# **Carlson Survey Field to Finish for Trees**



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# **1 INTRODUCTION**

#### Tree Surveys

Tree surveys can be coded simply by using general Field-to-Finish coding methods such as defining a code for a tree ("OAK") with a tree symbol and using the SZ special code for sizing the symbol. For tree survey specific features, go to the Tree Survey button on the main edit codes dialog. This function brings up a dialog with tree survey settings.

# 2 Setup

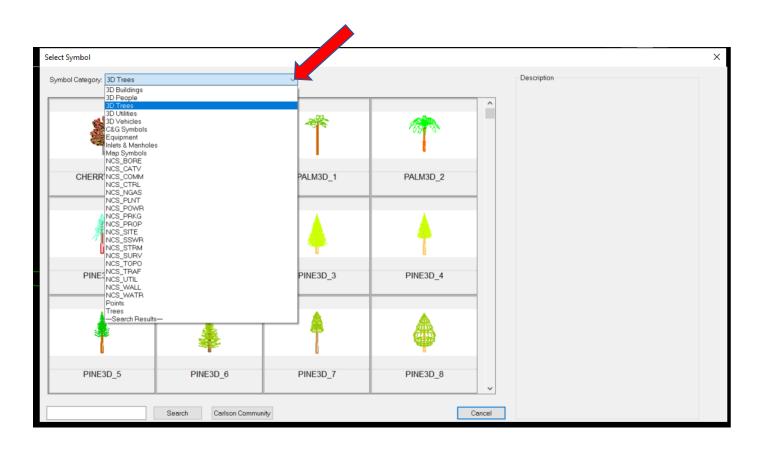
Tree symbols can either be 2D or 3D, to set 3D trees go to the **Code-Edit-Symbol** and in the **Set Symbol** button select the tree under the **3D Trees** category.

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SEWER		Edit	VGG	GREY GUM	PINE3D_6	BYLAYER	Points Only ~	VEGE	TATION	1
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WMS Integration



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Symbol Points				
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nd Symbol Name	PINE3D_6	Set Symbol		
nd Symbol Size Scaler	0.100 Unit Sy	mbol		
nd Symbol Layer	VEGETATION	Set		
Match 1st Symbol Ro	otation			
Match 1st Symbol Re	otation			





**Important:** The Tree Survey Settings apply to codes that are set to a Feature Type of Tree. To set the Feature Type, go to **Edit Codes** and then the **General** tab of the Edit Field Code Definition dialog.

Feld to Finish Edit Field Code Definition - [VBB] Field to Finish General Symbol Linetype Processing ON Category VEGETATION Processing ON Category VEGETATION Processing ON Category VEGETATION Code VBB Use Code Sequence Define Sequence Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Code VBB Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Edit Field Code Sequence Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype General Symbol Linetype Full Name Bottle Brush Description BOTTLE BRUSH Use Raw Description Both General Symbol Linetype General Symbol Linetype Busing Color By Layer General Symbol Linetype General Symbol Linetype Busing Color By Layer General Symbol Linetype Busing Color Busing Color.									
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Once this is done then the 'Feature Settings-**Tree Setup**' can apply.

Field to Finish						— U	×
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Categories	Field Code Defi	nitions					
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NAT	Edit VBBU	BLACK BUTT	TREE8A BY	LAYER	Points Only ~	VEGETATION	Bc
MIS ORIGINAL MARKS	Edit VBBX	BRUSH BOX	TREE8A BY	LAYER	Points Only ~	VEGETATION	Bc
PARK	Edit VBBY	BLACK BOY	TREE8A BY	LAYER	Points Only ~	VEGETATION	Bo
RAILWAY	Edit VBG	BLUE GUM	TREE8A BY	TREE8A BYLAYER		VEGETATION	Bo
SEWER	Edit VBL	BLACKWOOD	TREE8A BY	TREE8A BYLAYER Po		VEGETATION	Bo
STRUCT	Edit VBW	BLOOD WOOD	TREE8A BY			VEGETATION	Bc
WATERMAIN Edit VBX		BOX GUM	TREE8A BY			VEGETATION	Bo
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Save	Save As	Move Up	Move Down		E	vit	_



