



# NavView User Guide – 11 Waypoints

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# 11. WAYPOINTS

NavView uses several supporting files including waypoints, survey line, pipelines. This section covers the creation and editing of waypoints.

## 11.1 OVERVIEW

A waypoint is a location of interest available for display in 2D and 3D views and for tracking by a vehicle to monitor the vehicle’s spatial relationship with it. NavView maintains a local waypoints.xml file in the Local\Station\Working folder. Waypoints are also maintained in the NavView database used for distributed systems (see Network Services section).

If Rolls and Privileges are enabled, the following are what is allowed for each role:

Roles	Privileges
Not Logged In	Cannot add, load, import, edit or remove waypoints
User	Can add, load, import, edit waypoints but cannot remove waypoints
Online/Supervisor/Administrator	Can add, load, import, edit and remove waypoints

## 11.2 WAYPOINTS WINDOW

The Waypoints window is opened by clicking on the Waypoints button in the Files section of the Home Ribbon Tab (see Figure 11-1) or project Explorer view (see Figure 11-2). This window provides access to all waypoints for creating and editing (see Figure 11-3).

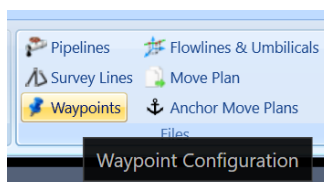


FIGURE 11-1 WAYPOINTS - HOME RIBBON TAB

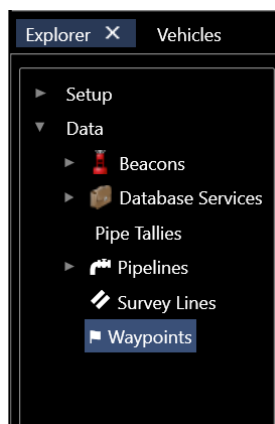


FIGURE 11-2 WAYPOINTS – EXPLORER VIEW

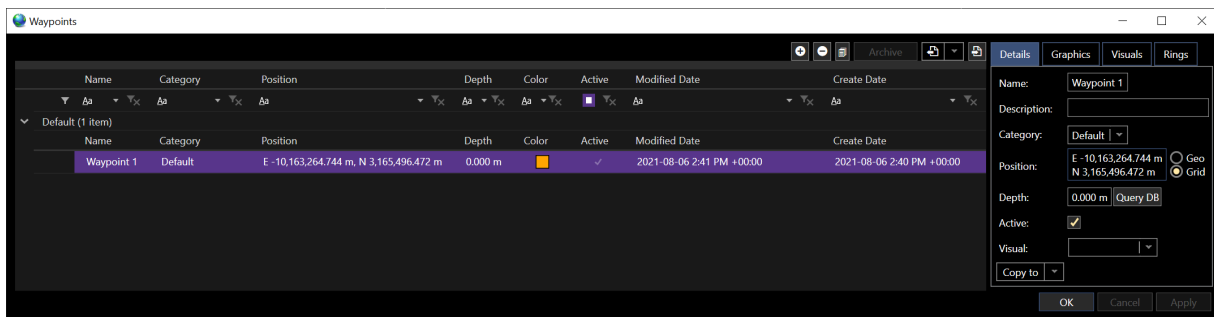


FIGURE 11-3 WAYPOINTS - CONFIGURATION WINDOW

The Waypoints configuration window consists of the following components:

a. **Waypoint List** (Data Grid)

All waypoints are listed in the data grid. The data grid provides an overview of the basic waypoint information: Name, Category, Position, Depth, Color, Active status, Modified Date, Created Date and Waypoint Dialog. The position is displayed in geographic or grid (based on the Coordinate Entry Format setting in Preferences, see Projects section). Note that if this setting is changed while this window is open, it must be closed and reopened to reflect the change.

b. **Toolbar**

The toolbar provides the means to manipulate the waypoints



Click to add a waypoint, this button is inactive if a point has been added or copied but not saved or discarded



Click to remove the selected waypoint, a prompt will appear asking for confirmation for deletion as the waypoint will be removed for all NavView systems on the network



Click to add copy of the selected waypoint and its attributes, this button is inactive if a point has been added or copied but not saved or discarded



