



FEMA

DFIRM Annotation Tool User Guide

FEMA DFIRM Production Tools

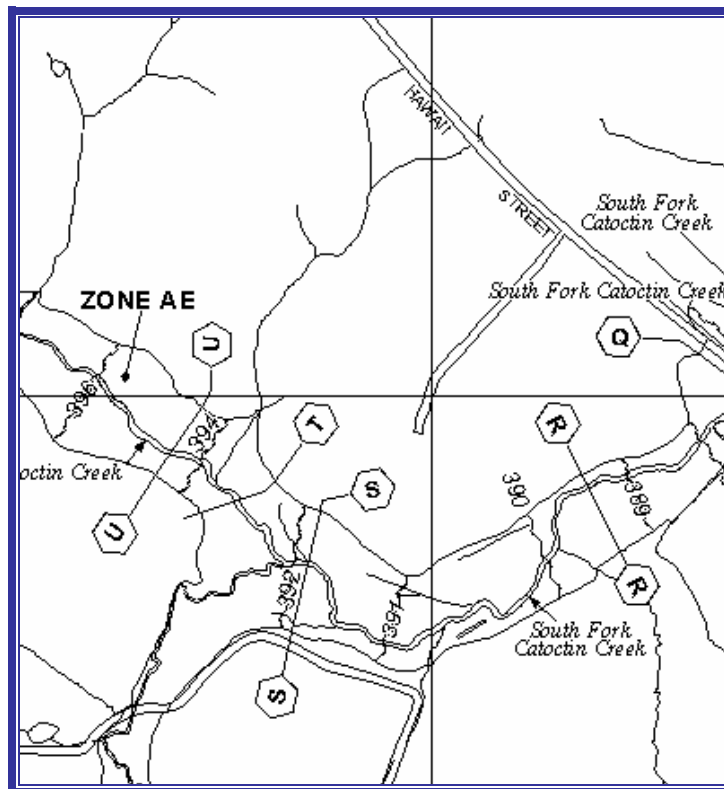







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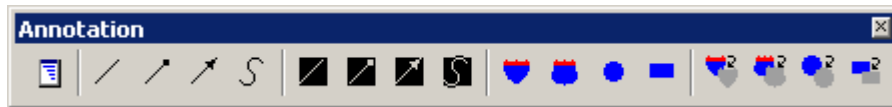
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What is the DFIRM Annotation Tool?

The DFIRM Annotation tool allows the user to add leader lines, highway shields, and other notes on DFIRM maps that are not automatically generated in the batch annotation done with Label Panel. Annotation and leaders can be added for maps with vector or DOQQ bases. The tool creates annotation that meets FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners Appendix K: Format and Specifications for Flood Insurance Rate Maps and Appendix L: Guidance for Preparing Draft Digital Data and DFIRM Database*.

The text, leaders, and other graphics you create with this set of tools are features that are added to the annotation feature class associated with the job. This annotation is stored in the annotation feature classes that hold the Label Panel output. If text is added to a panel, using the DFIRM Annotation tool, the annotation will be "fixed" and will not be overwritten if Label Panel is re-run. Just as leaders generated with the Label Panel tool are re-created each time Label Panel is run, the leaders created with the DFIRM Annotation tool will need to be re-created manually if the panel is re-annotated with Label Panel.

The features available in this tool should only be used after a panel layout has been previewed with **Map Production Pro**. Once the panel has drawn, the user must switch from Layout View to Data View to begin using the DFIRM Annotation tools.



The DFIRM Annotation Toolbar

DFIRM Annotation Tool Overview

This user guide contains useful information that will help guide you in the use of the tool. The key sections of this guide are:

- Quick user reference guide (p. 5)
- Descriptions of tools and how to use them (p. 6)
- Trouble-shooting section containing common errors and their solutions (p. 17)
- Contact information (p. 18)

What can you do with the DFIRM Annotation Tool?

Use the **Symbol Manager** to add additional text to the map, according to the type of base used.



If the interstate highway shield runs over a line, use the **Interstate Highway Hold Out** to hide the underlying line.



Use the **Line Leader** tool to add a leader for a line feature.



Add an **Interstate Highway** shield with a hollow fill.



Add a cartographic gutter to the map with the **Vector Gutter** tool.




















Use the **DOQQ Line Leader** tool to add a heavy leader for a line feature.



