TRAINING GUIDE

Lucity Bootcamp 2016

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Lucity Bootcamp 2016

Lucity specializes in tracking assets that your organization owns and has to maintain. We allow you to track attributes and other information for over 300 types of assets. Since all (or at least most) assets can be seen in a map, each asset can be linked geographically to a map. With each type of asset it is very likely that we can track much more information than you desire and it is likely that you might want to track information that we do not have a designated field to track.

For every asset type, we can also track inspection information so that you can track the condition of each asset over time. Then, based on the inspection (or not), you can generate a work order to track necessary repairs for the asset.

In Version 2016, Lucity changed its licensing opening up all of its asset modules to all clients. Therefore, it is important that you understand what all types of assets that Lucity tracks – as well as how to best utilize the tools you now have at your disposal.

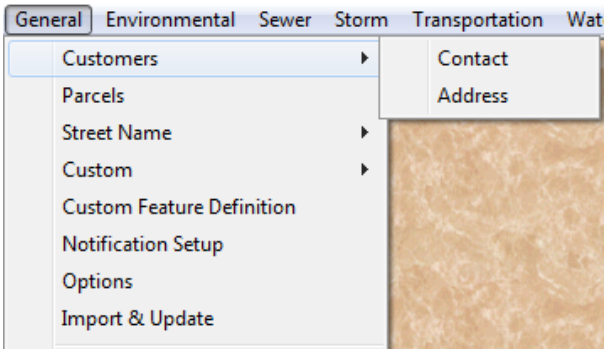
The best way to find out what assets Lucity tracks is with the desktop version of the software. This is because our web version hides all of the menu options for assets that you do not have rights to view. There are over 300 separate types of assets that we track.

Contents

Module Overview

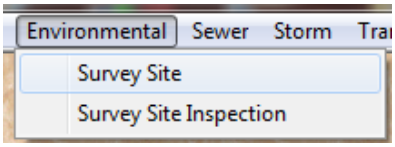
General

In the General menu, we track Address and Customer information, Parcels, Street Name List (to ensure that street names are being entered correctly), and General Custom information (this is a catch all that can be used to track almost anything). The rest of the selections are more for system setup and special tools.

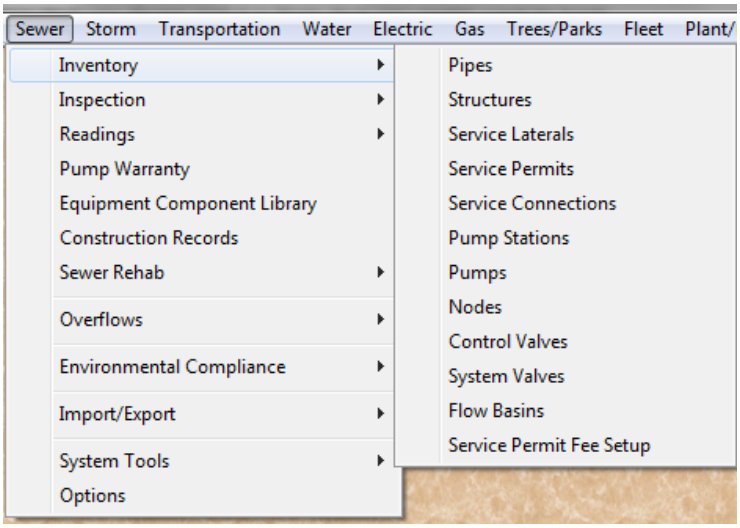


Environmental

The Environmental menu tracks Vector Control information – this can be for mosquitoes, rats, lice, and any other type of animal/insect that you wish.



Sewer



The figure above shows a listing of the asset modules that we track for a sanitary sewer collection system. We track one or more inspection types on most of these including the new PACP, LACP, and MACP standards.

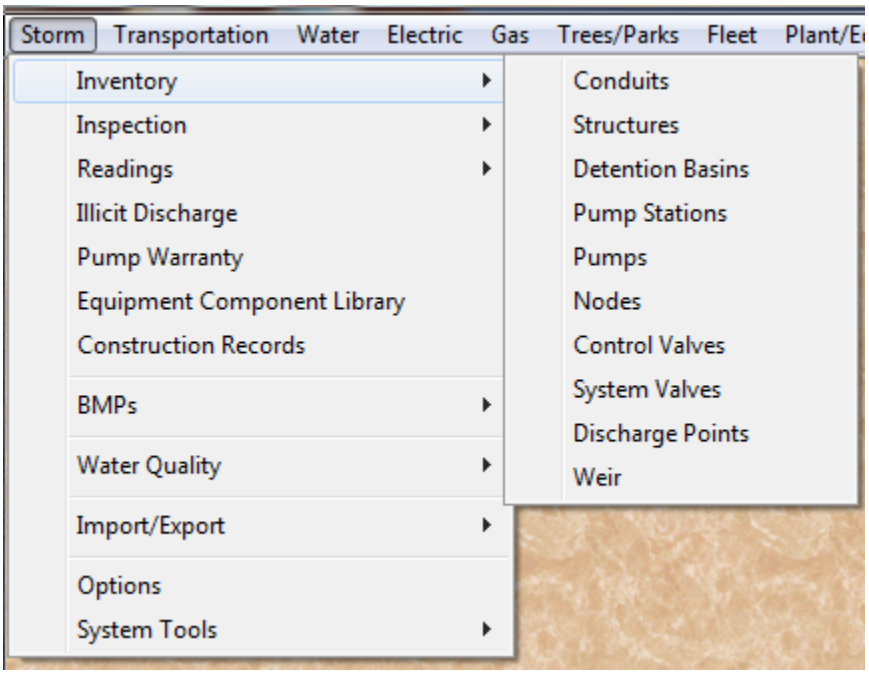
The Sewer Rehab uses the results of the television inspections to allow clients to obtain cost estimates for various rehabilitation methods based on the PACP data.

The Overflows section help document when overflows occurred, what caused it, what damage was done, how long it lasted, and what follow-up communication and work was performed.

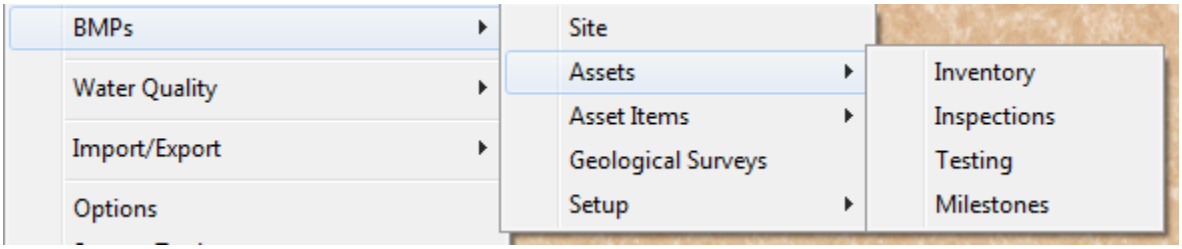
The Environmental Compliance section tracks both Fats/Oils/Grease (FOG) as well as Pre-Industrial Treatment Processes that are permitted.

Storm Water

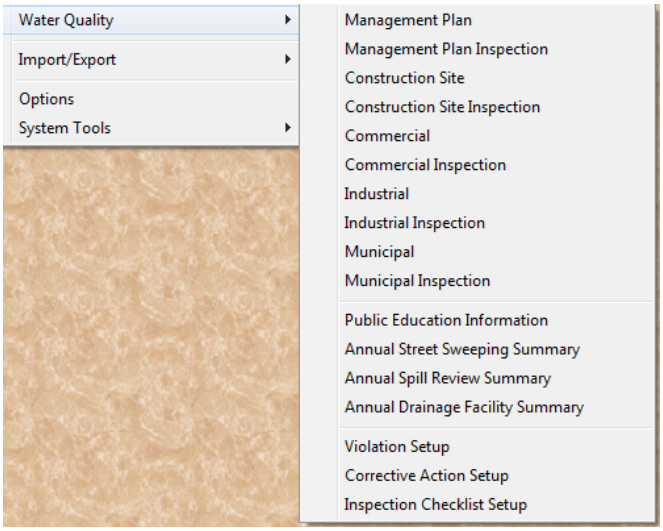
The Storm menu is very similar to Sewer. The menu above shows all of the storm water assets that we track. Again, we have inspection modules for most of these and readings for Pump Stations and Pumps.



BMP stands for Best Management Practice(s) where your agency might be tracking locations where public and private organizations have constructed locations that retain stormwater.



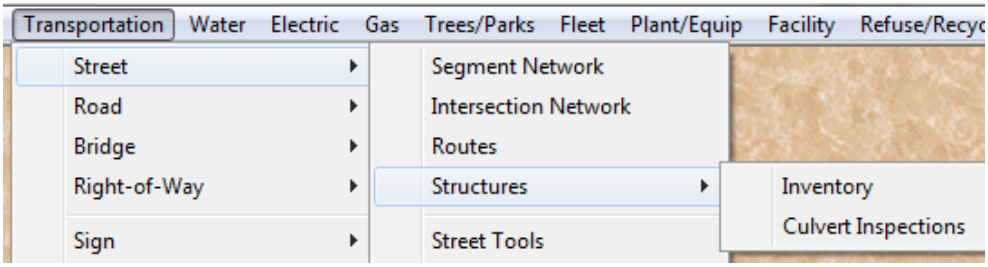
The Water Quality modules help your agency track information required by the Regional EPA in an effort to keep the quality of storm water runoff as high as possible.



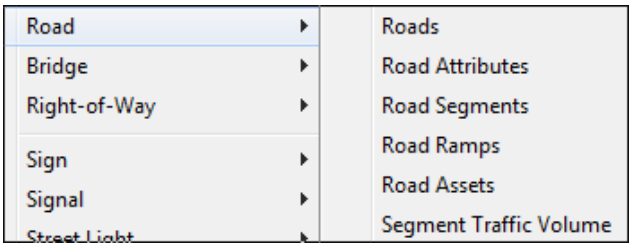
Transportation

The Transportation menu tracks information within the Right-of-way (ROW). We have divided it into many sections.

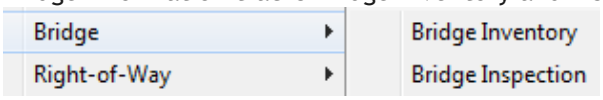
The Street portion tracks block-to-block street segments found in cities as well as culvert information.



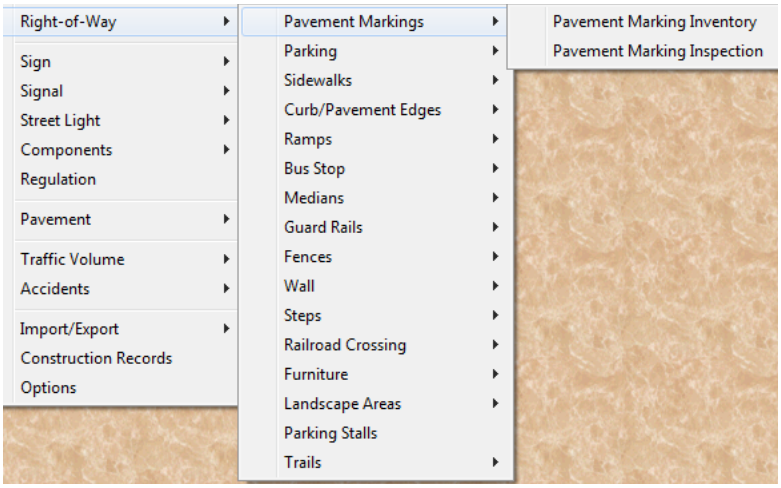
The Road section tracks Road information for County and State Agencies that track information using milepost information.



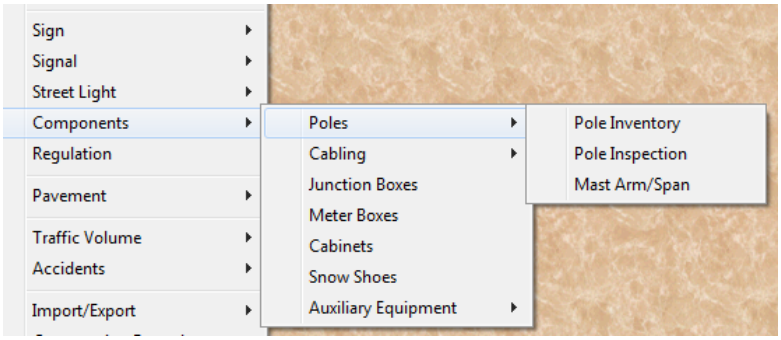
Bridge information tracks Bridge Inventory and Inspection information.



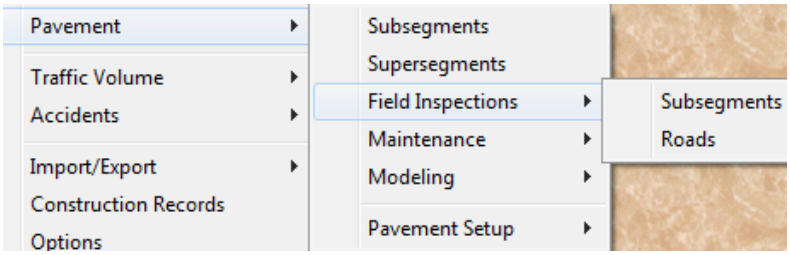
The Right-of-Way menu tracks a lot of various assets that can be found in the right-of-way and inspections for everything but Parking Stalls.



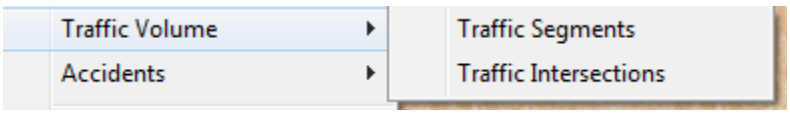
The next section is for tracks traffic assets – Signs, Signals, Street Lights along with many of the components used.



The Pavement section is where we store our Pavement Budgeting modules. This allows users to setup annual budgets and determines which streets/roads clients may want to repair/replace annually.

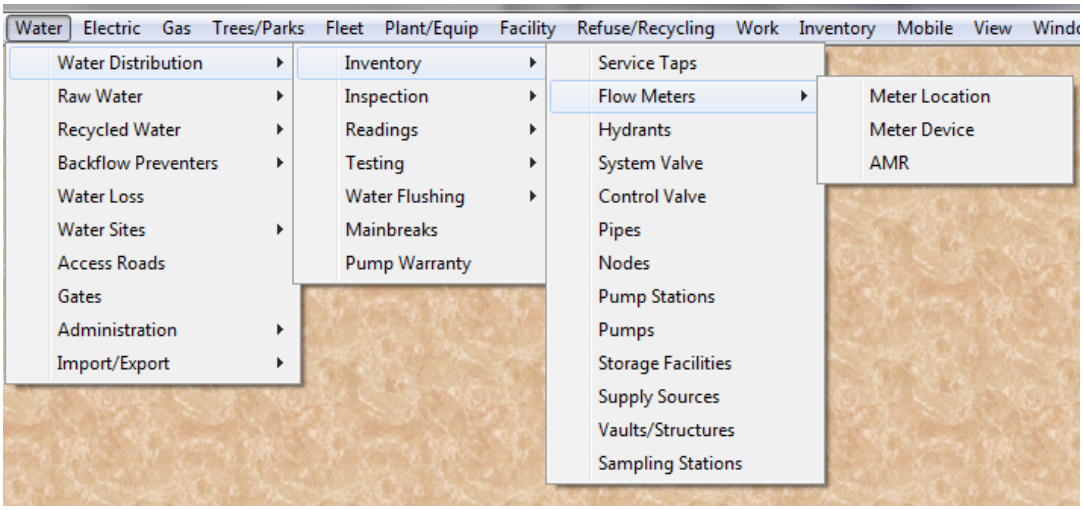


The last section stores information about traffic counts and accident data to better help the traffic engineering department.



Water

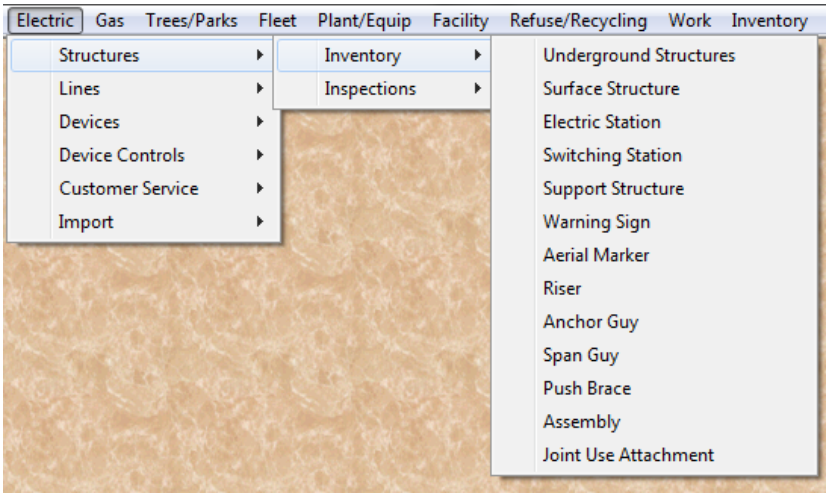
We divide up water assets into three main groups – Water Distribution or Potable Water, Raw Water, and Recycled Water. They all have the same structure and many of the modules are replicated in all three groups.



I think that the above graphic shows enough to give you an idea as to the breath of information that we track within Lucity regarding water components.

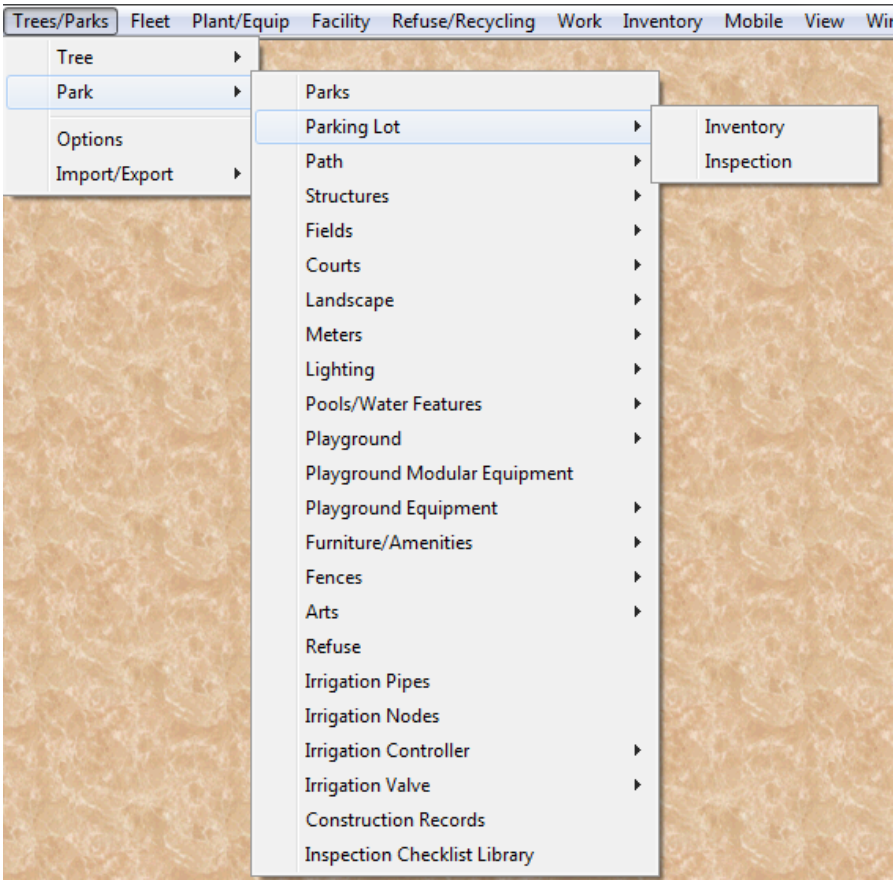
Electric

As we do not have many electric customers I will not go into everything that we track in electric power distribution. Call us for more details.



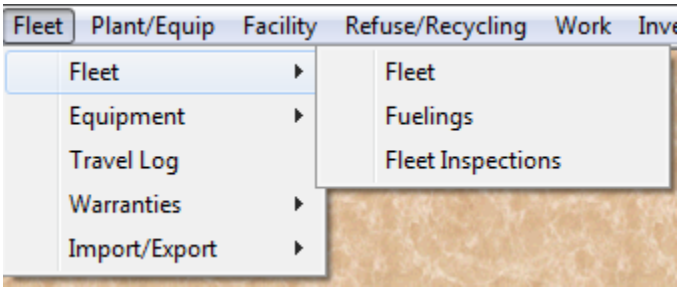
Trees and Parks

We do store lots of information regarding trees and all manner of park assets:



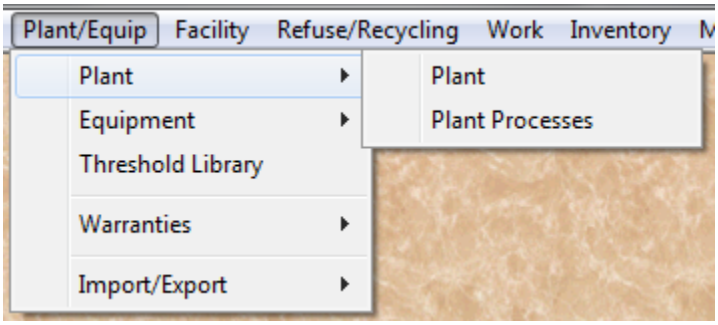
Fleet

We store Fleet, Fleet Fueling and Fleet inspection information along with equipment that may be attached and a travel log module which can help with multiple members using shared equipment.



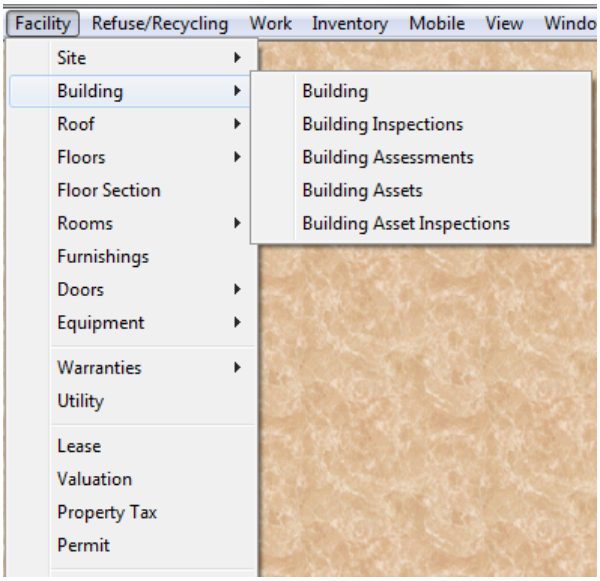
Plant and Plant Equipment

We store information about plants, plant processes and plant equipment.



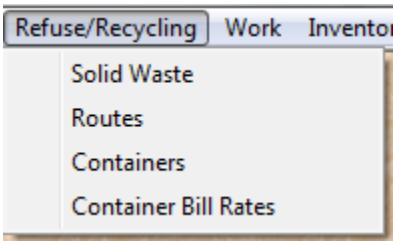
Facilities / Sites

We also store all information about buildings, the site surrounding the buildings and all of the items on or around the building.



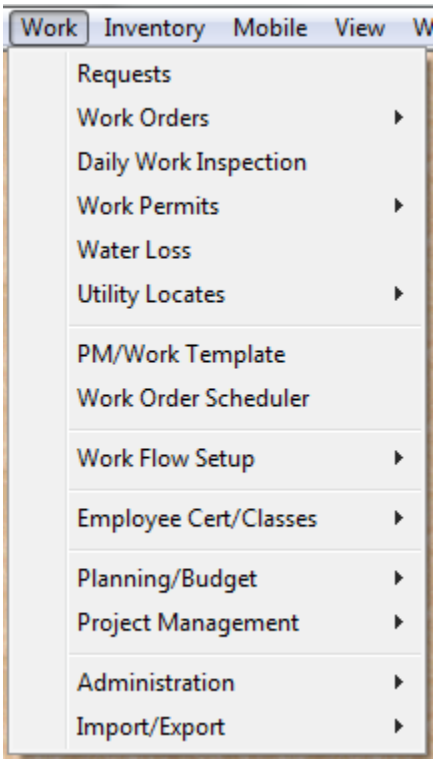
Solid Waste Refuse and Recycling

We have written modules to help our clients track trash pickup and recycling as well.



Work

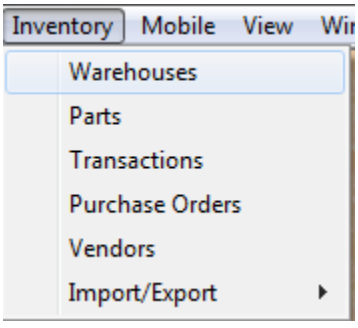
The Work Menu is really the workhorse of our product. Specifically Requests and Work Orders. However, we also track information on work permits, utility locates, employee classes and certifications along with management programs for tracking project management as well as planning and budgeting.



We will dive into requests and work orders in just a little bit.

Inventory

The last key module menu item is for Warehouse, Parts Inventory tracking.



These modules allow users to track the cost and number of parts that have in a warehouse and then automatically reduce the parts as they get used on a work order.

The best way to learn about how Lucity was design to work is to show some examples that tie everything in together. We are going to start by using the desktop version and then migrate to using the web version. For each version, we are going to be role playing as if we were a supervisor and a lead worker. We might switch around the supervisor depending on Department as well as the lead worker – sometimes the lead worker will be a work force of one, other times the lead worker will be heading up a group of employees and some equipment.

We will also be using Lucity's Version 2016 for this training session. Lucity has two releases every year. For the first release of the year (typically the middle of February), Lucity names its version for the year. For the second release of the year (typically the middle of August), we use the year plus an R2 (for release 2) for the version number. Therefore, Version 2016 is the February release for the year 2016. We did not start this naming convention until 2014 so if you are on a version that does not look like this then you know it is a version released prior to 2014.

