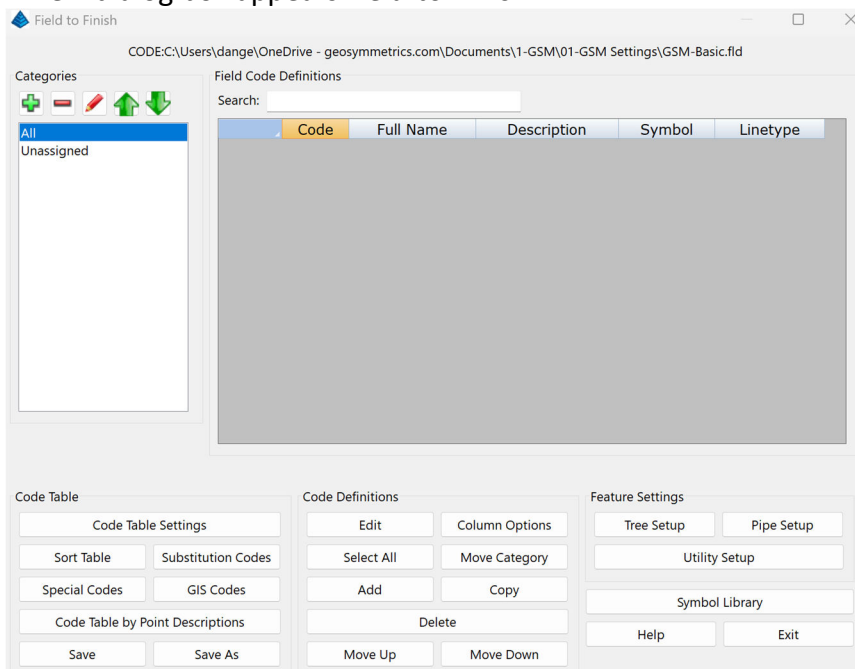


## Field-to-Finish Part 2: Linework

Carlson's "Field to Finish" feature significantly increases efficiency in land surveying by automatically generating a complete drawing from raw data collected in the field, essentially eliminating the need for manual drafting by automatically placing lines, symbols, and annotations based on pre-defined field description codes, resulting in faster plan creation and reduced errors while maintaining consistency across projects within a company.

### Workflow Steps

1. Open a new or existing in Carlson Survey.
2. Navigate to Survey Tab, Edit Field-to-Finish codes. A dialog box titled *Code Table* appears
3. Determine directory and path for a new file name for the new .fld file, then click "Open". Note: This .fld file can be used on the current drawing, new drawings, or existing drawings and is not linked to a particular project.
4. A new dialog box appears *Field-to-Finish*



5. Under Code definitions (bottom center of dialog box) choose the *Add* button and a new dialog box appears titled *Edit Field Code Definition*. This dialog box allows for customization of each code.

Within the General tab, to add a code the following elements are required:

- a. Code (the description code used in the field)
- b. Full Name (complete name of the code)

- c. Main Layer (this is the CAD layer associated with this specific code)
  - d. Entity Type (one type will always be selected)
- The example used in this Quick Reference Guide is as follows
- e. Code: TBC
  - f. Full Name: Top Back of Curb
  - g. Main Layer: V-TBC
  - h. Entity Type: 3D Polyline
- All other elements were left in a default position. With additional use and knowledge more customization may be implemented.

The screenshot shows the 'Edit Field Code Definition' dialog box with the 'General' tab selected. The settings are as follows:

- Processing ON:** ☒
- Category:** Unassigned (dropdown)
- Code:** TBC (text field)
  - ☐ Use Code Sequence
  - Define Sequence (button)
- Full Name:** TOP BACK OF CURB (text field)
- Description:** (empty text field)
  - Use Raw Description: Off (dropdown)
- Main Layer:** V-TBC (text field)
  - Set (button)
  - Color... (button)
  - ByLayer (checkbox)
- Distinct Point Layer:** ☐
  - Set (button)
  - Color... (button)
  - ByLayer (checkbox)
- Dual 3D Polyline Layer:** (empty text field)
  - Set (button)
  - Color... (button)
  - ByLayer (checkbox)
- Attribute Format:** Attribute Block (dropdown)
  - GIS/Note/Point Attribute Labels (button)
- Separate Attribute Layers:** None (dropdown)
  - Set (button)
- Attribute Layout ID:** 1 (dropdown)
  - Preview (button)
- Point Groups:** (empty text field)
  - Set (button)
- Attribute Size Scaler:** 0.100 (text field)
  - ☒ Allow Annotative
- Entity Type:**
  - ☒ 3D Polyline
  - ☐ 3D and 2D
  - ☐ 2D Polyline
  - ☐ Line
  - ☐ Points Only
- Elevation Integers:** All (dropdown)
- Decimals:** 0.00 (dropdown)
- Elevation Prefix:** (empty text field)
- Suffix:** (empty text field)
- ☒ Locate Pts on Real Z
- ☐ Non-Surface
- Feature Type:** Topo (dropdown)

At the bottom of the dialog are four buttons: Companion Codes, Fixed Parameters, GIS Setup, and Data Collection Codes.

6. Navigate to the *Symbol* tab and ensure that no symbol has been selected. If a default symbol appears delete the Symbol Name and press Enter which will remove all references to a symbol for this code. As shown:

The 'Edit Field Code Definition' dialog box is shown with the 'Symbol' tab selected. It contains a 'Symbol Name' field with a 'Set Symbol' button. Below this are checkboxes for 'Random Rotate' and 'Unit Symbol', a 'Rotate to Line' dropdown set to 'Off', a 'Set Rotation' field, and a 'Rotate Entities' dropdown set to 'Both'. There is also a 'Symbol Size Scaler' set to '0.100'. At the bottom are buttons for 'Custom Attributes' and 'Symbol Points'.

- The *Linetype* tab contains additional customization specific to how the data was collected in the field. For example, linework being drawn based on numerical sequence or location in proximity to other points to be considered sequential or nearest found respectively. It also allows for control of each polyline whether it be closed or remains open.

The 'Linetype' tab settings are shown, featuring a 'Connection Order' dropdown set to 'Sequential' and a 'Tie' dropdown set to 'Open'.

- Repeat steps 5 through 7 to create other Field Codes, such as sidewalk, flowline, break lines, lip of curb, fence lines, etc.
- Click OK and Save then Exit
- Once a few desired field codes have been created navigate to the Survey tab and select Draw Field to Finish. This requires a drawing with points in an associated coordinate file. The execution of this command in this example will draw the selected linework associated with every point with the description of TBC.

The 'Field to Finish' dialog box is shown. It displays a list of field codes in a table. The 'Categories' list on the left includes 'All' and 'Unassigned'. The 'Field Code Definitions' section contains a search bar and a table of codes. The bottom section contains buttons for 'Code Table', 'Code Definitions', and 'Feature Settings'.

	Code	Full Name	Description	Symbol	Linetype
Edit	BKL	Breakline	Breakline	SPT0	BYLAYER
Edit	FCL	Fence- Chain Link	Fence- Chain Link	SPT0	Circle4_C
Edit	TBC	Top Back of Curb	Top Back of Curb	SPT10	BYLAYER
Edit	TBS	Top Back Sidewalk	Top Back Sidewalk	SPT10	BYLAYER
Edit	EP	Edge of Pavement	Edge of Pavement	SPT10	BYLAYER
Edit	WALL	Wall	Wall	SPT10	BYLAYER
Edit	FL	Flowline	Flowline	SPT10	BYLAYER