# CONE10UK

Temporary Traffic Management AT YOUR FINGERTIPS

Software for the Creation of Temporary Road Traffic Control Diagrams & Route Diversion Schemes





CONE 9: Text Sign Wizard - Double Plate With	Or Without Symbols	Select Drawing File From 5X Sign Library
Select each plates Left Symbol or none     Select each plates Right Symbol or none     Select each plates Lower Symbol or none     Lenter the Plate Text for each line as reqd	5. Select each plates Text Justification 6. Select the Plate Background Colour 7. Enter an Optional Label 8. Select OK to finish	Look jn: 🗁 环 🔽 🕑 🗊 🕬 🛄 🔹
TOP PLATE Plate Text	Right Symbol	10 501.dwg 10 506-1AL.dwg 10 507-1L.dwg 10 512-1R.dwg 10 Preview
AnyCity and M1234		1000000000000000000000000000000000000
		Image: Solution of the
		- 19505-1R.dwg 19507-1AR.dwg 19512-1L.dwg 19513-2.dwg 1981 NOW
Text Justification		
Left O Centre O Right     BOTTOM PLATE		File name:     511.dwg
Plate Text AnyTown & B1234	Right Symbol	Files of type: Drawing (".dwg)
NONE		
		CONE RM - Transport Medium Text (Upper Case Only) With Optional Zig-Zags
Text Justification	Lower Symbol	
O Left O Centre 💿 Right	NONE	Align Method           Valid text characters are:         Pre-drawn curve
Plate Colour	Optional Label Label : A LABEL	🚽 ABCDEFGHIJKLMN
		& · · / ()1234567890
		To draw a 1.5 metre
		All lower case text will be Datum
		auto converted to upper case
	Queue ahead	Insert Point Method
A	anead	Enter Text (upper case)
	Strat NO	Text SCHOOL~KEEP~CLEAR Number of Zig-Zags 0
	LOEL IN	Text height - (all dimensions assume metre units)         Image: Comparison of the system of the sy
		Colour Choose creation method
		White (Black) O Yellow O Pick insert point on screen O Align to a pre-drawn curve
		OK Cancel Help
VERSI	ON	

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# Introduction

Thank you for purchasing a copy of CONE 10 (UK Version)

This version of CONE is compatible with Full AutoCAD 2007+, and BRICSCAD V11.4.6 + and has been compiled with the production of both schematic (diagrammatic) and "real-world" temporary traffic management drawings in mind.

Whilst using CONE, you are strongly recommended to keep a copies of Chapter 5 and 8 of the Traffic Signs Manual as well as a copy of the current edition, with all amendments, of the Traffic Signs Regulations and General Directions (or relevant document for Wales, Scotland or Northern Ireland) to hand.

CONE is inherently a simple package to use, most of the work required to complete a temporary traffic management layout can be achieved by importing and positioning the appropriate sign, symbol or layout via the CONE pull down menu.

More detailed explanations of the general operation of CONE can be found in this manual

If you haven't already installed CONE please refer to the installation and authorisation instructions that came with the software

For all the latest news on CONE, sample drawings, tutorial and demo movies, support and resources please visit our web site at <a href="http://www.conesoftware.com/uk">www.conesoftware.com/uk</a>



#### TUTORIALS: MOVIES

To assist you in your evaluation or usage of CONE we have prepared a selection of movies to illustrate key features. Our movies are hosted at Screencast (no advertisements) and YouTube. To view a movie hosted at Screencast click the big image, alternatively click the YouTube icon



Technical support is free, please call 01484 489339 (UK Office hours)

Or email info@conesoftware.com

Or visit our web site www.conesoftware.com/uk

# **Pre-Requisites**

CONE is inherently a simple package to use, inserting and positioning the appropriate sign, symbol or layout via the CONE pull down menu achieves most of the tasks required to complete a temporary traffic management layout. CONE also includes many tools and useful time saving facilities all of which are documented in this manual.

However you will also need a fundamental understanding of some of the PARENT CAD (AutoCAD or Bricscad) functions and this manual assumes that you will have attended a CAD training course or will have spent a day or so familiarising yourself with the following basic CAD commands: -

**Drawing Set-up**: How to start and set up new drawings

Basic drawing settings: LAYERS, COLOURS, LINETYPES, VIEWRES

Viewing: ZOOM and PAN

Drawing Aids: SNAP, GRID, ORTHO, OSNAP (Object Snap) and GRIPS

Drawing objects: LINES, POLYLINES, CIRCLES and TEXT

Modify objects: COPY, MOVE, ERASE, ROTATE, MIRROR, OFFSET, EXTEND and TRIM

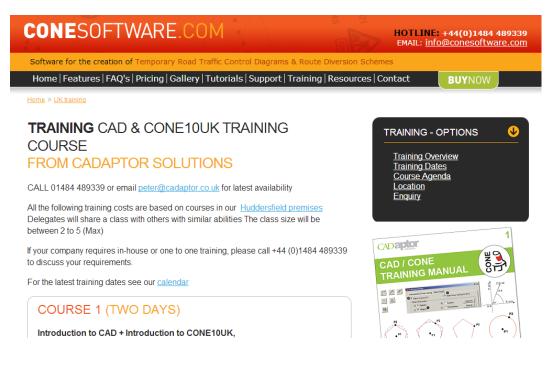
You will also need to know how to UNDO, COPY and PASTE, SAVE, SAVE AS, and PRINT

# **Training Courses**

You will be able to obtain a training course in the use of AutoCAD from your local Autodesk Dealer

We offer specific CAD and CONE training at our Huddersfield office

Please visit our web site at www.conesoftware.com/uk



# Cone Pull Down Menu and Toolbars

Operation of CONE is accomplished via the **Cone10UK** pull down menu and/or via the CONE Toolbars.

The diagram below shows the Cone10UK pull down menu with one of the sub menu fly-outs in position.

The toolbars here are also shown within the drawing window; however it is normal practice for the user to position the toolbars around the edge main drawing window.

The actual look of the menu differs slightly in different parent CAD systems but the functionality remains the same.

'n	Modify Parametric Mechanical Window Help	Co	ne10UK		
ļ	≧ ? ! ? 0 0 0 0 0 0 0 0	5	Cone Preferences		@= @= @=   🏟 📦   🎛 🔅   🎕
aye	Pulavor V		Sign Search/Browse/Insert		O � ⊷ •   X ∦ ↓   🗷 ⊑
1	CONE10_UK_General		Sign Arrays	۲	
	🔽 🐼   SSA DSA   🕤   🥅		Sign & Leader Tools	۲	
1	CONE10_UK_Sign_Utilities	6	Symbols		
1	👱 🕩 🖌 🗡 🖙 🧟 🏔 📎 🕄		Schematic Diagrams	►	🛒 Basic Roads & Junctions
	CONE10_UK_Schematics		Miscellaneous Tools & Libraries	×	Single Carriageway Wizard
1			Mapping Utilities	۲	🛺 Dual Carriageway Wizard
-			Roadway Tools	۲	TSAM Wizard
	CONE10_UK_Various_Utilities		Road Markings Tools	۲	😳 Road Closures
			Chapter 7 Sign Design	۲	ETM Emergency TM
	CONE10_UK_Mapping		Curve Tools	Þ	
l	🖃 🌮 👂 🅓 🥢 🔁 🛅 🔲	ر	Devices Along a Curve		
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ľ	CONE10_UK_Curve_Tools				
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# CONE Tool Operation

CONE tools are operated via the CONE pull down menu or CONE Toolbars, most CONE tools will initially load a dialog window where you select from various tool specific options and then select the **OK** button to proceed. Operation then transfers to the **Command** line where the tool specific prompts appear.

Example of CONE Tool > Dialog Window > Command Line Prompts

Tool	Dialog Wind	ow		
Cone10UK	CONE10 UK: Sign Search, Brow	se and Insert		* * * * * * * * * * * * *
Cone Preferences	Preset Searches Select here	Freeform Search Word or Words	Search Logic OR (any word)  AND (all the words)	Search Clear Search
🔊 Sign Search/Browse/Insert	Browse For Signs			7001 - Road works ahead
Sign Arrays	FAVOURTS FAVOURTS FROUGHT 2X 3X_AND_4X 3X_AND_	Circular_Signs     Circular_Signs     Combination_Signs     Rectangular_Signs     Supplementary_Plates     Symbols     Triengular_Signs     Triengular_Signs	Single Click To Select         Or C           [double click to neert]         5172.dwg           5172.dwg         543.dwg           543.dwg         584.dwg           264.dwg         7001.dwg           7001.dwg         1001.dwg	Idd Image For Drag And Drop
	Sign Insert Settings Insert scale Reference distance V Include leaders V Group signs and leaders	Leader Type Olick to change	Sign Rotation Method Sign Specify on screen Preset rotation: CK Cancel Sign Data Note: This sign h No variable text Concel	
Command Line				
II I I Model A3/				
<pre>XI Command: UKSBROWSE Pick symbol insert point: Rotation angle &lt;0&gt;: Pick sign insert point or enter keyword - A</pre>	Align/Perp/Zer			
		893.	0598, 121, 7093, 0 ARTAL Stan	dard SNAP GRID ORTHO

There is however a number of CONE tools that do not initially load a dialog window, in these cases operation immediately transfer to the **Command** line where the tool specific prompts appear

### Example of CONE Tool > Command Line Prompts

Cone10UK			
Done Preferen	ices		
🛕 Sign Search/B	rowse/Insert		
Sign Arrays	•		
Sign & Leader	Tools 🔹 🕨	🛃 Cone Sign Wizard	
Symbols		Insert Sign Symbol	
Schematic Dia	igrams 🕨	✓ Insert Sign Symbol & Leader	
Mod	el 🗛		
× Command: U	KSBROWSE		
Pick symbol	l insert point:		
Rotation and	ngle <0>:		
Pick sign	insert point or	enter keyword - Align/Perp/Zero/Rotate:[A/P/Z/R] Toggles:Ortho/Dogle	g [O/D] :
		802.0E08_121.7002_0_ADIAL_Standard_SN	

Each tool documented in this guide shows which method of operation is used

Cone Preferences	Cone10UK
	Cone Preferences
CONE10_UK_General	Sign Search/Browse/Insert
🕼 🛦   SSA DSA   🕤   🖽	Sign Arrays
Cone Preferences	Sign & Leader Tools

Global Insert Scal	le	
Insert Scale	1	This is the value that governs the insert scale of all CONE elements Signs, Symbols, Layouts etc (except Sign Design elements)
Preset Rotation		
Insert Rotation	0	These settings govern the way that CONE elements without special dialogs
Prompt for Ro	otation	are rotated Example: Symbols, Roads and Junctions
Label Settings		
Label Prefix		These settings govern the way that signs are labeled. The sign reference
Label Suffix		is prefixed with the value set in Label Prefix and a Suffix can also be added
Label Rotation 0 Example: If the Prefix was P and the sign reference was 7001		
Prompt for R	otation	Example. If the Frenx was F and the significance was 7001
Label Height	2.5	the label would be P7001
Cone Leader Lay	er	
Ourrent		EADER This setting determines which layer CONE LEADERS are placed on
		OK Cancel

All CONE objects (signs, symbols, schematic layouts etc.) are inserted with a **Global Insert Scale** setting. (Note: Not including Sign Design objects and real world size objects such as Road markings and channelling devices)

Most CONE tools such as Sign Browse, Sign Arrays and Wizards allow you to change this setting within the dialog window applicable to the tool; however there are some CONE tools that only have a direct file insertion tool (Symbols, Road & Junctions and Road Diversion related)

If you need to change the scale prior to inserting objects from these tools then you should to change it in CONE PREFERENCES

#### **Global Insert Scale:** *Default value is 1.0*

Assuming you are working with a setting of 1 CAD unit = 1 metre then a **Global Insert Scale** setting of 1.0 is perfect when working on schematic schemes.

However if you are placing CONE objects onto maps then you may find that a insert scale of 1.0 results in signs that are too large in proportion to the map, in which case a **Global Insert Scale** setting of 0.5 to 0.75 is recommended.

### **Preset Rotation**

When inserting objects you may set the default insertion rotation angle or choose to be prompted on screen for an object rotation angle after insertion.

#### Insert Rotation: Default value is 0.0 degrees

If the **Prompt for Rotation** setting is NOT checked then CONE objects will be inserted with the rotation angle set here

Prompt For Rotation: Default value is NOT checked

If the **Prompt for Rotation** setting is checked then you will be prompted on screen for an object rotation angle after insertion of the object

Some CONE tools such as Sign Browse, Sign Arrays and Single/Divided highway schematics allow you to change this setting within the dialog window applicable to the tool, whereas some CONE tools only have a direct file insertion tool (Symbols, Road & Junctions and Mobile Works) If you need to change the rotation setting prior to inserting objects from these tools then you should to change it here in CONE PREFERENCES

#### **Label Settings**

These settings only apply to the Label Signs tool and govern the way that signs are labelled

#### Label Prefix: Default value is blank

If you enter a prefix value here (example P) then labels will be prefixed with this value Example: The sign reference 7001 would be labelled P7001

#### Label Suffix: Default value is blank

If you enter a suffix value here (example \_XYZ) then labels will be prefixed with this value Example: The sign reference 7001 would be labeled 7001\_XYZ

#### Label Rotation: Default value is 0.0 degrees

If the Prompt for Rotation setting is NOT checked then labels will be inserted with the rotation angle set here

#### Prompt For Rotation: Default value is NOT checked

If the Prompt for Rotation setting is checked then you will be prompted on screen for a label rotation angle after insertion of the label

#### Label Height: Default value is 2.5 units

The value entered here sets the size of the text label

#### Cone Leader Layer: Default current

Determines which layer CONE leader lines are place upon

Sign Search, Browse and Insert		Cone10UK         Cone Preferences         Sign Search/Browse/Insert         Sign Arrays         Sign & Leader Tools
CONE10 UK: Sign Search, Browse and Insert		
Preset Searches Freeform Search Word or Words Select here	Search Logic	AND (all the words)
	720:	1 - Restrictions ahead on motorway owing to road works - Main panel
Tool       720X       721X     721X       721X     7202       721X     7203       722X     7203       723X     E       725X     7205       729X     7206       720X     7206       720X     7206       720X     7206       720X     7206       720X     7206       720X     7207	Single Click To Select [double click to insert] 7201A_B.dwg 7201A_B.dwg 7201A_T.dwg 7201A_T.dwg 7201A_T.B.SPEED.dwg 7201B_B.B.dwg 7201B_B.B.SPEED.dwg 7201B_T.dwg 7201B_T.B.Wg 7201B_T_BSPEED.dwg 7201B_T_BSPEED.dwg 7201B_T_BSPEED.dwg 7201C.dwg	Or Click Image For Drag And Drop
Sign Insert Settings Insert scale 1 Reference distance 0 Include leaders Group signs and leaders	Sign Rotation Method Specify on screen Preset rotation: OK Cancel	Sign Data Note: This sign has 5 variable text lines <u>Modify Sign Data</u> More <u>I</u> nformation CADaptor Solutions - www.conesoftware.com

The primary task of the Sign Search Browse and Insert tool is to enable easy insertion of signs into the current drawing; however the tool contains many other features, a summary of those features are included below and are described in detail on the following pages:

Summary of the Sign Search Browse and Insert tool features:

- Search for signs from list of preset search topics or enter any word or phrase
- Browse for signs
- Organise signs into user defined favourites
- Multiple sign viewing
- Multiple sign insert
- Insert signs at various scales and rotation angles
- Insert signs with or without sign symbols and leaders
- Insert signs a specific distance from a datum point
- Group signs, sign symbols and leaders
- Modify variable text before sign insertion

### **Browse For Signs**

Working from left to right there are three list boxes used for sign browsing The left hand list contains the top level sign categories (folder names) thus:

FAVOURITES	723X
FREQUENT	724X
2X	725X
3X_AND_4X	729X
5X	730X
6X	740X
7X	86X97X
8X	877X
9X	PERMANENT_VMS
50X	REG_53
70X	TEMPORARY_VMS
720X	ENGLISH_WELSH
721X	WELSH_ENGLISH
722X	

All of the above categories with the exception of FAVOURITES, FREQUENT and REG\_53 relate to numbering of signs documented in *The Traffic Signs Regulations and General Directions 2002. (often referred to as TSRGD)* 

For example: 5X means signs beginning with the number 5, and 70X means signs beginning with the number 70, (such as 7001 - Road works ahead)

Selection of a category from the **left hand list** will change the contents of the **second list box** and automatically fill in the **third list box** with a list of signs from the first category of the **second list box** 

Example: If you select 720X from the left hand list, the second list will change to show the various subfolders underneath 720X. Whereas if you select 5X from the left hand list there are no subfolders

The **third list box** contains the actual list signs (i.e. the drawing names)

You can navigate through the **third list box** by single clicking on the name of each sign, or by use of the **Up Arrow** and **Down Arrow** keys or you can use your mouse scroll wheel to scroll up and down

As each sign in the list is selected an image preview of the sign and any related data will be presented and the sign is set current ready for insertion.

#### FREQUENT

The FREQUENT folder contains a list of signs that are frequently used in temporary traffic management diagrams. The FREQUENT folder has subfolders categorised by the sign shape (circular, rectangular and triangular) plus common combination signs (top plate with bottom plate), diversion signs and frequently used symbols.

You can use Windows Explorer to copy signs of your own choosing from any of the CONE signs folders to the FREQUENT folder, however the FAVOURITES section provides an alternative as described below.

**FAVOURITES** Up to 15 virtual folders (Favourites) are supported.

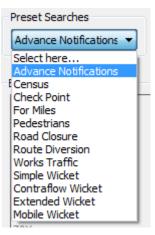
This is simple but effective method that allows you to organise the location of CONE signs to your own preferences

See Organise Favourites and Add Sign to Favourites (page 14) for more information

### Search for a Sign

#### **Preset Searches**

Contains a list of preset search topics, simply select a topic from the list and the program will perform a search on the selected topic



### **Freeform Search Word or Words**

Freeform Search Word or Words	Search Logic		(marked and marked and m	
			<u>S</u> earch	<u>Clear Search</u>
keep left	OR (any word)	AND (all the words)		

Enter a search phrase in the edit box and press the enter key or pick the Search button

How the program performs the search depends on the setting of Search Logic

### Search Logic

OR (any word)

If you enter: **Keep left** in the search phrase edit box and the search logic is set to OR (any word) the program will return a long list of signs that contain the words: Keep or Left Example: Side Road Left or No Left Turn

AND (all the words)

If you enter: **Keep left** in the search phrase edit box and the search logic is set to AND (all the words) the program will only return list of signs that contain both of the words **Keep** and **Left** 

#### **Clear Search**

Pick this button to clear the current search and return to normal browsing

### Select and Insert a Single Sign

There a three ways of inserting a single sign

- 1. Select the **OK** button
- 2. Double click the file name in the third list box
- 3. Single click the image of the sign (in this case the dialog is represented after completion of the sign insertion)

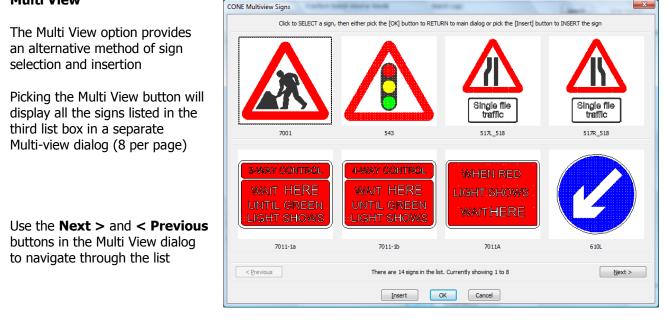
### Select and Insert Multiple Signs

To select and insert multiple signs hold down the **Shift** key whilst selecting signs from the third list box and press the **OK** button

Single Click To Select
[double click to insert]
345T.dwg
346T.dwg 347T_1.dwg
347T_10.dwg
347T_10A_200m.dwg
347T_10_100m.dwg 347T_10_200m.dwg
347T_10_300m.dwg
347T_10_400m.dwg 347T_10_600m.dwg
347T_1A_200m.dwg
347T_1_100m.dwg
347T_1_200m.dwg 347T_1_300m.dwg
347T_1_400m.dwg
347T_1_600m.dwg
Multi <u>V</u> iew

Note: For multiple sign insertion, any leader settings are ignored and the signs are inserted at the current scale setting and with a zero rotation angle. You are notified of this (just in case you multiple selected by mistake) and given the option to cancel the action. Follow the prompts at the Command Line to position the group of signs

#### **Multi View**



To insert a sign, first select a sign by clicking its image and then pick the **Insert** button

To select a sign and make it current, click its image and pick the **OK** button, the sign selected will now be the current sign in the main dialog window after you press the OK button

You can return to the main dialog window without doing either of the above by picking the Cancel button

### **Sign Insertion Methods**

Sign Insert Settings		Leader Type	Sign Rotation Method
Insert scale	1	Click to change	Specify on screen
Reference distance	0		Preset rotation: 0
<ul><li>Include leaders</li><li>Group signs and leaders</li></ul>	?		

How signs are inserted onto the drawing depends on the following settings:

Sign Insert Settings, Leader Type and Sign Rotation Method

### Sign Insert Settings

Insert Scale: (This is the same value as Global Insert Scale in PREFERENCES)

Assuming you are working with a setting of 1 CAD unit = 1 metre then a Insert Scale setting of 1.0 is perfect when working on schematic schemes

However if you are placing signs onto maps then you may find that an insert scale of 1.0 results in signs that are too large in proportion to the map, in which case an insert setting of 0.5 to 0.75 is recommended.

### Reference Distance: Default value is 0.0

If you set a value other than zero here, then during insertion you will be prompted to pick a reference point (Datum), you will then continue to pick points (trace) on the drawing until the distance you entered is achieved. At which point the sign symbol or sign will be inserted

### **Include Leaders**

If the **Include Leaders** checkbox is checked then the sign symbol as shown in **Leader Type** will be inserted first and the sequence is as follows:

The sign symbol is inserted onto the drawing and you a prompted to:

Pick symbol insert point Pick the symbol insert point

The next prompt asks you for a:

Rotation Angle: Enter an angle or show the angle by picking



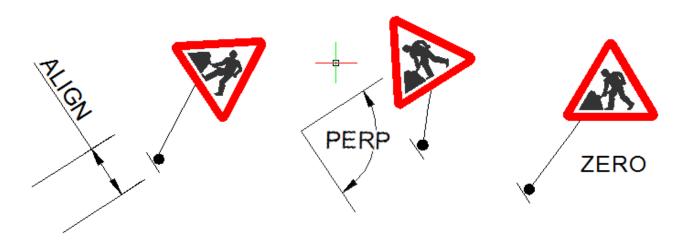
The sign will now be inserted and a leader line will connect to the sign symbol, the prompt will now show either

Pick sign insert point or enter keyword - Align/Perp/Zero/Rotate:[A/P/Z/R] Toggles:Ortho/Dogleg [O/D]

or

Pick sign - Toggles:Ortho/Dogleg [O/D]

Depending on the Sign Rotation Method setting, you can simply pick the sign insert point or select a keyword



### **Option Keywords**

ALIGN: Key A or a (the sign will be aligned parallel to the sign symbol) PERP: Key P or p (the sign will be aligned perpendicular to the sign symbol) ZERO: Key Z or z (the sign will be placed upright (zero rotation)) ROTATE: Key R or r (you will be prompted to rotate the sign manually) ORTHO: Key O or o, (toggles ORTHOMODE ON or OFF) DOGLEG: Key D or d, (toggles Doglegging of the leader ON or OFF)



### **Group Signs and Leaders**

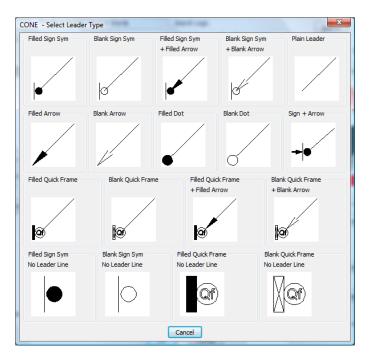
If the **Group signs and leaders** checkbox is checked then the sign symbol, leader and sign will be grouped together, making it easier to modify all three elements together

#### Leader Type

The Leader type image is only active if the: **Include leaders** checkbox is checked.

Sign Insert Settings		Leader Type	Sign Rotation Method
Insert scale	1	Click to change	Specify on screen
Reference distance	0		Preset rotation: 0
Include leaders	?		
Group signs and leaders			

You can change the current leader setting by clicking the leader image and selecting a leader type from the dialog that will be displayed



### Sign Rotation Method

#### Specify on screen

If the **Specify on screen** checkbox is checked then you will be prompted for the sign rotation angle during insertion

If the **Specify on screen** checkbox is unchecked then the sign will be inserted at the angle set in the **Preset Rotation** edit box

#### Sign Data

All CONE signs have attribute data associated with them, you can modify this data by picking the:

### Modify Sign Data button

All signs have basic data fields attributed to them namely **Qty, User Size, User 1 and User 2**.

Sign Data	
Note: This sign has NO variable text lines	Modify Sign Data
	More Information

Any data you enter here will be included in Sign Schedules. The field most commonly used is the Qty field where you show only one sign on your drawing but two leaders connected to sign symbols; in this case a quantity of 2 would be entered

You can also access and change sign data after insertion in a drawing by using the: Sign & Leader Tools > Query/Edit Sign Data/Qty tool

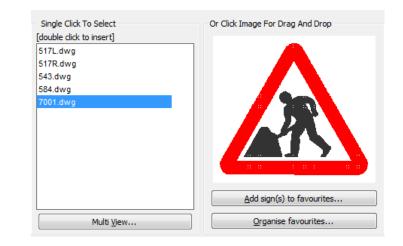
#### **More Information**

Displays additional sign information in a secondary dialog window

#### Organise Favourites and Add Sign to Favourites

This is simply a method that allows you to organise the location of CONE signs to your own preferences

Up to 15 virtual folders (Favourites) are supported.



