

## **Wetland - Stakeout**

### **Help**

#### **Notice:**

**All rights reserved.**

Corvallis Microtechnology, Inc. reserves the right to make changes to its products and specifications without notice.

Copyright© 2014 - 2017 by Corvallis Microtechnology, Inc.

<http://www.cmtinc.com>

Q&A Blog Site: <http://icmtgis.wordpress.com>

Please email suggestions for enhancements to:  
[support@cmtinc.com](mailto:support@cmtinc.com)

### **Overview**

I. Creating Points, Lines and Areas

### **Set up a Job**

### **Display Map and Turn GPS On/Off**

### **Digitize Features**

### **Topic View**

### **Topic Menu**

### **Move Node**

### **View Feature Properties**

### **Measure Distance**

### **Measure Area**

[Locate a Point by Address](#)

[Export to PDF](#)

[Email Files](#)

II. Stakeout

[Point Stakeout](#)

[Line Stakeout](#)

III. Report Form

[Manage Report](#)

[Design Report](#)

[Enter Report Data](#)

[Send Report to PDF](#)

## **Overview**

The Wetland - Stakeout app provides the capability to create a custom data collection/Report form. This app can be used for designing data collection forms for various types of applications. In particular, the Wetland Determination Data Forms for the 10 USA regions are built into this app as templates to facilitate the data collection for wetland delineation. For example, the aridwest.rtm form template is based on the "Wetland Determination Data Form - Arid West Region" provided by the US Army Corps of Engineers in the document titled "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)" dated September 2008. The form contains built-in logic as well as formulas for performing automatic computations.

In addition, this app will let you add points, lines and areas to a map job by importing the Features from Shapefiles or by on-screen digitization. You can then use the Stakeout functions to help you get to the job sites represented by these Features. GPS capability is required for the Point Stakeout and Line Stakeout functions. GPS capability will also enable you to create an incidental point by recording a GPS fix. The accuracy of the GPS position will depend on the GPS receiver used.

You will be able to use this app to perform the following functions.

- \* Create a custom data entry/report form in each job file.
- \* Use a Wetland Determination Data Form to enter wetland data.
- \* Send the completed report form to a PDF file.

- \* Import the shapes from Shapefiles or a DXF file.
- \* Precisely digitize Points, Lines and Areas over the built-in Map.
- \* Move existing nodes to fine-tune the map drawing.
- \* View position, length and area values for the Features.
- \* Label the Lines with segment lengths and directions as well as corner angles.
- \* Label the Areas with size in acres and square feet or hectares and square meters.
- \* Measure distances and areas.
- \* Move existing nodes to fine-tune the map drawing.
- \* Create a Point from the entered address or coordinates.
- \* Create a Point or record a node by picking the GPS location.
- \* Use GPS to stake out Points or nodes on a Line or Area Feature.
- \* Use GPS to guide you along a specified Line or Area boundary.
- \* Save the job data file for later use.
- \* Output the drawing and the coordinates to PDF.
- \* Email the job data files, the PDF files and the DXF files to your colleagues.

This document consists of three main sections: "Creating Points, Lines and Areas", "Stakeout" and "Report Form". If you will not be using the mapping and stakeout functions, then you will only need to finish reading this overview section then read the article titled "Set up a Job" plus the articles under "Report Forms".

## **Map View**

The **Map View** is the main screen that shows any spatial data (Features) and/or background map present in the currently active job.

You may select a displayed **Feature** by tapping on it in Map View. When you do so, the selected Feature will be highlighted in the default orange color. The Feature ID and the location coordinates will pop up in Map View.

After selecting a Point, Line or Area Feature, you may tap the **Feature Properties** tool icon to assign a different symbol to represent it.

You may zoom into the map by double-tapping, or by pulling two fingers apart on the screen. You could zoom out of the map by tapping two fingers on the screen simultaneously, or by pinching two fingers on the screen.

The map scale is displayed at the lower-right corner of the Map View.

Displayed across the top of the **Map View** are the following tool icons.

Tap the **Main Menu** tool to see a menu of functions:



The **Topic Menu** provides functions to create, edit, move, delete or set up automatic labeling for the Feature Topics:



The **Map Tools Menu** lists the digitizing tools as well as the Delete Feature and Mode Node functions. Tap the **pull-down arrow** to reveal the map tools. The icon

for the currently active map tool is displayed. For example the **Add Point manually** icon is initially displayed by default:



The **Utilities Menu** provides access to functions for designing the report form, entering data into the report form, send a report to PDF file, measuring distances and areas and locating a point by address. Initially, the **Input Report Data** icon is shown:



Tap on the **Zoom Fit** icon on the Toolbar to display all map elements:



With a Feature selected, you will be able to view its coordinates as well as assign a symbol for the Feature by using the **Feature Properties** tool:



The GPS On/Off toggle, the Stakeout Setup, the GPS Position Information as well as the Point Stakeout and Line Stakeout functions are grouped under the **GPS Menu**:



Tap on the inverted arrowhead to show the menu options for turning GPS On or Off, Stakeout Setup, Position Information as well as **Point Stakeout** and **Line Stakeout**.

Tap the **Topic View** toggle to select an active Topic:




Additional tool icons may be displayed when you work with a specific function. All of these functions will be covered in this document.

## **On-screen keyboard**

An on-screen keyboard will automatically pop up when the focus is on a data entry screen. After entering data, tap the **Return** button on the pop-up keyboard. If a **Next** button is displayed in the data entry dialog, then tap that button to go to the next step. To hide the keyboard, tap the **Hide Keyboard Key** on the pop-up keyboard.

When you tap on an existing value in a data entry field, if one character is highlighted, you may replace it by entering a different character. If the cursor is displayed, you may insert characters at that location. To replace the entire text or numeric value in the field, first swipe the field to highlight all the characters then enter the new data.

When entering numeric data, you will notice that there is a **Separator Key**  showing several symbols on it. This key will facilitate data entry in several ways.

To enter a distance value with a fractional part, tap this key to put in the decimal point.

To enter angles in **DMS** (Degrees- Minutes-Seconds), if your data value will not fill in all the places, then tap the separator key after entering the desired value. For example, to enter the longitude of 91°09'26.082"W, you could type in 0910926.082W. Or, you could type 91, tap the separator key, type 9, tap the separator key, then enter 26.082W.

[Back to TOC](#)

## **Set up a Job**

The application software requires a job file to be open for it to work with. The **Job Menu** under the **Main Menu** provides functions for opening a job, saving a job, importing a set of Shapefiles as well as importing/exporting a DXF file.

### **Opening or Creating a Job File**

To open an existing job file, tap the **Main Menu** icon, select **Job** then select **Open Job** . Select a job file to open, such as **corners.pmp**. (The job files for this app have the **.pmp** file name extension.)

To create a new job file, tap the **New** button. Accept the proposed file name or enter a unique file name then tap the **OK** button. (Yes, it's okay to type over the displayed file name.)

Once the proper files have been selected and any optional information has been entered, click on **OK**. If you have selected an existing job, your job data will be displayed.

If you are working with a job file and want to open another job file instead, select **Main Menu**, select **Job**, select **Open Job** then select the desired file name. This action will automatically close the previously opened file.

If you are not sure which job file you are working on, select **Main Menu**, select **Job** then select **Open Job** to view the File Dialog screen. The name in the **File Name** box is that for the currently open file.

To cancel out of the screen for opening a file, simply tap the **Cancel** button.

### **Saving the Job File**

To save the data in the currently open file, tap the **Main Menu**, select **Job** then select **Save**. The file extension will be **\*.pmp**.

To save the data under a different file name, tap the **Main Menu**, select **Job** then select **Save As**. Enter the new file name.

Let's save the **corners.pmp** example file that you have just opened under a different name, such as "mycorners". This way, you can work with

**mycorners.pmp** and keep the original corners.pmp file intact for later use.

The newly saved file will be the active job file. Therefore, if you wish to work on the original file, then open that job file before proceeding.

Whenever you open another job, the program automatically saves the data in the current job and closes the current job.

### **Accessing the Documents Folder**

The data files, such as the \*.pmp job files, will reside in the **Documents** folder for the application. To access your data files outside of the application, first sync your device with the iTunes® program. Then click on **File Sharing**. (As the iTunes program evolves, the location of this link changes.) When you see a list of all the apps installed on your device, click on the **Wetland - Stakeout** app name. If you have run Wetland - Stakeout at least once, then after a while, the data files associated with this app will show up on the right-hand side.

You may copy files between the Documents folder for the app and your desk-top computer. You can drag files into or out of this Documents folder. You may use the **Add** button on the iTunes® screen to select and add files from your computer to the Documents section. **Make sure the job file you are copying is not the working job file.** In other words, open a different job file to make it the working job file.

**It will be a good idea for you to save a copy of your own data files (\*.pmp, \*.rtm and \*.pdf) as well as the following files to your PC for safekeeping:**

**wetland.pmp**

**wetland.rtm**

**wetland.cfg**

**wetland.mlo**

**wetland.sts**

**all the .rtm files for the various Regions (e.g. alaska.rtm, aridwest.rtm, etc.)**

**To delete a file,** first highlight it then press the **Del** button on your computer.

**Caution: A deleted file cannot be recovered.** Always make sure you really want to delete a file before proceeding.

### **Please note:**

Before updating to a new version of **iOS**, first back up all you apps and data files. Also, should you decide to remove an application software for some reason, beware that all the associated data files will be deleted. If you wish to save the data files, please save a copy to your desk-top computer before removing the app.

