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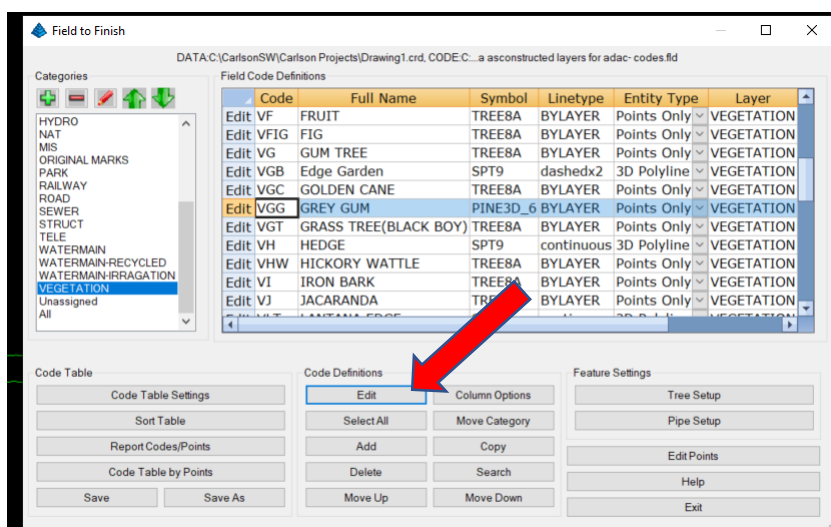
1 INTRODUCTION

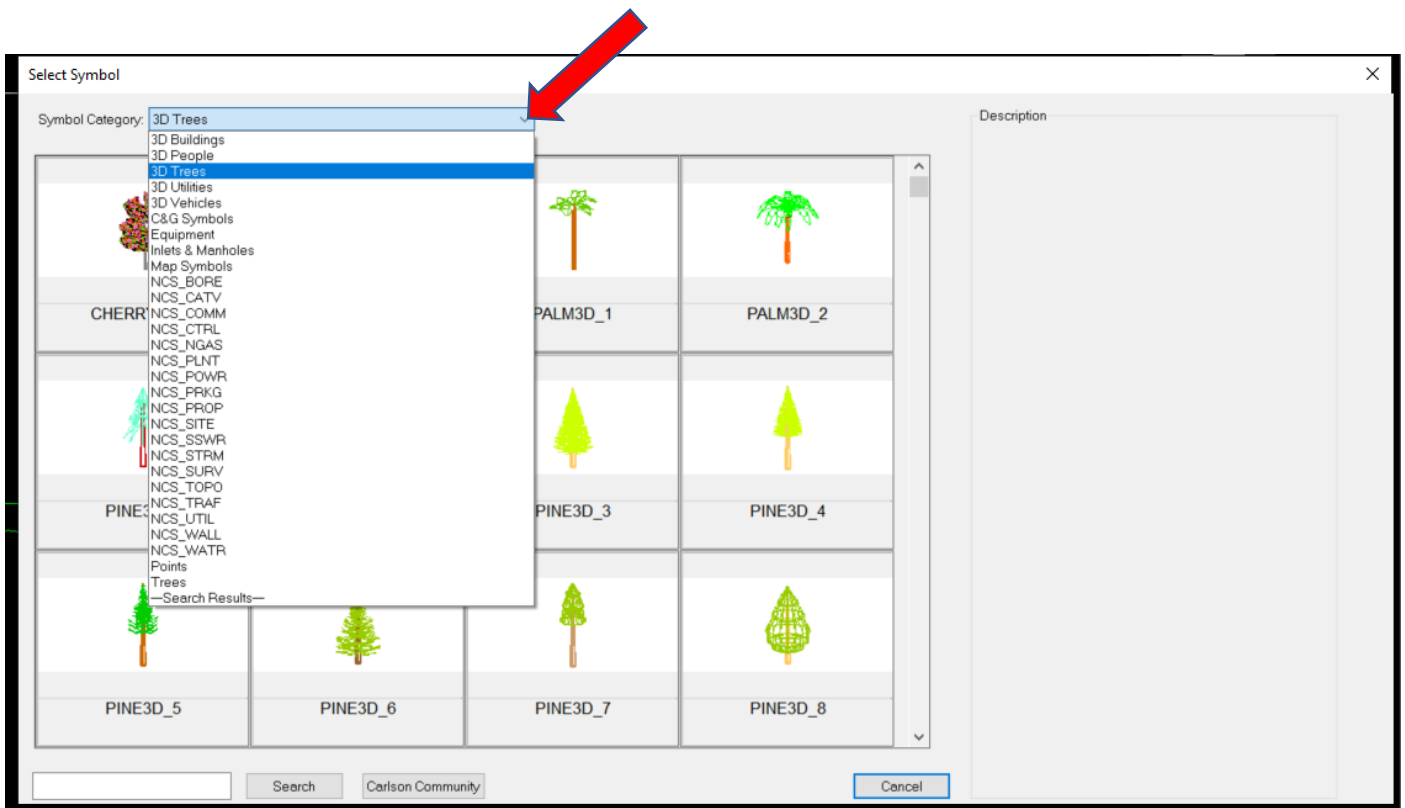
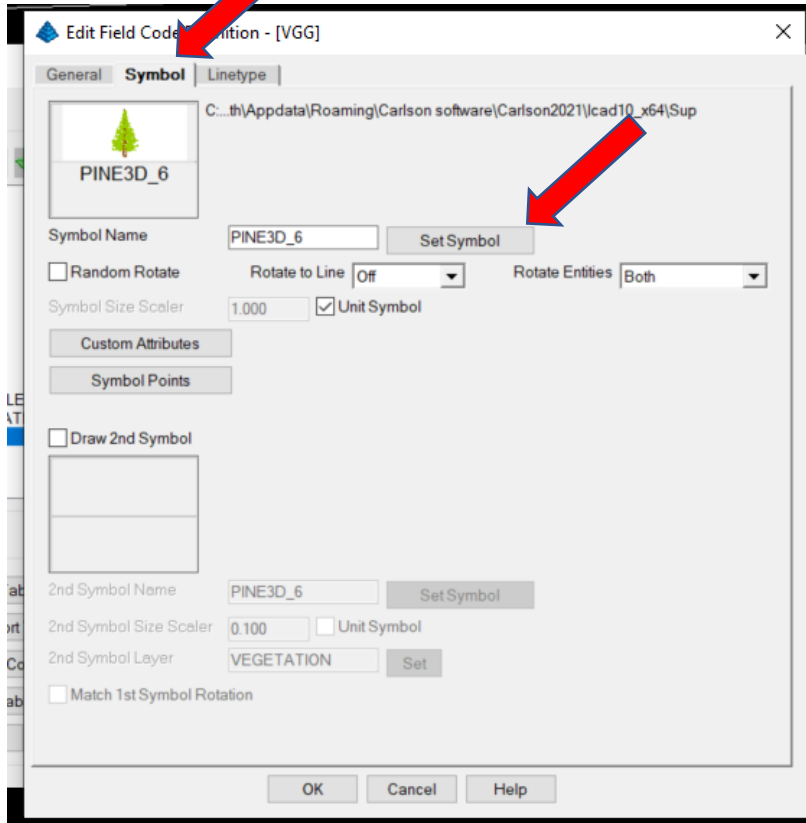
Tree Surveys