Quick Reference Guide

The following is a quick reference guide to all the tools available on the **DFIRM Annotation** toolbar. In addition, positioning your cursor over a button on the toolbar will display its name.

	Symbol Manager	Allows user to specify annotation to be added
	Line Leader	Creates a simple leader line
	Dot Leader	Creates a leader line with a dot at the terminal end
	Arrow Leader	Creates a line with an arrow at the terminal end
	Vector Gutter	Allows user to add a cartographic gutter (symbolized by a white line)
	Line Leader for DOQQ	Creates a simple leader line for a DOQQ base
	Dot Leader for DOQQ	Creates a leader line with a dot at the terminal end for a DOQQ base
	Arrow Leader for DOQQ	Creates a line with an arrow at the terminal end for a DOQQ base
	Vector Gutter for DOQQ	Allows user to add a cartographic gutter (symbolized by a white line) for a DOQQ base
	Interstate Highway	Creates an interstate highway label with a hollow background
	US Highway	Creates a US highway label with a hollow background
	State Highway	Creates a state highway label with a hollow background
	County Highway	Creates a county highway label with a hollow background
	Hold Out Interstate Highway	Creates an interstate highway label with a solid background
	Hold Out US Highway	Creates a US highway label with a solid background
	Hold Out State Highway	Creates a state highway with a solid background
	Hold Out County Highway	Creates a county highway with a solid background

Tool Controls

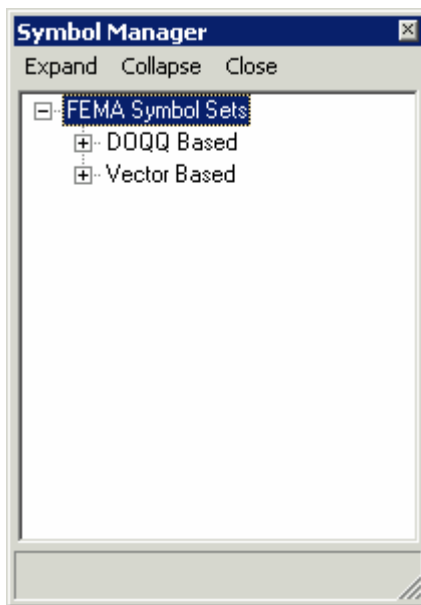
This section describes the functionality of each of the tools on the **DFIRM Annotation** toolbar.




Symbol Manager

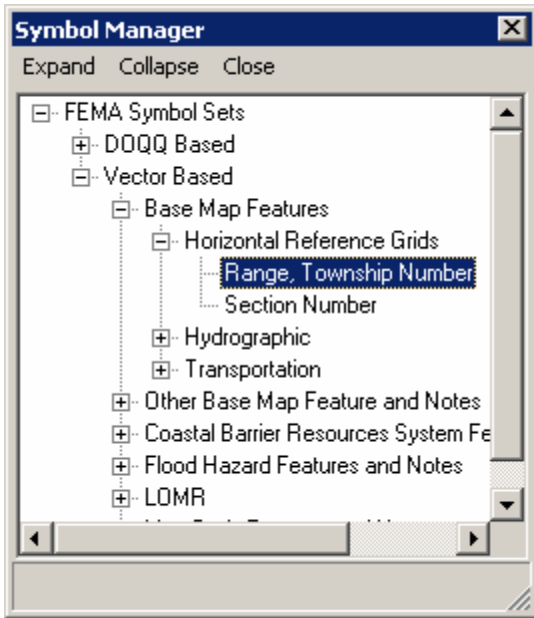
Use the Symbol Manager to specify which annotation should be added to your FIRM. Refer to [Appendix A](#) in this document for a complete list of the annotation that can be added using this tool.