### **A Note about App Updates and the Report Form Template Files**

To protect your report form templates, a Wetland - Stakeout app update will not

overwrite any existing \*.rtm files, including the sample report templates that we provide with the app. What to do if the sample report template files have been modified with an app update, as is the case with the version 1.0.4 update? How can you make use of the changed template files?

a) If you have not yet installed the updated app, first delete the existing sample \*.rtm files or rename them. Then when you install the app, it will automatically copy the new sample template (\*.rtm) files to the app's Documents folder on the device.

b) If you have already installed the updated app, then there are a couple additional steps to take. First exit the app and delete or rename the existing sample template files. Then double-click the Home button and swipe the app screen up to close the app. Then hold down the ON/OFF button for a few seconds and opt to turn off the device. The next time you run the app, it will copy the new sample template (\*.rtm) files to the device.

### **Importing Shapefiles**

You may import the data from Shapefiles for use within this app. As each Shapefile has several files associated with it (e.g. the .shp, the .shx, the .dbf, and the .prj files), please make sure all these files are present in the **Documents folder** for the application.

To import a Shapefile, first open the Job file into which you wish to import the Shapefile data, or create a new Job file. Choose **Job** then select **Import Shapefiles**, select the desired Shapefile then tap the **OK** button. (It is not advisable to import Shapefiles into a job located very far away from the Shapefile data as it would be cumbersome to zoom to to the widely separated areas to work with them.)

Select the Datum, Coordinate System, Unit and Region in which the data was saved in the Shapefile then tap the **OK** button. If the selected Datum and Coordinate System do not match those in the Shapefile, the data may fail to come in or it may not be properly displayed.

If a GSB file (Canadian grid file) is to be used, tap the **Load** button then select the appropriate file. Use the **Unload** button to remove the GSB file.

The imported data will be converted to WGS84(1150)ITRF00, METERS, and the current Epoch.

### **Importing a DXF file**

You may import the shapes from a DXF file and work with them in this app.

To import a DXF file, first open the desired Job file, or create a new Job file. Choose **Job** then select **Import DXF**. The Import DXF screen will list all the DXF files present in the **Documents folder** for this app. Select the desired DXF file then tap the **OK** button.

Select the Datum, Coordinate System, Unit and Region in which the data was saved in the DXF file then tap the **OK** button. If the selected Datum and

Coordinate System do not match those in the DXF file, the data may fail to come in or it may not be properly displayed.

If a GSB file (Canadian grid file) is to be used, tap the **Load** button then select the appropriate file. Use the **Unload** button to remove the GSB file.

The imported data will be converted to WGS84(1150)ITRF00, METERS, and the current Epoch.

### **Exporting a DXF file**

The Features in the working job file may be exported to a DXF file. The exported DXF file will reside in the **Documents folder** for this app.

To export the Feature data to a DXF file, choose **Job** then select **Export DXF**. Mark the Topics that are to be exported and select the desired options then tap the **OK** button.

Mark the **3D** checkbox if the elevation values are also to be exported.

Select the **In Block** option if you wish to export the Features in block format (one layer per Topic) into the .DXF file.

Mark the **With Attributes** checkbox if the Features are to be exported along with their attribute values.

The app will create a DXF layer for each Topic marked for export.

If you wish to export the selected Topics to the same layer, then mark the **Export to one layer** checkbox and enter the name of that layer in the **Layer name** box.

Data will be exported in WGS84(1150)ITRF00, and the current Epoch. The distances and angles will be exported in the active distance and angle units.

### **Set up Units and Angle System**

Select the **Unit and Angle System** under **Main Menu - Setup** to specify the desired length unit for displaying distances and line segments. The areas will be computed in the metric or British system accordingly.

Available choices for displaying angles are **Azimuth** and **Bearing**. If Azimuth is chosen, also specify the **Angle System**: North or South. Angles will be displayed in Degrees, Minutes and Seconds (DMS).

This Setup screen will also let you select the elevation system used for displaying, importing or exporting elevation values. Select **Orthometric(MSL)** when working with Mean-Sea-Level elevations. Select **Ellipsoidal(HAE)** when working with elevations based on the ellipsoid.

### **Set up Feature Label**

This app gives you the option of labeling the line segments, areas and corner



angles for the selected Feature when feasible. (See **Feature Properties**.)


You can define the font color and size for the labels after selecting **Label Setup** under **Main Menu - Setup**.

Mark the **Show white background** checkbox if you wish to have the labels displayed on a white background to make them stand out better over a satellite map.

[Back to TOC](#)

## Display Map and Turn GPS On/Off

Whenever you are connected to the Internet and your location can be determined, the default built-in Map for your device can be displayed as the background map for your job data.

You may select one of the following view modes after tapping the **Main Menu** icon  then choosing **Map**:

**Show Standard** - Show a map of streets, landmarks, and bus stops.

**Show Satellite** - Show satellite photos.

**Show Hybrid** - Show street names on satellite photos.


To turn off the Map display, tap **Close Map** on the Map menu.

## Where am I?

When you start a new job, the app does not know where you are.

1. With the Map turned on, you can find your continent then zoom in to your country, your city, hence your neighborhood. You may zoom into or zoom out of portions of the graphical view by using your fingers to pull or pinch on the display, respectively.

2. When Map is turned on, you could use the **Locate a Point by Address** function under **Utilities** to enter your address or your coordinates to locate your position.


3. If your device is equipped with GPS or has Location Service, then you can tap the **GPS Menu** icon  then select **Turn GPS on** to turn the GPS on. When prompted, confirm to allow the app to use Location Service to find your location. This will permit the app to immediately zoom to your location. (Make sure the **Location Service** is turned on for the **Wetland - Stakeout** application software under Settings on your device. With iOS6, Location Service setting is placed under Settings - Privacy.)

To view your current position and GPS accuracies, select **Position Info** after turning on the **GPS**. Wait 5 - 10 minutes to let the GPS stabilize. If your device is set to Auto-lock after a number of minutes then when it turns off, GPS will also

turn off. You will need to unlock your device to continue working.

To nail down your location, you will need to digitize at least one Point location.

In the section titled **Digitize Features**, we will show you how to digitize a Feature in the **mycorners.pmp** job file. As the points in this job are located in

Oregon, USA, you will want to tap the **GPS Menu** icon  then select **Turn GPS Off** to turn the GPS off. Otherwise, the app will always zoom to your current location, which most likely is very far away from the sample job location.

Please note that when GPS is turned on, Auto-lock is disabled for your iOS device, and power consumption will be higher.

Go ahead and turn on **Map** in the **Show Satellite** mode.


[Back to TOC](#)

## Digitize Features


You may manually add new Features to the current Job file. GPS is not needed, but if you wish, you could pick the GPS position for adding a Point Feature or for adding a node for a Line or Area Feature.


Let's open the **mycorners.pmp** job and turn on the Map in the Show Satellite mode.



### Adding a Point Feature

To add a Point Feature manually, tap the pull-down arrow beside the **Map Tools** icon. Select **Add Point Manually** .

Zoom out a little then tap once near the houses with red roof tops to drop a point. Tap on the screen again in the area between the triangular plots and the larger plot to their right. These Point Features could represent the wells on this farm plot.

The **Add** tool  **ADD** at the top is a toggle switch that you can use to halt the point digitization and reactivate the regular **touch-screen** mode so you may zoom or pan the screen. Tap on this toggle again when you are ready to add more points.


If there are existing Features on the map and you want a new point to snap to one of the existing Features, then tap the **SnapToNode tool** . When the SnapToNode toggle is on, the point you add will be dropped on top of the nearest Point or node.

If your device has GPS capability, you could add a point right at the current GPS position. To do so, first tap the **GPS** icon  to turn on GPS then tap the **Pick GPS** icon  to add the Point Feature. (Do this in another job file as we do not

wish to add a very distant point to this sample job file.)


Tap the **Back** button to return to the main Map View.

There are already three Points marking three corners of a triangular plot of land. If you look carefully, you will notice that the right-most corner of the plot is actually clipped off and is not represented by a single apex. Let's add another point at the fourth corner of this land plot.

To accomplish the daunting task of placing a dot precisely at the desired location, tap on the donut-shaped **Node tool** . A larger donut with crosshairs at its center will be displayed on the map. Touch on the purple area of this tool and drag the crosshairs to the fourth corner of the land plot. Then tap once in the donut hole to drop the node. (You could also keep holding down on the purple donut and use another finger to touch outside of the donut area to drop the node.)

When done with the point digitization, tap the **Back** icon to end the digitizing session and go back to Map View.

### Add Point by Coordinates

If you know the coordinates for the point you wish to add to the map, you may add the point by using this information. To do so, tap the pull-down arrow by the **Map Tools** icon and select **Add Point by Coordinates** .


Enter the known coordinates then confirm the screen. Make sure you specify the correct North or South Latitude, and the correct East or West Longitude. Otherwise a point may be created very far away from your job site.

You may tap on the **Pattern** button to select a different symbol and color for the Point Feature to be created.


The Orthometric height is the elevation based on mean-sea-level. The ellipsoidal height is based on the ellipsoid.



Tap on **Cancel** if you decide not to create the new point.


### Adding a Line Feature

In the **mycorners.pmp** job map, tap the pull-down arrow for the **Map Tools** icon to see the **Add Line manually** tool. Tap this selection, and the Add Line manually tool icon  will be displayed as the active Map Tool.

In the screen for digitizing a Line Feature, you may tap on the **Line Style** button to select a different line style color for the Line Feature you digitize.