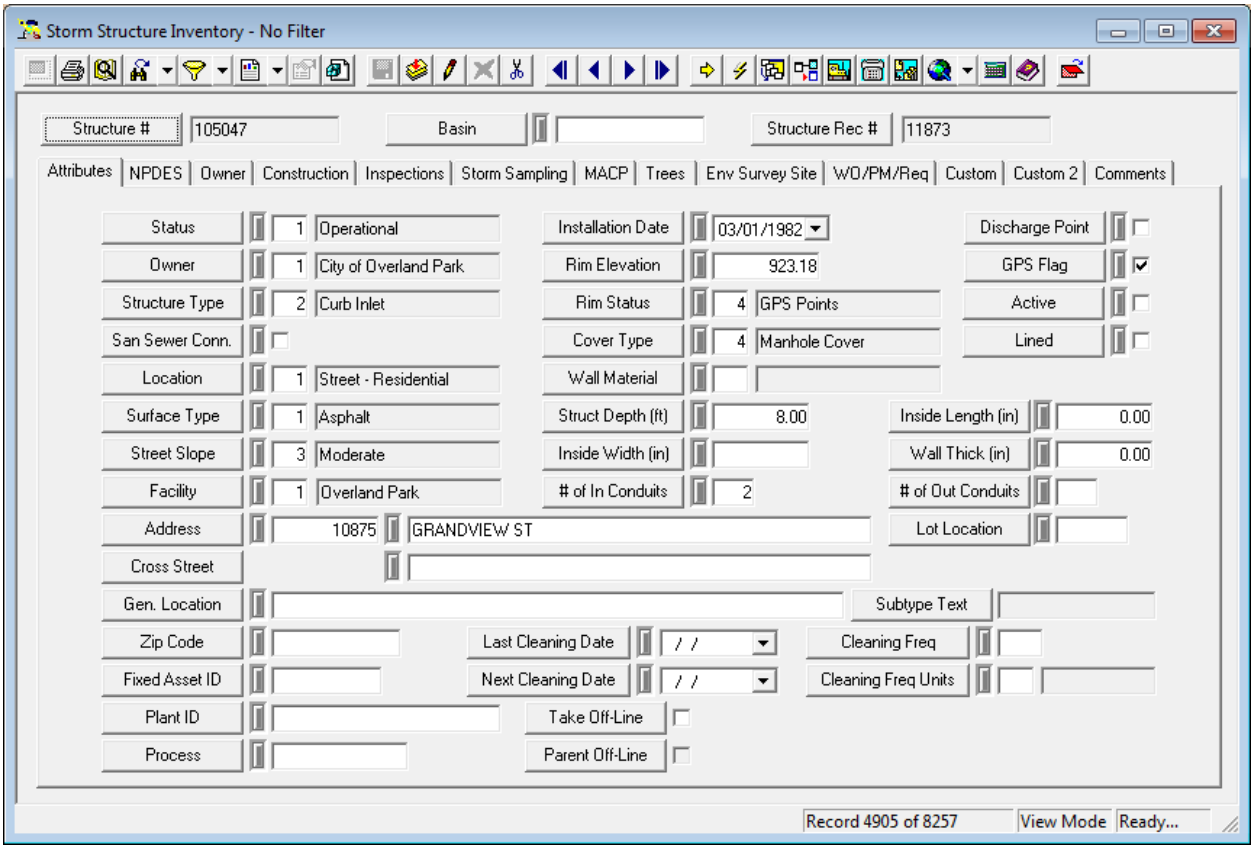
You should also know that regardless of how we enter data – either the desktop or the web – we are pushing the information to the same location. It is being pushed into a database that resides in your server room. The Desktop and Web are only programs showing you the information that is stored and allowing you to more easily load additional data into it.

The Desktop version has been around since the late 1990s. It is very good and very fast at certain things because it downloads all of the processing to be done on your individual machine. However, it takes much more administrative time to keep current and it is not nearly as flexible as the web product. Because the Desktop has been around so long, many of our clients are still using this product with the point of view that why retrain users if we do not have to retrain them. We totally understand.

The Web version has been around since the late 2000s. It is also very good and very fast at certain things and only sends data across the internet as needed. It is also much more flexible and customizable. That brings its own set of issues as each client tends to use it differently depending on its needs.

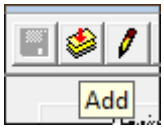
Desktop

A brief overview of how each Lucity Module in the desktop is structured. For this example we will use the Storm Structure Inventory module.



The first thing you will notice is that there are a lot of fields on the screen. Everything shown is information that pertains to Storm Structures. There is even more data stored in each of the other tabs.

All modules will have this same structure. There is a row of buttons at the top, then some key information in what we call the header (information you can see regardless of what tab you have clicked on), a row of tabs, and then the information on the tab. At the very bottom it tells you which record you are on out of the total number of records viewable as well as what mode you are in.

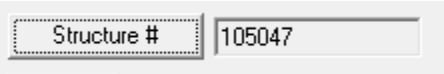
The top row of buttons show text when you hover over the button which will help be your guide. For instance, the Add Button 

is the yellow stack with the red arrow pointing down. It is used to Add a new record. For inventory items, do not be surprised if you are not allowed to add information as that is often times something that the GIS staff does. We will be hitting many of these buttons throughout the training so I am not going to be going over them now.

Fields

In looking at the buttons, you will notice that there are lots of different types of fields

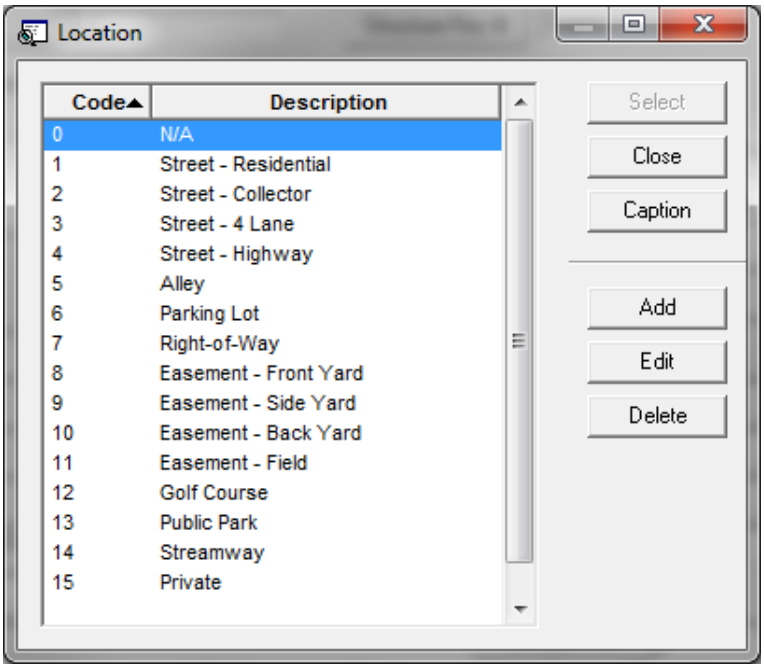
Text Fields



This field is a text field (left aligned) that is read-only (grey)

Picklist Field

This field is a picklist field. Users have to select or type in values that appear in the list. You can get this list by either hitting the F9 button or by clicking on the button "Location". This is very helpful in standardizing data input and reducing errors.

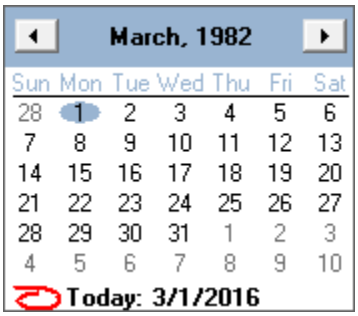


Date Field

This is a Date field. To put information into this field, you can:

- Hit the space bar (which puts in today's date)

- Click on the down-arrow button which pulls up a calendar

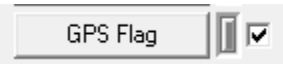


- A user can also hit the month or date fields above where they will get additional dropdowns
- Manually type in a date – you have to enter the month, then tab, enter the day, then tab, then enter the year.
- Delete part of the date. This will blank out the date.

Number Field

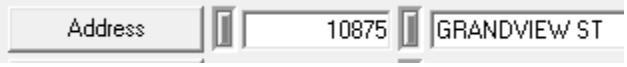
This is a numeric field. They are always right justified.

Boolean Field



This is a logical field (or a Yes/No field). A user can either click in the field to toggle it or use the space bar to toggle it.

Address Fields

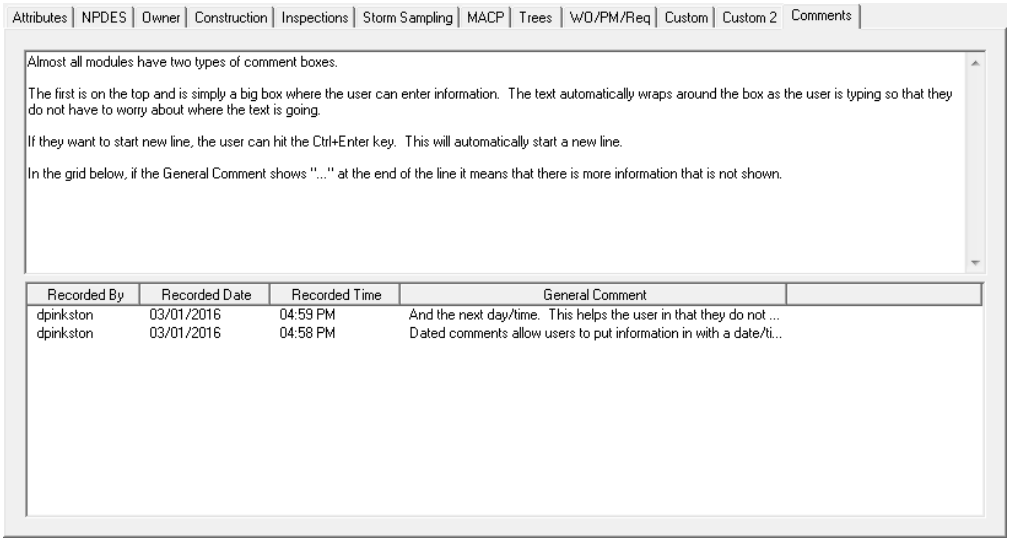


Address is actually a combination of multiple fields. It holds a number for Building Number, a Building Subnumber (for things like ½) in the first box and then Street Prefix (De, Calle, etc.), Street Direction (E, N, etc.), Street Name, Street Type (St, Ter, Pl, Blvd, etc.) and Street Suffix (E, N, etc.). Most clients would only be using some of these and they get to pick and choose. Normally streets are validated against a master street name list that the GIS Department defines.

Common Module Components

Comments

Comments are also very consistent in how they work throughout all Lucity modules.

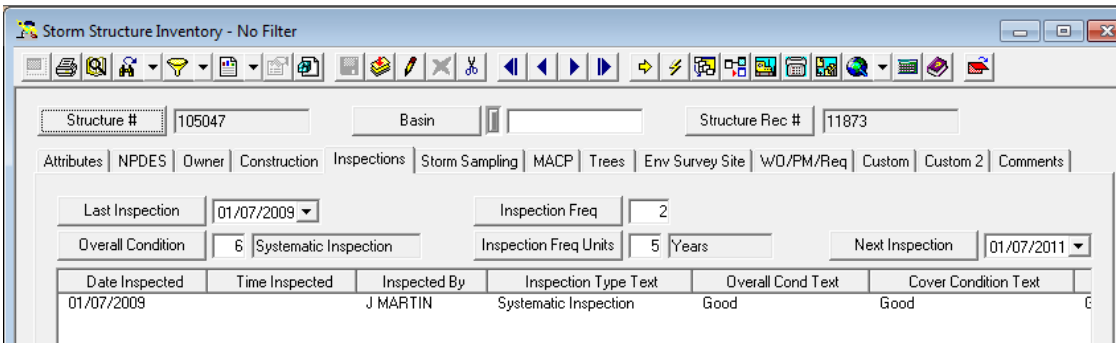


Custom tabs

Another thing that is common to all modules is Custom tabs. A module can have one, two or up to four. The tabs have preset fields that the user can use to name them to track any additional types of information that they wish. Lucity is flexible in that almost all of the names of the button captions can change.

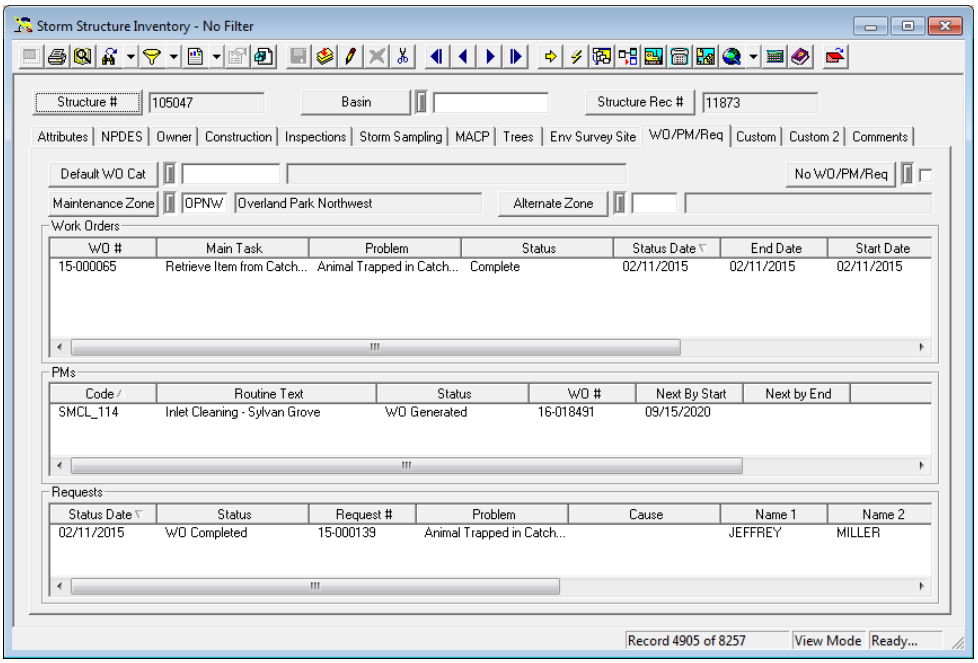
Inspection Tab

Below, I clicked on the Inspection tab. This shows me a history of each inspection that was done on the asset. Almost all assets will have an inspection tab. As long as the inspection frequency and inspection frequency units have information, it can even calculate automatically the next time you should be performing the inspections. The same is true for modules that have Readings.

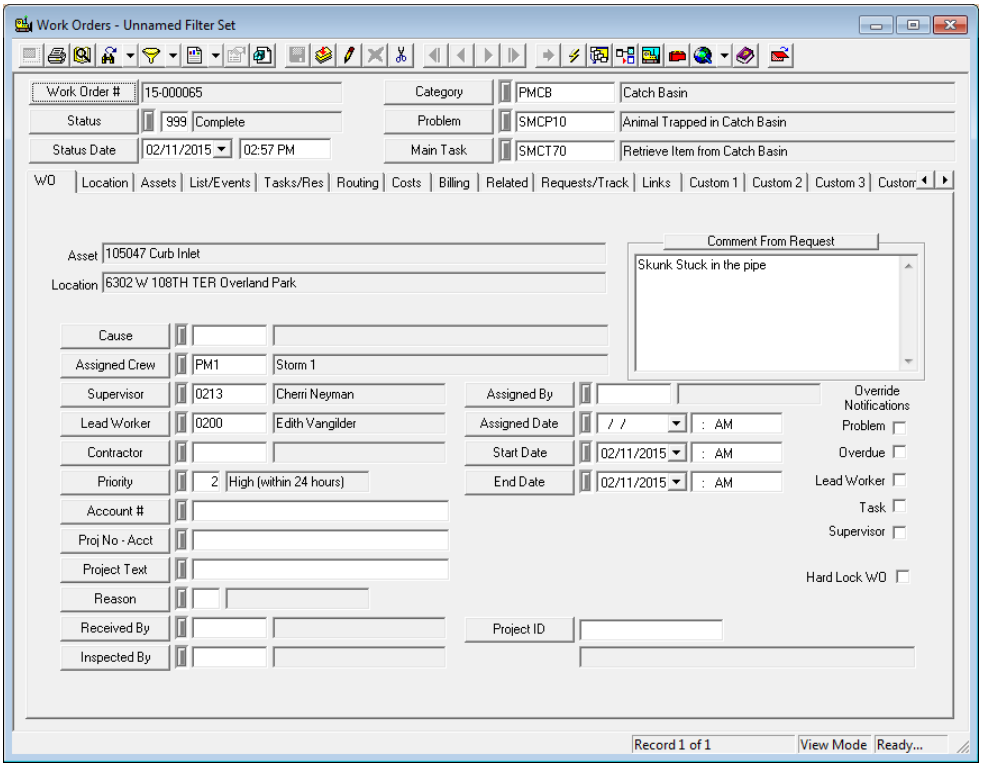


WO/PM/Req Tab

Another tab that is very helpful is the WO/PM/Req tab. This tab shows all past work orders performed on the asset, what PMs have been setup for the asset and what requests have been received regarding the asset. The user can also setup defaults for Maintenance Zone and Alternate Zones.



A user can quickly go to a record from the grid by double clicking the record. For instance, you can simply double click on the WO# 15-000065 and the program will automatically open up the Work Order module for that record.



Notice how the layout of the module is the same for the work order as the Storm Structure Inventory module.

The goal that we are working toward is distributed, real-time paperless data entry by the users of the system. This ensures the highest quality of data, best real-time feedback on the status, and tracked accountability.

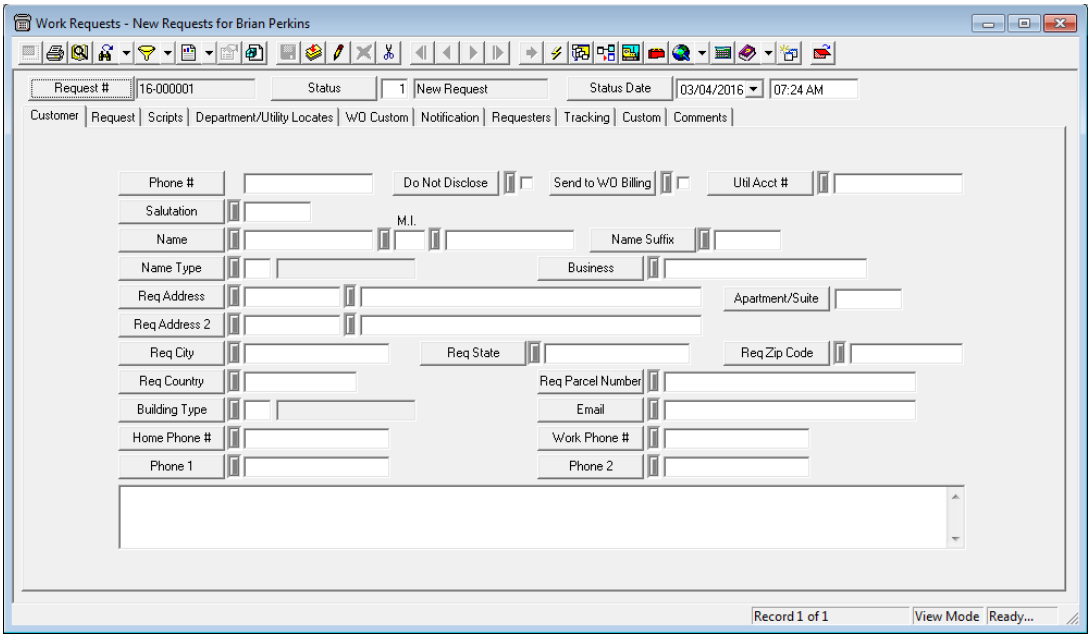
Also, various tools and techniques are going to be shown using the Desktop and the Web. In almost all cases there is an equivalent tool or technique in the other application and the concept translates extremely well.

Desktop Web Work Comparison

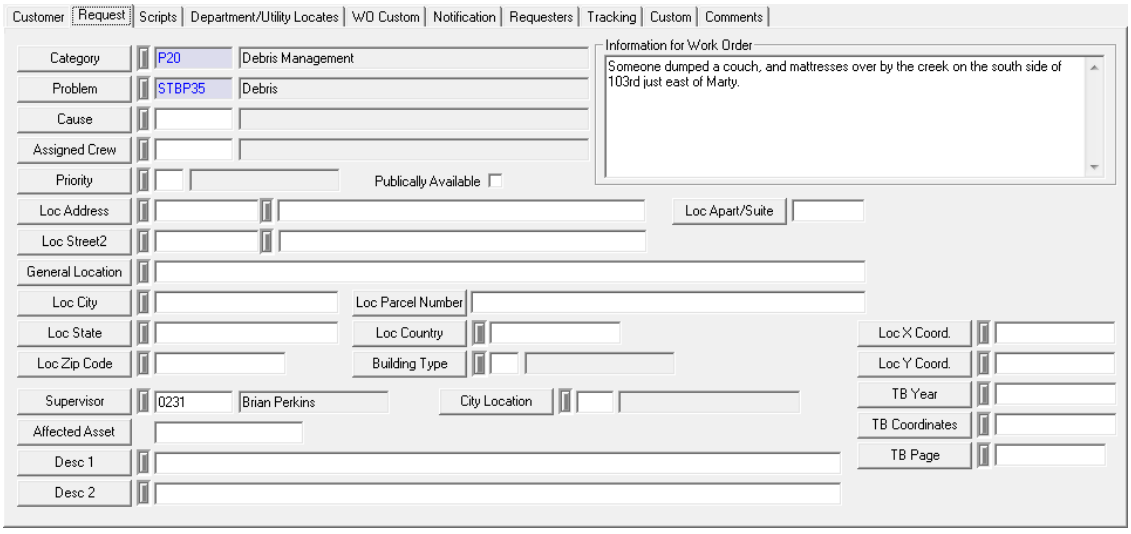
Desktop Example

Someone at the front desk receives a call about trash being dumped by the side of the road. (South side of 103rd between Marty and Metcalf by creek). They enter the information about the person – may be a lot or maybe nothing. If the person leaves an email they can get notified via email about the changing status of their request. She assigns the Request to Brian Perkins who is the supervisor in charge.

First Tab is about the customer making the call

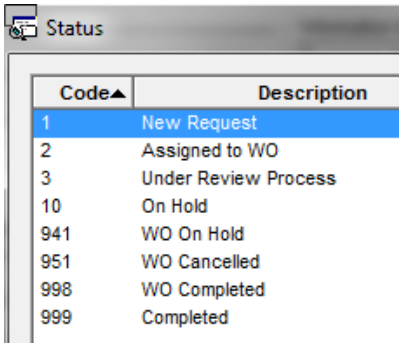


The second tab is about the request itself.



Notice how the Supervisor was automatically assigned based on the problem selected.

The status was automatically set to 1- New Request. There are several statuses that a Request can go through. All of the statuses on the list below are set by Lucity except for 3 and 10.



Requests can get entered into the system in several ways:

- Phone calls into the front desk (or answering machine at night)
- Agency's 311 system
- Web site help system
- Phone applications

Now, what is it that the Mayor, Council, your Director, and therefore, what your boss wants to know:

- **How quickly you handle the requests?**
- **How many requests are being generated?**
- **How are the requests grouped in a map?**

Which fields are therefore the most important:

- Category
- Problem
- Location
- Date/Time that you took the information
- Comments can be very helpful – especially comments if you run into issues as to why it took longer than normal to complete the work.

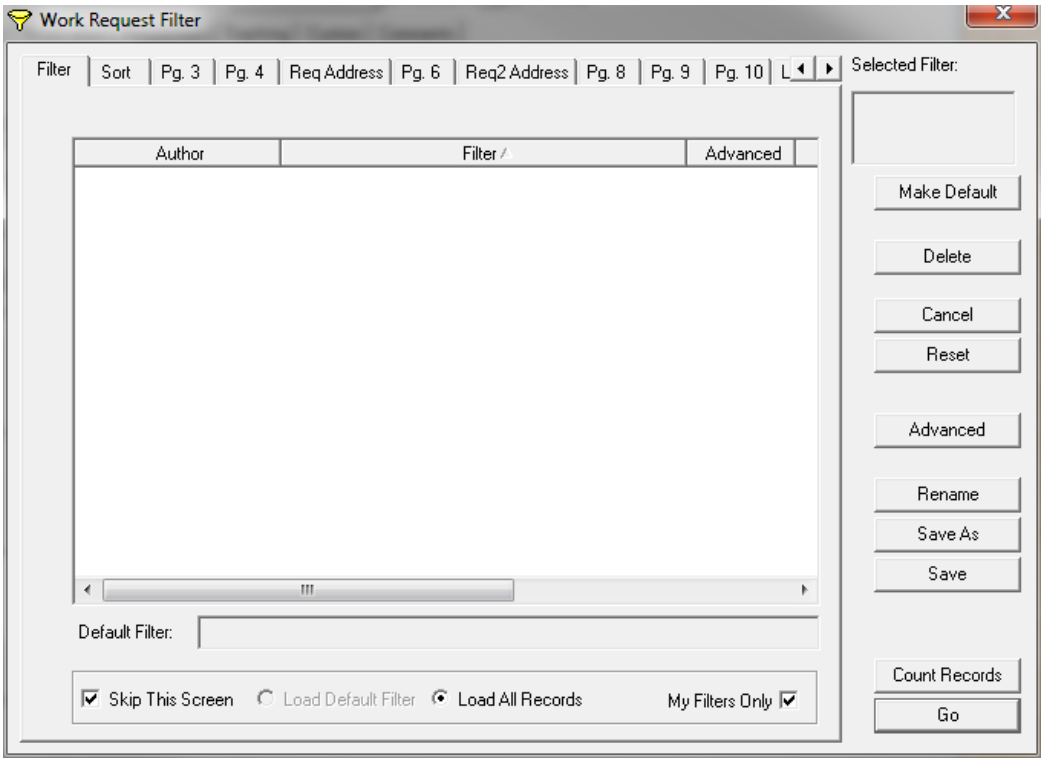
- Supervisor – this would be the person responsible for making sure the work gets done.

Now, let's see the request from the Supervisor's perspective. **I will pretend to be logged in as Brian Perkins the supervisor.** I can open the Request module but I get a LOT of records. I only want to see the records that I care about. For this example, I may only care about

- Requests that are assigned to me with a Status code of "New Request"
- Requests that are assigned to me that are not yet completed – Status code < 950.

I can find these records by setting a couple of filters.

The button above is the Filter button. New filters can be created by clicking on the button. You will get a scary looking screen that looks like this:



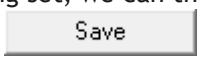
IT IS NOT SCARY! It basically has a series of Tabs at the top, a couple of choices at the bottom and some options on the side. You will notice at the bottom that the My Filters Only box is checked. This means that the white space above will be showing you all of the filters that you created. Since you have not yet created a filter, the list is empty. By checking that box off, other staff member's filters will appear.

Let's walk through the basic steps of creating a filter. The first one that we create will be for All Requests assigned to me where the Request Status is equal to 1 (New Request).