1. Switch to Data View, if you are in Layout View.
2. Click on the Symbol Manager tool and the following dialog will appear:

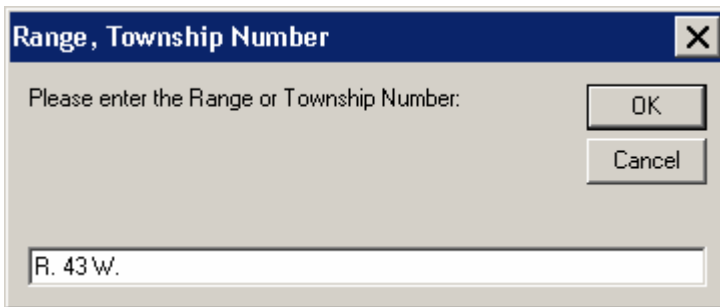


Symbol Manager dialog window

3. Expand the symbol set for the FIRM map base by clicking on the  symbol.
4. Expand the selections available until you locate the symbol or text that you would like to add to the FIRM. Refer to [Appendix A](#) for the expanded list of options. The options are the same for the vector-based and DOQQ-based maps.
5. Select the annotation you want to add by highlighting it in the **Symbol Manager** window.
6. Click once on the map at the location where the annotation or text should be added. It may take a few moments for the feature to be created.
7. Depending on the symbol you selected, you may be prompted for additional information, including text, dates and feature type. As was noted in the introduction section, these tools do not reference the attributes of the features shown. For instance, if you want to add Township and Range information for an area, you would need to manually enter the number in a dialog such as the one below.



Range, Township Number in the Symbol Manager dialog window



Range, Township Number dialog window

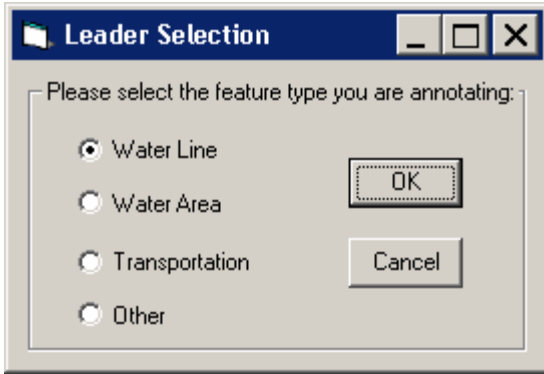
8. Close the **Symbol Manager** if you are finished adding text or symbols. Leave the window open if you want to add more annotation.



Line Leader

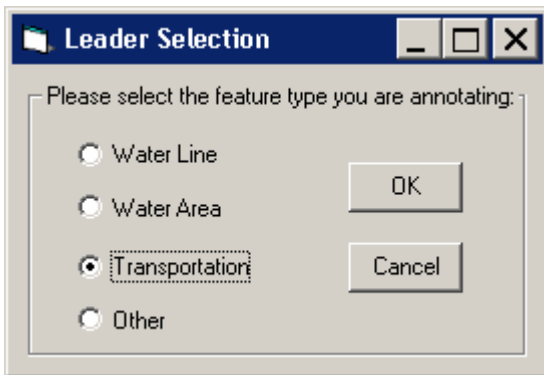
Add a leader to an existing piece of annotation. The leader style cannot be modified.

1. Switch to Data View, if you are in Layout View.
2. Select the **Line Leader** tool.
3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.

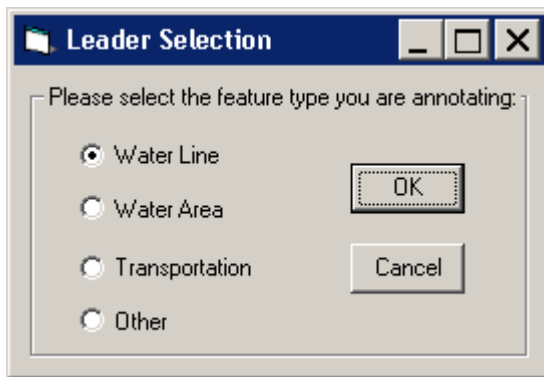


Dot Leader

Add a leader with a dot ending to an existing piece of annotation. The leader style cannot be modified.

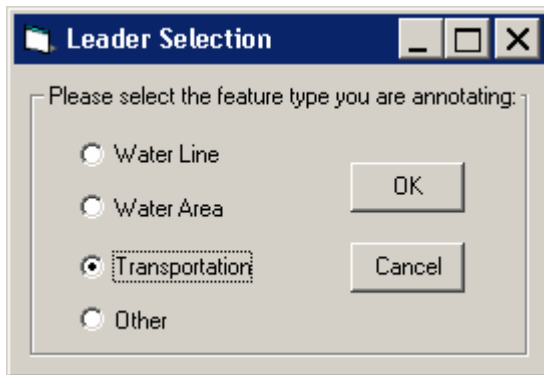
1. Switch to Data View, if you are in Layout View.
2. Select the **Dot Leader** tool.

