



Design Conference 2008
PEOPLE MOVING PEOPLE

Using Adhoc Attributes

Introduction

What Is An Adhoc?

- Adhoc Attributes (also referred to as just Adhocs) are pieces of user defined information that can be added to MicroStation elements. This information can be just about anything.
- Adhocs are analogous to adjectives in grammar. They allow the user to tag descriptive data to the element that can be retrieved later by various processes.

Examples of Adhoc Tags

- ▣ Pipe Material
- ▣ Pipe Size
- ▣ Flow line elevation
- ▣ Quantity of Sod at DBI
- ▣ Sidewalk thickness
- ▣ Special Ditch Profile Name
- ▣ Type of Separator
- ▣ Etc.

What Elements Can Have Adhocs Attached?

- ▣ There is no limitation on the type of MicroStation element that can be tagged with adhocs. Every type of element from cells to text are acceptable.

How does FDOT use Adhocs?

- To tag additional information to elements for quantity purposes, sheet definitions, data needed to draw cross sections that accurately reflect the proposed design and descriptive information for other programs such as the drawsign program.
- Examples of programs that use adhoc information:
 - Drawsign
 - Cross Section criteria files
 - SheetNavigator
 - D&C Manager
 - Curb and Gutter Maker

Adhoc Designation

Multiple Adhocs can be added to an element, and every Adhoc has a Name, Type and Value. The Adhoc name is limited to a total of **22** characters

- Name of Adhoc: **Pipe Material**
- Type of Adhoc: **String**
- Value of Adhoc: **Concrete**

- Name of Adhoc: **Pipe Diameter**
- Type of Adhoc: **Numeric**
- Value of Adhoc: **1.5**

Types Of Adhocs

There are five (5) types of Adhocs:

- **Numeric** - Assign numeric value (0,1,32,1004.64)
- **String** - Assign string value (Oak, 24",Sod, Directional Arrow, etc.)
- **Quantity** - Assign numeric value
- **Unit** - Assign string value
- **Remarks** - Assign string value

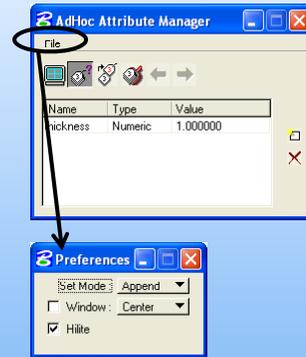
*Note: You can have multiple Adhocs with the same name, but they must be of different types. You can have **255** Adhocs per element.*

Creating and Tagging Adhocs

- Adhocs can be created and tagged to an element **4** ways:
 - Adhoc Attribute Manager
 - D&C Manager (or any GEOPAK program that uses DDB features)
 - Criteria
 - Custom developed programs (such as Sheet Navigator)

Adhoc Attribute Manager

- The Adhoc Attribute Manager can be used to review and or assign Adhocs to existing elements in a design file.
- The Set Attribute icon is used to tag Adhocs to an existing element. You can identify a single element or it will work on an entire MicroStation Selection Set.



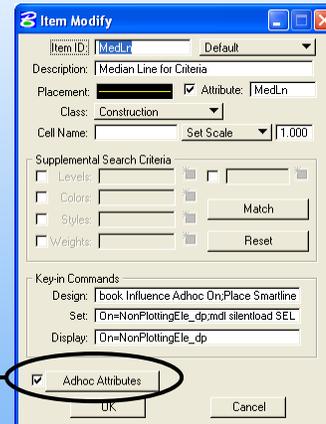
Note: The **AdHoc Attribute Manager** can be selected from the pulldown **Applications > Geopak Road > Geopak 3PC AdHoc Attribute Manager** or from the **Project Manager** tool box.



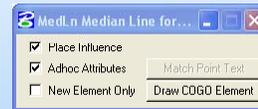
Creating and Tagging Adhocs with D&C Manager

- Another way to tag Adhocs is with the Adhoc Attribute Table from within D&C Manager. The adhoc attributes are stored with the item definition.