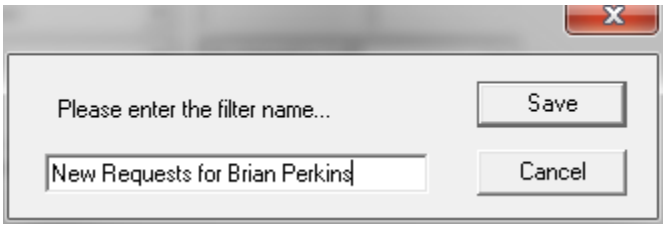
Each Tab above starting on Page 3 shows the fields that are on the screen in basically the order that they appear on the screen. Therefore, we need to get to Page 3 to find "Status" or "Status Text" and then Page 14 to find "Supervisor" or "Supervisor Text"

As with most things Lucity there are plenty of different ways to do things. I could set the filter where Status = 1 or I could set the filter where Status Text = "New Request". They will return the same results. In general, a filter on a number (or a smaller number of characters) will return results back faster so that is preferable. However, in most instances, the speed difference will not be great so you can set your filter however you might like.

It is important to note that when we display a list of potential selections that our system will only display data for information that actually exists in the dataset. Therefore, if there were no requests that had "New Request" as a status, then that selection would not appear.

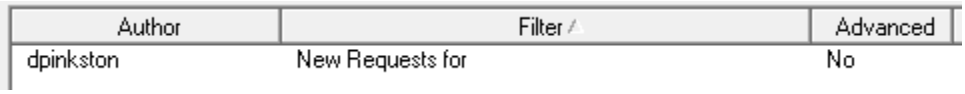
With these two values being set, we can then Save the Filter so that we will not have to create it again. Hit the Save button 

and give it a new name



and then save it.

It will now show up in your list of filters:



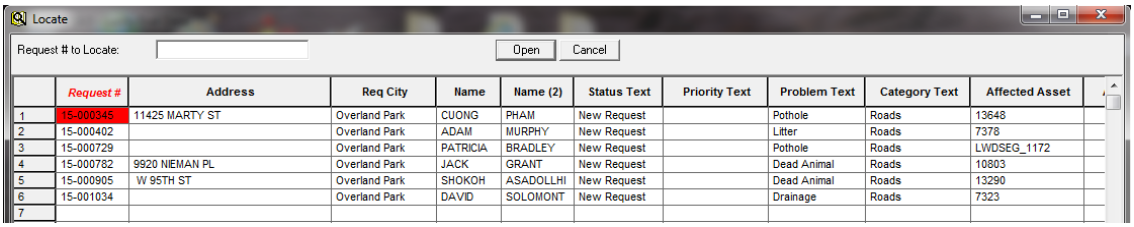
To run the filter, highlight the filter in the list and hit Go. This will launch the Request module and return to you the records meeting your filter's criteria.

You can also set up the system so that it bypasses this filter screen and automatically loads up a filter of your choice. First, you select the filter from the list. Then you hit the Make Default button on the right. Then you move the radio button from Load All Records to in front of the Load Default Filter. Once done, you can close out of the module, reopen it and it should automatically load the module showing you only that filter's information.

Let's create another Filter to show all Open Requests assigned to Brian Perkins. With the current filter still running, hit the Filter button. Now go back to Page 3 and change the Status Text to <none> and set the Status < 950. For statuses, all codes less than 950 means that it is not closed or completed yet. Now hit the Save As button and give it a name of "Open Requests for Brian Perkins". If we hit Go, it will pull up all of these records.

Now, close the Request module and open Requests again (it should automatically open New Requests for Brian Perkins). Now, hit the down arrow next to the Filter button. It should now show two choices – the Open Requests for Brian Perkins and the New Requests for Brian Perkins. Clicking on each will return those records.

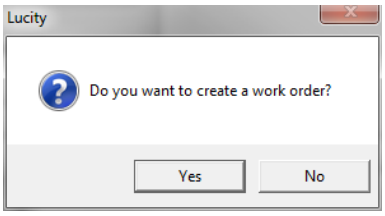
The Locate Button  allows users to see the selected records in a grid and then quickly find a record (if the information is in the grid). Using the Filter above, Brian could quickly look at all Open Requests, then double click the record in question and open that record.



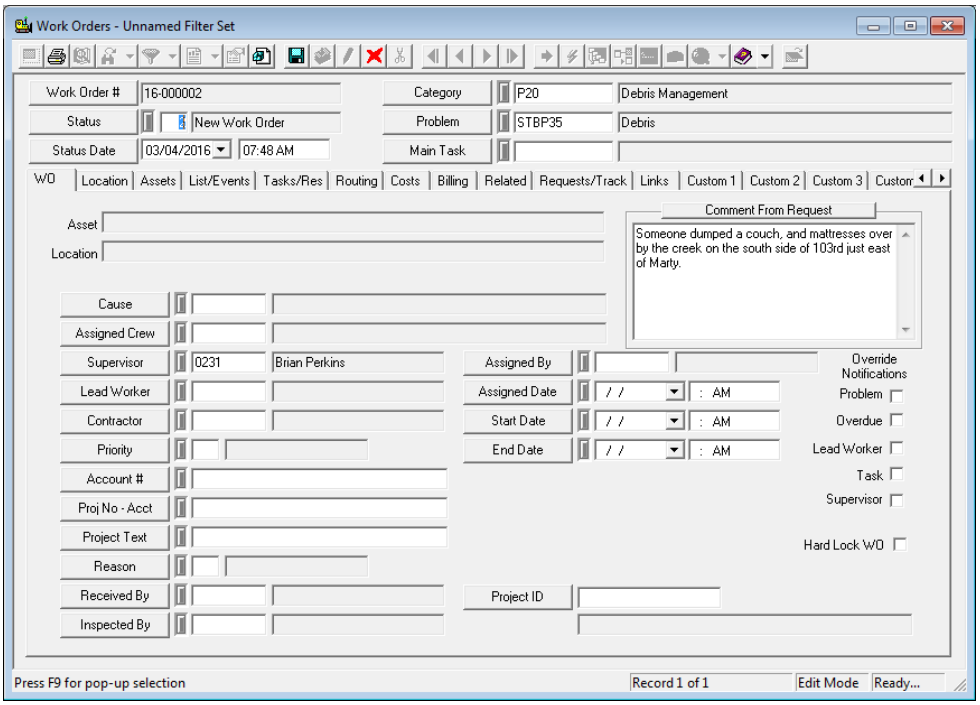
	Request #	Address	Req City	Name	Name (2)	Status Text	Priority Text	Problem Text	Category Text	Affected Asset
1	15-000345	11425 MARTY ST	Overland Park	CUONG	PHAM	New Request		Pothole	Roads	13648
2	15-000402		Overland Park	ADAM	MURPHY	New Request		Litter	Roads	7378
3	15-000729		Overland Park	PATRICIA	BRADLEY	New Request		Pothole	Roads	LWDSEG_1172
4	15-000782	9920 NIEMAN PL	Overland Park	JACK	GRANT	New Request		Dead Animal	Roads	10803
5	15-000905	W 95TH ST	Overland Park	SHOKOH	ASADOLLHI	New Request		Dead Animal	Roads	13290
6	15-001034		Overland Park	DAVID	SOLOMONT	New Request		Drainage	Roads	7323
7										

You will notice that at the top the system is prompting for Request # to Locate. A user could enter that field and type in the Request # to find a match. By clicking on any column, the user could search on any information in any column.

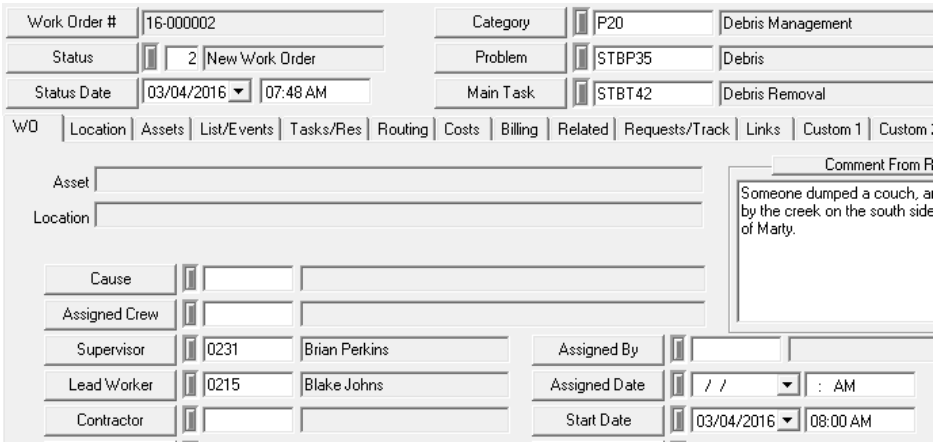
Brian would open the record and then hit the "Create WO" button in the toolbar  . You will get the following prompt:



Say yes to this prompt because you do want to create a work order for this request. The system then opens up the work order module.



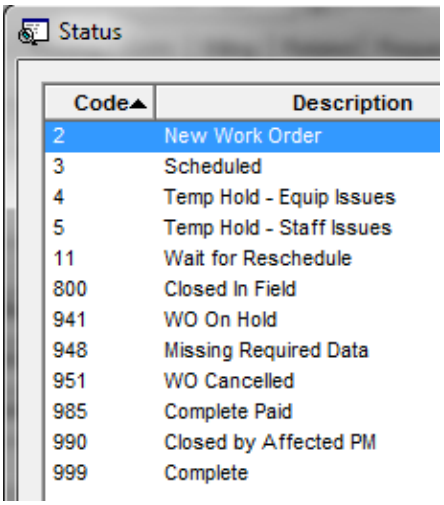
Notice how it carried forward the Category, Problem, Supervisor and Comments and automatically assigned a work order number. In the Location tab, it also carried forward the address. Brian now can assign the Task that he wants to have performed on the work order and then either the Assigned Crew or the Lead Worker that he wants to complete the job. If Brian wants to see this job on our scheduler program, he would also need to provide a start date (your start time may or may not automatically get filled in with a time).



The final thing Brian needs to do is save  the work order. When the work order is saved, the Request status gets automatically changed to 2-Assigned to WO. This is important because this means that someone has reacted to the request in some way. Many clients want to prove that requests were reviewed or acted on in some fashion with 24 hours. Maybe this is not to assign it to a work order but a new status called "Reviewed". Something to move it off of "New Request" status.

If he has not done so already, Brian needs to again create some filters for "New WO where Brian Perkins is Supervisor" and "Open WO where Brian Perkins is Supervisor". Status is on Page 3 and supervisor is on Page 5.

Now we are going to switch hats and be Blake Johns. He is the lead worker responsible for removing the trash. First, Blake will need to have two filters in Work Orders set up as well. One for new work orders assigned to him and the other for all non-completed or non-field complete work orders assigned to him.



First a quick discussion about work order statuses.

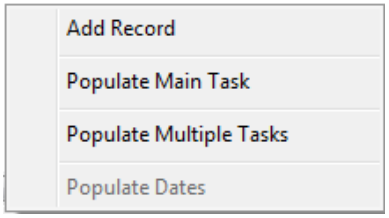
Many of the status shown are locked by Lucity. These are 2-New Work Order, 941-WO On Hold, 948-Missing Required Data, 999-Work Order Cancelled. Any other status is a status that your agency has determined should be used for some valid reason. Make sure that you know when you should select each Status.

Anytime a status code is greater than 950, Lucity considers the work order "closed". This is important because if there is a Request associated to the work order or an inspection linked to the work order, then the Lucity program can change the status of these linked records to show that the work order has been closed. For the linked Request it actually changes the status to 998 – WO Completed.

For Blake, we want to create a filter where Status = 2 and a filter where status < 800. This is because this agency wanted to have someone review the work done out in the field before fully completing the work order.

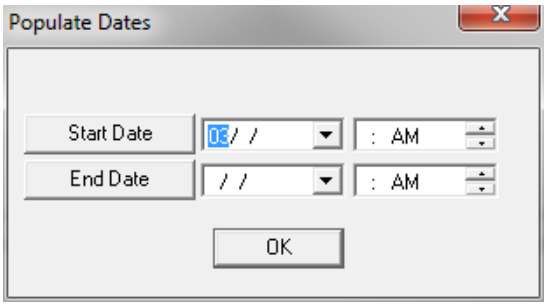
Blake opens work orders and if he set it up correctly it should automatically open up work orders to those work orders that are either new or still open. He can then find the work order that he wants to work on. Let's say he just finished working to close this clean-up activity. The following are the steps that he would use to do this.

First, he would go to the Tasks/Res tab and add a task that was done. The easiest way to do this is to go into the white space under the Work Tasks grid and click the right button on your mouse. This will bring up a menu of tools.



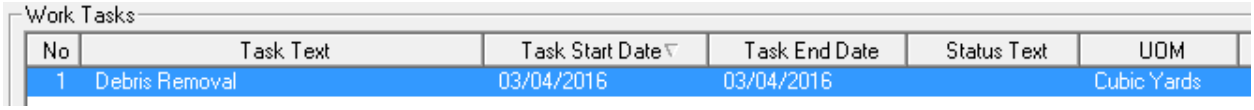
Select "Populate Main Task" and it will automatically create a Work Task record that matches the work order main task and have it highlighted. Next, use the same right mouse click to get the tools to show up again and select Populate Dates (the list will be longer as there are now more things a user can do).

The figure below will appear.



The easiest way to enter a date is by using the space bar when you are in the field. This will automatically fill in the current date into the field. To move from month to day to year using the keyboard, you have to use the tab button otherwise you can use the mouse to click in the location you want to change (or hit the field down arrow). . The same holds true for the time field. While in the time field, the space bar will push in the current time. Depending on the computer focus, the keyboard down and up arrows will reduce or increase the value.

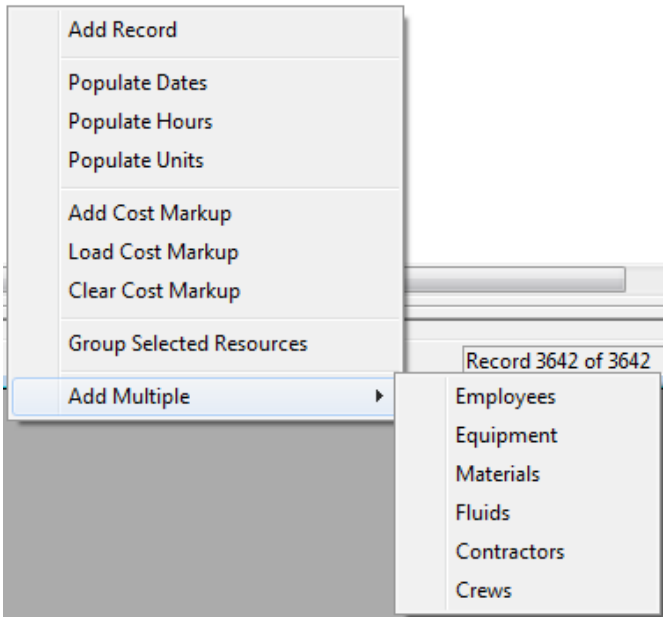
By hitting the field down arrow  , a calendar appears allowing you to pretty quickly select the date you are interested in as well.



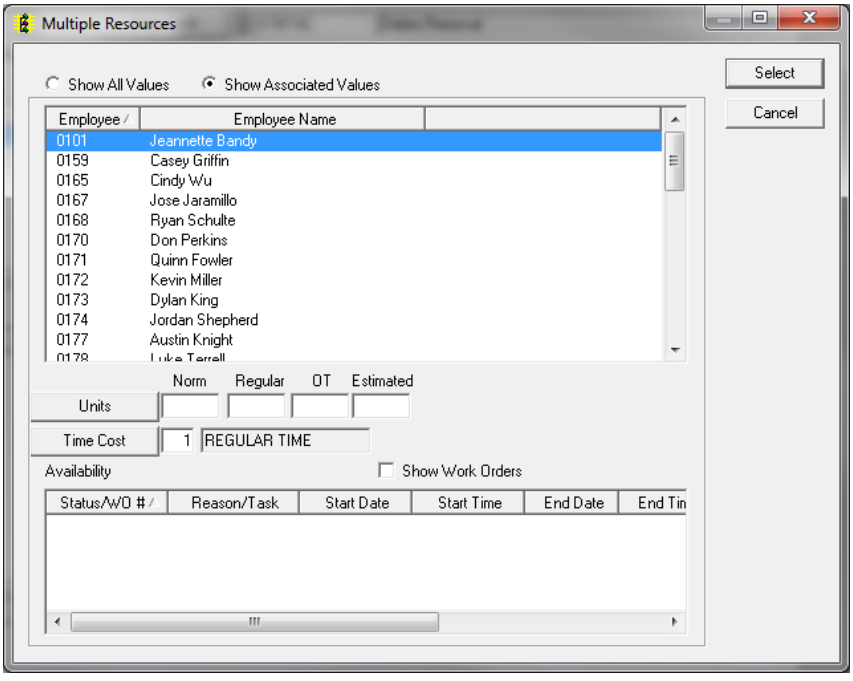
The final item that you need to fill in is the quantity of work that you did. In this case, someone had determined that Debris Removal would have a unit of measure (UOM) of Cubic Yards. It is important that you pay attention to the UOM because the next step is entering the quantity of work performed. In our case, Blake and his crew picked up 4.5 CY of materials. To enter this, there is another toolkit called "Populate Task Units" that can be used to enter this amount.

Now we are going to focus on filling in the resources used to complete this work. In this case, we needed two staff members and a truck. There are multiple ways to get this data entered and we will first cover the most typically used.

First – use another Toolkit - this time from the Resources grid. We will use the Add Multiple, Employees tool.



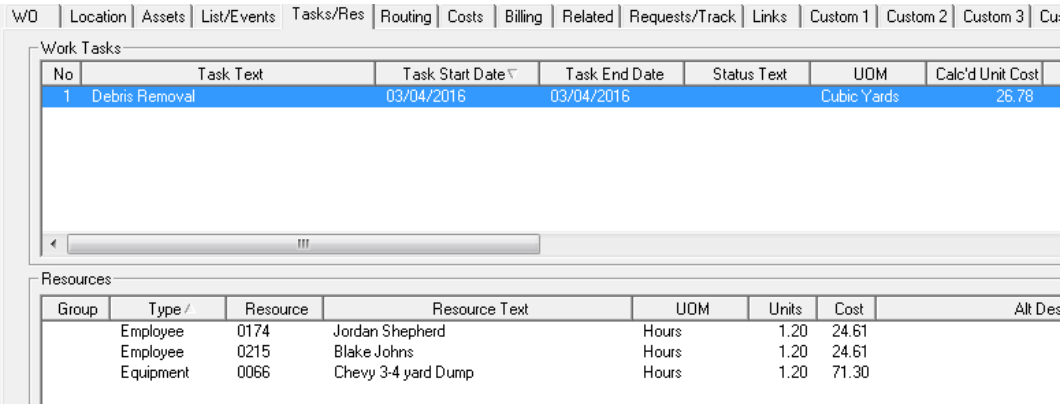
By Selecting Employees, Blake would get a new screen that looks this:



Blake can now highlight himself and Jordan Shepard (who was working with him). This is done by clicking on the first person and then holding down the Ctrl Key and clicking the next person. Once everyone has been selected, Blake can then enter 1.2 (for 1.2 hours) under the Norm Units box and then hit the Select button.

A similar tool for Equipment can then be used to load the 1.2 hours for the truck used.

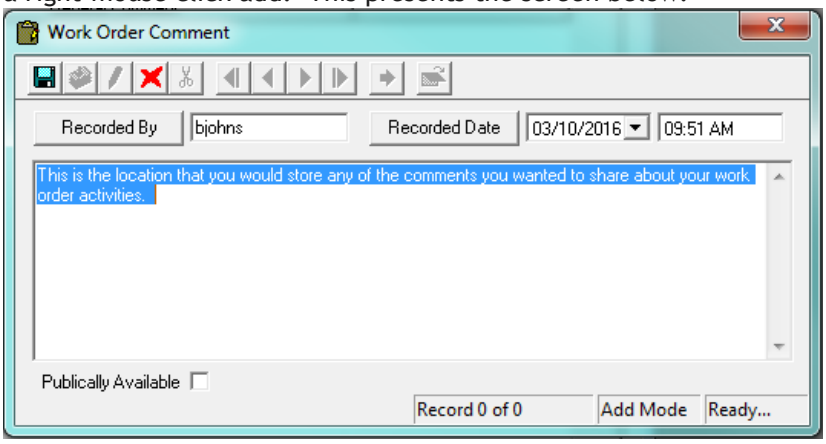
The work order will end up with costs looking like this:



You may or may not have rights to see cost information. Your costs might appear like ***** depending on your agencies settings.

It is important to note that since Blake had entered the date on the work task, he does not have to enter the date on the resource records or on the work order. Those dates are automatically filled in for him (another system setting).

Blake could also easily add comments to the work order by going to the last tab (Comments) and doing a right-mouse click add. This presents the screen below.



The final step to complete the work order is to change the status to 999-Complete (or maybe "800 – Completed in Field" or some other field complete status that your agency might have elected to use).

To change the status, Blake will need to get into Edit mode  , change the status to the appropriate value, and then hit the save button  . Blake could have taken pictures of the before and after locations showing the debris and its clean-up. These pictures could be loaded and stored with the work order record. This is much easier with the mobile web process so I would like to show it there instead.

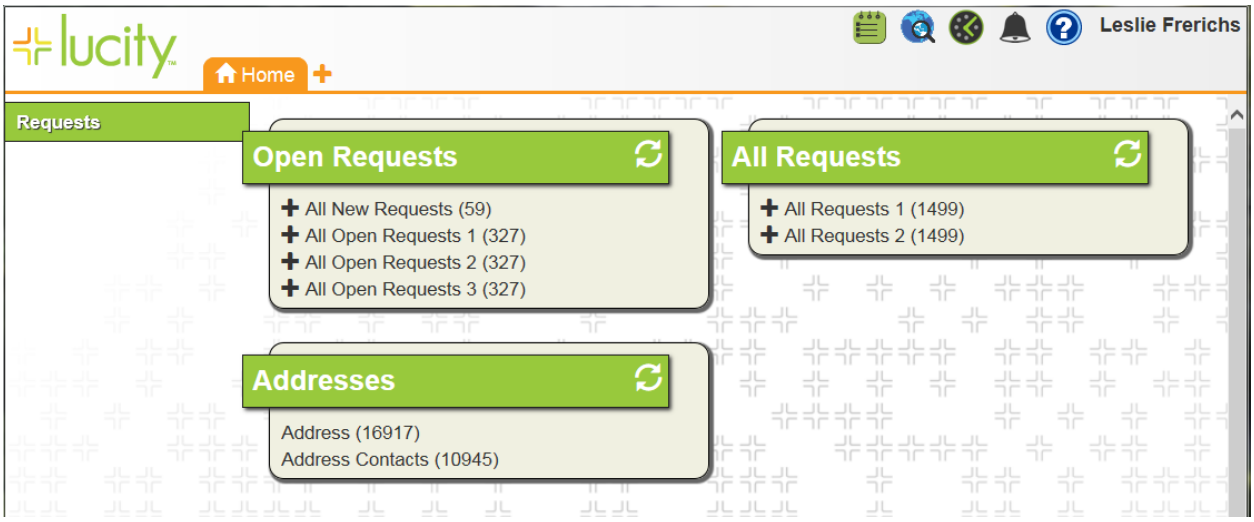
Hitting Save then:

- Removes it from your special WO filters
- Removes it from your supervisor's special WO filters
- Changes the Request status
- Potentially emails the customer that the request has been closed
- Removes it from your supervisor's special Request filters.

Web Example

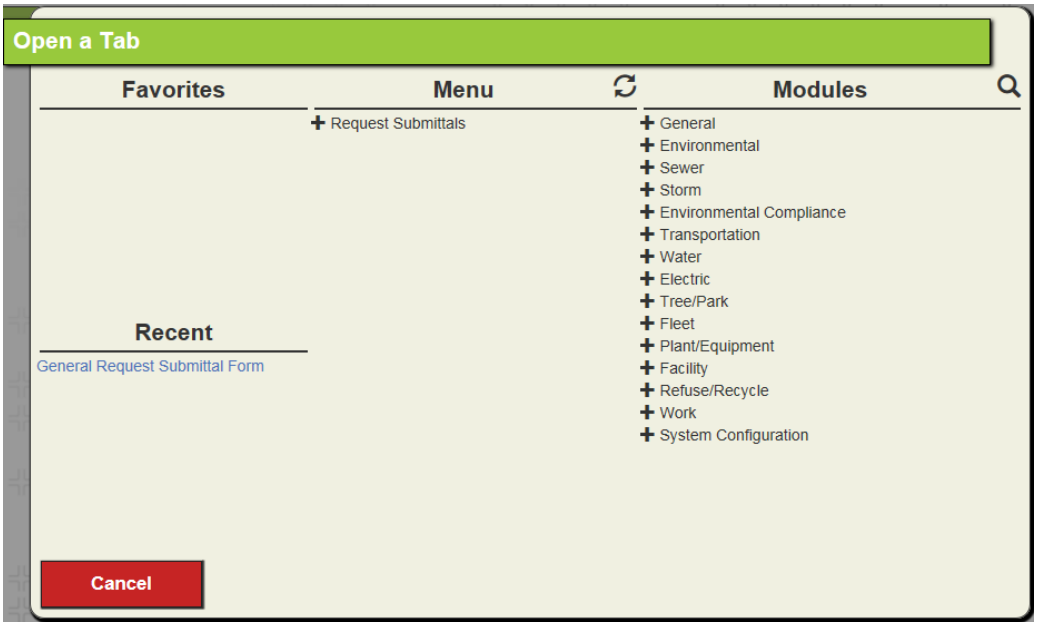
Now we are going to do the exact same request and work order scenario using the Lucity Web and the Lucity Web Map. To do this, I will be logging in as different staff members.