3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.

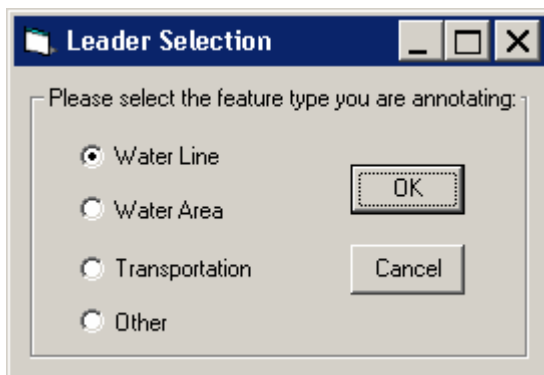


Arrow Leader

Add a leader with an arrowhead end to an existing piece of annotation. The leader style cannot be modified.

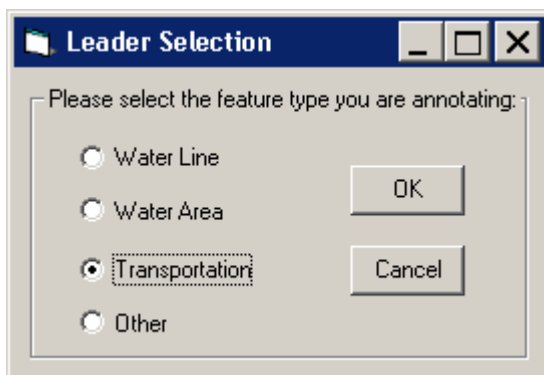
1. Switch to Data View, if you are in Layout View.

2. Select the **Arrow Leader** tool.
3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.



Vector Gutter

A vector or cartographic gutter is used to denote a boundary between flood hazard zones, for example between an A and an AE zone. This symbol style cannot be modified.

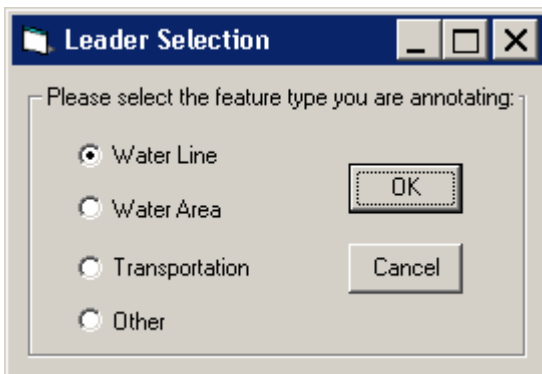
1. Switch to Data View, if you are in Layout View.
2. Select the **Vector Gutter** tool.
3. Click on the map at each point where you want to add a vertex to the gutter.
4. Double click to end the line.



DOQQ Line Leader

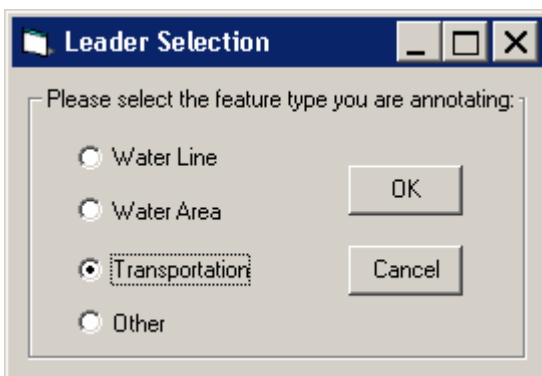
This tool will add a leader to the map with a heavy line weight so that it is more visible on an orthophoto base-map. The line style cannot be modified.

1. Switch to Data View, if you are in Layout View.
2. Select the **DOQQ Line Leader** tool.
3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

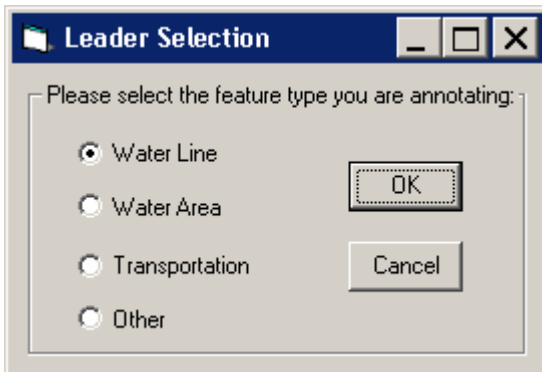
5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.