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.

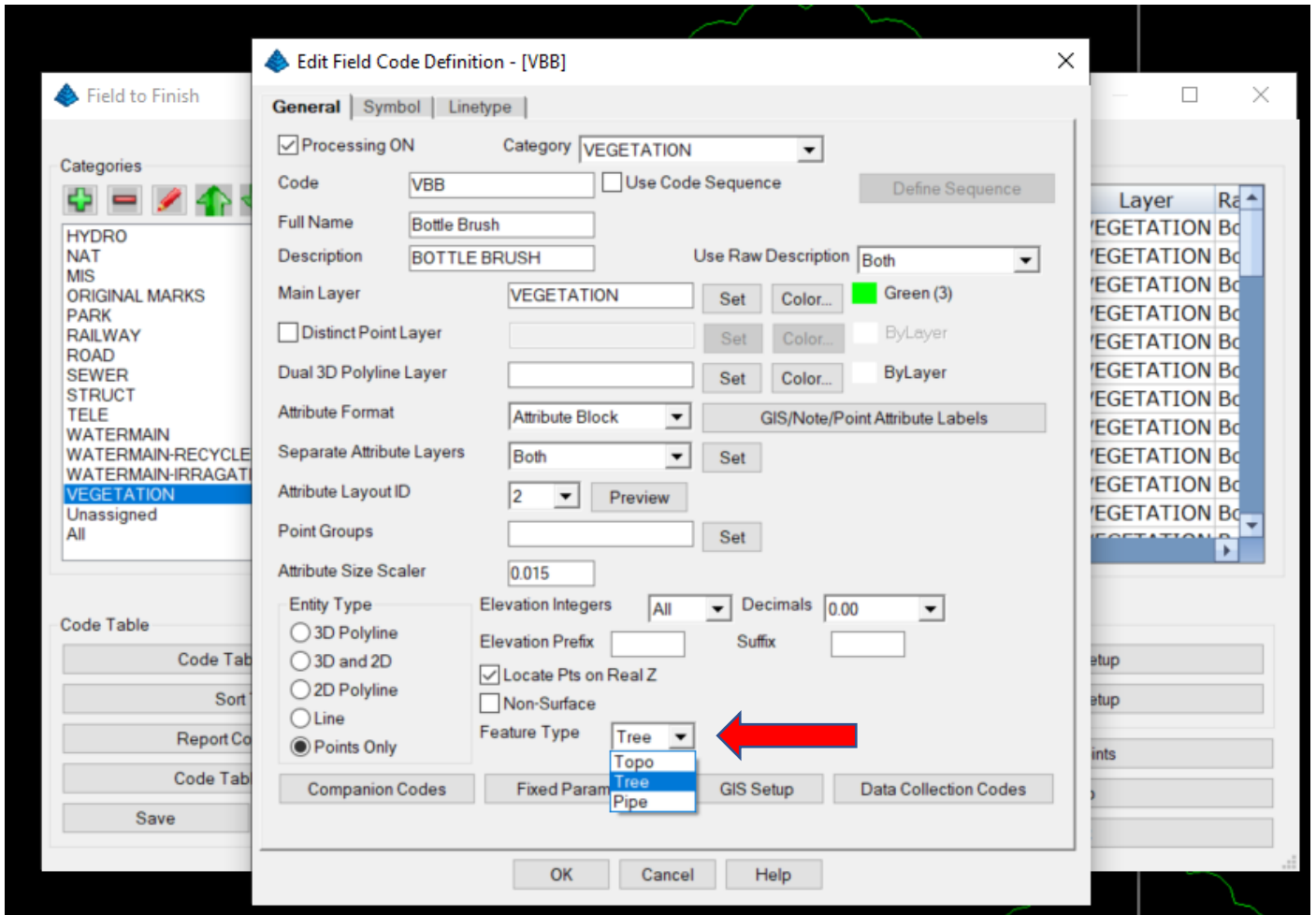
2 Setup

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.