# **3 Tree Survey settings**

### **3.1 Tree Entity Options**

These options can be saved and loaded by using 'Save' and 'Load'

♦ Tree Survey Settings ×									
Tree Entity Options Input Values Layer Description Codes GIS Attributes Label									
Oraw Point Attribute Block         Draw Tree Table         Use Table Entity         Tree Trunk/Dripline Options         Draw Trunk Diameter       Circle ♥ Group With Symbol         Draw Treeline by Drip Radius in Scale       None ♥         Codes to Skip Treeline       Image: Symbol Options         ● Draw Tree Symbol for Drip Radius in Scale       Oraw Tree Symbol for Drip Radius by Factor         ● Draw Tree Symbol for Drip Radius by Factor       Oraw Tree Symbol by Factor of Trunk Diameter         ● Draw Tree Symbol by Factor of Trunk Diameter       Oraw Same Size Tree Symbol         Size Factor       1.00									
OK Cancel Load Save Help									

**Draw Point Attribute Block**: controls whether to draw the point block with the point *#*, elevation and description attributes.

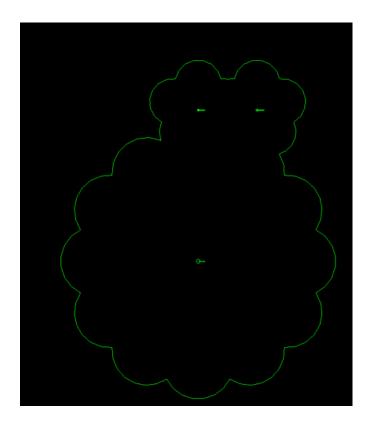
**Draw Tree Table:** This option makes the program prompt for whether to draw a tree table when the program finds a couple of points with tree codes. Otherwise, there must be many tree codes to have the program prompt for creating a tree table. The **Use Table Entity** option draws the table as a Carlson Table Entity. Otherwise, the table is drawn with regular CAD lines and text.

**Draw Trunk Diameter**: Sets whether to create a circle or solid with the trunk diameter, the diameter can be either in cm or meters (this needs to be set in the **Input Values**).

**Group With Symbol:** Option creates a CAD group to combine the tree and trunk symbols.

**Draw Treeline by Drip Radius in Scale**: Shrinkwraps the tree driplines to get the overall treeline perimeter. The perimeter polyline can be drawn either as Bubbles or Smooth. The Bubbles creates a treeline style polyline with a series of arcs. The Smooth creates a regular polyline. This is used for overlapping drip lines and **Symbol Options** should be set to `none'.





**Codes to Skip Treeline:** Allows you to skip specific Field-to-Finish codes from using with the treeline. If you have more than a single code to skip, use either a space or comma to separate the codes.

**Draw Tree Symbol for Drip Radius in Scale**: draws individual symbols for each tree using the symbols defined in the code table and scaled by the drip size attribute. **Draw Tree Symbol for Drip Radius by Factor:** draws individual symbols for each tree using the symbols defined in the code table and scaled by the drip size attribute and the **Size Factor** from this dialog.

**Draw Tree Symbol with Code Symbol Size:** draws individual symbols for each tree using the symbol name and size defined in the code table.

**Draw Tree Symbol by Factor of Trunk Diameter**: draws individual symbols for each tree using the symbols defined in the code table and scaled by the trunk size attribute multiplied by 12. For example, a 10cm trunk size is drawn as a 10m symbol. **Draw Same Size Tree Symbol**: draws individual symbols for each tree using the symbols defined in the code table and at size of 6.

None: simply does not draw a tree symbol.

### **3.2 Input Values**

**Default Tree ID to Point ID:** This option uses the point number for the tree tag, unless the point description contains a tree tag.

**Begin Tree ID From:** This is greyed out unless the above is un-ticked, this is the number to start incrementing tree tags from in case the tree coding is missing tags and you want to assign tags for reporting.