### **Organise Favourites**

To Organise Favourites pick the Organise Favourites button and secondary dialog window will be presented

Organise Favourites ( Virtu		and the local division of the local division	
Modify Folders	Virtual Folders	Virtual Files	
Add new folder	Approach Signs to PTS	7001.dwg	
	My Favourites	543.dwg	
		517L_518.dwg	
Rename folder		517R_518.dwg	
		7011-1a.dwg	
Remove folder		7011-1b.dwg	
		7011A.dwg	
		610L.dwg	
		610R.dwg	
		610L_7105C.dwg	
		610R_7105C.dwg	
		7001_645.dwg	
		TrafficSignal3.dwg	Remove file(s) from folder
		TrafficSignal.dwg	Move files(s) to another folder
		OK	

#### Add New Folder:

Pick this button and enter a folder description, the new Favourites folder will be created

**Rename Folder**: Select a folder from the Virtual Folders list and pick the **Rename Folder button** to change the folder description

**Remove Folder**: Select a folder from the Virtual Folders list and pick the **Remove Folder button** to delete the folder

Note: A warning will be issued with an option to cancel this action

Files (signs) can be removed from a folder or moved to a different folder by selection of:

#### Remove file(s) from folder button:

Select a file from the Virtual files list and pick this button to remove a file

Note: A warning will be issued with an option to cancel this action

**Move file(s) to another folder**: Select a file from the Virtual files list and pick this button to move a file to a different Virtual Folder

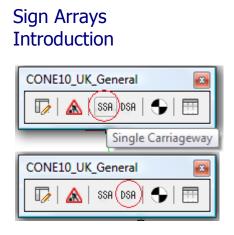
Note: A warning will be issued with an option to cancel this action

#### **Add Sign to Favourites**

To add a sign to a favourites folder pick the **Add signs to favourites** button and a dialog will be displayed

Select the virtual folder which you would like to add the sign to and pick the **OK** button

Please select which virtual for	older to a	dd the selected files to	×
Approach Signs to PTS			
My Favourites			
	ОК	Cancel	



Co	ne10UK		
5	Cone Preferences		
	Sign Search/Browse/Insert		_
	Sign Arrays	•	SSA Single Carriageways
	Sign & Leader Tools	×	DSA Dual Carriagways

Sign Arrays are list of signs (plus optional sign symbol and leader lines) with accumulative distances from a datum point

Example



The most common use for Sign Arrays are in the rapid and accurate placing of an array of signs leading up to the start of a works area but they can be used anywhere on your schemes.

CONE Standard Sign Arrays are provided for both Single Carriageway and Dual Carriageway schemes and the method of use is the same for both.

You cannot change CONE standard sign arrays but you can copy and modify them, or create your own arrays from scratch

Sign Arrays can be inserted into the current drawing in a number of ways:

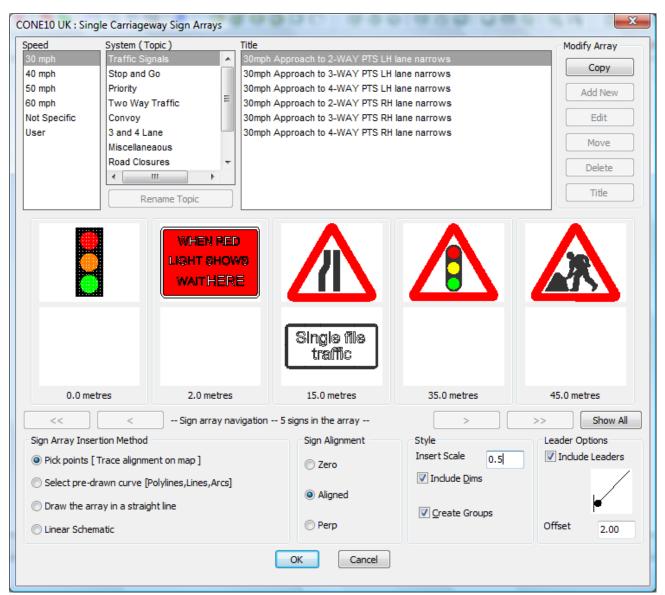
1. Directly onto your drawing or background map image

- 2. By selection of pre-drawn curve (Line, Polylines and Arcs) that you wish your array to follow
- 3. In a straight line between two points

4. Linear Schematic; this is similar to method 3 except that the distances between the signs regularly spaced (not the actual real world distance)

# Sign Arrays Selection

Array selection is achieved by selection from three list boxes, working from left to right.



**Speed**: Select the permanent speed limit (or Not Specific or User)

Note: The **User** topic is where the arrays that you may create are stored.

**System (Topic):** For Single Carriageways arrays the list will be a list of systems (Traffic Signals, Stop and Go etc) for Dual Carriageways the list will be the Number of Lanes.

**Title:** The third box contains a list of sign array titles, you choose from this list to set the current array.

The images of the currently selected array are displayed below, complete with the distances from the datum point.

If there are more signs than can fit into the dialog then use the navigation buttons: < << >>> to move through the array, or pick the **Show All** button.

Sign Array Insertion Method

Linear Schematic

Pick points [Trace alignment on map ]

Oraw the array in a straight line

Select pre-drawn curve [Polylines,Lines,Arcs]

# Sign Arrays Insertion

Having selected a sign array the next step is to configure how the array will be inserted on your drawing.

### Sign Array Insertion Method

Sign Arrays can be inserted into the current drawing in a number of ways:

Method 1 - Pick points: (Trace the alignment directly onto your drawing or background map image)

You first pick the start point (Datum) of the array (usually the works area taper start point)

You then carry on picking more points (as if you were tracing the edge of the carriageway) and as the distances of each sign from the datum point are reached the sign or, sign symbol leader and sign are inserted into the drawing.

When all the distances have been reached, the array is ended.

There are various keyword options that govern the style of the array

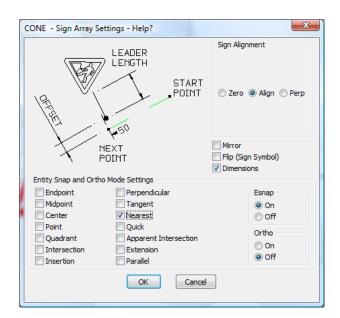
Command: UKSARRAYS

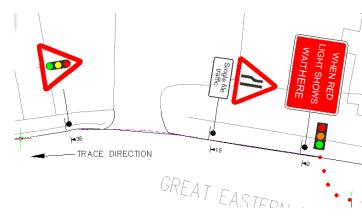
Pick the Array Start Point (Datum) : *Pick the array start point* Pick Next Point, enter Keyword or hit Enter to terminate early Align/Perp/Zero/Mirror/Undo/Esnap/Ortho/Help [A/P/Z/M/U/E/O/H] : *Pick the next point or option keyword, see below* 

Note: Only the first letter of each keyword is entered

- Align The signs are aligned in the same direction as the Sign Symbol
- Perp The signs are aligned perpendicular to Sign Symbol
- Zero The signs are inserted with Zero rotation
- **Mirror** The signs are mirrored onto the other side of the traced line
- Flip Reverses the direction of the Sign Symbol
- Undo the previous step
- Esnap Toggles Esnap (Osnap) ON/OFF
- Ortho Toggles Ortho ON/OFF
- **Help** Displays the Settings/Help dialog where all the above can be changed at once

Enter Key Terminates the array insertion early



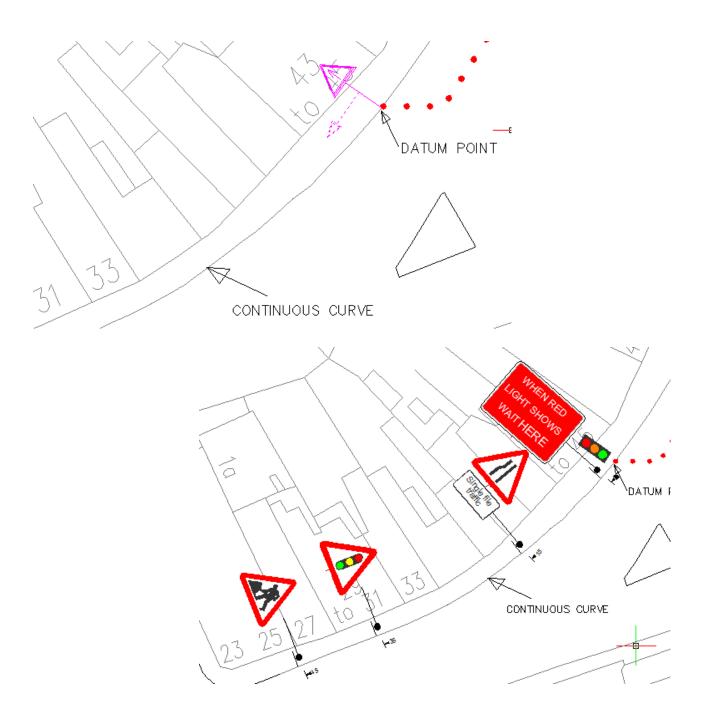


Method 2: Select a pre-drawn curve (Line, Polylines and Arcs) that you wish your array to follow.

Command: UKSARRAYS Select a pre-drawn alignment curve (Line, Arc, Polyline or Spline) : *Select a pre-drawn curve* Pick the array start point (Datum): *Pick a point* Press the SPACEBAR to toggle the sign array direction and side, press the ENTER key when done:

After selecting the curve you are prompted to pick the start point (Datum) on the curve, a magenta icon is placed on your drawing showing the array direction and side, pressing the SPACEBAR will toggle the direction and side and show the four possible alternatives. Press the enter key when the icon is showing the direction and side required. The array is then fully inserted.

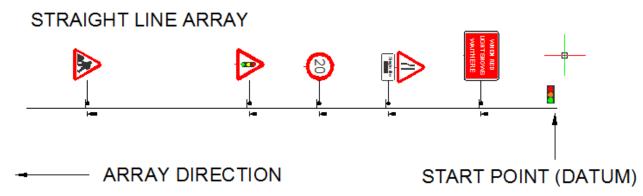
If the curve you selected is not long enough to accommodate the entire array, then you have the option of having the signs that can't fit on the curve inserted at a point tangential to the end of the curve, or you can simply cancel and revise your pre-drawn curve.



### Method 3: Draw the array in a straight line

This method draws the array in straight line at an angle you choose.

You are prompted to pick the start point (Datum) and then a second point, which determines the angle of the array, then lastly you are prompted to select the side to place the signs. The array is then fully inserted.



Command: UKSARRAYS

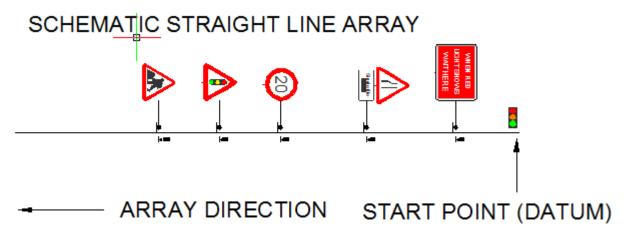
Pick the array start point (Datum): *Pick start point* Pick a point in the array direction: *Pick a point* Press the SPACEBAR to toggle the sign array side, press the ENTER key when done:

After picking the two points to show the array direction a magenta icon is placed on your drawing showing the array side, pressing the SPACEBAR will toggle array side.

Press the enter key when the icon is showing side required. The array is then fully inserted.

### Method 4: Linear Schematic

This is similar to Method 3 except that the distances between the signs regularly spaced (not the actual real world distances)



Command: UKSARRAYS

Pick the sign array start point (Datum) : *Pick start point* Pick a point in the array direction : *Pick a point* Options: Align/Perp/Zero/Mirror/Flip or press enter when done

Note: Only the first letter of each keyword is entered

Align The signs are aligned in the same direction as the Sign Symbol

- Perp The signs are aligned perpendicular to Sign Symbol
- Zero The signs are inserted with Zero rotation

Mirror The signs are mirrored onto the other side of line

Flip Reverses the direction of the Sign Symbol

Sign Alignment

### **Sign Alignment**

These options determine the sign alignment

#### ZERO:

The signs will be placed upright (zero rotation)

#### ALIGN:

The signs will be aligned parallel with the direction of the curve.

#### PERP:

The sign will be aligned perpendicular to the direction of the curve.



### Style

Insert Scale: (This is the same value as Global Insert Scale in PREFERENCES)

Assuming you are working with a setting of 1 CAD unit = 1 metre then a Insert Scale setting of 1.0 is perfect when working on schematic schemes.

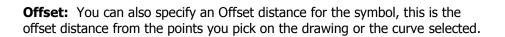
However if you are placing signs onto maps then you may find that a insert scale of 1.0 results in signs that are too large in proportion to the map, in which case a insert setting of 0.5 to 0.75 is recommended.

**Include Dimensions:** Check this option to have a dimension (the distance from the datum to the sign symbol insert point) placed on the drawing.

**Create Groups**: Check this option and the sign symbol, leader and sign will be grouped together.

#### **Include Leaders**

If the **Include Leaders** check box is checked then the sign will be inserted attached to a sign symbol as defined by the current leader setting. (Click the leader image to change)





OFFSET

Style

Leader Options

2.00

# Creating a Custom Array

There are two methods of creating a Custom Array.

- A. Make a copy of a standard sign array and then modify the new array.
- B. Create a new sign array from scratch.

### A: Make a copy of a standard sign array and then modify the new array

Speed	System (Topic)		Title		_ Modify Array
30 mph	Traffic Signals	*	40mph Approach to 2-WAY PTS LH lane narrows		
	Stop and Go		40mph Approach to 2-WAY PTS LH lane narrows + Speed		Сору
50 mph	Priority		40mph Approach to 3-WAY PTS LH lane narrows		Add New
60 mph	Two Way Traffic	Ξ	40mph Approach to 3-WAY PTS LH lane narrows + Speed		
Not Specific	Convoy		40mph Approach to 4-WAY PTS LH lane narrows	-	Edit
User	3 and 4 Lane		40mph Approach to 4-WAY PTS LH lane narrows + Speed		
	Miscellaneaous		40mph Approach to 2-WAY PTS RH lane narrows		Move
	Road Closures	Ŧ	40mph Approach to 2-WAY PTS RH lane narrows + Speed		Delete
	I → III → I		40mph Approach to 3-WAY PTS RH lane narrows		Delete
	Rename Topic		40mph Approach to 3-WAY PTS RH lane narrows + Speed	Ŧ	Title

1. Use the **Sign Array** tool to select the array you want to copy

### 2. Pick the **Copy** button.

3. Enter a title for this new array and pick the **OK** button.

Cone10UKk: Copy Sign Array
Please enter a title for this new array
Copy of 40mph Approach to 2-WAY PTS LH lane narrows
OK Cancel

Please select the User Category to copy the selected array to	
User Category 1	
User Category 2	
User Category 3	
User Category 4	
User Category 5	
User Category 6	
User Category 7	
User Category 8	
User Category 9	
User Category 10	
OK Cancel	
BricsCAD	X

4: Select the **User Category** that you wish to house the copied array and pick the **OK** button.

5: The program will respond with (or similar)

BricsCAD 
The array was copied to User: > User Category 1
OK

The array is now ready for modification, see page 23

### B: Create a new sign array from scratch

Speed	System (Topic)	Title	Modify Array
30 mph	User Category 1	Copy of 40mph Approach to 2-WAY PTS LH lane narrows	
40 mph	User Category 2		Сору
50 mph	User Category 3		Add New
60 mph	User Category 4	E	
Not Specific	User Category 5		Edit
User	User Category 6		
	User Category 7		Move
	User Category 8	<b>*</b>	Delete
	<		Delete
			Title
	Rename Topic		line

- To create a new sign array from scratch
- 1~ Select User from the Speed list box

4 Enter a title for this new array and

- 2 From the System list box select the User Category that you wish to house the new array
- 3 Pick the **Add New** button.

pick the **OK** button.

Cone10UK: Create New Sign Array	<u> </u>
Please enter a title for this new array	
My New Array From Scratch	
OK Cancel	

0.0       DATUM_SYM       - Datum symbol         Upper sign or symbol (Click to activate)       Settings         Distance from datur       Quantity         Change       Attach to a lead         Variable Text (wher       1         Lower sign or symbol (Click to activate)       2         Lower sign or symbol (Click to activate)       4         Change       6         Change       7	Row
Image: Delete       Delete       1       1         Image: Delete       2       3       3         Image: Delete       3       4       1         Image: Delete       5       6       1	Add Edit Delete
Lower sign or symbol (Click to activate)	Save Discard
Change     Quantity       Change     Attach to a lead       Variable Text (when     1       Delete     2       3     4       Change     6	
Lower sign or symbol (Click to activate) 4 Change 6	1
Lower sign or symbol (Click to activate) 4 5 6 Change 6 0	applicable)
Lower sign or symbol (Click to activate) 4 Change 6	
Change 6	
Change 6	
7	
8	
Delete 9	
10	

The program will now launch the Array Editor where you add the signs to your new array, see page 23

### Modifying a Custom Array – The Array Editor

To modify a custom sign array, select the array you wish to modify and select edit.

Speed	System (Topic)	Title	Modify Array
30 mph	User Category 1	Copy of 40mph Approach to 2-WAY PTS LH lane narrows	
40 mph	User Category 2		Сору
50 mph	User Category 3		Add New
60 mph	User Category 4		Hadrien
Not Specific	User Category 5		Edit
User	User Category 6		
	User Category 7		Move
	User Category 8		Delete
	User Category 9 🔫		Delete

### The Edit Array dialog will be displayed.

istance	Sign or Symbol			Row
).0	TRAFFICSIGNAL3 - Portable tr	affic light symbol		
5.0	7011A - When Red Light Shows Wait Here			Add
5.0	517L - Road narrows on	one side only ahead - left + 518 -	Single file traffic	Edit
5.0	543 - Traffic signals ahe			
00.0	7001 - Road works ahea	d		Delete
				Save
				Discard
Upper sig	n or symbol (Click to activate)		Settings	
			Distance from datum	0.0
			Quantity	
		Change	(guardey	1
			Attach to a leader	
			Variable Text (where applicable	-)
				-,
		Delete	1	
		Delete	2	
			3	
			3	
Lower sig	n or symbol (Click to activate)		4	
			5	
		Change	6	
			7	
			8	
		Delete	9	
			10	
		Save Cancel	Help	

The list of signs or symbols in the array is displayed in a selectable list box along with the distance from the datum.

Distance	Sign or S	ymbol	Row
0.0	TRAFFIC	SIGNAL3 - Portable traffic light symbol	
15.0	7011A	- When Red Light Shows Wait Here	Add
35.0	517L	- Road narrows on one side only ahead - left + 518 - Single file traffic	Edit
65.0	543	- Traffic signals ahead	
100.0	7001	- Road works ahead	Delete
			Save
			Discard

The **Row** options are Add, Edit or Delete

Add: Adds a sign to the array

First enter values for:

- 1. Distance from the datum,
- 2. Qty,
- 3. Whether the sign is attached to a leader

Jpper sign or symbol (Click to activate)	Change	Settings Distance from datum Quantity I Attach to a leader	0.0
	Delete	Variable Text (where applicable) 1 2	

Next pick the **Change** button and select a sign from the **Sign Search Browse and Select Dialog** that is presented:

CONE10 UK: Sign Search, Brows	e and Select		×
Preset Searches Select here	Freeform Search Word or Words	Search Logic OR (any word) AND (all the words)	Search Clear Search
			7001 - Road works ahead
Browse For Signs	Circular_Signs Combination_Signs Diversion_Signs Rectangular_Signs Supplementary_Plates Symbols Triangular_Signs	517L.dwg 517R.dwg 543.dwg 584.dwg 7001.dwg	More Info about this sign
		OK Cancel	

Select the sign required and pick the **OK** button, the selected sign will now be displayed thus:

Upper sign or symbol (Click to activate)		Settings	
		Distance from datum	0.0
	Change	Quantity	1
		✓ Attach to a leader	
		Variable Text (where applicable)	
		1	
	Delete	2	
		3	

Click the **Save** button to confirm and have the sign added to the sign array list or click the **Discard** button to cancel this operation.

Save	
Discard	

Edit: Change a sign or change the distance from the datum

First select the sign you wish to change from the sign array list and then pick the Edit button

Now either enter a new distance or pick the Change button to select a different sign (as for the Add action)

Click the **Save** button to confirm or click the **Discard** button to cancel this operation

Save	
Discard	

Delete: Removes the selected sign from the array list

Select the sign you want to delete in the main array list box Press the **Delete** button Confirm your action

To save you changes and return to the main sign array dialog click the **Save** button at the bottom of the dialog

		10
Save	Cancel	Help

Sign and Leader Tools: Cone Sign Wizards	Cone10UK	
CONE10_UK_Sign_Utilities	Sign & Leader Tools 🔹 🕨	🔀 Cone Sign Wizard
Cone Sign Wizard	Schematic Diagrams	● Insert Sign Symbol ↓ Insert Sign Symbol & Leader ✓ Dog Leg a Leader
		<ul> <li>Copy Sign Symbol</li> <li>Copy Sign Symbol &amp; Create Leader</li> <li>Modify Text or Data On Signs</li> <li>Label Single Sign</li> <li>Label Multiple Signs</li> <li>Block Swap</li> </ul>

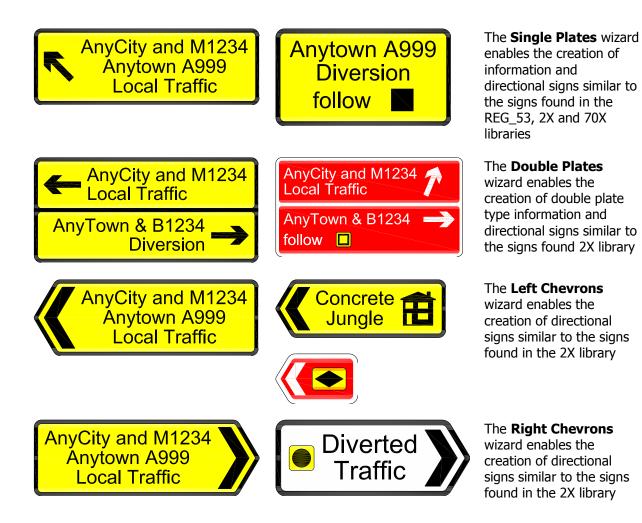
The Cone Sign Wizards enable you to create custom signs.

After selecting the tool from the pull down menu or toolbar a dialog box will then be presented (see below)

Click one of the icons to load the appropriate wizard

CONE 10: Sign Wizards	X
Single Plates	Double Plates
AnyCity and M1234 Anytown A999 Local Traffic	AnyCity and M1234 Local Traffic AnyTown & B1234 Diversion
Left Chevrons	Right Chevrons
AnyCity and M1234 Anytown A999 Local Traffic	AnyCity and M1234 Anytown A999 Local Traffic
OK	Cancel

**Warning!** Due to the flexible nature of the CONE sign wizards it is quite easy to create **non-prescribed signs** and it is the responsibility of the creator to ensure that all signs produced with the sign wizard are **fit for purpose.** 



All the wizards operate in a similar manner; the next pages describe the operation of the single plate wizard only

Sign and Leader Tools: Single Plate Wizard	CONE 10: Text Sign W 1. Select the Left Symbol 2. Select the Right Sym 3. Select the Lower Syn 4. Select the Plate Bad	bol or none mbol or none mbol or none	Vith Or Without Symbol 5. Enter the Plate Text 6. Select the Plate Tex 7. Enter an Optional La 8. Select OK to finish	: for each line as reqd t Justification
	Left Symbol	Plate Text AnyCity and M12 Anytown A999 Local Traffic		Right Symbol
	Plate Colour Yellow Red White	Lower Symbol	ONE	Text Justification Left Centre
AnyCity and M1234 Anytown A999 Local Traffic	) Blue	Linkster -	LABEL Cancel	© Right

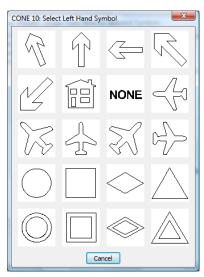
The Single Plate wizard can contain up to 6 lines of text and can have either left, right or lower symbol or none at all

The text can be LEFT, RIGHT or CENTRE justified, select the appropriate **Text Justification** radio button

To change the **Left Symbol** or to set it to NONE click the Left Symbol image

A sub dialog will appear see as shown here ->

Select the desired symbol and the dialog window will close automatically



A similar dialog will appear if you click the Right or Lower symbols

To change the background colour of the sign select one of the **Plate Colour** radio buttons (Yellow, Red, White or Blue

Enter an **Optional Label**, the information you enter here will be used by the **Bill of Quantities**, **Label Single Signs** and **Auto Label Signs** tools.

Select **OK**, the dialog window will close and the sign will be created, then you will be prompted for an sign inert point.

Sign and Leader Tools: Insert a Sign Symbol	Cone10UK Cone Preferences	
	🛦 Sign Search/Browse/Insert	
	Sign Arrays	
CONE10_UK_Sign_Utilities	Sign & Leader Tools 🔹 🛃 Cone Sign Wizard	
🔟 间 🗸 🕫 🖙 🦛 🌆 📎 💱	Symbols Insert Sign Symbol	
	Schematic Diagrams	
Insert a Sign Symbol		

Command: UKSIGNSYM

Pick Symbol Insert Point: *pick symbol insert point* Rotation angle for block <0>: *show angle by moving the mouse or enter an angle or press enter for zero degrees* 

Sign Symbols are used to indicate the position and direction of the sign face on your drawing

Example

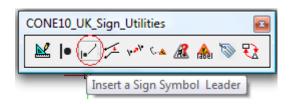


Select the Insert a Sign Symbol tool from the menu or toolbar, the sign symbol will be inserted in the centre of the screen and you will be prompted to position the symbol.

After left clicking the mouse to position the sign symbol you will be prompted for a rotation angle.

Show the rotation angle by either dragging and clicking the mouse or typing a value and pressing the enter key

### Sign and Leader Tools: Insert a Sign Symbol & Leader



Cone10UK	
Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	🕨 🗠 Cone Sign Wizard
Symbols	Insert Sign Symbol
Schematic Diagrams	🖌 🔽 Insert Sign Symbol & Leader

Command: UKSLEADER

Pick Symbol Insert Point: *pick symbol insert point* Rotation angle for block <0>: *show angle by moving the mouse or enter an angle or press enter for zero degrees* Pick Leader End Point: *pick the leader end point* 

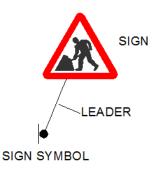
**Sign Symbols** are used to indicate the position and direction of the sign face on your drawing, the **Leader** line is a link to a view of the actual sign face.

Select the Insert a Sign Symbol & Leader tool from the menu or toolbar, the sign symbol will be inserted in the centre of the screen and you will be prompted to position the symbol.

After left clicking the mouse to position the sign symbol you will be prompted for a rotation angle.

Show the rotation angle by either dragging and clicking the mouse or typing a value and pressing the enter key.

Finally you will be prompted to pick the leader end point

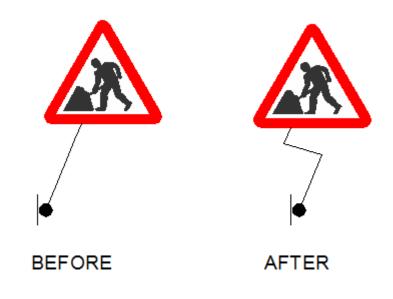


Sign and Leader Tools: Dog Leg a Leader	Cone10UK Cone Preferences Sign Search/Browse/Insert	
	Sign Arrays	
CONE10_UK_Sign_Utilities	Sign & Leader Tools 🔹 🔸	🔛 Cone Sign Wizard
🔟  • ଟ 🖅 🛰 🧟 🏤 📎 🎨	Symbols	Insert Sign Symbol
	Schematic Diagrams	<sub>I●</sub> ✓ Insert Sign Symbol & Leader
Dog Leg a Leader	Miscellaneous Tools & Libraries	🔁 Dog Leg a Leader

#### Command: CDOGLEG

Select a Leader *pick the leader line you wish to dog-leg* Leader is not connected, select objects that are connected to the leader or press enter to ignore: Select objects: *select any un-linked sign face (if required), then press [ENTER]* Pick new Leader end point : *move mouse to new position and left-click* 

Leader lines are used to link the Sign Symbols and the view of the sign face. Occasionally, you will want to break the straight line (dog-leg) to increase legibility of the drawing.