DOQQ Dot Leader

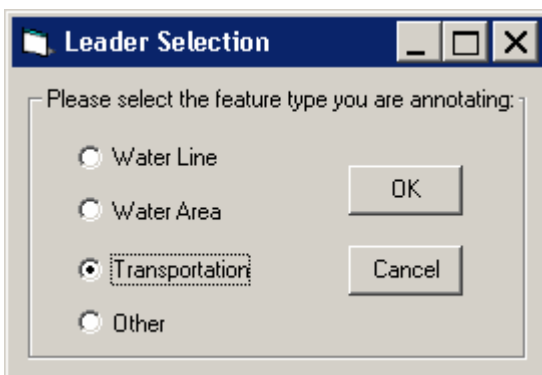
This tool will add a leader with a dot or meatball end with a heavy line weight. It will be more visible on an orthophoto base map. The line style cannot be modified.

1. Switch to Data View, if you are in Layout View.
2. Select the **DOQQ Dot Leader** tool.
3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

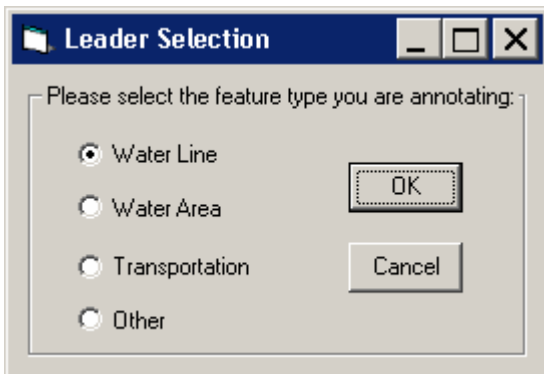
5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.



DOQQ Arrow Leader

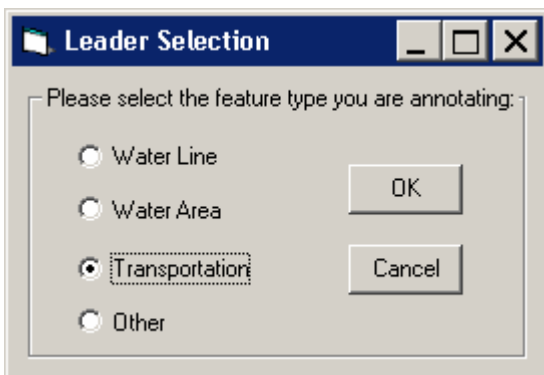
This tool will add a leader with an arrow head end with a heavy line weight. The line will be more visible on an orthophoto base map. The line style cannot be modified.

1. Switch to Data View, if you are in Layout View.
2. Select the **DOQQ Arrow Leader** tool.
3. Click near the annotation you would like to leader, and the following dialog will appear.



Leader Selection dialog window

4. Select the type of leader you would like to create.



Leader Selection dialog window with Transportation feature type selected.

Note: It is important to make an accurate leader type selection, as this information is used in the conversion of the annotation layer to the S_Label_Ld layer. The S_Label_Ld layer is required, according to specifications in FEMA's Appendix L.

5. Click OK to continue.
6. Click on the map at each point where you want to add a vertex to the leader.
7. Double click the feature to end the leader.



DOQQ Vector Gutter

A vector or cartographic gutter is used to denote a boundary between flood hazard zones, for example between an A and an AE zone. This symbol style has a heavy line weight so that it is visible on an orthophoto base map. This symbol style cannot be modified.

1. Switch to Data View, if you are in Layout View.
2. Select the **DOQQ Vector Gutter** tool.
3. Click on the map at each point where you want to add a vertex to the gutter.
4. Double click to end the line.



Interstate Highway

The tool adds an interstate highway shield with a hollow fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **Interstate Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 195 or 81)
5. Click OK to apply the name to the shield.



US Highway

The tool adds a US highway shield with a hollow fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **US Highway** tool.

3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 101, 1, 1A)
5. Click OK to apply the name to the shield.



State Highway

The tool adds a State highway shield with a hollow fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **State Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 121 or A23)
5. Click OK to apply the name to the shield.



County Highway

The tool adds a county highway shield with a hollow fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **County Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., P30, 336, 22A)
5. Click OK to apply the name to the shield.