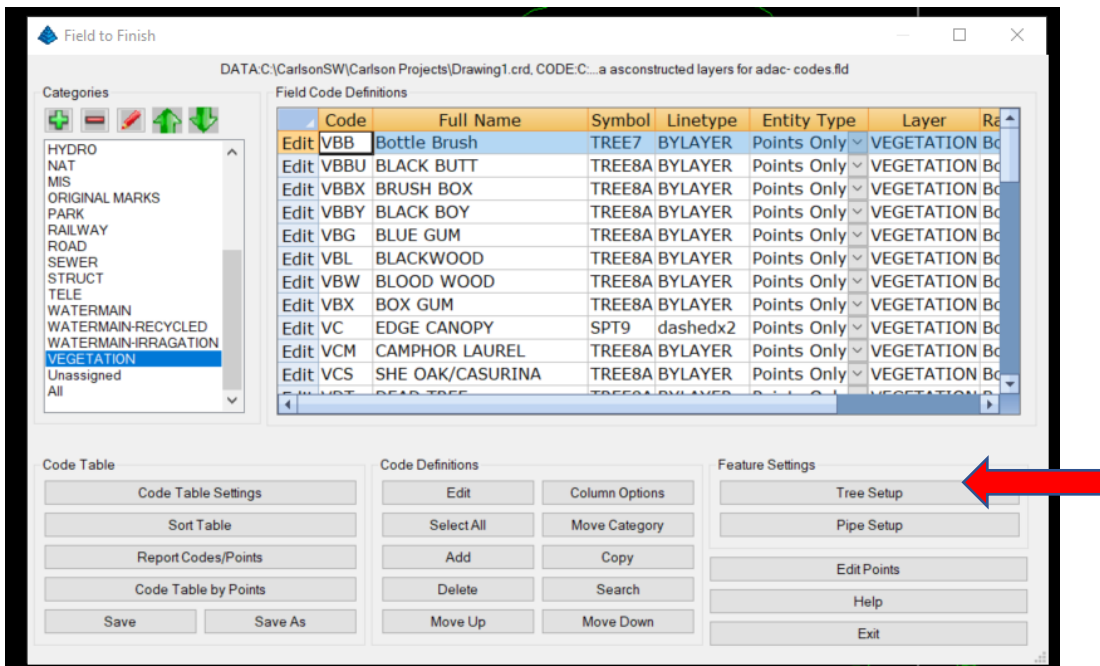




Important: The Tree Survey Settings apply to codes that are set to a Feature Type of Tree. To set the Feature Type, go to **Edit Codes** and then the **General** tab of the Edit Field Code Definition dialog.



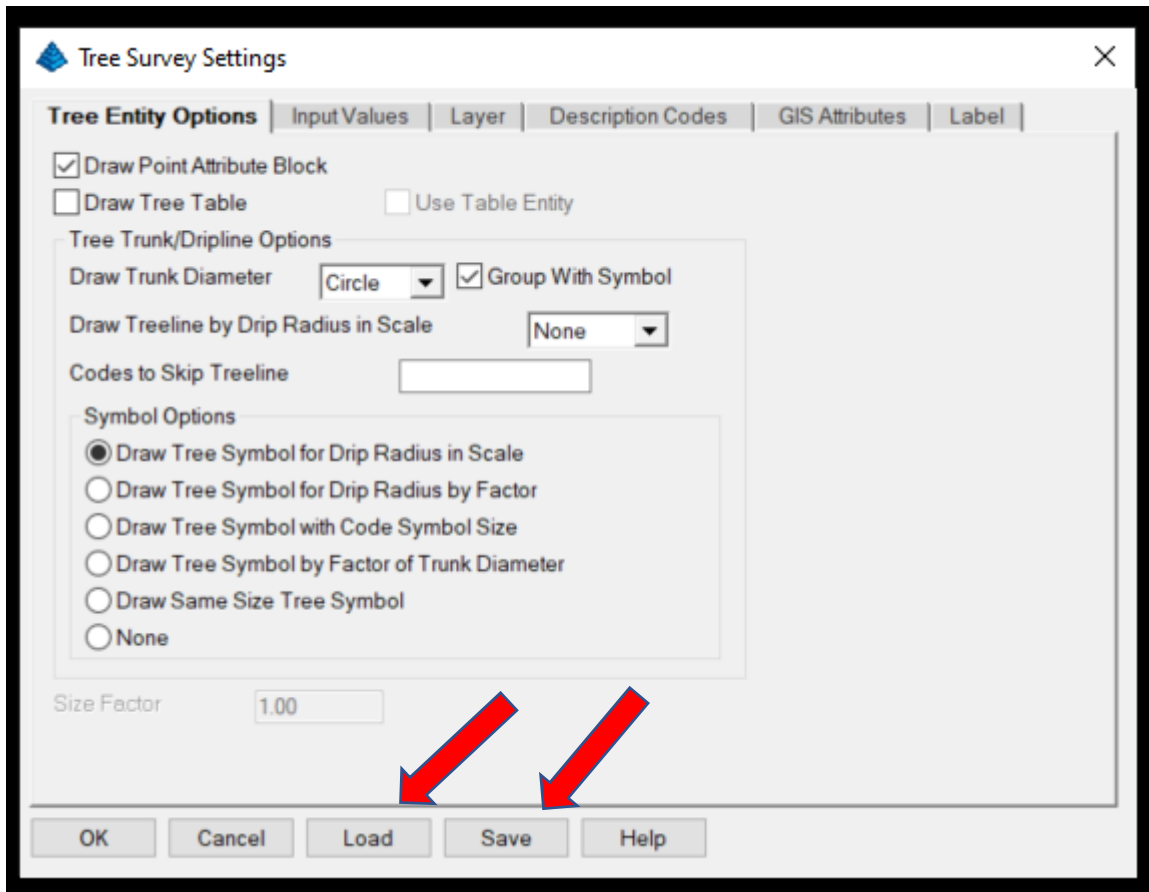
Once this is done then the 'Feature Settings-**Tree Setup**' can apply.



3 Tree Survey settings

3.1 Tree Entity Options

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



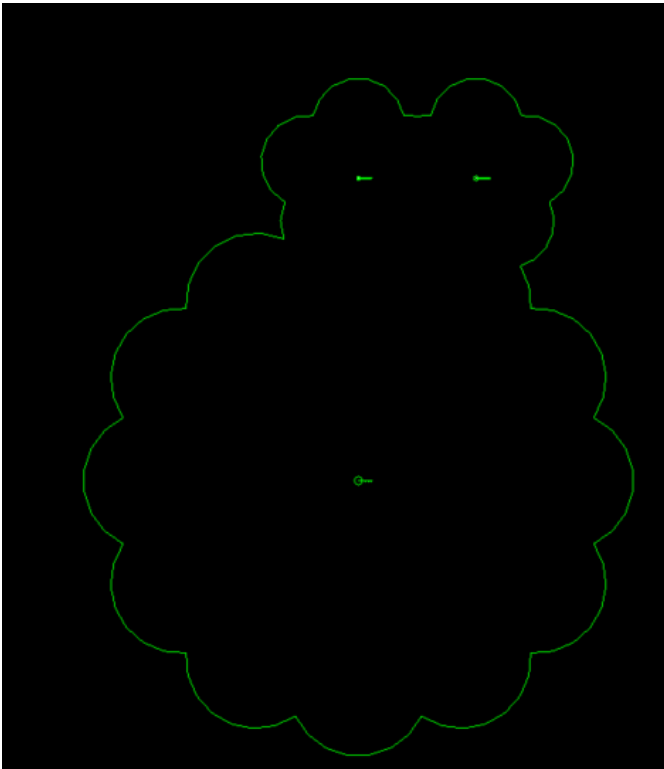
Draw Point Attribute Block: controls whether to draw the point block with the point #, elevation and description attributes.