If you have drawn a sign & leader line together using the "Sign Search/Browse/Insert..." tool and selected the **Group** option they will be linked and the tool will know to move the sign face as the leader is dog-legged.

If however they were not grouped or created separately using "Insert a Sign Symbol and Leader Line" command, it is still possible to create a dog-leg by manually selecting the associated sign

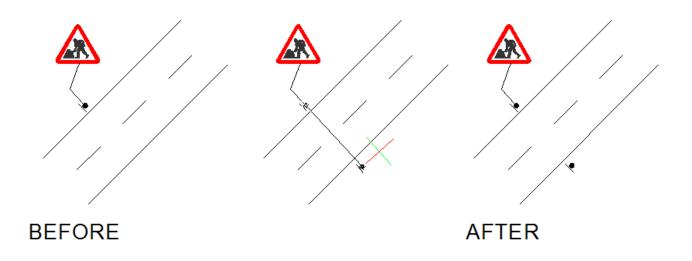
Sign and Leader Tools: Copy Sign Symbol	Cone10UK Cone Preferences Sign Search/Browse/Insert	
	Sign Arrays	•
CONE10_UK_Sign_Utilities	Sign & Leader Tools	Cone Sign Wizard
🔟 🔟 📈 🟸 🛹 🛵 🔊 🤁	Symbols	Insert Sign Symbol
	Schematic Diagrams	Insert Sign Symbol & Leader
Copy Sign Symbol	Miscellaneous Tools & Libraries	Dog Leg a Leader
	Mapping Utilities	🖌 🚧 Copy Sign Symbol

#### Command: CCSS Select a Sign Symbol to copy *pick the sign symbol* Pick new insert point *pick a new insert point*

The tool will keep on copying the sign symbol until you press the enter key

Sign Symbols show the position on the drawing where the sign is to be located. When the same sign is to be placed on BOTH sides of the carriageway this tool provides a quick method of copying the symbol orthogonally, you can of course just use the standard CAD copy command

Example:

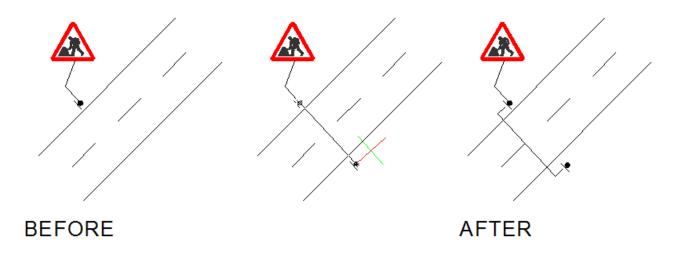


Sign and Leader Tools: Copy Sign Symbol & Create Leader	Cone10UK Cone Preferences Sign Search/Browse/Insert Sign Arrays	
	Sign & Leader Tools	🔛 Cone Sign Wizard
CONE10_UK_Sign_Utilities	Symbols	Insert Sign Symbol
	Schematic Diagrams	, Isert Sign Symbol & Leader
👱 🕨 🗸 🖈 🚧 ன 🧟 🛣	Miscellaneous Tools & Libraries	, 🟸 Dog Leg a Leader
Copy Sign Symbol Create a Leader	Mapping Utilities	🗤 🖓 Copy Sign Symbol
,	Perdury Teels	🗸 Copy Sign Symbol & Create Leader

Command: CCSSL Select a Sign Symbol to copy *pick the sign symbol* Pick new insert point *pick a new insert point* 

This tool is similar to the previous tool except that the tool draws a leader line linking the two symbols.

After the new sign symbol position is selected, the sign is drawn, and the leader lines are drawn connecting the two symbols



Sign and Leader Tools:	Cone10UK Cone Preferences		
Modify Text or Data on Signs	🛦 Sign Search/Browse/Insert		
	Sign Arrays	•	
CONE10_UK_Sign_Utilities	Sign & Leader Tools	•	🕍 Cone Sign Wizard
	Symbols		Insert Sign Symbol
🕍 🕨 📈 🗯 🚧 🏎 🌆 🔊 🔁	Schematic Diagrams	•	Insert Sign Symbol & Leader
Ouers Sign of Edit Sign Data	Miscellaneous Tools & Libraries	•	🗲 Dog Leg a Leader
Query Sign or Edit Sign Data	Mapping Utilities	•	🐶 Copy Sign Symbol
	Roadway Tools	•	🛶 Copy Sign Symbol & Create Leader
	Road Markings Tools	•	🦧 Modify Text or Data On Signs

#### Command: CMODSIGN

Select a CONE sign or device: select a CONE sign (on its edge)

This tool allows you to change the variable text on signs that have variable text.

The tool can also be used to change the quantity (for sign schedule purposes) of signs to be used at a location

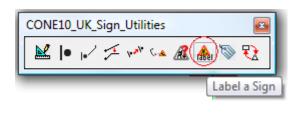
**DO NOT** explode the signs, or double click on the sign to try and edit the definition of the sign block, this may cause other problems on the drawing, or when producing a bill of quantities.

_	CONE 10: Modify Sta	ndard Sign or Device Data	X
	User Data		
	518 Single File Tra	ffic	
	Qty	1	
	User Size [optional]		
	User 1 [optional]		
	User 2 [optional]		
	Variable Text		
	There are 1 variable	text lines on this sign	
i chérana i	Variable Text 1	for 300yds	
Single file traffic for 300yds	Variable Text 2		
	Variable Text 3		
	Variable Text 4		
	Variable Text 5		
	Variable Text 6		
	Variable Text 7		
	Variable Text 8		
	Variable Text 9		
I	Variable Text 10		
		OK Cancel	

Change the text as required; please note entering longer text will not update the width of the sign.

Select the **OK** button to update the sign, or Cancel to ignore any changes.

### Sign and Leader Tools: Label Single Sign



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De Cone Preferences		
🛦 Sign Search/Browse/Insert		
Sign Arrays	•	
Sign & Leader Tools	<u> </u>	🗶 Cone Sign Wizard
Symbols		<ul> <li>Insert Sign Symbol</li> </ul>
Schematic Diagrams	► !	√ Insert Sign Symbol & Leader
Miscellaneous Tools & Libraries	•	🔎 Dog Leg a Leader
Mapping Utilities		Copy Sign Symbol
Roadway Tools	• -	🔺 Copy Sign Symbol & Create Leader
Road Markings Tools	•	🧟 Modify Text or Data On Signs
Chapter 7 Sign Design	•	Label Single Sign

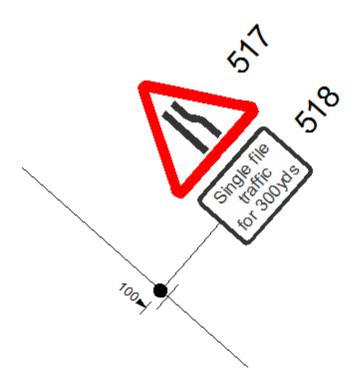
Command: UKSLABEL

Select a sign to label: select the traffic sign on the drawing

Pick label insert point *move then left-click the mouse to position the text* 

Specify rotation angle or [Copy/Reference] <0>: click mouse to rotate the text, or press the enter key

This tool allows you to add a text label showing the prescribed sign number next to a CONE traffic sign.



NOTE: text size and rotation parameters are set from the Cone Preferences dialog

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#### Sign and Leader Tools: Label Multiple Signs



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Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	► 1
Sign & Leader Tools	🔸 🔛 Cone Sign Wizard
Symbols	Insert Sign Symbol
Schematic Diagrams	▶ Issert Sign Symbol & Leader
Miscellaneous Tools & Libraries	🕨 🔀 Dog Leg a Leader
Mapping Utilities	🖌 🖋 Copy Sign Symbol
Roadway Tools	Copy Sign Symbol & Create Leader
Road Markings Tools	Modify Text or Data On Signs
Chapter 7 Sign Design	Label Single Sign
- T I	

Auto Label CONE Signs	X
This function will label all CONE signs selected RELATIVE to the chosen rotation and orientation. The labels will be placed on the current LAYER using the current TEXT STYLE and TEXT HEIGHT which you can temporarily change The labels may also include a PREFIX and SUFFIX - see below	
LAYER	
0 ~	
TEXT STYLE ARIAL	
TEXT HEIGHT - VARIABLE     2       PREFIX     SUFFIX	
To change the label rotation and	
and orientation click the image	
To begin selecting signs select the OK button	
OK Cancel	

This tool allows you to add a text label showing the prescribed sign numbers next to a selected group of one or more traffic signs.

The options are from top to bottom:

LAYER: select from the list of layers on the current drawing.

TEXT STYLE: select from the list of defined text styles in the current drawing

TEXT HEIGHT: enter the text height for the labels, (in drawing units)

PREFIX & SUFFIX: Enter a string to appear BEFORE and/or AFTER the sign number

To change the placement of the label, click on the sign icon, the following dialog shows the options available to select.

CONE 10 - Choose Label Posit	ion and Rotation		X
A LABEL		ALABEL	A LABEL
Head	A LABE	ALME A	ALABBI
A VARE	ALV88E	A Mai	Anna Benn
	Car	ncel	

Click one of the icons to change the labelling position, or **Cancel** to return to the previous dialog

After selecting the labelling options, click the **OK** button to continue.

Command: UKMSLABEL Select Signs to Label Select entities

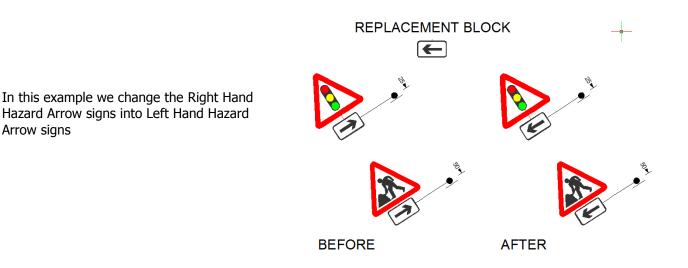
The tool will now prompt you to elect the signs to label, use normal CAD selection techniques and press the enter key when finished selecting

The selected signs will now be labelled

Sign and Leader Tools: Block Swap	Cone10UK ↓ Cone Preferences Sign Search/Browse/Insert Sign Arrays	-
	Sign & Leader Tools	🔛 Cone Sign Wizard
CONE10_UK_Sign_Utilities	Symbols	Insert Sign Symbol
📗 🔛 🍺 🖌 🖽 🚧 🏎 🧟 🔬 📎 🕄	Schematic Diagrams	Insert Sign Symbol & Leader
	Miscellaneous Tools & Libraries	🔁 Dog Leg a Leader
Block Swap	Mapping Utilities	va Copy Sign Symbol
	Roadway Tools	Copy Sign Symbol & Create Leader
	Road Markings Tools	A Modify Text or Data On Signs
	Chapter 7 Sign Design	Abel Single Sign Label Multiple Signs
	Curve Tools	🕄 Block Swap
	· · · · · ·	

Command: UKBLOCKSWAP Select replacement block: *select the block to use to as the replacement block* Select blocks to be replaced: *select one or more blocks to be replaced* Select objects: *x number found* Select objects: *press [ENTER]* 

This tool allows you to swap a single or number of blocks (signs or symbols) to be the same as one already placed on the drawing.

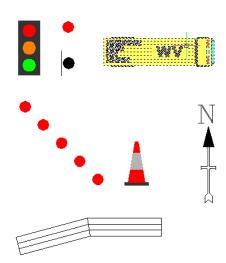


# Symbols

CONE10_UK_General
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Symbols

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1	Cone Preferences	
	Sign Search/Browse/Insert	
	Sign Arrays	►
	Sign & Leader Tools	►
9	Symbols	

#### SOME EXAMPLES



Symbols are simple drawings that you can use to enhance your drawings

The CONE Symbol Library is sub divided into the following folders

Changeovers - Reverse Curve Changeovers - Straight Cut Lines Entry Crossovers Exit Crossovers Linear\_Devices Safety Cameras Single Carriageway Changeovers Straight Coning Tapers Vehicles & People

There is also a selection of symbols in the root folder as shown below

Look in:	📔 SYMBOLS 🗸 🗸			G 🏚 📂 🛄 -				
	Name	g	Date modified 22/05/2013 08:00	Type AutoCAD Drawing	Size 29 KB		Descript Size:	28521 bytes
Desktop	CAMFIX.dw	g	22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	29 KB 29 KB		Created: Modified	11/07/2013 09:41 22/05/2013 08:00
Computer			22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	28 KB 28 KB	ſ	Accesse	d: 11/07/2013 09:41
	→ datum_sym → DetailA.dwg	-	22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	28 KB 29 KB		≡ Open - ⊽ Use pr	as read-only eview
Favorites	dim_sym1.d Dimension.d	-	22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	29 KB 29 KB		Preview	
ecent Items	DirectionOf		22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	28 KB 30 KB			
	filled_sign.d filled_sign_v	-	22/05/2013 08:00 22/05/2013 08:00	AutoCAD Drawing AutoCAD Drawing	27 KB 30 KB			
ocuments	Flash.dwq 22/05/2013 08:00 File name: DirectionOfTraffic.dwg		AutoCAD Drawing		- Open	-		
Files of type: •.dwg		in the start of th			Cancel			

Select each drawing name and the preview will be presented.

Pick the **Open** button or double click the file name to start the insertion routine.

The Scale and Rotation Angle of these schematics are governed by the settings in CONE PREFERENCES

# Introduction to Schematic Segments & Layouts

CONE Schematics are diagrammatic representations of basic roads, junctions and roundabouts with and without signs and channelling devices. The actual sizes of the roads are not real-world sizes

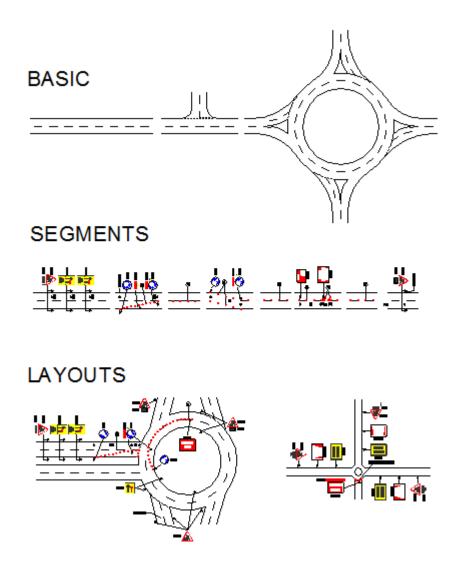
Multi-purpose, the CONE schematics cover all aspects of temporary traffic management and have many uses such as basic reference, indicative drawings, pre-tender proposals and when schemes are required for dual carriageways they represent the quickest and most convenient method of producing a TM plan.

There are three types of schematics diagrams:

Basic: Roads, Junctions, Roundabouts and Bends that have no signs or channelling devices

Segments: Parts of a layout (Single & Dual Carriageway: Advance Warning, Tapers, Works Access etc.)

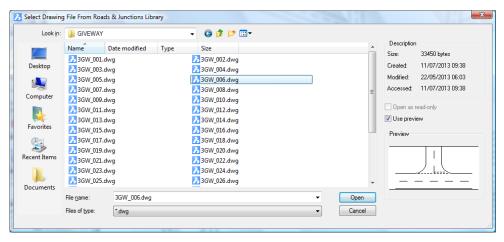
Layouts: Complete layouts for a typical scheme (TSAM'S, Road Closures and Emergency TM)



All three types of schematics have a common size and are designed to sit on top of each other and snap together

# Schematic Segments & Layouts: Basic Road & Junctions

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Sign Arrays	۶.
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	🔸 🌌 Basic Roads & Junctions
Miscellaneous Tools & Libraries	Single Carriageway Wizard
Mapping Utilities	Dual Carriageway Wizard
Roadway Tools	TSAM Wizard
Road Markings Tools	Road Closures
Chapter 7 Sign Design	ETM Emergency TM



This tool enables access to the basic roads and junctions library which is divided into the following subfolders:

- 3WAY (Junctions) GiveWay Roundabouts TrafficSignals
- 4WAY (Junctions) GiveWay Roundabouts TrafficSignals

BENDS D2GRADESEPERATED D3GRADESEPERATED D4GRADESEPERATED SLIPROADS LEVELCROSSINGS MISCELLANEOUS S3GRADESEPERATED SLIPROADS STRAIGHTS TRANSITIONS

In the example above the selection was:

CONE10UK > Schematic Diagrams > Basic Roads & Junctions > 3WAY > GIVE WAY

Select each drawing name and the preview will be presented.

Pick the **Open** button or double click the file name to start the insertion routine.

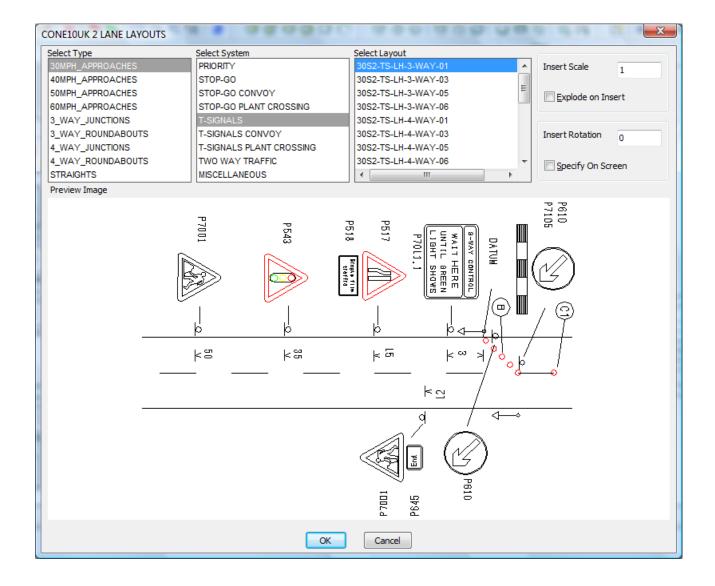
Command: UKROADS Pick Insert Point *pick insert point* Rotation angle for block <0>: *show or enter rotation angle* 

The Scale and Rotation Angle of these schematics are governed by the settings in Cone Preferences

### Schematic Segments & Layouts: Single Carriageway Wizard

CONE10_UK_Schematics	
Single Carriageway Wiza	rd

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🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
🗣 Symbols	
Schematic Diagrams	💽 🎣 Basic Roads & Junctions
Miscellaneous Tools & Libraries	Single Carriageway Wizard
Mapping Utilities	Dual Carriageway Wizard
Roadway Tools	TSAM Wizard
Road Markings Tools	Road Closures
Chapter 7 Sign Design	ETM Emergency TM



Working from Left to Right make your selection from the three lists:

**Select Type**: 30mph Approaches, 40mph Approaches, 50mph Approaches, 60mph Approaches, 3-Way Junctions, 3-Way Roundabouts, 4-Way Junctions, 4-Way Roundabouts, Straights

**Select System**: Priority, STOP-GO, STOP-GO Convoy, STOP-GO Plant Crossing, T-Signals, T-Signals Convoy, T-Signals Plant Crossing, 2-Way Traffic, Miscellaneous (NOTE not all options are available dependant on previous **Select Type** list option)

**Select Layout**: once selection from the previous lists is made, this list will display the matching details along with a slide image of the layout drawing

Select the layout required from the **Select Layout** list and pick the **OK** button to have the drawing inserted using the insert settings as defined in the Insert Settings area of the dialog

Insert Scale: normally left at 1, changing this will make the detail smaller or larger

**Explode on Insert**: the detail will be inserted as a block to enable you to move all items together, checking this box will break it into its individual elements (NOTE individual signs are not exploded)

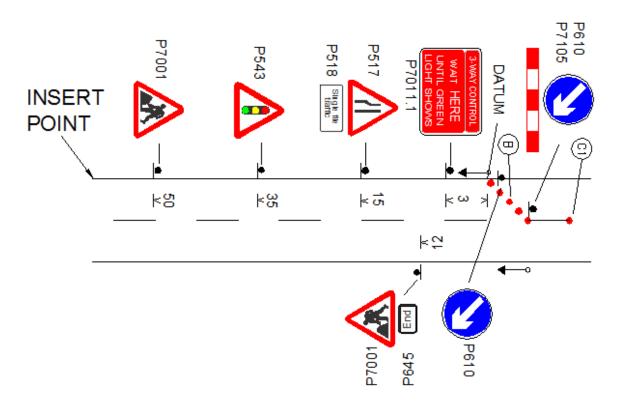
Insert Rotation: specify a rotation angle for the detail

Specify on Screen: check this box to rotate the detail dynamically after picking the insertion point

Pick the **OK** button to start the insert routine

Command: C2LANEWIZARD Insert Point *pick insert point* Rotation angle for block <0>: *show or enter a rotation angle (dependent on Specify on Screen setting)* 

Note: The insert point is always the left hand edge of the nearside carriageway

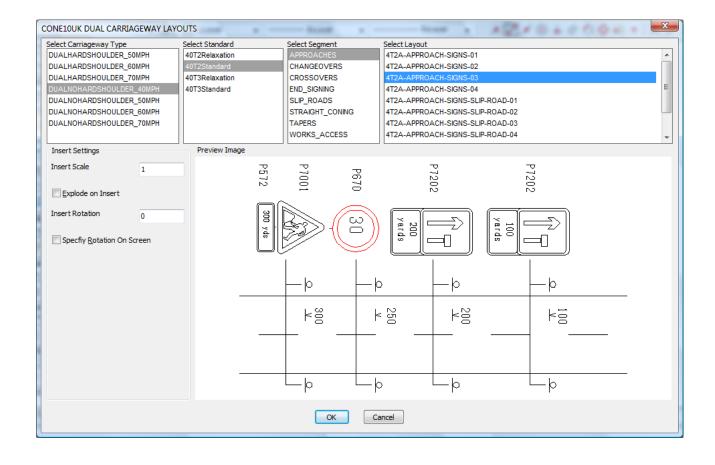


### Schematic Segments & Layouts: Dual Carriageway Wizard

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Dual Carriageway Wizard

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Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	💽 🎣 Basic Roads & Junctions
Miscellaneous Tools & Libraries	Single Carriageway Wizard
Mapping Utilities	Dual Carriageway Wizard
Roadway Tools	TSAM Wizard
Road Markings Tools	Road Closures
Chapter 7 Sign Design	► ETM Emergency TM



Working from left to right you make selections from the four lists:

**Select Carriageway Type**: Dual Hardshoulder 50mph, Dual Hardshoulder 60mph, Dual Hardshoulder 70mph, Dual No Hardshoulder 40mph, Dual No Hardshoulder 50mph, Dual No Hardshoulder 60mph, Dual No Hardshoulder 70mph (Note: not all segments are available at higher speeds)

#### Select Standard: Varies

**Select Segment**: Approaches, Changeovers, Crossovers, End signing, Slip roads, Straight coning, Tapers, Works Access (NOTE: not all options are available depending on standard selected).

Select Layout: This is the list of matching details

Having made your selection a list of available segment drawings are presented in the **Select Layout** list along with a slide image of the segment drawing

Select the drawing segment required and pick the **OK** button to have the drawing inserted using the insert settings as defined in the **Insert Settings** area of the dialog

Insert Scale: normally left at 1, changing this will make the detail smaller or larger

**Explode on Insert**: the detail will be inserted as a block to enable you to move all items together, checking this box will break it into its individual elements (NOTE individual signs are not exploded)

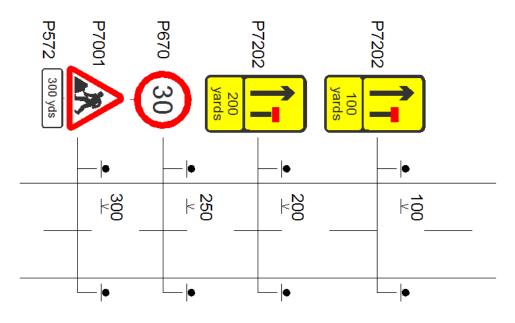
Insert Rotation: specify a rotation angle for the detail

Specify on Screen: check this box to rotate the detail dynamically after picking the insertion point

Pick the **OK** button to start the insert routine

Command: CDUALWIZARD Insert Point *pick insert point* Rotation angle for block <0>: *show or enter a rotation angle (dependent on Specify on Screen setting)* 

Note: The insert point is always the left hand edge of the nearside carriageway (except for Approach Segments which have an insert point at the right hand edge of the nearside carriageway)



# Schematic Segments & Layouts: TSAM Wizard

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TSAM Wizar	d

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Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	🔸 🎻 Basic Roads & Junctions
Miscellaneous Tools & Libraries	Single Carriageway Wizard
Mapping Utilities	Dual Carriageway Wizard
Roadway Tools	TSAM Wizard
Road Markings Tools	Road Closures
Chapter 7 Sign Design	ETM Emergency TM

Select Category	Small Monochrome Preview - CLICK IMAGE To View Big Slide
001-200 Key Footways Single Carriageways	
201-300 Dual Carriageway NO Hardshoulder 40mph or less	
301-400 Dual Carriageway NO Hardshoulder 50mph	
401-500 Dual Carriageway NO Hardshoulder 60mph	
501-600 Dual Carriageway NO Hardshoulder 70mph	
601-700 Dual Carriageway WITH Hardshoulder 50mph	
701-800 Dual Carriageway WITH Hardshoulder 60mph	
801-900 Dual Carriageway WITH Hardshoulder 70mph	
901-1000 Mobile Works	
1001-1100 Miscellaneous_details	
Welsh English TSAMS	Columna - Kau i el 3
elect TSAM Detail	
Key Drawing Sht 1 of 2 - TSAMSD001	
Key Drawing Sht 2 of 2 - TSAMSD002	
Traffic Management Arrangements For Pedestrians - TSAMSI	D003
Single 2 Lane STOP WORKS Sign Traffic Control - TSAMSD00	)4
Single 2 Lane Reduced Width Lane Closures Sht 1 of 3 - TSA	MSD005
Single 2 Lane Reduced Width Lane Closures Sht 2 of 3 - TSA	MSD006
Single 2 Lane Reduced Width Lane Closures Sht 3 of 3 - TSA	MSD007
Single 2 Lane Give and Take Traffic Control - TSAMSD008	
Advanced Search	
Search Clear Search No Active Search	
What Do You Want To Do With The Selected Detail?	
Insert into current drawing	a new window 💿 View the PDF page
Explode on Insert	

There are over 400 individual drawing files in the TSAM library each containing multiple details within 11 categories. To enable you select the pre-drawn detail you want, first choose from the lists of options

Select Category: Select from the list of categories

Single Carriageways, Dual Carriageways, Mobile Works, Miscellaneous Details and Welsh/English TSAM's

**Select TSAM Detail**: TSAMS that match the previous selection are shown in this list, selecting one will show you a preview at the top right of the dialog.

#### What do you want to do with the detail?

**Insert into Current Drawing**: The detail will be inserted into your currently open drawing, including the TSAM title block

**Open in a new window**: The detail will be inserted into a new drawing, allowing you to copy/paste into your own drawing

**View the PDF**: The detail will be opened from a PDF file (NOTE: you must have a copy of Adobe Reader, or other program able to open/display PDF format files for this option to work).