First, we are going to log in as Leslie Frerichs. She works in the Call Center taking various requests for the City. In the web, we have dashboards that can be designed per person or per group. Her dashboard shows:

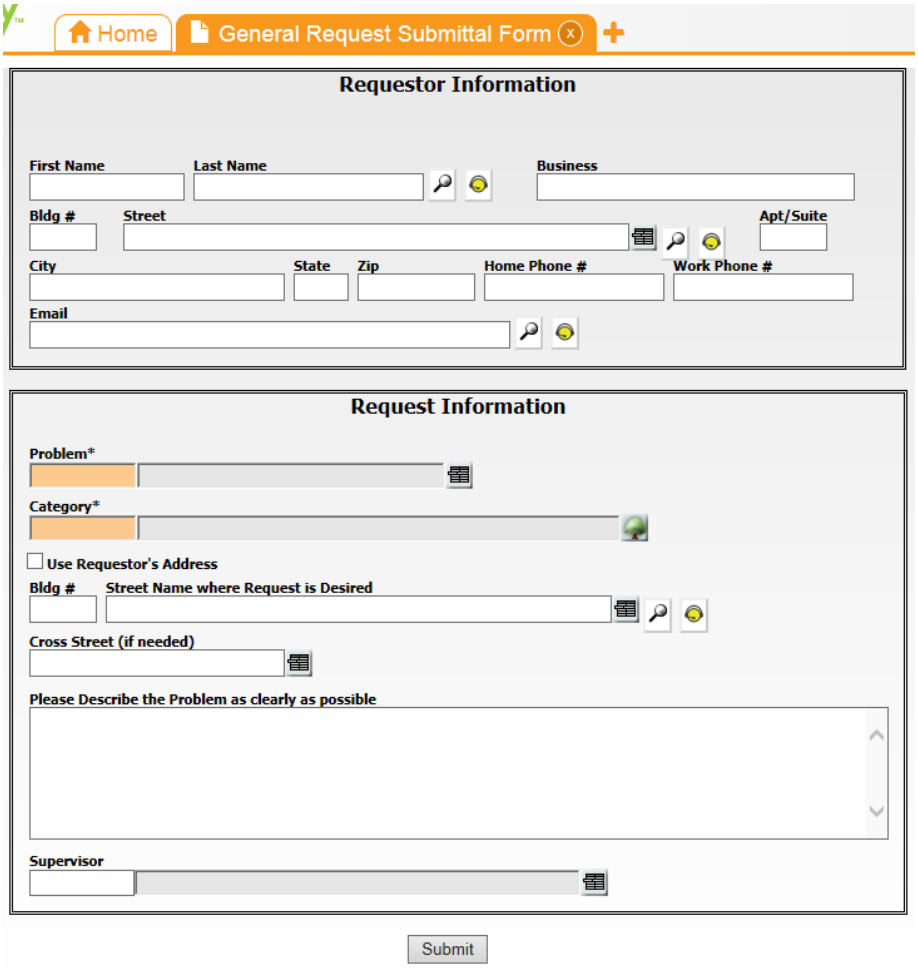


This is totally different than the desktop. She has information about new, open and all requests visible as well as information on addresses and contacts that she can use to quickly lookup information. We will get into more detail about how all of these features work but first, we are going to be adding a new request. To do this we select the Plus button next to the Home Tab.

This opens up another screen:

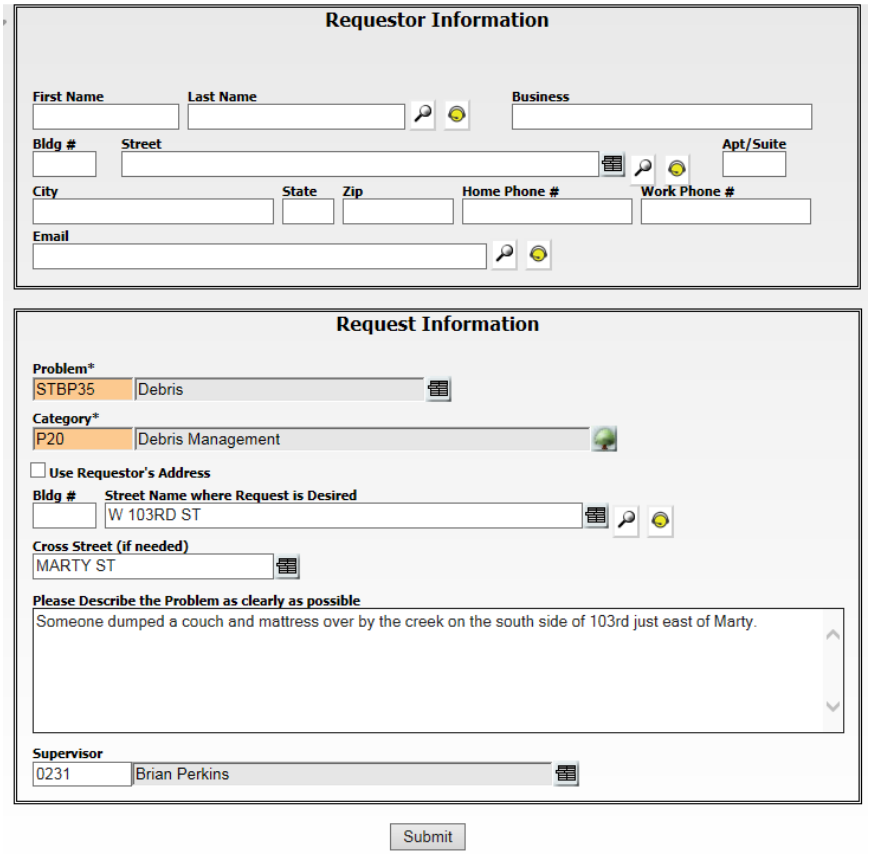


On the lower left, the system displays a list of the most recent modules that Leslie has entered. She can simply highlight the "General Request Submittal Form" from here. Another way for her to get to the same form would be to hit the Plus under the Menu section and select it from there. Below is the form in which Leslie would then enter the request information:



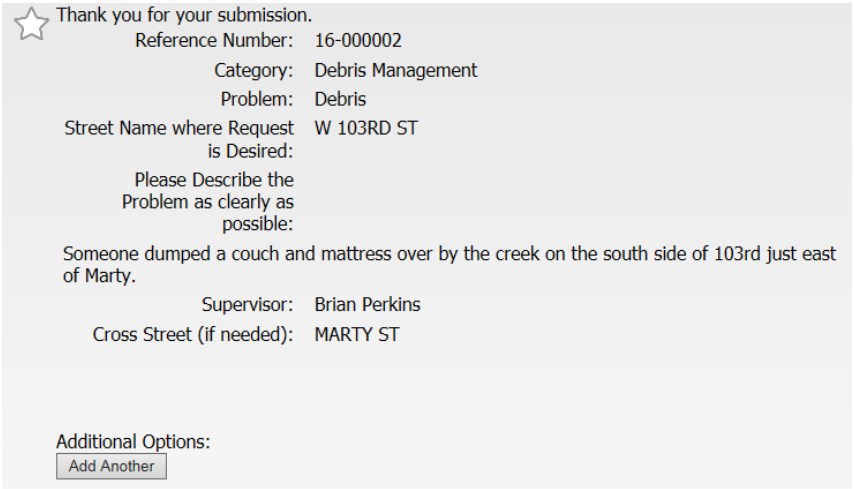
This is a much more streamlined form that in the desktop. The top portion is again about the requestor and the bottom portion is about the request. The fields in light orange are required fields and must be filled in. Once all of the data is filled in, Leslie can hit the Submit button to "Add" the record to the database.

Just like in the desktop, the web will automatically populate the Supervisor once the problem is selected (if they have defaults). If Leslie hits the checkbox for "Use Requestor's Address" it will automatically copy the Requestor's address into the Location Address.



The screen is the same information that we took in the desktop. Once Leslie submits it she gets a Thank you screen.

General Request Submittal Form



This screen shows the newly created Request Number and is intended for submittals (this could be for a staff member or a member of the public at large).

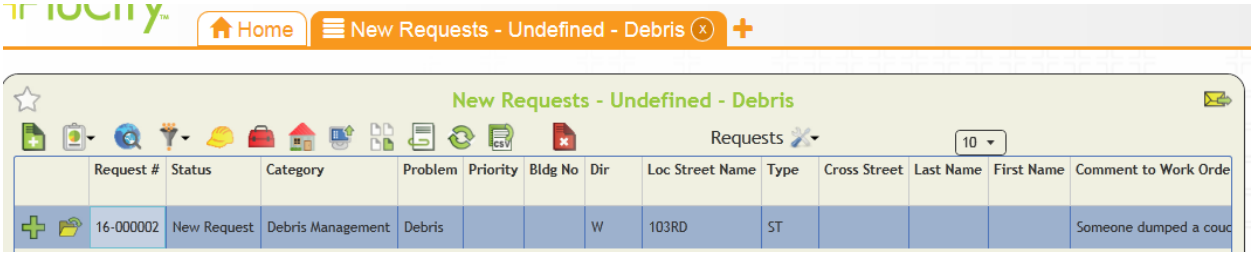
Also, after Submit, Leslie's "New Request" count goes up (it is constantly changing). So does Brian Perkins dashboard. We are going to check it out next.

Logging in as Brian Perkins – showing his Dashboard

Brian's dashboard is similar to Leslie's except he has three dashboards and different information appearing on the screen. The first frame shows all open request information while the second shows all open work order information.

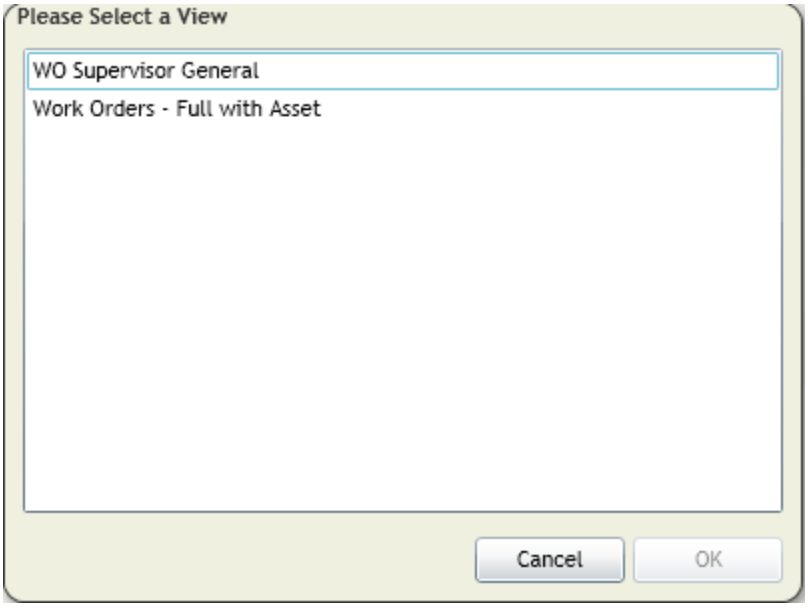
First, let's create a work order from the request that Leslie just created. Brian hits the + next to New Requests and gets this:

The Undefined (7) is for the first dropdown which is Priority. In this case, none of the 7 New Requests that are assigned to Brian as a Supervisor has a Priority. There are two Dead Animal and Pothole problems and one each for the remainder. Brian can click on the Debris row and the system then opens up a grid showing the record.



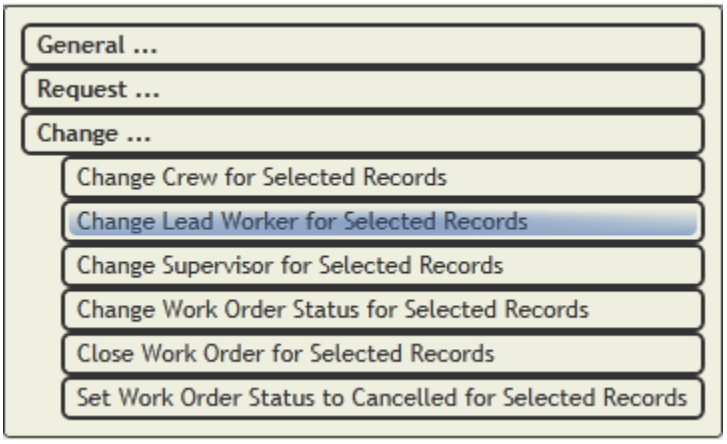
Brian can hit the folder to see the information is a form view or if he can get enough information from the grid, then he can simply highlight the record and hit the "Create WO Button"  . This will bring up another create asking if Brian wants to create a WO for the Filtered set or the selected records (in this case they are the same).

Brian then hits OK. Brian next may (or may not) get a screen prompting him for what View to open up.



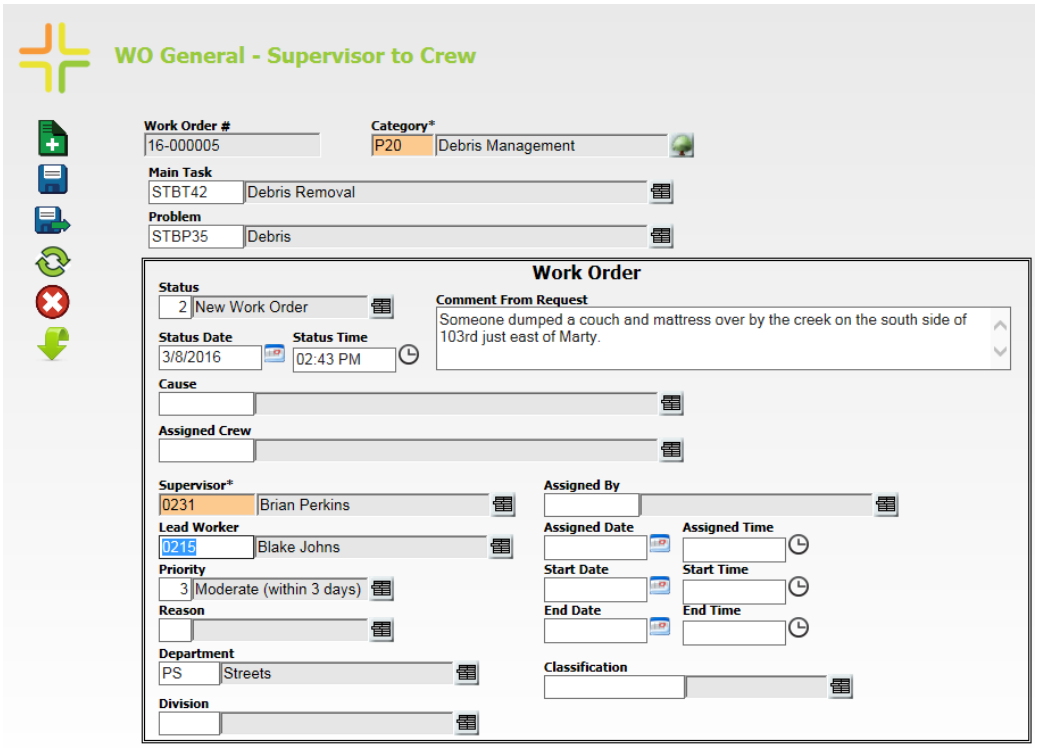
Brian selects WO Supervisor General and hits OK. This launches a new tab for Work Orders. Brian's responsibility is mainly to assign this work order to the appropriate Lead Worker or Crew. Brian has two ways that he can perform this.

First method – he could simply go to the Tools and select "Change Lead Worker for Selected Records"



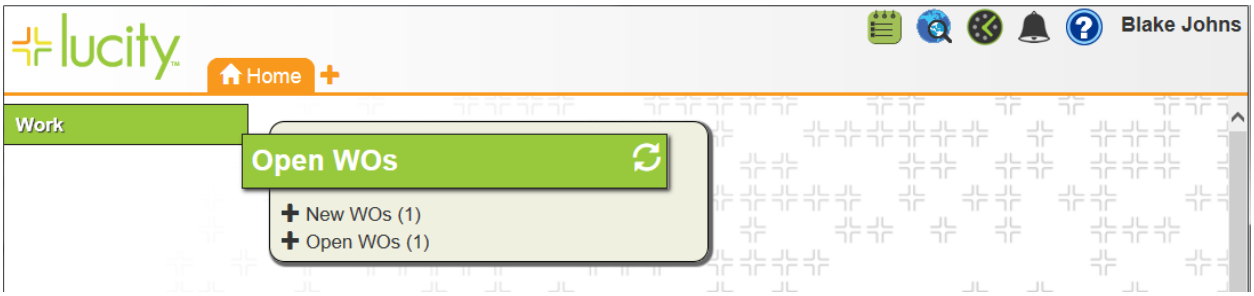
Then he could pick Blake Johns from the list (he can also sort the list by Lead Worker Name if desired).

Second Method – Brian could open the folder and enter the information directly into the Lead Worker field.

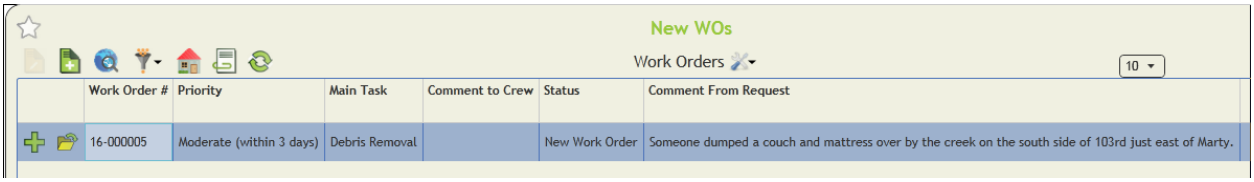


This is especially true if he plans on adding a Start Date so that the work order will show up in the scheduling program (more on that later). Brian then hits the "Save and Close" button after he enters the data. This automatically updates his dashboard.

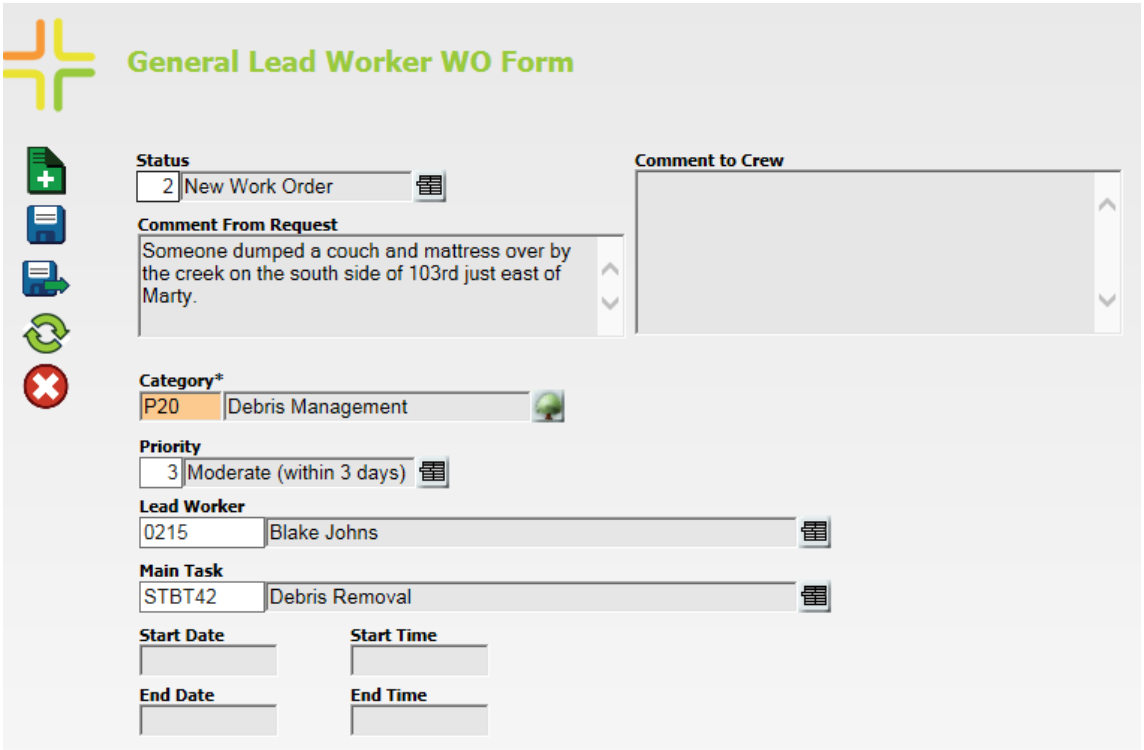
Now, let's log in as Blake Johns.



Blake has a very simple dashboard that only allows him to open new work orders or open work orders. The Work Order view is just as simple.

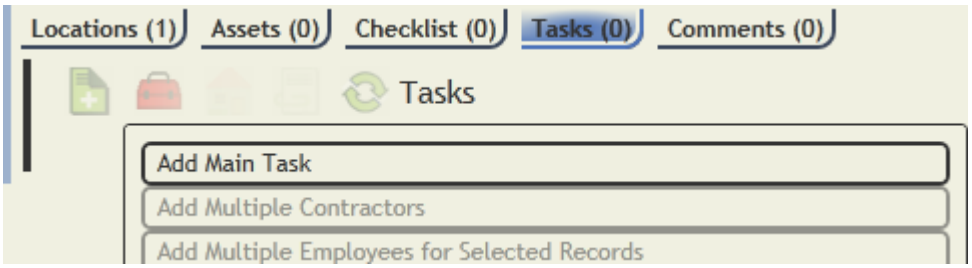


So is the main WO Form:

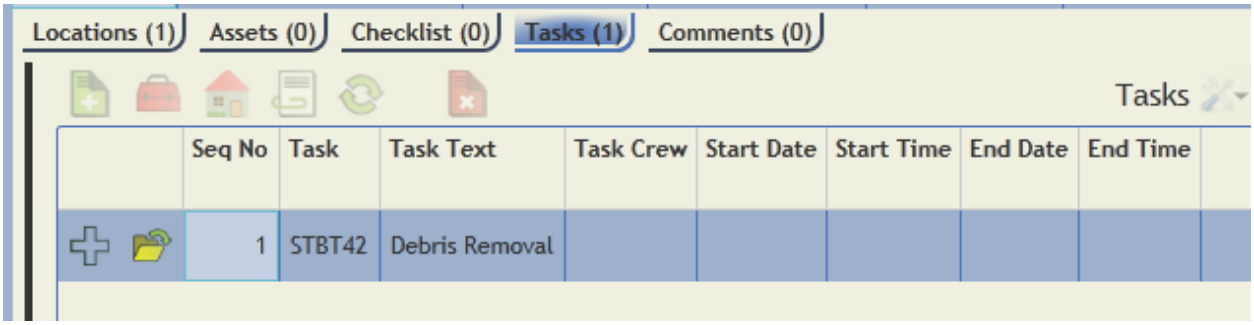


The rest of the forms are just as simple. Let's walk through completing the work order.

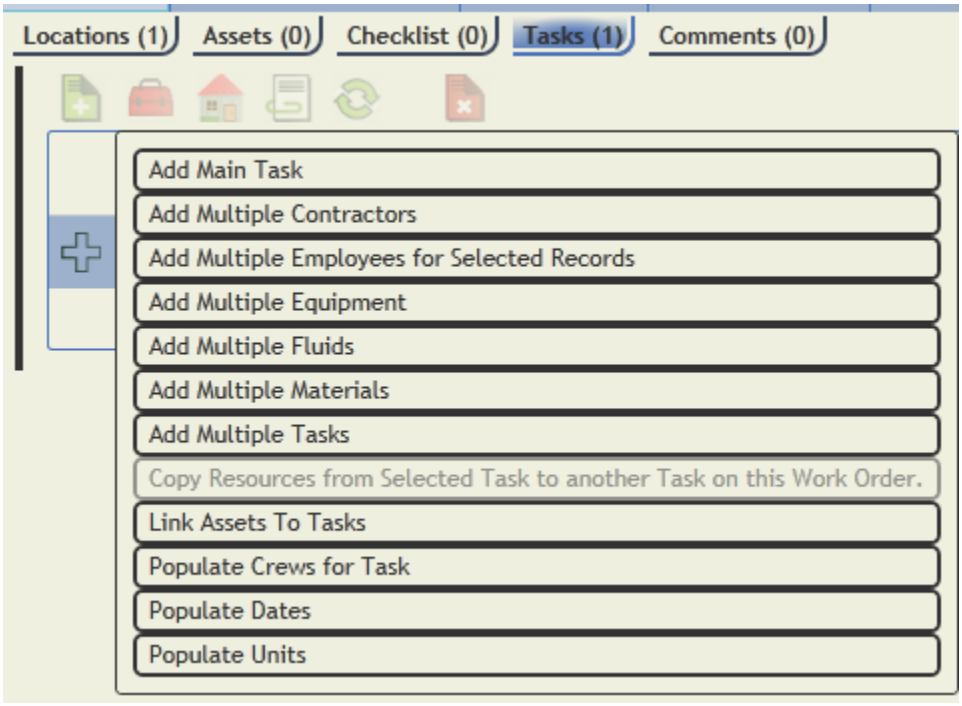
First, Blake needs to populate the Task that that he did (or is doing). In this case the task equals the Main WO Task. Therefore, Blake can click on the Task tab and hit its Toolkit button and "Add Main Task"



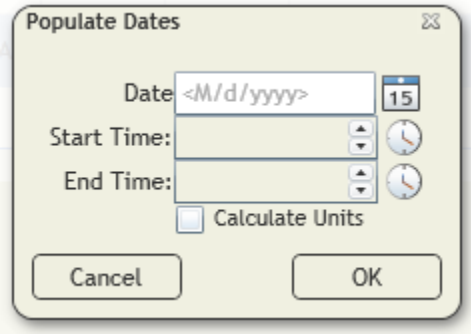
This creates a Task record that is linked to the WO.



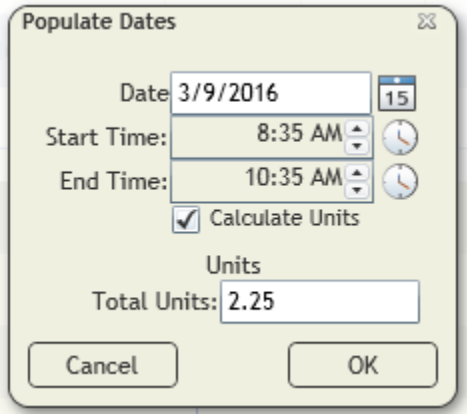
The next step would be to add the Start/End Dates/Times. There is another toolkit for that "Populate Dates"



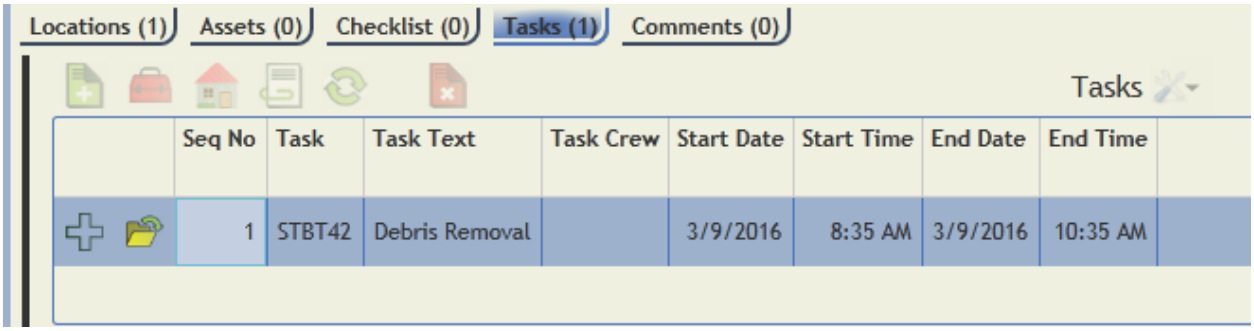
Selecting Populate Dates will bring up another screen where dates and times can be entered.



The date and time can be entered in the box. In this case System Options have been setup so that the Starting and Ending Dates must be the same so only one date is show. Also, the Calculate Units box can be turned on to allow the user to enter the Units worked on this task in this dialog.