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.

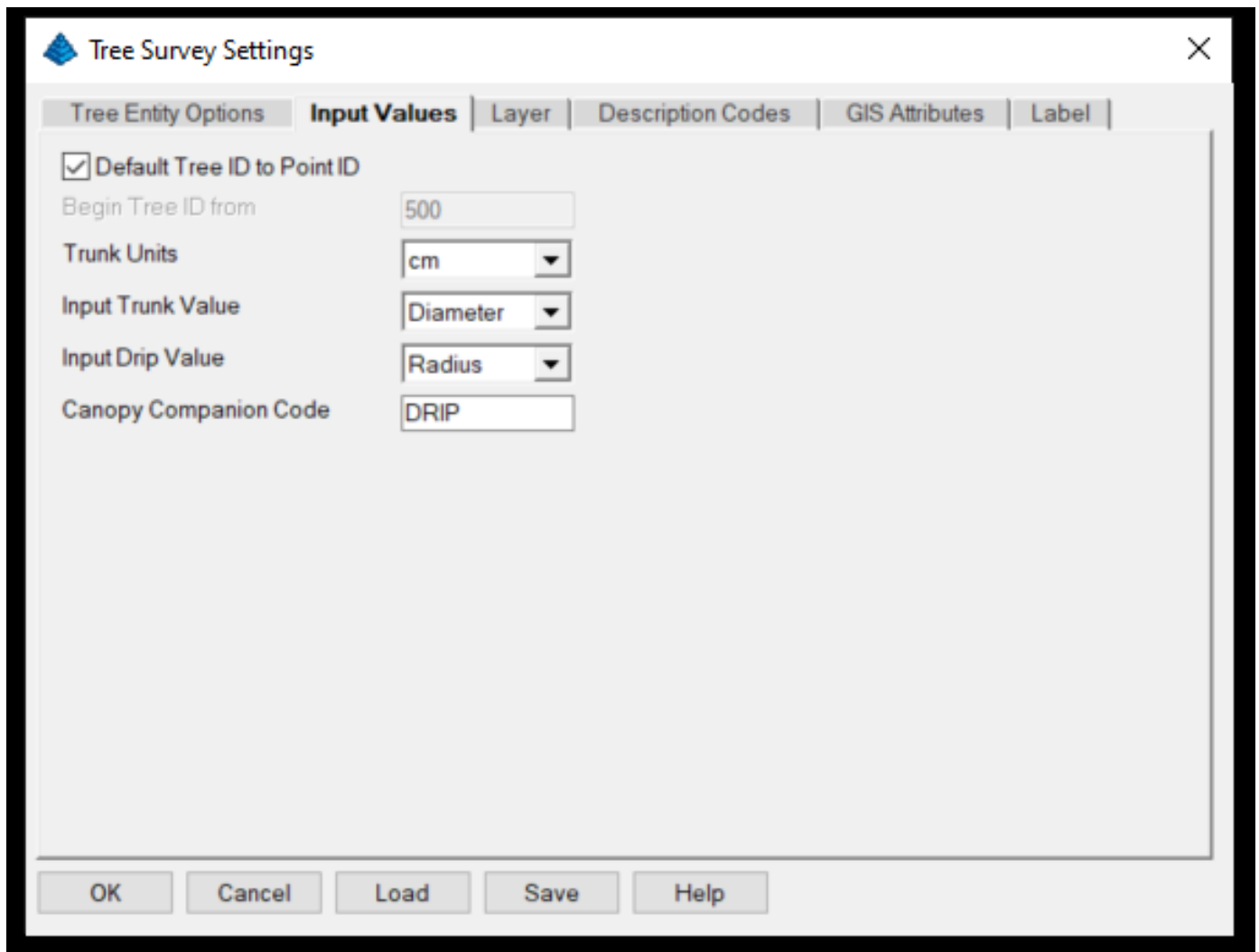
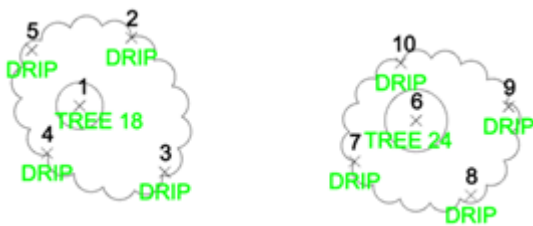
Begin Tree ID From: This is greyed out unless the above is un-ticked, this is the number to start incrementing tree tags from in case the tree coding is missing tags and you want to assign tags for reporting.

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.