**Explode on Insert**: If using either of the drawing options above, the TSAM will be inserted as a single block unless this box is checked, if checked the TSAM will be exploded into its individual CAD elements though all signs and CONE devices remain unexploded.

Advanced Search	
Search	No Active Search

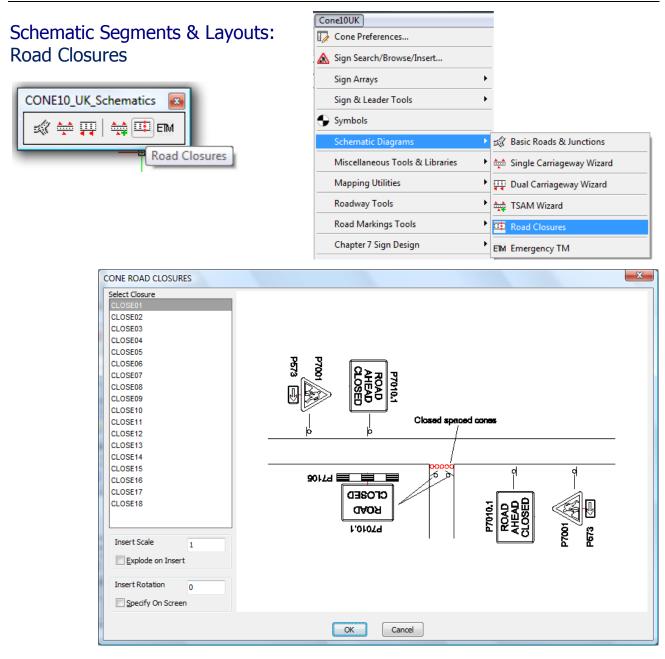
#### **Advanced Search**

To enable you to select a detail more easily, we have included a search tool, where you simply make a series of choices from the radio buttons in the dialogs you will be presented.

CONE10UK - STANDARD LAYOUTS:TSAMS - SEARCH
Select FIRST search criteria:
Single Carriageways
Dual Carriageways
O Mobile Works
© Roundabouts
C Transitions
🔘 Slip Roads
🔘 Welsh/English
Cancel <u>N</u> ext Step

Dependant on your selections, there are up to four levels of search dialog, some options may be unavailable as there are no matching TSAM details.

Once you have made your selections, CONE10 will display the number of matching details, and return you to the TSAM selection dialog. The Select Category list will be locked, as the search tool will list only the matching TSAM details. Select the detail as you would above. The search is stored during your current drawing session, to clear it, or start another search, press the **Clear Search** or **Search...** button.



Select the detail required from the **Select Closure** list, a preview image of the details appears to the right of the dialog.

Insert Scale: normally left at 1, changing this will make the detail smaller or larger

**Explode on Insert**: the detail will be inserted as a block to enable you to move all items together, checking this box will break it into its individual elements (NOTE individual signs are not exploded)

Insert Rotation: specify a rotation for the detail

Specify on Screen: check this box to rotate the detail dynamically after picking the insertion point

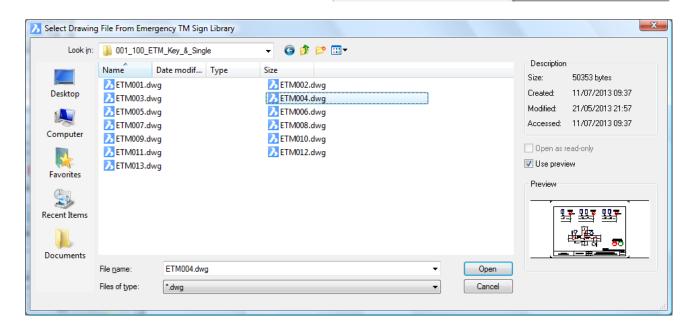
Pick the **OK** button to start the insert routine

Command: CROADCLOSURES Pick Insert Point *pick insert point* Rotation angle for block <0>: *show or enter rotation angle* 

## Schematic Segments & Layouts: Emergency TM

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	Emergency TM

Cone10UK		
Cone Preferences		
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Sign Arrays	•	
Sign & Leader Tools	•	
Symbols		
Schematic Diagrams	Þ	🛒 Basic Roads & Junctions
Miscellaneous Tools & Libraries	•	Single Carriageway Wizard
Miscellaneous Tools & Libraries Mapping Utilities		Single Carriageway Wizard
	•	<u> </u>
Mapping Utilities	•	Uual Carriageway Wizard
Mapping Utilities Roadway Tools	• • •	TSAM Wizard



The Emergency Traffic Management Library has 280 drawings showing lane and road closures available when instructed by Police or Highway Officers.

The library is split into three main categories:

ISU\_EMERGENCY\_TRAFFIC\_MANAGEMENT POLICE\_EMERGENCY\_TRAFFIC\_MANAGEMENT WELSH\_POLICE\_EMERGENCY\_TRAFFIC\_MANAGEMENT

Each category is further divided into folders:

KEY & Single Carriageways Dual Carriageway 30mph Dual Carriageway 40mph Dual Carriageway 50mph+ Dual Carriageway 50mph+ with Hardshoulder

Select the drawing layout required and pick the **OK** button to have the drawing inserted using the insert settings specified in the **Cone Preferences** dialog.

Command: CETM Pick Insert Point pick insert point Rotation angle for block <0>: show or enter rotation angle

#### Miscellaneous Tools & Libraries: Chapter 8 Details

CONE10_UK_Various_Utilities
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Chapter 8 Details

Cone10UK	
📝 Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	•
Miscellaneous Tools & Libraries	Chapter 8 Details
Mapping Utilities	Linear Devices
Roadway Tools	<ul> <li>Route Diversion Related</li> <li>Users Own Library</li> </ul>
Road Markings Tools	Working Space Area Hatch
Chapter 7 Sign Design	Toggle Colour ON/OFF
Curve Tools	Create a Custom Block
J Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks
🔠 Sign Schedule	Legacy (V9) Tools

Look in:	CHAPTE	ER8	👻 🌀 🤌 📂 🛄 👻				
Desktop Desktop Computer Favorites Eavorites		1.dwg 1.dwg 2.dwg 2.dwg 92.dwg 0.dwg 2.dwg wg 9 oneDims_40mph.dwg oneDims_60mph.dwg	Size Detail_b.dwg Detail_c2.dwg Detail_e1.dwg Detail_g1.dwg Detail_g3.dwg Detail_s1.dwg Detail_k.dwg Detail_k.dwg SafetyZoneDims_30mph.dw SafetyZoneDims_50mph.dw	vg		singler Dual carries Singler Dual carri Singler Dual carries Increas	32231 bytes 11/07/2013 09:34 21/05/2013 20:49 11/07/2013 09:34 ead-only
ocuments	File <u>n</u> ame:	Detail_c1.dwg		•	Open	2) Fornelasado	io Devall C i see Table 61. J rópperab i ().
	Files of type:	*.dwg		-	Cancel		

These are a series of smaller notes or legends that can be inserted onto your drawing to give additional information (for example coning size and spacing) - for more details see the CONE **Signs Symbols & Layouts Manual** 

As each drawing file is selected, a preview is shown at the right of the dialog.

Click **Open** to insert the detail on your drawing, you will be prompted for a location.

The Scale and Rotation Angle of these details are governed by the settings in Cone Preferences

Command: CCHAPTER8 Pick Insert Point *pick insert point* Rotation angle for block <0>: *show or enter rotation angle* 

# Miscellaneous Tools & Libraries: Linear Devices

CONE10_UK_Various_Utilities
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Linear Devices

Cone10UK		
Cone Preferences		
Sign Arrays	•	
Sign & Leader Tools	•	
Symbols		
Schematic Diagrams	•	
Miscellaneous Tools & Libraries	Chapter 8 Details	
Mapping Utilities	Linear Devices	
Roadway Tools	<ul> <li>Route Diversion Related</li> <li>Control Control C</li></ul>	
Road Markings Tools	Working Space Area Hatch	
Chapter 7 Sign Design	Toggle Colour ON/OFF	
Curve Tools	Create a Custom Block	
/ Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks	
😳 Sign Schedule	Legacy (V9) Tools	_

Look in:	🍌 Linear_Dev	ices		- G 🕫 🛙	≫▼			_	
Desktop Desktop Computer Favorites Recent Items Documents	Name AMBER_ST CONE450. CONE750. CYLINDER CYLINDER CYLINDER REG54BEA TEMP_LIN TEMP_LIN TEMP_LIN TRAFFICB.	dwg dwg 450.dwg 750.dwg UD.dwg CON.dwg ES_100.dwg ES_200.dwg	Туре	Size BARRIER.dv CONE600.d CONE1000. CYLINDER6 CYLINDER1 RED_STUD. REGS5LAM TEMP_LINE TEMP_LINE WHITE_STU	wg .dwg .000.dwg .000.dwg dwg P.dwg ES_150.dwg ES_300.dwg			Description Size: Created: Modified: Accessed: Open as r V Use preview	33290 bytes 11/07/2013 09:41 22/05/2013 08:06 11/07/2013 09:41 ead-only
bocamento	File <u>n</u> ame:	BARRIER.dwg				•	Open		
	Files of type:	*.dwg				•	Cancel		

The library contains icons of various traffic management devices to insert on your drawing.

As a drawing file is selected, a preview is shown at the right of the dialog.

Click **Open** to insert the detail on your drawing, you will be prompted for a location.

The Scale and Rotation Angle of these details are governed by the settings in Cone Preferences

Command: CLINEAR Pick Insert Point *pick insert point* Rotation angle for block <0>: *show or enter rotation angle* 

#### Miscellaneous Tools & Libraries: Route Diversion Related

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	Route Diversion Related

Cone	10UK		
Г/ С	one Preferences		
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Si	ign Arrays		
Si	ign & Leader Tools		
🕤 sj	ymbols		
So	chematic Diagrams		
M	fiscellaneous Tools & Libraries 💦 🕨		Chapter 8 Details
M	1apping Utilities		Linear Devices
R	oadway Tools		Route Diversion Related Users Own Library
R	oad Markings Tools	<b>₩</b>	Working Space Area Hatch
C	hapter 7 Sign Design		Toggle Colour ON/OFF
С	urve Tools	$\mathbf{\lambda}$	Create a Custom Block
J D	evices Along a Curve	\$\$	Swap Signs and Symbols Purge UnReferenced Blocks
📰 Si	ign Schedule		Legacy (V9) Tools

Look in:	DIVERSION	I		- 🕝 🌶 📂 🛄-			
Desktop Desktop imputer imputer imputer imputer imputer imputer imputer imputer imputer	<ul> <li>7205SET.dv</li> <li>Diversion_r</li> <li>Diversion_r</li> <li>Diversion_r</li> <li>Diversion_r</li> <li>Diversion_r</li> </ul>	vg route_symbol_set_2. route_symbol_set_4. route_symbol_set_6. route_symbol_set_8. /ide_Loads_Set.dwg wg	dwg dwg dwg	Size Diversion_route_symbol_set_1.dwg Diversion_route_symbol_set_3.dwg Diversion_route_symbol_set_5.dwg Diversion_route_symbol_set_7.dwg Diverted_Traffic_Set.dwg Motorway_diversion_set.dwg REG53_4.dwg REG53_6.dwg			58362 bytes 11/07/2013 09:35 21/05/2013 20:51 11/07/2013 09:35 ead-only
-carrienta	File <u>n</u> ame:	Diverted_Traffic_S	iet.dwg		•	Open	•
	Files of type:	*.dwg			•	Cancel	

This library contains icons of various sets of diversion signs to insert on your drawing.

As each drawing file is selected, a preview is shown at the right of the dialog.

Click **Open** to insert the detail on your drawing, you will be prompted for a location.

The Scale and Rotation Angle of these details are governed by the settings in Cone Preferences

Command: CDIVERSION Pick Insert Point *pick insert point* Rotation angle for block <0>: *show or enter rotation angle* 

### Miscellaneous Tools & Libraries: Users Own Library

CONE10_UK_Various_Utilities
🖾 📰 🚱 🏧 🗾 🔛 😂
Users Own Library

Cone10UK	
Done Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	•
Miscellaneous Tools & Libraries	Chapter 8 Details
Mapping Utilities	Linear Devices  Route Diversion Related
Roadway Tools	Users Own Library
Road Markings Tools	Working Space Area Hatch
Chapter 7 Sign Design	Toggle Colour ON/OFF
Curve Tools	Create a Custom Block
🤳 Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks
📰 Sign Schedule	Legacy (V9) Tools

This tool enables you to access the **Users Own Library**.

This folder is originally empty, but can be populated with any drawings you wish, examples may include plan details of your operating vehicles.

Selecting the menu option displays the following dialog box, where you select the desired drawing file.

8		Sele	ect Drawing Fi	le From User	Library		×
Look <u>i</u> n:	\mu USER		~ (	G 🤌 📂 🛄	•		
Desktop Desktop Computer Favourites Recent Items	Name		Date modifi 02/11/2006 02/11/2006 15/04/2005		Size 32 KB 32 KB 31 KB	Description Size: 31894 bytes Created: 15/05/2013 12:19 Modified: 02/11/2006 08:59 Accessed: 15/05/2013 12:19 Open as read-only ✓ Use preview Preview Preview Diverted traffic	
My Documents	File <u>n</u> ame:	2703AL.dwg		¥	Open		
	Files of type:	*.dwg		~	Cancel		.4

As each drawing file is selected, a preview is shown at the right of the dialog.

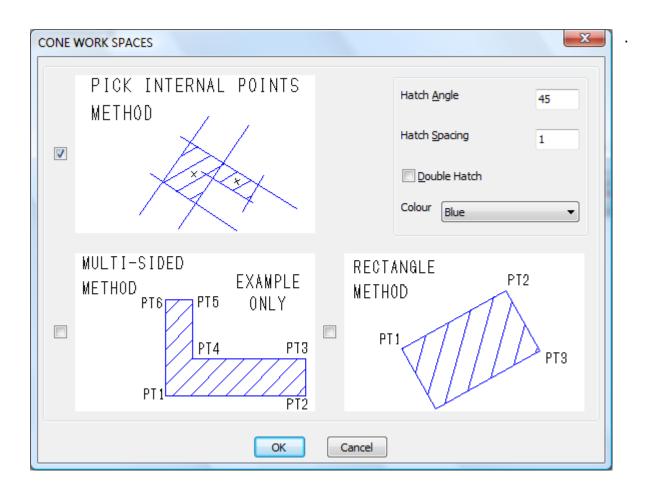
Click **Open** to insert the detail on your drawing, you will be prompted for a location.

The Scale and Rotation Angle of these details are governed by the settings in Cone Preferences

# Miscellaneous Tools & Libraries: Working Space Area Hatch



Cone10UK	
De Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	•
Miscellaneous Tools & Libraries	Chapter 8 Details
Mapping Utilities	Linear Devices
Roadway Tools	<ul> <li>Users Own Library</li> </ul>
Road Markings Tools	Working Space Area Hatch
Chapter 7 Sign Design	Toggle Colour ON/OFF
Chapter 7 Sign Design Curve Tools	Toggle Colour ON/OFF     Create a Custom Block
	Toggle Colour ON/OFF     Identified a Custom Block     Swap Signs and Symbols
Curve Tools	Toggle Colour ON/OFF     Create a Custom Block



This tool hatches working area in a variety of ways using a simple hatch pattern at variable spacing, angle and colour.

**Pick Internal Points Method**: If you have previously drawn construction lines on the drawing, you can simply click INSIDE the areas to be hatched. NOTE: these must be CLOSED areas, otherwise the cross-hatching may flood out unexpectedly.

**Multi-Sided Method**: indicate a string of points sequentially around the work area boundary, the tool will automatically close from the last point to the starting point for you. Press return to complete the hatching.

**Rectangle Method**: Dynamically indicate two points along the length of the work area, then drag the width to suit.

NOTE: after the hatching has been drawn, if you modify the boundary lines, the hatching will redraw to suit.

**Hatch Angle**: the angle the hatching lines are drawn, relative to the horizontal axis, not the boundary of the work area.

Hatch spacing: distance between the parallel lines (in drawing units)

**Double Hatch**: this check box will make the tool use a squared hatching pattern if checked.

**Colour**: Select from the list of available standard colours.

Command line prompts for each method

#### **Pick Internal Points Method**

Command: -BHATCH Current hatch pattern: \_USER Specify internal point or: Properties/Select/Remove islands/Advanced/Draw order/Origin :

Pick a point(s) within the areas to be hatched

#### **Multi-Sided Method**

Command: CWORKSPACE Draw outline of Works Space: Command: \_.PLINE ENTER to use last point/Follow/<Start of polyline>: Arc/Distance/Follow/Halfwidth/Width/<Next point>: Arc/Distance/Follow/Halfwidth/Width/Undo/<Next point>: Arc/Close/Distance/Follow/Halfwidth/Width/Undo/<Next point>: Arc/Close/Distance/Follow/Halfwidth/Width/Undo/<Next point>: Arc/Close/Distance/Follow/Halfwidth/Width/Undo/<Next point>: Arc/Close/Distance/Follow/Halfwidth/Width/Undo/<Next point>: Arc/Close/Distance/Follow/Halfwidth/Width/Undo/<Next point>:

Pick points to define the boundary of the workspace, press enter when finished

#### **Rectangle Method**

Command: CWORKSPACE Pick first point of rectangle: Pick second point:

Pick two points to define the length of the rectangle, then pick a third point to define the width

Miscellaneous Tools & Libraries: Turn Colour ON/OFF	Cone10UK Cone Preferences Sign Search/Browse/Insert	
CONE10_UK_Various_Utilities	Sign Arrays Sign & Leader Tools Symbols Schematic Diagrams	-
Toggle Colour ON/OFF	Miscellaneous Tools & Libraries         Mapping Utilities         Roadway Tools         Road Markings Tools	<ul> <li>Chapter 8 Details</li> <li>Linear Devices</li> <li>Route Diversion Related</li> <li>Users Own Library</li> <li>Working Space Area Hatch</li> </ul>
	Chapter 7 Sign Design	✓ Toggle Colour ON/OFF         ▲         Create a Custom Block         ↓         Swap Signs and Symbols         Purge UnReferenced Blocks         Legacy (V9) Tools

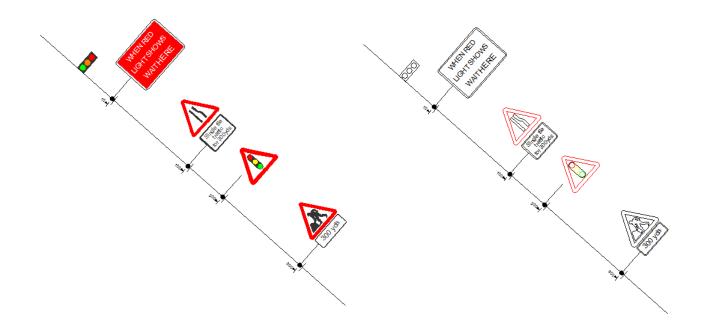
This tool enables you to toggle the fill between colour and black and white. There is no command line prompt

Useful for technical drawings or if you only have a monochrome printer or you want to photocopy the resulting plans in B&W.

This tool changes the layer status of the CONESIMPLE and CONEFILLED layers. They are designed to be mutually exclusive, and this tool handles them.

DO NOT manually freeze/thaw the layers as you could end up with unexpected results.

Selecting the tool toggles the display as shown below



Miscellaneous Tools & Libraries: Create a Custom Block	Cone10UK Cone Preferences Sign Search/Browse/Insert	
CONE10_UK_Various_Utilities	Sign Arrays	-
	Sign & Leader Tools	-
Create a Custom Block	Schematic Diagrams	
	Miscellaneous Tools & Libraries 💦 🕨	🔛 Chapter 8 Details
	Mapping Utilities	🗮 Linear Devices
	Roadway Tools	Route Diversion Related Users Own Library
	Road Markings Tools	Working Space Area Hatch
	Chapter 7 Sign Design	Toggle Colour ON/OFF
	Curve Tools	
	J Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks
	📰 Sign Schedule	Legacy (V9) Tools

The Create a Custom Block tool provides a method of adding information to an existing set of none CONE objects (User signs etc.) in order that the objects will be subsequently recognised by the following CONE tools:-

LABEL SINGLE SIGN, AUTO LABEL SIGNS MODIFY TEXT OR DATA ON SIGNS SIGN SCHEDULE

The Create a Custom Block creates a block of the objects selected.

It assigns an unique name prefixed by the text CP\$8USER - DO NOT CHANGE THIS PART OF THE NAME

The Create a Custom Block also adds attribute data as follows:-

ITEM, QTY, LABEL, DESCPN, SIZE, MAT, USER1, USER2, WID, HGT

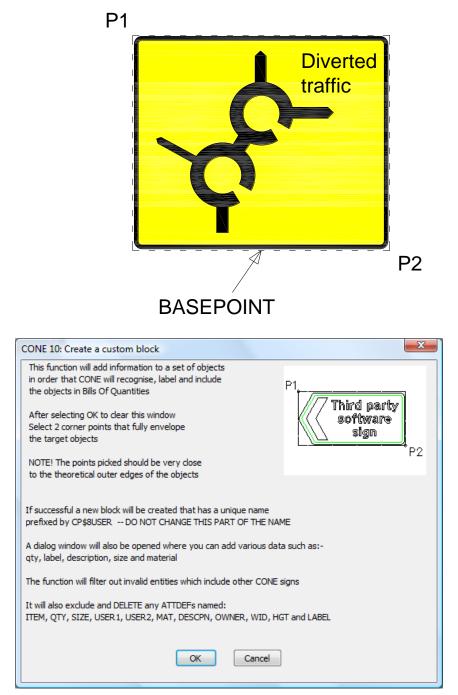
The WID (sign width) and HGT (Sign height) attributes are derived from the object selection rectangle so it is important that the 2 points picked should be very close to the theoretical outer edges of the objects - see example below

The insertion base point is midway between the lower left and lower right corners of the selection rectangle

Example:

Let's say you have created a special roundabout diversion sign for a particular scheme and you would like the sign to be included in a Sign Schedule and you would also like to be able to quickly re-use the sign in future schemes.

The diagram below represents your starting point for creating a CONE CUSTOM BLOCK



Select **Miscellaneous Tools & Libraries > Create a Custom Block** from the Cone 10 UK pull down menu.

Familiarise yourself of the steps required and select the **OK** button You will be prompted to pick First Corner Point and Second Corner Point Pick 2 points as shown by P1 and P2 in the above diagram

At this point the custom block will be created and the following dialog will be displayed

CONE 9: Modif	fy Custom Block Data	
Basic Block Da	ata	1
CP\$8USER_12	21806_083559AM - Created By A 3rd Party	
Qty	1	
Label	ABC123	
Descpn	Double Roundabout	
Material		
Size		
User 1		
User 2		
Instructions		
This object was	s created with the CONE Custom Block Tool	
You have 2 opt	tions:	
1. Modify the B 2. Select the C	asic Block Data above and select the OK button ancel button	
	OK Cancel	

Entering information in this dialog is optional but highly recommended, you can later change the information through the **Modify Text or Data** on Signs tool

If you would like to be able to use the signs in subsequent future schemes then we recommend that you WBLOCK the sign to the CONE user folder

Enter WBLOCK at the command line

The CAD systems WRITE BLOCK dialog will appear

you need to supply 3 pieces of information

Select objects – select the sign

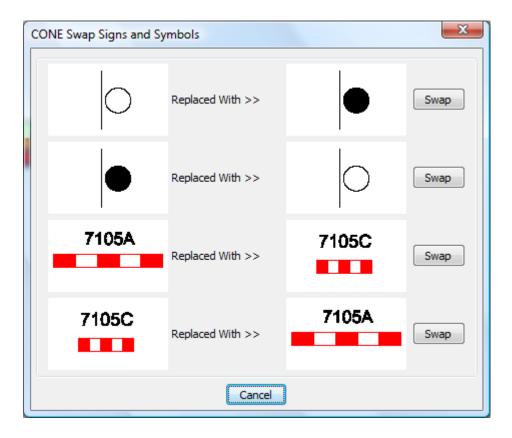
Pick Point – pick the base point as shown on the above diagram

Destination and file name – suggest the destination be the USER folder located in the CONE installation folder – the file name can be anything you like

Miscellaneous Tools & Libraries: Swap Signs and Symbols	Cone10UK Cone Preferences Sign Search/Browse/Insert	
CONE10_UK_Various_Utilities 📧	Sign Arrays Sign & Leader Tools Symbols Schematic Diagrams	-
Swap Signs and Symbols	Miscellaneous Tools & Libraries	Chapter 8 Details
		Route Diversion Related Users Own Library
	Road Markings Tools	Working Space Area Hatch
		Toggle Colour ON/OFF Create a Custom Block
	J Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks
	📰 Sign Schedule	Legacy (V9) Tools

The Swap Signs and Symbols tool will change all instances of one of four pre-programmed blocks on the drawing for an alternative block.

Selecting the option displays the dialog below.



There are four pre-programmed blocks to swap, as an example, clicking on the top **Swap** button will search the drawing for all instances of the unfilled sign reference, and change it to the solid filled version.

Note: See Sign & Leader Tools > Block Swap for a more versatile option

Miscellaneous Tools & Libraries: Purge Unreferenced Blocks

Cone10UK	
Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	
Sign & Leader Tools	
Symbols	
Schematic Diagrams	
Miscellaneous Tools & Libraries 🔷 🕨	🔛 Chapter 8 Details
Mapping Utilities	🚟 Linear Devices
Roadway Tools	Route Diversion Related Users Own Library
Road Markings Tools	Working Space Area Hatch
Chapter 7 Sign Design	Toggle Colour ON/OFF
Curve Tools	📩 Create a Custom Block
J Devices Along a Curve	Swap Signs and Symbols Purge UnReferenced Blocks
📰 Sign Schedule	Legacy (V9) Tools

The **Purge Unreferenced Blocks** tool is simply an automated call to the standard CAD purge command. It performs a purge of all blocks without verification You may need to repeat usage several times until the CAD system responds with

#### **Command: No un-referenced blocks**

Unreferenced Blocks are blocks that are stored within the drawing database but have no actual reference on the drawing surface, periodically purging blocks can significantly reduce the drawing file size footprint

# Legacy (V9) Tools

These three CONE Version 9 tools have now been superseded but are included in this version of CONE at the request of some of our customers

Coning Along A line or Polyline has been superseded by Devices Along a Curve

Create a Bill of Quantities has been superseded by Sign Schedule

2 Lane Approaches has been superseded by Single Carriageway Sign Arrays

# Mapping Utilities:

The Mapping Utilities section contains a series of tools that make working with CAD or RASTER overlay files a little easier.