Now, tap along the left border of the larger field to add a fence line. Use the **Node** tool  to add nodes and make a line that closely follows the border of the field.

The **Add** tool , the **SnapToNode** tool , and the **Pick GPS** position functions work in the same way as for digitizing Point Features.

Turn on  **Snap to Line** when you wish to snap your new line to an existing Line or Area Feature. Then when you tap close to that Line or Area Feature, your new line will snap to the nearest node on the existing Line or Area Feature.



**Include Boundary** is a powerful tool that lets you incorporate all or part of a line or an area boundary in the new Line Feature you are digitizing. After turning this tool on, first tap on the line or area of interest then tap on the starting and ending nodes of the section you wish to include in your new line. Tap on the **Finish** button to finalize this action. Then you may select another boundary line to include, or continue to tap on the screen to drop nodes for the new line.


You may tap the **Undo** icon  to back-step and remove the last added node, if necessary.

When you have digitized the last node for the Line Feature, if you wish to add another Line Feature, then tap the **Next Line** button. Otherwise, tap the **Back** button to exit this screen.

When you tap on the Line Feature on the main screen, its Point ID and coordinate information will pop up briefly.


### **Adding an Area Feature**


To digitize an Area Feature, first select an existing Area Topic or create a new Area Topic. Digitizing an Area Feature works the same way as digitizing a Line Feature, except that the Area Feature forms a closed region.


In the **mycorners.pmp** job map, tap the **Map Tools** pull-down arrow to see the **Add Area manually** tool. Tap this selection, and the Add Area manually tool icon  will be displayed as the active Map Tool.

In the screen for digitizing an Area Feature, you may tap on the **Area Pattern** button to select a different pattern and color for the Area Feature you digitize.


Let's create an Area Feature by joining the Point Features at the four corners of the nearly triangular land plot.

With the **Snap to Node** icon  turned on, tap close to each of the four Point Features in the clockwise or counterclockwise direction. You don't need to tap on the first point again. Tap the **Next Area** button to close the area you have just formed.

Now let's digitize the larger plot by the fence. Since the fence lies along one side of this plot, we can save some time by making use of the **Include Boundary** tool. In the screen for digitizing an area, tap the **Include Boundary** icon . Tap on the

Fence feature to display its nodes. Select the lowest node as the Start Node then select the uppermost node as the End Node. Tap on  to turn it off.

Then use the **Node** tool  to help complete the area.

You may tap the **Undo** icon  to back-step and remove the last added node, if necessary.

When you have digitized the last node for the Area Feature, tap the **Back** button. The software will automatically close the gap between the first and the last digitized nodes and return to the main Map View.


### **Labeling the Features**

You may use the **Feature Properties** function to label a selected Feature with its corner angles, segment lengths and directions, and/or area with units. Some of these labels may not display because of the large map scale used or because there is not enough room to display them in the map.

### **[Back to TOC](#)**


### **Topic View**

The Features in your map are organized into Feature Topics, or Topics for short. To see a list of all the Feature Topics you have in the currently active job file, tap

the **Topic View** icon . This icon is a toggle tool for turning the Topic View on or off.


When you tap on one of the Topics in the Topic View, that Topic becomes the **active Feature Topic**.

Also, when you to **tap on one of the Features in Map View**, the Topic, to which that Feature belongs, becomes the active Topic.

For example, in the **mycorners.pmp** job, there is one Topic named "**Corner**" that contains three Point Features represented by the blue dots. When you tap on , you will see "Corner" listed in the Topic View panel on the left side of the screen. You can tap on "Corner" to highlight it and make it the active Topic.


You can toggle the **display** of a Topic ON and OFF by clicking on the mark box to the left of each Topic name.

To change the **symbol** assignment for a Topic, simply double-tap the existing symbol displayed by the Topic name in Topic View then select the new symbol.

The **Topic Menu**, represented by the **Topic Menu icon** , provides the function to create a new Topic, as well as a number of other functions that operate on the currently active Topic.


[Back to TOC](#)

## Topic Menu

The **Topic Menu** contains functions that operate on the Feature Topics. It is accessed by tapping the **Topic Menu icon** .



### Creating a New Feature Topic in a Job

Before adding a Feature to the map by digitization, you will need to select the appropriate Feature Topic into which that Feature will be placed. If such a Feature Topic does not exist, then you will need to create it.

To create a new Feature Topic in a job file such as **mycorners.pmp**, tap the **Topic Menu icon**  then select **New Topic**. Enter a Topic Name, such as **Tree**. Since trees are regarded as point objects, select **Point** for the **Type** field. You can add one or more **Attribute Names** (title of description) for this Topic and specify the data type and parameter. Let's tap the **Add** button and enter "Species" as the (Attribute) Field Name. This Attribute is a Text descriptor. We can leave the **Width** at 23 to accommodate certain long species names.



Notice the little pull-down arrow in the **Field Name** cell after you tap the **Add** button? This app comes with a number of **Built-in Attributes** that you may incorporate into a Topic as an Attribute. To add such an Attribute, tap on the pull-down arrow then select the desired item. If you select the Elevation attribute, the MSL or HAE elevation will be used depending on what you've selected for the Unit and Angle System Setup.

### Editing a Feature Topic





To edit an existing Topic, first tap on  and select that Topic from the Topic View panel. Tap the **Topic Menu icon**  then select **Edit Topic**. You may make changes to the **Topic Structure**, such as by adding more Attributes to the Topic. Or you may tap the **Sheet Setup** tab and change the order in which the Attributes will be displayed in **Sheet View**.

### Moving a Feature Topic

In general, you will want to have Point Feature Topics and Line Feature Topics placed above the Area Feature Topics so that the Area Feature layers won't block out the Points and Lines underneath.

You can **change the order** of the Topic layers. To do so, first tap on  then tap on  and select **Move Topic**. A handle will appear by each Topic Name. Now grab a Topic by the handle and drag it to a different location in the Feature Topic List.

### Deleting a Feature Topic

To delete an existing Topic, first tap on    and select that Topic. Then tap on  and select **Delete Topic**. This will delete the Topic definition as well as all the Features on that Topic layer.

**Caution: A deleted Topic and the Features in that Topic cannot be recovered.**

### **Auto Label**

If you wish to have the Features displayed in Map View along with one or more of its identification labels or descriptions, first open a job that contains one or more Features, such as **mycorners.pmp**, then select a Feature Topic, such as **Corner**.

Tap the **Topic Menu** icon     then select **Auto Label**.

You may opt to show the Feature's **Topic Name**, **Sequence#** or **Feature ID**.

You may select one or more **Attributes** to be displayed if the Features have Attribute Values assigned to them.

Select **Delete Labels** if you wish to have the labels deleted.

Select **Hide Labels** if you only want to hide the labels but not delete them.

Tap on the **Font** tab to change the font size, font type face, or the **Freeze label size in zoom** setting.

You can set the default size, color and placement of these labels with respect to the Features by using **Main Menu - Setup - Auto Label**.

The settings under **Main Menu - Setup - Auto Label** will only be applied to newly created labels. They will not affect any existing labels. If you wish to have the new settings applied to all existing auto labels then you should use the **Delete Labels** button to remove all existing auto labels then create the auto labels again.

You may adjust the placement of an auto label by tapping on it to select it in **Map View** then dragging it to the desired location.


You may change the properties of an auto label by tapping on it to select it then tapping on the **Feature Properties** icon.

[Back to TOC](#)


### **Move Node**

The **Move Node** tool on the Map Tools Menu will let you adjust the position of an existing Point Feature or a node on a Line or Area Feature.

The steps for moving a node of a Feature are as follows:


1. Tap on the Feature to select it then tap on the Digitizing Tool Menu and select **Move Node**. If the Move Node icon  is already displayed, then simply tap on


that icon to get to the Move Node screen.


If you've tapped on the wrong location, you may tap the **Reset tool** icon  to reset the selection then select the correct location.

2. Drag the **Crosshairs** to the node you wish to move then tap once in the center of the donut to mark the node.

3. Drag the **Crosshairs** to the new position and tap once in the center of the donut to affix the node there.

When you wish to snap to an existing Point or node by tapping in its vicinity, remember to first tap on the **Snap to Node** icon  to turn it on


If the Crosshairs have moved off the screen, you could tap on the  icon to bring the Crosshairs back to the center of the screen.

You may turn off the instruction text by tapping the **View Hint** icon . This will free up more screen space for displaying the job data, especially when you are using your device in landscape mode.

Tap the **Back** button to exit this screen.

[Back to TOC](#)

## View Feature Properties

With a Feature selected in the Map View, you may tap the Feature Properties icon  to view the Latitude-Longitude -Elevation information for the Feature. MSL is the Mean-Sea-Level value, and HAE is the elevation referenced to the ellipsoid.

For a Line or Area Feature, you can tap on the **Area and Length** tab and see the line length or the perimeter and acreage of the area in the currently active unit of measurement. If you have stored attribute information with a Feature, you can tap the **Attribute** tab to view this information.

Tap the left or right arrow for the **Node#** field to scroll through the nodes in the Line or Area Feature to view their coordinates.

Please open **veggies.pmp** and save it as **myveggies.pmp** to work with.

## Changing the Feature ID

You may have noticed that the Point Features you add automatically assume the Feature ID: UserPt $nnn$ , where  $nnn$  represents a numeric value. Similarly, the Line Features assume the Feature ID: UserLin $nnnn$ , and the Area Features assume the Feature ID: UserAre $annn$ .