Click to export the waypoints to a CSV file, either just the Basic information or Expanded



Click to launch the waypoint import process

**Note:** Waypoints can be sorted using the sorting tool in the data grid

c. **Waypoint Dialog**

This displays the details and visual data for the selected waypoint for review and editing (see **Error! Reference source not found.**)

## ■ Details Tab

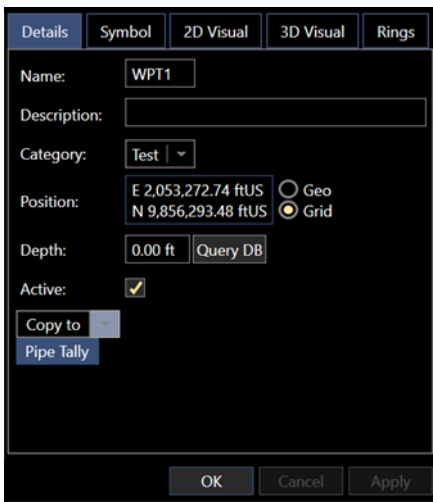


FIGURE 11-4 WAYPOINTS - DIALOG - DETAILS TAB

- **Name:** Name assigned to the waypoint
- **Description:** Description of Waypoint
- **Category:** Assign the way point to a category by creating a new category by entering a name in the box or select an existing category from the drop-down list
- **Position:** Position for the waypoint, can be displayed in geographic or grid, controlled by selecting the appropriate radio button to the right
- **Depth:** The depth of the waypoint (elevation would be a negative value)
- **Query DB:** If a DTM has been loaded, it can be queried for a depth at the waypoint location by clicking this button, it may take several second for the Depth to update with the result of the query, it is not necessary to wait for this before editing other settings
- **Active:** Check the box to make the waypoint active

**Note:** If a Waypoint is set to Not Active, it will not appear in any listings of Waypoints for selection, e.g., for a Guidance Calculation, nor display, e.g., in Map views. If an Active waypoint is in use for a Guidance Calculation, it cannot be set to Not Active until it is removed from the Guidance Calculation. If an attempt is made to do so, a message box will appear alerting the user to its use.

- **Copy To:** From the drop-down list select where to copy the waypoint coordinates, currently only Pipe Tally is available

■ **Symbol Tab**

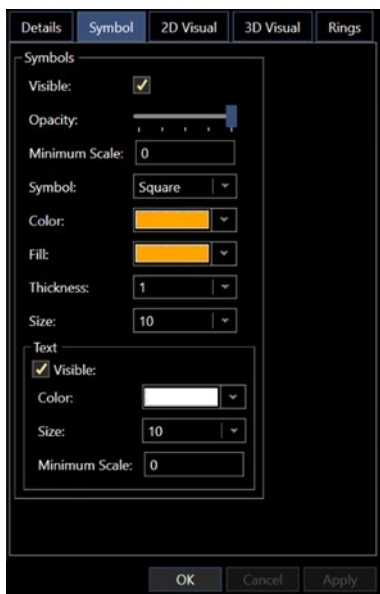


FIGURE 11-5 WAYPOINTS - WAYPOINT DIALOG - SYMBOL TAB

● **Symbols**

- **Visible:** Check the box to make waypoint symbol visible in map view
- **Opacity:** Adjust the opacity of the waypoint symbol using the slider
- **Minimum Scale:** Minimum scale the symbol will display in the Map view

**Note:** The Minimum Scale setting is based on the Map view scale as displayed in the Map views when the **Display scale bar option** is enabled (see Windows section). As the Map view is zoomed in, the scale increases, as it is zoomed out the scale decreases. The waypoint will display when the scale is greater than the Minimum Scale setting.