# Scale Image to Picked Distance

CONE10_UK_Mapping
Scale Image To Picked Distance

This tool scales a raster image to its real world size and optionally places it on the MAPIMAGE layer

Cone10UK	
Done Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	۶.
Sign & Leader Tools	۶.
Symbols	
Schematic Diagrams	۶.
Miscellaneous Tools & Libraries	•
Mapping Utilities	Scale Image To Picked Distance
Roadway Tools	Multi Distance
Road Markings Tools	<ul> <li>Turn Layer Off By Selection</li> <li>Create Setting Out Lines</li> </ul>
Chapter 7 Sign Design	Create Road Centre line
Curve Tools	<ul> <li>Polyline Wipeout Mask</li> </ul>
J Devices Along a Curve	Rectangular Wipeout Mask Mask Frame ON-OFF

This assumes that you have either used your CAD System's: **Attach Raster Image** tool to already insert an image or have **pasted** an image directly. It also assumes that you have known distance reference points on the image similar to the scale bar on the image show below

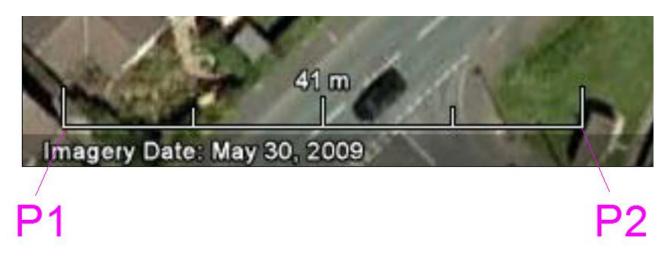


Change the view (zoom) to maximise the legend on screen



Select image to scale: *pick the EDGE of the raster image* 

Pick 2 points at each end of known distance on the image, First point: *Pick 2 points at each end of known distance on the image as shown below* 



After picking the second point the following dialog will appear showing the current measured distance between the two indicated points.

Enter the correct distance into the middle edit box In our example it would be 41.0 (the length of the scale bar)

Scale Image To Picked Distance			
This is the distance you picked			
Distance picked =	91.311		
What is the correct distant Correct distance =	te 41.0		
What layer should the image be placed on?			
MapImage O Curr	rent Layer 💿 As Is		
Okay	Cancel		

There are three options for manipulating the layer the image is drawn on:

Mapimage: the tool will create a layer named MAPIMAGE and move the raster image to this layer

Current Layer: the tool will move the map to the currently active layer

**As Is**: No layer change is made, the raster image remains on the layer it was originally inserted onto.

Finally, the image is rescaled and the tool confirms the scaling factor and if relevant, the layer to which the image has been moved.

The bottom left position of the image remains fixed, so you may have ZOOM EXTENTS to see the whole map at its new size.

Mapping Utilities: Multi Distance	Cone10UK Cone Preferences Sign Search/Browse/Insert		
	Sign Arrays	•	
CONE10_UK_Mapping	Sign & Leader Tools	•	
	Symbols		
	Schematic Diagrams	►	
Multi-Distance	Miscellaneous Tools & Libraries	•	
	Mapping Utilities		📰 Scale Image To Picked Distance
	Roadway Tools	•	💋 Multi Distance
			Turn Layer Off By Selection
	Road Markings Tools		💋 Create Setting Out Lines
	Chapter 7 Sign Design	•	/// Create Road Centre line
	Curve Tools		Polyline Wipeout Mask
	J Devices Along a Curve		Rectangular Wipeout Mask Mask Frame ON-OFF

This tool is useful for quickly measuring distances on a map and allows you to pick a series of points, and receive information on the distance between the last pair of points, as well as a running total.



CONE Multi-Distance Pick start point > *Indicate point on drawing to start* Pick next point <hit Enter to Exit> *Indicate next point along measured path* Last Distance = 28.2833 Accumulative Distance = 28.2833 Pick next point <hit Enter to Exit> *Indicate next point along measured path* Last Distance = 22.16 Accumulative Distance = 50.4433 Pick next point <hit Enter to Exit> *Indicate next point along measured path* 

Last Distance = 46.6121 Accumulative Distance = 97.0554

Pick next point <hit Enter to Exit> Press [ENTER] key when finished

#### Mapping Utilities: Turn Layer Off By Selection



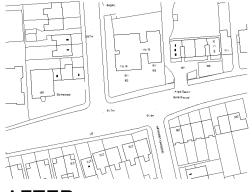
Cone10UK	
🚺 Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	•
Miscellaneous Tools & Libraries	•
Mapping Utilities	🕨 🖬 Scale Image To Picked Distance
Roadway Tools	Multi Distance
Road Markings Tools	<ul> <li>Turn Layer Off By Selection</li> <li>Create Setting Out Lines</li> </ul>
Chapter 7 Sign Design	V Create Road Centre line
Curve Tools	Polyline Wipeout Mask
J Devices Along a Curve	Rectangular Wipeout Mask Mask Frame ON-OFF

Command: CLO Select entities who's layer is to be turned OFF, press ENTER when done

When importing CAD map data such as Ordnance Survey plans, you may find there is too much information which may start to confuse or you simply prefer to produce plans without the colour filled areas (see below)

Usually, the different types of information are on separate layers, and by freezing a layer you can hide that set of visual information. This tool allows you to simply select a single entity and have all information on it's layer turned off or hidden – NOTE, it is not deleted, and can be made visible at any later time using the parent CAD "layer" command.





AFTER

The tool prompts:

Command: CLO

Select entities who's layer is to be turned OFF, press ENTER when done *select a single entity* Select entities who's layer is to be turned OFF, press ENTER when done *press* [ENTER]

NOTE: if the map has been inserted as a block, it may ALL disappear, in this case UNDO the last command, then EXPLODE the single background map into its individual entities.

#### Mapping Utilities: Create Setting Out Lines



•
•
•
•
Scale Image To Picked Distance
Multi Distance
<ul> <li>Turn Layer Off By Selection</li> <li>Create Setting Out Lines</li> </ul>
Create Road Centre line
Polyline Wipeout Mask
Rectangular Wipeout Mask Mask Frame ON-OFF

Command: CSOL Command: \_.PLINE ENTER to use last point/Follow/<Start of polyline>:

When working with either CAD or raster maps, you may need to create additional "setting out" lines; for example to place a line of cones or other device along or to create a continuous edge line to aid placement of traffic signs, or to facilitate the creation or road centre lines or simply to aid accurate measurements.

The CAD systems POLYLINE tool can be used but the **Create Setting Out Lines** tool automates the process a little and adds other functionality

The tool creates a layer named: **CONE\_SETTING\_OUT\_LINES** and draws the POLYLINE with a colour of Magenta. And after indicating the last point offers the additional options: Smooth / Drape / None

Select the tool, and you will be prompted for a series of points exactly as when drawing a standard CAD Polyline.

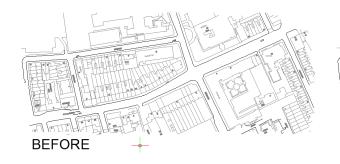
The tool creates a layer named: **CONE\_SETTING\_OUT\_LINES** a draws with a colour of Magenta.

After indicating the last point, press ENTER and an additional prompt appears:

Polyline Fit Options: Smooth / Drape / None: <None>:

**Smooth**: convert the straight line segments into a smooth splined curve . **Drape**: attempt to match the polyline to any adjacent CAD lines whilst splitting it into 2m segments **None**: leave the setting out line as straight segments

In the example below two continuous setting out lines have been added along the both sides of the carriageway in readiness for creating a **Road Centre Line** between (see next page)





Mapping Utilities: Create Road Centre Line	Cone10UK Cone Preferences Sign Search/Browse/Insert		
CONE10_UK_Mapping	Sign Arrays	•	
	Sign & Leader Tools	<u> </u>	
🚍 🜮 👂 📈 🌈 📴 🔚 🔲	Symbols		
	Schematic Diagrams	•	
Create Road Centre Line	Miscellaneous Tools & Libraries	•	
	Mapping Utilities		🗐 Scale Image To Picked Distance
	Roadway Tools	- P   Y	Multi Distance
	Road Markings Tools		Create Setting Out Lines
This tool creates the theoretical centre line between two separate Polylines	Chapter 7 Sign Design	•	Create Road Centre line
	Curve Tools	•	
			Postangular Wincout Mask

🤳 Devices Along a Curve...

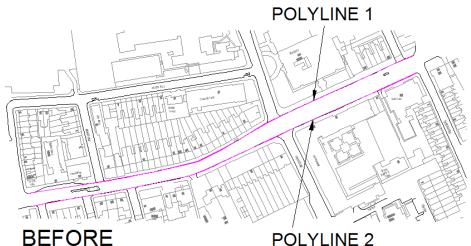
.....

Mask Frame ON-OFF

After selecting the tool you are prompted:

Command: CREATECENTRELINE Select First Polyline: pick the first polyline Select Second Polyline: pick the second polyline

The centre line is drawn as long as possible by interpolating between the two Polylines.



**POLYLINE 2** 

**NEW POLYLINE** T In I AFTER

Mapping Utilities: Polyline Wipeout Mask	Cone10UK Cone Preferences Sign Search/Browse/Insert			
	Sign Arrays Sign & Leader Tools	•		
CONE10_UK_Mapping	<ul> <li>Symbols</li> <li>Schematic Diagrams</li> </ul>	•		
	Miscellaneous Tools & Libraries	·		
	Mapping Utilities		Scale Image To Picked Distance	
	Roadway Tools	•	Multi Distance Turn Layer Off By Selection	
	Road Markings Tools	•	🖉 Create Setting Out Lines	
	Chapter 7 Sign Design	)	// Create Road Centre line	
	Curve Tools	•	🔁 Polyline Wipeout Mask	
	J Devices Along a Curve		<ul> <li>Rectangular Wipeout Mask</li> <li>Mask Frame ON-OFF</li> </ul>	

Command: CPOLYMASK

Select Closed Polyline to use as wipeout mask: *select a closed polyline* 

Wipeout masks are useful when hiding extra detail on maps and as a plain base area to add your text without having to delete and trim lots lines from the drawing.

Using the **Polyline Wipeout Mask** tool, requires you to select a CLOSED polyline to show the boundary to mask.

The polyline Wipeout Mask tool, prompts you to indicate the polyline, then applies the mask to that shape, see the example screen grabs below

NOTE: The Wipeout mask is drawn on the same layer as the original Polyline



BEFORE

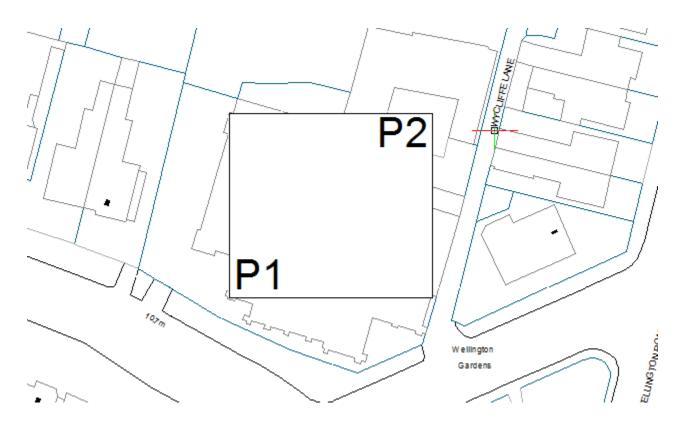
AFTER

Mapping Utilities: Rectangular Wipeout Mask	Cone10UK Cone Preferences Sign Search/Browse/Insert	_
CONE10_UK_Mapping	Sign Arrays Sign & Leader Tools Symbols Schematic Diagrams Miscellaneous Tools & Libraries	
	Manada a Dillitica	
	Mapping Utilities	Scale Image To Picked Distance
	Roadway Tools	Multi Distance
	Road Markings Tools	<ul> <li>P Turn Layer Off By Selection</li> <li>Create Setting Out Lines</li> </ul>
	Chapter 7 Sign Design	Create Road Centre line
	Curve Tools	Polyline Wipeout Mask
	J Devices Along a Curve	Rectangular Wipeout Mask
		Mask Frame ON-OFF

Command: CRECTMASK First point of wipeout rectangle: *pick first point* Other corner of wipeout rectangle: *pick another point* 

Similar to the Polyline Wipeout Mask on the previous page, the Rectangular Wipeout Mask tool simply prompts for two points to draw a rectangle mask

NOTE: the rectangular wipeout mask will be drawn on the layer "CONE\_WIPEOUT\_MASKS"



In the example above, the first point indicated at P1, then second point at P2.

NOTE how the text is clearer to read against the plain white wipeout background.

Mapping Utilities: Mask Frame ON-OFF	Cone10UK Cone Preferences Sign Search/Browse/Insert		
CONE10_UK_Mapping	Sign Arrays Sign & Leader Tools Symbols	> >	
Mask Frame ON-OFF	Schematic Diagrams Miscellaneous Tools & Libraries	<b>&gt;</b>	
	Mapping Utilities	Scale Image To Pick           Image To Pick           Image To Pick	ed Distance
	Roadway Tools	👘 Turn Layer Off By Se	
	Road Markings Tools Chapter 7 Sign Design	Create Setting Out L           Ø         Create Road Centre	
	Curve Tools	Polyline Wipeout M	
	J Devices Along a Curve	Rectangular Wipeou	
	<b>—</b>		

All WIPEOUTS have a external boundary frame which enable selection of the WIPEOUT (for the purposes of MOVE, COPY, DELETE etc.)

It is possible to hide the boundary frame to make them a little more discrete.

Selecting the Mask Frame ON-OFF tool will give the options:

CMASKFRAME Enter display mode: <ON>/OFF:

See the example below to see difference between the two modes.

Mask Frame ON

Mask Frame OFF n

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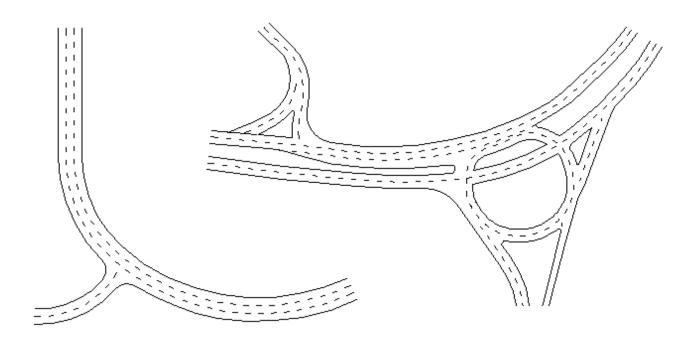
# Roadway Tools: Create Roadway

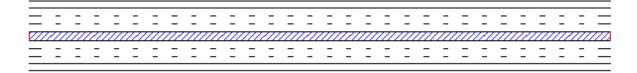


Cone10UK	
Cone Preferences	
🛦 Sign Search/Browse/Insert	
Sign Arrays	•
Sign & Leader Tools	•
Symbols	
Schematic Diagrams	•
Miscellaneous Tools & Libraries	•
Mapping Utilities	•
Roadway Tools	🕨 🚍 Create Roadway
Road Markings Tools	Intersection Clean
Chapter 7 Sign Design	Intersection Break
Curve Tools	Dynamic Fillet With Trim
🤳 Devices Along a Curve	Dynamic Fillet No Trim
> Devices Along a carrell	Dynamic Fillet No Trim

The Roadway tool provides an alternative method of creating a road network prior to adding traffic management or diversion schemes.

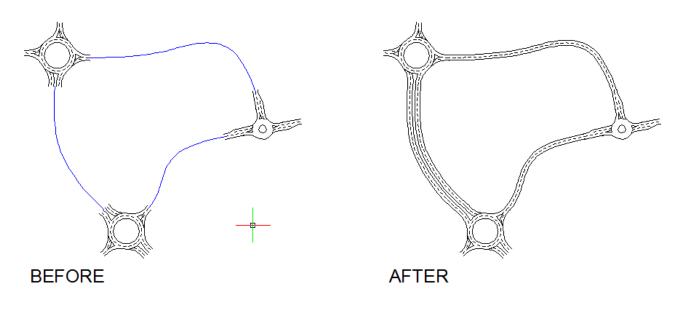
The tool supports both real world and schematic roadway sizes and can be used dynamically (similar to drawing a multi-offset Polyline or Multiline, but with many more options) or existing curves can be converted to roadways with a single click.





### Example 1: Schematic

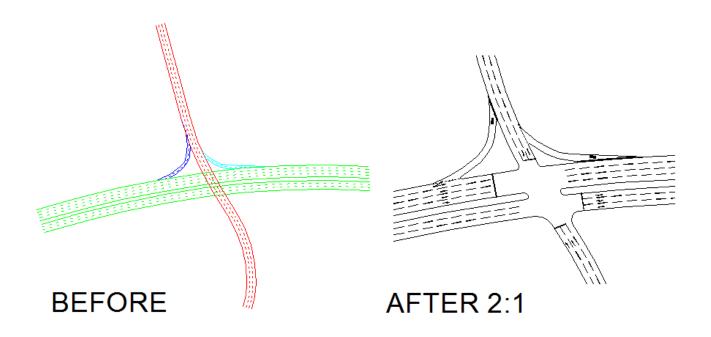
In the example below the roundabouts were inserted using the **Schematics > Basic Roads and Junctions** tool, then Polylines were drawn to connect the roundabouts and finally the carriageways created using the **Select Pre-Drawn Curve** method of the roadway tool



#### Example 2: Real World Size

In this example the four roadways (colour coded for clarity) were added directly using the **Draw On Screen** method of the roadway tool

The junction was then edited using the Cone - **Dynamic Fillet** and standard CAD trim tools and the road markings added using the Cone **Road Marking** tools



Roadways are configured with optional variable parameters thus:

Number of Left hand Lanes + lane width + lane markings + edge markings Number of Right Hand Lanes + lane width + lane markings + edge markings Left shoulder + shoulder width Right shoulder + shoulder width Left footpath or verge + footpath or verge width Right footpath or verge + footpath or verge width Centre reserve + width + markings

< Left Hand Lanes <<	Standard Configuration	ns	
	Single Track	-	
	-	Single Carriageway - 2 Lane	
	Single Carriageway -		
	Single Carriageway -	4 Lane	
	Dual Carriageway - 2/	/2 No Shoulder	
	Dual Carriageway - 3/	/2 No Shoulder 🔹	
	Mode (Lane Widths)		
>> Right Hand	Lanes >>   Actual Size	Schematic	
Left Hand Lanes	Centre of Carriageway	Right Hand Lanes	
Footpath or Verge	Not Specified	Footpath or Verge	
Width 2 Include?		Width 2 Indude?	
Hard Shoulder	Simple	Hard Shoulder	
Width 3.2 Include?	Width 4.2	Width 3.2 Indude?	
Traveled way		Traveled way	
Lanes 2 Width 3.65	Hatched	Lanes 2 Width 3.65	
Lane Markings	Width 4.2	Lane Markings	
	4.2		
1005 A Mark D.Con. 7	Centre Line Marking		
1005.1 : Mark=2 Gap=7		1005.1 : Mark=2 Gap=7	
Edge Markings		Edge Markings	
NDNE		NONE	
	1013-A : Double		
None		None	
Road Creation Method		Carriageway Edge Alignment	
🔘 Select pre-drawn curve (Polyline, Li	ine, Circle, Arc or Spline)	🔘 Left 🛛 🧿 Centre 🖉 Right	
Oraw on screen - (Straight and Cur		Create Group? Add End Caps?	
	OK Cancel		

### **Standard Configuration**

<< Left Hand Lanes <<	Standard Configurations	
	Single Track	<b>*</b>
	Single Carriageway - 2 Lane	
	Single Carriageway - 3 Lane	
	Single Carriageway - 4 Lane	
	Dual Carriageway - 2/2 No Shoulder	
	Dual Carriageway - 3/2 No Shoulder	Ŧ
	Mode (Lane Widths)	
>> Right Hand Lanes >>	Actual Size     O Schematic	

The list on the top right of the dialog allows you to select from a wide range of common carriageway layouts. The number of lanes, lane widths and markings are all configurable or you can accept the defaults shown.

### Mode (Lane Widths) Default value is Actual Size

The two options "**Actual Size**" and "**Schematic**" allow you to drawn the lanes at the specified sizes, or alternatively, just the number of lanes in a standard schematic layout.

#### Left Hand Lanes

These options are duplicated for the Right Hand Lanes

#### Footpath or Verge Width: Width in metres

**Include?** To draw a footpath or verge, check the **Include** check-box, you can then change the default width if using Actual Size mode.

#### Hard Shoulder Width: Hard Shoulder Width in metres

**Include?** To draw a Hard Shoulder, check the **Include** check-box, you can then change the default width if using Actual Size mode

#### **Traveled Way**

Lanes: Number of Lanes Width: Lane Width in metres Lane Markings: Select icon

The number of lanes will be preset when choosing a **Standard Configuration**, but you can change the lanes, their widths (they will all be drawn the same width) and edit the lane markings – either Continuous lines, or select from the dashed patterns available.

#### Edge Markings: Select icon

As with the lane markings, you can select NONE, Continuous or a variety of dash patterns. These will be drawn on the nearside of the inside lane and offside of the outside lane.

Footpath or Verge
Width 2 Include?
Hard Shoulder
Width 3.2 Include?
Traveled way
Lanes 2 Width 3.65
Lane Markings
1005.1 : Mark=2 Gap=7
Edge Markings
NDNE
None

### **Centre of Carriageway**

**Not Specified** – check the box, and NO centre of carriageway will be drawn

Simple – Two continuous lines will be drawn, a specified width apart.

**Hatched** – As above, two lines drawn a specified width apart, but the area between will also be diagonally hatched. Click the hatch icon for various hatching options

**Centre Line Marking** – The final option, allows you to choose from a list of available line marking patterns. Click the icon to choose the line marking type

Centre of Carria Not Specified	ageway
Simple	
	Width 4.2
Hatched	
	Width 4.2
Centre Line M	arking
_	
1013-A : Double	

### **Road Creation Method**

Road Creation Method	Carriageway Edge Alignment
Select pre-drawn curve (Polyline, Line, Circle, Arc or Spline)	🔘 Left 🛛 💿 Centre 👘 Right
Oraw on screen - (Straight and Curved segments)	Create Group? Add End Caps?
OK Cancel	

#### **Carriageway Edge Alignment** *Default value is Centre*

As you draw the carriage way you can align the new road to the **Left**, **Centre** or **Right** of the points that you indicate on screen.

#### Create Group Default value is OFF

The carriageway is drawn as individual lines. Checking this box will group them together to allow you to move/copy or erase them as a single entity.

### Add End Caps Default value is OFF

Carriageway lines are drawn parallel to each other, the ends of the carriageway can be closed by checking this option box.

### Road Creation Method Default mode is Draw on screen

#### Select pre-drawn curve

Check this option to draw you specified carriageway along an existing path on the drawing.

#### **Draw on screen**

Check this option and you can draw individual segments of roadway that will be linked together into continuous polyline entities. Whilst drawing the roadway, there are various keyword options:

#### Command: UKROADWAY

Pick start point for new roadway or enter Merge to merge to an existing object <Merge>: *pick start point* Mode=Line: Curve/Radius : Distance/Angle/Undo/Ortho/Esnap/Settings/Merge - enter a keyword or Pick next point:

### Line Mode

The default mode will drawn straight line segment, pressing  ${\rm L}$  whilst drawing returns you to this mode.

### **Line Option Keywords**

Distance: Key D or d (enter a fixed length for the next segment) Angle: Key A or a (enter the angle for the next segment to be drawn) Undo: Key U or u (remove the previous segment) Ortho: Key O or o (lock the segments to vertical or horizontal directions)

### **Curve Mode**

Pressing **C** whilst drawing sets the mode to Curve Mode, where the road will be drawn tangentially to the previous segment and through the mouse pointer location using a circular curve.

### **Radius Mode**

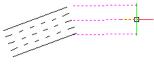
Pressing **R** whilst drawing sets the mode to Radius Mode, initially you will be asked to enter a radius. Then circular curved sections will be drawn using that value. You can also use the sub-option key **A** for angle where you can enter an angle (in degrees) that you wish to draw at the previously specified radius, your only option then is to indicate with the mouse whether the carriageway is to curve to the left or the right.

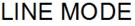
### **Orher Mode Option Keywords**

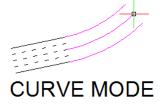
**Esnap:** Key **E** or **e** (toggles the entity snap mode ON/OFF – usually done using F3, this tool requires a different key)

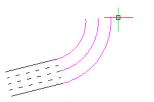
Settings: Key S or s (to set the current entity snap to allow you to lock to say end of another road)

**Merge:** Key **M** or **m** (to merge the current line with the edge of an existing carriageway – all new carriageway lines will be extended to the edge of the selected entity)









RADIUS MODE

# Roadway Tools: Intersection Clean

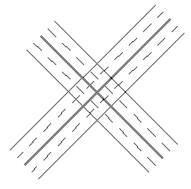


Roadway Tools	🕨 🧮 Create Roadway
Road Markings Tools	► 🕂 Intersection Clean
Chapter 7 Sign Design	▶ ∰ Intersection Break
Curve Tools	Dynamic Fillet With Trim
🤳 Devices Along a Curve	Dynamic Fillet No Trim

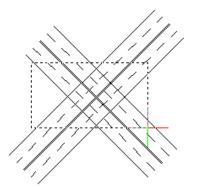
Command: CINTCLEAN Specify first corner of selection window: Specify opposite corner of selection window:

This tool automatically removes the internal crossing lines at road junctions. By simply selecting a rectangle enclosing the junction area the program will remove the lines within that junction area.

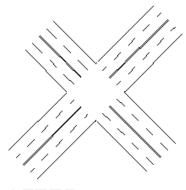
Follow the three screen-grab images below to see the tools function and it's affect.



BEFORE



SELECTION WINDOW



AFTER

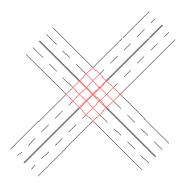
# Roadway Tools: Intersection Break

CONE10_UK_Roadway_T 📧
■井⊞メメレノ
Intersection Break

Roadway Tools	Create Roadway
Road Markings Tools	Intersection Clean
Chapter 7 Sign Design	Intersection Break
Curve Tools	Dynamic Fillet With Trim
🤳 Devices Along a Curve	Dynamic Fillet No Trim

Command: CINTBREAK Specify first corner of selection window: Specify opposite corner of selection window:

This tool is very similar to the previous **Intersection Clean** tool, however, rather than erase all lines within the junction area; this tool creates individual Polyline elements where the carriageway line segments cross.



Note: New Polylines shown in red for clarity

# Roadway Tools: Dynamic Fillet With Trim



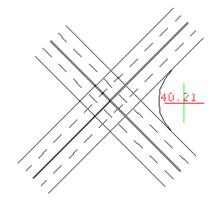
Create Roadway
↓ ↓↓ Intersection Clean
▶ Intersection Break
<ul> <li>Dynamic Fillet With Trim</li> </ul>
Dynamic Fillet No Trim

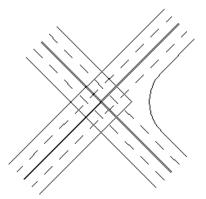
Command: CDF Dynamic Fillet: Select first object to fillet Select second object to fillet Move pointer to show radius then pick a point or press enter to finish, or enter the radius here >:

This tool improves upon the standard CAD Fillet command

The standard fillet command requires you to enter the fillet radius size before selecting two lines to fillet

This CONE tool allows you to select two lines first; then dynamically specify the radius by dragging the mouse cursor, or you can type-in the radius required on the keyboard.