Name	Type	Default Value	Lock
Median_Type	String	4	No
MedianShldSearchDist	Numeric	10	No
NormalMedianShldSlope	Numeric	-6	No
MedianShoulderWidthLt	Numeric	4	No
MedianShoulderWidthRt	Numeric	4	No
MedianShoulderDepth	Numeric	0.5	No
FeatherDistMedianLeft	Numeric	0.0	No
FeatherDistMedianRight	Numeric	0.0	No
StdMedianDitchDepth	Numeric	1	No



Tagging Adhocs to an Element from the D&C Manager-in-Design-Mode



- When an element is placed using this item both the Place Influence toggle and the Adhoc Attributes toggle should be enabled.
- The Adhocs Attributes table will pop-up and allow the user to review and change the Adhoc values as necessary. Each of these Adhoc attributes will be tagged to the element at placement.

Name	Type	Value
Median_Type	String	4
MedianShldSearchDist	Numeric	10
NormalMedianShldSlope	Numeric	-6
MedianShoudeWidthLt	Numeric	4
MedianShoudeWidthRt	Numeric	4
MedianShoudeDepth	Numeric	0.5
FeatherDistMedianLeft	Numeric	0.0
FeatherDistMedianRight	Numeric	0.0
StdMedianDitchDepth	Numeric	1
MedianFrontSlope	String	1:3
MedianDitchWidth	Numeric	2
PavedMedianDitchWidth	Numeric	3

Tagging Adhocs to an Element from the D&C Manager-in-the-Set-Mode



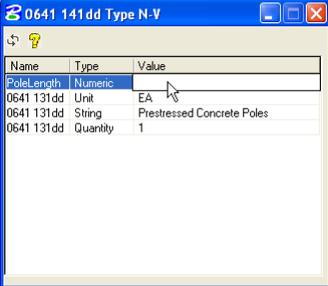
This mode allows 2 Adhoc attribute options when setting the attributes of an existing element to match the currently selected D&CManager item.

- Append – adds the adhocs defined for this item in the adhoc attribute table to the adhocs already attached to the element.
- Replace - replaces any adhocs currently attached to the element with adhocs in the adhoc attribute table for this item.

Name	Type	Value
PoleLength	Numeric	40
0641 131dd	Unit	EA
0641 131dd	String	Prestressed Concrete Poles
0641 131dd	Quantity	1

Changing Adhoc Values in the D&C Manager Adhoc Table

- To adjust/change a value, the user would simply "single click" on the value, type in the new value and then press enter.



The screenshot shows a window titled "0641 141dd Type N-V" containing a table with three columns: Name, Type, and Value. The table contains the following data:

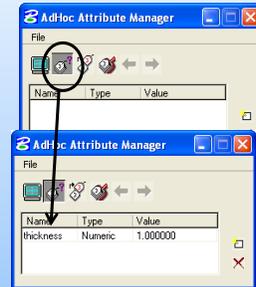
Name	Type	Value
PoleLength	Numeric	
0641 131dd	Unit	EA
0641 131dd	String	Prestressed Concrete Poles
0641 131dd	Quantity	1

Reviewing Adhoc Attributes

- There are two tools which can be used to display and review the Adhoc Attributes which have been tagged to an element in Microstation.
 - Adhoc Attribute Manager
 - Application Attribute Viewer

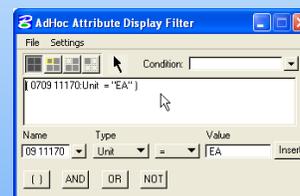
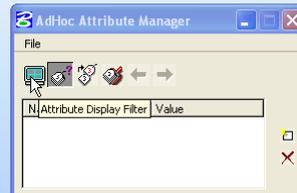
Reviewing Adhoc Attributes

- To review Adhocs tagged to an element, click on the ID icon then datapoint on the element in the dgn file. Any Adhocs tagged to that element will be displayed in the dialog box. The values can then be modified if needed.
- This tool also works with MicroStation selection sets. Place elements in a selection set, then press the ID icon. Adhoc Attribute Manager will gather all of the adhocs per element and allow the user to review the adhocs by element.



Displaying Elements with Adhoc Attributes

- The Attribute Display filter can control the display of elements with specified adhocs. It is similar to the Display Filter in D&C Manager where the user can control the display and location of D&C Manager items.
- The display of the elements are based on filters defined by the user.
- An example is displaying only pipes that are 18". This tool greatly expands the users ability to filter the display of elements.



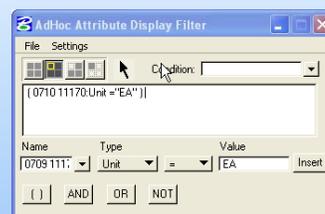
Filtering the Display of Elements with Adhoc Attributes

- To use this tool, identify the element with the Adhoc Attribute Manager ID tool, data point on the element and accept it. This will populate the dialog with the adhoc information.
- To filter the display by a certain adhoc attribute, highlight the entire row then right click to get the option *Copy to Display Filter*. Left click on *Copy to Display Filter*.