- **Symbol:** From the drop-down list select the waypoint symbol
- **Color:** From the drop-down list select the waypoint color
- **Fill:** From the drop-down list select the waypoint symbol fill
- **Thickness:** From the drop-down list select the waypoint symbol line thickness
- **Size:** From the drop-down list select the waypoint symbol size

● **Text**

- **Visible:** Check the box to make waypoint text visible in map view
- **Color:** From the drop-down list select the waypoint text color
- **Size:** From the drop-down list select the waypoint text size
- **Minimum Scale:** Minimum Map scale the text will display in the Map view

## ■ 2D Visual Tab

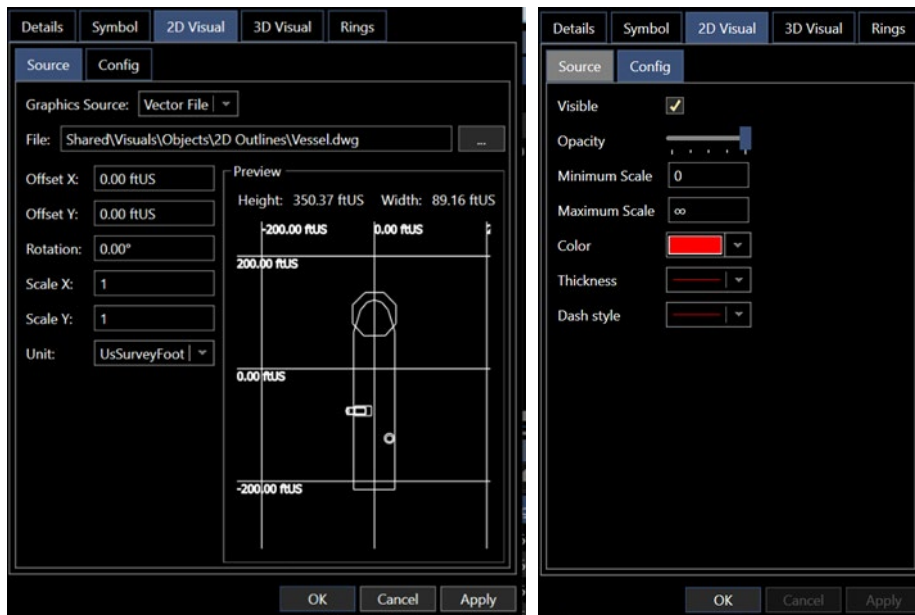


FIGURE 11-6 WAYPOINTS – WAYPOINT DIALOG – 2D VISUAL TAB

### • Source Tab

- **Graphics Source:** From the drop-down list select file type. NavView supports Vector and Raster file types
- **File:** Select the 2D Visual to be displayed in the Map view, the file path will be displayed in box. The 2D Visual will be displayed in the Preview panel
- **Offset X,Y:** Controls the placement of the 2D Visual origin relative to the actual waypoint location
- **Rotation:** Enter the orientation (°G) to be applied to the 2D Visual for display in Map view
- **Scale X and Y:** If source visual units are unknown, the visual can be scaled
- **Unit:** From the drop-down list select the source visual units. NavView will scale visual to working units set in Preferences (Distance)

### • Config Tab

- **Visible:** Check the box to make 2D Visual visible in map view
- **Opacity:** Adjust the opacity of the 2D Visual using the slider
- **Minimum/Maximum Scale:** Minimum/Maximum Map scale the symbol will display in the Map view

**Note:** The Minimum/Maximum Scale setting is based on the Map view scale as displayed in the Map views when the **Display scale bar option** is enabled (see Windows section). As the Map view is zoomed in, the scale increases, as it is zoomed out the scale decreases. The 2D Visual will display when the scale is within the values set.

- **Color:** From the drop-down list select the color for the 2D Visual
- **Thickness:** From the drop-down list select the 2D Visual line thickness
- **Dash Style:** From the drop-down list select line style for the 2D Visual