WITH TRIM

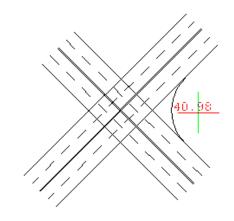
# Roadway Tools: Dynamic Fillet No Trim

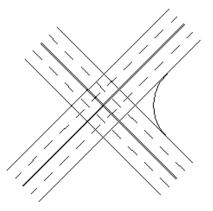


Roadway Tools	🔸 🧮 Create Roadway
Road Markings Tools	▶ ‡‡ Intersection Clean
Chapter 7 Sign Design	▶ ‡∰ Intersection Break
Curve Tools	Dynamic Fillet With Trim
🤳 Devices Along a Curve	🔰 Dynamic Fillet No Trim

Command: CDF Dynamic Fillet: Select first object to fillet Select second object to fillet Move pointer to show radius then pick a point or press enter to finish, or enter the radius here >:

This tool works exactly as the previous **Dynamic Fillet with Trim**, only here, no trimming of the original lines is performed.





**NO TRIM** 

# Road Marking Tools:

The Road Marking Tools allow you to place road markings on your drawings in accordance with The Traffic Sign Regulations and General Directions, 2002 and Chapter 5 of the Traffic Signs Manual.

Each tool is described in detail on the following pages.

# Road Marking Tools: Preferences

	Road Markings Tools	•	🕨 丞 Preferences
CONERM_UK_Road_Marking_Utilities	Chapter 7 Sign Design	•	STM General Symbols
			<ul> <li>A Standard Text</li> </ul>
🛛 🐼 A A & H 🕅 T 🗏 🗞 🚺 📑 👔 📗	Curve Tools	<u> </u>	Elongated Text
	Devices Along a Curve		Line Markings
Road Marking Preferences			🕅 Line Hatching & Chevrons
· · · · · · · · · · · · · · · · · · ·	E Sign Schedule		Zig-Zags
	Help and Information	►	<ul> <li>T Junctions</li> </ul>
	Modify Text or Data On Signs		Yellow Box Junctions
	Modily Text of Data of Signs		Zebra Crossing
CONE RM: Preferences			Pelican Crossing
Standard White Markings Drawing Colour Global Road Markings Scale			👔 Query / Label
© White/Black Insert Scale 1			Layer TEXTTILE On/Off
True White			
Ourrent Colour Setting			
Symbol Insert Settings			
Symbol Insert Rotation 0			
Specify Rotation On Screen			
OK Cancel			

The Road Markings Preferences option is a tool for setting your desired choice of **Colour**, **Scale** and **Symbol Insert** settings. (Note: Most of the other road marking tools enable you to overwrite these settings in the dialog for the particular tool)

#### **Standard White Markings Drawing Colour:**

(note red or yellow markings are always drawn in red or yellow)

Choose from:

**White/Black:** (CAD colour number 7) The road markings will appear as black on a white background screen or white on a black background screen.

**True White**: (CAD colour 255,255,255) The road markings will be drawn as true white irrespective of the background colour of the screen.

Current Colour Setting: The road markings will be drawn in the current colour setting.

Insert Scale: Normally this is real world size; i.e. 1 but can be changed to any value.

**Symbol Insert Settings:** When inserting various road marking symbols from the **General Symbols** tool these settings govern how the symbols are rotated.

If the **Specify Rotation On Screen** checkbox is ticked then you will be prompted for a symbol rotation after picking the symbol insert point.

If the **Specify Rotation On Screen** checkbox is not ticked then the symbol will be inserted at the rotation specified in the **Symbol Insert Rotation** box.



Road Markings Tools	🔹 🖌 Preferences	
Chapter 7 Sign Design	STM General Symbols	
	Standard Text	
Curve Tools	Elongated Text	
🤳 Devices Along a Curve	Line Markings	
Sign Schedule	Line Hatching & Chevrons	
ing in schedule	Zig-Zags	
Help and Information	<ul> <li>T Junctions</li> </ul>	
Modify Text or Data On Signs	Yellow Box Junctions	
, ,	Zebra Crossing	
	Pelican Crossing	
	2 Query / Label	
	Layer TEXTTILE On/Off	

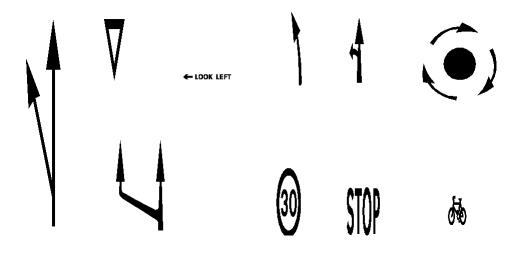
The Road Markings General Symbols library

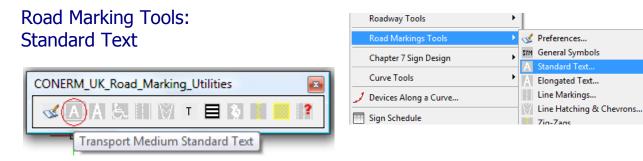
There are a number symbols in the root of the SYMBOLS folder and four sub-libraries ARROWS CYCLE MINI\_ROUNDABOUTS SPEED

Selecting from the list of drawings displays a preview at the right of the dialog.

Look in:	SYMBOLS		🚽 🕝 🦻	⊳ 🛄 🔁				
	Name	*	Date modified	Туре	Size		- Description	
Desktop	ARROWS CYCLE MINI_ROUN	DABOUTS	11/07/2013 09:34 11/07/2013 09:34 11/07/2013 09:34 11/07/2013 09:34	File Folder File Folder File Folder File Folder			Size: Created: Modified: Accessed:	33395 bytes 11/07/2013 09:34 21/05/2013 20:50 11/07/2013 09:34
Computer	CRM_APPRO	DACH_1023_1875.dwg DACH_1023_3750.dwg	21/05/2013 20:50 21/05/2013 20:50	AutoCAD Drawing AutoCAD Drawing	33 KB 33 KB	Ξ	Open as r	
Favorites		_1062.dwg ATION_1064.dwg S_1063_CIRCLE.dwg	21/05/2013 20:50 21/05/2013 20:50 21/05/2013 20:50	AutoCAD Drawing AutoCAD Drawing AutoCAD Drawing	30 KB 30 KB 30 KB		Vse previ Preview	ew
ecent Items		LEFT_1029.dwg	21/05/2013 20:50 21/05/2013 20:50	AutoCAD Drawing AutoCAD Drawing	30 KB 40 KB			Π
	CRM_LOOK_	-	21/05/2013 20:50 21/05/2013 20:50 21/05/2013 20:50	AutoCAD Drawing AutoCAD Drawing AutoCAD Drawing	45 KB 36 KB 36 KB	-		V
Ocuments	File name:	CRM_APPROACH_102		Addeed blawing	▼	Open		
	Files of type:	*.dwg			-	Cancel		

Click the **Open** button to position the symbol on your drawing, depending on your preference settings you may also be prompted for a symbol rotation.





Standard text refers to the non-elongated legends usually used at the edge of carriageways and parking bays

CONE RM - Transport Medium Text (Upp	er Case Only) With Optional Zig-Zags
Valid text characters are:	Allgn Method
ABCDEFGHIJKLMN	Pre-drawn curve
OPQRSTUVWXYZ	A
&'-/,()1234567890	The second second
To draw a 1.5 metre	v v
horizontal bar use ~	Datum
All lower case text will be	SCHOOL -KEP - CLEAR
auto converted to upper case	Insert Point Method
Text (upper case) - Select or Enter Select Legend <u>SCHOOL~KEEP~CLEAR</u> Enter Text <u>SCHOOL~KEEP~CLEAR</u> Text height - (all dimensions assume metre © 0.7m © 0.65m © 0.6m © 0.56m	Applicable to KEEP CLEAR Legends Chapter 5: Diagrams 1027.1
<ul> <li>White (Black)</li> <li>True White</li> <li>Yellow</li> <li>Current Colour Setting</li> </ul>	noose creation method     Grouping?       Pick insert point on screen     Image: Concel       Align to a pre-drawn curve     Image: Concel

Select Legend: You may select text from the drop down list of standard legends

Enter Text: Enter the desired text. Valid characters are: Upper case A – Z, NUMBERS 0 – 9 AND & ' - / , ()

#### **Optional Zig-Zags at each end?**

Some text legends (such as SCHOOL KEEP CLEAR) also have Zig-Zag options, to add Zig-Zags simply enter the number required at each end in the edit box (default is 0 i.e no zig-zags)

**Text height:** Pick the appropriate radio button (0.7, 0.65, 0.6, 0.56, 0.45, 0.4 and 0.35m) and the legend will be inserted at the selected height multiplied by the scale value entered in the **Scale** edit box

Colour: Choose from:

**White/Black:** (CAD colour number 7) The road markings will appear as black on a white background screen or white on a black background screen.

**True White**: (CAD colour 255,255,255) The road markings will be drawn as true white irrespective of the background colour of the screen.

Yellow: The road markings will be drawn yellow colour.

**Current Colour Setting:** The road markings will be drawn in the current colour setting.

#### **Choose Creation Method:**

**Pick Insert Point On Screen:** You will be prompted to pick a text insert point on the drawing and depending on your preference settings you may also be prompted for a text rotation angle.

After picking the **OK** button the following command line prompts will appear:-

Command: **Insert point**: *pick an insert point* Command: **Specify Rotation Angle or [Copy/Reference] <0>:** *enter an angle or pick a point on screen* 

**Align to a pre-drawn curve:** You will be prompted to select a pre-drawn curve (Arc, Line or Polyline) and also the datum (left hand text start point), the text will then be aligned along the selected line

Note the line you select must be long enough to accommodate the text and optional zigzags, an alert window will appear if the line is too short

After picking the OK button the following command line prompts will appear:-

Command: **Select a Line, Arc, Circle or Polyline:** *pick an object* Command: **Pick Datum Point:** *pick a point on the curve that is Left Hand justification point* 

#### Grouping:

**None:** All text will be inserted as individual blocks of text **Block:** The text will be inserted grouped together as a BLOCK, this makes is easy to move all the text as one entity

The text is created in Transport Medium Font, these are not system fonts, each character is an individual block of text within a tile. The tile outlines are shown in red and are created on layer TEXTTILE which may be turned OFF or frozen

SCHOOL KEEP CLEAR DIŠABLED

Road Marking Tools: Elongated Text	Road Markings Tools Chapter 7 Sign Design		Preferences General Symbols Standard Text
	Curve Tools	Â	Elongated Text
CONERM_UK_Road_Marking_Utilities	🤳 Devices Along a Curve		Line Markings
	💮 Sign Schedule	ľ	Line Hatching & Chevrons Zig-Zags
	Help and Information	Т	T Junctions
Transport Medium Elongated Text	Modify Text or Data On Signs		Yellow Box Junctions Zebra Crossing
		ų.	Pelican Crossing
		2	Query / Label
			Layer TEXTTILE On/Off

- 1

Elongated text refers to the elongated legends usually used along the centre of carriageways

				CONE RM - Transport Medium Elongated Text	X
				Valid text characters are:	
				ABCDEFGHIJKLMNOPQRSTUVWXYZ	
				&'-/,()1234567890	
TURN	BUS	BUS	TRAM	All lower case text will be auto converted to upper	case
LEFT	AND	STOP	9	Select or Enter Text (Upper Case)	Justification
		<b>JIAL</b>		Select Legend TURNLEFT	🔘 Bottom Left
	640		BUS	Text 1 TURN	Bottom Centre
	ONLY		ONLY	Text 2 LEFT Text 3	Bottom Right
				Text 4	🔘 Top Left
				Text Height Scale	Top Centre
					🔘 Top Right
				Colour	Grouping?
				White (Black)     True White	None
				<ul> <li>Yellow</li> <li>Current Colour Setting</li> </ul>	Block
				OK Cancel	]

Text: You may select text from the drop down list of standard legends or enter any freeform (upper case only) text. Valid characters are: Upper case A – Z, NUMBERS 0 – 9 AND & ' - / , ()

Text height: Pick the appropriate radio button (1.6m or 2.8m)

**Colour:** Choose from:

White/Black: (CAD colour number 7) The road markings will appear as black on a white background screen or white on a black background screen.

True White: (CAD colour 255,255,255) The road markings will be drawn as true white irrespective of the background colour of the screen.

Yellow: The road markings will be drawn yellow colour.

**Current Colour Setting:** The road markings will be drawn in the current colour setting.

Justification: This refers to the insert point on the drawing

#### **Grouping:**

None: All text will be inserted as individual blocks of text

**Block:** The text will be inserted grouped together as a BLOCK, this makes is easy to move all the text as one entity

The text is created in Transport Medium Font, these are not system fonts, each character is an individual block of text within a tile. The tile outlines are shown in red and are created on layer TEXTTILE which may be turned OFF or frozen

After picking the **OK** button the following command line prompts will appear:-

Command: **Insert point**: *pick an insert point* Command: **Specify Rotation Angle or [Copy/Reference]** <**0>:** *enter an angle or pick a point on screen* 

Road Marking Tools: Line Markings	Road Markings Tools       Chapter 7 Sign Design       Curve Tools		Preferences General Symbols Standard Text Elongated Text
CONERM_UK_Road_Marking_Utilities	Devices Along a Curve      Sign Schedule      Help and Information      Modify Text or Data On Signs	Т Т	Line Markings Line Hatching & Chevrons Zig-Zags T Junctions Yellow Box Junctions Zebra Crossing
		3	Pelican Crossing Query / Label Layer TEXTTILE On/Off

The **Road Markings – Line Markings** tool creates line markings from pre-drawn object curves (Lines, Polylines, Arcs) or between two points picked on screen

Line markings are created in accordance with the prescribed diagrams detailed in The Traffic Sign Regulations and General Directions, 2002 and Chapter 5 of the Traffic Signs Manual

The line markings are created individually as wide polylines

CONE : Road Markings This function creates line markings from pre-drawn object curves (Pol OR between 2 points picked on the drawing, The line markings create 1. Select the desired road marking from the Marking Diagram List 2. If you wish to retain pre-drawn object curves UNCHECK the Erase 3. Select the Select Objects button to select a pre-drawn object curve 4. Select the Pick Points button to have the line markings drawn betw	d are individual marks Object Curves checkbox e or
Marking Diagram	Dimensions
T003       Give Way Line $0.3 \times 0.15 \times 0.1$ 1003.1       Give Way Line $1 \times 1 \times 0.2$ 1003.1       Give Way Line $1 \times 1 \times 0.3$ 1003.2       Give Way Line $0.5 \times 0.25 \times 0.2$ 1003.3       Give Way Line $0.7 \times 0.3 \times 0.5$ Zebra       Give Way Line $0.5 \times 0.5 \times 0.2$ 1004       Hazard Line $40mph$ or less $4 \times 2 \times 0.1$ 1004.1       Hazard Line $> 40mph 6 \times 3 \times 0.1$ 1005       Lane Line $< 40mph 1 \times 5 \times 0.1$	1004 HAZARD LINES
Global Road Markings Scale	☑ <u>E</u> rase Object Curves
Select Objects	k Points Cancel

Select the desired line marking from the left hand list, a corresponding image will appear on the right which shows the length of the up and down marks, line width and colour

**Erase Object Curves**: If this checkbox is ticked then if you pick the **Select Objects** button and select a pre-draw curve, the pre-drawn curve will be erased after conversion

Pick either the Select Objects or the Pick Points button

#### **Select Objects**

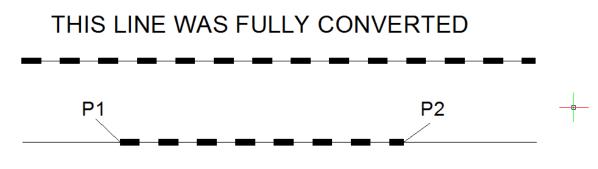
After picking the Select Objects button the following command line prompt will appear:-

Command: Select Object Curve (Line, Polyline, Arc, Circle or Spline): pick an object

Pick first point on curve or key <F>ull to convert the full length: Key F to convert the full length of the curve or pick two points on the curve to convert only between the two picked points

The object will be converted to the chosen line marking, if you keyed in F then you may continue to select other objects to convert or press return to finish

Note! If the **Erase Object Lines** toggle box is **CHECKED** then the original object will be erased, if you wish to keep the original object simply **UNCHECK** the **Erase Object Lines** toggle box



# THIS LINE WAS CONVERTED BETWEEN THE 2 POINTS

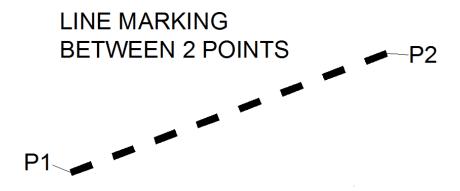
#### **Pick Points**

After picking the Pick Points button the following command line prompt will appear:-

Command: Pick Line Marking Start Point pick a start point on screen

Command: Pick Line Marking End Point pick a end point on screen

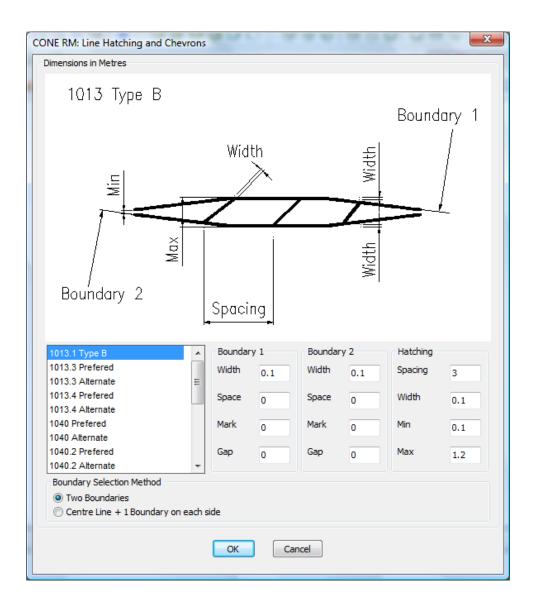
The desired line marking will now be drawn, continue to pick another set of points or press return to finish



Road Marking Tools:	Road Markings Tools	4	Preferences
Line Hatching & Chevrons	Chapter 7 Sign Design	SYM	General Symbols
	Curve Tools	Â	Standard Text Elongated Text
CONERM_UK_Road_Marking_Utilities	J Devices Along a Curve		Line Markings
🗸 A A & (V) T 🗏 🦻 📔 👔	📰 Sign Schedule	Ĭ	Line Hatching & Chevrons Zig-Zags
	Help and Information	T	T Junctions
Line Hatching and Chevrons	Modify Text or Data On Signs		Yellow Box Junctions
·			Zebra Crossing Pelican Crossing
		?	Query / Label
			Layer TEXTTILE On/Off

The **Road Markings – Line Hatching & Chevrons** tool creates line and chevron hatchings from pre-drawn curve objects (Lines, Polylines or Arcs)

The hatchings are created in accordance with the prescribed diagrams detailed in The Traffic Sign Regulations and General Directions, 2002 and Chapter 5 of the Traffic Signs Manual



### The Boundary 1, Boundary 2 and Hatching Edit Boxes

Each hatching diagram consists of a line hatch or chevron hatch plus a set of boundary line markings

The **Boundary 1** and **Boundary 2** edit boxes contain the default values for the boundary line markings thus:

- Width : The width of the line marking
- Space : the small distance between the end of hatch line and the line marking
- Mark : The line marking DOWN distance
- Gap : The line marking UP distance

The Hatching Edit boxes contain the default values for the hatch lines and chevrons thus:

Spacing : The spacing between each hatch line or chevron

Width : The width of the hatch marking or chevron

Min : The maximum length across the boundaries which will be hatched

Max : The minimum length across the boundaries which will be hatched

Select the hatching type from the left hand list, a corresponding image will appear above and the default values for the selected diagram will be displayed in the appropriate boundary and hatching edit boxes, you can change the values in the edit boxes if required.

#### Choose the **Boundary Selection Method** which can either be **Two Boundaries** or a **Centre Line + One Boundary Either Side**

Select the **OK** button to begin selecting the boundaries on screen

### **Two Boundary Method**

TWO BOUNDARIES - BEFORE -CONTROL BOUNDARY

TWO BOUNDARIES - AFTER -

DIAG. 1040

After picking the **OK** button the following command line prompts will appear:-

Command: Two Boundary Method: Select the control boundary: pick an object

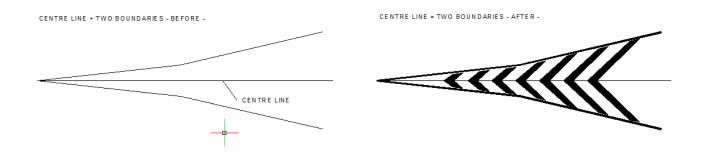
Command: Two Boundary Method: Select the other boundary: pick an object

The control boundary object (Line, Polyline or Arc) controls the spacing and the angle from which the hatch lines are created.

Hatch lines are drawn at an angle of 45 degrees away from the direction of the control boundary and between the control boundary and the other boundary

When the tool has finished hatching a dialogue will appear offering the choice of either reversing the hatch angle, discarding the hatch or accepting the hatch

### Centre Line + One Boundary Either Side Method



The centre line object (Line, Polyline or Arc) controls the spacing and the angle from which the hatch lines are created. This is particularly useful for Chevrons and 1013.1 Type B and 1040 hatching diagrams

After picking the **OK** button the following command line prompts will appear:-

Command: Centre Line + Two Boundary Method: Select the centre line: pick an object

Command: Centre Line + Two Boundary Method: Select the first boundary: *pick an object* Boundary object (Line, Polyline or Arc) defines the hatch boundary on one side of the centre line

Command: Centre Line + Two Boundary Method: Select the other boundary: *pick an object* Boundary object (Line, Polyline or Arc) defines the hatch boundary on the other side of the centre line

Hatch lines are drawn at an angle of 45 degrees away from the direction of the centre line and between the two outer boundaries

When the tool has finished hatching a dialogue will appear offering the choice of either reversing the hatch angle, discarding the hatch or accepting the hatch

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Road Marking Tools:	Road Markings Tools		Preferences
Zig Zags	Chapter 7 Sign Design	SYM	General Symbols
	Curve Tools	Â	Standard Text Elongated Text
	🤳 Devices Along a Curve		Line Markings
CONERM_UK_Road_Marking_Utilities	I Sign Schedule		Line Hatching & Chevrons
		1	Zig-Zags
🛯 A A & H M T 🗏 🕽 🚺 🖊 👔	Help and Information	Т	T Junctions
	Modify Text or Data On Signs		Yellow Box Junctions
Zig-Zags			Zebra Crossing
		4	Pelican Crossing
		2	Query / Label
			Layer TEXTTILE On/Off

# The Road Markings – Zig-Zags tool creates

Zig-Zag markings as detailed in The Traffic Sign Regulations and General Directions, 2002 and Chapter 5 of the Traffic Signs Manual

C	ONE RM: Zig-Zags
	Dimensions in Metres
	Number of Marks
	Mark Length End Point Start Point
	Mark Length 2 © Terminal Line at End Point
	Number Of Marks 8  Terminal Line at Start Point
	Fit Marks to Picked Length     Terminal Line at Both Ends
	Zig-Zag Construction Method       Insert Scale         Select a Pre-Drawn Curve, Polyline, Arc or Spline       1         Image: Pick Start Point and End Point on Screen       1
	OK Cancel

**Mark Length:** Enter the Zig-Zag mark length in metres in the **Mark Length** edit box (the default is 2 metres)

**Number of Marks:** Enter the number of marks in the **Number of Marks** edit box (the standard pattern is 8 marks)

Terminal Lines: Select the desired Terminal Line configuration End, Start or Both Ends

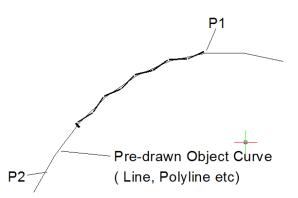
**Fit Marks to Line Length** – Check this toggle box if you wish to fit as many marks of the given mark length to the line (or start and end point) that you will supply

#### **Zig-Zag Construction Method**

**Select a Pre-drawn Line, Polyline, Arc or Spline** Opting for this method will prompt the tool to ask you to select an Object Curve (Line, Polyline, Arc or Spline) to which the Zig-Zags will be aligned upon.

Then you will be prompted to pick the Zig-Zag start point on the selected object, then a second point along the selected object to show the Zig-Zag direction.

The Zig-Zags will be drawn and finally you will be given the option to mirror the Zig-Zags.



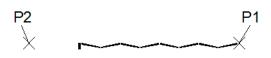
Command: RMUKZIGZAGS Select Object Curve (Line,Polyline,Arc, or Spline) to align Zig-Zag to: Pick Zig-Zag start point on selected object: Pick a second point on selected object to show the Zig-Zag direction: Mirror Zig-Zag?: Key <Y> or <N> <No>: N

### Pick Start Point and End point on Screen

Opting for this method will prompt the tool to ask you to pick the Zig-Zag start point and Zig-Zag end point directly on your drawing.

The Zig-Zags will be drawn and finally you will be given the option to mirror the Zig-Zags.