Filtering the Display of Elements with Adhoc Attributes

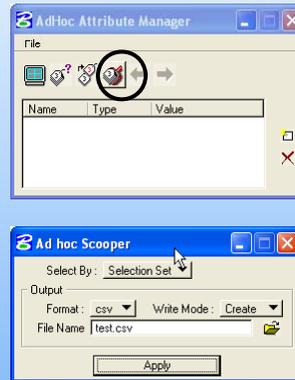
- The Adhoc Attribute Display Filter dialog will list the adhoc(s) for filtering.
- 4 typical Display filters are available:
 - Normal Display
 - Highlight Selection
 - Hide Selection
 - Display Only Selection
- Once filtered, the elements that match the filter may be used for creating a selection set



Note: Additional **conditions** may be added and inserted for additional filtering. Filters can be saved via the File pulldown using Save As.

Creating a Text File of Adhoc Attribute Values

- The Adhoc Attribute Manager also has a tool called Adhoc Scooper. This tool will “scoop” up all the Adhocs and write them to a text file or database.



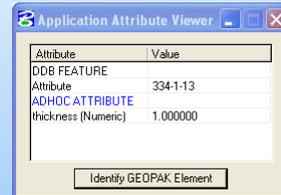
Adhoc Attribute Output File

The image shows a screenshot of Microsoft Excel displaying a CSV file named "test.csv". The spreadsheet contains a table with columns A through G. The data is as follows:

A	B	C	D	E	F	G
1	ELEMENTID	REFATTID	ADHOCNAME	ADHOCVALUE	DGNFILE	
2	10100	0	thickness	NUMBER	1 C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn	
3	10276	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
4	10276	0	0710 11170	STRING	Directional Arrows	Paint
5	10276	0	0710 11170	QUANTITY	1	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
6	10329	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
7	10329	0	0710 11170	STRING	Directional Arrows	Paint
8	10329	0	0710 11170	QUANTITY	1	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
9	10342	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
10	10342	0	0710 11170	STRING	Directional Arrows	Paint
11	10342	0	0710 11170	QUANTITY	1	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
12	10355	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
13	10355	0	0710 11170	STRING	Directional Arrows	Paint
14	10355	0	0710 11170	QUANTITY	1	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
15	10368	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
16	10368	0	0710 11170	STRING	Directional Arrows	Paint
17	10368	0	0710 11170	QUANTITY	2	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
18	10386	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
19	10386	0	0710 11170	STRING	Directional Arrows	Paint
20	10386	0	0710 11170	QUANTITY	2	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
21	10404	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
22	10404	0	0710 11170	STRING	Directional Arrows	Paint
23	10404	0	0710 11170	QUANTITY	2	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
24	10422	0	0710 11170	UNIT	EA	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
25	10422	0	0710 11170	STRING	Directional Arrows	Paint
26	10422	0	0710 11170	QUANTITY	2	C:\EV\PROJECTS\2280791\voadway\dsgnr01.dgn
27						
28						

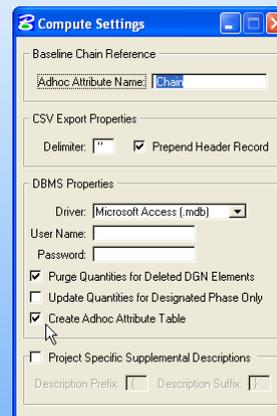
Reviewing Adhocs in Application Attribute Viewer

- This tool can be used to review any GEOPAK attributes found on an element. This includes D&C attribute, SMD features and Adhocs Attributes. (Example: Chain Name, Quantity info, etc).
- The attributes cannot be modified from this dialog.



D&C Manager Compute Settings

- Toggle on *Create Adhoc Attribute Table* to take adhoc attribute information to Quantity Manager for reports.



Tagging Adhocs from Criteria Files

- This process done by creating a selection set of the elements dynamically.

Summary

- The FDOT2008 D&C Manager database file tags adhocs to many of the items for quantity purposes.
- The FDOT 2008 cross section criteria uses adhocs to define design information. This gives the designer more control of the output.

Questions?

ecso.support@dot.state.fl.us
jimmie.prow@dot.state.fl.us

