FieldPro

FP80005

User's Guide
And
Installation/Setup

What's New for version 80005

- The Android app is completely new. You'll need to use the FieldPro app (search for "Mpowered FieldPro") on the Play Store. This update is completely compatible with the existing iOS FieldPro app.
- The Android app now uses the same Webapp style introduced with iOS. Be sure to read through the setup section to get up-to-speed on changes if you have Android users.
- On the Task Edit screen, a few changes to the bottom toolbar buttons and menu were made. The email and print Enotices functionality was swapped, so now the toolbar shows an email button when no changes are pending, and "Print notice" was moved to the menu.
- An Enotice confirmation screen was added, to allow a 2nd verification of the "To:" address(es) and uncompleted deficiencies (if any) that would be sent in the Enotice.
- Many other adds, improvements and glitch fixes: including improving AD auth to allow per-user.

<u>Upgrading from a previous version?</u> See the Upgrade Notes at the end of this document for helpful advice.

Section 1. Using FieldPro

Note: This section assumes that you have successfully installed/upgraded and configured FieldPro. If you have not yet done so, follow the instructions in Section 2, Installation/Upgrading.

NOTE: this manual uses the terms 'Tasks' and 'Inspections' interchangeably. Occasionally in the app, if space is tight, the word "Deficiency" is abbreviated to "Deficy".

Here is a typical screen showing tasks for area MPOWERED after doing a refresh on June 07, 2023:
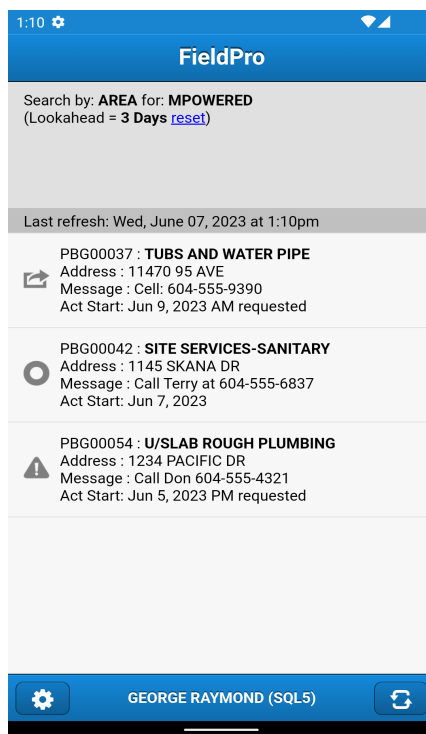

Three inspections are assigned to the area MPOWERED, the top inspection is scheduled for June 9, therefore it has the "future-dated" icon. Note in the top grey container, FieldPro shows (Lookahead = 3 Days reset). We can remove the look-ahead by clicking on reset. (To set the look-ahead days, tap the gear icon (lower left), and change setting Lookahead Days.)

The middle inspection is scheduled for today (any time), and the bottom inspection was scheduled for a few days ago, so it shows the exclamation icon, since we are past due on performing this inspection.

**A typical inspection walk-through with FieldPro**

Performing an inspection using FieldPro to record and send the results might look like this... we'll start with the overdue inspection for PBG00054 at the bottom. After calling Don, and making sure he is on site today, we could tap the list item > "Locate on map" and get Google maps directions to 1234 PACIFIC DR. Once we are on site, and to start working through the inspection, we can double-tap the list item, or single tap and tap "Task details":
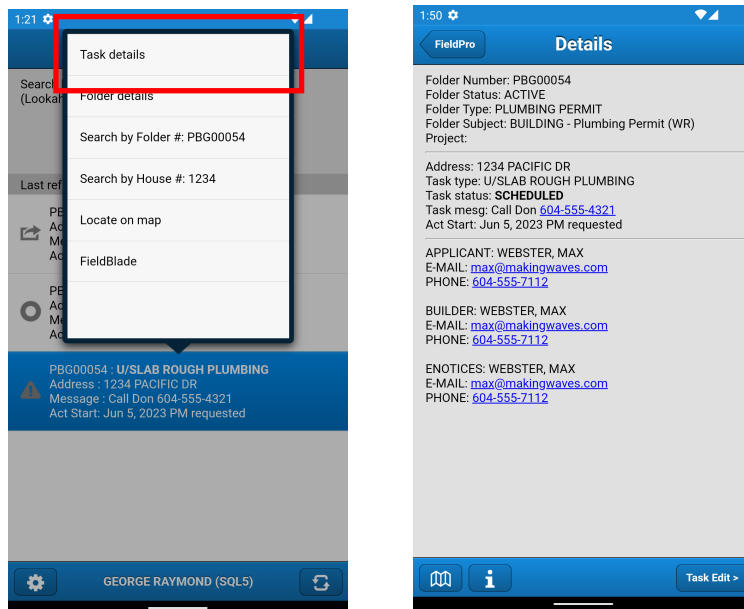
The Details screen gives us more information about the inspection, including who the contacts are. Clicking the E-MAIL or PHONE links will allow you to contact that folder contact.

The screenshot on the above left shows a "FieldBlade" item. If we click that, it would take us directly to this folder in FieldBlade (FieldBlade is a licenced product by Mpowered). FieldBlade opens up a large range of possibilities in terms of expanding the number of things from Tempest we can see, for example Land, Dogs, Calls, Licensing, and of course Prospero. If you don't have FieldBlade and you are interested in seeing its capabilities, please contact Mpowered: info@mpowered.biz

Tapping the "Task Edit >" button, moves you to the Task Edit stage, where the the inspection really takes off:
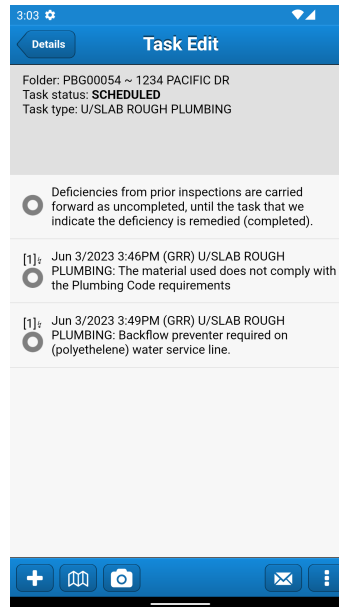
The list in the middle shows the carried-forward deficiencies, the bottom 2 deficiencies have 1 picture each associated with them, as indicated by the [1] in square brackets. We can see the date and time that the bottom 2 deficiencies were added, by whom (GRR), and the inspection type the deficiency was added via. (This "stamping" of the deficiency is a FieldPro-only feature, and if you don't have it yet, but want this extremely handy feature, see the deficyprefix setting in the setup section 2.)

So, we probably want to see what the issue was in those two bottom deficiencies, so tapping a list item will bring up a menu. If we tap the "DL deficiency photos (1)" item, all the images associated with that deficiency will be downloaded for viewing:
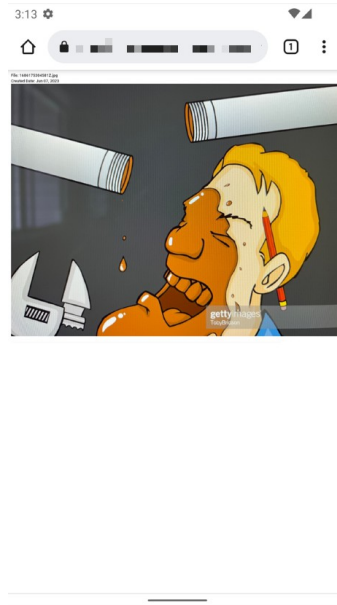
On Android, the web page with the images is immediately opened, and on iOS you need to tap the list item again and choose "View deficiency photos (1)".

All of the deficiency photos are assembled into one long web page in date order. In the case above, only one photo was attached to the deficiency. These are also the images that will be included in the Enotice email as attachments.

So, let's assume that this deficiency has been remedied. To indicate that in FieldPro, we would tap the item again, and hit "Complete deficiency", which will change the "O" icon to a checkmark, and turn the upper container a salmon colour, indicating that changes need to be saved back to Tempest:
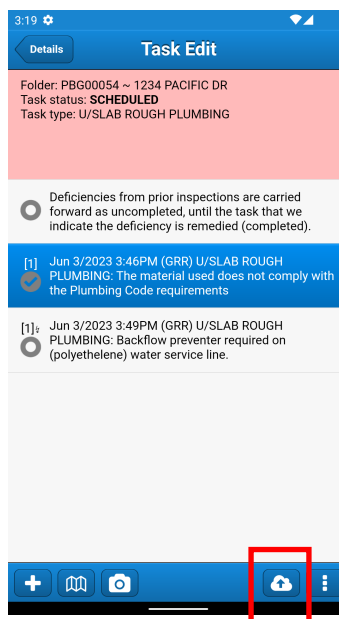

Also note in the bottom toolbar, the mail icon has changed to an upload arrow. Whenever you see this, the task is not synced to Tempest yet. We don't have to upload each change as we make them, but we can save the upload until we are finished the inspection, and are ready to email an inspection notice, as you'll see later on.

If any deficiency is still not remedied, we can just leave it alone, and it will be added to the current Enotice as well as carry forward to the next inspection. In our case, we will complete all three. To make completing faster, you can swipe right on the deficiency, a shortcut for completing the deficiency.

Now, as we are continuing our inspection, we notice a new issue with the Water hammer arrestors, so we want to add a deficiency for that. Hitting the + button in the bottom left lets us add a new deficiency (this shows us the Inspection Codes added in Tempest configuration for the task):
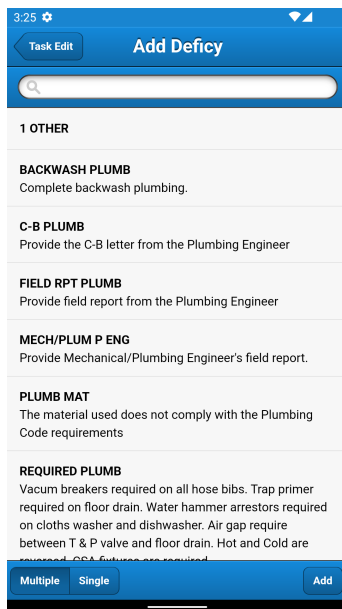
We can see that there are a lot of possible standard deficiencies we can add! Using the search field at the top, we type in "arrest", and the list is automatically filtered to just the deficiencies containing that text:
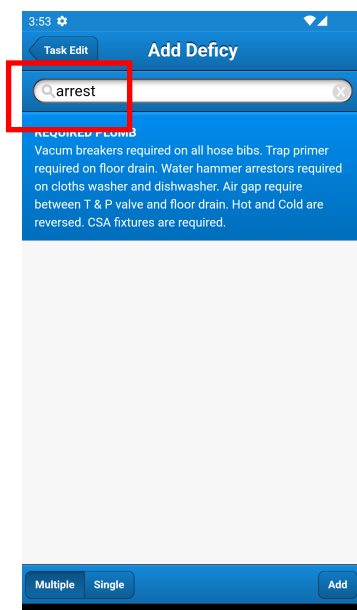
We can add as many deficiencies from the list as we want (removing the search text will return us to the full list), but for now, we tap Add – which adds the standard deficiency to the current task:
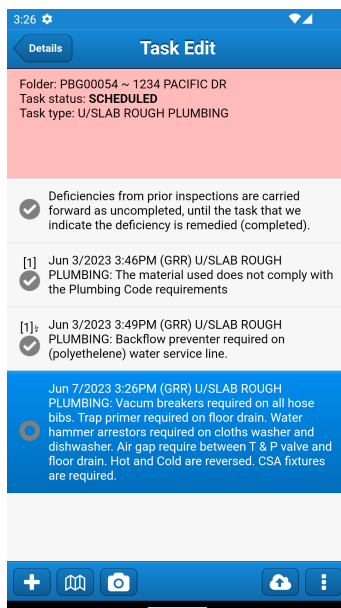
We can edit the standard deficiency to remove some of the unneeded wording by double-tapping the deficiency and editing:
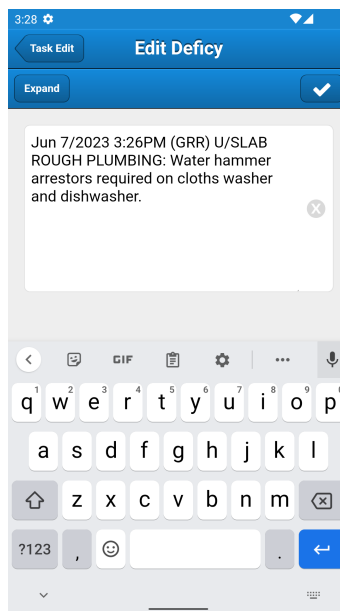
and then hitting the check button. If your text becomes so long that the text box becomes too small you can tap the Expand button to add some more space to the text box.