Command: RMUKZIGZAGS Zig-Zag Start Point: Zig-Zag End Point: Mirror Zig-Zag?: Key <Y> or <N> <No>:N Example 1: No Of Marks Specified = 8 Fit Marks to Line Length = OFF



Example 2: No Of Marks Specified = 8 Fit Marks to Line Length = ON

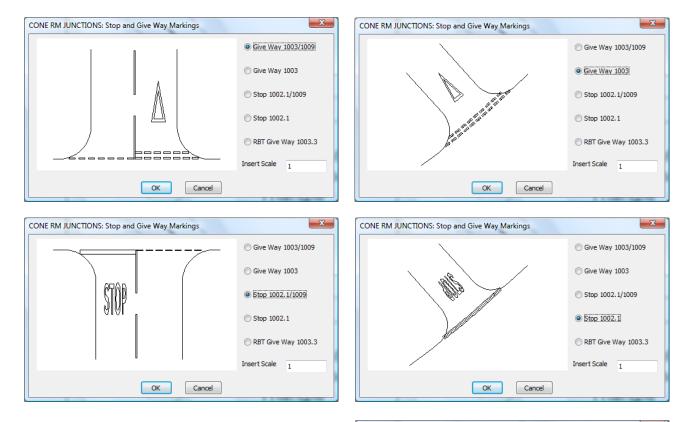




The T Junctions tool enables creation of five separate Stop and Give Markings for use at T-Junctions

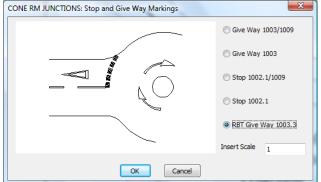
Give Way 1003/1009 Give Way 1003 Stop 1002.1/1009 Stop 1002.1 RBT Give Way 1003.3

Road Markings Tools	Preferences
Chapter 7 Sign Design	▶ SYM General Symbols
Curve Tools	A Standard Text Characterization A Standard Text
Devices Along a Curve	Line Markings
III Sign Schedule	Line Hatching & Chevrons
Help and Information	Zig-Zags ▶ T T Junctions
Modify Text or Data On Signs	Yellow Box Junctions
	Zebra Crossing
	<ul> <li>Pelican Crossing</li> <li>Query / Label</li> </ul>
	Layer TEXTTILE On/Off



Select the required tool then the OK button

The operation of each tool is described on the following pages:



# Give Way 1003/1009 (Note: Steps 3 and 4 are optional)

# STEP 1

Pick start point of transverse line [Double Line End]: *Pick start point* Pick end point of transverse line [Single Line End]: *Pick end point* Do you want to draw a curve?: Key <Y> or <N> <No>: y

Enter Y if you want the transverse line to be curved (Arc) you will be prompted to define the Arc

# STEP 2

Pick the Double to Single Line split point along the curve: *Pick a point* 

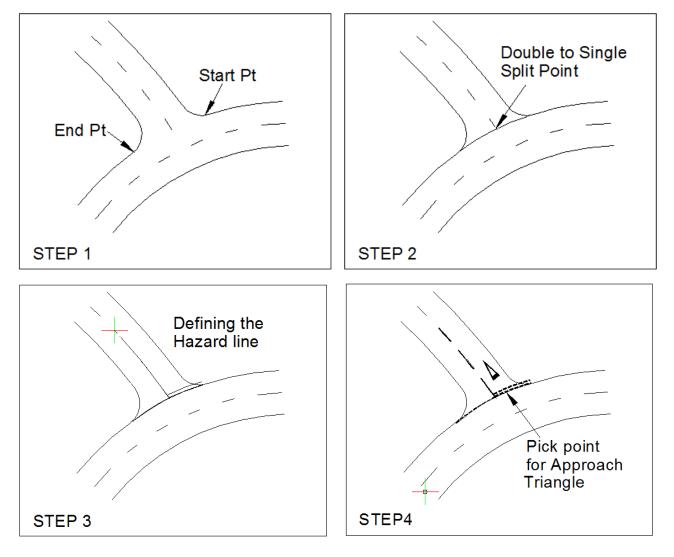
# STEP 3

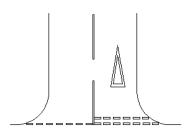
Continue to pick points that define the hazard line or press enter to skip :

*Optional: Press the enter key to skip this stage or pick points along the approach carriageway to define the hazard line marker points, press the enter key when done picking* 

STEP 4 *(Optional: Enter N if you do not want an approach triangle)* Do you want a Approach Triangle?: Key <Y> or <N> <Yes>: Distance to leading edge [Range 2.1 to 15.0] <2.75>: *Enter a distance* Pick point at aprox centre of outer double give way lines: *Pick a point* Rotation point:

Copy/Base angle/<Rotation angle> <0>: Show Approach Triangle rotation angle





# Give Way 1003 (Note: Step 2 is optional)

STEP 1

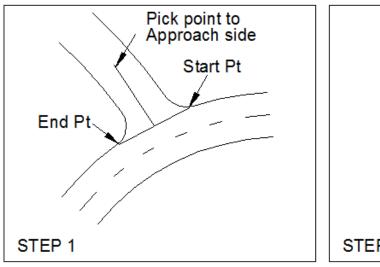
Pick start point of transverse line: *Pick start point* Pick end point of transverse line: *Pick end point* Do you want to draw a curve?: Key <Y> or <N> <No>: y

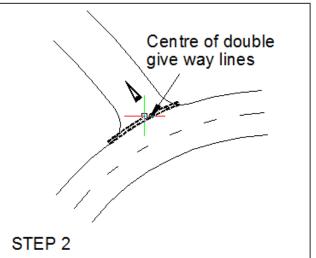
Enter Y if you want the transverse line to be curved (Arc) you will be prompted to define the Arc

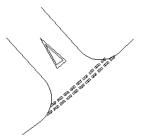
Pick a point to show the approach side: *pick a point* 

STEP 2 *(Optional: Enter N if you do not want an approach triangle)* Do you want a Approach Triangle?: Key <Y> or <N> <Yes>: Distance to leading edge [Range 2.1 to 15.0] <2.75>: *Enter a distance* Pick point at aprox center of outer double give way lines: *Pick a point* Rotation point:

Copy/Base angle/<Rotation angle> <0>: Show Approach Triangle rotation angle







# Stop 1002.1/1009 (Note: Step 3 is optional)

### STEP 1

Pick start point of transverse line [Stop Line End]: *Pick start point* Pick end point of transverse line [Dashed Line End]: *Pick end point* Do you want to draw a curve?: Key <Y> or <N> <No>: y

Enter Y if you want the transverse line to be curved (Arc) you will be prompted to define the Arc

# STEP 2

Pick the Stop to Dashed Line split point along the curve: Pick a point

# STEP 3

Continue to pick points that define the hazard line or press enter to skip :

*Optional: Press the enter key to skip this stage or pick points along the approach carriageway to define the hazard line marker points, press the enter key when done picking* 

# STEP 4

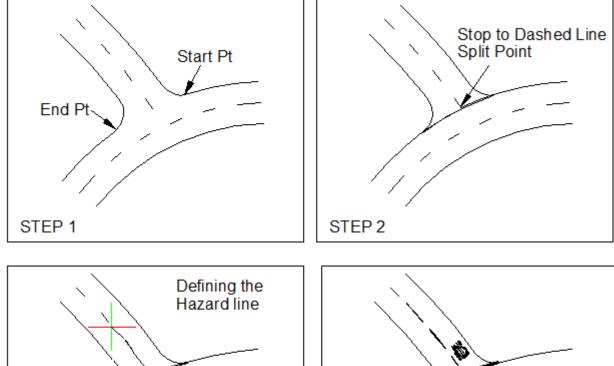
Distance to top of stop legend [Range 2.1 to 15.0] <2.75>: *Enter a distance* Pick point at aprox centre of outer double give way lines: *Pick a point* Rotation point:

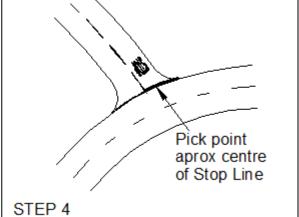
Copy/Base angle/<Rotation angle> <0>: Show Stop Symbol rotation angle

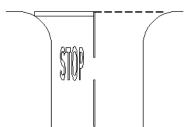
~

~

STEP 3







# Stop 1002.1

### STEP 1

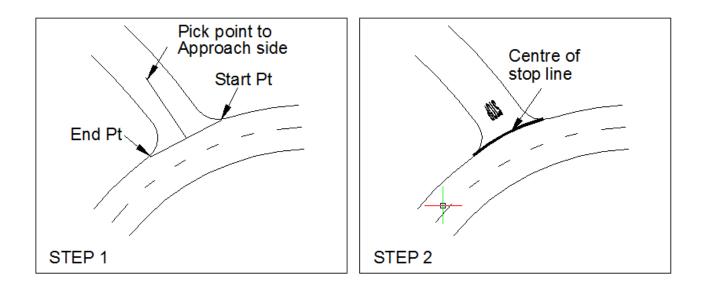
Pick start point of transverse line: *Pick start point* Pick end point of transverse line : *Pick end point* Do you want to draw a curve?: Key <Y> or <N> <No>: y

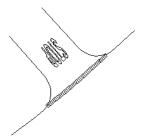
Enter Y if you want the transverse line to be curved (Arc) you will be prompted to define the Arc

Pick a point to show the approach side: *pick a point* 

#### STEP 2

Distance to top of stop legend [Range 2.1 to 15.0] <2.75>: *Enter a distance* Pick point at aprox center of outer stop lines: *Pick a point* Rotation point: Copy/Base angle/<Rotation angle> <0>: *Show Stop symbol rotation angle* 





# RBT Give Way 1003.3

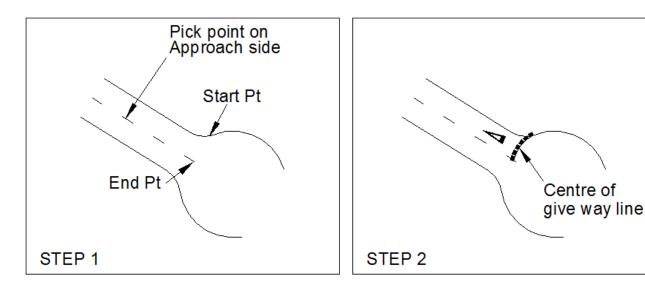
STEP 1 Pick start point of transverse line : *Pick start point* Pick end point of transverse line: *Pick end point* Do you want to draw a curve?: Key <Y> or <N> <No>: y

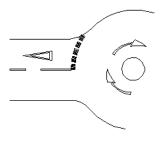
Enter Y if you want the transverse line to be curved (Arc) you will be prompted to define the Arc

Pick a point to show the approach side: *pick a point* 

STEP 2 *(Optional: Enter N if you do not want an approach triangle)* Do you want a Approach Triangle?: Key <Y> or <N> <Yes>: Distance to leading edge [Range 2.1 to 15.0] <2.75>: *Enter a distance* Pick point at aprox centre of outer double give way lines: *Pick a point* Rotation point:

Copy/Base angle/<Rotation angle> <0>: Show Approach Triangle rotation angle





Road Marking Tools:	Road Markings Tools		Preferences			
Yellow Box Junctions	Chapter 7 Sign Design	SYM	General Symbols			
		A	Standard Text			
	Curve Tools	<u> </u> A	Elongated Text			
	J Devices Along a Curve		Line Markings			
	🗐 Sign Schedule	14	Line Hatching & Chevrons			
		-12	Zig-Zags			
	Help and Information	T	T Junctions			
	Modify Text or Data On Signs		Yellow Box Junctions			
			Zebra Crossing			
		9	Pelican Crossing			
CONERM_UK_Road_Marking_Utilities			Query / Label			
			Layer TEXTTILE On/Off			
🗹 A A & III 🕅 T 🗏 🤇 🛯 🥮 👔 📗						
Yellow Box Junctions						

The Yellow Box Junctions tool requires two pre-drawn elements

1. A closed POLYLINE around the area to be cross hatched

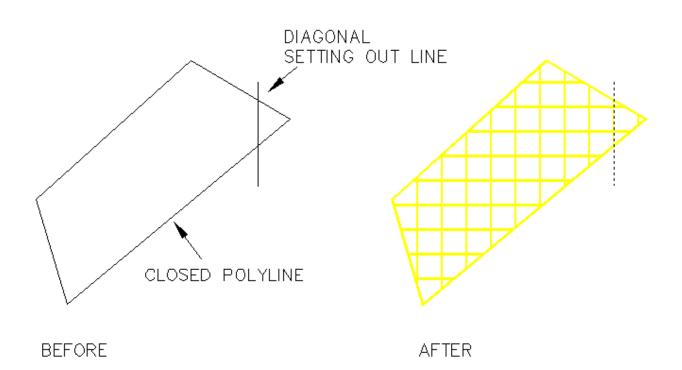
2. A LINE to use as a baseline for the hatching angle.

The tool prompts

Select the Box Junction Closed Polyline: pick the boundary polyline

Select Diagonal Setting Out Line: *pick the line to use as a reference (shown at top right in example below)* Please enter hatch spacing 2.0 or 2.5 <2.5>: *type a value or press ENTER to accept default* 

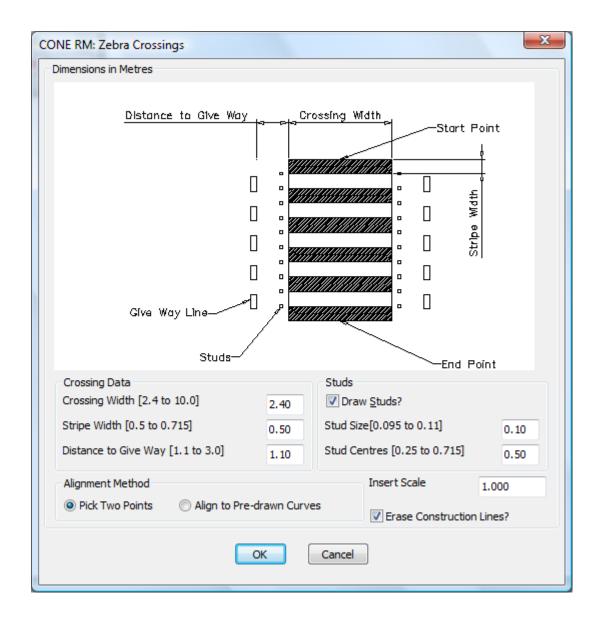
The hatch markings are then drawn in 150mm wide individual Polyline segments and the boundary is drawn in 200mm wide Polyline segments.



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Road Marking Tools: Zebra Crossing	Road Markings Tools		ダ Preferences
	Chapter 7 Sign Design	► SYM	গশ General Symbols
			A Standard Text
	Curve Tools	<u> </u>	Elongated Text
	🤳 Devices Along a Curve		Line Markings
		1	🐖 Line Hatching & Chevrons
	E Sign Schedule		Zig-Zags
	Help and Information	۱I	T T Junctions
	Modify Text or Data On Signs		Yellow Box Junctions
	Moully reaction bata on bights	-[	Zebra Crossing
	_	E	Pelican Crossing
CONERM_UK_Road_Marking_Utilities		I	? Query / Label
			Layer TEXTTILE On/Off
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Zebra Crossings			

The Zebra Crossing tool creates zebra crossings between two picked points or aligned to pre-drawn curves (Carriageway Edges)



### **Crossing Data**

Crossing Width [2.4 to 10.0] Enter the desired crossing width

Stripe Width [0.5 to 0.715] Enter the desired stripe width

Distance to Give Way [1.1 to 3.0] Enter the distance to the Give Way lines

Studs - These are optional

Draw Studs? If you want to draw studs ensure the checkbox is ticked

Stud Size [0.095 to 0.11] Enter the desired stud width

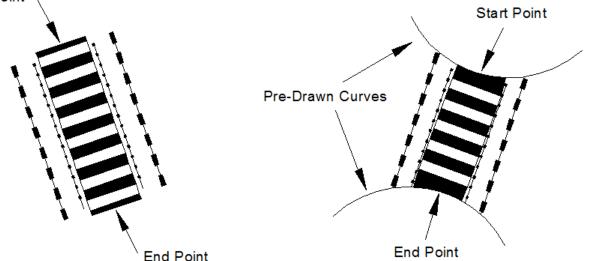
Stud Centres [0.25 to 0.715] Enter desired stud centres

**Insert Scale** This is normally 1.0 (1 unit = 1 metre)

**Erase Construction Lines:** The tool creates Give Way and Stud construction lines, if you don't need these ensure the checkbox is ticked

Alignment Method (see below)

Start Point



Pick Two Points Method

Align to Pre-Drawn Curves Method

The **Align to Pre-Drawn Curves Method** creates the first and last stripe trimmed back to match the curves selected, the **Pick Two Points Method** create the stripes at 90 degrees to the start point / end point direction

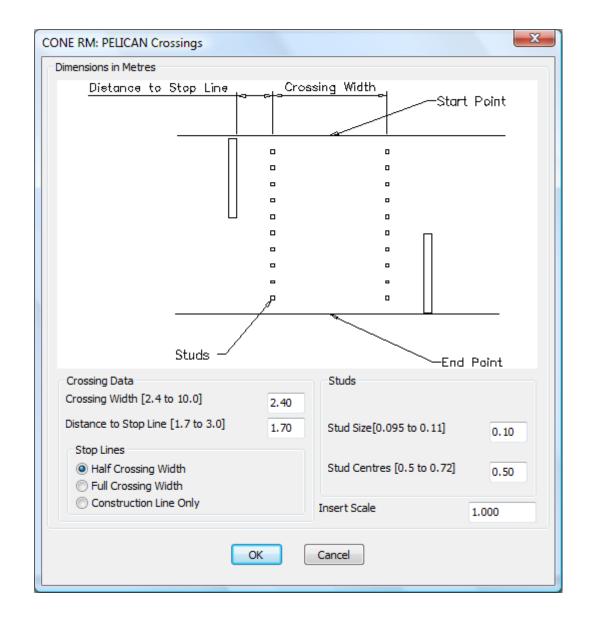
Select the OK button and follow the on screen points (Align to Pre-Drawn Curves Method is shown below)

Command: RMUKZEBRA Select First Alignment Curve (Line,Polyline,Arc, or Spline) *Select first curve* Zebra Crossing Start Point on selected object: *Pick first point* Select Other Alignment Curve (Line,Polyline,Arc, or Spline) *Select other curve* Zebra Crossing End Point on selected object: *Select second point* 

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Road Marking Tools:	Road Markings Tools		Preferences
5	Chapter 7 Sign Design	MYP .	General Symbols
Pelican Crossing		A	Standard Text
	Curve Tools	A	Elongated Text
	🤳 Devices Along a Curve		Line Markings
	🔲 Cian Cabadula	11	Line Hatching & Chevrons
	Sign Schedule	1	Zig-Zags
	Help and Information	Т	T Junctions
	Modify Text or Data On Signs		Yellow Box Junctions
	Modily Text of Data of Signs	E	Zebra Crossing
		ų,	Pelican Crossing
	1	2	Query / Label
CONERM_UK_Road_Marking_Utilities			Layer TEXTTILE On/Off
Pelican/Puffin (	Crossings		

The Pelican Crossing tool creates Pelican crossings between two picked points



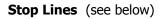
### **Crossing Data**

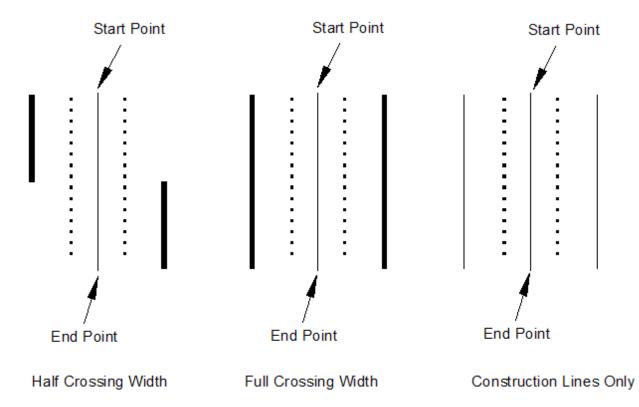
Crossing Width [2.4 to 10.0] Enter the desired crossing width Distance to Stop Line [1.7 to 3.0] Enter the distance to the Stop lines

### Studs

Stud Size [0.095 to 0.11] Enter the desired stud width Stud Centres [0.25 to 0.715] Enter desired stud centres

**Insert Scale** This is normally 1.0 (1 unit = 1 metre)





Select the **OK** button and follow the on screen points

Command: RMUKPELICAN Crossing Start Point: *Pick start point* Crossing End Point: *Pick end point* 

# CONE 10 UK – User Guide

Road Marking Tools:	Road Markings Tools		Preferences
Query / Label	Chapter 7 Sign Design	ST	M General Symbols
		- 1	Standard Text
	Curve Tools		Elongated Text
	🤳 Devices Along a Curve		Line Markings
			Line Hatching & Chevrons
	Sign Schedule		Zig-Zags
	Help and Information	۲ I	T Junctions
	Modify Text or Data On Signs		Yellow Box Junctions
	Modify Text of Data Off Signs	- E	Zebra Crossing
		3	Pelican Crossing
CONERM_UK_Road_Marking_Utilities			Query / Label
			Layer TEXTTILE On/Off
🛛 A & I 🕅 T 🗏 🕽 🚺 🔐 👔			
	uery and Label		

The Query/Label tool allows you to query a particular road marking line or symbol on your drawing.

	Query or Label ach - Diag 1023 - 187	Emm Long - Col	ur White	×			
Text Height				Cancel			
V	Approach	— Diag	1023 -	- 1875mm	Long	– Colour	White

After indicating an element of road marking on the drawing, the dialog above displays the information available.

Pick **Cancel** to close the dialog, or Pick **Label** to add the text to the drawing at the specified **Text height** 

NOTE: you can edit the text string in the **Info** box to add/delete any other information you required.

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# Curve Tools:

The Curve Tools are a series of separate tools that allow you to easily and quickly draw and measure items along a curve.

		- <b>I</b>	
	Curve Tools	/	Reverse Curve Direction
1	Devices Along a Curve	5	Offset Tapers
-		ستسا	Draw a Regular Ruler
<b></b>	Sign Schedule		Draw a Irregular Ruler
	Help and Information	?	Draw Distance Marker Posts
		123	Dynamic Measure & Mark
	Modify Text or Data On Signs		Create Marker Lines
		*:	Get Distance between 2 Points

The curved lines in the examples below represent the edge of a carriageway going around a bend

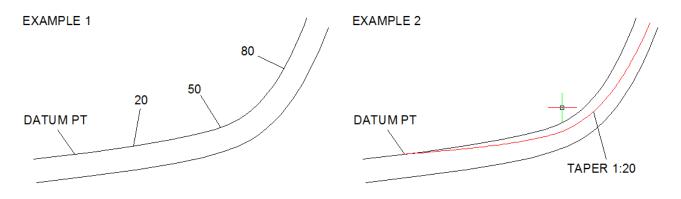
Example 1: If you wanted to place a series of marker points (sign locations) at specific distances (20, 50 and 80m) from the datum point then you would find this task very difficult and time-consuming using normal CAD methods

The tools: Draw a Regular Ruler Draw a Irregular Ruler Dynamic Measure & Mark and Create Marker Lines

provide different ways of achieving this task

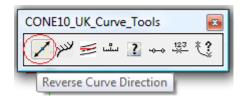
Example 2: If you wanted to draw a 1:20 taper starting from the datum point then again you would find the task very difficult and time-consuming using normal CAD methods

The tools: **Offset Taper** provide different ways of achieving this task



# CONE 10 UK – User Guide

## Curve Tools: Reverse Curve Direction:

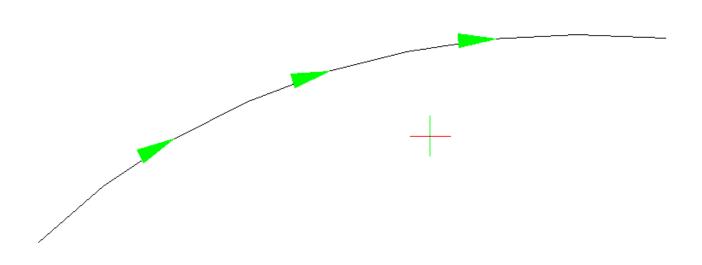


Curve Tools	Reverse Curve Direction
🤳 Devices Along a Curve	صلح Offset Tapers سلس Draw a Regular Ruler
🔠 Sign Schedule	→→ Draw a Irregular Ruler
Help and Information	Praw Distance Marker Posts 22 12 23 20 20 20 20 20 20 20 20 20 20 20 20 20
Modify Text or Data On Signs	Create Marker Lines
	😲 Get Distance between 2 Points

Command: REVERSEDIRECTION Select a Line, Polyline or Arc to Reverse: Enter R to Reverse - press Enter when done

This tool reverses the direction of a curve, after selecting the tool respond to the prompts by selecting a Line, Polyline or Arc to Reverse:

Green arrows will be placed on the curve indicating the curve direction, simply key in R to reverse the curve direction, press the Enter key when done, the arrows will be erased

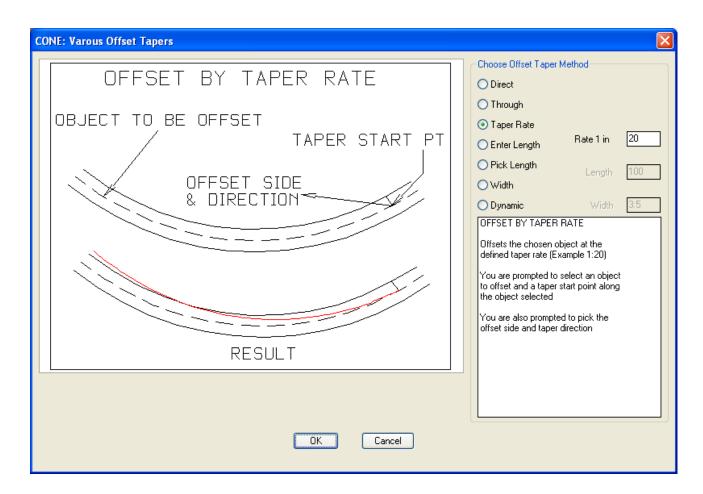


# CONE 10 UK - User Guide



Curve Tools	Reverse Curve Direction
J Devices Along a Curve	🗾 Offset Tapers
	Draw a Regular Ruler سٹس
📰 Sign Schedule	→→ Draw a Irregular Ruler
Help and Information	Draw Distance Marker Posts
· · · · · · · · · · · · · · · · · · ·	— <sup>123</sup> / <sub>→</sub> Dynamic Measure & Mark
Modify Text or Data On Signs	Create Marker Lines
	* Get Distance between 2 Points

This tool provides several methods of creating offset tapers



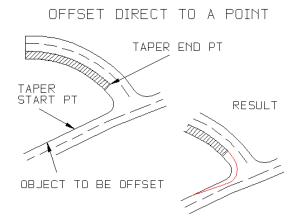
### Direct

Offsets the chosen curve object at a uniform taper rate directly to picked taper end point

You are prompted to select an object to offset and a taper start point along that object

The taper end point is another point picked anywhere on the drawing

The actual taper rate is reported at the end of the routine.



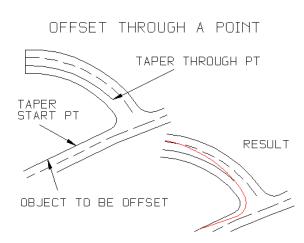
### Through

Offsets the chosen curve object at a uniform taper rate through a point and continues the taper to the end of the chosen object.

You are prompted to select an object to offset and a taper start point along that object.

The taper through point is another point picked anywhere on the drawing.

The actual taper rate is reported at the end of the routine.



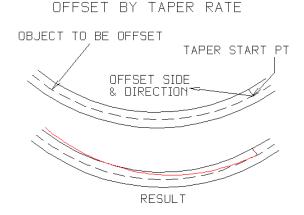
### **Taper Rate**

Offsets the chosen curve object at the defined taper rate, which can be specified in the dialog box.

You are prompted to select an object to offset and a taper start point along that object.

You are also prompted to pick the offset side and taper direction.

The taper continues to the end of the chosen object.



#### **Enter Length**

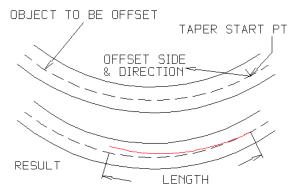
Offsets the chosen object at the defined taper rate – which can be specified in the dialog box for a specified length which you also enter in the dialog box

You are prompted to select an object to offset and a taper start point along that object.

You are also prompted to pick the offset side and taper direction.

The taper continues to the length specified in the dialog box

### OFFSET BY ENTERED LENGTH



### **Pick Length**

Offsets the chosen object at the defined taper rate – which can be specified in the dialog box.

You are prompted to select an object to offset and a taper start point along that object.

You are also prompted to specify a taper end position

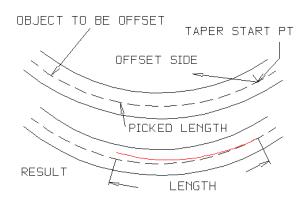
You are also prompted to pick the offset side and taper direction.



