



What's New in ArcPad® 7.1 and ArcPad Application Builder 7.1

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What's New in ArcPad 7.1 and ArcPad Application Builder 7.1

An ESRI White Paper

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What's New in ArcPad 7.1 and ArcPad Application Builder 7.1

Highlights

Can Use a Fully Relational Database in ArcPad

The major feature introduced at ArcPad® 7.1 is an out-of-the-box solution for supporting "related tables." In previous versions of ArcPad, features in a geodatabase were exported during the checkout process and stored in shapefiles. Subtypes and domains were stored in the individual shapefile's edit form. Relationship classes defined in the geodatabase were not supported and user-specific customizations got overwritten after each checkout session. ArcPad 7.1 allows you to extract geodatabase feature classes with relationships to a single AXF file. Database rules (subtypes, coded value domains, range domains) are supported in the data and do not need to be manually added to forms.

Easier to Manage Mobile GIS Project Deployments with ArcPad Data Manager Extension

The new ArcPad Data Manager extension for ArcGIS® Desktop contains two components, a toolbar for ArcMap™ and geoprocessing tools for ArcToolbox™. The new extension allows you to check out/check in from different machines, provides your choice of optional password protection/encryption of data, and is the only way to create AXF files.

Simpler to Start a New Project in the Field with QuickProject

You've asked us to make it easier to start a new project in the field. In ArcPad 7.1, you can now quickly create a new data capture project with or without existing background data layers. When you choose New QuickProject, with only two screen taps you can create ArcPad map, point, polyline, and polygon shapefiles with custom input forms and editable category values.

More Powerful Query Builder to Find Features

The ArcPad Find dialog box has been updated to improve your search ability. The Criteria tab has been replaced by the new Query tab. On this tab, you can search multiple fields (up to three) using different logical operators. The Results tab has also been improved to include distance and direction (from the center of the map or GPS location) and can be sorted.

Can Make Custom Query Forms for Your Feature Layers

Similar to the custom edit and identify forms you can create in ArcPad Studio, you can now also create custom query forms for your data. Each layer can have one or more

custom query forms defined. These are displayed on the Find dialog box along with the default Query tab.

StreetMap Extension Now Included in ArcPad

The StreetMap™ extension (previously sold separately) will now be an ArcPad 7.1 core functionality. The StreetMap extension supports Smart Data Compression (SDC) format and enables address geocoding, reverse geocoding, and routing. ArcPad 7.1 is bundled with North American data from Tele Atlas.

Ongoing Quality Improvements

Other improvements include filters, the Label tool, read-only layers, snapping tolerance for each layer, and the option to change the default button size for toolbar and menu buttons. The Button Size option is located on the General page of the ArcPad Options dialog box.

AXF

The major feature introduced in ArcPad 7.1 is an out-of-the-box solution for supporting related tables. In previous versions of ArcPad, features in a geodatabase were exported during the checkout process and stored in shapefiles. Subtypes and domains were stored in the individual shapefile's edit form. Relationship classes defined in the geodatabase were not supported, and user-specific customizations were overwritten after each checkout session.

In ArcPad 7.1, feature classes and related tables defined in the geodatabase are extracted to a single ArcPad AXF file. Relationship rules, including relationship classes, subtypes, and domains, are maintained and enforced at the database level instead of in forms (eliminating the overwrite that happens at the previous checkout). Each feature can support multiple sets of attributes in separate tables.

What Is the ArcPad AXF File?

An ArcPad AXF file can be seen as shapefiles in a relational database. It is a single file that stores

- Features classes checked out from the geodatabase
- Domains and subtypes
- Relationship classes
- Coordinate system
- Layer symbologies
- Spatial and attribute indexes
- Custom forms
- Layer icons and aliases

To view ArcPad AXF files on desktop and mobile devices, Microsoft® SQL Server™ 2005 Compact Edition will be installed with the ArcPad 7.1 installation.

How Does This Change the User Experience with ArcPad?

With the introduction of ArcPad AXF files at 7.1, the end user experience remains mostly unchanged. Shapefiles are supported in the same way as in previous ArcPad versions, and most existing functionality will work for both shapefiles and AXF files. You can have an ArcPad project that contains both AXF layers and shapefiles, and they will appear the same.

The key difference is that, if you would like to view/query/edit related tables in the field, you must use the AXF file generated by ArcPad Data Manager for ArcGIS 9.2.

How Is an AXF File Generated?

An ArcPad AXF file can only be generated using one of the following methods:

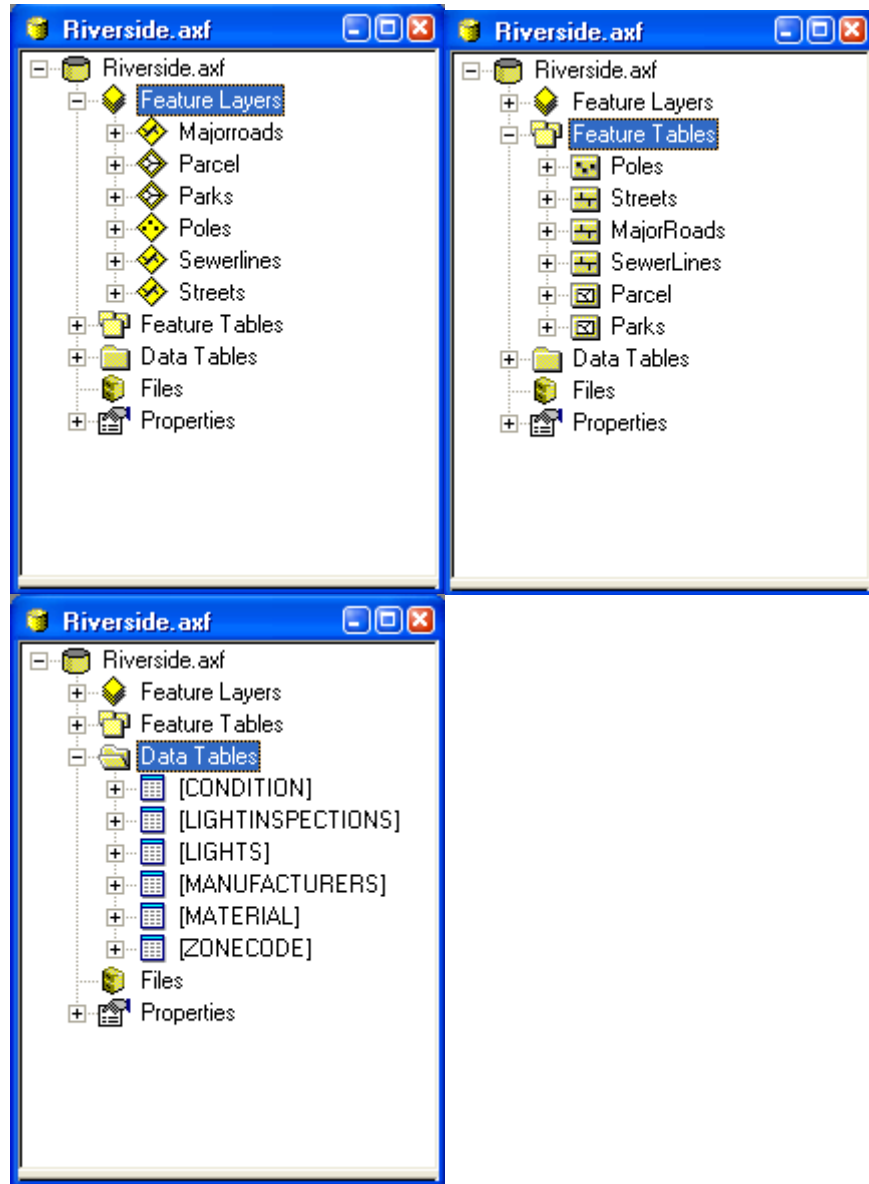
- The Get Data For ArcPad tool in the ArcPad Data Manager extension
- The ArcPad Data Manager geoprocessing tool in the ArcToolbox application of ArcGIS Desktop
- Ability to support relationship classes defined in the geodatabase in ArcPad
- An all-in-one file that is more robust for handling reboot, power down, and so forth
- Low memory overhead
- Management of relationships at the database level instead of in forms for individual layers
- Automatic creation of pick lists, check boxes, and additional tabs based on database relationships, reducing (and in many cases eliminating) the need for form customization
- On-the-fly indexing of records in an AXF file for faster editing in ArcPad
- Password protected (optional)
- Encrypted (optional)
- Support for data edit/identify forms (same as in shapefiles)
- Support for ArcMap symbologies (same as in shapefiles)
- Support for layer icons and aliases (same as in shapefiles)
- Representation of same data source as different layers (with different symbologies, subsets, etc.) in ArcPad

What Are the Advantages of AXF Files?

Exploring AXF Files in ArcPad Studio

AXF files can only be opened in ArcPad or ArcPad Studio. They cannot be viewed or queried in ArcCatalog™ or ArcMap. In ArcPad, you can add and remove AXF feature layers as you would shapefiles. Related tables are only visible in ArcPad when you select a feature from a feature layer that has a related record. In ArcPad Studio, you are able to browse the contents of an AXF file, but you are unable to alter the data. You are however, able to add customization to the AXF file including layer icons, custom forms, symbology, labeling, and scripting.