9

Now, our inspection looks like this:
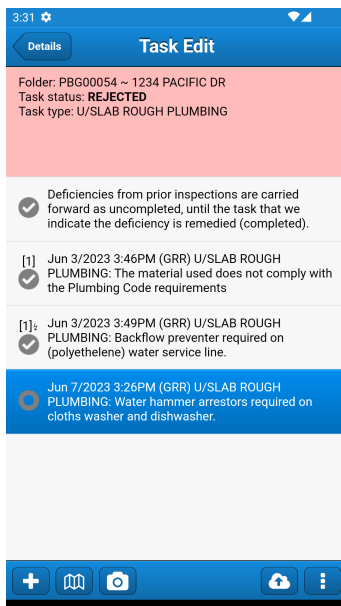
And we are ready to set the overall task (inspection) status. Tapping in the upper salmon area, shows us the task status menu (these come directly from your Prospero configuration for the task):
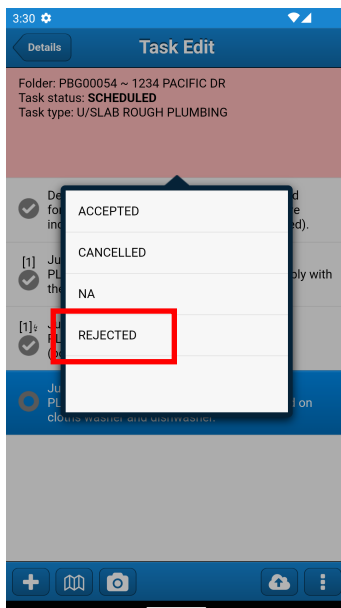
We are going to reject this inspection because we added a new deficiency, so we tap REJECTED. All done. We can now sync the changes with Tempest, by hitting the up-arrow-cloud button.

Here is our task now, all done, ready to send an Enotice. In the bottom toolbar, you'll see that the up-arrow-cloud button changed back to an envelope, and the upper container is grey again. This is how we know that changes are synced to Tempest, and we are good to send the Enotice. So, we tap the envelope button:
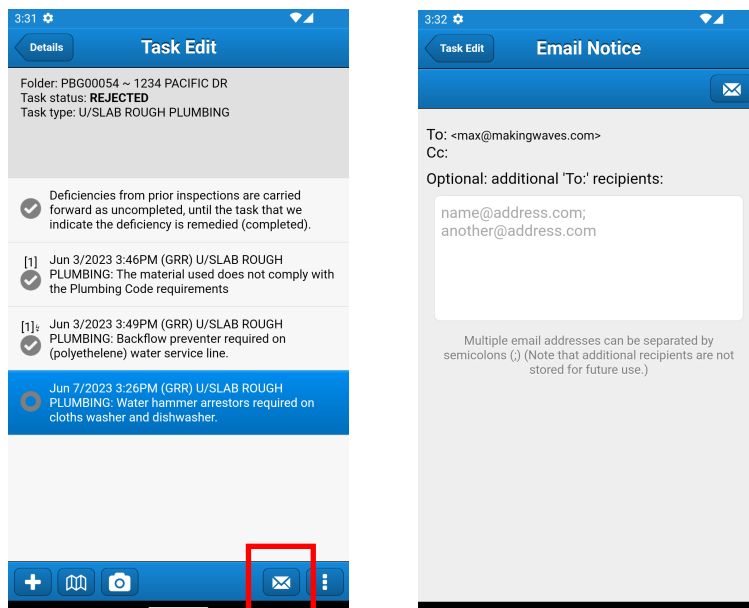
Any ENOTICES email contacts from the folder are shown in the To: area, and we can add additional recipients in the edit box below that. If the folder doesn't have ANY ENOTICES contacts, you can still send the notice by adding an email in the Optional text box. As the screen shows, additional recipients are NOT stored on the folder for future use.

Tapping the envelope button shows us a final confirmation screen:
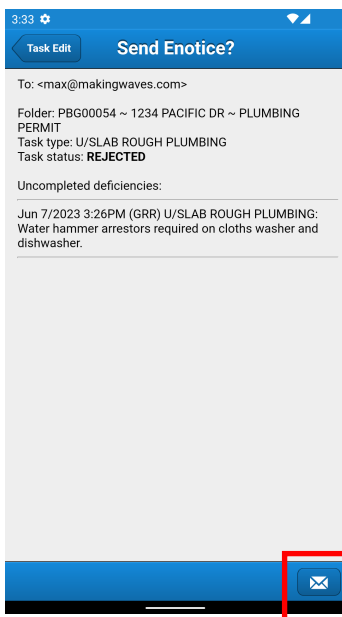
Once we are satisfied, we can hit the envelope button at the bottom, which sends the email:
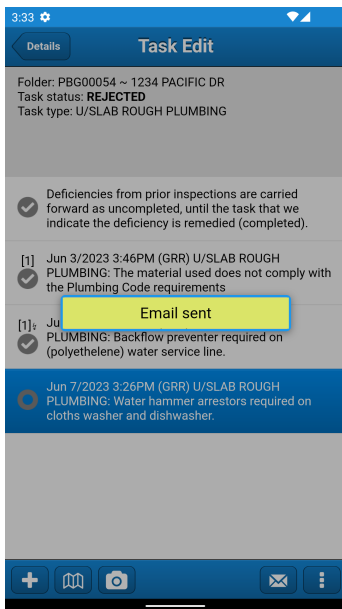
From the menu button on the lower-left we can view/add Folder comments, and get a snapshot of the folder via Folder details – which will show us the status of the email we just sent (swipe left or right to view the various pages):
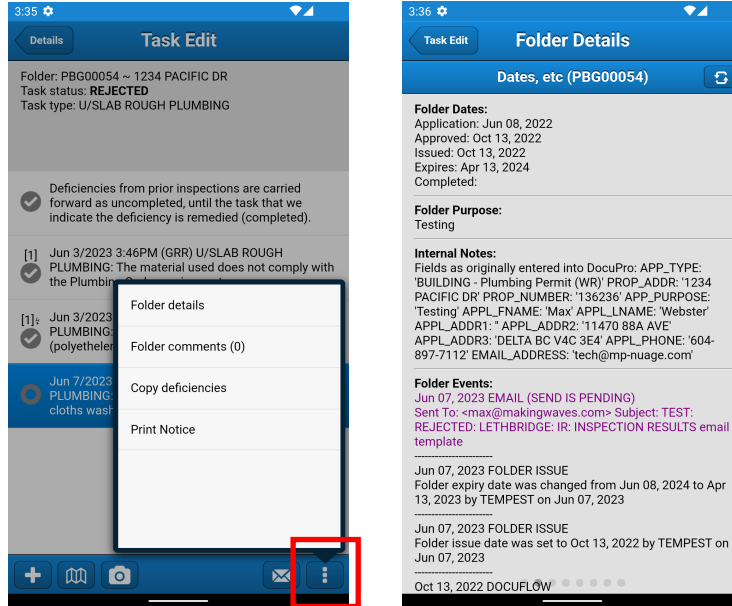
If we go back to the main FieldPro screen now, we will see that the "O" icon for the task (inspection) has changed to a checkmark, indicating we have completed (changed the task status from SCHEDULED to something else) the inspection:
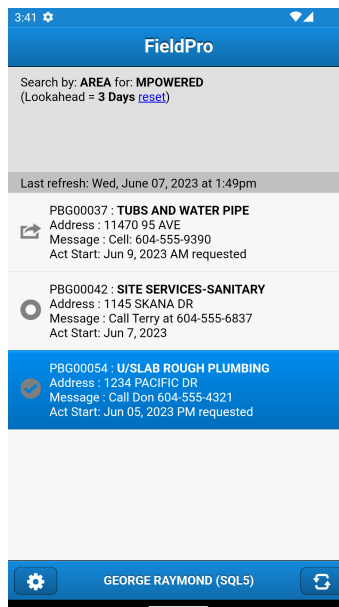
That completes the round-trip inspection process for one inspection, showing the most basic, common daily use of FieldPro. However, there are many other possibilities in FieldPro for advanced functions which are described next.

The Home button

After following many of the advanced functions described below, the "Home" button will be displayed in the lower-right toolbar. Use this button as a quick way to get back to the Home screen and re-display your Home AREA search:
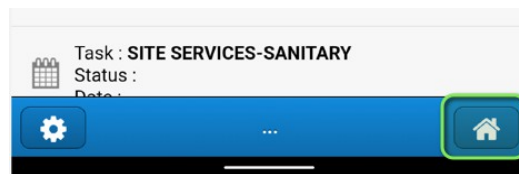
Tap guide to the more advanced stuff in FieldPro

Now that you know how to navigate around in FieldPro, we're going to use tap shorthand for the advanced stuff – we'll describe the sequence of button names/menu items you need to tap in order to get the function done {variable info goes in curly brackets} – and these descriptions start from the Home screen.

1. Change your Home AREA search
Home screen > {tap in upper container} > Search by: AREA {tap on areas to add to your Home inspection areas list. Clear the list and start again by tapping the X button. Refresh the areas list with the Refresh button.} > Back {this will automatically do a refresh with your new area(s) and make it/them your new Home AREA search}

2. Search for ad-hoc Folder #, House #, Project #
These searches will all result in a task list from the chosen folder, after which you can use the Home button to return to your Home AREA search. When searching by Project #, a great way to review the project is to not Open the folder, but review the tasks and statuses on the project folders and then Close and go to the next folder.
Home screen > {tap in upper container} > Search by Folder # {or House #, or Project #} > {enter the Folder number {or House #, or Project#} and tap the Search button} > {Tap the desired folder in the list} > Open {folder #}

3. Scheduling an inspection task on a folder in your Home task list
Home screen > {tap inspection} > Search by Folder #: > {tap the desired inspection to schedule (must have the gridded calendar icon with no status)} > Schedule this task

4. Adding an inspection task to a folder in your Home task list
Home screen > {tap inspection} > Search by Folder #: > {tap in upper container} > Add inspection task > Home (or tap the new inspection and Schedule)

5. Unscheduling an inspection task on a folder in your HOME task list
Home screen > {tap inspection} > Search by Folder #: > {tap the desired inspection to unschedule (must have the gridded calendar icon with a SCHEDULED status)} > Unschedule this task

6. Scheduling an inspection task on a folder NOT in your HOME task list
Home screen > {tap in upper container} > Search by Folder # > {enter the folder number} > tap the Search button > {tap the Folder that was found} > Open {folder#} > {tap the desired inspection to schedule (must have the gridded calendar icon with no status)} > Schedule this task

7. Adding an inspection task to a folder NOT in your HOME task list
Home screen > {tap in upper container} > Search by Folder # > {enter the folder number} > tap the Search button > {tap the Folder that was found} > Open {folder#} > {tap in upper container} > Add inspection task > Home (or tap the new inspection and Schedule)

8. Unscheduling an inspection task on a folder in your HOME task list
Home screen > {tap in upper container} > Search by Folder # > {enter the folder number} > tap the Search button > {tap the Folder that was found} > Open {folder#} > {tap the desired inspection to unschedule (must have the gridded calendar icon with a SCHEDULED status)} > Unschedule this task

Additional items to note

Attachments viewers
The Attachments viewers will only display photos (i.e. files ending with a jpg, png or gif extension), and FieldPro only stores photos with a jpg extension. However, within Tempest, you may attach files with any extension (e.g. pdf) to folders/deficiencies. If you attach files within Tempest with any extension other than the three listed above, those files will not be displayed in the viewer. In Tempest configuration, attachments locations must be UNC paths (i.e. beginning with "\\machinename" not a mapped drive such as "T:\").