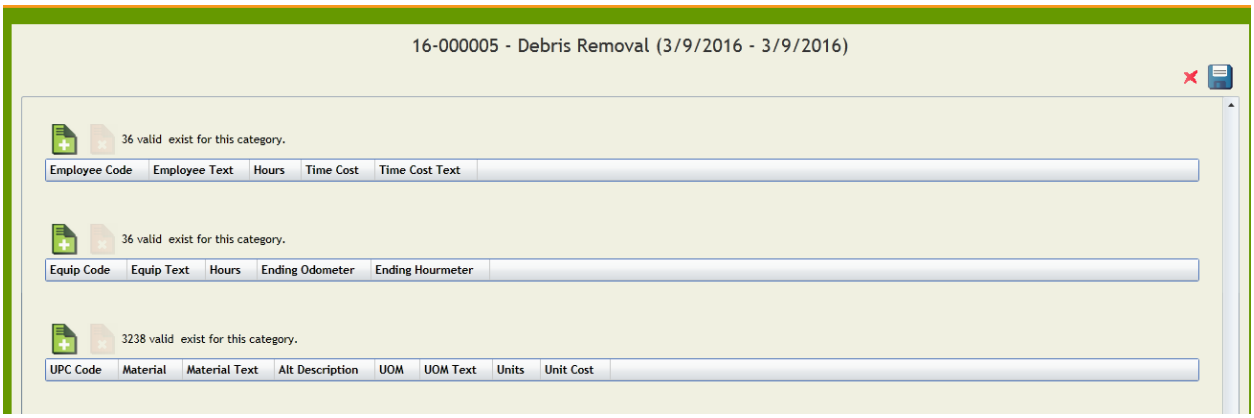


The grid now looks like this:



Now, let's add the employees and equipment that were used on the work order. The same tool exists that we showed in the Desktop (select Multiple Employees and Equipment) except they are under the Task toolkit.

However, Lucity has another method which might be easier. It is the "Edit Resources" button . By clicking on the button, Blake will get this screen:



To enter the resources, simply hit the button above each section. For Employees, Blake does this to add both 0174 – Jordan Shepherd and 0215 – Blake Johns and the equipment record 0066 – Chevy 3-4 yard Dump. Blake can type in the code or any portion of the name to find the record. Then enter the hours. The same can be done for the equipment record.

Blake can use the mouse to move around to each field or he can use the tab control to jump from editable field to editable field. Let's see how that works. Once Blake hits the button a new line appears in the Employee Code field. Blake can type any part of 0174 – Jordan Shepherd to find the employee, arrow down to select and then hit the enter key. Then he can hit the tab key to move into the Hours section and then enter 2 for two hours. The Blake again hits the button to add another employee line. Blake continues doing this for all employees and other resources. When he is done he hits the Save button in the upper right to save all of the additions/edits that were performed.

Blake can also add comments just like in the desktop. He clicks on the comments tab and hits the add button and enters his comments.

Finally, Blake needs to change the status of the work order to mark it complete. He hits the open folder button next to the work order, changes the status and then hits the save and close button. This removes the work order from his dashboard (and Brian Perkins dashboard as well).

Other Ways to Have Tasks and Resources Added Automatically

Entering Resources (and sometimes tasks) can be the hardest part about completing a work order. We will next be showing various methods that can be used to make automatically adding this information easier. We will be using the desktop to show how these are setup and then both the desktop and web to show how useful they can be.

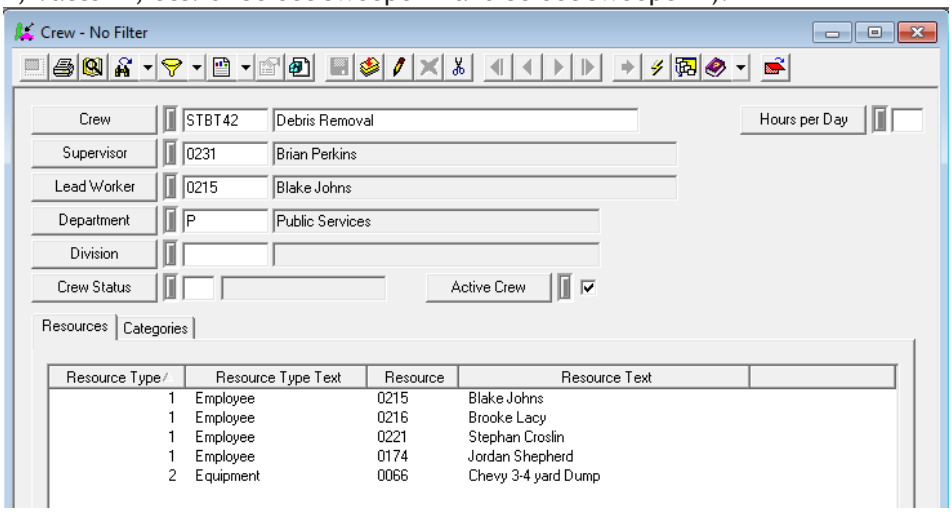
Tasks Setup

Tasks can be setup to automatically populate Subtasks and automatically fill in additional information. I have setup several Tasks using various formats so we can compare the differences.

1. STBT42T - Debris Removal Task – this task has some values setup as defaults for the work order including checklist information and has a Subtask on it.
2. STBT42TR - Debris Removal Task with Resources – Similar to the first one, this task also has resources attached to it.
3. STBT42TC - Debris Removal Task with Crew – Similar to the first and second except this one does not have resources – instead it has a Crew attached.

Crews

A crew can store Employees, Equipment and Materials. We realize that crews change daily, weekly, and monthly but sometimes it is easier to delete resources than to add them. The crew can be labeled for the task that is to be performed. If you are setup to have two or three crews typically doing the same activity (say Sewer Flushing) then name each crew by the main piece of Equipment used (Vactor 1, Vactor 2, etc. or Street Sweeper 1 and Street Sweeper 2).



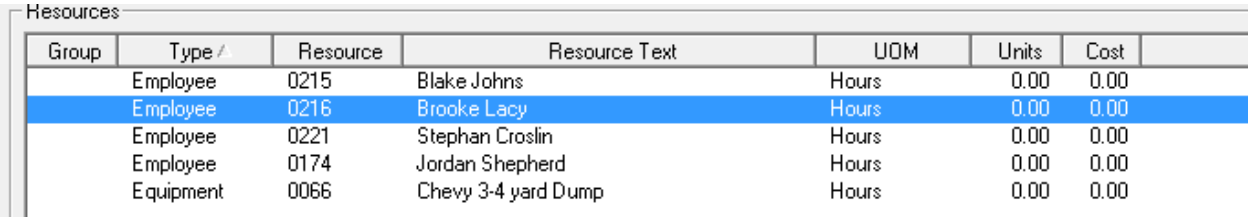
Option 1 – STBT42T as task and then STBT42 as Crew

Let's create a new WO using Category P20 and Main Task = STBT42T. Notice how after the task is entered the information from the Task setup program information is automatically added to the work order. This includes the Checklist items and the Subtask.

Let's add the STBT42 Debris Crew to this work order. Notice how this defaults in the Supervisor and Lead Worker into the Work Order. Now, if we go to the Subtask, we can enter the Crew into the subtask. This automatically enters the Resources of the crew into the resource records.

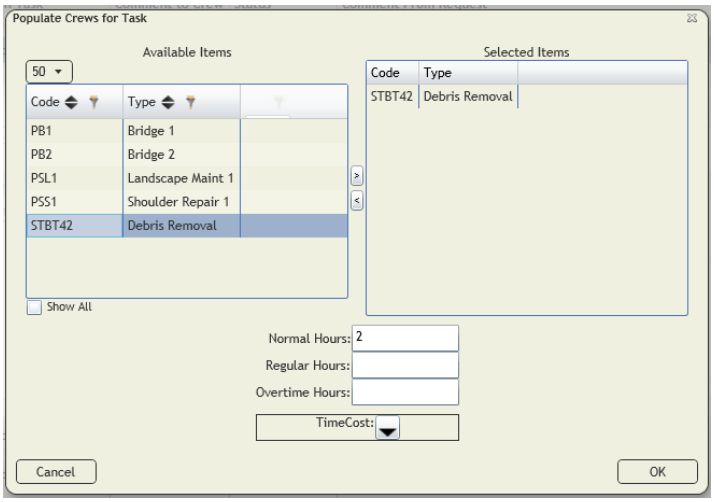
A crew can be made up of all possible employees, equipment and materials that may be used on a work task. The thinking is that it is easier to delete resources than it is to add them. As an example we will go ahead and add a second task to the work order but this time load the crew as the resource.

When you load the Crew (using the same Add Multiple but Crews this time), the grid looks like this:



Highlight Brooke and Stephan (since they were not there), right mouse click and hit Delete. This will remove them. Then continue on as normal. If you are setup to have two or three crews typically doing the same activity (say Sewer Flushing) then name each crew by the main piece of Equipment used (Vactor 1, Vactor 2, etc. or Street Sweeper 1 and Street Sweeper 2).

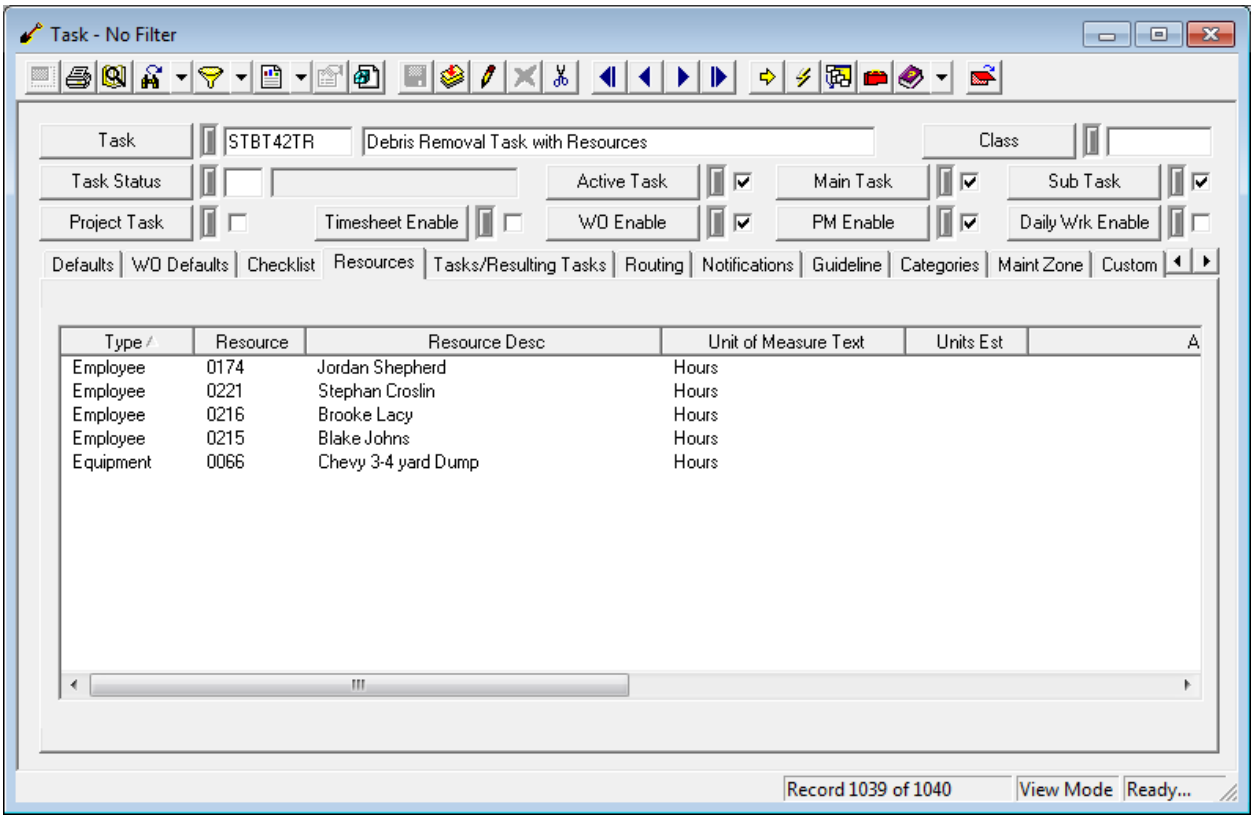
In the web, there is a tool for "Populate Crews for Task". Highlight the task first and then select this tool.



This will automatically load up all of the resources in the crew for this Task and insert the number of hours for each employee and equipment record. Then, all that is left is to delete any resources not actually on the crew that day, add material used or the quantity used, and the change the WO Status to closed.

Option 2 – STBT42TR as Task with Resources Set

Another option is the set up the task with the resources already assigned to it. This is very similar to a crew but a crew does not need to be defined.

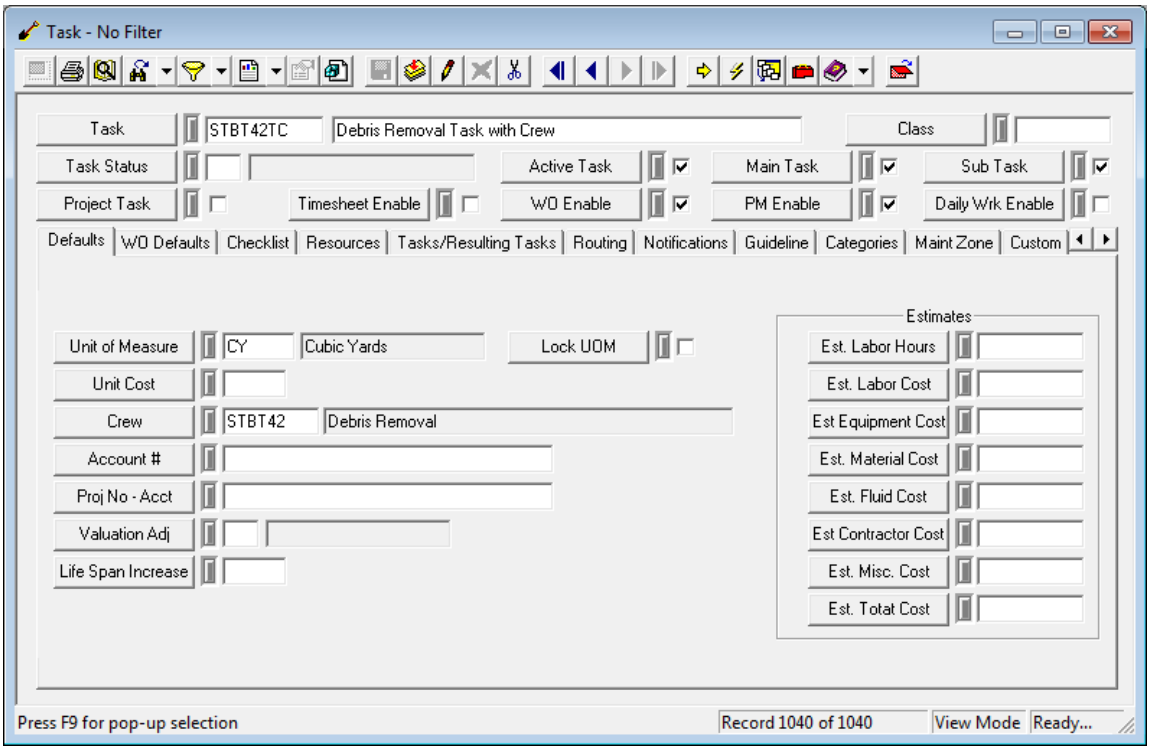


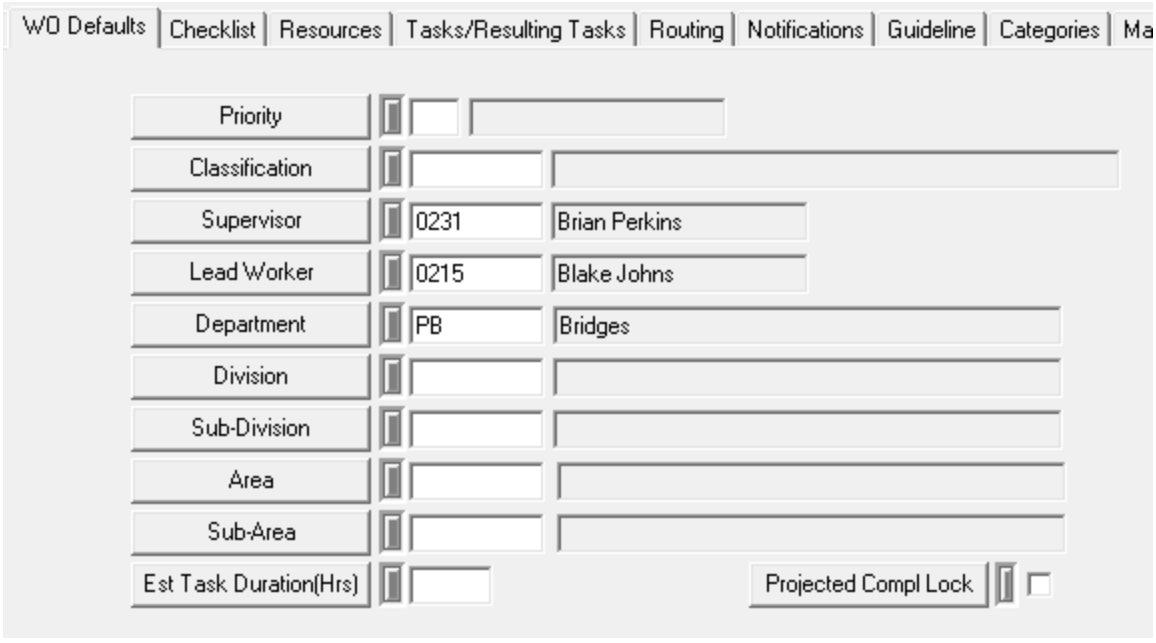
The task above is set up exactly as the one we just looked at except that it has resources defined within it. Now, if we create a work order for this task not only does the subtask get automatically entered, so do the task resources.

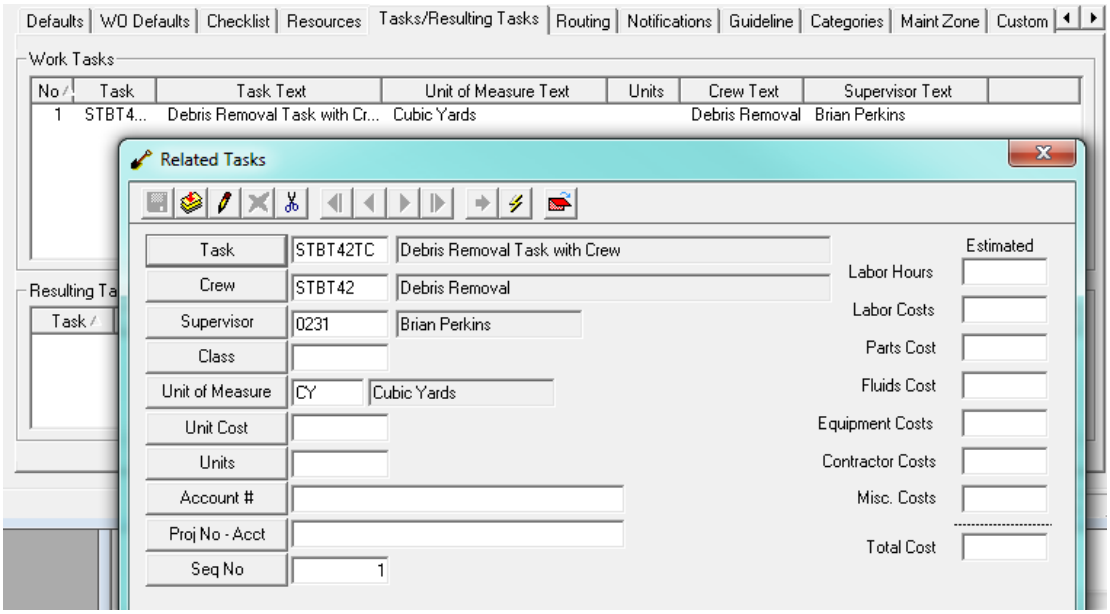
Then, just as discussed above, Blake can use the Populate Dates tool in the Task to set the starting date, starting time and ending time along with the units completed. The resource hours can be easily entered by using either the "Edit Resources Button" or by using the Toolkit for Employees and Equipment to "Populate Dates and Hours". As long as the Dates/Times are left blank, they will not be changed from what the Task toolkit already populated into the record. Use this tool to only populate the number of hours worked.

Option 3 – STBT42TC as Task with Crew Set

Of course, you can load up the Task in the Task Setup Program with lots of information to automatically default everything. Below is one example:



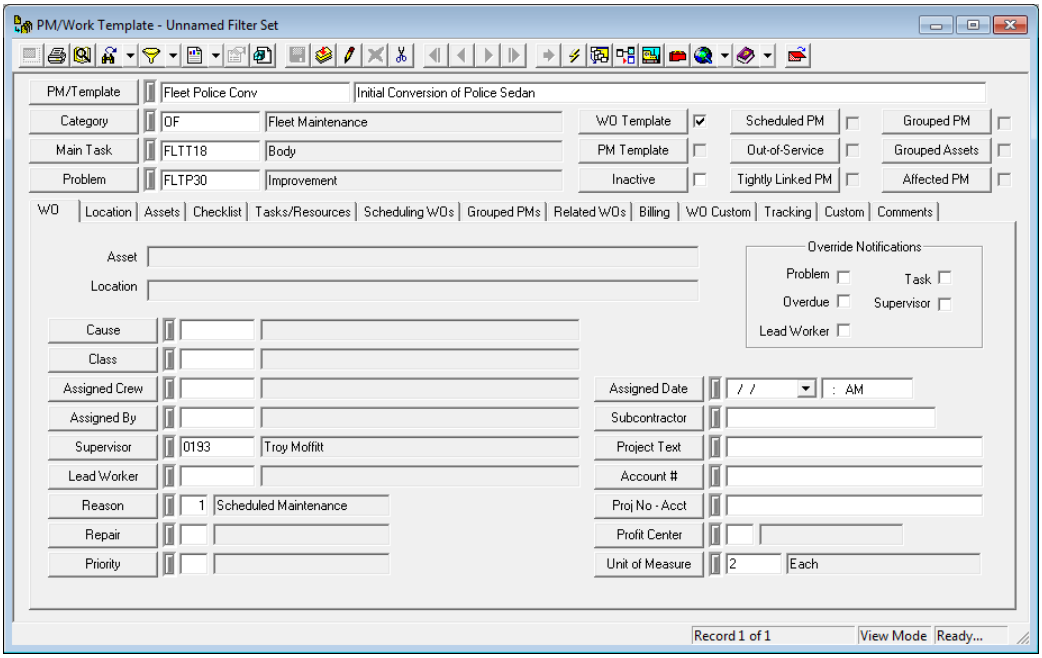


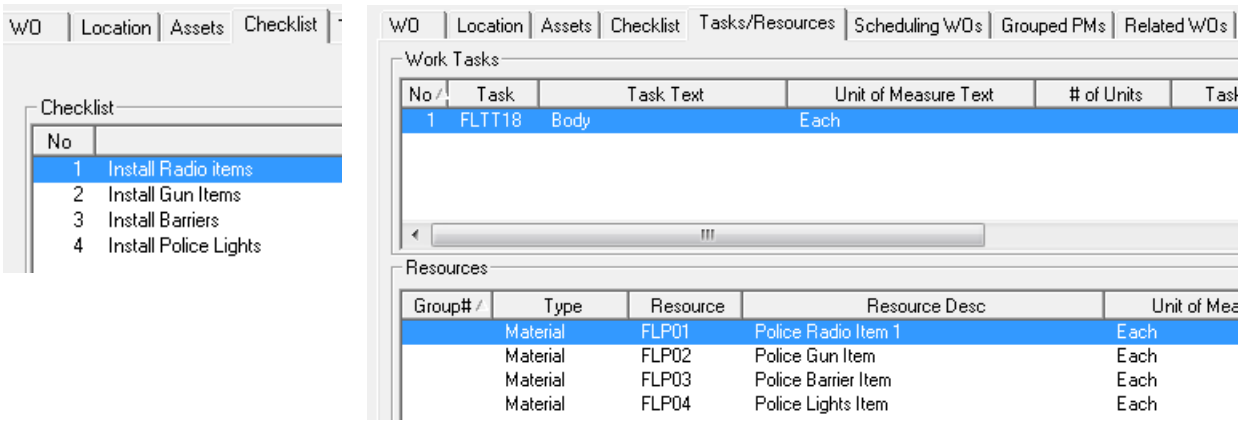


Now, let's enter a new Work Order for this main task. You can see that it is very similar to the Debris Removal Task with Resources except that the Resources can be managed on the Crew level, not in the individual Task level.

Option 4 – Work Order Template

When you know that you are going to be repeating a task a lot on the same or different assets it can be best to create a Template of the Work Order so that you can create multiple similar work orders as needed. For this example, we are going to use Fleet. Let's say that the agency just received 5 new Crown Vic's in and they needed to first have some body work so that they are Patrol ready. One or more staff is going to be doing the same thing on each vehicle but they might want to create a work order for each patrol vehicle. Therefore, we can create a Template of the work order that has the tasks already set and the materials needed to complete the work order.



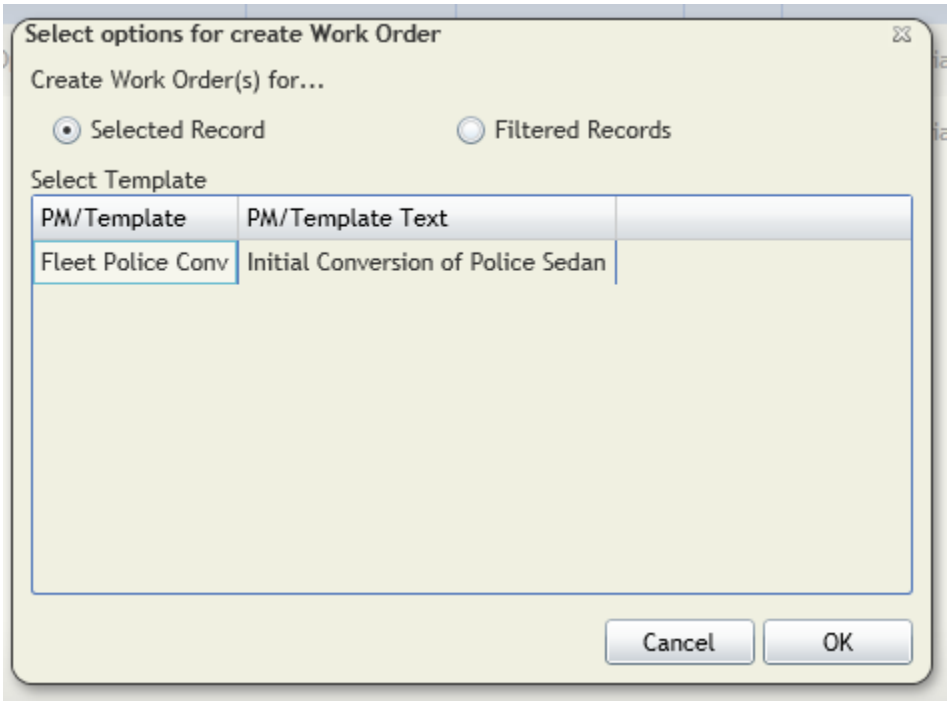


Example

Log in as Troy Moffitt - Fleet Supervisor

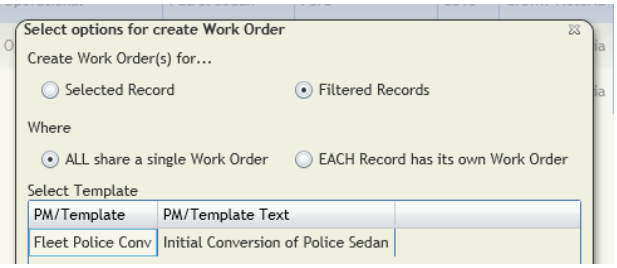
First, let's find the vehicles.