Hold Out Interstate Highway

The tool adds an interstate highway shield with a solid white fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **Hold Out Interstate Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 195 or 81)
5. Click OK to apply the name to the shield.



Hold Out US Highway

The tool adds a US highway shield with a solid white fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **Hold Out US Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 101, 1, 1A)
5. Click OK to apply the name to the shield.



Hold Out State Highway

The tool adds a State highway shield with a solid white fill to the map.

1. Switch to Data View, if you are in Layout View.
2. Click on the **Hold Out State Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., 121 or A23)
5. Click OK to apply the name to the shield.



Hold Out County Highway

The tool adds a county highway shield with a solid white fill to the map.

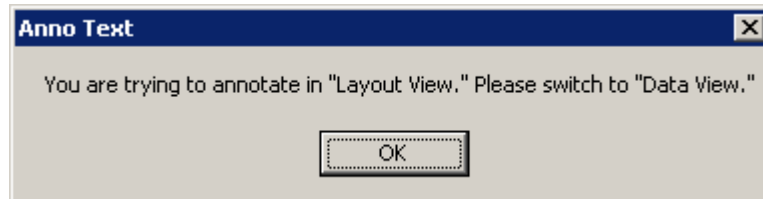
1. Switch to Data View, if you are in Layout View.
2. Click on the **Hold Out County Highway** tool.
3. Click on the map at the location where you want to add the shield.
4. At the prompt, enter the highway name (e.g., P30, 336, 22A)
5. Click OK to apply the name to the shield.

Trouble - Shooting

Problem: You receive an error message that the data is not in a projection.

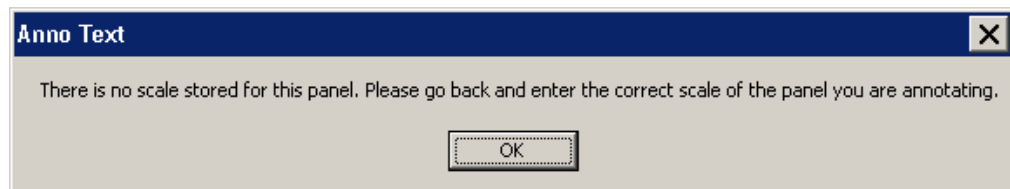
Solution: You must use the **DFIRM Layer Data Loader** to add the STUDY_INFO table to the project. Use **GeoPop Pro** to populate the table with the correct projection information.

Problem: The following error message appears when you try to use a tool.



Solution: Switch to the specified view.

Problem: The following error message appears when you try to use a tool.



Solution: The SCALE attribute is not populated correctly in the FIRM INDEX layer (S_Fld_Haz_Ar). Use GeoPop Pro to populate the table with the correct scale information.

Contacts

If you need assistance with this tool, please contact the representative at your local RMC.

REGIONAL - NSP MOD TEAM CONTACT LIST			
Name	Role	Email	Phone
REGION I			
Brent McCarthy	Lead	Brent.McCarthy@mapmodteam.com	336-240-7339
Jeffrey Burm	GIS/Mapping	jeffburm@mapmodteam.com	517-482-4930 x4752
REGION II			
Rich Cassin	Operations Manager	Rich.Cassin@mapmodteam.com	914-333-5366
Michael Crino	GIS/Mapping	mcrino@mbakercorp.com	718-482-9945
REGION III			
Mike Conaboy	Operations Manager	mconaboy@mbakercorp.com	609-734-7922
Lee Brancheau	GIS/Mapping	lbrancheau@mbakercorp.com	609-734-7912
REGION IV			
Stephen King	Operations Manager	Stephen.King@mapmodteam.com	678-459-1010
Kagan Kuyu	GIS/Mapping	Kagan.Kuyu@mapmodteam.com	678-459-1041
REGION V			
Sujata Banerjee	Business Manager	Sujata.Banerjee@mapmodteam.com	312-575-3902
Pam Coye	GIS/Mapping	Pam.Coye@mapmodteam.com	312-575-3913
REGION VI			
Dan Hoecker	Operations Manager	Dan.Hoecker@mapmodteam.com	940-783-4155
Phil Nguyen	GIS/Mapping	pxnguyen@mbakercorp.com	940-783-4121
REGION VII			
Matthew Koch	Operations Manager	mkoch@watershedconcepts.com	816-502-9420 x4952
Rod Odom	GIS/Mapping	rodom@watershedconcepts.com	816-502-9420 x4957
REGION VIII			
David Julia	Operations Manager	David.Julia@mapmodteam.com	720-514-1100
Mike Garner	GIS/Mapping	Mike.Garner@mapmodteam.com	720-514-1105
REGION IX			
Travis Clark	Business Manager	Travis.Clark@mapmodteam.com	510-879-0950
Michael Skowronek	GIS/Mapping	michael.skowronek@mapmodteam.com	510-879-0958
REGION X			
Michael Morgan	Business Manager	Mike.Morgan@mapmodteam.com	206-344-3891
Timothy Witten	GIS/Mapping	wittentd@bv.com	206-344-3891

