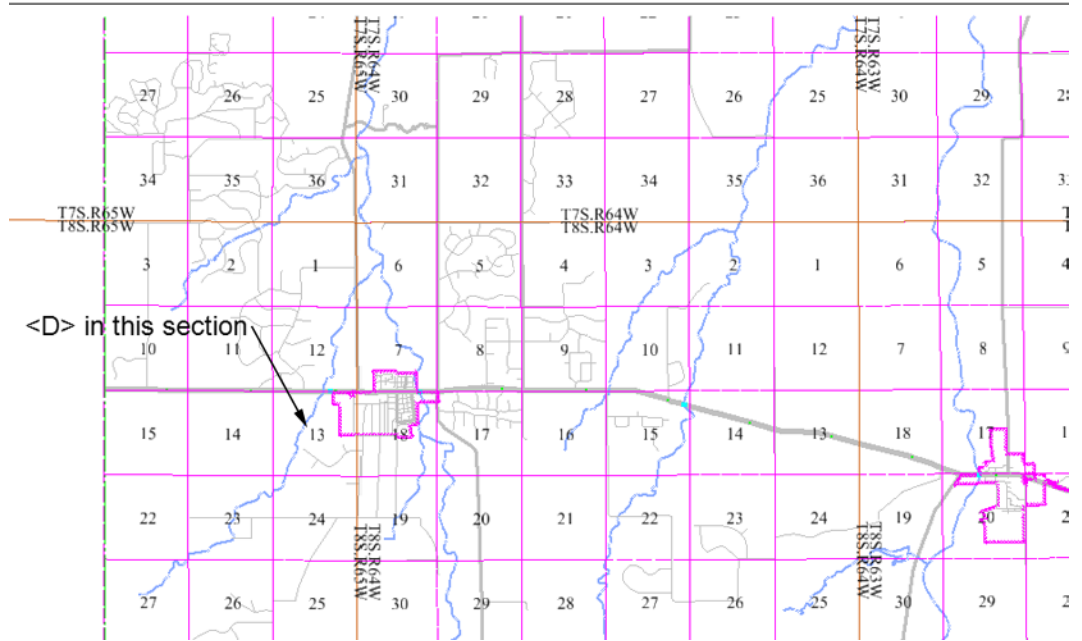


Move the reference file to align with the title sheet

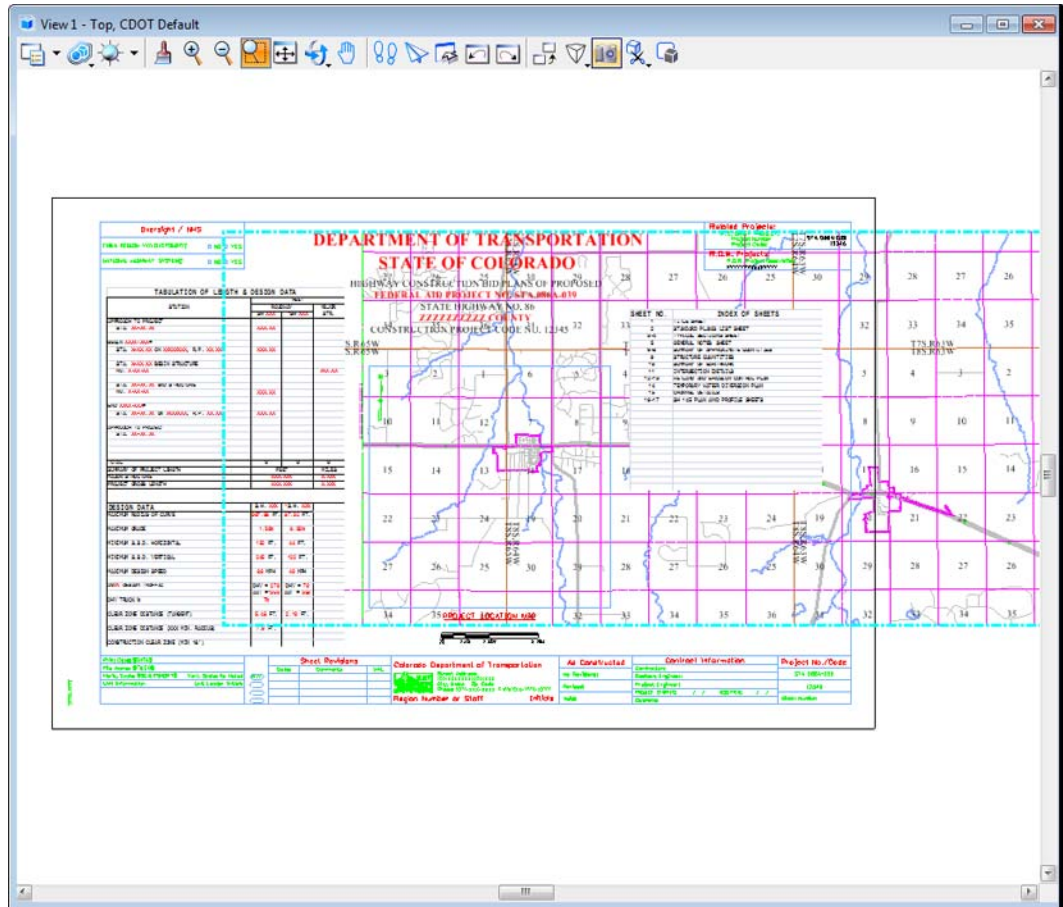
1. In the References dialog box, select Tools > Move.