To open an AXF file in ArcPad Studio, use the Open command on the File menu. Browse to the AXF file you want to open and click Open. The file will open in a tree view. The Riverside sample AXF file looks like this:

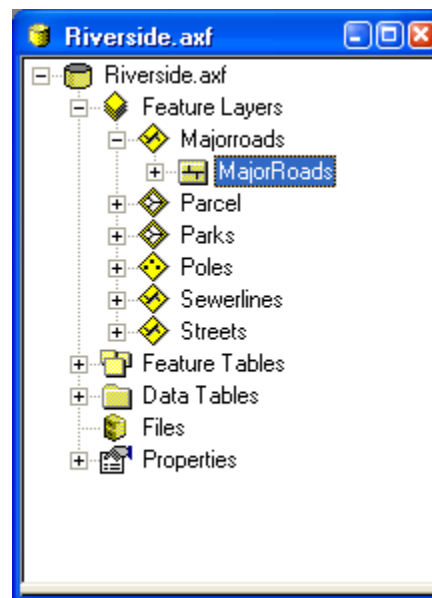


The AXF file has three main tree branches: Feature Layers, Feature Tables, and Data Tables. It also has two other branches, Files and Properties.

- **Feature Layers**—What are actually drawn in ArcPad. These are akin to the shapefile and APL of previous versions of ArcPad. The feature layer contains all customizations of the layer, symbology, labeling, forms, scripts, and so forth.

- **Feature Tables**—The underlying data on which a feature layer is created. These are akin to the basic shapefiles (with no APL). In an AXF file, you can have many feature layers based on a single feature table.
- **Data Tables**—The related tables, which are akin to stand-alone DBFs used in previous versions of ArcPad. Any coded value domains will also be displayed as tables here.
- **Files**—Script files embedded in the AXF file.
- **Properties**—As the name suggests, this branch lists properties unique to the current AXF file, what was created, and how it was created. For further information, refer to the ArcPad Studio Help.

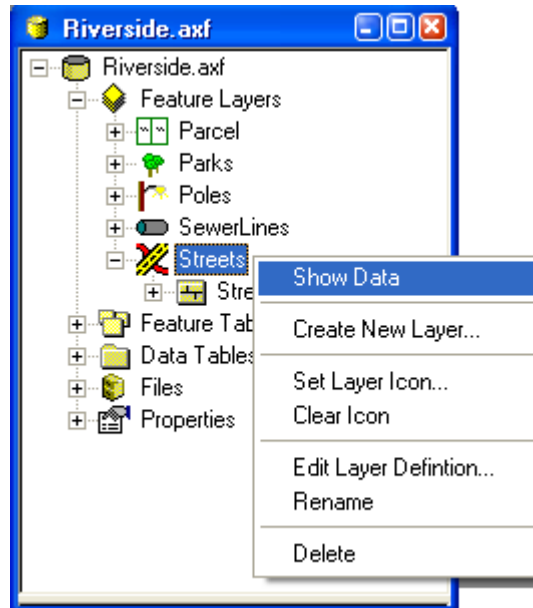
Expand the **Feature Layer** branch and you will see the feature table that the layer is created from.



In this case, Majorroads is the default feature layer based on the MajorRoads feature table. By default, one feature layer/feature table pair is created by ArcPad Data Manager for every ArcGIS feature class checked out.

Right-click the feature layer and you will see several options:

- Show Data
- Create New Layer
- Set Layer Icon
- Clear Icon
- Edit Layer Definition
- Rename
- Delete



- **Show Data** displays the tabular content of the layer. For example, the Majorroads layer appears as follows:

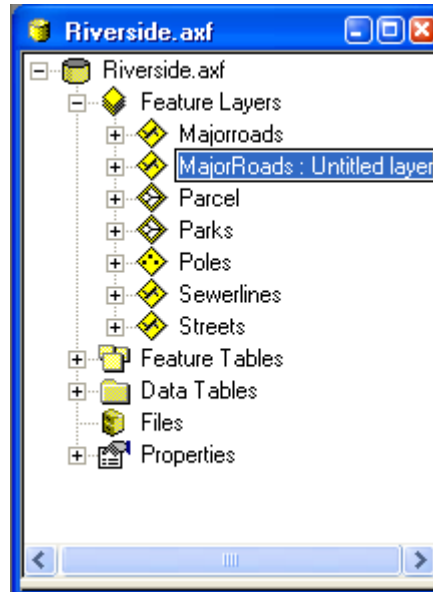
Riverside.axf:Command

```
SELECT *
FROM [MAJORROADS];
```

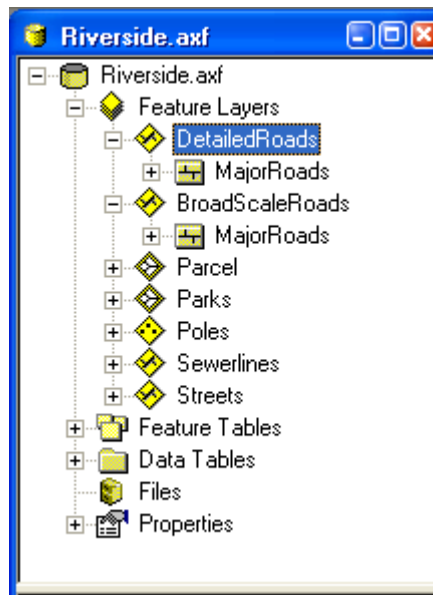
Row #	AXF_OBJECTID	OBJECTID	LENGTH	HWYNAME	FCC	STATEFIPS	ALT1_NAME	Shape_Length	G
	integer*4	integer*4	float*8	nvarchar*40	nvarchar*3	nvarchar*2	nvarchar*40	float*8	fl
1	1	1	1.00134	CENTRAL AVE	A31	06		5326.50132233438	62
2	2	2	0.44061	PALM AVE	A31	06		2311.73584069955	62
3	3	3	0.24402	CENTRAL AVE	A31	06		1298.10957423228	62
4	4	4	0.24925	PALM AVE	A31	06		1306.33773754635	62
5	5	5	0.41837	MAGNOLIA AVE	A35	06		2199.60532251829	62
6	6	6	0.43973	MAGNOLIA AVE	A35	06		2311.86640409713	62

- **Create New Layer** allows you to create a layer based on an existing feature table. If you have a feature table called MajorRoads, you can create multiple feature layers based on this table to display in ArcPad. Perhaps one is called BroadScaleRoads and has bold symbology and no labeling, which is suitable for broad-scale display, and another, called DetailedRoads, has more detailed symbology and labeling suitable for viewing when zoomed in closer.

First, click Create New Layer. This produces a duplicate of the feature layer that you started with. In the Riverside sample, the screen shot below shows a new MajorRoads layer:

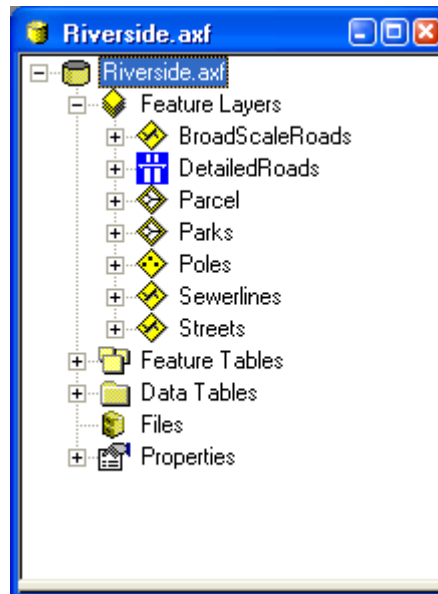


Renaming the original Majorroads layer to DetailedRoads and changing the new layer's name to BroadScaleRoads is shown below. Expanding the tree shows that both these layers are based on the MajorRoads feature table.

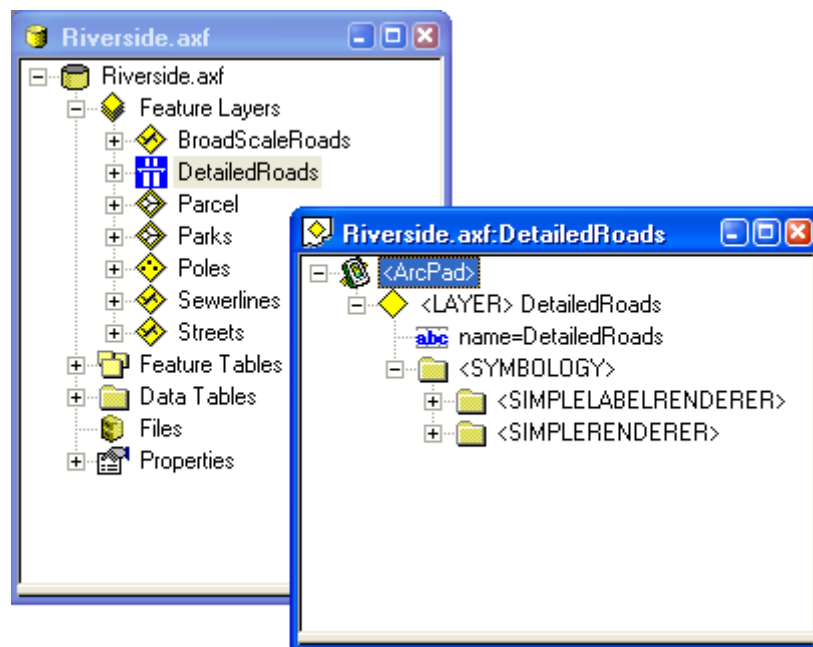


- **Set Layer Icon** allows you to choose a custom icon for each or any layer. Browse to the .ico file that you want to use and click Open. The icon will change to the file that

you selected. The following example shows a custom icon for the DetailedRoads layer.