1. Open up the Fleet module
2. Set a column Filter Class Text for "Patrol Sedan"
3. Set another column Filter for Year = 2016 - this selects 3 vehicles
4. Highlight sedan desired
5. Hit the Hard hat "Create WO" Button



Select (highlight) the Fleet Police Conv record for the "Selected Record" will create one work order using the highlighted Template .

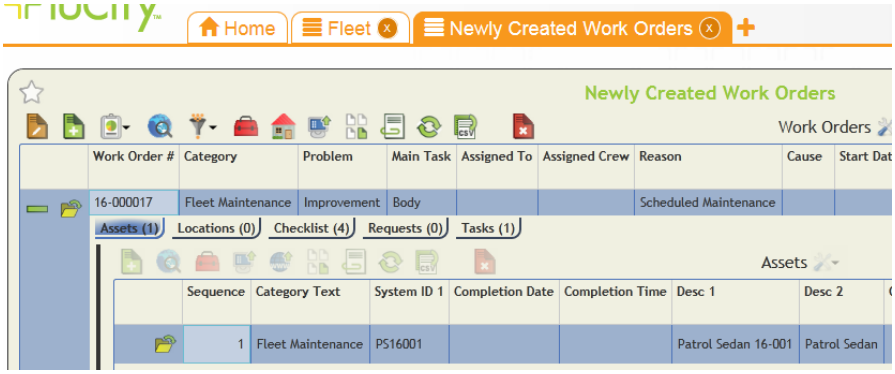
If Troy selected “Filtered Records” then he gets another prompt:



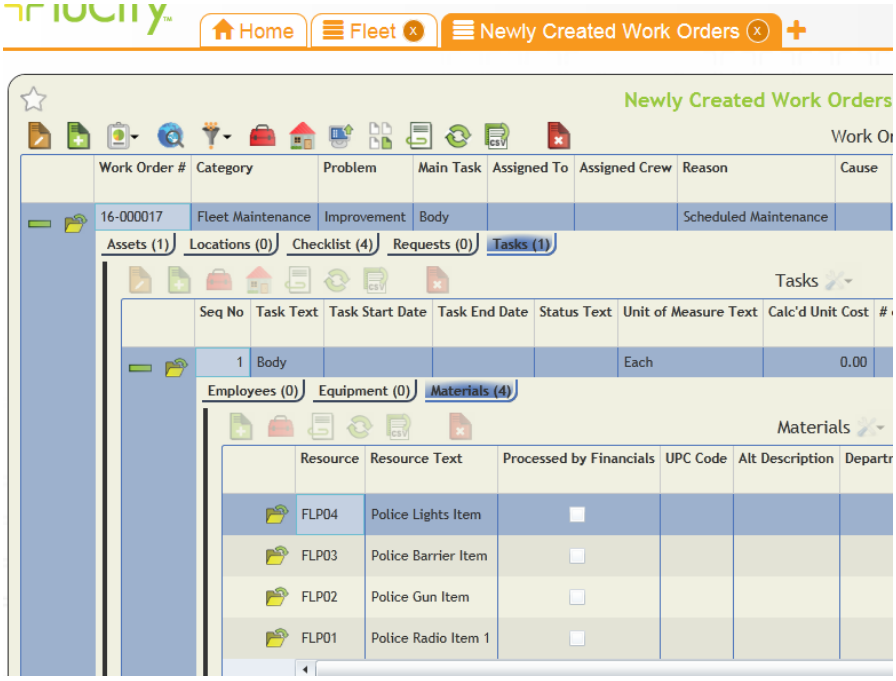
The two choices now are:

1. Create one work order using the template and put all of the vehicles on the one created work order
2. Create three work orders using the template and put one vehicle on each created work order.

Which option you chose will depend on how you like to track your work. For our example, we are going to select to create only one work order with one asset so we will go with the selected record. Troy has the ability to see multiple types of work order forms so he can then pick which one he wants to use.



The only differences with this than what we have seen previously is that there is now an Asset attached to the work order and materials are added as resources.

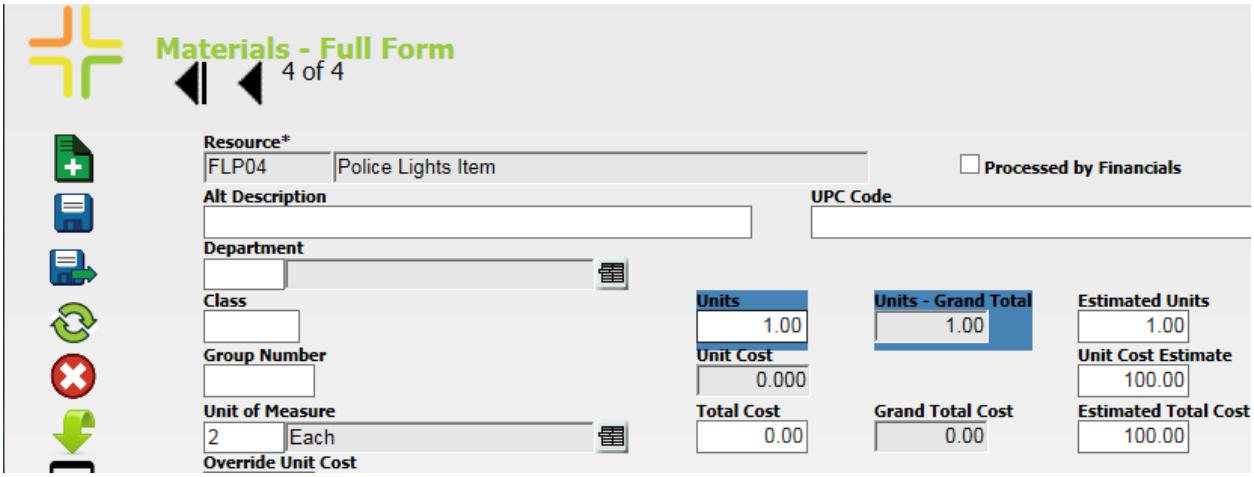


Whenever you do work on a specific asset that your agency owns, it is important to track all work against the asset. One work order can store multiple assets and assets of multiple types. We will show more examples throughout these scenarios of storing assets.

Materials and Parts Warehousing

This is a great time to talk about Materials and how they might be connected to a warehouse. Not all materials will be (or need to be) connected to our warehouse system. If they aren't, then materials work just like Employees and Equipment – simply enter the number of units used. If the materials are connected to our warehouse system, you also simply enter the number of units used in the record. However, in this case you may (or may not) be prompted for what warehouse location to pull the part from.

Parts are not "pulled" from the warehouse until a value has been entered into the Units Field and the record is "Saved".



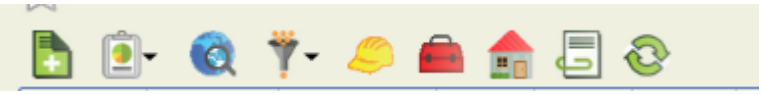
On Save, our program automatically finds the Part in the Warehousing system. Then, if the part only resides in one warehouse location it grabs the part from there and there is no prompt and the number in the warehouse is automatically reduced by the quantity in the units. Hopefully, this will be the majority of the time.

Work Trucks can be classified as a "Mobile" warehouse. This would require that the truck be set up as a warehouse with one or more warehouse locations. Then parts need to be transferred into the truck location. Then workers need to make sure to first enter the Truck as an equipment resource prior to entering the materials used. Then our program will automatically grab the part from the linked mobile warehouse first.

If the program cannot determine from which warehouse location to pull the part then it will prompt the worker for the location(s) for the quantity at each potential location.

Also, most clients have set up a dummy material record to handle misc. parts used that are not worth the time entering into the Material records or parts warehouse system but they still want to track what was used and perhaps the cost of the component. Oftentimes they will use a code like "ZZZ" and a description like "Dummy Material" or "UNTRACKED". Then they use the Alternate Description field to enter what the item really was. This allows them to enter material used quickly.

Other Web Tools



Quickly go through these tools that have not yet been discussed.

 - Add a new record

 - Reports and Quick Reports

 - Show in Map

- New Requests – one of the requests with an address
- My Field Work to Review by Problem – first record

 - Filter – Do some examples of filters

- New Request for Brian Perkins and Open Requests for Brian Perkins – Show Quick Filter

 - Create WO – already covered it

 - Toolkits – already covered them.

 - Property Viewer

 - Documents

 - Refresh

Lucity Mobile

Lucity has developed three mobile applications to help workers out in the field. These applications are:

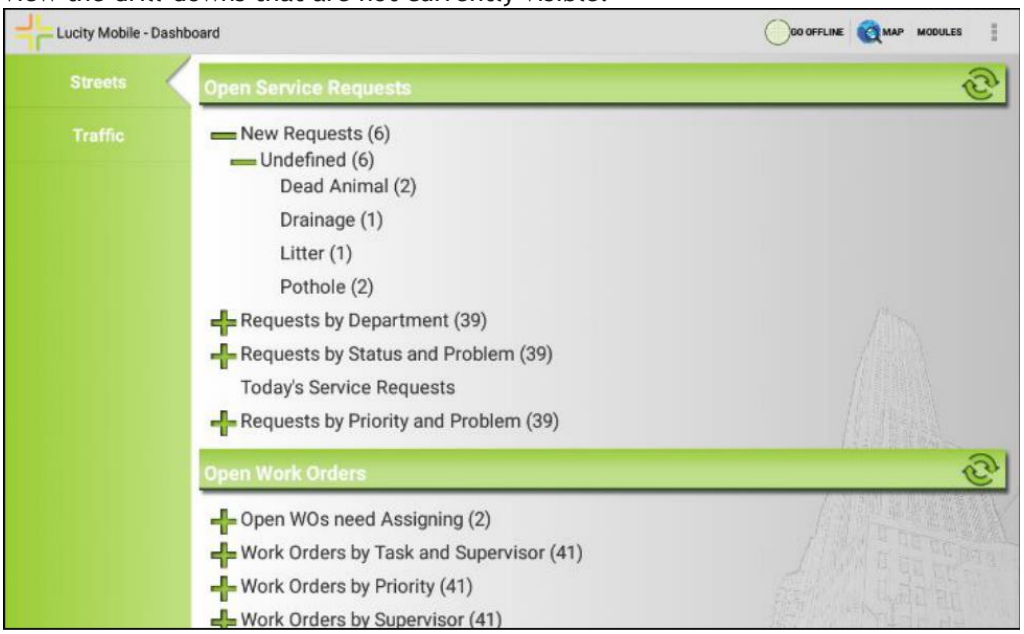
1. Lucity Mobile Work – this is an application written exclusively for Android Phones
2. Lucity Mobile (Android Playstore)– this is an application written for Android Tablets and has much more functionality than the Lucity Mobile Work application
3. Lucity Mobile (Apple App Store) – this is an application written for iOS phones and tablets.

We will be demonstrating the Lucity Mobile for Android in this classroom. Android and Apple look a little different but the functionality is basically the same.

We are going to be using the same process as we did initially. **First, Leslie Frerichs is again going to add a** new request in the web application as normal. As a review, we will enter it in the web.

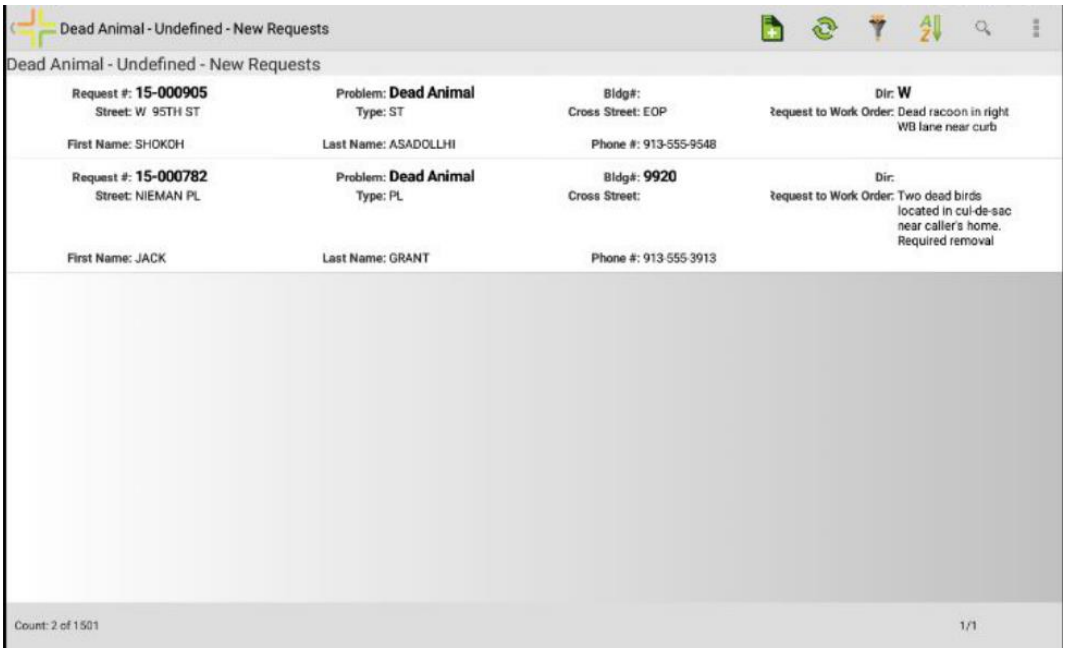
Now, let's log into the tablet as Brian Perkins.

The first thing that you will notice after logging in is that the Dashboard looks a little different. Instead of having information in frames, each frame has a division and these divisions are all vertical. Brian can use his finger to swipe the screen in an upward direction to have the screen scroll down to view the drill-downs that are not currently visible.



Drilldowns work just like they did in the web but Brian can use his finger to hit the plus to expand a drill down or hit the text to launch a new view of the drilldown's contents.

The Android and iOS mobile apps show view grids differently. iOS looks more like the web view. The Android view wraps the text around so that it can all be seen. Both systems change from portrait to landscape as the mobile device is turned.



The top left shows what drilldown was open. Also, by clicking on it Brian can return back to the Dashboard screen

There are several buttons in the upper right.

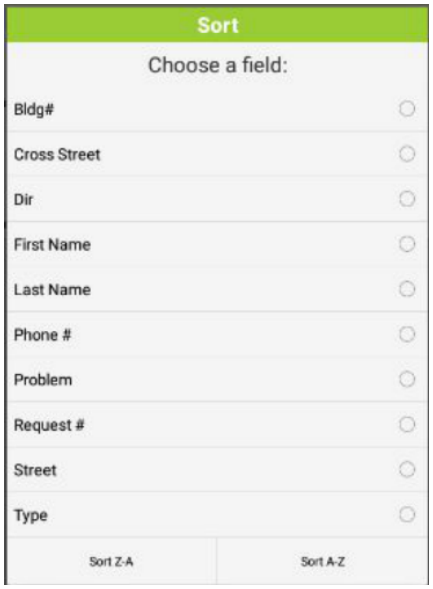
 Adds another record

 Refreshes the dataset as there could be records entering or leaving the filter set all of the time.

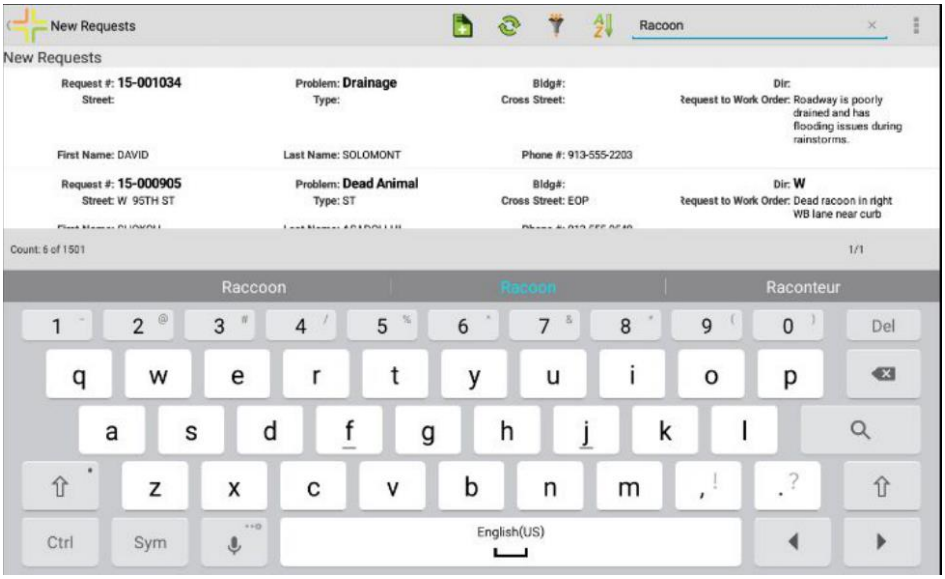
 Filters – Selecting this will pop up a list of “My Filters” . Clicking the Show All checkbox will bring up a list of all of the defined filters for the module. Clear filters will clear the screen.

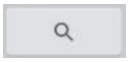
 Sort – Selecting this will pop up a list of the column headers allowing you to sort any defined column in ascending or descending order.

Only one sort is allowed at a time.



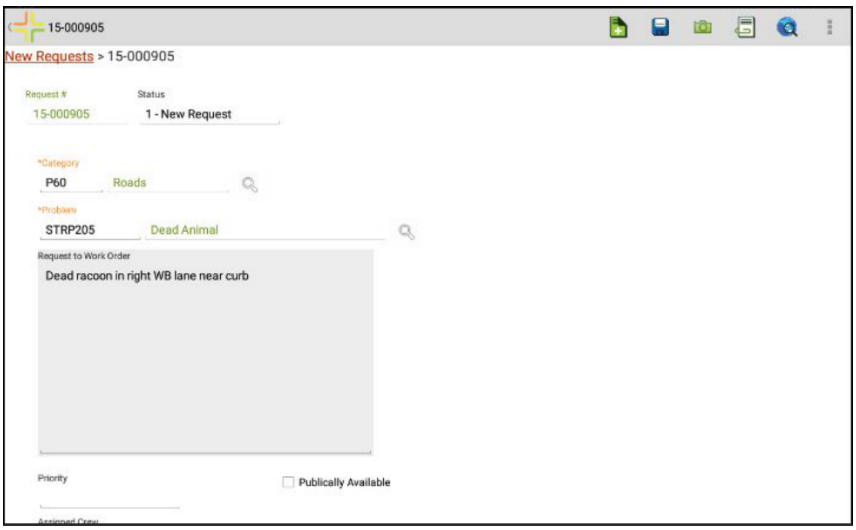
 Find – This button allows Brian to do a search for any text. For example, if Brian opens up the drill down for new requests and then hits the Find button, he can find any record that contains "Racoon".



From the keyboard, he then hits the search button  and it will automatically find the record. If there are more than one possible records – say a search for "Dead Animal" then it will filter down the list to only those records containing those words. The search text can be cleared by hitting the X at the right of the text string. Click the X again to close the search. **Search for Raccoon, Racoon, Ra and Rac .**

 The ellipsis shows additional choices that are not as useful or critical for everyday use. Currently, Brian only has the option to View Logs which is something to help troubleshoot the system when there are problems.

A form can be opened by quickly tapping a row. Each agency will have complete control as to how their forms look and the information on each form. One thing that is not on the form is the Frame.



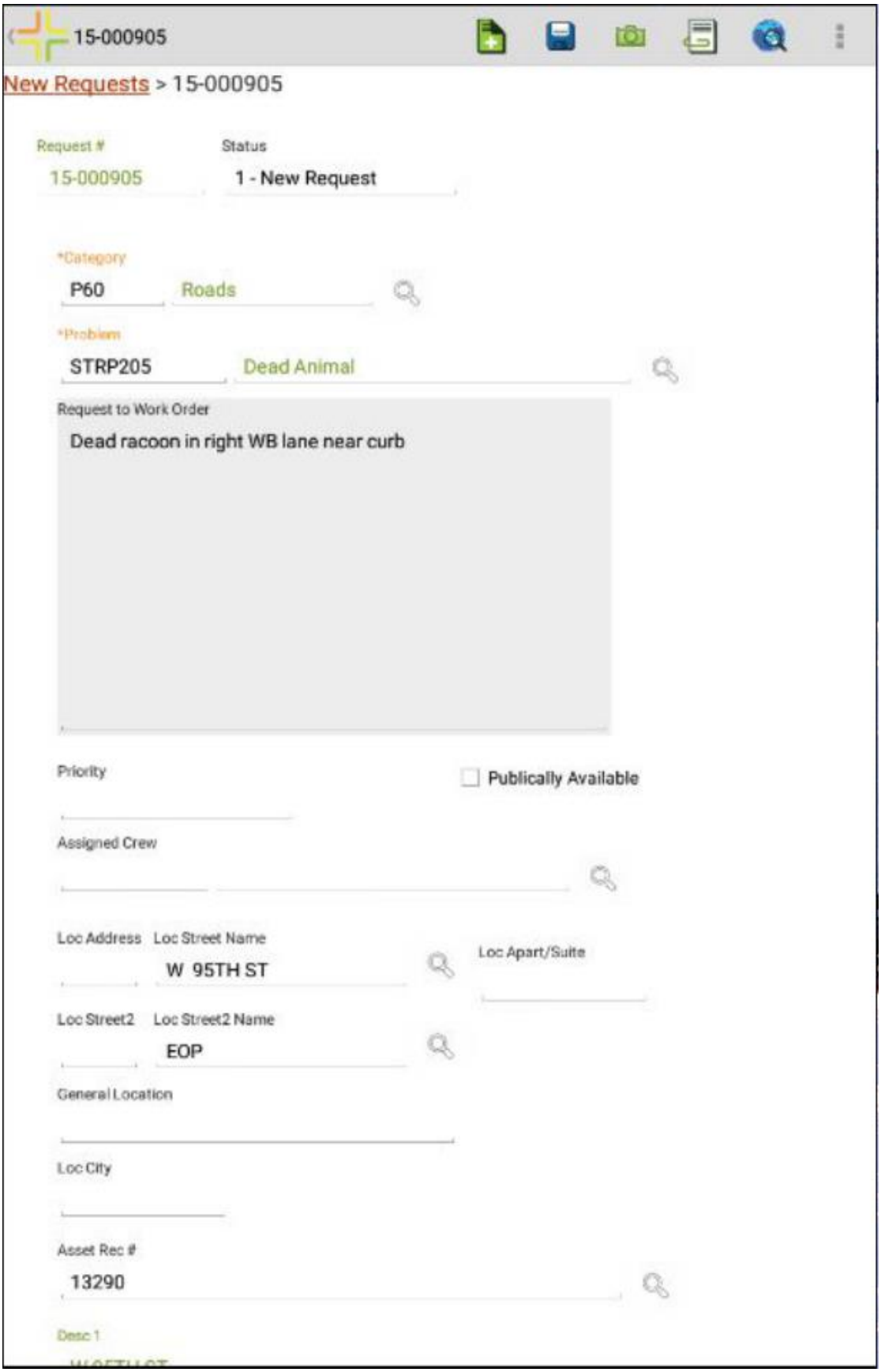
The screen above and on the next page show the same information but with the tablet rotated. The top one is in landscape mode and the bottom one is in portrait mode.

The upper left is what we call a cookie trail that shows the request number. If Brian clicks it, it will close the form and take him back to the dashboard.

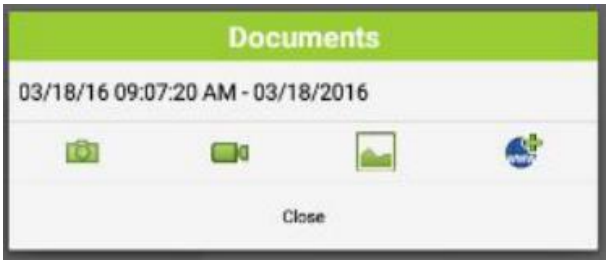
 Add button – this allows a user to add a new, blank record.

 Save button – this allows a user to save the edits that have been made.

 Picture button – this allows a user to take a picture from the tablet so that it can be easily stored with the record. Once the picture is taken, the user can enter a description for the document but it is not required. The tablet will automatically date and time stamp the picture.


15-000905
New Requests > 15-000905
Request #
15-000905
Status
1 - New Request
*Category
P60
Roads
*Problem
STRP205
Dead Animal
Request to Work Order
Dead racoon in right WB lane near curb
Priority
Publically Available
Assigned Crew
Loc Address
Loc Street Name
W 95TH ST
Loc Apart/Suite
Loc Street2
Loc Street2 Name
EOP
General Location
Loc City
Asset Rec #
13290
Desc 1

 Documents Button – This button can be used to view all documents attached to this record. It can also be used to attach pictures, movies and/or web pages to the record.



A listing of the linked documents shows first. In the example above the document only shows the date and time stamp as the name of the document.

The camera works just like the camera from the toolbar. The movie does the same except it puts the tablet in movie mode (for taking short video clips).

 Allows the user to pick an existing imagine, movie, document, etc. to store it with the record.

 This button allows the user to add a world-wide web URL link (like http://www.lucity.com) to the record.

Back to the Toolbar, the  button allows the user to open the map and it will zoom to the location of the record as long as an address or asset match something in the map. It will not find an address without a house number.

Another thing that Brian could do inside the View (or grid) is long tap a record.

This turns the row (or rows) orange and changes the toolbar. This allows the user to quickly add documents (only one record can be selected), open up the map highlighted to the record and/or Create a Work Order (hard hat).

EXAMPLE Workflow

Brian Perkins sees a dead animal in the road while driving and wants to create a WO and assign it to Blake Johns to pick it up and dispose of it.

Step 1 – Brian logs into Lucity mobile

Step 2 – Brian uses the Modules menu to launch Work Orders .