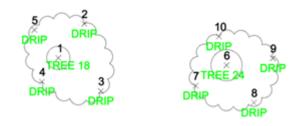
**Trunk Units:** Both cm or meters can be used, when using meters, the 0 can be omitted to save time in the field e.g .5 can be used instead of 0.5



**Input Trunk Value:** Controls whether the trunk size is entered as a radius or diameter.

**Input Drip Value**: Controls whether the canopy drip size is entered as a radius or diameter.

**Canopy Companion Code:** This tree coding method handles a point at the trunk and then a series of 3 or more points for the canopy. The point description coding uses separate codes for the trunk and the canopy points. The program draws a Bezier smooth polyline thru the points for the canopy. In this example, points 1 and 6 have the tree feature code from the Field-to-Finish code table, and the rest of the points have the Canopy Companion Code.



Tree Entity Options Input Values Layer Description Codes GIS Attributes Label   Perfault Tree ID to Point ID Begin Tree ID from Frunk Units Input Trunk Value Diameter Input Drip Value Radius Canopy Companion Code DRIP
Begin Tree ID from 500   Trunk Units cm   Input Trunk Value Diameter   Input Drip Value Radius
Trunk Units     cm       Input Trunk Value     Diameter       Input Drip Value     Radius
Input Trunk Value Diameter  Input Drip Value Radius
Input Drip Value Radius -
Canopy Companion Code DRIP
OK Cancel Load Save Help



### 3.3 Layer

On the **Layer** dialog tab, there are optional layer names for different types of tree entities to append either as a prefix or suffix to the layer from the code table.

le Tree Survey Setti	ngs					$\times$
Tree Entity Options	Input Values	Layer	Description Codes	GIS Attributes	Label	
Table Layer Prefix/Suffix Type Prefix Suffix	TREE_TABLE	]				
Label Layer	Veg	]				
Tree Trunk Layer	Trunk	]				
Tree Drip Layer	Drip	]				
OK Cance	el Load	Save	Help			

## **3.4 Description Codes**

On the **Description Codes** tab, there are setting to help identify the tree attributes in the point description. The program looks for the trunk size, drip size, tag ID and height in the point description after the tree code. By default (if left blank), the program expects the attributes to be in the order of trunk size, drip size, tag ID and height. Here's an example default order:

#### OAK 16 12 100 28

where OAK is the tree code for an Oak tree from the code table, 16 is the trunk diameter in cm, 12 is the drip radius in meters, 100 is the tag ID and height is 28 in meters.



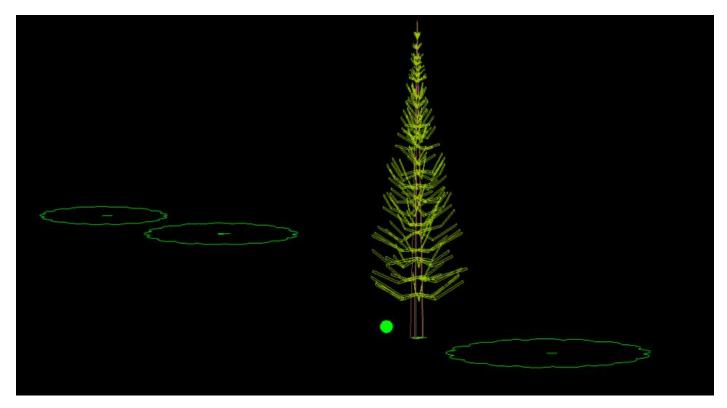
If the attributes are in a different order, then the suffix/prefix settings can be used to identify the attributes. When the program finds a specified prefix or suffix, that tells the program which attribute to use. For example, if the Trunk Suffix is "cm" (if cm has been selected under Input Values), the Drip Suffix is "m", the Tag Prefix is "T" and the tree height Suffix is "Z" then

OAK T100 16cm 12m 25Z

means an Oak tree with a tag ID of 100, trunk diameter 16cm, drip radius 12m and height of 25m.



If a 3D tree is used as the symbol, then the height of the tree symbol will be determined by the Z value.