- **Edit Layer Definition** allows you to customize a feature layer. Right-clicking the Poles feature layer of the Riverside sample opens the following window:

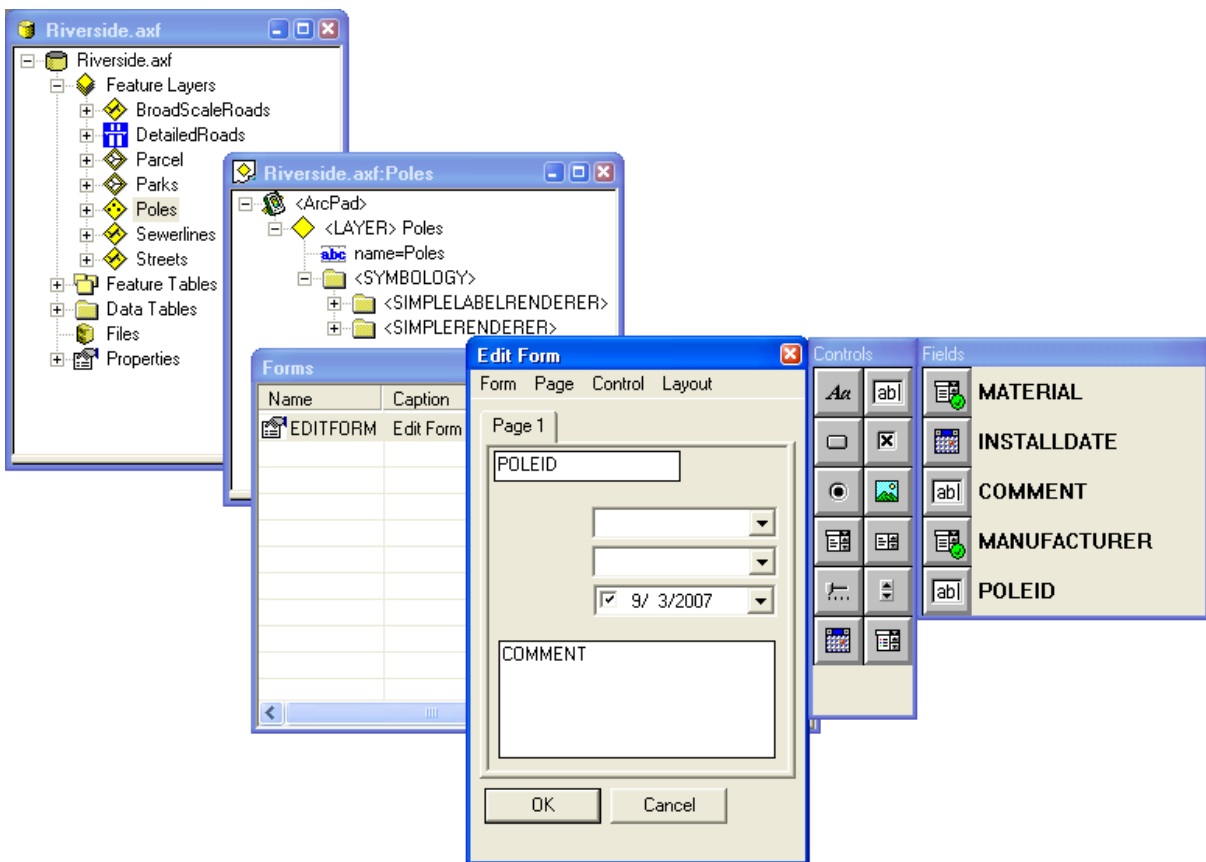


Similarly as with the shapefile, you can now edit the symbology, add custom code, or create a custom form.

- To create a custom form, click the Forms tool.



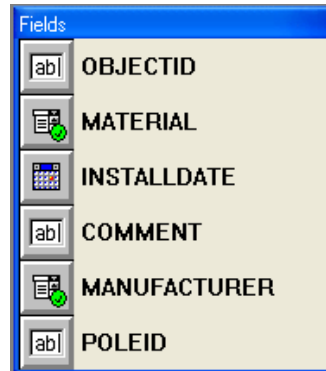
Choose what type of form you want to create—EDITFORM, IDENTIFY, or QUERYFORM—by clicking the appropriate button on the right-hand side of the Forms dialog box (the edit form is chosen in the screen shot below).



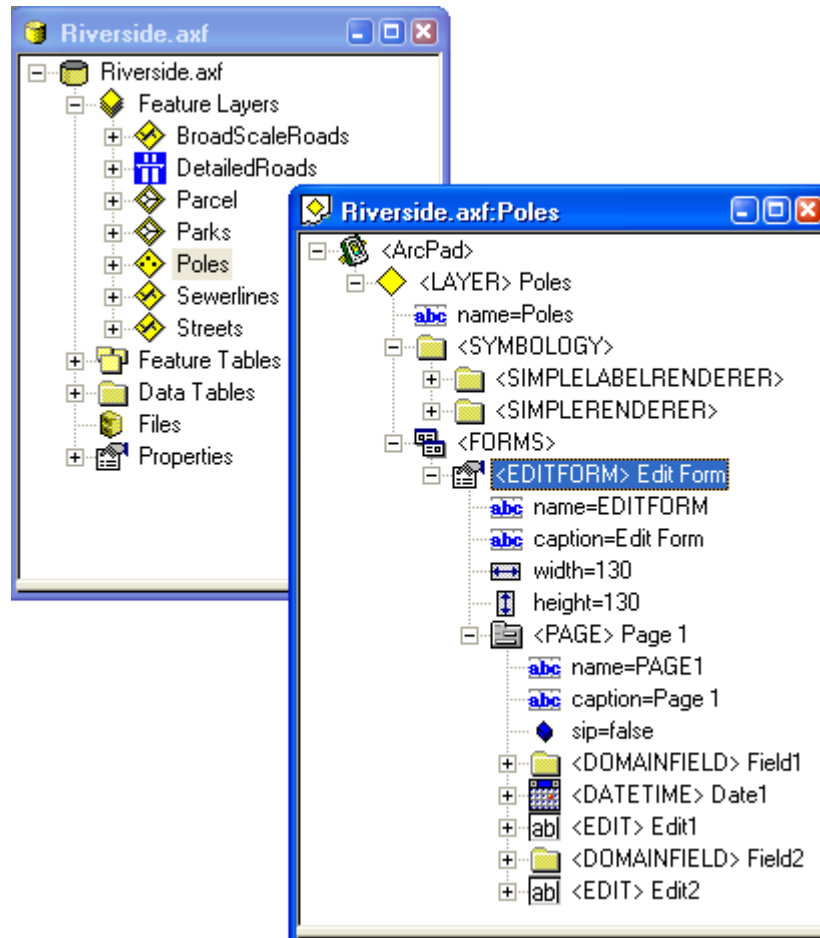
- New to ArcPad Studio 7.1 is a Fields picker. You can use this or the traditional Controls picker. By choosing from the Fields picker, you do not need to assign which attribute is associated to the control; this is done automatically. Click the icon next to the field that you want to add, and drag it onto the form.

You will notice a new control in the following list. The control defined for the MATERIAL and MANUFACTURER fields is unique and is only produced by ArcPad Data Manager. This control changes depending on the contents of the field. In ArcGIS, you are able to define a combination of conditions for a field based on subtypes and domains. There are cases where this control will change

from being a drop-down box (where it represents a coded value domain) to an edit box (where it represents a range domain).



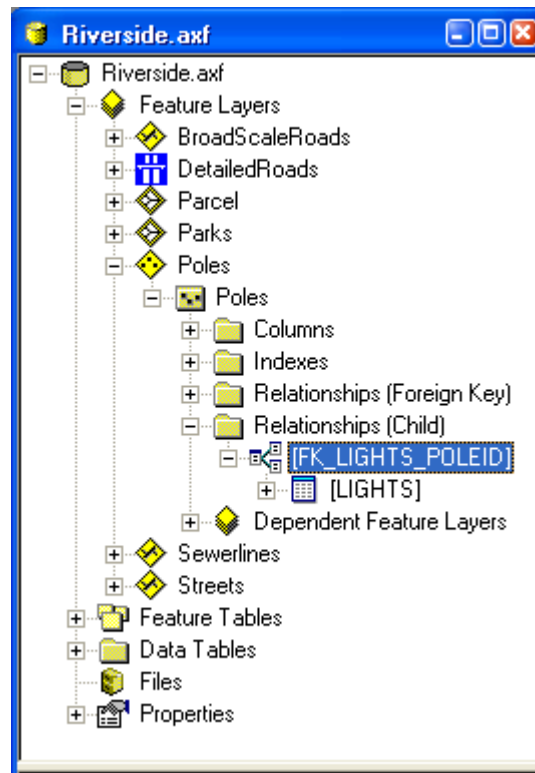
When you close and save the edit form, you will see the form detail added to the Poles layer definition:



- **Rename** allows you to rename the feature layer. Note that this does not rename the feature table that it is based on.
- **Delete** allows you to delete the feature layer. Note that this does not delete the feature table that it is based on.