Appendix A: FEMA Symbol Sets

When you open the Symbol Manager, the annotation below is available to you, for both Vector and DOQQ-based FIRMs.

DOQQ Based – Has the same options available as for vector-based maps, shown below.

Vector Based

Base Map Features

Horizontal Reference Grids

- Range, Township Number
- Section Number

Hydrographic

- Name of River, Stream, or Other Hydrographic Feature (Small)
- Name of River, Stream, or Other Hydrographic Feature (Medium)
- Name of River, Stream, or Other Hydrographic Feature (Large)
- Unnamed Stream, Unnamed Tributary
- Wash or Glacier and Name
- Intracoastal Waterway Label
- Canal Label
- Cranberry Bog Label
- Ditch Label
- Glacier Label
- Marsh Label
- Pond Label
- Swamp Label
- Wash Label

Transportation

- Street, Road, Avenue
- Private Road Label
- Unimproved Road Label
- Unnamed Road Label
- Road or Railroad Bridge
- Footbridge Label
- Tunnel Label
- Railroad
- Abandoned Railroad Label CAPS
- Abandoned Railroad Label CLC
- Dismantled Railroad Label CAPS
- Dismantled Railroad Label CLC
- Old Railroad Grade Label CAPS
- Old Railroad Grade Label CLC
- Ferry Label
- Airport / Airfield Name (Small)
- Airport / Airfield Name (Medium)
- Airport / Airfield Name (Large)
- Airfield Label
- Landing Strip Label

Other Base Map Feature and Notes

- Name of Large Island (Small)
- Name of Large Island (Medium)
- Name of Large Island (Large)
- Name of Small Island (Small) CAPS
- Name of Small Island (Small) CLC
- Name of Small Island (Large) CAPS
- Name of Small Island (Large) CLC

Name of Point, Cape, Neck (Small) CAPS
Name of Point, Cape, Neck (Small) CLC
Name of Point, Cape, Neck (Medium) CAPS
Name of Point, Cape, Neck (Medium) CLC
Name of Point, Cape, Neck (Large) CAPS
Name of Point, Cape, Neck (Large) CLC
Name of Gulch, Canyon, Draw (Small) CAPS
Name of Gulch, Canyon, Draw (Small) CLC
Name of Gulch, Canyon, Draw (Large) CAPS
Name of Gulch, Canyon, Draw (Large) CLC
Corporate Limits Coincident With Shoreline Label
This Area Shown Label
Significant Outlined Landmark

Coastal Barrier Resources System Features and Notes

Flood Insurance Not Available for Structures after Oct 1, 1983 Label
Flood Insurance Not Available for New Construction Label
Flood Insurance Not Available for Structures (Insert date) Label
Coastal Barrier Identified Label
Otherwise Protected Area Identified Label
This Area Contained Within CBRS Label
Comments or Concerns Regarding CBRS Label

Flood Hazard Features and Notes

Flooding Effects From (source name) Label
Floodway in This Area Too Narrow Label
Floodway Contained in Channel Label
Floodway Contained in Culvert Label
This Area Protected From 1% Annual Chance Flood Label
This Area Includes Areas Protected from 1% Annual Chance Flood Label
Coastal Base Flood Elevations Apply Only Landward Label
Flood Hazard Information Not Shown Label
Flood Hazard Information is Shown Within Label
Flood Insurance Information on This Map Label

LOMR

Revised Area Label (Small)
Revised Area Label (Medium)
Revised Area Label (Large)
Area Revised by LOMR Dated Label (Small)
Area Revised by LOMR Dated Label (Medium)
Area Revised by LOMR Dated Label (Large)

Map Body Features and Notes

Clarify Coincident With Features
Profile Base Line Label