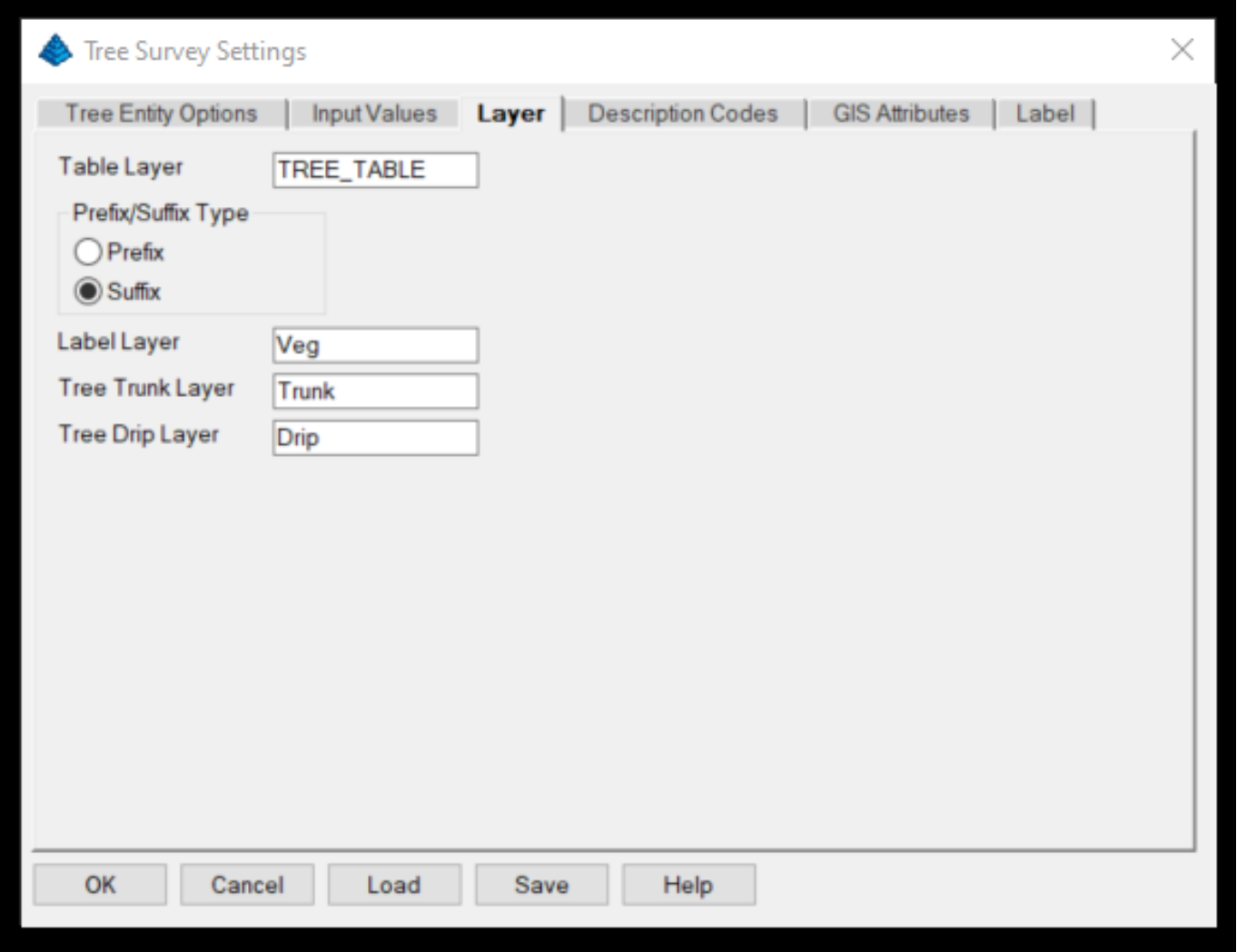
Input Drip Value: Controls whether the canopy drip size is entered as a radius or diameter.

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.



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.



The screenshot shows the 'Tree Survey Settings' dialog box with the 'Layer' tab selected. The dialog has a title bar with a close button (X) and a tabbed interface with the following tabs: 'Tree Entity Options', 'Input Values', 'Layer', 'Description Codes', 'GIS Attributes', and 'Label'. The 'Layer' tab contains the following fields and options:

- Table Layer:** A text box containing 'TREE_TABLE'.
- Prefix/Suffix Type:** A group box containing two radio buttons: 'Prefix' (unselected) and 'Suffix' (selected).
- Label Layer:** A text box containing 'Veg'.
- Tree Trunk Layer:** A text box containing 'Trunk'.
- Tree Drip Layer:** A text box containing 'Drip'.

At the bottom of the dialog are five buttons: 'OK', 'Cancel', 'Load', 'Save', and 'Help'.

3.4 Description Codes

On the **Description Codes** tab, there are settings 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:

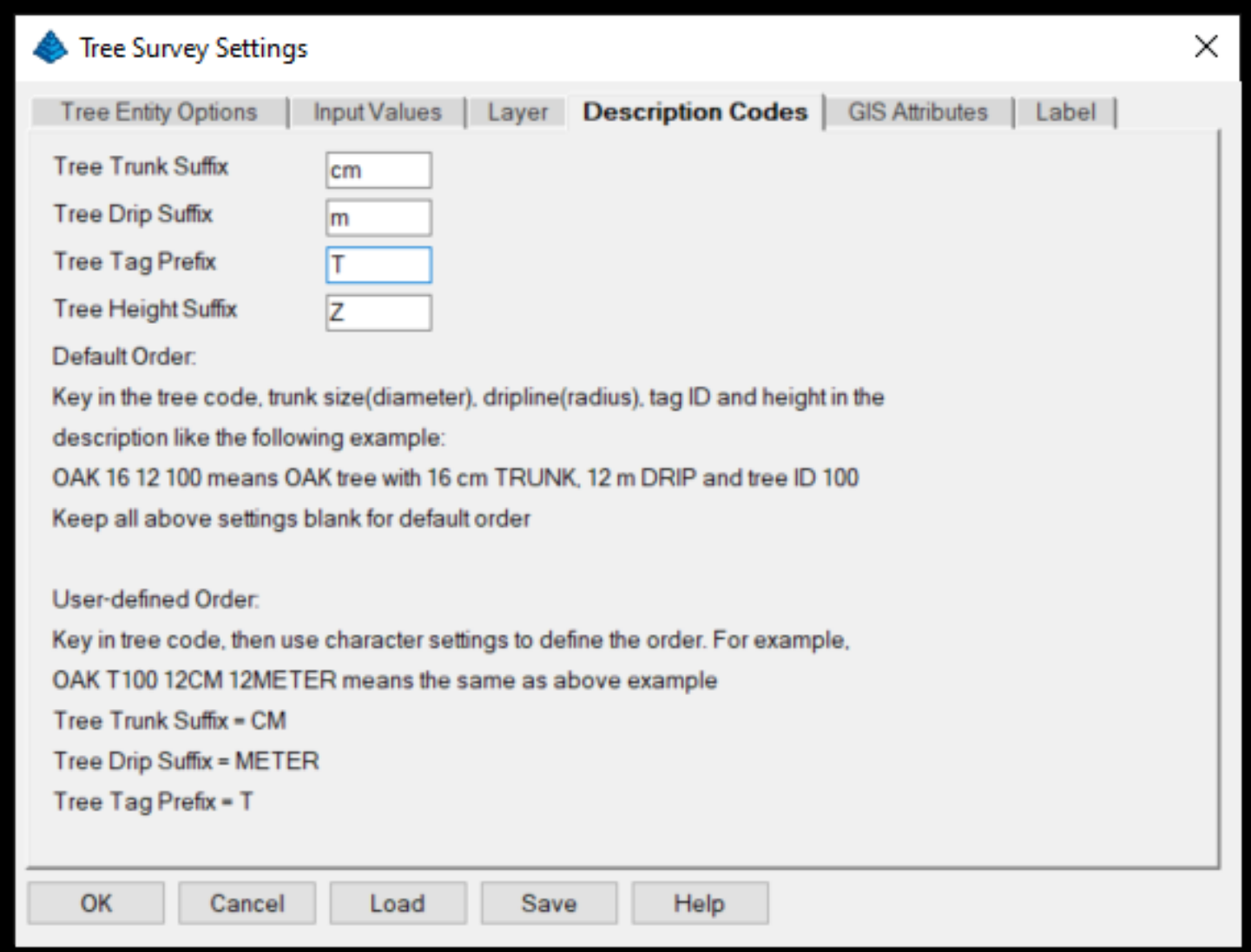
OAK 16 12 100 28

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.



Tree Survey Settings

Tree Entity Options | Input Values | Layer | **Description Codes** | GIS Attributes | Label

Tree Trunk Suffix:

Tree Drip Suffix:

Tree Tag Prefix:

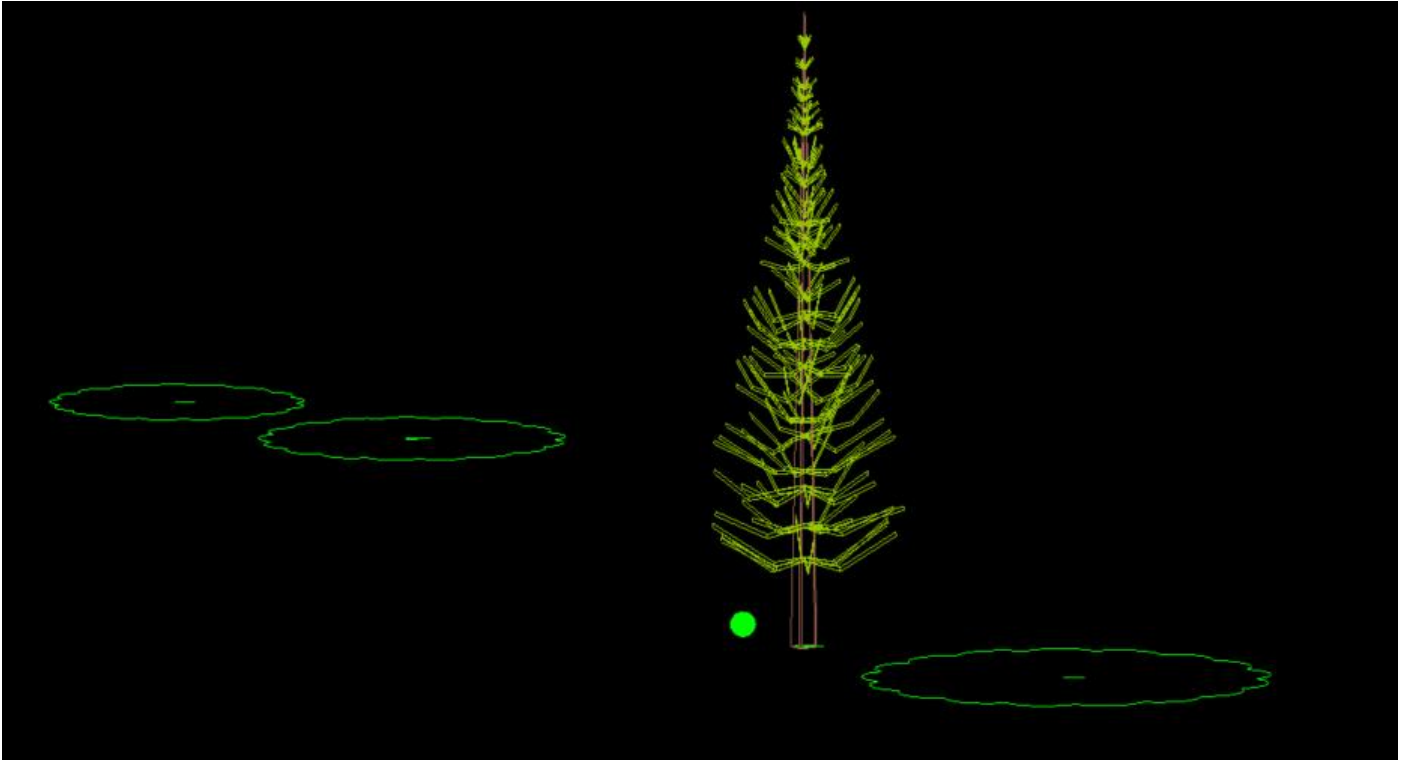
Tree Height Suffix:

Default Order:
Key in the tree code, trunk size(diameter), dripline(radius), tag ID and height in the description like the following example:
OAK 16 12 100 means OAK tree with 16 cm TRUNK, 12 m DRIP and tree ID 100
Keep all above settings blank for default order

User-defined Order:
Key in tree code, then use character settings to define the order. For example,
OAK T100 12CM 12METER means the same as above example
Tree Trunk Suffix = CM
Tree Drip Suffix = METER
Tree Tag Prefix = T