You can change the Feature ID in the Feature Properties screen. For example, for



the nearly triangular Area Feature that you have created previously by joining the four Point Features, you could change UserArea001 to Plot001.

### **Assigning a Feature Symbol or Pattern**

In the Feature Properties screen for the selected Feature, you may pick a symbol or pattern and a display color after clicking on the **Pattern** button. You may also specify a line style as well as the color and size for the border of an Area Feature.

After making the desired changes, click on the **OK** button to accept the settings.

### **Area Transparency**

You can adjust the transparency of an Area Feature within the Area Pattern Dialog.

To do so, simply enter a percentage value into the **Transparency** field, or tap the little arrows to scroll either way.


### **Show Segment, Area and Corner Angle Labels**

For Line and Area Features, you may opt to have the segment, area and corner angle labels displayed on those Features when feasible. Simply mark the checkbox for the labels you wish to see:

**Show Corner label**

**Show Segment label**

**Show Area label** (for Area Features only)

For example, in **myveggies.pmp** job, tap on one of the two vegetable plots then tap on  and mark the **Show Area label** checkbox. Do the same for the other vegetable plot.


You can change the size and color of these labels by using **Main Menu - Setup - Label Setup**.

### **Attach Photos**


To attach one or more photos to the Feature, tap on the **Photos** tab. You may link photos from the Photo Library or a folder on your device. And, you may tap the **Camera** button to snap a picture and have it automatically linked to the Feature.


[Back to TOC](#)


### **Measure Distance**



If you would like to know the distance between two or more map locations, first tap on the **Measure Distance** icon  on the **Utilites** pull-down menu. Then tap on the map locations to have the distance calculated. The total distance as well as

the length and direction of the last segment added will be displayed.

Whenever you need to place a node precisely, tap on the **Node tool**  then use the crosshairs to zero-in on the desired location.

If your device has GPS capability, you could tap the **GPS icon**  to turn on GPS then tap the **Pick GPS icon** to add a node for the line to be measured.


Tap on the **Snap to Node icon**  to turn it on when you wish to snap to an existing Point or node by tapping in its vicinity.


To back-step, tap the **Undo icon** . To delete all the nodes made in this measurement session, tap the **Reset button** .


If you wish to convert the shape you have delineated to a Feature, then click on the **Create Feature** button. Otherwise, the temporary shape will be discarded when you tap the **Back** button to close this screen.


[Back to TOC](#)



## Measure Area

The **Measure Area tool**  on the **Utilities** pull-down menu will compute the area enclosed within a boundary that you form by tapping on the map.

Whenever you need to place a node precisely, tap on the **Node tool**  then use the crosshairs to zero-in on the desired location.

If your device has GPS capability, you could tap the **GPS icon**  to turn on GPS then tap the **Pick GPS icon** to add a node for the area to be measured.

Tap on the **Snap to Node icon**  to turn it on when you wish to snap to an existing Point or node by tapping in its vicinity.

To back-step, tap the **Undo icon** . To delete all the nodes made in this measurement session, tap the **Reset button** .

Please note that the Measure Area tool will not retain the **temporary** shape you have delineated for computing the area.

When you no longer need the displayed information, tap the **Back** button to close this screen and discard the temporary shape.


If you wish to convert the shape you have delineated to a Feature, then click on the **Create Feature** button. Otherwise, the temporary shape will be discarded when

you tap the **Back** button to close this screen.

[Back to TOC](#)

### **Locate a Point by Address**


To look for a location by address or coordinates, tap on the pull-down arrow of the

**Utilities Menu** icon  then select **Locate a Point by Address**. This function will only work when **Map** is turned on.


If you know the address of the location of interest, tap the **By Address** tab then enter the address.

If you know the coordinates of the location of interest, tap the **By Coordinate** tab then enter the coordinates. Make sure you have entered the correct N/S and E/W designations.

After tapping the **Go** button, you will see the target location marked on the screen. You may search additional locations by address or by coordinates. All the locations you searched for will stay marked before you exit this screen.

If you can recognize the desired location on the displayed Map, you could select that location by tapping the **Pick** icon  then tapping on the target location. The relevant address information will pop up on the screen, and when you tap the **Go** button, that location will be marked. You can view its coordinates by tapping the **By Coordinate** tab.

When you tap on a marked location, the corresponding marker will turn orange. If you wish, you may save that location as a Point Feature by tapping on the **Save**

**Result** icon . You may change the Feature ID and the symbol used to represent the new point before tapping on **OK** to create the Point Feature.

When you no longer need the displayed information, tap the **Back** button to close this screen.

[Back to TOC](#)

### **Export to PDF**

To export the job data to a PDF file, tap the **Main Menu** icon select **Job** then select **Export to PDF**.

You may accept the displayed default name for the PDF output file, or you may type over it with the name you wish to assign to the PDF file.

Tap the **OK** button to complete the PDF export. The contents of the PDF file will be displayed. The first page will show the drawing of the Features as they are displayed on the screen. If you wish to have all Features included in the drawing then first zoom out sufficiently to have the Features displayed on the screen before


exporting to PDF.

The additional page(s) will show the boundary coordinates and areas of the Area Features as well as the coordinates of the Point Features or the starting and ending nodes of the Line Features.

If you wish to overwrite an existing PDF file, then select that file from the list. **Beware that doing so will erase all the existing contents of the selected PDF file.**

To make sure you really want to overwrite an existing PDF file, tap on the **View File** check box then select the file you wish to view. In this mode, instead of the **OK** button, you will see a **View** button. Tap the **View** button to display the contents of the highlighted PDF file. Then tap the **Back** button to return to the File Dialog. When you are ready to overwrite the file, unmark the **View File** check box then tap on **OK** to overwrite the file.

The **View File** function is also useful for viewing any other PDF documents that you have placed in the Documents folder of this app. If you have a document or cheat sheet that you will need to refer to while working in the field, it is a good idea to save a copy of the file in the Documents folder of this app by using the iTunes® program.

If you have an AirPrint Printer, you may tap on the **Printer** icon  then confirm to print the contents of the PDF to that printer.

The exported PDF files will reside in the Documents folder for the application. To access the PDF files exported from the application, first connect to the iTunes® program then look in the Documents folder for the **Wetland - Stakeout** app.

**To delete a PDF file**, use the iTunes® program to access the Documents folder for the app then select the file and hit the **Delete** button on your desk-top computer. **A deleted file cannot be recovered.**

[Back to TOC](#)

### **Email Files**

You may email Job files (\*.pmp), PDF files (\*.pdf) and DXF files (\*.dxf) files. To do so, first tap the **Main Menu** icon and select **EMail Files** then select the file type.

Enter the destination email address and select the file type. The files listed in the displayed table depends on the file type selected. Mark the checkbox for the files you wish to send, then tap the **Send** button.


When the email is displayed with the attachments, tap the **Send** button at the top to send the email, or tap **Cancel** to cancel the action.

[Back to TOC](#)

## Point Stakeout

If you have the GPS coordinates of the test point location, or if you can identify the test location on the displayed Map and digitize it, you could use the **Point Stakeout** function in conjunction with GPS to help you get to the test location. The Point Stakeout function could also be used to stake out the boundary line of a wetland area if you are using an accurate GPS device. In this case, you would create the Line or Area Feature to represent the boundary then select that Line or Area Feature as the Point Stakeout target.

You may add the stakeout targets to your job map in one of the following ways:

1. Enter the coordinates to create each point. Please refer to **Add Point by Coordinates** on the **Tools menu**.
2. Import a DXF file or Shapefiles containing the target shapes. Please refer to **Set up a Job**.
3. Store GPS Features by using  in the screen for adding a Point, Line or Area Feature. Please refer to **Digitize Features**. For example, while standing at a test point, you could store the location of that point for future reference. There is also a tool provided within the Point Stakeout function to store the staked point.

If the elevations also matter to you, then include the correct elevation in the target coordinates.

The Point Stakeout function can be used to stake out individual points, or points along a line or area.


The accuracy of the stakeout will depend on the accuracy of the GPS receiver used. Keep in mind, though, that GPS elevation errors are usually twice or three times the horizontal position errors.

You must activate GPS before you can access the Point Stakeout function.

Tap the **GPS Menu** icon  then select **Turn GPS on** to turn the GPS on. Tap the same icon again then select **Point Stakeout**.

With the cursor in the Target Feature field tap on the target **Point, Line or Area Feature** of interest. Alternatively you may tap the **Browse** button to select a target Feature ID.

If the selected Feature is a Line or Area, you can select which Node you would like to stakeout. Select the the desired Point Feature. Or, for a Line or Area Feature, type in the desired **Node #**, or tap the little right arrow button to change the Node # to another node in the same Feature.

Tap the  icon to turn it off when you need to perform gestures on the screen. Tap this icon to turn it back on when you wish to select a Feature from the screen.

In the **Antenna Height** field, enter the height of your antenna above the ground.

Click the **Settings** button to setup how the stakeout will be graphically displayed. In the **Stakeout Setup** screen you may also specify the **Tolerance** range as well as the type of notification you wish to receive when you get within the tolerance range of the target.

If you don't like to hear the constant beeping when GPS is turned on, you can unmark the **Navigation Beep** option.

If you mark the checkbox for **Display Message**, then when you are inside the target range, the "Target!" message will flash on the screen.

If you mark the checkbox for **Target Beep**, then when you are inside the target range, beeps will be sounded.

To use the tolerance range for checking only the horizontal distances, select **2D** for **Stakeout Mode**. If the tolerance range is to be applied for checking the elevation, then select **3D**.