You can see the *relationships* that were created during the checkout by expanding the feature layer tree. You are unable to edit these relationships, but looking at them may be useful when troubleshooting why data does not appear as you expect it to.

In the Riverside example, the Poles feature layer has a one-to-many relationship to the LIGHTS data table. Relationships (Child) shows that LIGHTS is a child table of Poles; in other words, one record in Poles may have one or more records in the LIGHTS table.



ArcPad Data Manager for ArcGIS Desktop

The ArcPad Data Manager extension for ArcGIS Desktop 9.2 is installed with ArcPad 7.1. It replaces the ArcPad Tools for ArcGIS Desktop that comes with ArcPad 7 and 7.0.1. ArcPad Data Manager includes two components:

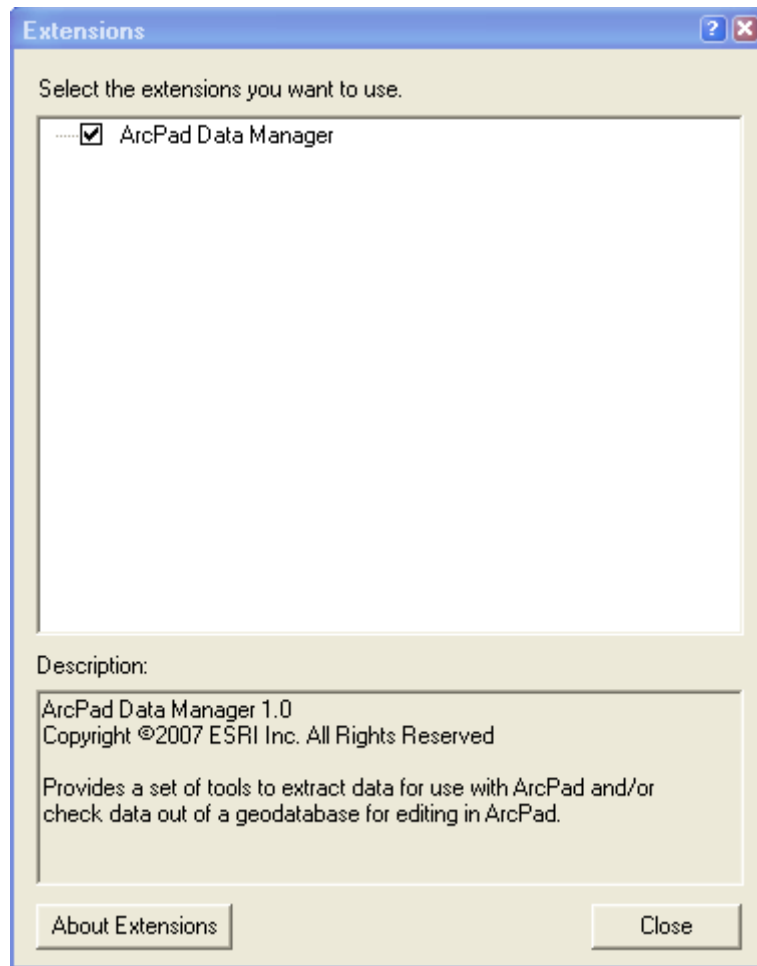
- An ArcMap toolbar
- A toolbox for ArcToolbox

A sample geodatabase provided in the installation demonstrates the new functionality in ArcPad 7.1. Included are a source personal geodatabase, an accompanying ArcMap document, a checked-out AXF file and accompanying ArcPad map file, and a checkout

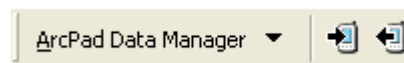
log (axf.xml) file. These are located in the ArcPad 7.1 > Samples > Riverside folder. You can use this sample data to practice using ArcPad Data Manager.

ArcMap Toolbar

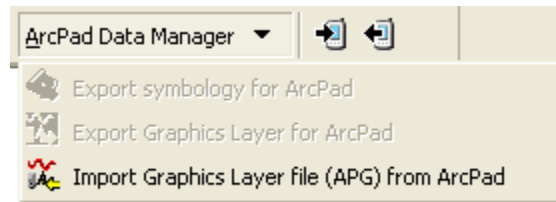
To view the ArcMap toolbar, you must have the ArcPad Data Manager extension enabled (Tools > Extensions).




The toolbar looks like this:

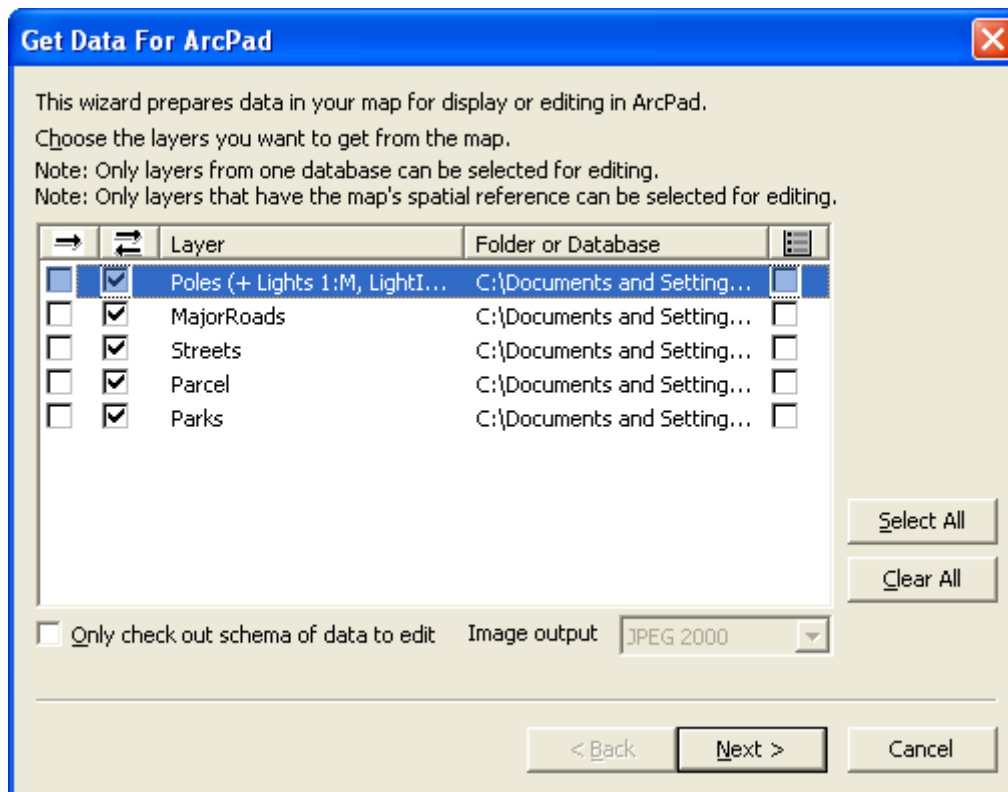


The drop-down list contains legacy tools that can still be used in ArcPad 7.1. The two new tools on the right are Get Data For ArcPad and Get Data From ArcPad.



■ **Get Data For ArcPad**

When you choose the Get Data For ArcPad tool , you will be presented with the following window:



The box in the first column on the left should be checked only if you do not want to check your field edits back in to the geodatabase. By checking this box, you are requesting to create shapefiles from your layers. These shapefiles can still be opened and edited in ArcPad, but the edits cannot be checked in. By default they are read-only. You can manually remove the read-only setting in the APL if required. This option should be used for layers that are for reference only. For example, contour and parcel layers are often very large and usually not edited. They are for reference only. A read-only shapefile version of these layers will increase the draw speed of your map.

Checking the second column requests that the layer be added to the resultant AXF file. Tables that are related to any of these checked layers will also be added to the AXF file. These can then be checked back in to the geodatabase at a later date.

The column on the right-hand side allows you to associate an existing APL to the layer.

If you have raster layers, you now have three choices for output: JPEG 2000, TIFF, or original. If you choose original, no cropping will be performed, and the image will be copied as is.

The Only check out schema of data to edit option will check out the structure of the feature layer with no actual data present. This could be used if you were collecting locations and data of speeding offenses and you did not require the field user to have any of the previously collected data. They will only be able to add new features/data.

Clicking Next will take you to the following screen:

What data do you want?