The special folder comment category MOBILE-ALERT
If you have a folder comment category of MOBILE-ALERT, and there are any comments for the folder on the task you are editing, those comments will be displayed as pop-up messages after loading the task details. These messages will appear regardless of your "Show prompts" setting. Examples of the kind of messages you might choose to add for a folder are "Engineer req'd", or "Storm Management Plan req'd". These comments can also be viewed when editing a task, by displaying the folder comments.

Copying and Pasting deficiencies from the Task Edit screen
You can use the device's copy/paste functionality, but if you want to copy a lot of deficiencies, it will be often easier to use Copy deficiencies (from the Task Edit hamburger menu), especially if you want to copy more than one deficiency from one task easily to one or more other tasks.

If you have existing deficiencies on a task, the Copy deficiences menu option will show a new screen displaying the existing deficiencies on the task you are in. Tapping on items, selects them, and when you tap on the Copy button, those deficiencies are copied into a buffer.

After tapping Copy, you can carry on working on the task as usual, and at any time – in this or any other task – you can paste the deficiencies into the task, using the Paste deficiencies menu option.

Note that if you are pasting a deficiency (or deficiencies) into a task type that doesn't have the same Inspection Code available as the originating task type, that deficiency is defaulted to use the first code in the master deficiency list of the task type you are pasting into. FieldPro will alert you if this is the case after the paste is completed.

Section 2. Installation/Upgrading

Note: If you are upgrading from a previous version, see the notes near the end of this section regarding upgrading. Then read through the rest of this section for further information.

System Requirements

Device:

       Both iOS and Android phone and tablet devices are supported.

       Because device versions are generally a fast-moving target it makes little sense to add a specific device list here. If you are purchasing new devices, just make sure you purchase late models that support Bluetooth SPP (every major device we know of lately has this, so it is not too much of a worry).

       For Android, QA testing occurs on Samsung devices, and so these are generally recommended. Please contact support@mpowered.biz if you have other questions.

Bluetooth printer (only required if physically printing Notices):

       It is highly recommended to use Tempest Enotices (via Email Templates), but if you are still physically printing notices, FieldPro supports only industry-standard, high quality [Zebra mobile printers](#) – such as the ZQ510 or ZQ520. All printers must have the optional Bluetooth module installed, and if you intend to use the iOS version of FieldPro, must also have the Bluetooth Low Energy (BTLE) module.

Web Services:

       IIS servers must be capable of creating an Application Pool with a .NET CLR Version of at least v4.0.30319
       The current targeted .NET version is 4.7.2

Tempest Licences:

       Prospero
       Web Customer

Technical Specialist Tasks

Because these next item(s) may take some time, these are shown out of context here right away so the appropriate technical specialist can get them set up, hopefully by the time everything else in this document is ready to go.

Firewall – allow http traffic - External to/from Internal
The FieldPro webservices security model uses an External/Internal model – where the External webservices do nothing but proxy requests from the Webapp through to the Internal webservices using http (usually, although you can use https as well). This model isolates the exposure of crucial database connection settings to only the Internal webservices machine.

```
Task: Create a firewall from/to rule for http (or https)  back
and forth from the External/Internal machines.
```

Firewall – allow http traffic – to http://www.mpowered.biz
The FieldPro webservices check for updates on this server, and if not enabled will cause a serious slowdown until a timeout condition is achieved.

```
Task: Create a firewall to rule for http://www.mpowered.biz
```

Network Service account with read/write permissions to the Prospero Attachments Directory (see G. in the Technical Overview below)
The MpoweredApps Application Pool (that will be created in IIS in an installation step below) on the Internal machine will need an account with Read/Write access to the Tempest attachments folders (as well as having local administrator permissions so it can run the webservices).

```
Task: Create* a new (high-powered) network service account
(e.g. mpowered-webservices) for the MpoweredApps app pool (to
be created below) that has local administrator permissions AND
also has read/write permissions for the Tempest Prospero
attachments directory as defined in Tempest > Prospero >
Configuration > Folder Types > {folder type} > Main > File
Location. {Note that there may be multiple locations defined,
so check each folder type.}
```

* If you have already created this account for another Mpowered app, you could just add the read/write permissions to that account for the Tempest Ticketing attachments directory as defined in Tempest > Prospero > Configuration > Folder Types > {folder type} > Main > File Location.

Create database user MpoweredWeb

Create a database user named MpoweredWeb in each Tempest database (usually LIVE and TEST) that you wish to access.

Grant database user MpoweredWeb database access permissions

Grant the permissions to MpoweredWeb as found in \Docs\dbgrants.txt which contains a list of permissions specific to each FieldPro version or update. As each new FieldPro version or update is released, this list may change, so stay up-to-date as a missed permission will cause problems for users.

IMPORTANT!: After performing a Tempest update (or group of updates), you will need to re-grant the permissions, because unfortunately the Tempest update process does not retain 3rd-party permissions.

Download the Install package

Go to www.mpowered.biz and click on Downloads. Here you will find links to various packages that match recent versions of Tempest. For example, for Tempest version 80000, you would download the highest FieldPro install package starting with 800, in this case FieldPro ver. 80003. This will download the ZIP package which you can then extract into a working directory on your internal and external webservers.
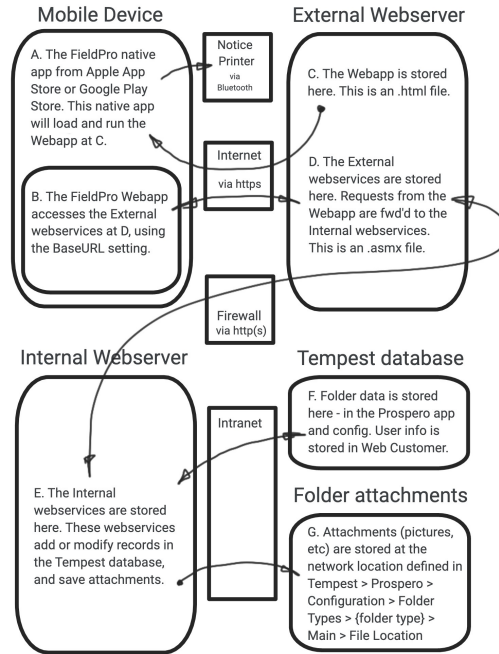
Contents of the ZIP package

Once the ZIP package is extracted, you will find this structure:

\Docs
\Dotnet
\Webapp

Technical overview of the FieldPro structure:
Let's take a look at how everything works conceptually.

A. The device (iOS or Android) downloads and runs the "Mpowered FieldPro" native app from the App or Play Store. When the app is run, it will ask for a Webapp URL, which is located at C. When the "Go FieldPro" button is tapped, the native app loads and runs the Webapp (B).

B. The Webapp is what Users interact with to process inspections – the top portion is shown here:
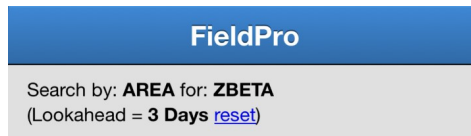
One of the main configurations within the Webapp is the Base URL setting when it needs to get or set data in Tempest by sending requests over the Internet (via https) to the External webservices located at D.

D. The External webservices forward requests (through the firewall via http) from the Webapp (B) to the Internal webservices (E). The Web.config file for D is very simple, containing only a base location for the Internal webservices (E).

E. The Internal webservices process requests from the External webservices (D) – usually getting or setting data in the Tempest database (F) and/or attachments (G), and then responding back (through the firewall) to the External webservices (D) which then responds back to the Webapp (B). The Web.config file for E contains a connection string to the Tempest database, therefore it can be encrypted - if that level of security is desired.

NOTE: C (the Webapp) & D (the External webservices) <u>must </u>exist on the same https webserver.

20

Installation order

We are going to install each piece of the puzzle, making sure each part works correctly before moving on to the next part. We'll start with installing the Internal Web Services (E), then move on to installing the External Web Services (D) and Webapp (C), do any configuration needed in Tempest (F), and then finish by installing and running FieldPro on the device (A + B).

E. Internal Web Server - Installing the Web Services
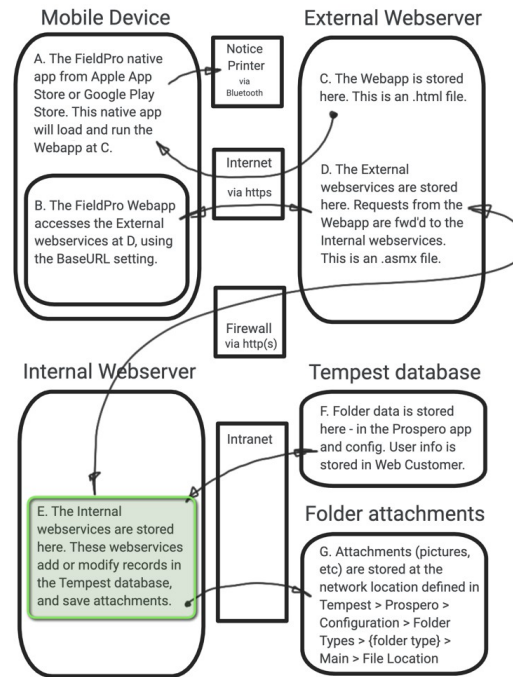
On your <u>internal</u> (behind the firewall) web server, create a home directory for the Mpowered .NET webservices if you don't already have one… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WS
```

SQL Server: copy the entire \Dotnet**Redmond*** directory contents from the download here. Now on your internal web server, you should have this structure:

```
…\wwwroot\Mpowered\FieldPro-80005WS\
     bin\
          FP80005.dll
          FieldPro.asmx
          Web.config.internal.txt
          Web.config.external.txt     * delete this file
```

Delete the Web.config.**external**.txt file

Now edit the Web.config.internal.txt file and look for a section with the tag <connectionStrings> near the bottom. Here you will see a sample connection string for SQL Server named "MpoweredSQL". When editing the connection string below, DON'T change the first part of the connection string name, i.e. "MpoweredSQL".

If you are using Oracle for your back-end database, please contact Mpowered for special instructions.

With the connection string you will use, edit it so that YOURHOST becomes the server name where the Tempest database lives, and INSTANCE becomes the name of the database instance. Also, change the Password= to the MpoweredWeb password you created earlier. (NOTE: the password is entered in clear text here – this file should be secured (or encrypted) so that only people with proper permissions can view this file.) If you don't know the server name or password values, you may have to talk with your Database Administrator.

Note: you can have multiple connection strings in this file, for example you could have an MpoweredSQLProd and an MpoweredSQLTest connection string each pointing to the Production and Test Tempest databases. When you enter the Authentication settings on the mobile device, you choose which DSN (connection string) to use.

> Very important to rename this file!

Save and exit. Rename the Web.config.internal.txt file to **Web.config**

Now we need to fire up IIS Manager on the internal web server. Browse into Application Pools, and right-click and choose Add Application Pool. Create a new pool named "MpoweredApps" using .NET CLR Version v4.0.30319 (if you do not have this version, you will need to install MS .NET Framework 4.7.2 on this machine), Integrated, Start application pool immediately ON. Click on the newly created pool, and browse to Advanced Settings on the right side menu. Make sure that Enable 32-Bit Applications is set to True. This is also where we need to change out the default Identity (account) that IIS creates for this App Pool.
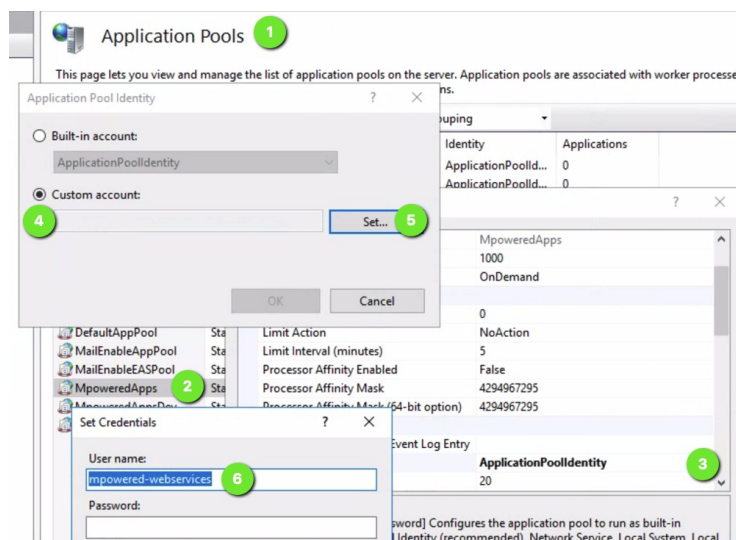
Still in the Application Pools > MpoweredApps > Advanced Settings, scroll down to the Identity item (3), and click on the ... beside ApplicationPoolIdentity. Click on Custom account (4), Set... (5), and add the credentials (6) for the account that was created in the "Technical Specialist Activities > Network Service account" task above. Click OK a number of times till you are done with all dialog boxes.

Now on the left tree, browse down to Sites > Default Web Site > Mpowered and right-click on FieldPro-80005WS. Choose Convert to Application. Keep the Alias as FieldPro-80005WS, but select Application pool MpoweredApps, and click OK. This should change the icon in the tree to: .

Now right-click on FieldPro-80005WS again, and choose Manage Application > Browse. The default browser should appear with the FieldPro .NET services listing, containing links for AA_ServiceInfo, AB_ServiceTest, AC_DatabaseTest, etc. Click on AC_DatabaseTest. Click Invoke. You should get an XML page that says "SUCCESS: Found nnnn rows in the cd_tasks table". This means that the DSN was set up correctly, and we are getting a connection to the Tempest database.

If you get the message "Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding." you may be able to solve the issue by running "exec sp_updatestats" on the database.

That completes the set-up of the internal web server.

Note that if you are using a web application firewall (for example, Barracuda's Web Application Firewall - WAF), you probably will not need to set up the external webserver as described in the remaining part of this section below - the WAF will manage the external/internal forwarding.

D. External Web Server - Installing the Web Services
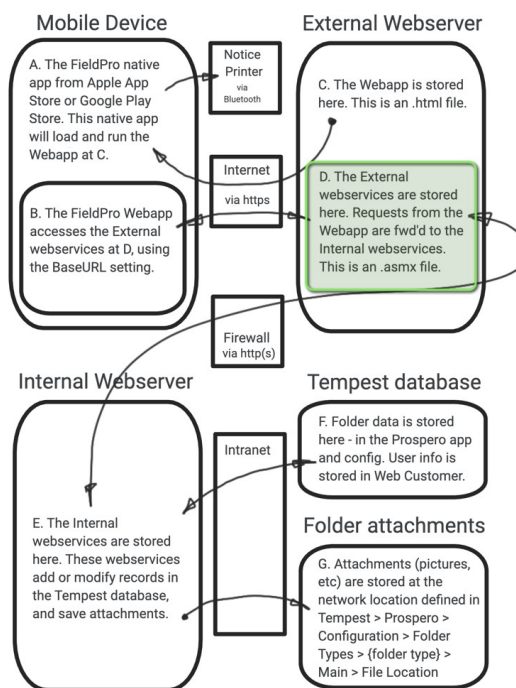
(Before starting, read through the section "Creating a virtual application for the External webservices" below as it may affect how you name directories here.) The set up of the external webserver is almost identical to the internal webserver setup. On your <u>external</u> (outside the firewall) webserver, create a home directory for the Mpowered .NET webservices… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WS
```

Copy the entire \Dotnet\Redmond directory from the download here. Now on your external webserver, you should have this structure:

```
…\wwwroot\Mpowered\FieldPro-80005WS\
     bin\
          FP80005.dll
          FieldPro.asmx
          Web.config.internal.txt    * delete this file
          Web.config.external.txt
```

Delete the Web.config.**internal**.txt file

Now edit the Web.config.external.txt file and look for a section with the tag <appSettings> near the bottom. Here you will see a "requestForwardTo" key. It is the value that you must edit to point to the webservices location on the internal webserver (through the firewall). You may need to get your firewall expert to help you figure

this one out. In most cases you will simply need to change {ip} to the ip address of the internal webserver (as seen from outside the firewall).

Save and exit. Rename the Web.config.internal.txt file to **Web.config**

Very important to rename this file!

Now we need to fire up IIS Manager on the external webserver. Browse into Application Pools, and right-click and choose Add Application Pool. Create a new pool named "MpoweredApps" using .NET CLR Version v4.0.30319 (if you do not have this version, you will need to install MS .NET Framework 4.5 on this machine), Integrated, Start application pool immediately ON. Click on the newly created pool, and browse to Advanced Settings on the right side menu. Make sure that Enable 32-Bit Applications is set to True, and click OK.

Now on the left tree, browse down to Sites > Default Web Site > Mpowered and right-click on FieldPro-80005WS. Choose Convert to Application. Keep the Alias as FieldPro-80005WS, but select Application pool MpoweredApps, and click OK. This should change the icon in the tree to: .

Now right-click on FieldPro-80005WS again, and choose Manage Application > Browse. The default browser should appear with the FieldPro.NET services listing, containing links for AA_ServiceInfo, AB_ServiceTest, AC_DatabaseTest, etc.

Click on AB_ServiceTest and hit Invoke. You should get an XML page that says "SUCCESS". This means that the "requestForwardTo" key was set up correctly, and we have a connection to the internal web service.

Close the browser, and right-click on FieldPro-80005WS (in IIS Manager) again, and choose Manage Application > Browse. This time click on AC_DatabaseTest. Click Invoke. You should get an XML page that says "SUCCESS: Found nnnn rows in the cd_tasks table". This means that the external/internal connection is working, and the internal webservices are proxying correctly to the Tempest database.

Creating a virtual application will save you time in the future, and allows you to easily deploy updates to devices.

Creating a virtual application for the External webservices
If you are interested in saving time and staging updates as they are released by Mpowered, you could name the above directory:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WS-000
```

Then, creating a virtual application in IIS at the \Mpowered level called "fpws" and pointing it to FieldPro-80005WS-000 will allow you to use a Base URL that looks like this:

https://yourserver/mpowered/fpws/FieldPro.asmx/

Using a virtual application can save you time when its time to upgrade. So, for example, when and if there is an update, and UPDATE01 is released, you could create a new directory:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WS-001
```

and install the updated webservices there. When you have finished testing the update and are ready to release to your users, simply change the Physical Path in the virtual application fpws in IIS to point to the new directory, and all users with devices that have a Base URL of: https://yourserver/mpowered/fpws/FieldPro.asmx/
will automatically start using the new webservices without changing anything on their device the next time they start the app.

It's still a good idea to let the users know that an update is happening! Schedule the update for a time after everyone has finished for the day.

C. External Web Server - Installing the Webapp
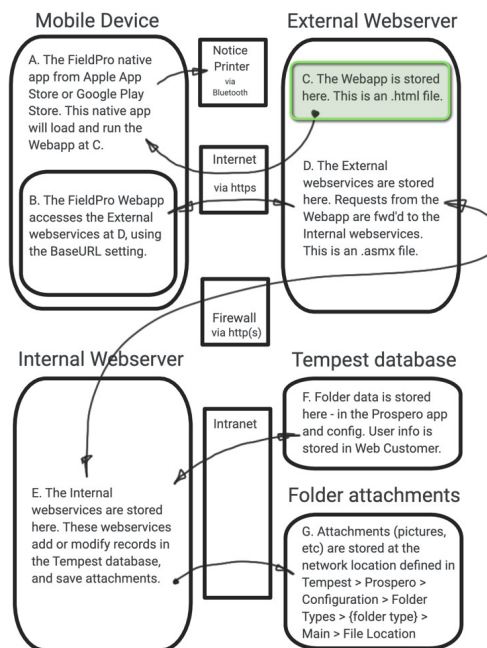
(Before starting, read through the section "Creating a virtual directory for the Webapp" below as it may affect how you name directories here.) On your <u>external</u> (outside the firewall) webserver, create a versioned directory for the Webapp… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WA
```

Copy the entire \WebApp directory from the download here. Now on your external webserver, you should have this structure:

```
…\Mpowered\FieldPro-80005WA\
     FieldWorksX\
     lib\
     resources\
     app_nnnnnnnnnnnnnnnn.js
     favicon.ico
     index.html
```

<div style="border:1px solid red">

Creating a virtual directory will save you time in the future, and allows you to easily deploy updates to devices.

</div>

Creating a virtual directory for the Webapp
If you are interested in saving time and staging updates as they are released by Mpowered, you could name the above directory:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WA-000
```

Then, creating a virtual directory in IIS at the \Mpowered level called "fpwa" and pointing it to the FieldPro-80005WA-000 will allow you to use a Webapp URL on the device app that looks like this:

https://yourserver/mpowered/fpwa/index.html

Using a virtual directory can save you time when its time to upgrade. So, for example, when and if the Webapp gets an update, and UPDATE01 is released, you could create a new directory:

```
C:\inetpub\wwwroot\Mpowered\FieldPro-80005WA-001
```

and install the updated Webapp there. When you have finished testing the update and are ready to release to your users, simply change the virtual directory fpwa in IIS to point to the new directory, and all users with devices that have a Webapp URL of:
https://yourserver/mpowered/fpwa/index.html
will automatically start using the new Webapp without changing anything on their device the next time they start the app.

It's still a good idea to let the users know that an update is happening! Schedule the update for a time after everyone has finished for the day, and get everyone to force-close the FieldPro app when they're done for the day.
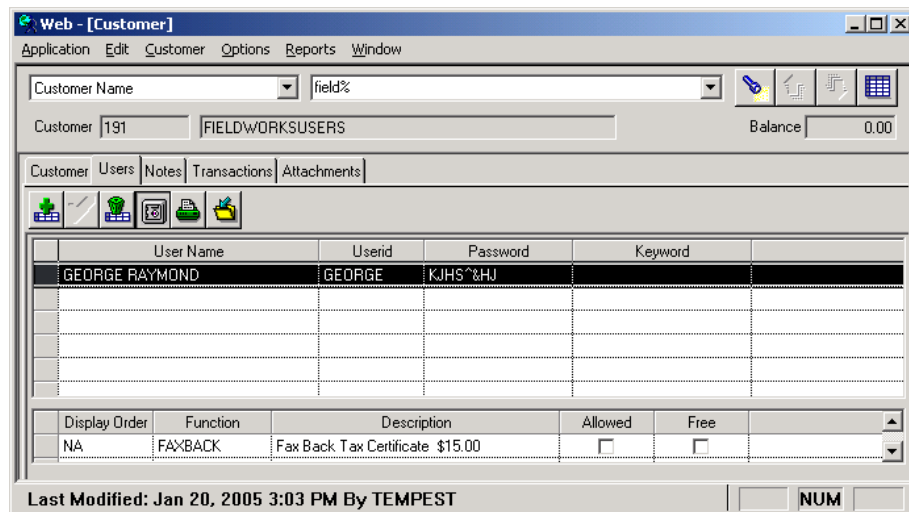
That completes the set-up of the external webserver.