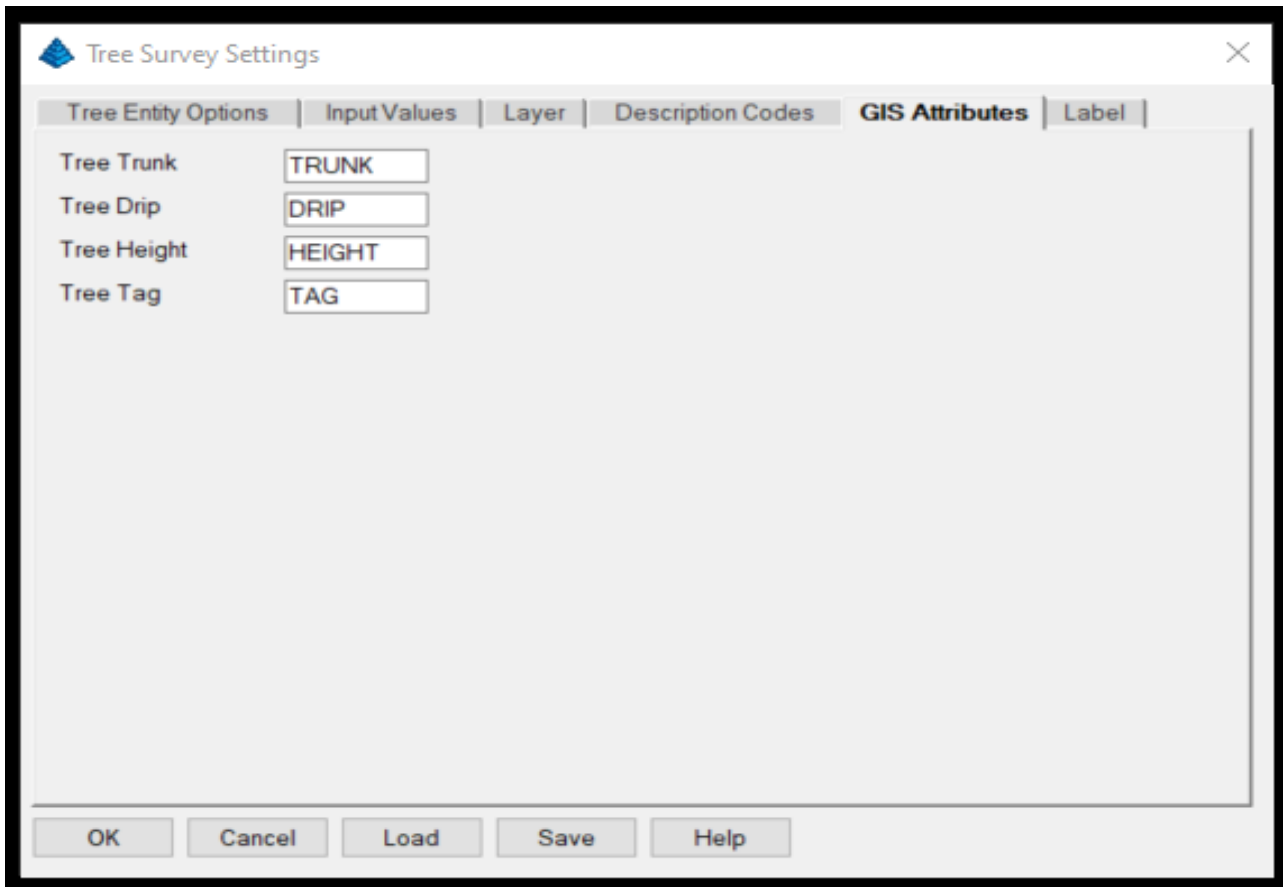
OK Cancel Load Save Help

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.



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.

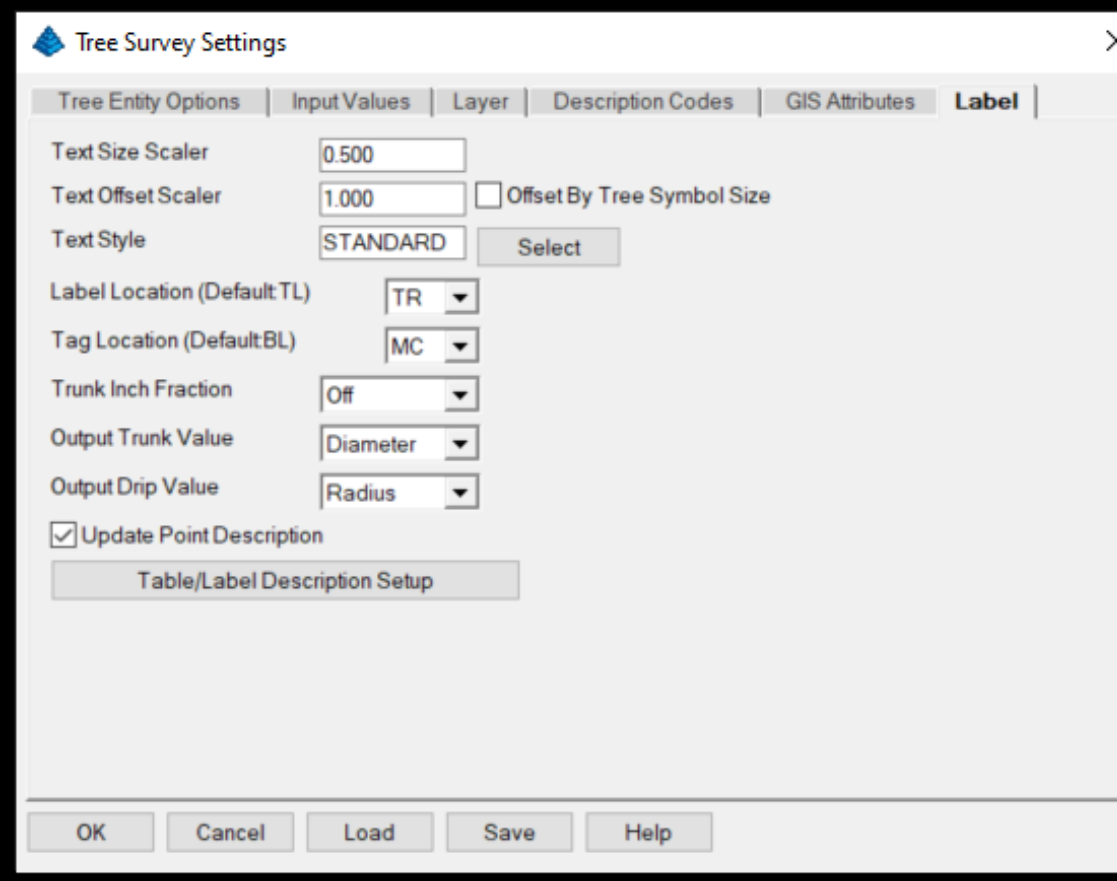
Tag location (Default BL): There are 9 choices of where to place the tag.