■ **3D Visual Tab**

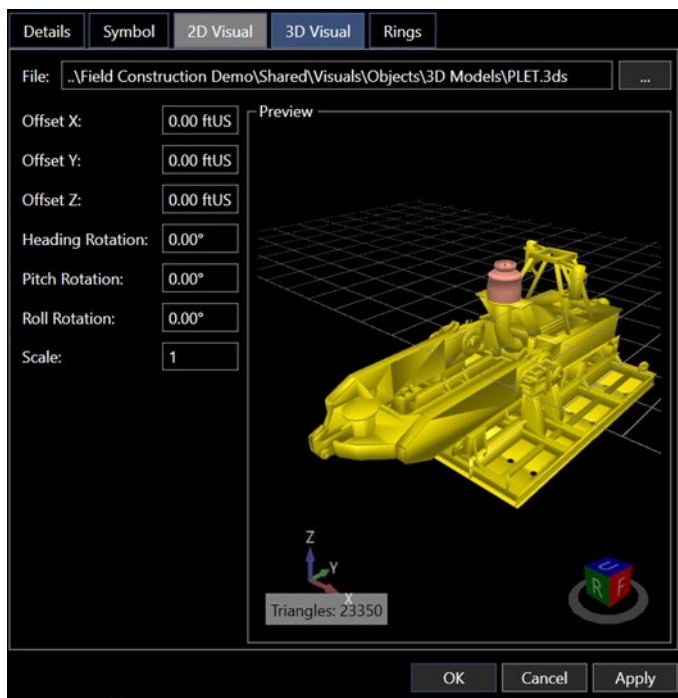


FIGURE 11-7 WAYPOINTS – WAYPOINT DIALOG – 3D VISUAL TAB

- **File:** Select the 3D Visual to be displayed in 3D Map/3Dx Map view, the file path will be displayed in box. The 3D Visual will be displayed in the Preview panel
  - **Offset X,Y,Z:** Controls the placement of the 3D Visual origin relative to the actual waypoint location
  - **Heading Rotation:** Enter the orientation (°G) to be applied to the 3D Visual for display in 3D/3Dx Map view
  - **Pitch/Roll Rotation:** Enter values to be applied to the 3D Visual
  - **Scale:** Used to scale visual to working units. Example being source visual in meters, use scale to change visual to feet
- **Rings Tab**

Controls the drawing of rings about the waypoint location. A ring is added using the button or removed using the button. The radius of the ring from the waypoint origin and the ring display color are user defined.

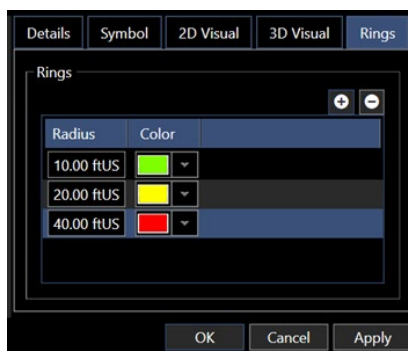


FIGURE 11-8 WAYPOINTS - WAYPOINT DIALOG – RINGS TAB



- d. **Apply:** This button becomes active when a change is made to the currently selected waypoint configuration or when a new waypoint is added, click it to apply the changes and/or save the new waypoint and leave the window open.


**Note:** If the Apply button is active but is not clicked before another waypoint in the data grid is selected, a prompt stating “There are unsaved changes. Would you like to save your changes?” appears. Click to **Yes** save the changes, click **No** to discard the changes.

- e. **Cancel:** This button becomes active when a change is made to the currently selected waypoint configuration or when a new waypoint is added, click to discard the changes without saving, including the newly added waypoint, and leave the window open.

## 11.3 ADD A WAYPOINT

A waypoint can be added from the Waypoints Manager window or the Map view.

### 11.3.1 ADD A WAYPOINT FROM THE WAYPOINTS WINDOW

1. Open the Waypoints window from the Home/Files Ribbon or from Explorer/Data.
2. Click  in the tool bar.
3. A temporary waypoint is created with a default position and a name based on the date and time it was created and displayed in the Waypoint dialog.
4. Edit the new waypoint as required.
5. Click **Apply** to save the waypoint and leave the window open, **Cancel** to discard it and leave the window open, **OK** to save the waypoint and close the window.