F. Tempest Configuration
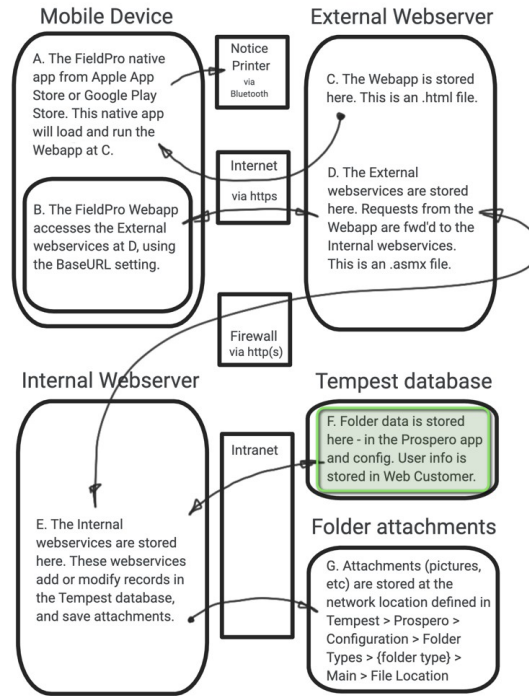
Create the FIELDWORKSUSERS customer in Web Customer

In Tempest Web Customer, create the FIELDWORKSUSERS customer. Make the user an INTERNAL type. Then, create the Prospero user in the FIELDWORKSUSERS users whose UserId corresponds to the user's actual database UserID:

In this example, we have created user GEORGE RAYMOND. George is an Prospero user, and logs into Tempest with the UserID GEORGE. You also need to set a password for GEORGE. This will be the password GEORGE will need to enter on the device in the next steps. In our example, GEORGE's password is KJHS^&HJ

The users created in the FIELDWORKSUSERS customer should not have any functions turned on.

You will need to create a user in the FIELDWORKSUSERS customer for each user of FieldPro.

Enabling Active Directory network passwords
As a more secure (and user-friendly) option to using the Web Customer password (as shown above) is to enable network password authentication via MS Active Directory. To use network password authentication, your Tempest User Ids must match the Active Directory name.

1. Activating for individual FieldPro users: Add these settings in the Internal Web.config in the <appSettings> branch as follows:

```
<add key="domain" value="CORP" />
<add key="domainmodel" value="WCKEYWRD" />
```

changing CORP to the name of your corporate active directory name. Then, for each user that you want to switch from Web Customer password to network password, change their keyword in Web Customer to "AD". That FieldPro user should be advised to Authenticate with their network password.

2. Activating for all FieldPro users all at once (usually for new customers): If you are switching password models, it may be better to use option 1, because activating with this option will instantly apply to all FieldPro users, and if they are not aware of the change, they will be asked to Authenticate, and be stuck trying to use their Web Customer password which will not work anymore! To activate network passwords for all FieldPro users, add a setting in the Internal Web.config in the <appSettings> branch as follows:

```
<add key="domain" value="CORP" />
```

changing CORP to the name of your corporate active directory name. This should be a planned change, and FieldPro users should then be advised to Authenticate with their network password.

Control Settings

FieldPro control settings are stored as an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 17, 2005:
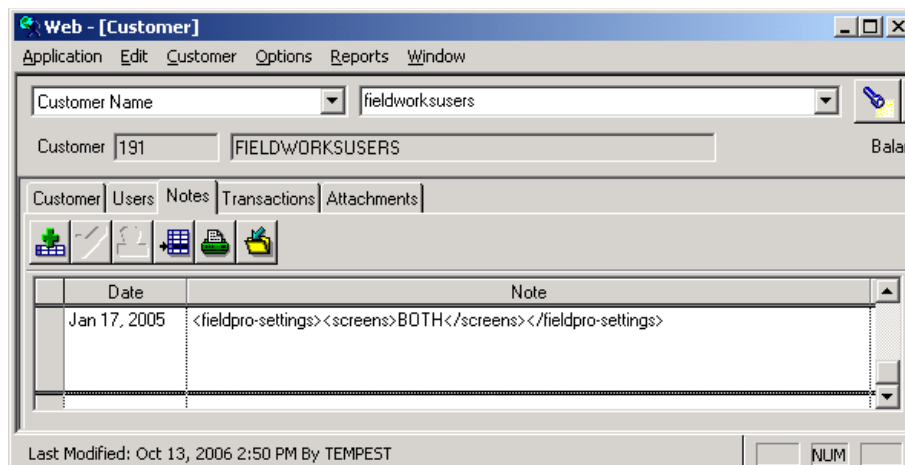
The XML string entered into the note must be formatted correctly for FieldPro to interpret the settings correctly (see XML notes).

screens

The optional <screens> setting allows you to choose the deficiency screen option you want to use. If the setting is not found, the default screens setting of CHECKLIST is used. The example above shows the screens setting as BOTH, which means that, if found, both the Checklist and Deficiencies screens will be available. The three options are:

CHECKLIST	Checklist screen available only (default)
DEFICIENCY	Deficiency screen available only
BOTH	Both Checklist and Deficiency screens available

permcond

The optional <permcond> setting allows you to download, display and print Permit Conditions. The following XML string shows the permcond option turned on:

<fieldpro-settings><permcond>Y</permcond></fieldpro-settings>

Note that only specifying Y will turn on this option.

<u>fieldbladeurl</u>

The optional <fieldbladeurl> setting allows you to link directly to the property in FieldBlade from the current task selected on the main screen. The following XML string shows a sample for the ColdFusion version of FieldBlade:

```
<fieldpro-settings>
          <fieldbladeurl>http://mycity/mpowered/fieldblade/hgetblade.cfm</fieldbladeurl>
</fieldpro-settings>
```

And here is a sample for the .NET version of FieldBlade:

```
<fieldpro-settings>
          <fieldbladeurl>http://mycity/mpowered/fieldblade/GetBlade.aspx</fieldbladeurl>
</fieldpro-settings>
```

See **www.mpowered.biz/FieldBlade/FieldBlade.html** for more information on FieldBlade.

<u>ignblchklst</u>

The optional <ignblchklst> setting allows you to to turn off the checklist warnings that come up on the device when you trying to save changes: "Status for blank checklist items:" and "Save with blank checklist statuses?". The following XML string shows the ignblchklst option turned on (so that messages will NOT be displayed):

```
<fieldpro-settings><ignblchklst>Y</ignblchklst></fieldpro-settings>
```

Note that only specifying Y will turn on this option.

<u>slot1tag</u>

There are two "slots" for contact information that print directly beneath the contact name on the Inspection Notice. The optional <slot1tag> setting allows you to specify contact information that should be printed on the Inspection Notice in "slot 1" – directly under the contact name. You can specify a contact tag **or** phone number **or** email address. For example, if you want a contact tag (contact tags are set up in Tempest Resources) to be printed, you would specify the tag name, for example <slot1tag>SAFETY CODES OFFICER</slot1tag>. If you want to specify that the contact phone (contact phone #'s are set up in Tempest Resources) should be printed, you would specify **phone**, for example <slot1tag>**phone**</slot1tag>. If you want to specify that the contact email (see Enotices section below to set up contact email addresses) should be printed, you would specify **email**, for example <slot1tag>**email**</slot1tag>. By default, if <slot1tag> is not supplied, the contact's phone number (if defined in Tempest Resources) will be printed.

slot2tag

There are two "slots" for contact information that print directly beneath the contact name on the Inspection Notice. The optional <slot2tag> setting allows you to specify contact information that should be printed on the Inspection Notice in "slot 2" – directly under slot 1 (see above). You can specify a contact tag **or** phone number **or** email address. For example, if you want a contact tag (contact tags are set up in Tempest Resources) to be printed, you would specify the tag name, for example <slot2tag>SAFETY CODES OFFICER</slot2tag>. If you want to specify that the contact phone (contact phone #'s are set up in Tempest Resources) should be printed, you would specify **phone**, for example <slot2tag>**phone**</slot2tag>. If you want to specify that the contact email (see below to set up contact email addresses) should be printed, you would specify **email**, for example <slot2tag>**email**</slot2tag>. By default, if <slot2tag> is not supplied, the contact's primary email address (if defined as per Enotices section below) will be printed.

formpr

The optional <formpr> setting allows you to print Inspection Notices onto high-quality synthetic thermal rolls (which are divided into equal-length "forms"). Synthetic media is tear-resistant, waterproof, and virtually unfading. Synthetic media also allows for much greater resolution of the header logo and information, and allows the header to be printed in colour. If you are interested in using this option, please contact Mpowered before proceeding. The following XML string shows the formpr option turned on:

<fieldpro-settings><formpr>Y</formpr></fieldpro-settings>

Note that only specifying Y will turn on this option, and the default value is N.

fpbody1 and fpbody2

In conjunction with <formpr>, the optional <fpbody1> (first page line count) and <fpbody2>(subsequent page line count) settings allow you to customize the maximum number of lines that will print on each page of an Inspection Notice. (Note: The first page of a Notice will always allow fewer lines than subsequent pages.) The default value of fpbody1 is 39, and the default value of fpbody2 is 56 - if you do not override. The following XML string shows the formpr option turned on, as well as overriding the default fpbody1 and fpbody2 values:

```
<fieldpro-settings><formpr>Y</formpr><fpbody1>30</fpbody1><fpbody2>48</fpbody2></fieldpro-
    settings>
```

deficyhdrmsg

You can override the default deficiency header message (printed, emailed and faxed) which is "THE BUILDER MUST ENSURE THE FOLLOWING ITEMS ARE COMPLETED:" The system will allow you to enter any text you wish for this header. The following XML string shows a deficyhdrmsg override:

```
<fieldpro-settings <deficyhdrmsg>THE BUILDER MUST CORRECT THE FOLLOWING ITEMS BEFORE RE-
    CALLING FOR INSPECTION:</deficyhdrmsg></fieldpro-settings>
```

inspectiontypemsg

You can override the default text 'Inspection Type' (printed, emailed and faxed). The following XML string shows an inspectiontypemsg override:

```
<fieldpro-settings><inspectiontypemsg>Report Type</ inspectiontypemsg></fieldpro-settings>
```

inspectiondatemsg

You can override the default text 'Inspection Date' (printed, emailed and faxed). The following XML string shows an inspectiondatemsg override:

```
<fieldpro-settings><inspectiondatemsg>Report Date</ inspectiondatemsg></fieldpro-settings>
```

inspectionstatusmsg

You can override the default text 'Inspection Status' (printed, emailed and faxed). The following XML string shows an inspectionstatusmsg override:

```
<fieldpro-settings><inspectionstatusmsg>Report Status</ inspectionstatusmsg></fieldpro-settings>
```

prtexpiry

You can choose to print the folder's expiry date on the Notice (printed, emailed and faxed). The expiry date prints directly under the Permit Type. The following XML string shows the prtexpiry option turned on:

```
<fieldpro-settings><prtexpiry>Y</prtexpiry></fieldpro-settings>
```

Note that only specifying Y will turn on this option, and the default value is N.

tasksql

You can turn on processing of task SQL Functions as set up on task statuses in Prospero maintenance for folder tasks. The following XML string shows the tasksql option turned on:

```
<fieldpro-settings><tasksql>Y</tasksql></fieldpro-settings>
```

Note that only specifying Y will turn on this option, and the default value is N.