Spatial extent: The current display extent

Only get selected features

Only get features specified in layer's definition query

Only get fields specified as visible in layer's properties

Specify a name for the folder that will be created to store the data:

RiversidePoles

Where do you want this folder to be stored?:

C:\Documents and Settings\clai5368\My Documents

Create an ArcPad map (.apm file) for the data Map name: Poles .apm

Encrypt checked out data Password:

Validate feature classes before checking out


< Back Finish Cancel

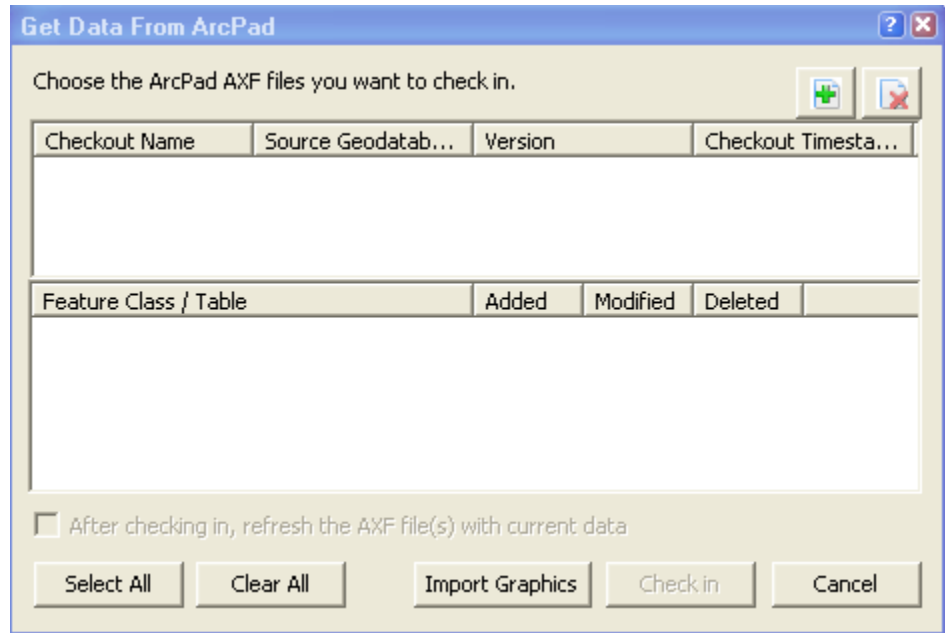
Here you can choose a location and a name for your output. You can also choose to encrypt your AXF file.


If you have not already validated your data using the ArcMap validation tools, it is recommended that the Validate feature classes before checking out option is checked when checking out data for ArcPad. If a feature class is not valid, it will not be included in the AXF file. If any feature classes are not valid, warning messages will be displayed giving some indication as to why validation failed.

J-9691

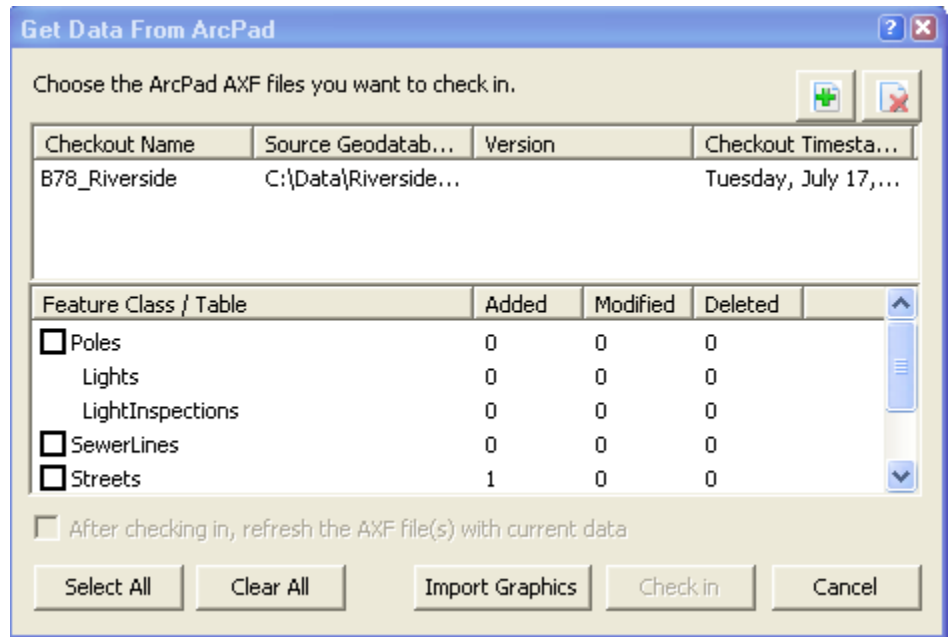
■ **Get Data From ArcPad**

When you choose the Get Data From ArcPad tool , you will be presented with the following window:



Use the Add Data  button to browse for your AXF files.

Once you choose the AXF file to get data from, the window will show you a summary of the edits to be checked in. Counts of added, modified, and deleted features are listed for each feature class and table.

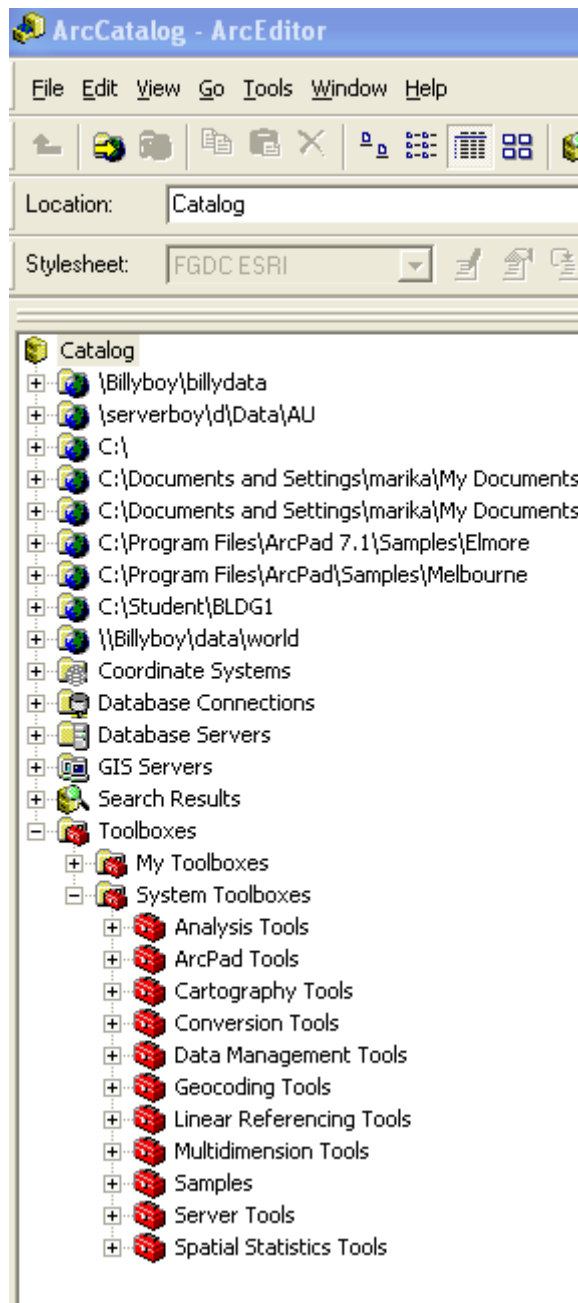


To check these changes in, simply select the layers you wish to check in and click Check in.

J-9691

ArcToolbox Tools

To see the toolbox in your favorites, open ArcCatalog and navigate to the System Toolboxes folder (in the left-hand pane). Drag the ArcPad Tools toolbox to your favorites.

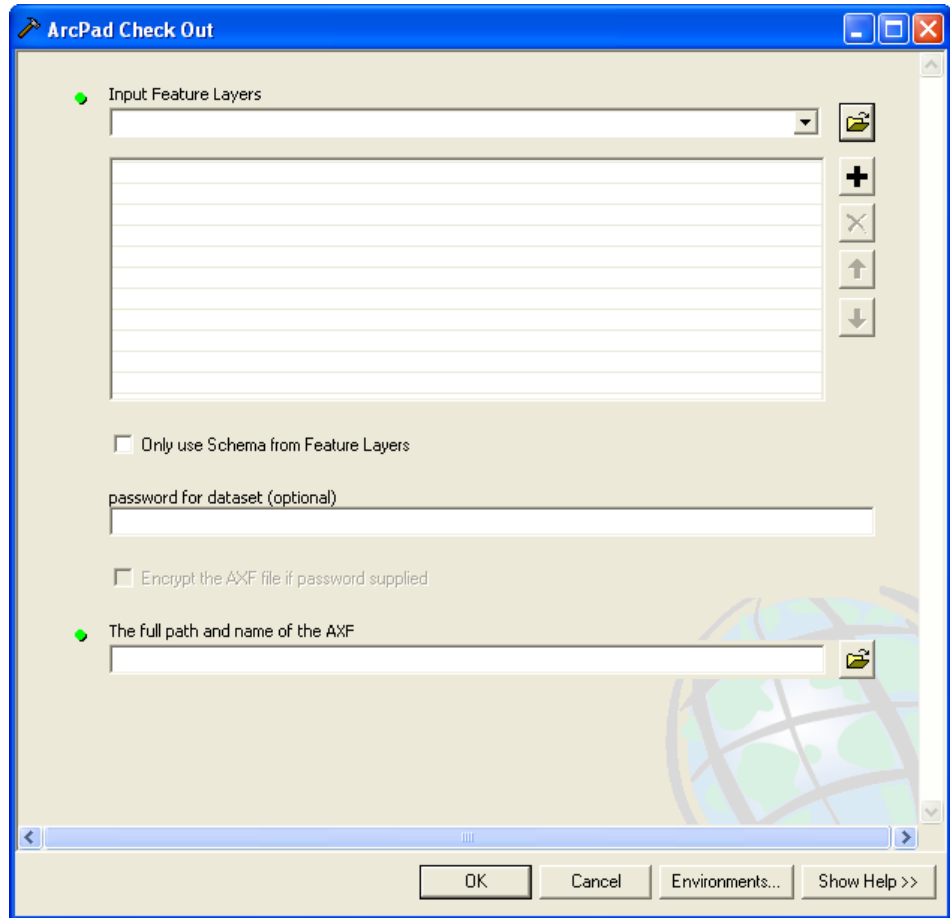


There are two tools in the ArcPad toolbox, ArcPad Check In and ArcPad Check Out. You can use these tools as you would any other; add them to your geoprocessing models or use them as stand-alone tools.