You can also specify how to keep the screen focused on your location by selecting an option for the **Stakeout Zoom Mode**. In the **Autoscroll** mode, the job map will scroll to keep your position displayed on the screen while you are moving along. The map scale will not change. In the **Autozoom** mode, when you hit the border of the screen, the app will automatically zoom out to let you see more of the job map.


Your position is represented by the GPS marker on the screen. The app will report your GPS position in relation to the target location.

**Bearing** or **Azimuth** is the direction from your GPS location to the specified Target Stake Point or Node.

**Range** is the direct distance from the GPS location to the Target Stake Point or Node.

**Cut** or **Fill** is the difference in elevation from the current location to the Target Stake Point or Node. "Cut" indicates that your current position is higher than the Target. "Fill" indicates that your current position is lower than the Target.


You may use the values displayed in the **Go** field to help you reach the target. On the GPS marker, the solid grey arrow points in the direction you are moving, and the hollow blue arrow points in the direction of the Target. When you are moving in the right direction, these two arrows will coincide.

After you have successfully reached your target location, you can drive a stake into the ground at this location. Tap the **Save Result** icon  to store the GPS position as a stake point.


[Back to TOC](#)

**Line Stakeout**

You may use **Line Stakeout** to find your position relative to a **Line Feature** or the boundary of an **Area Feature**, and to optionally stake and/or store the location. This function will come handy when you need to blaze a trail across thickets or to mark a boundary line where landmark references are lacking. The accuracy of the stakeout will depend on the accuracy of the GPS receiver used.

You must activate a GPS Receiver before you can access the Line Stakeout function. Tap the **GPS Menu** icon  then select **Turn GPS on** to turn the GPS on. Tap the same icon again then select **Line Stakeout**.

With the cursor in the Target Feature field tap on the target **Line** or **Area Feature** of interest. You may tap the **Browse** button to select a target Feature ID in the active Line or Area Topic.

Tap the  icon to turn it off when you need to perform gestures on the screen. Tap this icon to turn it back on when you wish to select a Feature from the screen.

Select or enter the **From Node** and **To Node** on the target Line or Area Feature.

If you are interested in the direct line between the beginning and ending nodes, then select **Direct** for the **Mode** field. On the other hand, if you are interested in the line segment on the Line or Area Feature, then select **Path**.

Your position is represented by the GPS marker on the screen. The **Target** for Line Stakeout is the projection of your GPS position on the selected line segment. As you move along in the vicinity of the line or area feature, you will see information displayed about your position relative to the target line segment. Such information will not be displayed if your position cannot be projected onto the target line segment.

In the **Antenna Height** field, enter the height of your antenna above the ground.

Click the **Settings** button to setup how the stakeout will be graphically displayed. In the **Stakeout Setup** screen you may also specify the **Tolerance** range as well as the type of notification you wish to receive when you get within the tolerance range of the target.

If you mark the checkbox for **Display Message**, then when you are inside the target range, the "Target!" message will flash on the screen.

If you mark the checkbox for **Target Beep**, then when you are inside the target range, beeps will be sounded.

To use the tolerance range for checking only the horizontal distances, select **2D** for **Stakeout Mode**. If the the tolerance range is to be applied for checking the elevation, then select **3D**.

You can also specify how to keep the screen focused on your location by selecting an option for the **Stakeout Zoom Mode**. In the **Autoscroll** mode, the job map will scroll to keep your position displayed on the screen while you are moving along. The map scale will not change. In the **Autozoom** mode, when you hit the border of

the screen, the app will automatically zoom out to let you see more of the job map.

The first stakeout location on the target line segment is called the **Initial Station**. Enter the distance of this initial station from the From Node.


The **Range** field shows your perpendicular distance from the line segment, ie. the distance between your GPS and the Target. Therefore, you could use the Line Stakeout function to help ensure that you are always moving parallel to a line or boundary at the desired distance.

**Station** is the distance between the From Node and the Target.

**Distance** is the distance between the Initial Station and the Target.

**Cut** or **Fill** is the difference in elevation from the GPS location to the target. "Cut" indicates that your current position is higher than the target. "Fill" indicates that your current position is lower than the target.

If the GPS location cannot be projected on the target Line or Area Feature, then the data fields on the Message page will be blank.

To store the GPS position as a stake point, tap once on the **Save Result** icon .

[Back to TOC](#)

## Manage Report

This app will let you create **one data entry/report form** for use with each job file. Although a job file can show multiple GPS Features, you can only use the form to collect data for one of the GPS Features. If you wish to save the data entry/report form for a sample point so as to be able to edit it later, you will need to create a separate Job file to fill out the data entry form for another sample point (GPS Feature) at the same site. You may use the **Job - Save As** function to facilitate the creation of multiple job files.

For a wetland study, the first step is to import the template for the region of interest to automatically create a new data entry form. (Please see **Import from Template** below.) Then you would enter the data into the ready-made report form and send the report to a PDF file, which you can print out or save to your PC or Mac. You can use the free iTunes program to transfer files between the iPad and your computer.

Some of the results in the wetland data entry form are automatically calculated by built-in formulas. The app provides a default species list, but will let you import the list of species with which you work on a regular basis.

### Example for Using this App for Wetland Data Entry:

1. Tap on the Main Menu icon then select **Job - Open Job**. Choose "Wetland" then tap on OK. You will see the 4 sample points in this Job. The sample points can be either created by using **Tools - Add Point by Coordinates** or digitized using **Tools - Add Point** manually. Although the app will let you create and save multiple



sample points in a Job file, it will save the data entry report form for one point only.

2. Tap on the Main Menu icon then select **Job - Save As**. Save the Job under a new name, such as TS-1.

3. In Map View tap on the bottom-most point, for example, then tap the **Feature Properties** icon (second tool icon from the left). Tap on the Pattern button then select a different color, say purple, for that point. Click OK a few times to go back to map view. Tap on the map and you will see a purple point.

4. Tap on the Main Menu icon then select **Map - Show Satellite**. If wi-fi is active on your iPad, a satellite map will be displayed.

5. Tap on the Main Menu icon then select **Report - Import from Template**. Select "aridwest.rtm" as an example.

Now use Main Menu - Job - Save As to save the Job under a new name, such as TS-2. Do this two more times because there are 4 sample points in this example. Doing so will save time when you work with the Job/data form for the other sample points as the header information has already been filled in.

When done, use Main Menu icon then select Job - Open Job and open TS-1.

6. Tap on the light blue **Enter Report Data** icon. You can fill in the site and investigator information by tapping on the data field and entering the data in the highlighted field on the right-hand side.

7. In the **Vegetation** section tap on the Tree Stratum, for example. A spreadsheet is now displayed on the right-hand side. Tap on the little down arrow for the SpeciesName column then select a species name. You will see that the Indicator field is automatically filled in.

8. Enter some data. Some of the fields will show the calculated results when you tap on the Refresh tool at the top (second icon from the right side).


9. If you would like the spread sheet data to be exported to a text file, then tap the "CSV" button. Tap on the Back button.

10. Tap on the down arrow by the light blue Enter Report Data icon then select **Send Report to PDF**. You can transfer the PDF file to your Mac or PC via iTunes.


11. Now open the Job named TS-2. Change the color of the bottom-most point back to blue and change the color of the second sample point to purple.

12. Repeat steps 6 to 10 for this Job. Ditto for TS-3 and TS-4 Jobs.

Details for making use of a built-in form templates and for creating your own data collection form are provided below. After you have become familiar with the form design functionality, you could tweak a wetland data entry form to fit your needs, if necessary.

To help ensure that you do not inadvertently delete the wetland determination sample job file included with this app, please create a new Job file before reading on. To do so, tap on the **Main Menu** icon , select **Open Job** then tap on the **New** button. Enter the file name "**requisition**" then tap on the **OK** button.

### Create a New Report

To create a new form, tap on the **Main Menu** icon , select **Report** then select **Create a New Report**. If there is already a report form associated with the currently active job, you will be asked if you wish to delete the existing report. Before confirming, make sure you really do not need the report form as well as the data you have entered into it. If you are not sure, tap on **No**.

### Caution:

**Once a report form is deleted, the layout and any data you have entered so far is gone and cannot be recovered.**

If you are working with the new Job named "**requisition**" and no form has yet been created for this Job file, go ahead and confirm to create a new report.

After you have confirmed to create a new report, you will be prompted to set the page layout. For Page Size, select Letter, and for Orientation, select Portrait. Tap OK to accept the default margins and to close this window.

The functions for adding and editing the various components in a data entry/report form are described under the section titled **Design Report**.

### Import from Template

Instead of creating a brand new data entry/report form, you could load an existing report template to use or to modify. For example, this app comes with a number of built in form templates for the various regions in USA, such as **aridwest.rtm**. If you will be collecting wetland determination data for the Arid West Region, you could simply use the **Main Menu - Report - Import from Template** function to import this template into the active job file and start entering data.

**It will be a good idea for you to use iTunes to save a copy of all the \*.rtm files to your computer for safekeeping.**

**If you have modified a form, such as one of the wetland determination data entry forms, please save the modified form under a new meaningful name. Select this new form to import as the form template to start a new data entry form.**

Although this app will let you maintain only one form in each job file, you can use the form to produce multiple PDF report files. For example, after recording the wetland data at one test location, you can send the completed report to a PDF file then clear out the data in the form by importing the wetland.rtm template again to enter data at the next test location.

However, If you wish to keep the data entered into a form so as to be able to make

changes later, then please create a new Job file for each test location.