Step 3 – Once the WO View is displayed, Brian hits the  button to add a new work order

Step 4 – Brian fills in the information and assigns it to Blake. He then saves the form. Then he takes a picture of the animal and describes the animal in the comments to Crew via voice command. Then he hits the upper Lucity symbol to go back to his dashboard.

Now for Blake

Step 1 – Blake logs into Lucity mobile (or always has it on). He can hit the refresh whenever

Step 2 – Blake notices the new work order from his dashboard and launches it to view it. He can read what needs to be done via the form.

Step 3 – Blake drives to the location and then completes the work order.

First – he adds the Task by long tapping the WO and selecting the Toolkit "Add Main Task as Sub Task".

Second – He launches the subtask and adds the starting and ending dates and units

Third – He goes back to the subtask grid and long taps it to select "Add Multiple Employees" and "Add Multiple Equipment" adding the total number of hours for both. Also notice how the cookie trail changes and how you back up.

Fourth - Blake takes a picture of what the site looks like as he is about to leave. Make sure you point out that it uses the Date/Time of the tablet in providing the imagine name.

Scenarios

Scenario 1 – Water Leak at a house

1. Call center person - Leslie Frerichs
    a. Find House in Map 8906 W 106th Street – Gregory Howard – 913-555-3615
    b. Determine type of leak (potable water leak around meter box)
    c. Select Asset and create Request. Select Problem and Assign Request to Supervisor (if not done through Problem)
2. Supervisor Person – Brandon Lamar
    a. Sees request on mobile app and checks it out. Uses Map to find location and determine if problem might be something else. Swings by house and Agrees on the problem
    b. Creates work order and assigns task and provides a start date and priority
    c. Assigns it to Crew/person
3. Lead Worker (arrives at site, fixes issue, leaves site) – 0192 Mariella Serna or 0223 Taylor Shepherd
    a. Sees work order on their tablet.
    b. After finishing their current work, they check on the location using the tablet then head on over
    c. Completes work order and puts in comments

Scenario 2 – Sewer Jet Rodding

Show Map Trace, Creating Subset, Loading Subset into WO, Completing WO with Completion Date on Assets and End Date of Work Task – Make sure that Units automatically calculate and show why.

	USC1	Sewer Collections 1	Sam McReynolds	Josef Greer
	USC2	Sewer Collections 2	Sam McReynolds	Tanisha Bundick
	USC3	Sewer Collections 3	Alfred Mutua	Darron Dubose

1. WHY NOT TO ADD A LARGE NUMBER OF ASSETS IN A WO
    a. Supervisor – Web – Sam McReynolds
        i. In Map, does a trace to highlight a bunch of segments then creates 1 WO for all segments
        ii. Open WO and assign it to USC1 Crew
    b. Crew – Tablet – Josef Greer (jgreer)
        i. From Tablet Dashboard, open WO View
        ii. Open Asset tab – issues
            1. Cannot easily see or find all of the assets
            2. Assets are not in any particular Order

2. RECOMMENDED PROCESS
    a. Supervisor – Web – Sam McReynolds
        i. In web map, use “Show Work Locations” for Lines Flushed since 1/1/15
        ii. Select additional pipes then to Jet Rod. Use Select tool and select the pipes in order that you want them to show up in the list
        iii. Create one WO for selected Pipes
        iv. Assign WO to Crew
    b. Crew – Tablet – Josef Greer (jgreer)
        i. From Dashboard, open WO View
        ii. Open Map to View Pipes
        iii. Check out Resources and make sure that they are correct
        iv. Add Completion Date as pipes are completed
        v. At end of the day, add task Start and End Dates
            1. Show how Units are then calculated
        vi. Populate Resource Hours spent
        vii. Ready for next day’s work

Scenario 3 – Create Storm Structure Inspection Records and WOs

3 year plan to inspect every catch basin. However, you do not have WOs set up for all of your past inspections. PMCB Catch Basin 0213 Cherri Neyman

Crew	Crew Text	Supervisor Text	Lead Worker Text
PM1	Storm 1	Cherri Neyman	Edith Vangilder
PM2	Storm 2	Cherri Neyman	Jone Hudgens

1. Supervisor – CNeyman
    a. Creates a Filter in the web showing last three years of inspections
    b. Creates a Subset of these records
    c. Opens Web Map and loads Subset which selects structures – Create a new Layer
    d. Turn off selectable layers
    e. Zoom to an area in need
    f. Select group of Structures to inspect (say 10 structures)
    g. Create WO for selected group for inspections – assign to PM1 Crew
    h. Clear set
    i. Select another group to inspect
    j. Create another WO
    k. Exit

2. Lead Worker – EvanGilder – Logs into Tablet
    a. Finds WOs assigned
    b. Find location in Map
    c. Discuss various options for creating inspection records from the tablet
        i. Using the Identity button, selecting the record and then hitting the create Inspection button
        ii. Using the Select button, highlighting one or more assets and then hitting the inspection button
        iii. Using the WO Asset grid, going to an asset record – long tapping, and then opening up the map to that location and then using the identify button
        iv. Some enhancements that we are working on
            1. Adding tool in WO Asset grid for "Create Inspection Record" – due for 2016R2
            2. Opening the Mobile Map to automatically show the callouts to allow for the creation of the inspection records
        v. Show how if an inspection needs to have maintenance performed how to create it.
    d. Add Task, fill in resources, close WO

Scenario 4 – Fleet Requests / WO

Discuss Odometer/Hourmeter automation, contracted work – jiffy lube, completing checklist items.

1. Request Submittal Forms Discussion
2. Daily Checklist Form Submittal Discussion
3. Supervisor – Malcolm Glad
    a. Important – show Fleet record as part of main record and in drill down
4. Lead Worker –
    a. Odometer / Hour Meter reading Discussion
    b. Contracted tasks
    c. On-the-fly parts

Supervisors – **Malcolm Glad**, Troy Moffitt

Lead Workers – Florencio Poblete, Maurice Grimaldo, Clemencia Ranum, Lottie Lubinski, Aleen Loveall

Scenario 5 – Water Main Break

Show Trace to locate valves to close, creating subset, loading subset, notifying customers?, turning valves off and on, creating wo water loss record, showing how it creates a Water Loss record.

1. Call Taken by lfrerichs from 6425 W 101st Street from William Row – 816-555-0803. Lots of water running down street from the front of his house – potential water main break. 04268 – System ID
    a. Find location in map

b. Highlight pipe and then create Request for that pipe
    i. Edit Request
    ii. Add William Row to the Requestor
    iii. Category UWD5 – Water Main
    iv. Problem – WTDP420 – Main Break
c. Assigned to Brandon Lamar

2. Prior to going to the site, Brandon opens the Request in the Web Map (computer)
    a. Does a trace on the pipe to find all of the valves that would need to be closed to isolate the pipe
    b. Makes sure that no one needs to be notified specially
    c. Creates a WO for closing the valve and attaches the pipe to the wo as well
    d. Assigns the WO to himself and links the WO to the Request
    e. Assigns the WO a Task of WTDT65 – Repair Main Break

Web Map

The Lucity Web Map provides a way for users to see and work with their asset and work data. This allows them to see relationships between objects and plan work accordingly. The web map is made up of a map display that has two toolbars and a navigation wheel. This guide will go through the various tools, and how to use them.

Table of Contents

Launching the Web Map

The web map is primarily launched by clicking the Web Map button on the Home menu toolbar. Accessing the map this way will open the map to the last extent used by the current user or the default extent

The web map can also be launched from different modules using the Show in map button. Accessing the map in this way will bring up the map, and then zoom to the assets, or Work Orders/Requests selected when the button was clicked.

Map Management tools

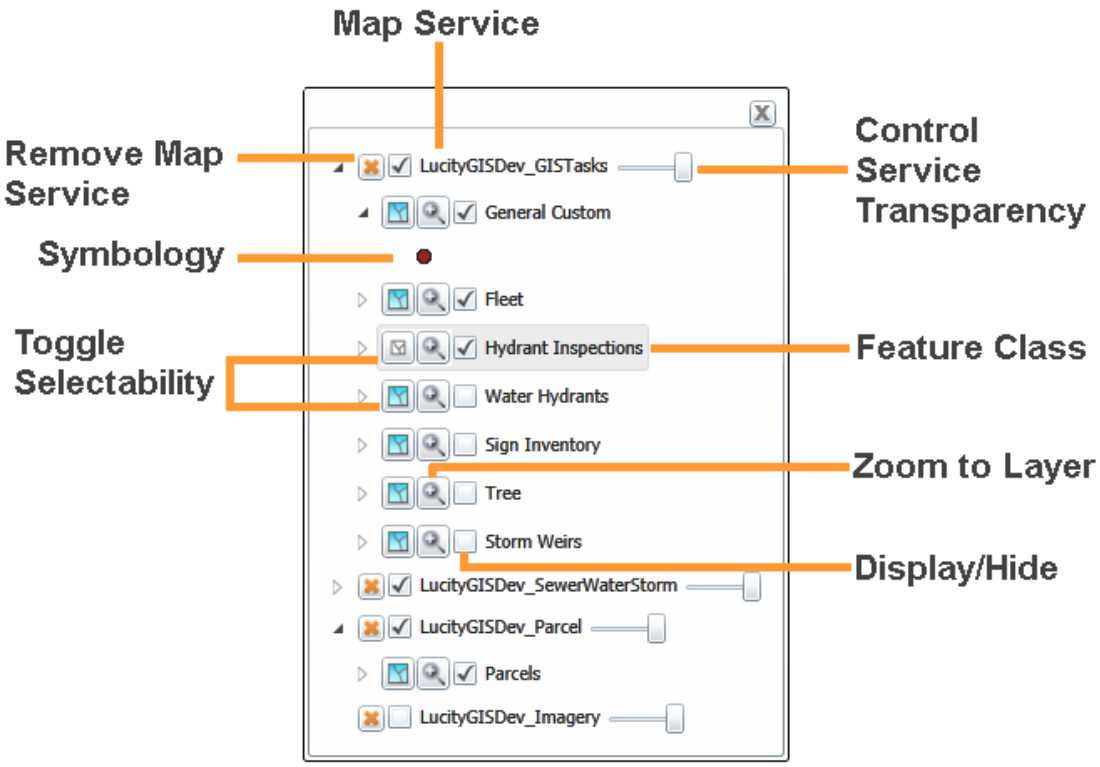
In the top left corner are the map management tools. They allow you to view information about the map, control selectabilty and visibility, open and close the data table, and perform standard navigation.

Map Layers	This allows users to turn feature classes off and on, zoom to layers, and control selectabilty.
Web Map Selector	Provides a list of web maps that are assigned to the user.
Base Map	Provides a list of base maps to choose from. Only one base map can be viewed at a time.
Log	Click on this tool to bring up a selection of troubleshooting tools. Select a tool from the list and click **OK** to open it. These tools are designed to help us help you. ***Local Log*** **-** Click on this button to bring up a log for the web map. ***View Layer Details*** **-** Right-click for a dropdown menu with the option to view layer details. This will show the map services displayed in this map, and which layers are linked back to Lucity.
Display Preferences	This allows you to change color that select assets will appear in the map. After making a selection you can also highlight items in the data table. Using the Display preferences you can change the color that highlighted items appear as well. There is also an option that causes the tool you are using to automatically switch back to the pan tool after you use the selection tool.
Data Table	The data table shows a table view of all records that have been selected or identified. It has several tools to help when selecting records, and special tools to relate asset records back to Lucity.
Measurements	Allows users to measure the length of a line, side and area of a polygon, and radius of a circle.

	***Geolocate***	The Geolocate tool zooms to your current location and displays this location as a blue flashing dot.
	***Pan***	This allows you to pan around the map. If no other tool is selected this one is selected by default.
	***Zoom In***	This allows you to zoom in. Select the tool then click on the map to zoom in. You can also click in the map and drag the cursor to form a box. Click again to finish the box and zoom.
	***Zoom Out***	This allows users to zoom out. Select the tool then click on the map to zoom out. You can also click in the map and drag the cursor to form a box.
	***Undo Navigation***	Cycles backwards through previous map extents
	***Redo Navigation***	Cycles forward through previous map extents
	***Redlining***	This allows users to add markups to the map.
	***Edit Tools***	Edit Tools provide editing capabilities for feature services in the map.

Map Layers

The Map Layers tool allows users to turn feature classes off and on, control selectabilty, and control layer transparency. The diagram below points out different controls that are in the Layers tool. A description of the controls is below that.



Remove Map Service - click this to remove the map service and all associated feature classes. These only affect you. If you are removing something that is in the map by default it will be there next time you load the map. If it is a layer that you created using one of the Analysis tools it will be permanently deleted.

Control Service Transparency - Controls the transparency of an entire group of layers.

Toggle Selectabilty - Click this button to toggle the ability to select that type of feature using the select tool. When this button is blue the layer is selectable.

Zoom to Layer – This will zoom to the extent of the layer.

Display/Hide - Uncheck the box next to a service, group or feature class to hide it in the map.

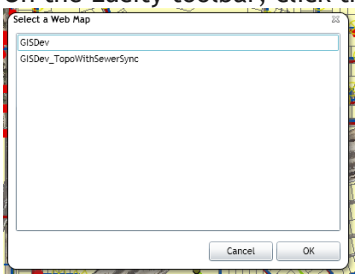
Note: Some layers will be turned off in the map by default.

Web Map Selector

 A user may have more than one Web Map assigned, defined in Lucity Administration. The Web Map Selection tool allows you to switch between available maps, essentially removing all layers and properties of the current map and loading the ones associated with the new map. This tool also changes the user's default web map to be that of the new map, so the next time the Lucity web map is launched the last web map loaded will be used.

To switch Web Maps:

1. On the Lucity toolbar, click the Web Map Selector tool  . The following dialog will appear:



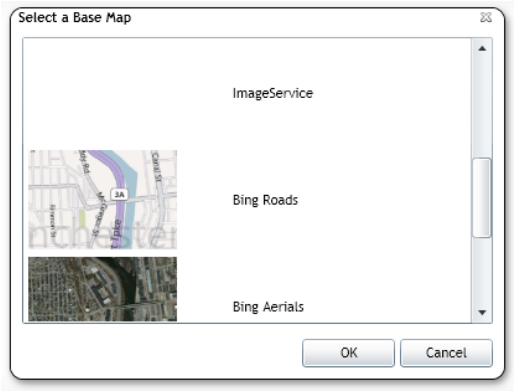
2. Select the web map you wish to load and click OK. The new web map will load. *Note:* You may receive a prompt for credentials if the new web map has any secured services.

Base Map

 Base maps are layers of data that is useful to see, but you don't need to select or identify. Your organization can setup several kinds of base maps including road maps and aerial photographs.

The Lucity Webmap has a tool that allows you to switch between the different base maps that your organization has.

1. To change the base map click  and the following pop-up will appear.



2. Select a new base map, or select ~No Base map~
3. Click OK
4. The map will reload and now your base map will be visible.

Data Table

The Data table allows you to see information about and interact with features that are currently selected or work order and request locations that are plotted. This table is opened automatically when either the Selection tool or Show Work Locations tools are used.

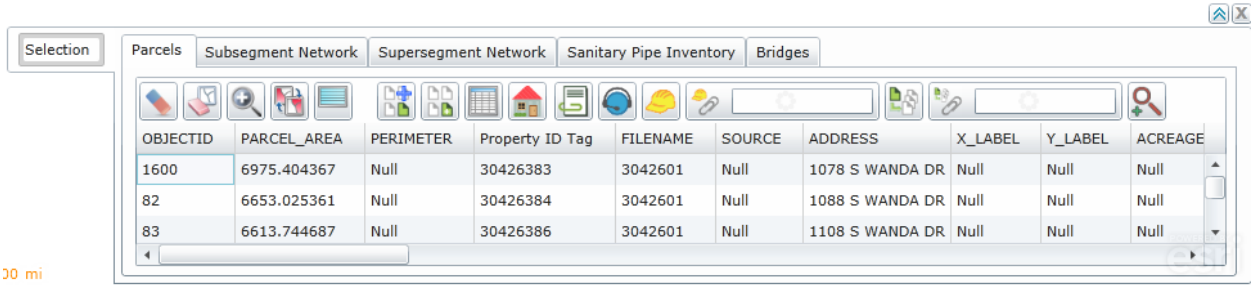


Table Display Controls

To the top right of the table are two buttons that control the table's appearance.

Click this button to expand the table and show more records

Click this button to close the table. This does not clear the current selection.

Tabs

At the top of the grid there is a row of tabs. Each tab corresponds to a feature class that has features included in the current selection. Click on a tab to switch to a table showing the selected features for that feature class.

User Point Graphics created using the *Create Work Point tool* will show up on a tab called UserPointGraphics.

Selected Records

Features that appear in the table are currently Selected. They are displayed in the map using the Main Selection Color.

- Click on one or more features in the grid to make them Highlighted. Highlighted features are displayed in the map using the Secondary Selection Color.
- Highlighting records is a way to narrow down a selection set even further. Users might highlight records to use the Lucity Tools.

> *Note: The Main and Secondary Selection Colors are changed using the Display Preferences tool.*

Selection Controls

The Selection controls allow users to control the current feature selection.

- They specifically interact with features that are highlighted in the table on the current tab.
- These tools show up for every feature class, whether it is linked to Lucity or not.

Clear Selection	Un-selects any features that are currently highlighted in the table. This removes them from the Data Table
Clear Highlight	Un-highlights any records that are currently highlighted in the table. They remain selected.
Zoom and Flash Highlighted	Zooms to the features highlighted in the table.
Switch Highlight	Switches which records are highlighted in the table. Any records that are currently highlighted will not be and any records that weren't highlighted will be.
Highlight All In Selection	Highlights all records in the current table.

Lucity Tools

These tools allow users to perform Lucity operations against features in the map.

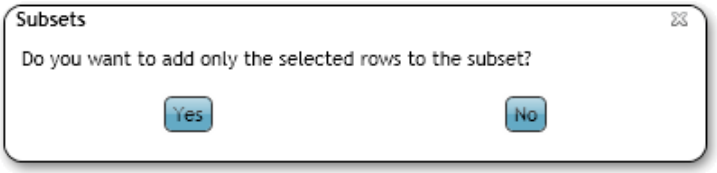
- Some of these tools specifically work only with features that are highlighted on the current tab. Others will interact with the highlighted features or the entire selection set for the current tab.
- These tools only show up for feature classes that are linked to Lucity.

Attach Subsets

This tool lets you add selected features to an existing subset. Subsets allow you to save a fixed group of records for later use.

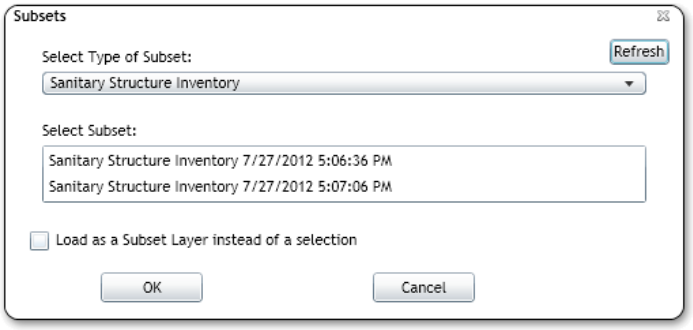
To add features to a subset

1. Select Assets in the map.
2. In the Data Table users can highlight assets to include in the subset and click .
3. The following dialog will appear:



4. Choosing Yes will add the highlighted assets to the subset. Choosing No will add all of the selected assets (on the current Data Table tab) to the subset.

5. After choosing Yes or No the following dialog will appear.



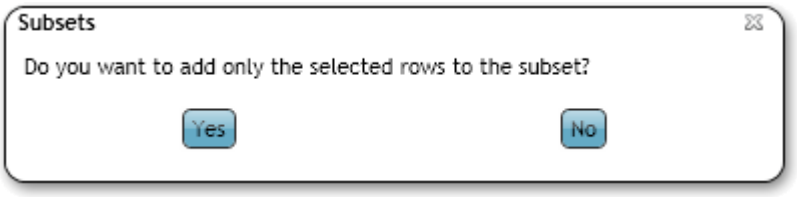
6. Select a subset from the list and click OK.
7. The program will add the highlighted or selected features to the subset and will zoom to the newly defined subset.

Create Subsets

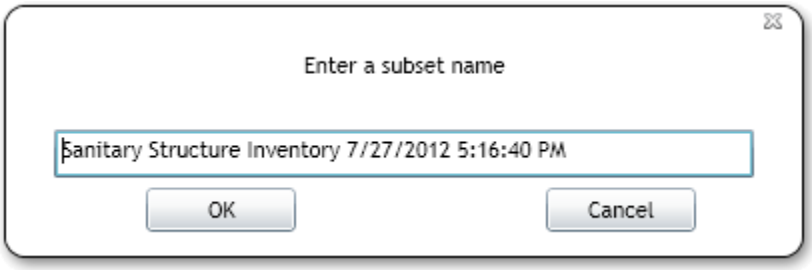
The ***Create Subset tool*** allows you to create a new subset from selected features. Subsets allow users to save a fixed group of records for later use.

To create a subset

1. Make a selection of records in the map.
2. In the ***Data Table*** users can highlight the assets to include in the subset and click .
3. The following dialog will appear:



4. Choosing Yes will add the highlighted assets to the subset. Choosing No will add all of the selected assets (on the current Data Table tab) to the subset.
5. After choosing Yes or No the following dialog will appear.



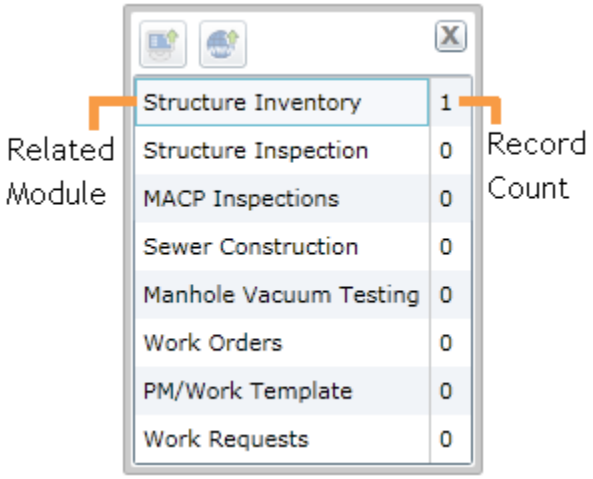
6. Enter a name for the subset. By default the dialog creates a name based on the asset type, date, and time. Click OK when finished.
7. The program will create the subset and display a message stating that it was successful.

Relationships

The ***View Relationships tool*** allows you to see all the modules and records related to an asset highlighted in the Data Table. Users can directly open the modules to view the related records in Lucity Desktop or Web.

To view relationships

1. After making a selection in the map select a record in the ***Data Table***.
2. In the ***Data Table*** click. The following popup will appear.



3. Each line in the popup is for a Lucity module. To the right of the module name is a count of how many records in that module are related to the record highlighted in the Data Table.
4. Select a module to view. Click one of the following buttons to open that module. The module will open to the related records.

Open in Lucity Desktop

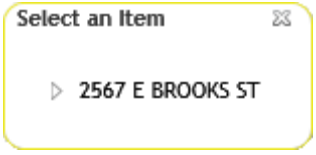
Open in Lucity Web

Property Viewer

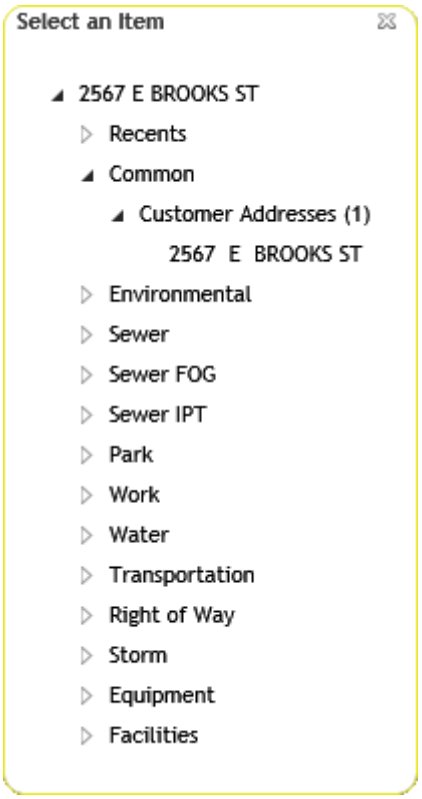
The Property Viewer tool will show all related module records based upon an address.

To view related records based upon an address:

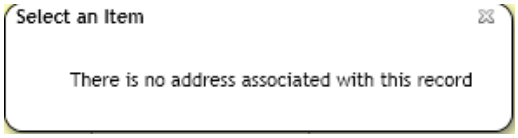
1. After making a selection in the map select a record in the ***Data Table***.
2. Select the Property Viewer tool
3. If an address is found a dialog similar to the following will appear.



4. Click the arrow next to the address to expand the results.



- If no address is found you will receive the following dialog:



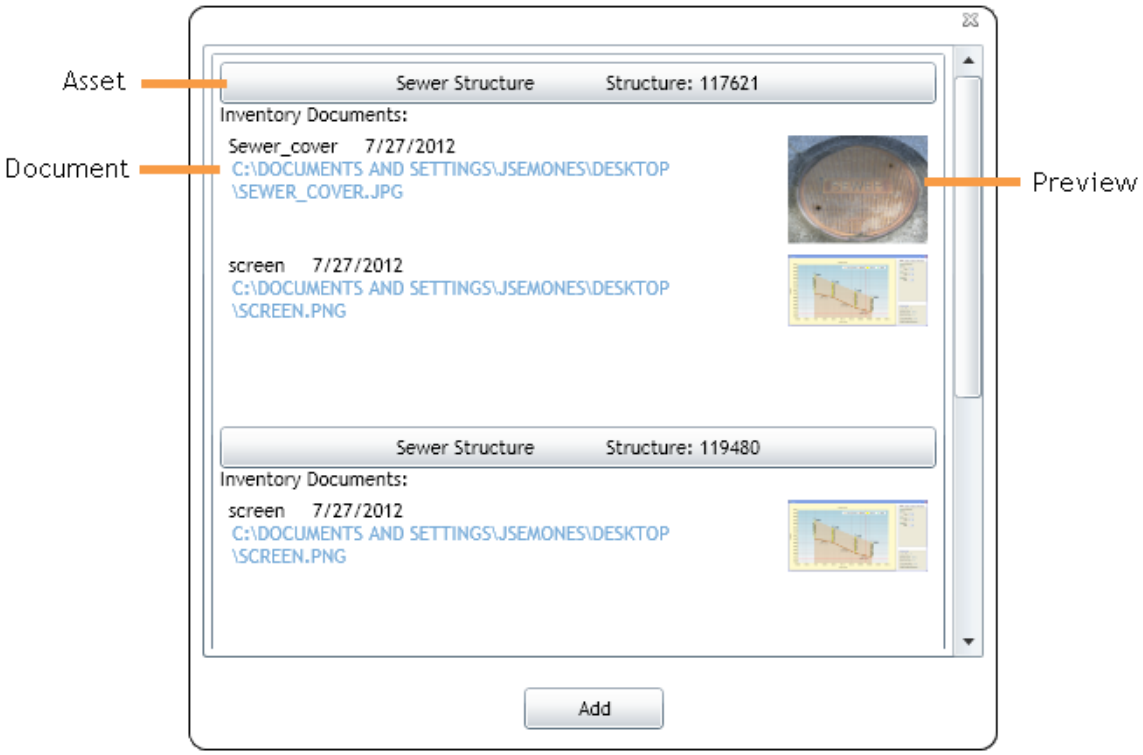
5. Select an item from the list. The record will open in the web.