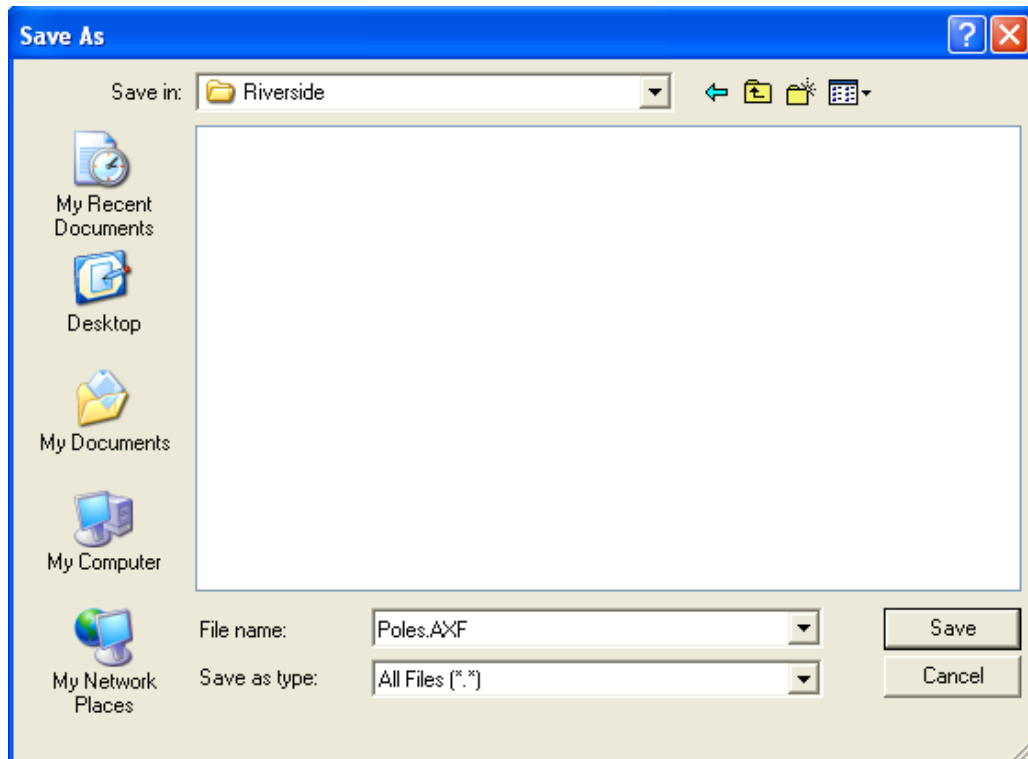
■ **ArcPad Check Out**

The ArcPad Check Out tool can be activated from ArcToolbox (in either ArcMap or ArcCatalog) or within a model.

When you open the ArcPad Check Out tool from ArcToolbox, you will see the following window. Use the Input Feature Layers drop-down list and browse button to add layers.



To name the resulting AXF file, first browse to the save location, then type in the full file name. You can also choose to check out the schema only (similarly to the Get Data For ArcPad tool in ArcMap) and to password protect your AXF file.

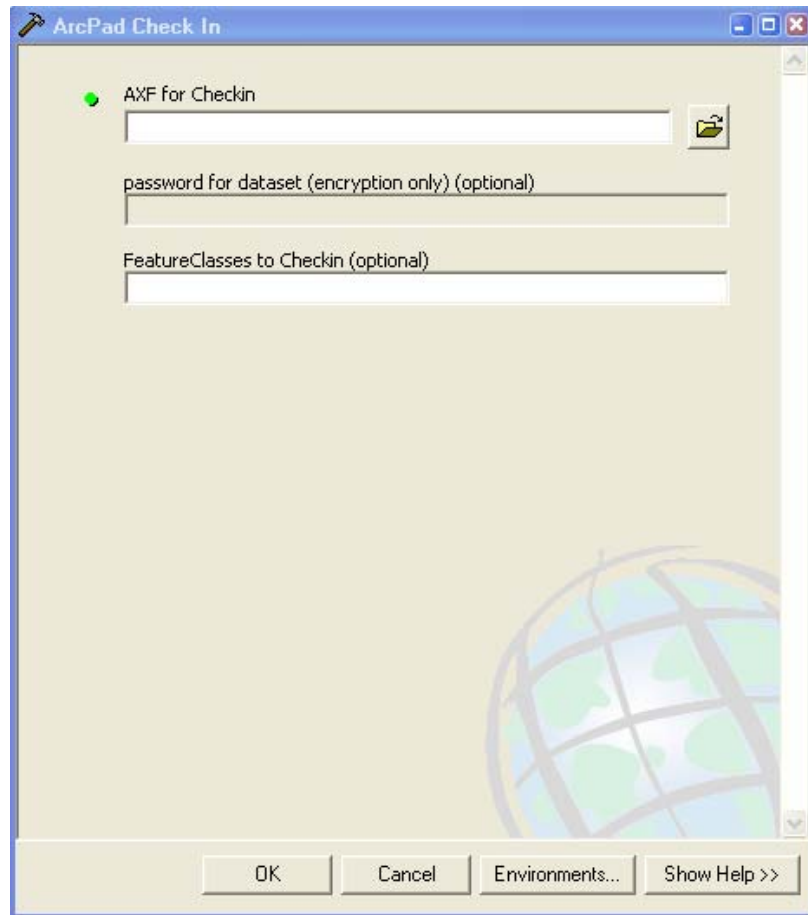


Note that the ArcPad Check Out tool will check out the entire feature class; it does not allow you to select a subset of the data. To do this you will need to do one of the following:

- Use the Get Data For ArcPad tool in ArcMap.
- Build a model that clips the feature class based on another layer or on defined criteria.

■ ArcPad Check In

When you open the ArcPad Check In tool, you will see the following window:



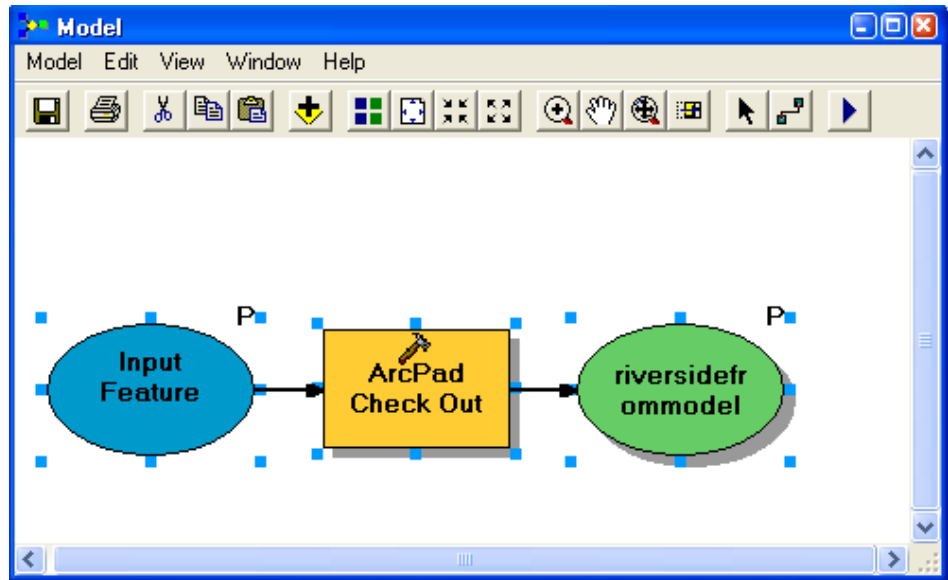
Choose the AXF file you want to check in. Enter the password (if one was defined at checkout) and specify individual feature classes if required. Leaving this last box blank will check in all edits from the AXF file.

You can only check in one AXF file at a time with the ArcPad Check In tool.

J-9691

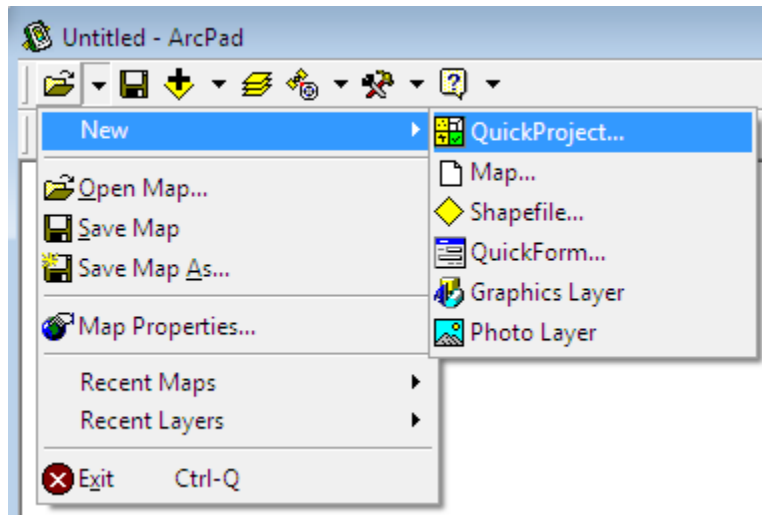
Using ArcPad Check Out and ArcPad Check In with ModelBuilder

You can use the ArcPad Check Out and ArcPad Check In tools just like any other toolbox tool.