### **Export Report as Template**

After you have designed or modified a data entry/report form, you may use the **Main Menu - Export Report as Template** function to save the form as a template for future use. The template files use the file name extension ".rtm".

The report form will display any data that has been entered, but the template will not contain any data nor any computed values.

As it takes time and effort to set up a new form, it is a good idea to save your completed forms as templates for future use or for sharing with your colleagues.

You can send the Template files out via email by using the **Email Files** function under **Main Menu - Job**. When the email recipient taps on the attached .rtm file, the icon for this app will pop up. When you tap on the app icon, you will be prompted to save the .rtm file to the local folder on your device.

### **Lock Report**

To prevent the report design from being altered by other people, you may lock it with a password. To do so, select **Lock Report** then enter your password. Keep your password in a safe place and don't forget it. You will need to enter the password in order to modify the report design.


### **[Back to TOC](#)**

### **Design Report**

Please select the Job named "**requisition**" to work with when trying out the functions discussed in this section.


From the **Utilities** menu select  **Design Report** to view or modify the report form associated with the currently active job.


This app provides a number of different types of components that you could use for designing various kinds of forms such as data collection forms, agreements, contracts, invoices, purchase orders, and so on.


You may design a one-page form, or you may design a form that spans multiple pages. To add another page to the form, simply tap the **Add Page** icon . To remove a page, tap the pull-down arrow then select **Delete Page**. You will be given an opportunity to confirm the delete action.

### **Caution:**

Once a page is deleted, it is gone and cannot be recovered.

Tap the Zoom Width icon  to fit the form in the horizontal direction.

Tap the Zoom Length icon  to fit the form in the vertical direction.



Tap the Zoom Multi-page icon  to show multiple pages for easier scrolling.






## **Form Design Components**

In this section we provide a description of the types of design components that you may use to design a data entry/report form. We will also illustrate the use of some of these components by taking you through the process of setting up a simple requisition form. You may also study the **wetland** report form that comes with this app, which makes extensive use of formulas and logic statements.


At the top of the report design screen, the second and third icons from the left side provide **pull-down arrows** for the Tool1 menu and Tool2 menu, respectively.

These two menus provide the same set of design component choices. The reason we provide these two identical menus is to help speed up the selection of a design component. For example, if you will be adding a lot of labels and edit field to your

form design, you might want to keep the <sup>Text:</sup>  and  icons displayed most of the time. When you need to add one of these components, all you have to do is to tap on it.

 **Frame:** Create a table frame on the page. You may add horizontal and vertical division lines on the form by using , ,  or  to help organize its layout.

<sup>Text:</sup> **Label:** Add a text label to the page. You may enter multiple lines for the text. In fact, if you wish, you could copy an entire page of text from another document and paste it into your form.

 **Edit:** Add an Edit (combo) field to the page. The Edit field can be a field for entering data or for displaying the value computed by using a formula. You may also create a list to be associated with the Edit field and populate it with frequently used numeric values or text descriptions. This way, during data entry you could simply select an item from the list instead of manually entering the number or description.

<sup>Check</sup> **CheckBox:** Add a field that will display a check mark if the associated formula yields the logical YES.

A "Show Yes and No" option is provided for this form component. When selecting this option, please make sure the data entry form has sufficient space to accommodate the longer string of text.

<sup>a\_c</sup>  
<sup>b\_d</sup> **Checklist:** Add a Checklist component that lets you populate a list of items from which the form user may select. You can specify whether the user may select a single item or multiple items. A check mark will be displayed for the items that

the user selects during data entry.

This component may be used in a formula in the following ways.

You can use the following syntax to get the count of the number of items in the checklist that have marked by the user.

Select <Checklist Name>

RESULT = COUNT

You can also determine if a certain item in a checklist has been marked by the user by using the following syntax in a formula:

Select <Checklist Name>

RESULT = item2

To facilitate the formula construction, the app will let you select the desired Checklist item from a page provided under Formula. For example, after selecting a field and tapping on the **Formula** tab, you may tap the **Name** button to call up the **Select Editor** page. When you tap the **Checklist** tab and select a Checklist name, the **Select Field** tab will become active. When you tap the Select Field tab, you can select from a list of the field names in the Checklist. If you select the first item and tap on OK, it will be entered as item1. If you select the second item, it will be entered as item2, and so on.



**Sheet:** Add a Sheet component that you can set up for entering data in a spreadsheet format. You may define the field column titles, the field dimensions as well as the field types. A field in a Sheet may provide a blank for data entry, it may provide a list of numeric or text data, or it may contain a formula that operates on other fields.



**Signature:** Add a Signature field for capturing the user's signature.



**Photo:** Add a space for the user to incorporate an image in the report form.



**Date/Time:**

**Duplicate:** This function is for helping to speed up the design of a form containing a large number of similar fields. First tap on the form component that you wish to copy, then select Duplicate from the tools drop-down list. If it is an Edit field or a Sheet that you are duplicating, make sure you change the name of the duplicated form component to a unique name. (See "Editing a Form Design Component" below.) Also, if these components contain formulas, remember to modify the formulas to reference the correct variables.

### **Adding or Deleting Editing a Form Design Component**

It is advisable to plan ahead before adding the various components to a form design as it will take time and effort to redo a form.

For the "**requisition**" Job that you have currently open, we will create a form that provides the following components:

A few **Labels** that show the name of the form and the titles for the various other components.

An **Edit** field for entering the requester name.

Each Edit field should have a **unique name** within the same form to prevent ambiguity when a formula refers to the Edit field. It is advisable to assign meaningful titles so as to make them easier to reference in formulas.

A **Checklist** for selecting the Department name.

A **Sheet** for entering the quantities and items to be purchased. You can set it up to provide a list of items that often need to be purchased and also to calculate the dollar amounts.

An **Edit** field for showing the sum total of the purchase requisition.

An **Edit** field for user to enter a relevant remark.

A **Signature** field for the requester to sign.

To delete a listed form component, tap on its name then tap the **Delete** button. You will have an opportunity to confirm the deletion or to cancel the action.

**Caution:**

Once a form component is deleted, it is gone and cannot be recovered.

**Please note:** If you see a report form component area highlighted in **red**, it means there is a problem fitting the component in the allocated space. For example, a component area will be highlighted in red if the boundary specified in the layout is not wide or long enough to accommodate it.

**Adding a Label and the Corresponding Edit Component**

In the report design screen, tap on the **pull-down arrow** for the Tool1 menu and select the Report **Label** icon <sup>Text:</sup>. Enter the label text "Purchase Requisition Form".

Tap on the displayed box for this field then drag it to be near the top of the form, and you may drag the handles of the box to change its size. However, you can achieve exact control of the position and size of the form component by using the **Layout** functionality.

Tap on the **Layout** tab to see the controls for the X, Y position, the box dimensions as well as the text attributes.

Let's change the font size to 16 and set X = 190, Y = 30, Width = 200 and Height = 24.



Tap the **Back** button to close the editing screen for this label component and return to the Design Report main screen. (Please note that you will not be able to select another component while you are in the edit screen for another component.)

In the Design Report screen, tap once on the screen to hide the adjustable box for the label that you have just added. If you keep the box active, you might inadvertently change the field dimensions.

If the label size and placement looks all right, tap on the **"lock"** icon for this component to lock this field to prevent it from being changed unintentionally.

In a similar way, add a label named "Date:". Specify the font size of 12 and adjust the field location so this field is in the upper-left area of the form.

The label components serve only to display the label text. You still need to create fields for the form user to enter data or to make a selection.

Tap on the **pull-down arrow** for the Tool2 menu and select the **Edit** icon . Name this field "ReqDate" and adjust its position by the Date label as necessary. Mark the **Show Underline** check box so the form users will see a "blank" on the form for them to fill in the date. Alternatively, you could use the **Date/Time** tool  to add a date/time picker.

Tap the **Back** button to close the editing screen for the last added component and return to the Design Report main screen.

Now add the "Requester:" label and add an Edit field named "RequesterName", with the **Show Underline** check box marked. Place these fields below the Date field, leaving some space for fields we will be adding later. We suggest a Y position value of 100.

Also add a "Remark:" **label** and the corresponding **Edit** field named "Remark1". Place these fields at Y = 530 and mark the **Show Underline** check box for the "Remark1" field. For the "Remark1" field, tap on the **Multiple Lines** tab to permit the users to enter a long remark. We are leaving a large space so we can add a Sheet component for entering the items to be purchased.

Place the "Total:" label below the Sheet component.

Now add the following labels.

"Department:" at X = 30 and Y = 80

"Items Requested:" at X = 30 and Y = 150

"Total:" at X = 370 and Y = 490

"Signature:" at X = 30 and Y = 670

The corresponding data fields will be discussed in the following sub-sections.

### Setting up a Checklist Component

When filling out the requisition form, we would like to be able to select the department from a check list of departments instead of having to manually enter the the department name. Therefore, we will make use of the **Checklist** facility.

Tap on the **pull-down arrow** for the Tool2 menu and tap on the **Checklist** icon



Name this field "DeptList".

Tap on the **Layout** tab and set font size to 12, X = 114, Y = 80, Width = 350 and Height = 30.

Tap on the **List** tab.

Tap the **Append** button then enter a department name, such as "Admin". Tap the **Append** button again to enter another department name, such as "Biology". Add other departments as appropriate for your organization.

Tap the **Back** button to close the editing screen for this label component and return to the Design Report main screen.