Also note that because certain task SQL functions add event notes, a database privilege will need to be added for MPOWEREDWEB:

GRANT INSERT ON CD_WORKFLOW TO 'MPOWEREDWEB'

pcon

Optionally print contact information onto the Notices (whether printed, emailed or faxed). Use a comma-separated list of person types to choose which contacts to print. The following XML string shows the pcon option turned on, and printing APPLICANT and BUILDER:

```
<fieldpro-settings><pcon>APPLICANT,BUILDER</pcon></fieldpro-settings>
```

Ensure that the spelling is exactly the same as the person type in Prospero maintenance.

noticefontsize

Optionally force all users to have the same notice print font size, thereby overriding any choice made by them on their device:

```
<fieldpro-settings><noticefontsize>TALL</noticefontsize></fieldpro-settings>
```

If this setting is changed, and a user has a different setting, they will be notified (when they go into a Task Edit screen) that they must Authenticate to pick up the server's setting.

mailsubj

You can override the default subject (emailed) which is "{taskstatus} - {tasktype} - {foldernumber}" The system will allow you to enter any text you wish for the subject and will replace the following text strings:

{taskstatus} -> task status, i.e. PASSED, FAILED, etc

{tasktype} -> task type name, i.e. FOOTINGS, FOUNDATION, etc

{foldernumber} -> the folder number

{civicaddress} -> the primary civic address of the folder

usetenotice

Optionally use the Tempest eNotices instead of the Mpowered eNotices:

<fieldpro-settings> <usetenotice>Y</usetenotice></fieldpro-settings>

There are many pros to using the Tempest eNotice functionality within FieldPro: primarily you can use HTML in your eNotice emails which means you can add things like City logos, etc; the format of the email is completely up to you – you can lay out the email however you wish using replacement variables and HTML; additionally, all emails are tracked in the events tab should you ever need to see exactly what was sent.

The big con to using the Tempest eNotice functionality is that any additional recipients added on the Email Notice screen in FieldPro are NOT saved for future re-use – as the {Other} email addresses were stored using the Mpowered eNotice functionality.

If you are moving from the Mpowered eNotice functionality to the Tempest eNotice functionality, you will need to configure a few things: you will need to create an INSPECTION RESULTS email template and assign the template to ALL folder types you use with FieldPro – either by making the template a system-wide template (recommended), or attaching the template to all folder types. (Note: to send to the same contact as you were when using the legacy Mpowered eNotice, set the TO address to <<person_email_enotices>>).

A good idea is to remember that emails are typically read on everything from mobile to larger devices, so make the HTML in your email body responsive (self-sizing based on the device it is being read on). For a sample responsive email body, please contact Mpowered.

Also, make sure that ALL folder types you use with FieldPro are email-enabled on the Folder Types Main tab. Ensure the grants have been applied. Then add the <usetenotice> setting into your Web Cust configuration, and you should be good to go.

If you are using the Tempest eNotice functionality, you will not need to set up the Email control settings in Web Customer as described below.

mailserver

For the .NET version of web services only, you are required to enter a <mailserver> entry in your server settings – and then only when using the Mpowered eNotice method to email eNotices. If you are using the Tempest eNotice (<usetenotice>Y</usetenotice>), the <mailserver> setting is not required. Here is an example:

<fieldpro-settings> <mailserver>mail.yourcity.ca</mailserver></fieldpro-settings>

If you have added the <mailserver> entry, and you get the error message "Failure sending mail.", check the server name carefully to make sure it is the correct machine name. If the port the server responds to is not the default port 25, then you need to add the <mailserverport> entry (described below) as well.

mailserverport

For the .NET version of web services only, you can optionally enter a <mailserverport> entry in your server settings if your mail server does not use standard mail port 25. This setting would only be added if you are entering a <mailserver> setting as well (see above). Here is an example:

<fieldpro-settings> <mailserverport>425</mailserverport></fieldpro-settings>

If you have added the <mailserver> entry, and you get the error message "Failure sending mail.", check the server name and port carefully to make sure they are correct.

webappfiledir and webapplinkdir

For the WebApp version, you are required to enter <webappfiledir> and <webapplinkdir> entries in your server settings. This is so that the system can allow downloads of folder attachments to your device. Here is an example:

<fieldpro-settings> <webappfiledir>c:\inetpub\wwwroot\mpowered\download\</webappfiledir> <webapplinkdir>http://yourserver.city.net/Mpowered/Download/</webapplinkdir></fieldpro-settings>

The <webappfiledir> entry is a path to a directory on your external web server (must be in a web site on the external machine) where attachments can be staged so that the device can download them. The <webapplinkdir> is that same path, but stated in url form. The web services use the <webappfiledir> to store the attachment, and return the attachment file name with the <webapplinkdir> to the device, so it can perform the actual download.

Using the above examples, if a particular attachment file for a folder is named A7383BD534.doc, and it was requested by a device, the web services would store that file as: c:\inetpub\wwwroot\mpowered\download\A7383BD534.doc and return the link (href): http://yourserver.city.net/Mpowered/Download/A7383BD534.doc to the device, so that the user can tap on the link to view the attachment.

The <webappfiledir> directory should be cleaned out every now and then, deleting files that are older than a few days. You could consider creating a cron job to do this automatically so that your external web server does not get clogged with old files.

deficyprefix

Setting this (optional) tag with a format described below to stamp (the front) of a deficiency with any combination of the following identifiers: date/time and/or task type and/or user's Alias. Helpful in communicating which task the deficiency was created under when printing/emailing an Inspection Report.

For example, a user with an alias of GRR adds a deficiency to a FRAMING task; enters deficiency text 'Nails extruding'; and using the following format:
M j/Y g:iA (***) @@@:
will stamp the deficiency in FieldPro in the following way:
Nov 8/2018 11:48AM (GRR) FRAMING: Nails extruding

This alleviates the ambiguity as to who added the deficiency, and when, and under which task, and this also prints out onto any inspection email or printed report.

You can change the order and content of what is stamped by changing the format. Here are some example formats and sample results:

<deficyprefix> value:	Sample result:
M j/Y g:iA (***) @@@:	Nov 8/2018 11:48AM (GRR) FRAMING
@@@ (***) M j/Y:	FRAMING (GRR) Nov 8/2018:
M j/Y @@@:	Nov 8, 2018 FRAMING:

The Tempest-specific format elements you can use in the deficyprefix tag are:

Element	Description
***	The FieldPro user's Alias from the Tempest Resource record.
@@@	The current task name

Common date-specific format elements you can use in the deficyprefix tag are:

Element	Description
M	Short 3 character month, e.g. Jan – Dec
j	Day of the month without leading zeros, e.g. 1-31
Y	Four-digit year, e.g. 2018
g	12 hour format without leading zeros, e.g. 1-12
i	Minutes with leading zeros, e.g. 00-59
A	Uppercase AM or PM
y	Two-digit year
s	Seconds with leading zeros, e.g. 00-59
a	Lowercase am or pm
H	24 hour format with leading zeros, e.g. 00-23
d	Day of the month with leading zeros, e.g. 01-31

There are a few lesser-used date elements that are not shown in the table above. If you don't see what you need, it may be available. Please contact Mpowered.

Other formatting characters available in the deficyprefix will allow you to add things like the space and (,)/: characters, as shown underlined here:

@@@ (***) M j/Y:

Be careful in using any of these letters:
dDjlNSwzWFmMntLoYyaAgGhHisuOPTZcCU as these are date
formatting characters.

IMPORTANT: This functionality (when configured) only happens in
FieldPro not Tempest, and it only happens on the initial create of the
deficiency. As well, the result is simply stored as plain text in the
deficiency, and so any further edits to the deficiency will not update
the stamped information. For this reason, it is recommended that
your policy would be to not edit deficiencies, rather complete existing
ones and create new ones in order to capture the current
task/user/timestamp information.

Enotices – Email control settings in Web Customer Note: If you are <u>not</u> sending Enotices, then this section can be ignored.

Email control settings are required in order to send Enotices.

Email control settings are stored as an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 18, 2005:
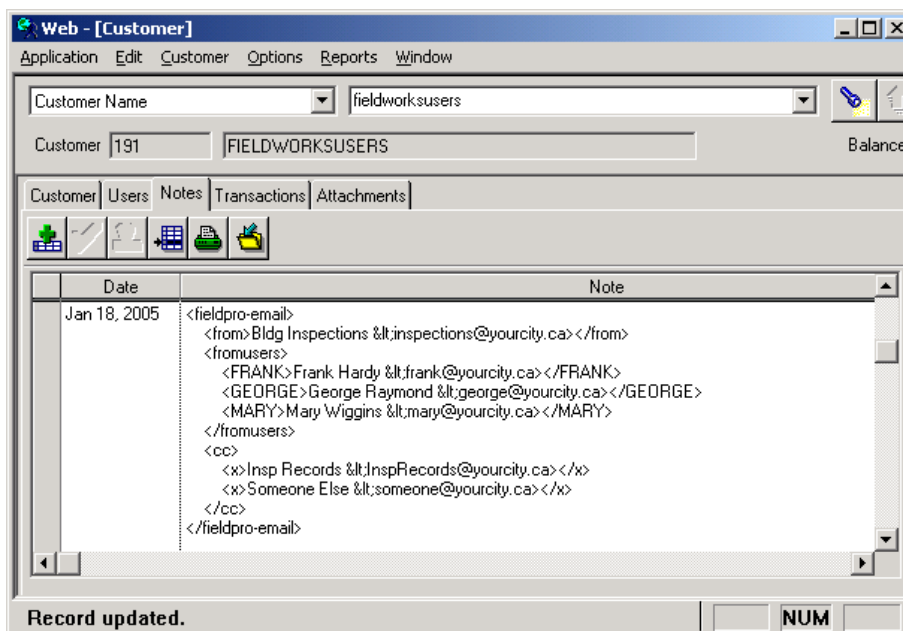
The XML string entered into the note must be formatted correctly for FieldPro to interpret the settings correctly (see XML notes).

This example shows having both a common "from" address, and individual "from" addresses for each Inspector. You may choose to have one or the other, or both - as is shown here.

The "cc" list can contain multiple items (as is shown in the example, or it can have only 1 item, or it can have none.

Groups can also be added to the XML using the <groups> tag. Below is an example:

```
<groups>
  <x name="MyGroup">info@mpowered.biz; support@mpowered.biz; sales@mpowered.biz</x>
</groups>
```