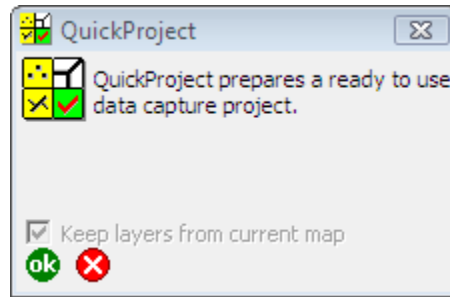


QuickProject

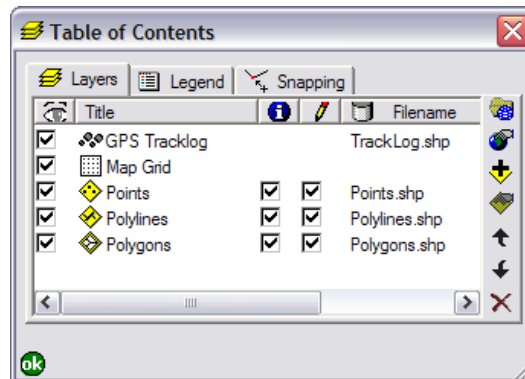
The **QuickProject** tool has been introduced to get you started with a minimum of effort.



Tapping the QuickProject tool on the New menu gives you the ability to optionally choose whether to keep your existing layers as a part of the QuickProject. Unchecking this option closes any existing layers and creates a new QuickProject. If choosing to keep existing data, the shapefiles will adopt the same coordinate system as the existing layers. If a new map is created, shapefiles will be in WGS84 latitude-longitude.



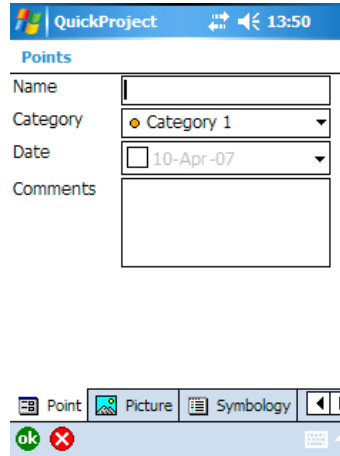
A new QuickProject will create a project folder named QuickProject_YYYY MMDD_HHMM and an APM called QuickProject.apm (which is automatically opened on creation). Three layers are created in the project: points.shp, polylines.shp, and polygons.shp. The folder is created in your default directory (as specified in Options > Paths).



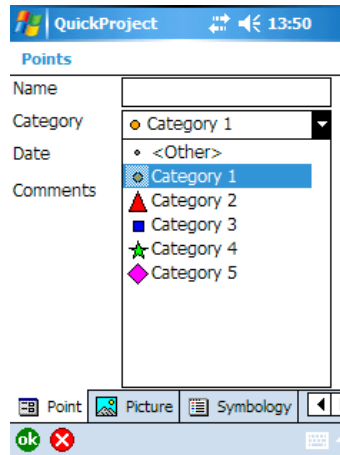
These layers each contain a default QuickForm with the following fields:

- Name (100 characters)
- Category (10 characters)
- Date
- Comments (200 characters)
- Photo (100 characters)

The QuickForm looks like this:



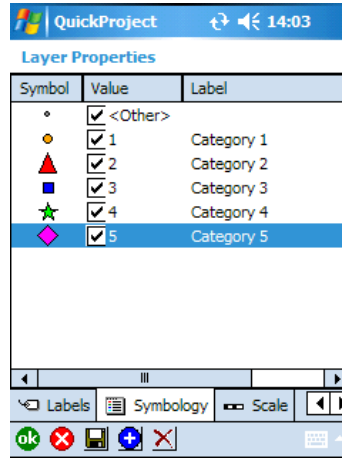
The **Category** field automatically has five categories (numbered 1 to 5), with the default value set as Category 1. Each layer in the QuickProject is symbolized based on the Category field. You can actually see the symbol in the edit form:



This is supported by a new type of control known as **<SYMBOLOLOGYFIELD>**. When a **<SYMBOLOLOGYFIELD>** appears on the form, it will automatically show the symbol and the label as defined in the symbology. When you click it, you can choose any symbol defined in the legend. The control automatically senses the feature type and relevant fields and shows the appropriate symbols.

The QuickProject also demonstrates another new feature—the ability to modify the legend in ArcPad. Modifying the legend gives you the ability to add codes in the field. You are not actually modifying the underlying table, only the map legend. To do this, you use the (+) and (X) buttons appearing on the Symbology tab. These let you add or delete categories to the legend. Click the legend entry itself to change the value and/or label.

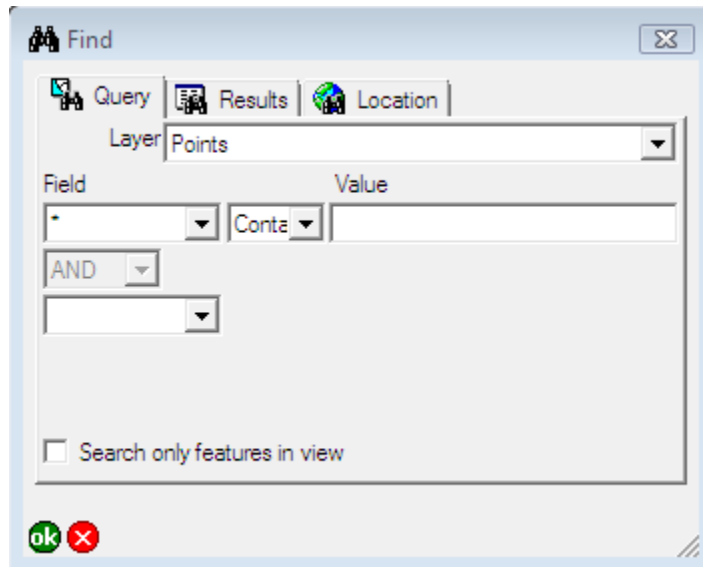
To modify the legend, open the Symbology tab on the Layer Properties dialog box:



Click the label or value you want to change and it will become an edit box. To add or delete categories, use the (+) and (X) buttons at the bottom of the tab. The Save button makes the legend changes permanent in the APL.

Query Builder

The Find dialog box has been changed for ArcPad 7.1. In place of the Criteria tab is the new Query tab. This tab allows you to perform a more complex search on your data.



You can choose the layer you wish to search and limit your search to only features in view. Now you can search multiple fields and also include an operator, for example, equal to, not equal to, greater than, less than, begins with, ends with, or contains.

Query Form

A query form allows customization of searches performed on a layer. You can create your own custom query form for a layer. You may have different query forms for each

layer, and you can have multipaged query forms for each layer containing different queries. You can find an example query form in the World sample data installed with ArcPad 7.1.

The file CNTRY04.shp has a simple query form as shown below. This form demonstrates some of the simple-to-use (but sophisticated) concepts in a query form.

For example:

- If you type "ong" in the name text box and "100000" and "5000000" in the population text boxes, you are searching for countries containing "ong" in the name and having a population between 100,000 and 5 million people.
- If you leave the first population text box blank, the search is for countries containing "ong" in the name and having a population less than or equal to 5 million people.
- If you supply only the populations, the search is for countries that have a population between 100,000 and 5 million people.

Any text box left blank is ignored in the search, so if you just click OK, you will see all the countries.

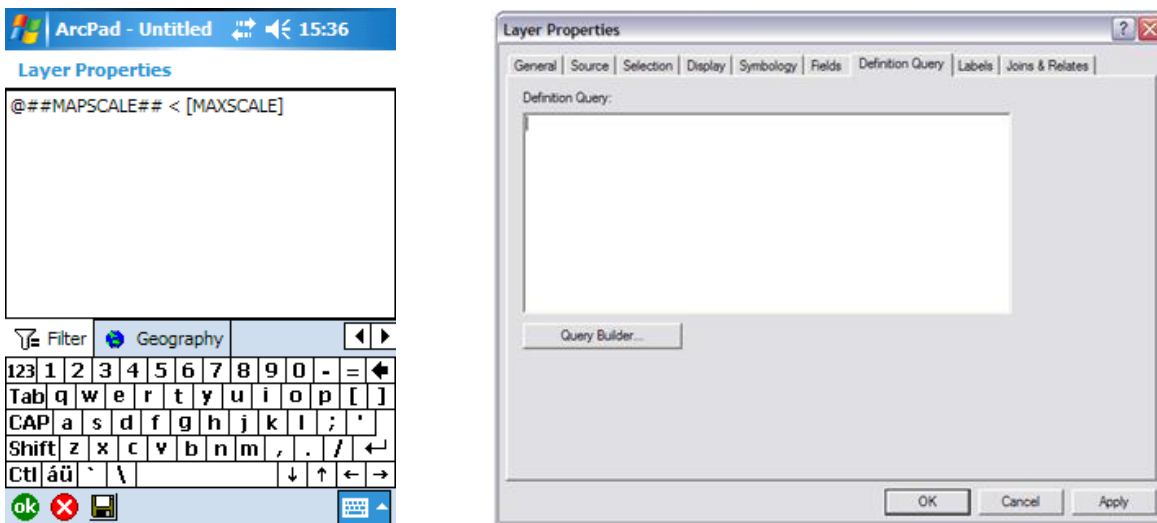
The first text box is configured to use a CONTAINS operator. That is, whatever is entered in the field is matched *anywhere* in the country name text box. The two population text boxes are configured as a range. The first population field has the operator ">=" (i.e., GREATER THAN OR EQUAL), and the second population field has the operator "<=" (i.e., LESS THAN OR EQUAL).