### Setup a Sheet Component

As we expect the requisition form to accommodate several requested items with quantity, unit price and total price, we will make use of a Sheet type component. Each Sheet can accommodate up to 399 records.

Tap on the **pull-down arrow** for the Tool1 menu then select the **Sheet** icon .

Name this component "ItemData" and specify the number of rows. We will put in 10 rows for this example.

Tap on the **Layout** tab and change the font size to 12 and set X = 30, Y = 160, Width = 500 and Height = 300.

Tap the **Fields** tab to define the data fields in the spreadsheet.

Tap the **Append** button then enter "Item\_Name" as the Name of this data field. Keep the Type as Text and specify the Text Length to be "20". Tap on **OK**. Change the field width to 200.

When filling out the requisition form, we would like to be able to select the frequently purchased items from a list instead of having to manually enter the item names. Therefore, we will use the **Append** button in the **Defined Field** screen to enter a few item names, such as "Test Tubes", "Shovel", "iPad", etc. then tap on



**OK.**

Now tap the **Append** button then enter "QTY" to add the Name for the second data field. Change the Type to **Numeric**. Keep the Decimal Digits as "0". Tap on **OK**. Change the field width to 50.

Tap the **Append** button then enter "Unit\_Price" as the Name of the third data field. Select **Numeric** as the field Type, and change the Decimal Digits to "2". Tap on **OK** then change the width to 60.

Tap the **Append** button then enter "Amount" as the Name of the fourth data field. Select **Numeric** as the field Type, and change the Decimal Digits to "2". Tap on **OK** then change the width to 60.

We can have the app calculate the extended amount for each item requested. To do so, first tap on the check box for "**Has formula**". A panel opens for you to enter the formula.

To facilitate the construction of a formula, the app provides buttons for you to select a command or a field name to operate on.

Tap on **Command** then tap on **RESULT**. Enter "=" from the on-screen keypad. Alternatively, tap on **Command** then tap on the **Operator** tab and select "=".

Tap on **Name** then select QTY.

Enter "\*" from the on-screen keypad. Alternatively, tap on **Command** then tap on the **Operator** tab and select "\*".

Tap on **Name** then select Unit\_Price.

Tap on **OK** then change the width to 100.

The formula you have entered should look like the following:

RESULT = QTY\*Unit\_Price

Tap the **Parse** button to check the syntax of the formula. You should see "Pass" displayed. If not, check the formula to make sure it has been entered correctly.

Tap the **Back** button to close the editing screen for this label component and return to the Design Report main screen.

### **Adding a Formula**

As shown above, you may add a formula to compute values for one of the fields in a Sheet component.

You may also enter a formula for an **Edit** component to compute values based on the values in other Edit fields.

From the Report Design screen tap on **Edit** on the Tool2 menu and name the newly

added field "Sum". Tap the **Layout** tab then enter  $X = 408$  and  $Y = 490$  to place this field next to the "Total:" label. Set the Width to "60".

Tap the **Formula** tab to enter the formula for computing the total purchase amount.

The formula you have entered should look like the following:

```
SELECT ItemData
```

```
RESULT = SUM Amount
```

Tap the **Parse** button to check the syntax of the formula. You should see "Pass" displayed. If not, check the formula to make sure it has been entered correctly.

Tap on **OK**. Change the value for "Decimal digits" to "2".

Tap the **Back** button to close the editing screen for this label component and return to the Design Report main screen.

### Commands and Operators making up a Formula

This app provides the following commands and a set of mathematical and logic operators that you can enter into a Formula to perform the desired computations or to test values against specific criteria.

```
IF  
ELSEIF  
ELSE  
ENDIF  
SELECT  
AVG  
AVG WHERE  
COUNT  
COUNT WHERE  
FIND  
FIND WHERE  
SUM  
SUM WHERE  
RESULT
```

Each Command must be entered on a separate line. It is optional to place a spaces between a command and the ensuing operator.

Use "**RESULT =**" to show the intermediate and final results of a set of computations. If the formula only contains one computation result and it is on the last line (or only line) of the formula, then you can omit "RESULT =" and enter just the computation formula.

You may include conditional statements in a formula.

This app supports **nested IF** commands in the following format:

```

IF (A > B)      //the () is optional
  IF X > Y
  .
  .
  ENDIF
ELSE
  .
  .
ENDIF

```

If you have a formula that contains multiple computation steps, you will want to make sure the variables involved are properly ordered in the component list so that the intermediate results are available when needed.

For a Sheet component you may use **FIND WHERE** to automatically fill in a field in a record in which another field meets the specified search criterion in a separate reference Sheet. **The variable searched must not contain duplicate values as the search will only return the first record found that meets the search criterion.**

For example, in the Requisition example, you could add a new field called "Description". If you wish to have the description of the selected Item automatically entered to the form, you could add a Sheet component (e.g. **ItemList**) on a new page of the form design to associate the items with their descriptions. Fill this Sheet with the Item Names and their corresponding Descriptions.

Then you would edit the **Description** field in the ItemData Sheet and mark the check box for "**Has Formula**". Enter the following formula for this field:

```

R0=Item Name
Select ItemList
R1 = FIND Ind WHERE Item Name==R0
SELECT ItemData
RESULT = R1

```

Now when you enter data into the Purchase Requisition Form, whenever you select an item to purchase, the corresponding description will be automatically entered into the form.

When printing out the completed requisition form, you will want to choose not to print the page(s) containing the item-description list.

### **Importing Text into the Values List for a Sheet Component Field**

Instead of manually populating the pre-defined list of values for a variable field in a Sheet Component, you could import the list of values from a text file. This is particularly helpful for preparing the vegetation list for each stratum of a **Wetland Determination Data form**.

The Wetland - Stakeout app comes with a short sample plant list for each Region. The complete plant lists are too long to include in this app and will increase the time for searching for a record in the list. Please set up your own vegetation list

that only contains the species that you normally work with for each stratum and import it into the app. This way you could cut down the number of species names to select from while entering data.

For the 2016 plant list, please refer to the **U.S. Army Corps of Engineers 2016 National Wetland Plant List**, version 3.3. In your Internet browser enter "National\_2016v3..xlsx" to download the plant list.

You could use Excel to open this plant list file, delete the columns that you don't need then add a column for marking the desired records for a given stratum. Sort the data to get the block of records that you need. Swap the positions for the Common Name column and the Indicator column. Export the data to a text file according to the format shown below. The text file must have the proper number of character spaces for the Species Name field to be properly imported into the app. Details are provided below.

---

### **How to prepare your own plant list based on National\_2016v3.xlsx (using Hawaii as an example)**

1. Save a copy of National\_2016v3.xlsx as National\_HI.xlsx.
2. Remove the irrelevant columns and rows.
3. Use **Data/Sort** based on the HI column to group all the rows with blank Wetland Indicator Code together.
4. Delete the blank rows.
5. Use Data/Sort based on the Scientific Name column.
6. Move the Common Name column to be between the Scientific Name and the HI columns. This is to conform to the PlantListFormat.txt format.
7. Insert a blank column, such as before the Scientific Name field. Name it "Stratum".
8. Define your Stratum codes. For example:  
1 = Tree Stratum. 2 = Sapling/Shrub Stratum, 3 = Herb Stratum 4. Woody Vines Stratum
9. Mark the records with species that you will be working with using the appropriate code.
10. Now use the **Stratum** column as the key to sort the database.
11. Delete the rows that have not been marked with the Stratum code.
12. Save a separate copy of the spread sheet for each Stratum, naming it after the Stratum name. In each stratum file, delete the records that don't belong to that stratum.
13. **Hide** the Stratum column in the spreadsheets so it will not be exported.
14. For each stratum file, export data to "**Formatted Text (Space Delimited)**" and save as a **.prn** file. This way Excel will automatically determine the column widths and add spaces to pad to that width. Give the text file a name, such as National\_HI\_Trees.prn.
15. Rename the .prn files to **.txt** files.

If you already have a plant list for a specific region, then after making a copy of the file to work on, jump to **Step 7** and continue from there.

16. When importing the text files, set the **Text Length** for the **SpeciesName** field

for each Stratum under **Design Report** to be the same as the column width for the **Scientific Name** in the text file.

-----  
The first segment of the text file will be interpreted as the **Species Name**. (You can specify an appropriate **Field Length** for this field under Form Design.) The next segment of text following that will be displayed as a **hint** during data entry. You could use this to advantage by including the common names of the plants in the list to serve as a reminder.

**If you wish to have the Wetland Indicator code automatically filled in when you select a species name during data entry, then make sure the vegetation list includes the Indicator codes as the third segment of text.**

You may use a space ( " " ), a dash ( - ) or a comma ( , ) as the separator between the common name and the Indicator code.

Following is a sample with Field Length = 40 for Species Name. The first line shown below is just for showing the character positions to you. Omit it from your text file. We put in the "-" to clearly indicate the beginning of the common name, but you do not need to include this character in your common name field.

```
123456789012345678901234567890123456789012345678901234567890
Acer negundo - Box elder,FACU
Acer rubrum - Red maple,FAC
Nyssa sylvatica var. biflora - Swamp
blackgum,FACU
```

Following is a sample with Field Length = 30 for Species Name. (Omit the first line from your text file.)

```
123456789012345678901234567890123456789012345678901234567890
Acer negundo - Box elder,FACU
Acer rubrum - Red maple,FAC
Nyssa sylvatica var. biflora - Swamp blackgum,FACU
```

For your reference, a file named **PlantListFormat.txt** is provided with this app. This format assumes a Field Length of **40**. Please use iTunes to copy this file to your Mac or PC.