Prospero Folder requirements for Email
(Note: server configuration is required before Enotices can be sent. See the Installation/Upgrading section for details.) The Inspection Notice can emailed to contacts on the folder. To use this feature, you must create a person type called 'ENOTICES' in Prospero maintenance as shown below:
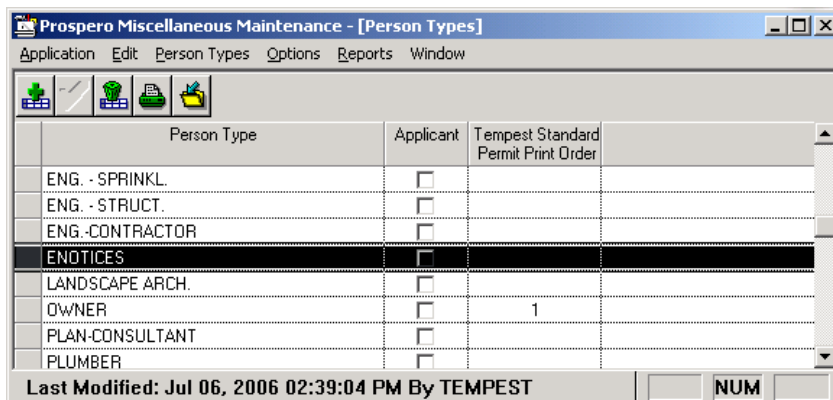
On the folder, you can now collect contact information for the ENOTICE person. This will be the person that wishes to have the Notice emailed to them:
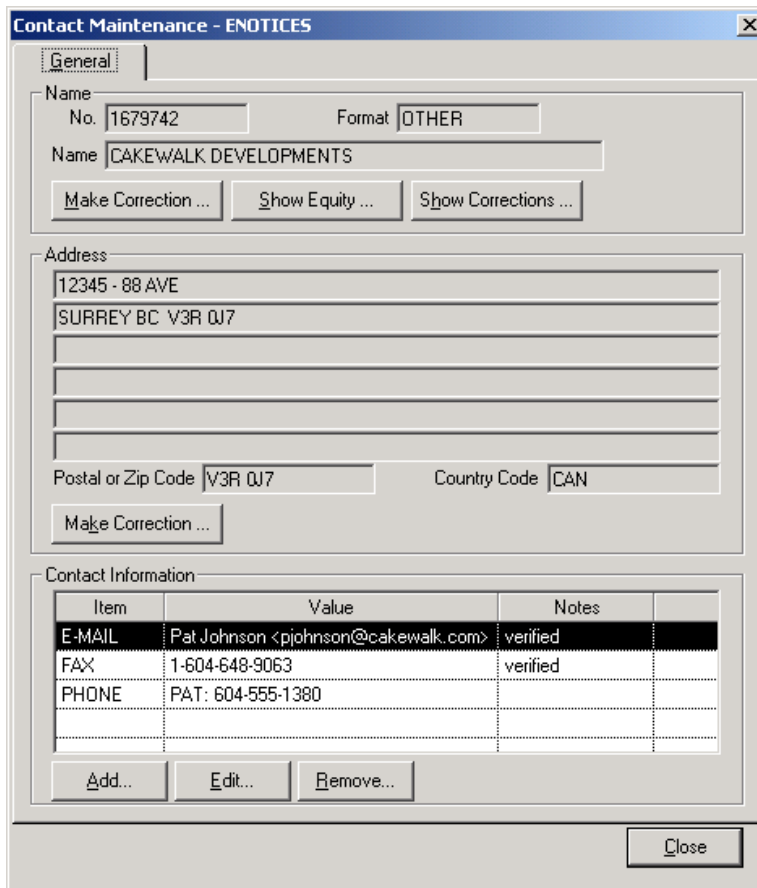
Note that the Contact information must be set up very specifically - you must enter the contact as an E-MAIL type. An example is shown below:
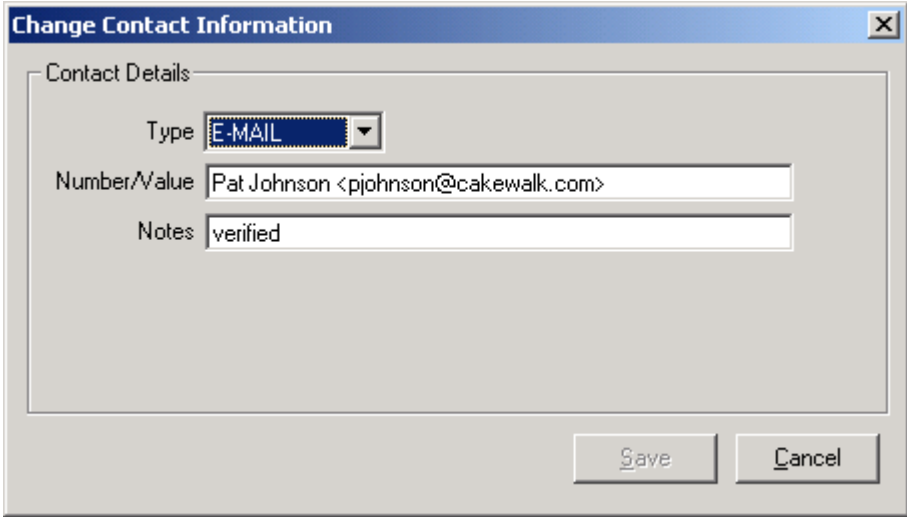
XML notes

XML has a special set of characters that cannot be used in normal XML strings. These characters are:

& - &
< - <
> - >
" - "
' - '

For example, the following XML string is invalid:

<Organization>IBM & Microsoft</Organization>

Whereas the following is valid XML:

<Organization>IBM & Microsoft</Organization>

Note that we have replaced '&' with '&' in the second XML string which makes it valid. In the following XML overrides, you will get a message stating, "XML override is not well-formed" when you try to authenticate - if you do not handle the special character(s) properly.

If you wish to get more assistance in building your XML strings, there are several very good (and free!) XML editors out there on the net. A particularly good one is at:

http://architag.com/xray/

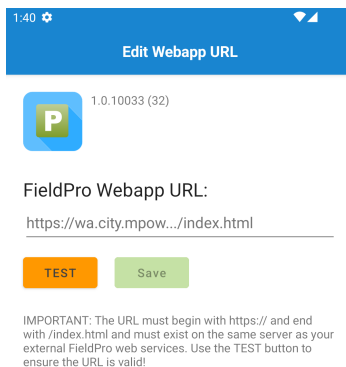**A. Load the FieldPro app to the device**
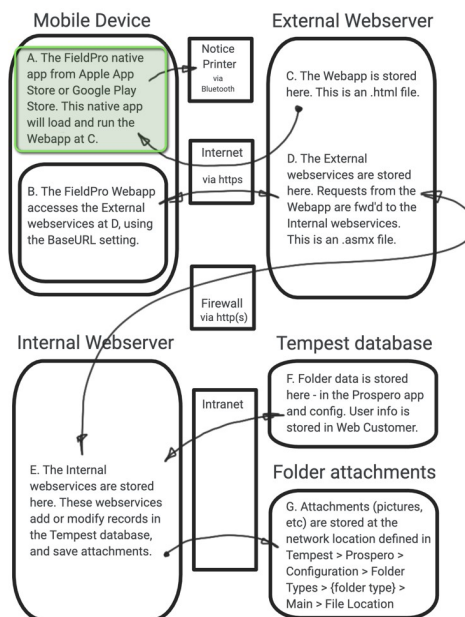
On the App or Play Store, search for **Mpowered FieldPro**. The app's icon looks like this:


Tap the Install button to install the app on your device.

When you first open the FieldPro native app on the device, it looks like this:

Enter the URL to the virtual directory you created in step C above, and press TEST. NOTE: the TEST button can only check certain formatting of the URL, not whether it actually exists, so BE CAREFUL about what you are typing in here. For example, here we missed the s in https:
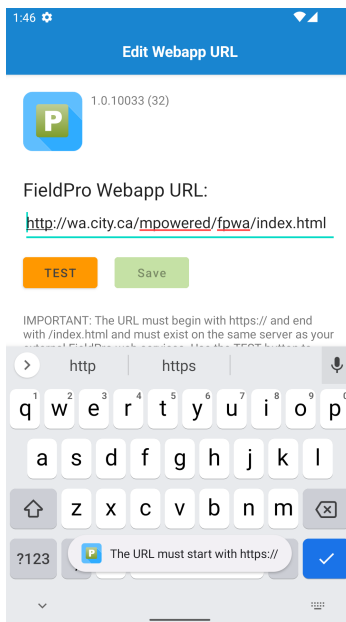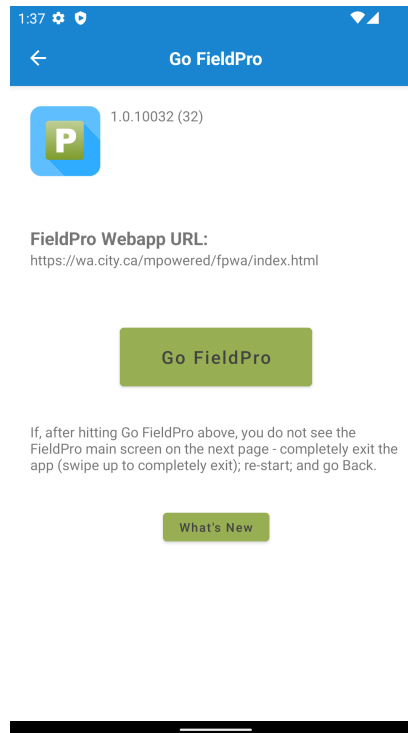

(Devices will often have an auto-correct feature which will change what you enter here mostly without you knowing, and mess things

up. It's best to temporarily turn off auto-correct when entering the Webapp URL.)

Once you are sure about what you have entered, press the Save button.

Now, you will have the Go FieldPro screen:

In the future, FieldPro will always start with this screen, now that you have entered a Webapp URL. Tap Go FieldPro, and in a few seconds, the Webapp will appear.

(That is, if everything was entered correctly, the Webapp will appear. If, after the spinner stops, you have a pure white screen, or you get a message like "The specified URL cannot be found.", then its probable that something wrong in the Webapp URL entry. Swipe-close (i.e. completely close) the app, run it again, and review the Webapp URL shown. If it's wrong, then you can use the Back button (upper left) to go back and edit the Webapp URL and try again.)

If all went well, you should see the FieldPro app appear with the gear icon in the lower left corner – as shown in the next section, and you can carry on with setting up the FieldPro Webapp.

B. FieldPro Webapp setup
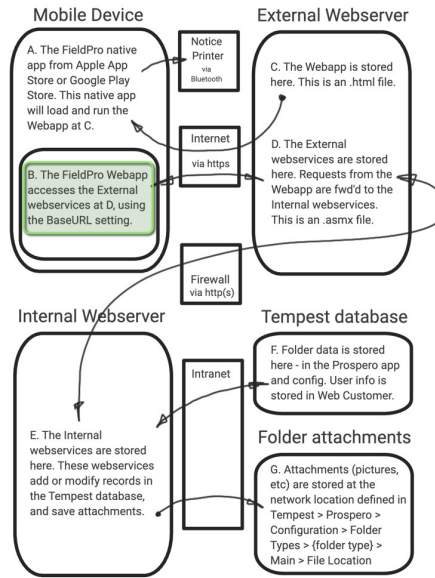
Tap the Gear button in the lower left corner to get to the Settings screen:
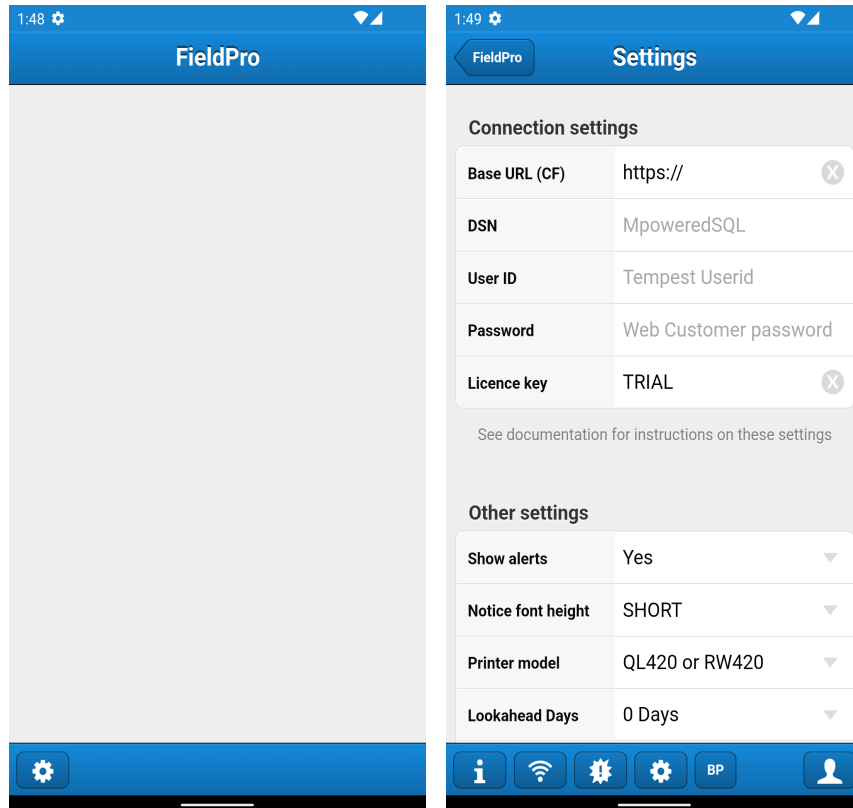
Connection settings

Connection settings are required as this establishes the location (on the Internet) of the webservices allowing FieldPro to communicate with Tempest data, as well as establishing your credentials.