#### **3.5 GIS Attributes**

In addition to looking for the tree attributes in the point description, the program can also read these attributes from GIS fields. On the **GIS Attributes** dialog tab, you can set the GIS field names for the tree attributes.



left Tree Survey Settings	$\times$
Tree Entity Options Input Values Layer Description Codes GIS Attributes Label	
Tree Trunk TRUNK Tree Drip DRIP Tree Height HEIGHT Tree Tag TAG	
OK Cancel Load Save Help	

## 3.6 Label

On the **Label** tab, there are settings for the tree text labels for the size, offset from trunk center, style and location. When creating a tree table, only the tag text is labeled. Otherwise, the label is drawn. These options are set under **Table/Label Description Setup** (3.6.1)

**Offset By Tree Symbol Size:** Moves the labels beyond the tree symbol to avoid overlap between the labels and the symbol.

**Label Location (Default: TL):** There are 9 choices of where to place the label. **Tag location (Default BL):** There are 9 choices of where to place the tag.

**Trunk Inch Fraction:** Sets the inch precision to use for the trunk size labels. This should be set to off for the metric system.

**Output Trunk Value:** Sets whether to label the trunk size as a radius or diameter. **Output Drip Value:** Sets whether to label the canopy size as a radius or diameter. **Update Point Description:** Sets whether to only use the label setup for the table and not the point description.



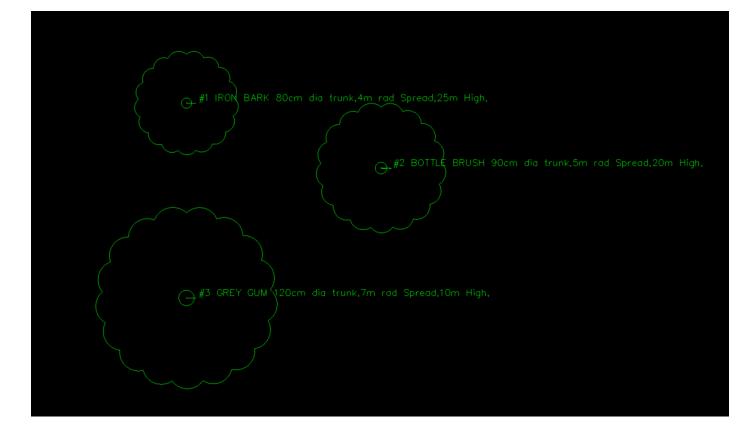
Tree Survey Settings		×
Tree Entity Options In	out Values Layer Description Codes GIS Attributes Label	
Text Size Scaler Text Offset Scaler Text Style Label Location (Default TL) Tag Location (Default BL) Trunk Inch Fraction	0.500 1.000 Offset By Tree Symbol Size STANDARD Select TR MC	
Output Trunk Value Output Drip Value	Off  Diameter Radius	
Table/Label Desc	ription Setup	
OK Cancel	Load Save Help	

## 3.6.1Table/Label Description Setup

The **Table/Label Description Setup** dialog sets which fields to include in the label or table. For each field, there are settings for the field order, prefix, suffix and decimals. The New Row option allows for drawing labels on separate rows. The Header and Width settings are for the tree table. The **Only Label Tag ID With Table** option controls whether to draw the tree tag when not creating a tree table.



♦ Label Settings ×											
Order	Order Field New Row Prefix Suffix Header Width Decimals										
3 👻	Trunk Size			cm dia trunl		20					
None 💌	Comments					20					
2 -	Code Description					20					
4 👻	Drip Size			m rad Spre		20	0 🗸				
5 -	Height			m High,		20	0 -				
	Tag ID		#			20					
None 💌	Elevation					20	0.00 🔻				
	el Tag ID With Table					20	0.00				
Default Order:											
1. Trunk Size											
2. Comments											
3. Code Des	scription										
OK	Cancel	Help									



**NOTE:** Once **Field to Finish** has been completed then **Update CRD File from Drawing** will create problems as the codes will be changed to the descriptions.