After preparing the text file, use iTunes to copy it to the Documents folder of this app on your device.

To import the text file, in the Sheet Component for a vegetation stratum, first tap on the **Fields** tab. Select **SpeciesName** then tap the **Edit** button. In the **Define Field** screen, tap on **Import** then select the text file that you have prepared. When prompted with "Delete existing list?", answer Yes, if you want the list from the text file to overwrite the existing species list. Answer No, if you want the species from the text file to be added at the end of the existing list.

We put in a formula for the Indicator Field in the wetland data entry forms to

enable the Indicator codes to be automatically entered into the form when you select a species name. If you prefer to enter the Indicator codes yourself, then please populate the list for the Indicator field in Form Design and unmark the check box for "**Has Formula**".



### **Adding a Signature Field**

Tap on the **pull-down arrow** for the Tool1 menu then tap the **Signature** icon .

Place this field next to the "Signature:" label.

### **Resizing a Design Component**



When a design component is not locked, you may tap on it then drag the handles to change its size.

If you tap on the Resize icon , and a lock appears , then you may not resize any component on the form.

It is advisable to edit the Layout of the component to set its exact dimensions rather than resizing it by hand.

### **Moving a Design Component on a Report Form**

When a design component is not locked, you may tap on it then drag it to a different location on the form.

If you tap on the Move icon , and a lock appears , then you may not drag any component to move it around on the form.

To avoid inadvertently altering the size of the form component while moving it manually, you could tap on the icon to lock the size then move the component to a new location.


To place a component at an exact location on the form, you could edit the X and Y values on the component Layout page.

### **Reorganizing the List of Design Components and Data Entry Fields**

The order of the data entry fields listed in the **Design Report** screen determines the sequence in which the cursor jumps to the various data entry fields within the **Enter Report Data** routine.


On the Design Report screen you may tap on the name of a form component listed in the Browse Panel on the right-hand side then tap the Move Up or Move Down icon to relocate it on the list.

Here is a faster way to rearrange the design components and data entry fields. In the Design Report screen, tap on the field you wish to move then tap on the

**Change Order** icon  at the top of the screen. Select the destination component

and tap the "Before" tab if the field is to be move just above the destination component, or select "After" if the field should be placed just below the destination componenet. Tap on the **Move** button to move the field.

To find the sequence number for a destination component, tap on the corresponding field in the data form then tap on the **Change Order** icon at the top of the screen to view the list of components with their sequence numbers.

While in the main report design screen, tapping on the Menu icon  will display the **Report Design Menu**. The commands provided on this menu are described below.

### **Send Report to PDF**

To see what the report form you are working on will look like when sent out to a PDF file, you can select the **Send Report to PDF** from the **Report Design Menu**. You should take a look at the PDF output in the early stages of designing a report and see if the layout and font sizes appear to be what you have in mind.


You may accept the displayed default name for the PDF output file, or you may type over it with the name you wish to assign to the PDF file. Also, you could tap the "New" button to get a new file name that starts with numerals representing the current month and date.

It is your responsibility to employ meaningful and easily recognizable file names to prevent an existing PDF file from being inadvertently overwritten. Beware that if you accept the default name "Wetland", then whatever had been exported to the Wetland.pdf file before will be overwritten by the new content.

If you wish to overwrite an existing PDF file, then select that file from the list. **Beware that doing so will erase all the existing contents of the selected PDF file.**

To make sure you really want to overwrite an existing PDF file, tap on the **View File** check box then select the file you wish to view. In this mode, instead of the **OK** button, you will see a **View** button. Tap the **View** button to display the contents of the highlighted PDF file. Then tap the **Back** button to return to the File Dialog. When you are ready to overwrite the file, unmark the **View File** check box.

Tap the **OK** button to complete the PDF export. The PDF report will be displayed.

If you have an AirPrint Printer, you may tap on the **Printer** icon  then confirm to print the contents of the PDF to that printer.

The exported PDF files will reside in the Documents folder for the application. To access the PDF files exported from the application, first connect to the iTunes® program then look in the Documents folder for the **Wetland - Stakeout** app.

**To delete a PDF file**, use the iTunes® program to access the Documents folder for the app then select the file and hit the **Delete** button on your

desk-top computer. **A deleted file cannot be recovered.**






### **Lock Report and Exit**



If you are the person responsible for designing the data entry/report form and do not want the end-user to make changes to the form, select this option before exiting the form design function. You will be prompted to enter a **password** for protecting the report form.

When the report form has been locked, the user will not be able to access the **Design Report** function, but may still enter data into the form via the **Enter Report Data** function.

### **Exit Report Design**

Select this option to close the report design screen and go back to Map View.

The **Wetland Determination** form provided as an example in the job file named **Wetland** makes use of the form components discussed above as well as the frame creation tools , , ,  as well as the **CheckBox** component .

In the report form that you design, you could also add a Date/Time component by using the **Date/Time** tool , or add one or more photos by using the **Photo** tool .

[Back to TOC](#)

### **Enter Report Data**



Now that you have set up a data entry form, such as the Requisition form, you can play with it by entering some data values. To do so, first return to the main Map

View screen then tap on the **Utilities** pull-down arrow and select  **Enter Report Data**.


For your reference, the report form will be displayed in the upper area in Portrait mode or on the left side in Landscape mode. The data entry fields will be displayed in the other half of the screen.



When you tap on a display-only field in the report form, such as a label or a field for displaying a computation result, nothing will happen.


When you tap on a **data entry field** in the report form, the corresponding item will be highlighted in light blue in the data entry panel. Enter the data or make the desired choice.


In a Sheet type data entry section, you may tap the **View** icon  to change it to the **Edit** icon . In the Edit mode, the on-screen keypad will stay on the screen to facilitate data entry.




You can export the data in a Sheet type component to a text file in CSV format. To do so, tap on the Sheet component then tap the **CSV Export** icon . Enter a file name then tap the OK button.


If there are fields containing formulas, tap the Refresh **Form** icon  to re-calculate. Any values that have been calculated so far will automatically appear in the report form. The app will calculate the values in the order the variables appear in the components list. If a formula involves multiple steps and the variables are not ordered in such a way as to readily provide the intermediate results, then you may need to tap the Refresh **Form** icon  more than once to get the computed result.

The **wetland data entry** forms will calculate certain results based on the data you have entered. Please tap the Refresh **Form** icon  from time to time to see the currently available results.


Tap on  to fit the form to the allocated space in the horizontal direction.

If you just want to see the data entry fields, then tap the icon  to hide the report form.

The **Wetland** job provided as an example in this app contains the wetland determination data form based on the document titled "**Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)**" dated September 2008. If your organization has provided to you a similar relevant document, then use that document as a guide for recording your wetland observations. You could copy either document or a document containing relevant instructions to your iPad by using iTunes. The "**Send Report to PDF**" section in this document provides information regarding how to view a PDF document withing this app.


To enter data using the **Wetland Determination** form in this app, please open the job named "**Wetland**" and save it as "**MyWetland**". This will prevent you from inadvertently changing the design of this form. Select  **Enter Report Data** on the **Utilities** menu then tap on each data bank on the displayed report form and enter or select the data for that field.

When there is a long check list from which to select, it may not all fit into the frame, and you will need to scroll the screen to see the additional check boxes. When you are holding the iPad in **portrait** mode, swipe up to get to the end of the list. When you are holding the iPad in **landscape** mode, swipe left to get to the end of the list.

When done with data entry, tap the **Back** button to return to Map View. Then you can select  **Send Report to PDF** from the **Utilities** menu to print the completed report to PDF.

[Back to TOC](#)

## Send Report to PDF

After entering data into the report form, you can send the completed report to a PDF file by selecting  **Send Report to PDF** from the **Utilities** menu.


You may accept the displayed default name for the PDF output file, or you may type over it with the name you wish to assign to the PDF file. Also, you could tap the "New" button to get a new file name that starts with numerals representing the current month and date.

Beware that if you accept the default name "Wetland", then whatever had been exported to the Wetland.pdf file will be overwritten by the new content.

If you wish to overwrite an existing PDF file, then select that file from the list. **Beware that doing so will erase all the existing contents of the selected PDF file.**

To make sure you really want to overwrite an existing PDF file, tap on the **View File** check box then select the file you wish to view. In this mode, instead of the **OK** button, you will see a **View** button. Tap the **View** button to display the contents of the highlighted PDF file. Then tap the **Back** button to return to the File Dialog. When you are ready to overwrite the file, unmark the **View File** check box.

Tap the **OK** button to complete the PDF export. The PDF report will be displayed.

If you have an AirPrint Printer, you may tap on the **Printer** icon  then confirm to print the contents of the PDF to that printer.

The exported PDF files will reside in the Documents folder for the application. To access the PDF files exported from the application, first connect to the iTunes® program then look in the Documents folder for the **Wetland - Stakeout** app.

**To delete a PDF file**, use the iTunes® program to access the Documents folder for the app then select the file and hit the **Delete** button on your desk-top computer. **A deleted file cannot be recovered.**

[Back to TOC](#)

## Reference:

U.S. Army Corps of Engineers (USACE), 2008, "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)", ERDC/EL TR-08-28, Vicksburg, MS: U.S. Army Engineer Research and Development Center.

## Trademark Acknowledgments:

Apple®, iTunes®, iPad®, and MAC®, are trademarks of Apple Inc., registered in

the U.S. and other countries.

Map is a mapping service provided by Apple Inc.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.