Change the defaults to your site's specific values, for example:

Base URL: the location of your webservices root on the external server, e.g.:
https://wa.city.ca/mpowered/fpws/FieldPro.asmx/

After entering the Base URL, you can test whether FieldPro can reach it by tapping the Radar button. The messages shown will indicate if your Base URL is reachable.

DSN: the .NET (e.g. MpoweredSQL) Data Source Name.

User ID: the Web Customer ID as created above in the step "Create the FIELDWORKSUSERS users in Web Customer".

Password: the Password as created above in the step "Create the FIELDWORKSUSERS users in Web Customer".

Licence key: the 5 character licence key supplied to you by Mpowered. Licence keys can be purchased from Mpowered.

Other settings

Show alerts: If Yes, then all information prompts are show, otherwise only important ones.

Notice font height: Only used when physically printing notices.

Printer model: Only used when physically printing notices.

Lookahead Days: Used in the Home Area search, to look ahead this number of days when finding tasks to show.

Image Size: defaults to 1200, but can be set to 800 (normal res), 1200 (medium res) and 1600 (high res). The number chosen will be the maximum long side (in pixels) stored for Uploaded images.

Debug/support settings

These settings should be changed when working with Mpowered support.

Bottom tool bar

i button: Opens a screen showing contact and technical information, and may be used by Mpowered support during the course of a support call.

Radar button: Useful to determine if you are able to connect to the entered Base URL.

! button: This screen shows information logged by the system, and may be used by Mpowered support during the course of a support call.

Gear button: allows storage of various Settings configurations, usually used by your IT staff or Mpowered developers.

BP button: shows when you have the Print App setting set to Internal. This may be used by your IT dept or Mpowered support during the course of a support call.

Authenticate button

Once you have entered the connection settings, tap the Authenticate button (silhouette).   This will validate the information you entered, and bring you to the main screen. The user's name (from Tempest) will be displayed in the bottom toolbar on the main screen, and the body of the screen will ask you to "Tap here to start...":
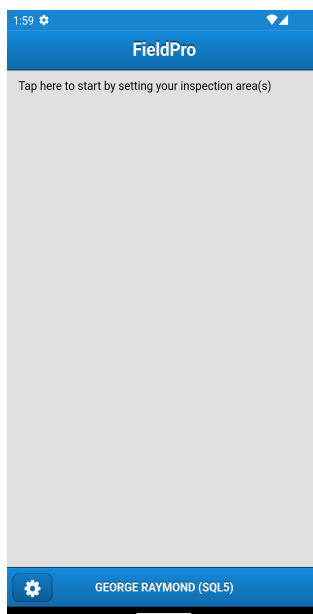
Set your inspection area(s)

Tap anywhere in the body area where it says "Tap here to start...".
The available inspection areas from Tempest are loaded and
displayed in a list:
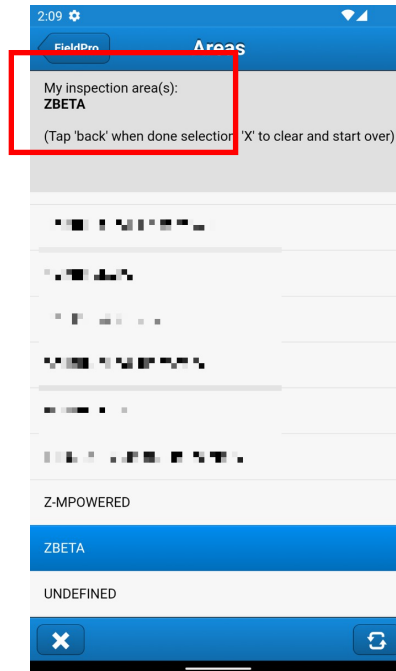
Tapping on individual list items will add the items to your inspection
areas. If you tap an area more than once, the upper panel will change
colour to indicate that you cannot add that area again. Above, area
ZBETA was added to "My inspection area(s)".

To clear the list and start over, double-tap the upper pane or tap the
X button on the bottom toolbar.

To add an area, and go back to the main screen, double-tap the list
item.

You are now ready to start working through the inspections assigned
to the chosen Area(s). This is described in more detail in the top
section of this quide.

Configuring and pairing with Zebra Bluetooth printers

If you are not physically printing notices, you can ignore this section.

Setting up the Bluetooth printer:
As part of your turnkey installation services, Mpowered would have prepared at least one of your printers, and if you have more, taught your IT staf how to configure additional printers. However, sometimes a tweak is needed, and the document "Configuring Zebra printers using Zebra Setup Utilities.pdf" – included in the download package - describes how to configure your Zebra printer for use with FieldPro.

LBL files:
The printer must contain a layout file named FPRO.FMT . The layout file is created using LBL files – of which there are samples included in the download. These LBL files are sent to the printer to create the FMT files, and the procedure to upload these files to the printer is described in the set-up document above. Mpowered would have usually created LBL files and instructed IT as to how to load those files to the printer as part of your turnkey system setup, but if you need changes, Mpowered would be most happy to assist you.

Android only - pairing with the Zebra printer:
For Android only, the Zebra printer must be "paired" with your device in Settings > Bluetooth before you can print. It's usually a very easy thing to get paired with a printer, and if you need assistance Google is only a step away.

**This marks the end of the FieldPro general setup section.**

Task comments re: Email and Fax delivery

FieldPro will optionally insert Task comments when an Enotice is Emailed. To enable this, a comment category must exist in Land Misc Maintenance under COMMENT-CD-TASK called GENERAL:
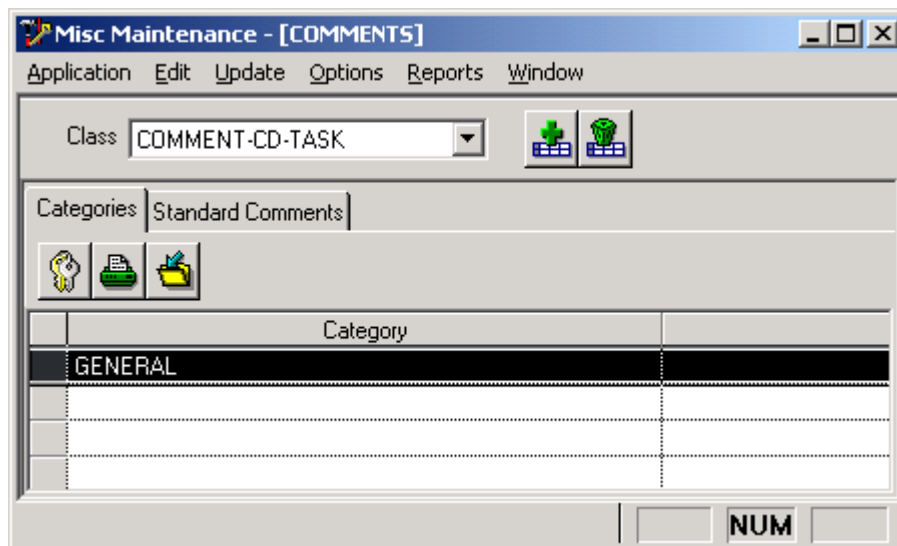
You must also ensure that the TempestWeb user has INSERT privileges on land_relation and land_notes.

On the Folder task, the comments will then be recorded as shown in the example:
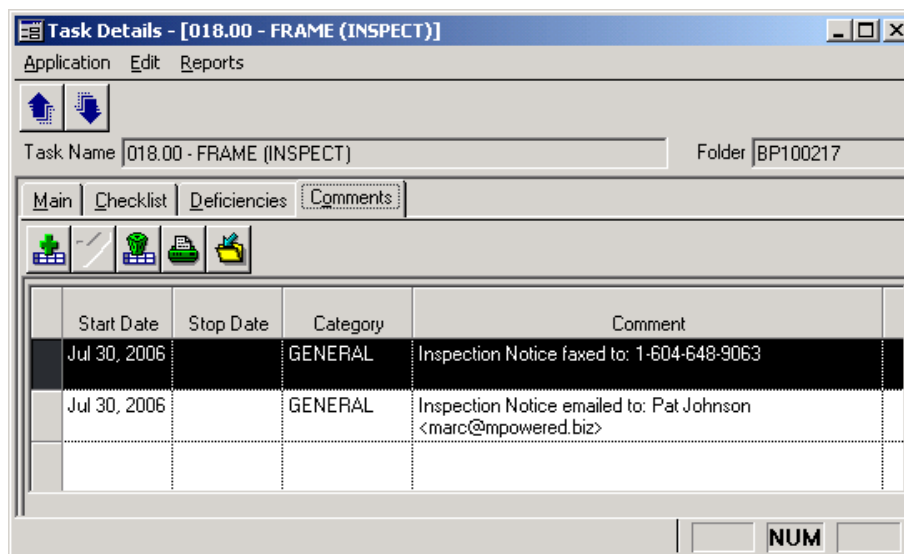
Upgrading from a previous version

1. If you wish to test this new release, please review the "Testing releases/upgrades" section below. Otherwise, continue with these steps.
2. Copy/Install the 80005 webapp and webservices to your webservers as per the instructions in the Setup section. The Android native app is now named FieldPro (not FP8000n) on the Play Store (search for "Mpowered FieldPro", and the webapp installation is required for Android users as of this version. Also note that webservices are now targeting .NET 4.7.2, so you should (but still optionally) update your Web.config (internal and external) targetFramework attributes to use 4.7.2 rather than 4.5. See the released Web.config files (Web.config.internal.txt and Web.config.external.txt) for examples.
3. Run all the grants in the Docs\dbgrants.txt file.

General upgrade notes

All webapps and webservices releases and patches are cumulative and include all fixes and upgrades from previous updates. FieldPro is integrated with Tempest, and may or may not require maintenance as described below.

Major releases
A major release of FieldPro (FP) will coincide with a major Tempest release, that is, when any of the first 3 digits of a release change, e.g. 72000 to 80000. You *must* (and can only) upgrade FP when you have upgraded the underlying database in order to continue using FP. All major releases are full (i.e. cumulative), i.e. webapps and webservices are released as a full package, and will usually require upgrading the webservers with the new versions. After every major release, run all the grants in the Docs\dbgrants.txt file. (Note that since Tempest 8, major releases seem to have stopped.)

Patch releases
When any of the last 2 digits of a FieldPro release change, e.g. 80004 to 80005, this is an Mpowered patch release. Mpowered *does not* synchronize these patches with Tempest. Therefore, when Tempest releases a patch, there will not necessarily be a corresponding patch release by Mpowered. Mpowered releases patches in order to fix bugs and/or introduce new features. All patch releases are full (i.e. cumulative), i.e. webapps and webservices are released as a full package, and will usually require upgrading the webservers with the new versions. After every patch release, run all the grants in the Docs\dbgrants.txt file.

Testing releases/upgrades
To test releases before going into production, install the new webservices as explained in the Setup section (ensuring that you are using different directory names for the webapp and webservices than production/live). On a test device, run FieldPro and point its Webapp URL to the **new fully specified webapp directory (not the virtual directory)*** and then inside the webapp point the Base URL to the **new fully specified webservices directory (not the virtual application directory)***, and DSN to the **TEST** database DSN. Once testing is complete and then to upgrade all users, simply edit the virtual directories* in IIS for both the webapp and webservices used for production/live to point to the new assets and all devices will magically update! iOS devices occasionally do not load the new webapp

immediately, so there is a link on the Settings > Info screen titled "Reload Webapp". For more information contact Mpowered.

* see the setup section for detailed descriptions of managing updates using virtual directories in IIS.