### 11.3.2 ADD A WAYPOINT FROM THE MAP VIEW

1. In a Map window, activate the Coordinate Picker (see Map Window in the Windows section for details)
2. Create point(s) in the Map.
3. To add all points created, right mouse click in the Coordinate Picker balloon or with the mouse over any of the points and select **Copy To... Waypoints.**
4. Waypoint dialogs will appear one at a time for each point present in the Coordinate Picker for review and editing.
  - a. Click **OK** to accept the waypoint and add it to the Waypoints (if the waypoints window is open, you will see the waypoint added to the bottom of the list)
  - b. Click **Cancel** to discard the waypoint


**Or...**

1. In a Map window, activate the Ruler (see Map Window in the Windows Section for details)
2. Create a ruler as desired.
3. Right mouse click and select **Copy To... Waypoints.**
4. Waypoint dialogs will appear first for the ruler start point and then for the ruler end point for review and editing.
  - a. Click **OK** to accept the waypoint and add it to the Waypoints (if the waypoints window is open, you will see the waypoint added to the bottom of the list)
  - b. Click **Cancel** to discard the waypoint

## 11.4 COPY A WAYPOINT

1. Open the Waypoints window.
2. Select a waypoint in the list to copy.
3. Click  in the tool bar.
4. A temporary copy of the selected waypoint is created and displayed in the Waypoint dialog.
5. Edit the new waypoint as required.
6. Click **Apply** to save the waypoint and leave the window open, **Cancel** to discard it and leave the window open, **OK** to save the waypoint and close the window.

## 11.5 REMOVE A WAYPOINT

1. Open the Waypoints window.
2. Select the waypoint(s) to remove in the list.
3. Click  in the tool bar.
4. A prompt asking for confirmation of removal appears highlighting the fact that this will also remove the waypoint from all NavView systems that are part of the NavView network, answer accordingly.

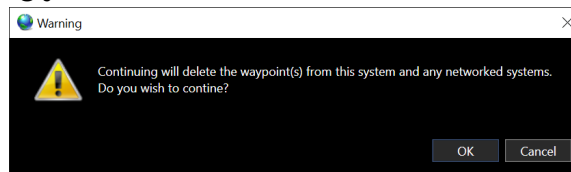


FIGURE 11-9 WAYPOINTS - WAYPOINT REMOVAL CONFIRMATION PROMPT

5. If prompt answered with OK, waypoint is removed and the list is updated to reflect this.

## 11.6 EDIT A WAYPOINT

A waypoint can be edited several ways.

### 11.6.1 EDIT A WAYPOINT FROM THE WAYPOINT WINDOW


1. Open the Waypoints window.
2. Select the waypoint in the list that is to be edited, the waypoint will display in the Waypoint Dialog to the right.
3. Edit as required.
4. Click Apply to save the changes.
5. Click OK to close the window.

### 11.6.2 EDIT A WAYPOINT FROM THE MAP VIEW

1. In a Map window, right mouse click on a waypoint and then click on **Edit** when the pop up menu appears.
2. A **Waypoint** dialog opens for the selected waypoint, edit as required.
3. Click **OK** to save the changes and close the window.
4. Click **Cancel** to close the window without saving the changes.


**Note:** To select a waypoint with the right mouse click, the cursor must be on the waypoint symbol or the label, if a 2D outline is in use, the waypoint label.

## 11.7 EXPORT WAYPOINTS

1. Open the Waypoints window.
2. Click the  export button to select the export option, Basic or Expanded.
  - a. Basic: Name, Latitude, Longitude, Northing, Easting, Depth and Active status
  - b. Expanded: Basic plus (if Visuals enabled for the waypoint) Visual type (2D or 3D), Visual status, 2D/3D outline file, Scale Factor, X Offset, Y Offset, Z Offset (Translation), Heading, Pitch Roll, Heading type (True or Grid)
3. Navigate to target folder and enter file name.
4. Click Save.

## 11.8 IMPORT WAYPOINTS

The Import option allows the user to load a file of waypoints and append these to the existing Waypoints list in NavView. On a networked system, this will result in the updating of the waypoints for all NavView systems on the network.