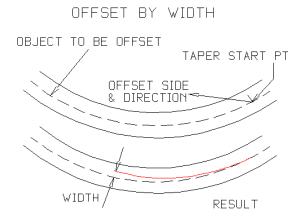
Offsets the chosen object at the defined taper rate which can be specified in the dialog box until the width also specified in the dialog box is reached

You are prompted to select an object to offset and a taper start point along that object.

The offset taper then starts from the picked point and tapers until the desired width is reached.



OFFSET BY PICKED LENGTH



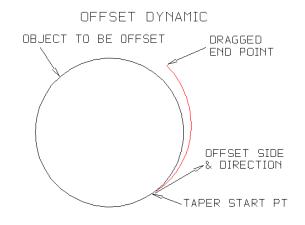
### Dynamic

Dynaically offsets the chosen object at the defined taper rate.

You are prompted to select an object to offset and a taper start point along that object.

The taper end point is indicated by moving the mouse.

The taper is updated in real-time.



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# CONE 10 UK – User Guide

# Curve Tools: Draw a Regular Ruler

CONE10_UK_Curve_Tools
Draw a Regular Ruler

Curve Tools	Reverse Curve Direction
J Devices Along a Curve	🛒 Offset Tapers
	Draw a Regular Ruler
🔠 Sign Schedule	→→ Draw a Irregular Ruler
Help and Information	Praw Distance Marker Posts
· · ·	<sup>123</sup> Dynamic Measure & Mark
Modify Text or Data On Signs	Create Marker Lines
	🛟 Get Distance between 2 Points

CONE: Draw a regularly spaced ruler along a cur	ve or between two poi	nts
LABEL  =DISTANCE   Int. MARK	Distance: No of Divisions Big Mark Length Int. Mark Length Small Mark Length	10       Include?       Height 1         2       Prefix       Suffix         1.5       Alignment         1       Image: Aligned image: Perpendicular         1       V         1       V
	Place ruler on layer? One Ruler Layer	Current Layer
	Placement Method?	curve 🔘 Between two points
	OK Cancel	

The Draw a Regular Ruler tool enables you to draw a series of ruler lines at fixed regular intervals along a curve.

The dialog above shows the various options for this tool.

#### Distance default value 10

Interval at which the labels will be inserted.

#### **No of Divisions** *default value 2*

The number of sub divisions between the distance specified above.

#### **Big Mark Length** *default value 1.5*

Length of the divider marks at the distance interval specified above.

#### Int Mark Length default value 1

Length of the divider marks at the midpoint of distance interval specified above.

#### Small Mark Length default value 1

Length of the divider marks at the divisions between distance interval specified above.

Labels: This refers the actual distance text that will be shown, if you do not want to include labels un-check the Include Labels checkbox Height: The text height of the label

**Prefix:** Any characters you wish to appear before the distance

Suffix: Any characters you wish to appear after the distance

Alignment: Whether the label text is rotated parallel or perpendicular to the object curve

**Place ruler on layer?:** Choose between creating the ruler elements on the current selected layer, or the Cone Ruler Layer "CONERULER"

### Placement method:

#### Along a pre-drawn curve

The ruler elements will be along a selected curve, you will be prompted to specify the ruler start point and ruler end points along the curve.

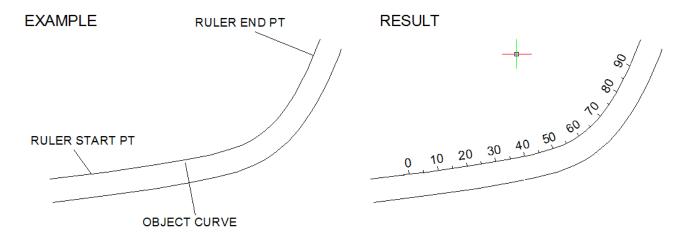
#### In a straight line

The ruler elements will be drawn in a straight line between the start and end points you indicate on the drawing.

Once the tool has drawn the ruler elements you have to option to **mirror** them to the **other side** of the line from which they were drawn.

### Example

A 10m ruler (with 2 divisions) will be aligned to the object curve as shown below between the ruler start and ruler end points



Select: **Draw a Regular Ruler** from the **Curve Tools** section of the cone pull down menu Change any values in the dialog as required (see previous page) Select the **OK** button

The program will respond with the following prompts:

Command: CRRULER

Select Object Curve (Line, Polyline, Arc, Circle, Ellipse or Spline) to align rule to: select a curve

Pick ruler start point on selected object: *pick a ruler start point on the curve* 

Open Curve: Pick ruler end point on selected object or press enter to fully rule in both directions:

pick a ruler endpoint on the curve

Do you want mirror the alignment: Yes or No <No>: *Y* or *N* as required

# CONE 10 UK - User Guide

# Curve Tools: Draw a Irregular Ruler

CONE10_UK_Curve_Tools	
✓ >> = iii 2 (→) 12 * ?;	
Draw a Irregula	ar Ruler

Curve Tools	Reverse Curve Direction
🤳 Devices Along a Curve	ቻ Offset Tapers ست Draw a Regular Ruler
🔠 Sign Schedule	🛶 Draw a Irregular Ruler
Help and Information	Draw Distance Marker Posts
Modify Text or Data On Signs	Create Marker Lines
	Cet Distance between 2 Points

CONE: Draw a irregularly spaced ruler along a curve or in a	straight	line								×
	Enter o	distances	in positiv	e directio	n - (posi	tive valu	es only)			
	20	50	80	100	0	0	0	0	0	0
LABEL NEG- POS+	Enter o	distances	in negat	ive directi	ion if req	d - (posi	tive valu	es only)		
	0	0	0	0	0	0	0	0	0	0
	Cle	ear All Dis	tances							
	- Mark o	or Point St	tyle			Mark	(Length	(Mark St	yle Only)	
	Ma	rk 🔘 A	🔘 в 🔘	) C 🔘 D	) () E	6				
	Labels									
•	🗸 In	dude?						-	nment –	
ALTERNATIVE POINT STYLES	Heigh	nt 2.5	P	refix		Suffix		_	Aligned Perpendi	cular
	🔽 Crea	te a Grou	p?							
MARK A B C D E	-Place r	ruler on la	yer?			Placeme	ent Meth	od?		
	Cone Ruler Layer     O Along a pre-drawn curve     Current Layer     In a straight line									
	0 cu	nent Lay				0 III a	adayrt	m iC		
	ОК		Cancel							

The **Draw a Irregular Ruler** tool enables you to draw a series of marker lines or points at irregular intervals along a curve.

The dialog above shows the various options for this tool.

You may enter up to ten positive and ten negative distances in the input boxes NOTE: although the negative distances are drawn in the opposite direction from the start point, their values must be entered WITHOUT a MINUS SIGN.

### **Clear All Distances**

Picking the Clear All Distances button will reset all the boxes to zero, allowing you to enter a new set of values, there is no warning that all existing values will be cleared.

**Mark or Point Style:** You can draw individual marks (a simple line at the **Mark Length** specified) or standard CAD point entities, the point styles available are: A: Cross, B: Circle, C: Circle and Cross, D: Square, E: Square and Cross **Labels:** This refers the actual distance text that will be shown, if you do not want to include labels un-check the **Include Labels** checkbox

**Height:** The text height of the label **Prefix:** Any characters you wish to appear before the distance **Suffix:** Any characters you wish to appear after the distance

Alignment: Whether the label text is rotated parallel or perpendicular to the object curve

**Place ruler on layer?:** Choose between creating the ruler elements on the current selected layer, or the Cone Ruler Layer "CONERULER"

#### **Placement method:**

#### Along a pre-drawn curve

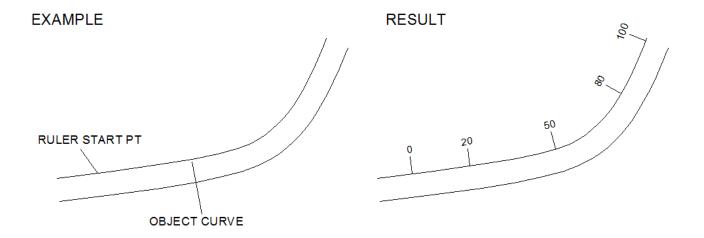
The ruler elements will be along a selected curve, you will be prompted to specify the start along the curve.

#### In a straight line

The ruler elements will be drawn in a straight line between the start and end points you indicate on the drawing.

### Example

A series of marker lines at distances of 20,50,80 and 100 from the ruler start point will be aligned to the object curve as shown below



Select: **Draw a Regular Ruler** from the **Curve Tools** section of the cone pull down menu Change any values in the dialog as required (see previous page) Select the **OK** button

The program will respond with the following prompts:

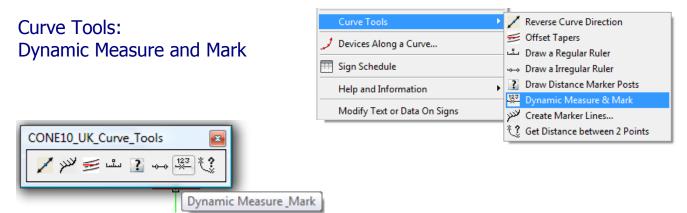
#### CIRULER

Select Object Curve (Line, Polyline, Arc, Circle, Ellipse or Spline) to align rule to: select a curve

Pick ruler start point on selected object: pick a ruler start point on the curve

Pick a point to indicate ruler side and POSITIVE direction:

# CONE 10 UK - User Guide



This tool dynamically draws marker points along a selected curve and annotates the distance from a start point.

The program prompts you to select a curve object on the drawing, then a start position along that curve.

As you move your mouse pointer along the curve the distance from the start point will dynamically update. Subsequently clicking at points along the curve element will draw the marker at that point. Alternatively you can type a specific distance for the marker point to be inserted.

The tool has a <b>Settings</b> option (keyword <b>S</b> ) that will display a dialog (shown on the next page) where you can change various marker settings	START PT	12
	OBJECT CURVE	

The Dynamic Measure and Mark prompts:

Select Object Curve (Line, Polyline, Arc, Circle, Ellipse or Spline) to measure: select a curve

Settings/Help: Pick first point [Datum] on selected curve object: pick start point or key S for settings

Settings/Help: Pick next point or key-in desired distance: move the mouse, pick a point of key S for settings

Press the Enter key to exit the tool

If you key **S** for settings whilst using the Dynamic Measure and Mark tool the following dialog will be displayed, change any settings as required and pick the **OK** button to continue using the tool

CONE: Dynamic Measure & Mark Settings	x			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Grid Snap and Entity Snap Settings Grid Snap On Off Snap to nearest 2			
Note: The point marker size is half the label height Point Markers O A O B O C D O E O F O G	Entity Snaps On Off Endpoint Midpoint			
Labels          Include?       Alignment         Height 2       Prefix       Suffix         Negative Values       Perpendicular         Image: Show minus sign?       Decimal Places       0	Center Point Quadrant Intersection Insertion Perpendicular Tangent Vearest Quick Apparent Intersection			
Place point markers and labels on layer?      Cone Ruler Layer      Current Layer	Extension     Parallel			
OK Cancel <u>H</u> elp				

Point Markers: Select from seven different marker styles by picking one of the radio buttons A-G

**Labels:** This refers the actual distance text that will be shown, if you do not want to include labels un-check the Labels checkbox

Height: The text height of the label

Prefix: Any characters you wish to appear before the distance

Suffix: Any characters you wish to appear after the distance

Alignment: Whether the label text is rotated parallel or perpendicular to the object curve

**Negative Values: Show minus sign?** Every curve has a positive and negative direction referenced from the start point you pick on the curve. If you do not want the minus sign to be displayed then un-check this checkbox

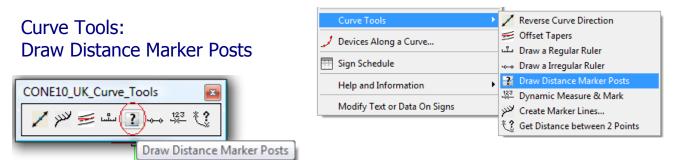
**Decimal Places:** The number of decimal places to display (default is 0)

**Grid Snap:** Sets the virtual grid snap on or off, is set to on the marker points snap to the nearest number of units set in the edit box, for example if you want the markers to snap to every 5 units enter 5 in the edit box and turn the Grid Snap on

**Entity Snaps:** Access to the standard CAD Esnap/Osnap tools are disabled during operation of the Dynamic Measure and Mark tool but you can change the status and setting here

	PERPENDICULAR
PARALLEL ALIGNMENT	
START PT	55
35	× /
OBJECT CURVE	

## CONE 10 UK - User Guide



This tool draws distance marker posts every 100m along a curve or between 2 picked points.



	CONE: Draw distance posts every 10	0m	×
	XXX,X	Start Distance (Kms) Start Distance (Tenths of Kms) Distance between posts as % of 100m Post Mark Leng Text Hei	0 100 th 10
<b>Start Distance(Kms):</b> Enter the desired start distance in whole kilometres <b>Start Distance(Tenths of Kms):</b> Enter the desired start distance in	Style	Place ruler on layer? <ul> <li>Cone Ruler Layer</li> <li>Current Layer</li> </ul> <li>Method <ul> <li>Between 2 points along a pre-drawn cu</li> <li>In a straignt line between 2 pick points</li> </ul></li>	
tenths of kilometres (0 to 9)		OK Cancel	

**Distance between posts a % of 100m**: Normally this value will be 100% but you may wish to create schematic versions were the actual gap between posts on the drawing is reduced (example 50%) but the distances are still in real word sizes

Post Mark Length: The length of the line mark

**Text Height:** The height of the text label

Style: Choose one of four marker post styles

**Place ruler on layer?:** Choose between creating the ruler elements on the current selected layer, or the Cone Ruler Layer "CONERULER"

#### Method:

#### Between 2 points on a pre-draw curve

The marker posts will be place along a selected curve, between two points picked along the curve

#### In a straight line between 2 picked points

The marker posts will be drawn in a straight line between the start and end points you indicate on the drawing.

# CONE 10 UK – User Guide

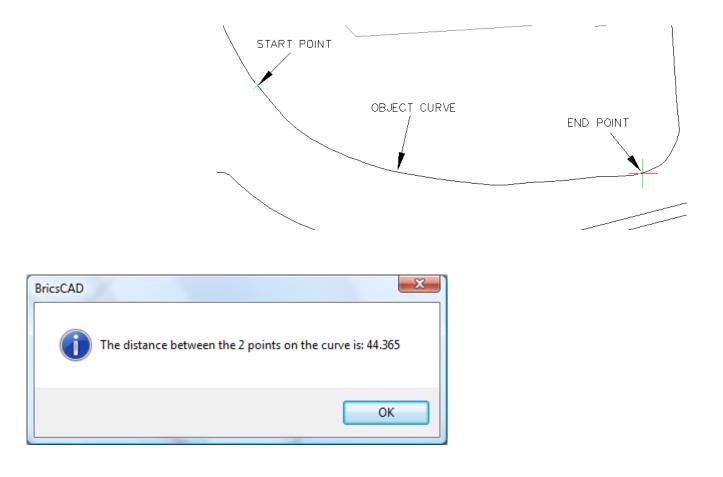
Curve Tools: Get Distance Between Two Points	Curve Tools       J Devices Along a Curve       Sign Schedule       Help and Information       Modify Text or Data On Signs	- 	Dynamic Measure & Mark
CONE10_UK_Curve_Tools	en 2 Points	Ľ	Get Distance between 2 Points

Command: C2PDISTANCE Select Object Curve (Line,Polyline,Arc,Circle,Ellipse or Spline) to measure: Pick first point on selected curve object: Pick next point on selected curve object:

This tool measures between two indicated points and reports the distance between them along the curved path.

The program prompts you to select a curved object, then for a start point along that curve. You then indicate an end-point along the curve

The distance between the two points is then displayed.



### CONE 10 UK - User Guide

## Devices Along a Curve

This tool enables you to place channelling devices and direction arrows (symbols) along pre-drawn curves (Arcs, Lines and Polylines)

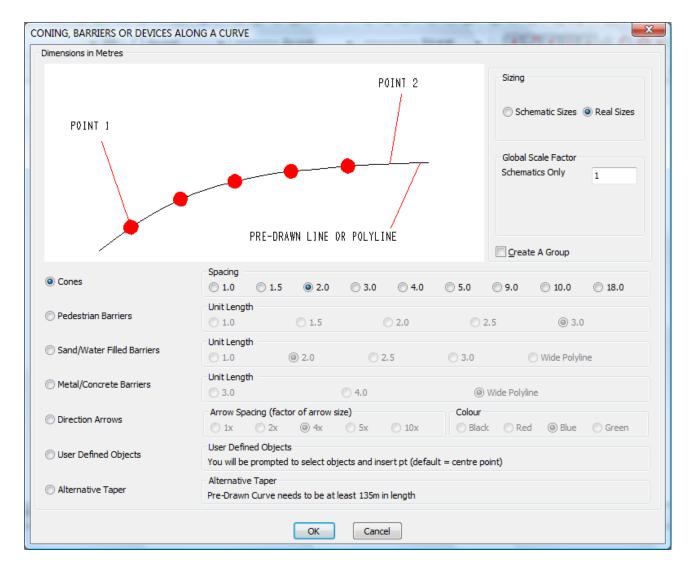
You may place the devices between 2 points on the curve or specify that the devices fully fit on the chosen curve

Each type of devices has a number of "Size" options:

For Cones you specify the spacing between cones For Barriers you specify the Unit Length For Arrows the spacing is determined by a factor of the arrow size Barriers can also be created with wide polylines

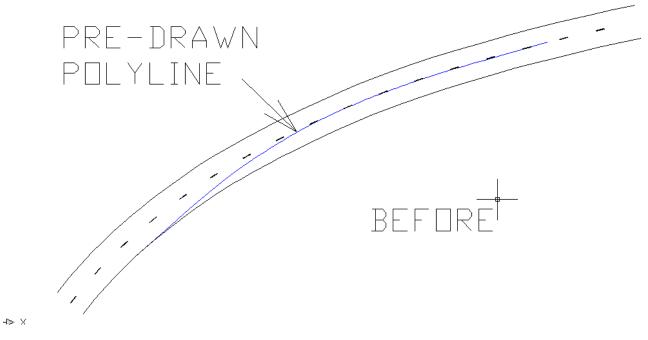
For User Defined Objects see example 3 on page :

Co	ne10UK	
1	Cone Preferences	
	Sign Search/Browse/Insert	
·	Sign Arrays	•
	Sign & Leader Tools	•
9	Symbols	
	Schematic Diagrams	•
	Miscellaneous Tools & Libraries	•
	Mapping Utilities	•
	Roadway Tools	•
	Road Markings Tools	•
	Chapter 7 Sign Design	•
	Curve Tools	•
2	Devices Along a Curve	
	Sign Schedule	
	Help and Information	+
	Modify Text or Data On Signs	



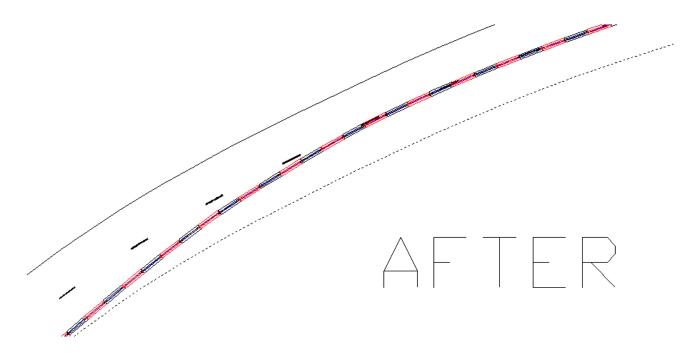
### Example 1: Sand and Water Filled Barriers 2.5 metres long

Real Sizes Select OK button

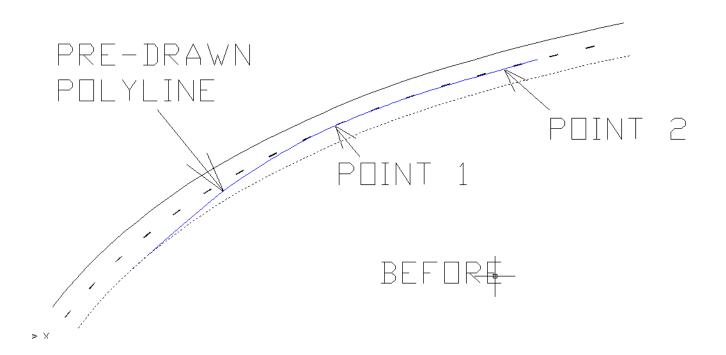


CAD system prompts below:

**Command:** Select Object Curve (Line, Polyline ,Arc or Circle) *Select a pre-drawn object curve* **Command:** Pick First Point or key <F>ull use the full length: F *Enter F* 

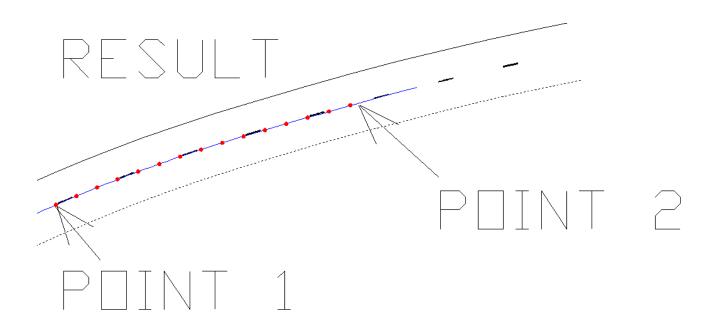


#### **Example 2: Cones 2.5 metre spacing** Real Sizes Select OK button



CAD system prompts below:

**Command:** Select Object Curve (Line, Polyline ,Arc or Circle) : *Select a pre-drawn object curve* **Command:** Pick First Point or key <F>ull to cone use the full length: *Pick point 1* **Command:** Pick Second Point: *Pick point 2* 



### **Example 3: User Defined Objects**

The User Defined Objects option allows you to place ANY object(s) along a curve If you select this option the program will prompt you to select some pre-drawn objects

Command: UKDEVICES Select User Defined Objects to align to a curve: Select entities:

Use normal CAD selection methods to select objects and press the enter key when done selecting

The program will now prompt you to pick the object alignment point and offer the centre of the objects as the default point

Pick object alignment point [default is centre of objects] <91921.3179,90186.4544>:

Press the enter key to accept the default point or pick a point of your choosing

The program will calculate the length of the objects and prompt you to enter the gap between the objects

Object Length = 3 - Enter the gap between objects on the curve <0>:

Enter the desired gap, if you want the object to line up end to end then enter 0 as the gap

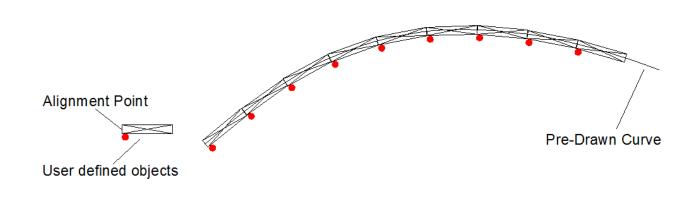
Finally you will be prompted to:

Select Object Curve (Line, Polyline ,Arc or Circle) select a curve

Pick First Point or key <F>ull to use the full length: enter F for full length or pick 2 points along the curve

See example below:

In this case the alignment point selected was the left middle point on the rectangle



# Sign Schedules

The Sign Schedule tool creates a quantified list of signs complete with Reference, Description and an image of the sign

	Co	ne10UK
3	<b>[</b> ]	Cone Preferences
		Sign Search/Browse/Insert
-		Sign Arrays
		Sign & Leader Tools
	9	Symbols
_		Schematic Diagrams
		Miscellaneous Tools & Libraries
		Mapping Utilities
		Roadway Tools
		Road Markings Tools
		Chapter 7 Sign Design
		Curve Tools
	2	Devices Along a Curve
		Sign Schedule
- 1		

To create a Sign Schedule, select the Sign Schedule tool

The CAD system prompts:

**Command:** QASCHEDULE **Command:** Select signs <Any Method> to include in this schedule:

Now select the signs to include, the program will ignore anything that is not a CONE sign

Then when prompted place the schedule

Command: Pick the Top Left Corner of the Schedule Insertion Point :

QTY: 5 REF: 7105 Lane closure barrier	
QTY:4 REF:7001 Road works ahead	
QTY: 2 REF: 543 Traffic signals ahead	
QTY: 2 REF: 645 End plate	End
QTY:8 REF:610 Keepleft	C

# Help and Information

Help and Information	Þ	Where is my USER folder?
Modify Text or Data On Signs		Visit CONE Web Site About CONE10 UK V10.2
		<ol> <li>Cone User Guide</li> <li>Signs and Symbols Manual</li> <li>Standard Details TSAM Manual</li> <li>Chapter 7 Sign Design Guide</li> </ol>

The Help and Information menu item displays the CONE version , contact details and provides a link to the www.conesoftware.com web site.

The **Where is my USER folder** topic when selected displays the path to the user folder on your hard disk used by CONE to store various User created data

Your User folder is located here	X
C:\Users\peter\AppData\Roaming	
ОК	Cancel

The four numbered links shown below open PDF versions of the Cone manuals:

- **1** Getting Started Manual
- 2. Signs and Symbols Manual
- 3. Standard Details TSAM Manual
- 4. Chapter 7 Sign Design Guide

When selected these will open up in Adobe Reader

# Modify Text or Data On Signs

Command: CMODSIGN Select a CONE sign or device: *select a CONE sign (on its edge)* 

This tool allows you to change the variable text on signs that have variable text.

The tool can also be used to change the quantity (for sign schedule purposes) of signs to be used at a location

Change the text as required; please note entering longer text will not update the width of the sign.

Select the **OK** button to update the sign, or Cancel to ignore any changes.

Cone10U	к
D Cone	Preferences
🛦 Sign S	Search/Browse/Insert
Sign /	Arrays 🕨
Sign &	& Leader Tools
🕤 Symb	pols
Scher	matic Diagrams
Misce	ellaneous Tools & Libraries
Mapp	ping Utilities
Road	way Tools
Road	Markings Tools
Chap	ter 7 Sign Design 🔹 🕨
Curve	e Tools
🌙 Devic	es Along a Curve
🔠 Sign S	Schedule
Help	and Information
MOD TXT Modi	ify Text or Data On Signs

/1	
Single traff for 300	io Iyds [

CONE 10: Modify Sta	ndard Sign or Device Data		X
User Data			
518 Single File Tra	ffic		
Qty		1	
User Size [optional]			
User 1 [optional]			
User 2 [optional]			
Variable Text			
There are 1 variable	text lines on this sign		
Variable Text 1	for 300yds		
Variable Text 2			
Variable Text 3			
Variable Text 4			
Variable Text 5			
Variable Text 6			
Variable Text 7			
Variable Text 8			
Variable Text 9			
Variable Text 10			
	OK Cancel		

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# CONE10UK

Temporary Traffic Management AT YOUR FINGERTIPS

Software for the Creation of Temporary Road Traffic Control Diagrams & Route Diversion Schemes

> CONE is solely developed and distributed by CADaptor Solutions The Heritage Exchange, Lindley, Huddersfield, HD3 3HR Tel: 01484 489339 Email: <u>info@conesoftware.com</u> Web: <u>www.conesoftware.com</u>