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.



The screenshot shows the 'Tree Survey Settings' dialog box with the 'Label' tab selected. The dialog has a title bar with a close button (X) and a tabbed interface with the following tabs: 'Tree Entity Options', 'Input Values', 'Layer', 'Description Codes', 'GIS Attributes', and 'Label'. The 'Label' tab contains the following settings:

- Text Size Scaler: 0.500
- Text Offset Scaler: 1.000 Offset By Tree Symbol Size
- Text Style: STANDARD
- Label Location (Default TL): TR
- Tag Location (Default BL): MC
- Trunk Inch Fraction: Off
- Output Trunk Value: Diameter
- Output Drip Value: Radius
- Update Point Description
-

At the bottom of the dialog are buttons for OK, Cancel, Load, Save, and Help.

3.6.1 Table/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.

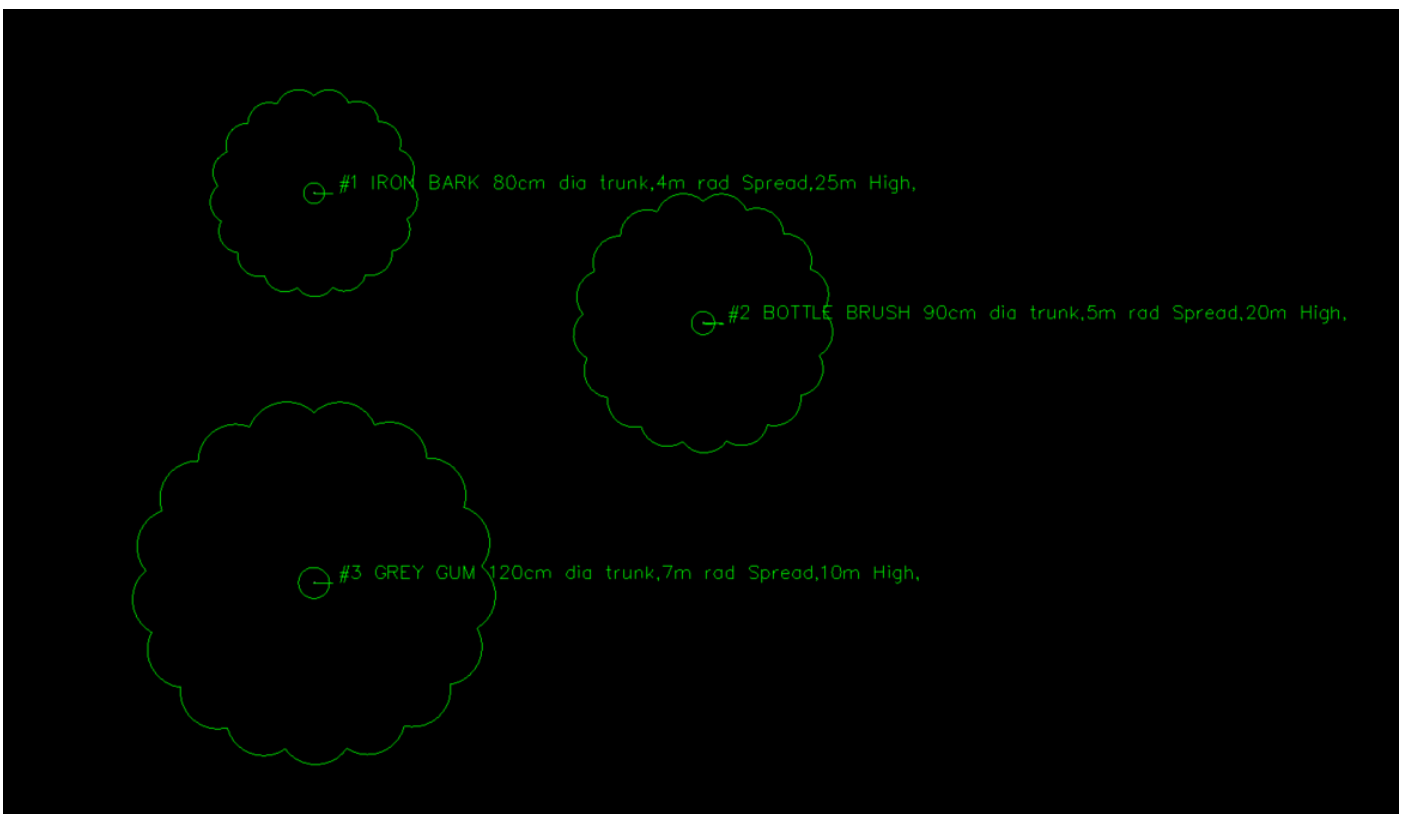
Label Settings ✕

| Order | Field | New Row | Prefix | Suffix | Header | Width | Decimals |
|-------|------------------|--------------------------|--------|--------------|--------|-------|----------|
| 3 | Trunk Size | <input type="checkbox"/> | | cm dia trunk | | 20 | |
| None | Comments | <input type="checkbox"/> | | | | 20 | |
| 2 | Code Description | <input type="checkbox"/> | | | | 20 | |
| 4 | Drip Size | <input type="checkbox"/> | | m rad Spre | | 20 | 0 |
| 5 | Height | <input type="checkbox"/> | | m High. | | 20 | 0 |
| 1 | Tag ID | <input type="checkbox"/> | # | | | 20 | |
| None | Elevation | <input type="checkbox"/> | | | | 20 | 0.00 |

Only Label Tag ID With Table

Default Order:

1. Trunk Size
2. Comments
3. Code Description



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.