You can have multiple pages on a query form. Each page is treated *independently* of the others; in other words, only the fields on the active page are used for the search.

For example, the first page may be searching countries by name and population, the second page may offer a different set of criteria, the third another, and so forth.

Filtering

Similarly to the Definition Query on the ArcMap Layer Properties dialog box, ArcPad now has the ability to filter.



A primary motivation for using filtering is to speed up the time it takes to draw your data. By limiting what needs to be drawn at a particular scale, you significantly improve draw times. In previous versions of ArcPad, you could do this by entering a maximum or minimum scale for a whole layer; now, with Filter, you can do so for specific features within a layer.

An example where this would be useful is for a layer of streets. Assume that your street layer has freeways, primary roads, and secondary roads.

To use filtering, you would add the column MAXSCALE, which is filled with scale values that determine the maximum scale for that class of feature:

- 1:15,000 for secondary roads
- 1:50,000 for primary roads
- 1:1,000,000 for freeways

This means the bigger the scale (the more zoomed out you are), the less you are interested in features with lower MAXSCALE values.

In the filter properties for a layer (part of the layer properties), you then enter a filter that is based on the current map view scale: @##MAPSCALE## < [MAXSCALE].

This filter says: "Select only the features that have a value of MAXSCALE less than the current map view scale."

Tutorial: How to Create and Use Your Own Related Tables in ArcPad 7.1

The term `@##MAPSCALE##` is substituted with the actual map scale when the layer is drawn. The filter is equivalent to the ArcMap Definition Query, but can do more (like use the current map scale in the filter).

This simple addition means that at zoomed-out scales, the minor roads are not drawn; as you zoom in, greater detail appears.

To make the most of AXF files in ArcPad, a well-designed geodatabase is essential. Thinking about your project needs before you start deploying data can save a lot of manual customization in ArcPad. Data validation becomes a default activity when you define constraints for fields in your geodatabase. Coded value and range domains force only valid values to be entered for a field.

Subtypes give at least two major benefits. When you open a layer with subtypes, it is automatically displayed with different symbology for the layers. The values of the subtype field appear as a pick list (similar to coded value domains) in the attribute editor when you create or edit a feature in ArcPad.

Relationship class is another key feature of the geodatabase that enhances the ArcPad user experience. Defining a relationship between a feature class and a table (or a table-to-table relationship) in ArcGIS in turn produces a tabbed view of the related data in ArcPad. In the sample data that installs with ArcPad, you will find an example of this.

In the Riverside personal geodatabase, you see a feature class called Poles. This feature class is related to the table called Lights, as defined in the relationship class PolesHasLights. This is a one-to-many relationship; one pole can have many lights. The Lights table is also related to the Light Inspections table. You can define as many relationships as required. Refer to the ArcGIS Desktop Help for more information on relationships. Some tips are as follows:

- Only one-to-many and one-to-one relationships are supported. To define a many-to-one relationship, you simply create it in reverse. To create a many-to-many relationship, you create two, one-to-many relationships.
- ArcPad 7.1 automatically displays relationships that have been defined in the geodatabase without having to add scripting to your ArcPad forms.
- Subtypes and coded value domains are shown in the default Feature Properties dialog box as combo boxes, and range domains are shown as edit boxes (but will not allow you to complete the attribute form if the value entered is outside of the range).
- The following relationship classes are also honored in ArcPad 7.1:
 - Feature class to table
 - Table to table

Feature class-to-feature class relationships are not supported in this release. The related tables are displayed as additional tabs on the Feature Properties dialog box. Navigation tools appear at the bottom of the dialog box to move between the feature's attributes and related records.

ArcPad 7.1 relies on you to carefully construct your data on the desktop using ArcGIS. Only valid geodatabase records are checked out. Although you may edit the related tables in the field using ArcPad, the definition of the relationships cannot be edited once they are in ArcPad.

Preparing Your Data

Your source data can be any one of the following geodatabases:

- Personal
- File
- ArcSDE® personal (unversioned/versioned)
- ArcSDE workgroup (unversioned/versioned)
- ArcSDE enterprise (unversioned/versioned)

For optimum performance in ArcPad, use subtypes and domains in your data to enforce data integrity. ArcPad 7.1 automatically detects and formats the following:

- Subtypes and coded value domains as combo boxes
- Date fields with a date picker
- Coded value domains with values of 0 and 1 as check boxes
- Range value domains honored so no value outside the defined range can be entered in the field

For more information on defining subtypes and domains, refer to the ArcGIS Desktop Help. The following two references are particularly useful:

- An overview of subtypes
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?id=2098&pid=2097&topicname=An_overview_of_subtypes
- An overview of the Domains toolset
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=An_overview_of_the_Domains_toolset

In addition to defining these properties of the feature class, you can create tables in your geodatabase to save related records to a feature. Common examples of this are as follows:

- Pole feature class—Has table with related attachments (one pole can have many attachments)
- Manhole feature class—Has table with many inspections (the manhole can be inspected many times)
- Road Segment feature class—Has table with many accident reports (many accidents could occur on one road segment)

You can create table-to-table relationships also, but one of the tables must be related to a feature class to be displayed in ArcPad 7.1. For example, a Pole feature class has a table

with related attachments. This Attachment table has a related table for inspections of the attachments.

For more information on defining relationships, refer to the ArcGIS Desktop Help. A good place to start learning about relationship classes is "An overview of subtypes": http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Relationships_and_ArcGIS

Successful creation of AXF files relies on using validated geodatabases. Records that do not conform to rules defined in relationship classes will not be created in the AXF file. If the AXF files that you create do not contain the data you expect, do the following:

- Ensure that all records in your geodatabase are valid (enable editing, select all features, and click Validate on the Edit menu).
- Ensure blank values do not appear in columns that have a domain (if NULL is not a valid option in the domain).

Using an AXF File in ArcPad

You create and edit features in the AXF file as you would a shapefile. Feature classes that have relationships will have additional tabs on the Feature Properties dialog box.

To add a related record (say, in the case of our sample data, a light to a pole), do the following:

- Ensure the pole layer is editable.
- Select the pole that has the light.
- Open the Feature Properties dialog box.
- Tap the Light link at the bottom of the Pole attribute page.

A list of the existing lights associated to this pole will be displayed. To add a new light, tap the (+) icon at the bottom of the Feature Properties dialog box. A full-page form will then display—this is the single record view for the new light. To go back to the pole attributes, use the upward arrow (and likewise the downward arrow) to navigate to related records. In the pole example, at the bottom of the light attribute page, you will see a link to light inspections. You would enter an inspection in a similar way to the light: first select the pole, then the light, then add the inspection.



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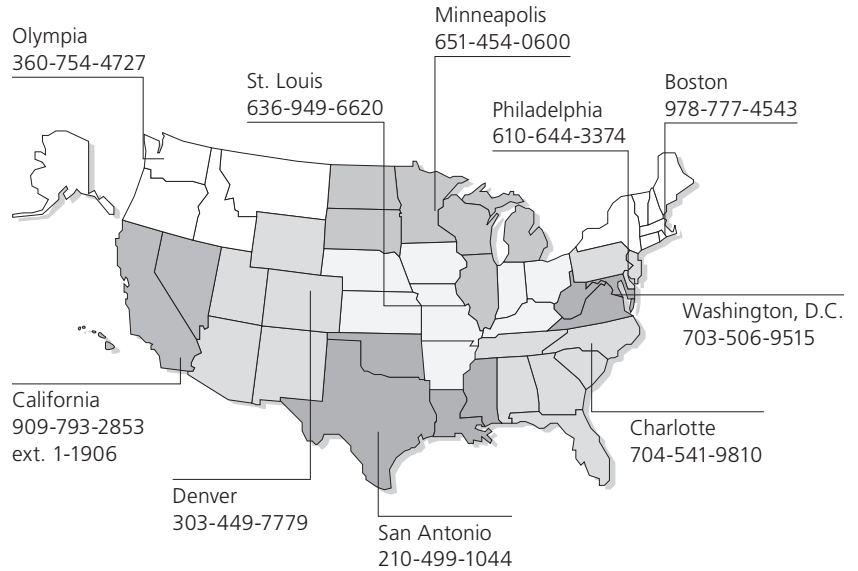
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