- When prompted to enter a point to move from, <D> on section 13 on the vicinity reference.

User: SDATES User: SPILLES Date: 05/24/2017 Version: Ver1, Scale: As Noted User: SDATES User: SPILLES	Sheet Revisions Date: Comments Init.	Colorado Department of Transportation Street Address: 10000 City, State, Zip Code: Phone: 303-733-1234 FAX: 303-733-1234 Region Number or Staff Initials	As Constructed No. Revisions: Revised: Valid:	Contract Informa Contractor: Resident Engineer: Project Engineer: PROJECT START/END: / / ACEP Complete:
--	--	--	---	--



- <D> approximately in the center of the project location map block for the move to point.



- Continue to use the Move Reference command as needed to position the reference as shown.
- <R> when done.

Clip the vicinity map reference

- In the Reference dialog, highlight the Vicinity reference
- Select Tools > Clip Boundary from the Reference File dialog.
- In the Tool Settings box, set Method to Element.
- MicroStation prompts ‘Select clipping element’
- <D> on the shape representing the limits of the project location map.

6. <D> to accept.

**DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO**

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
FEDERAL AID PROJECT NO. STA 886A-619
STATE HIGHWAY NO. 86
ZZZZZZZZZ COUNTY
CONSTRUCTION PROJECT CODE NO. 12345

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DESIGN DATA

ITEM	UNIT	VALUE
DESIGN SPEED	MI/HR	55
DESIGN LIFE	YEARS	20
DESIGN FLOW	MGD	100
DESIGN WIND SPEED	MI/HR	75
DESIGN WIND DIRECTION	DEGREES	135
DESIGN WIND PERIOD	SECONDS	10
DESIGN WIND RETURN PERIOD	YEARS	10
DESIGN WIND VELOCITY	MI/HR	100
DESIGN WIND PRESSURE	PSF	15
DESIGN WIND MOMENT	FT-KIP	100
DESIGN WIND TORSION	FT-KIP	100
DESIGN WIND TRANSLATION	FT	10
DESIGN WIND ROTATION	DEGREES	10
DESIGN WIND ACCELERATION	G	0.1
DESIGN WIND DISPLACEMENT	IN	10
DESIGN WIND DRIFT	IN	10
DESIGN WIND VIBRATION	IN	10
DESIGN WIND SETTLEMENT	IN	10
DESIGN WIND CRACKING	IN	10
DESIGN WIND CORROSION	IN	10
DESIGN WIND WEAR	IN	10
DESIGN WIND EROSION	IN	10
DESIGN WIND SETTLEMENT	IN	10
DESIGN WIND CRACKING	IN	10
DESIGN WIND CORROSION	IN	10
DESIGN WIND WEAR	IN	10
DESIGN WIND EROSION	IN	10

PROJECT LOCATION MAP

CONTROL INFORMATION

FIELD	VALUE
PROJECT NO./CODE	STA 886A-619
PROJECT CODE	12345
SHEET NUMBER	

7. Open Level Display and turn off the GIS_Sections-Text and GIS_Township-Text.

8. Fit the view.

**DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO**

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FEDERAL AID PROJECT NO. STA 886A-619
STATE HIGHWAY NO. 86
ZZZZZZZZZ COUNTY
CONSTRUCTION PROJECT CODE NO. 12345

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DESIGN WIND DIRECTION	DEGREES	135
DESIGN WIND PERIOD	SECONDS	10
DESIGN WIND RETURN PERIOD	YEARS	10
DESIGN WIND VELOCITY	MI/HR	100
DESIGN WIND PRESSURE	PSF	15
DESIGN WIND MOMENT	FT-KIP	100
DESIGN WIND TORSION	FT-KIP	100
DESIGN WIND TRANSLATION	FT	10
DESIGN WIND ROTATION	DEGREES	10
DESIGN WIND ACCELERATION	G	0.1
DESIGN WIND DISPLACEMENT	IN	10
DESIGN WIND DRIFT	IN	10
DESIGN WIND VIBRATION	IN	10
DESIGN WIND SETTLEMENT	IN	10
DESIGN WIND CRACKING	IN	10
DESIGN WIND CORROSION	IN	10
DESIGN WIND WEAR	IN	10
DESIGN WIND EROSION	IN	10
DESIGN WIND SETTLEMENT	IN	10
DESIGN WIND CRACKING	IN	10
DESIGN WIND CORROSION	IN	10
DESIGN WIND WEAR	IN	10
DESIGN WIND EROSION	IN	10

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9. Save Settings.

10. Exit MicroStation.