1. Open the Waypoints window.
2. Click the  button to launch the Open file dialog.
3. Navigate to the file to import, select and click Open.
4. The Import Waypoints wizard launches on the first page, File Settings (see Figure 11-10)

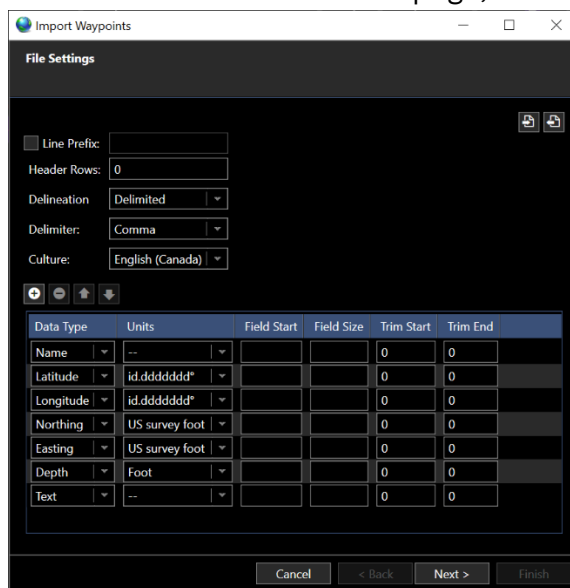




FIGURE 11-10 WAYPOINTS - WAYPOINT IMPORT WIZARD – FILE SETTINGS

- **Load Settings:** Click  to load saved waypoint import settings from a file
- **Save settings:** Click  to save the current waypoint import settings to a file
- **Line Prefix:** Check the box if there is a line prefix and enter the prefix in the box
- **Header Rows:** If a header is present in the file, enter the number of header rows
- **Delineation:** Select the data format, Delimited or Fixed Length

- **Delimiter:** Select the field delimiter from the respective drop-down list, options are;
    - Comma
    - Space
    - Tab
    - Custom: selection of this option enables entry of the delimiter character
    - **Culture:** From the drop-down list select the country numerical format
1. Click the button to add an entry to the data grid for every field in the record, whether the field is to be used in the import or not.

Data Type	Units	Field Start	Field Size	Trim Start	Trim End
Name	--			0	0
Latitude	id.ddddddd°			0	0
Longitude	id.ddddddd°			0	0
Northing	US survey foot			0	0
Easting	US survey foot			0	0
Depth	Foot			0	0
Text	--			0	0

FIGURE 11-11 WAYPOINTS - IMPORT WAYPOINT DATA – ADD DATA FIELDS

- **Data Type:** Select the data type from the drop-down list contained in the field, if the field is not to be used, select **Empty**
- **Units:** Select the units or format from the drop-down list that applies to the field and data type
- If **Delimiter** is Fixed Length
  - **Field Start:** Enter the zero-based index of the start of the field, e.g. the index of the first character in a record is 0, the index of the 10<sup>th</sup> character is 9
  - **Field Size:** Enter the length of the data in the field
- If **Delimiter** is comma, tab, space or custom
  - **Trim Start:** Enter the number of characters to trim from the start of the field value, e.g., if a field containing Depth contains “D 567.89”, 2 would be entered to trim the “D “ before reading the value
  - **Trim End:** Enter the number of characters to trim from the end of the field value, e.g., if a field containing Depth contains “567.89 D”, 2 would be entered to trim the “D” before reading the value

**Note:** When using Fixed Length and Field Size, use the setting of the field start and field size to Trim unwanted start and end characters.

2. To move a selected field up or down to re-order its place in the record, select the field and click either the or button
3. Click **Next** to review (see Figure 11-12) the import as configured, if acceptable click **Finish** to import the waypoints and append them to the existing waypoints in NavView if changes are required click Back to edit the field settings.

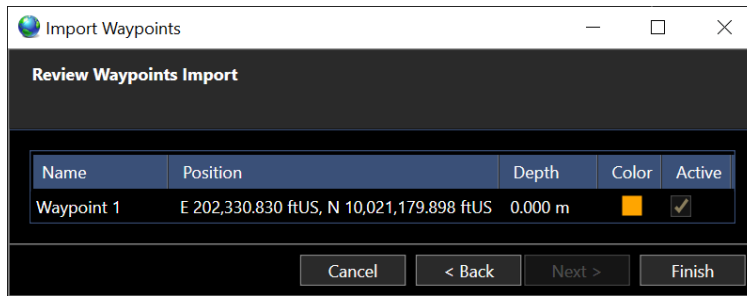


FIGURE 11-12 WAYPOINT IMPORT REVIEW