Documents

The ***Documents tool*** allows you to see documents that are linked to the selected objects, and attach new documents.

To view and add documents

1. Highlight one or more records in the ***Data Table***
2. Click . The following popup will appear



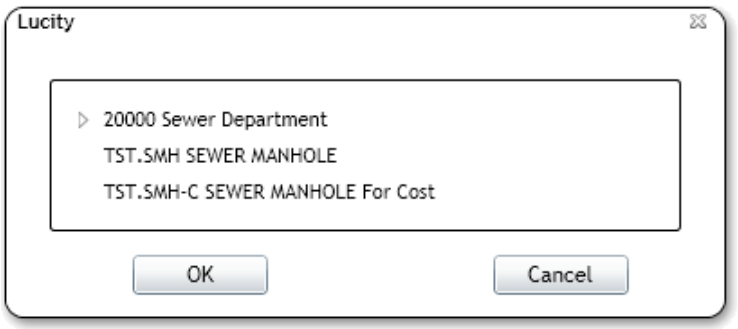
3. Each asset highlighted in the ***Data Table*** will appear in a list. Underneath each asset is a list of the associated documents and a preview (if one is available.)
4. Click on a document to view it. It will be opened in the computer's default program for that type of document.
5. To add a document, click the **Add** button. Browse to the document and click **OK**.
6. The document will be linked to ALL assets in the document popup.
    - Attaching a document does not move the document; Lucity just stores the current location for future use.
    - In the above example the documents are located on the C drive of the computer; however it is important to note that these will only be available to this user, on this computer. Talk to a system administrator about the best location for documents to be stored so that they are available to all users on all computers.

Create Request

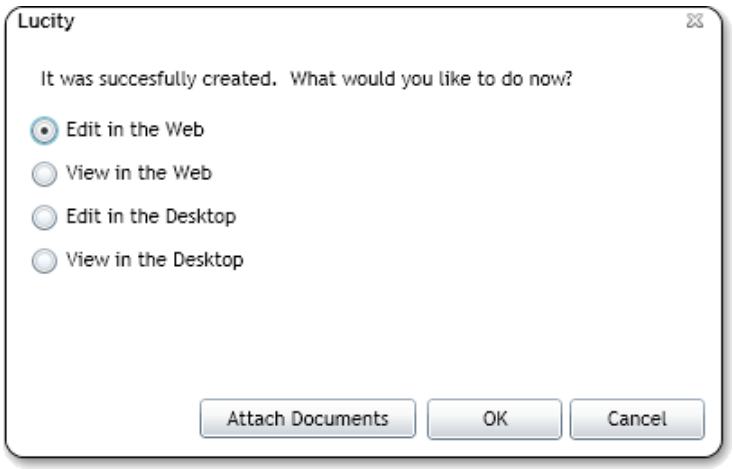
The ***Create Request tool*** allows you to create a request from the map based on an asset.

To create a Request

1. Highlight an asset, or User Point Graphic, in the ***Data Table***
    - User Point Graphics are created using the Create Work Point tool.
2. Click the button.
3. If the highlighted asset does not have a ***Default Work Category***, the following popup will appear allowing users to select a category:
    - If a User Point Graphic is used, no category is required and this popup will be skipped.



4. Only categories that are associated to the highlighted asset will appear.
5. Select a category and click **OK**. This is required. The request will be created with the highlighted asset attached and the following popup will appear:



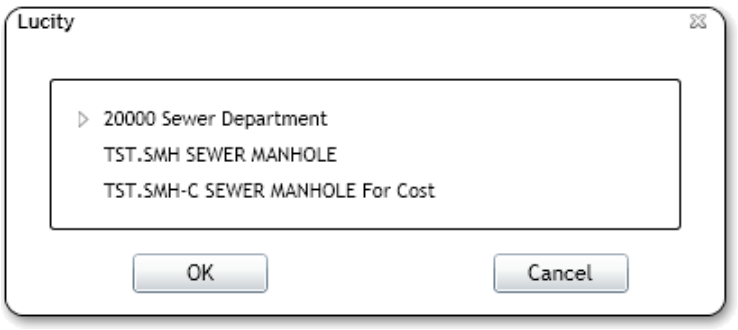
6. Clicking **Attach Document** will open up a browser window to let the user select a document to attach to the request.
7. Choose one of the Edit or View options and click **OK**.
8. Lucity Web or Desktop will open up the request module and go to the new record.

Create Work Order

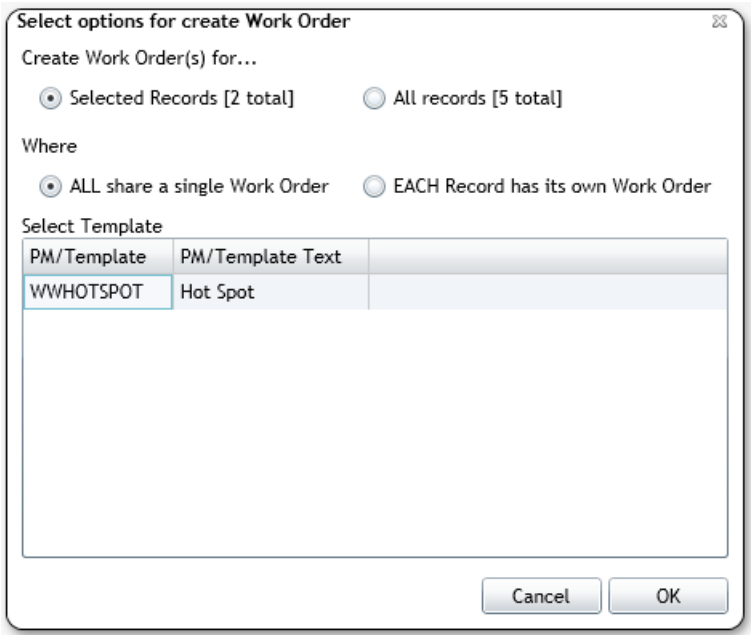
The ***Create Work Order tool*** allows users to create a work order from the map based on one or more assets.

To create a work order

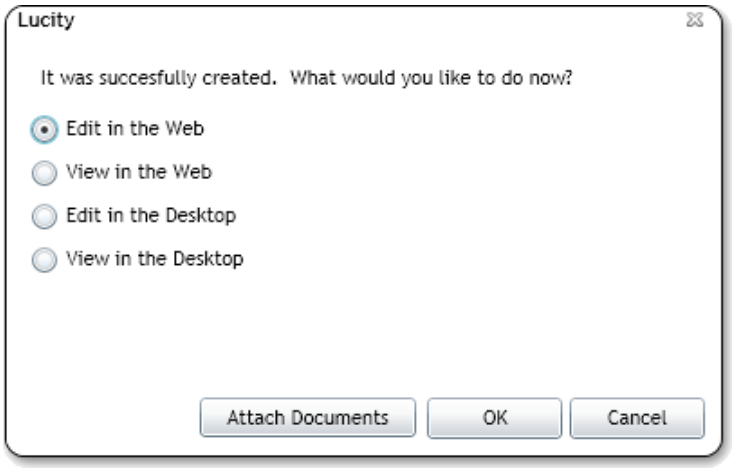
1. Highlight assets, or User Point Graphics, in the ***Data Table***
    - User Point Graphics are created using the Create Work Point tool.
2. Click the button.
3. If the highlighted asset does not have a ***Default Work Category***, the following popup will appear allowing users to select a category:



    - When assets are selected only categories that are associated to the highlighted asset will appear.
    - When User Point Graphics are used the category list will include all categories.
4. Select a category and click **OK**. This is required. A dialog similar to the following will appear:



5. If there is more than one asset/address/coordinate highlighted in the feature data grid, then you will have an option to create the work order for the highlighted records or all records. In addition you will have the option to create one work order with all the items, or a separate work order for each item (asset/address/coordinate). Finally, if there are Work Template records associated with the asset type, these will appear in the grid allowing you to use a template when creating the work order. Select the desired options and click OK.
6. The work order will be created with the highlighted assets attached and the following popup will appear:



7. Clicking **Attach Document** will open up a browser window to let the user select a document to attach to the work order.
8. Choose one of the Edit or View options and click **OK**.
9. Lucity Web or Desktop will open up the work order module and go to the new record.
    - After the work order is created the work order number is automatically entered into the Attach to Work Order tool. This allows users to create a work order, and the quickly highlight other assets, even on other tabs, and attach them to that same work order.

Attach to Work Order

The ***Attach to Work Order tool*** allows users to attach assets to a pre-existing work order.

To attach assets to a work order

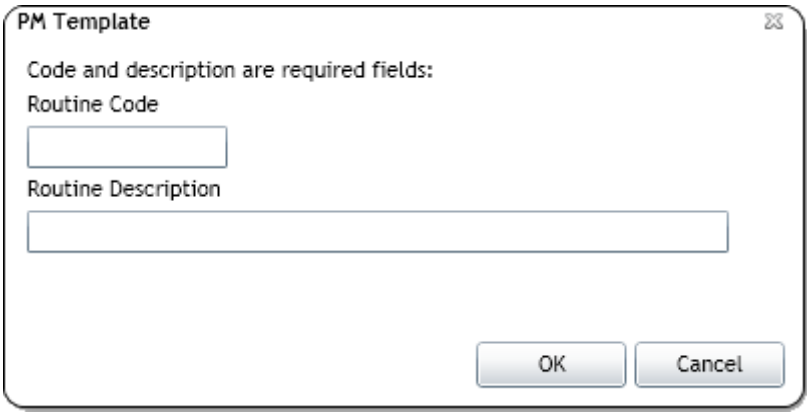
1. Select assets or User Point Graphics in the ***Data Table***.
2. Click in the field section of the ***Attach to Work Order tool*** and type in a work order number.
3. Click the icon part ***Attach to Work Order tool*** and the selected asset or point will be attached to the work order.
    - Assets are added to the Asset grid of the work order.
    - User Point Graphics are added to the Location grid of the work order.
    - The field part of the tool is automatically filled out by the last work order created using the Create Work Order tool.

Create PM/Template

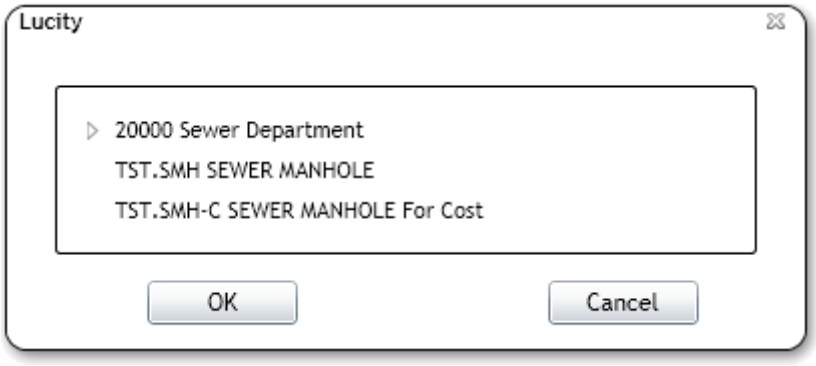
The ***Create PM/Template tool*** allows users to create a Template from the map based on an asset. If desired this template can then be turned into a PM.

To create a PM/Template

1. Highlight assets, or User Point Graphics, in the ***Data Table***
    - User Point Graphics are created using the Create Work Point tool.
2. Click the button. The following popup will appear:

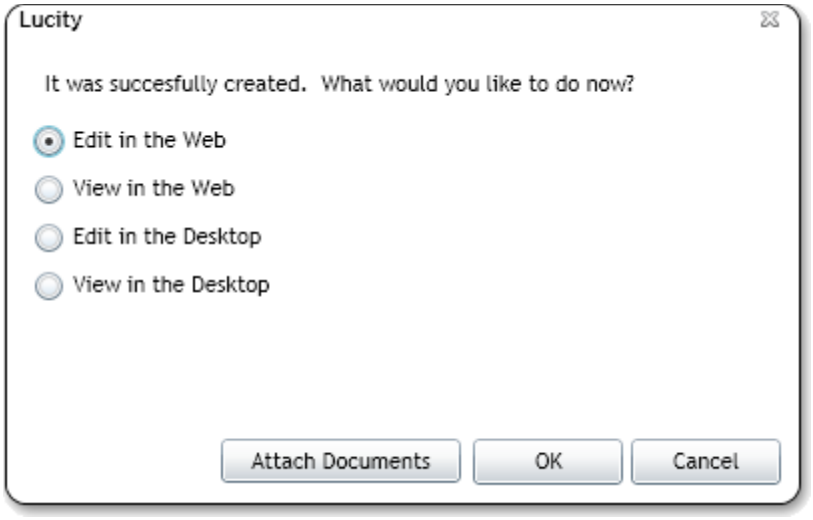


3. Fill out the **Routine Code** and *Routine Description*. Click **OK**.
4. If the highlighted asset does not have a *Default Work Category*, the following popup will appear allowing users to select a category:



5. Only categories that are associated to the highlighted asset will appear.
    - If a User Point Graphic is used all categories will be available.

6. Select a category and click OK. This is required. The template will be created with the highlighted asset attached and the following popup will appear:



7. Clicking **Attach Document** will open up a browse window to let the user select a document to attach to the PM/Template.
8. Choose one of the Edit or View options and click **OK**.
9. Lucity Web or Desktop will open up the request module and go to the new record.
    - This is created as a template. To turn it into a PM users must edit the record and mark the Scheduled PM box.

Attach to PM/Work Template

 The ***Attach to PM/Work Template tool*** allows users to attach assets to a pre-existing work template.

To attach assets to a PM/Work Template

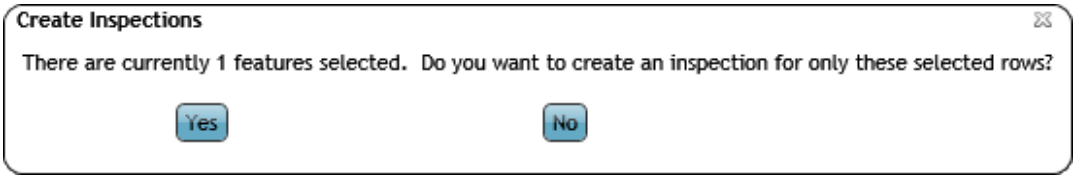
1. Select assets or User Point Graphics in the ***Data Table***.
2. Click in the field section of the ***Attach to PM/Work Template tool*** and type in a template number.
3. Click the icon part ***Attach to PM/Work Template tool*** and the selected asset or point will be attached to the template.
    - Assets are added to the Asset grid of the template.
    - User Point Graphics are added to the Location grid of the template.
    - The field part of the tool is automatically filled out by the last pm/template created using the Create PM/Work Template tool.

Create Inspection

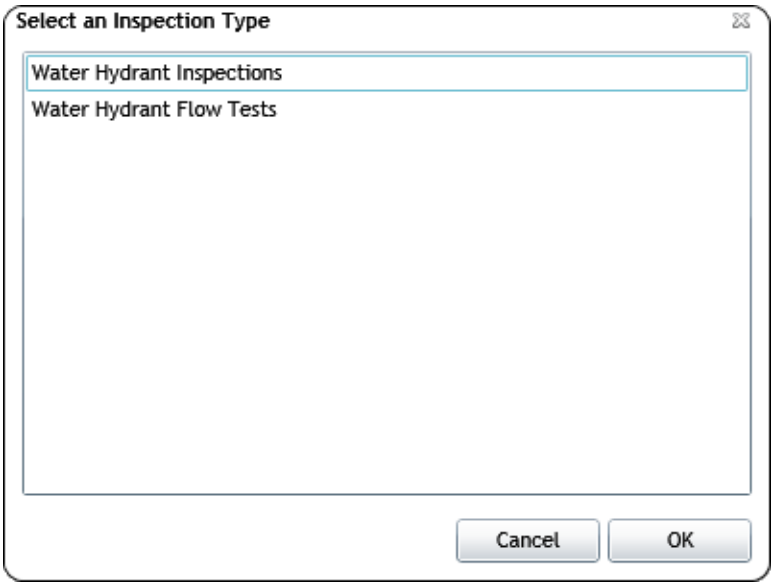
The ***Create Inspection*** tool allows the user to create an inspection for the selected asset(s).

How to Create an Inspection

1. (Optional) Highlight one or more assets in the grid.
2. Click the  tool. If assets are highlighted in the grid the following pop-up will appear:



3. If you would like to create an inspection record for every asset in the grid click **No**. If you would like to create an inspection record for only the records highlighted in the grid click **Yes**.
4. If there is more than one type of inspection for the asset type the following pop-up will appear asking what type of inspection you want to create.



5. Select an inspection type and click **Ok**.
6. The inspection is created automatically and the inspection module's view will open to display the inspection.

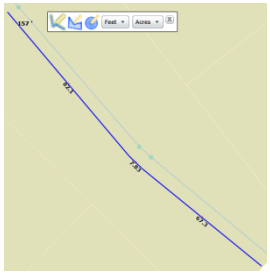
Measurements

The measurement tools allow users to measure the length of lines, sides and area of a polygon, and radius of a circle.

1. To measure something click the tool and the following toolbar will appear:

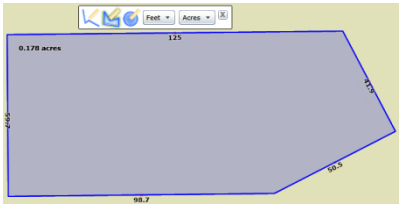
2. Select an item to measure.

Line



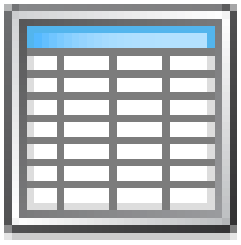
- Click . The cursor will change.
- Click at a location in the map to start the measurement.
- Click on another location in the map to end the line segment and begin a new one.
- Continue until all segments are marked.
- Each segment of the line will display the length. At the end of the line, near the cursor the total length of the line will be displayed.
- Double-click to end the line. (The measurement line will disappear.)

Polygon



- Click . The cursor will change.
- Click on the map to start the measurement.
- Click on another location in the map to finish a side to the polygon and begin a new side.
- Continue until all sides are marked
- Each side of the polygon will display the length. Near the cursor the area (shaded part) of the polygon will be displayed.
- Double-click to end the polygon. (The measurement polygon will disappear.)

Circle



- Click . The cursor will change.
- Click on the map to start the measurement.
- Move the cursor away from the original point. The tool will display a red line and a circle. The red line is the radius of the circle
- At the end of the line, near the cursor the length of the radius will be displayed.
- Click to end the circle. (The measurement circle will disappear.)

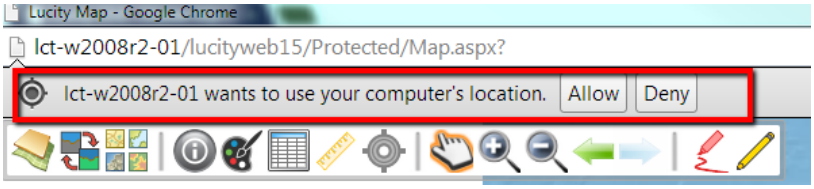
Geolocate

The Geolocate tool allows users to show their current location on the map. This tool uses the W3C Geolocation API (http://www.w3.org/TR/geolocation-API/).

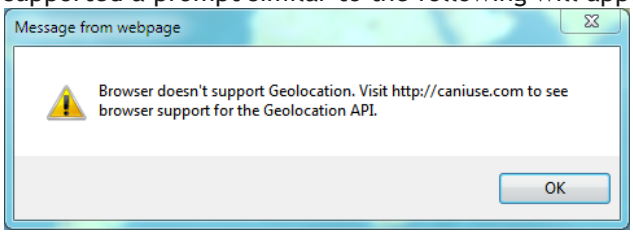
- Enabling this tool will cause the web page to try to access the user's location information. Since this could compromise a user's privacy, permission must be obtained before the web map can gain access. Each browser has its own policies and methods for requesting the user's permission.
- The API is unaware of the underlying location information source. Common sources of location include GPS and location derived from network signals such as IP address, RFID, Wi-Fi and Bluetooth MAC addresses, and GSM/CDMA cell IDs

To show your current location on the web map:

1. On the Lucity toolbar, click the Geolocate tool .
2. Depending on your browser settings you may receive a prompt requesting permission to access your location information. You will need to grant permission in order for the tool to function.
   - Example:



   - Note: This tool will not work with all browsers. In the event that your browser isn't supported a prompt similar to the following will appear:



3. Once location tracking has been enabled, the map will zoom to your location which will be shown using a blue flashing dot. The Geolocate tool will also change to blue to indicate the tool has been activated. To turn off location tracking simply click the Geolocate tool again.

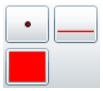
Redlining

The Redline tool allows users to add markups to the map. This can be used to provide information to somebody at another location, or to save information for later.

> *Example: A supervisor could draw a picture in the map of what he is trying to describe, and the workers in the field can see this drawing.*

To work with redlining click the button and a toolbar with the following tools will appear.

Redline tools

	*Palette*	A list of all the redline feature classes that are included in the map. They are displayed with a sample of the symbology (the example shows a point, line, and polygon feature class). Select a feature class to begin marking the map.
	*New Selection*	Gives the user a selection pointer. This automatically unselects any previously selected drawings and allows the user to draw a selection box in the map to select a set of redline drawings.
	*Add/Remove from Selection*	Allows users to draw a selection box in the map. Any selected drawings are added or removed from the current selection.
	*Clear selection*	Unselects all drawings.
	*Delete selected features*	Deletes any selected drawings
	*Edit Geometry*	Allows users to click on a drawing and then modify the shape of the drawing.
	*Save Edits*	Saves any edits made to the drawings. Note: Edits maybe saved automatically based on a system setting.
	*Display attributes*	Displays the attributes for the currently selected drawing. This could include a comment field.
...	*Add options*	Expands to show the following options.
	Freehand draw	Allows users to draw free hand. They can click at a spot and the line will begin to draw wherever the mouse pointer goes.
	Autocomplete	Marking this causes polygons to automatically be completed.

To add a redline

1. Click the button to bring up the redlining menu.
2. Select a redline feature class from the palette.
3. 
4. Begin editing
    - For a point click at a location in the map.
    - For a line click at a location in the map to begin the line. Click in another location to finish the section of line and start a new one. Double-click to end the line.
    - For a polygon click on a location in the map to begin a side. Click in another location to end a side and start a new one. Double-click to end the polygon.
5. When complete click the button.

Editing Tools


The Editing Tools allow users to edit feature classes within the map. They can add new features, edit existing features, and delete features. Editing capabilities are only available for web maps that contain map services that have been configured to allow editing.

- The edit toolset can be configured to work with any map service that has feature access enabled.
- The edit toolset can work on both Lucity-linked and non-Lucity data.
- The Lucity database is not directly updated when you save your edits. Additional configuration of a GIS Scheduled Task **or** force-syncing the edited feature in ArcMap is required to push edits to Lucity.
- *Note:* When the Edit Toolset is active, the Lucity tools (Identify, Select, etc) will not function on the edit layers.

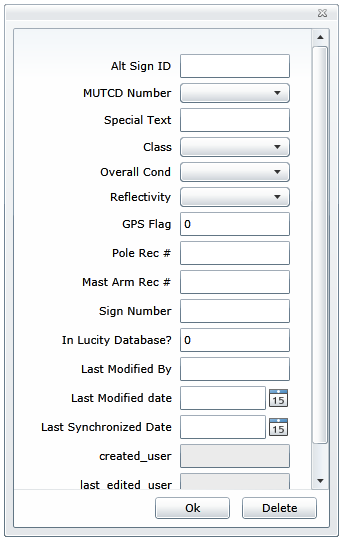
To work with editing click the  button and a toolbar with the following tools will appear. If there are no services in the map that have been configured to allow editing, the edit toolset will be empty.

Editing Tools

	*Palette*	This is a list of all the editable feature classes that are currently displayed in the map. Hovering over each feature class symbol gives the name of the feature class. Select a feature class to begin editing.
	*New Selection*	Gives the user an edit selection pointer. This automatically unselects any previously selected drawings and allows the user to draw a selection box in the map to select a set of features.
	*Add/Remove from Selection*	Allows users to draw a selection box in the map. Any selected features are added or removed from the current selection.
	*Clear selection*	Unselects all features.
	*Delete selected features*	Deletes any selected features from Lucity and from the map.
	*Edit Geometry*	Allows users to click on a feature and then modify the location/shape of the feature.
	*Save Edits*	Saves any edits made to the features. Note: Edits may be saved automatically based on a system setting.
	*Display attributes*	Allows users to click on a feature and view/edit the attributes.
...	*Add options*	Expands to show the following options:
	Freehand draw	Allows users to draw free hand. They can click at a spot and the line will begin to draw wherever the mouse pointer goes.
	Autocomplete	Marking this causes polygons to automatically be completed.

How to Add a Feature

1. Click on a type of feature in the palette.
2.  Click on a location within the map.
   - For a point click at a location in the map.
   - For a line click at a location in the map to begin the line. Click in another location to finish the section of line and start a new one. Double-click to end the line.
   - For a polygon click on a location in the map to begin a side. Click in another location to end a side and start a new one. Double-click to end the polygon. It will automatically complete the polygon.
3. After double-clicking, the Attributes window will pop up.



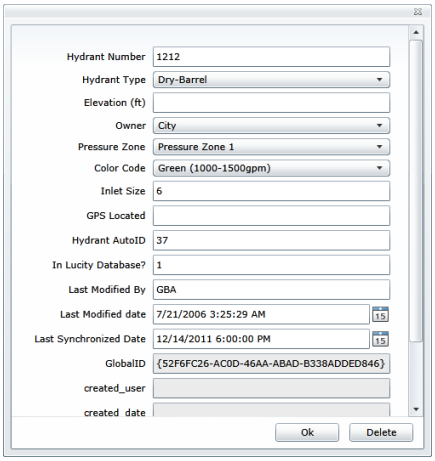
4. Fill out the attributes.
5. If this is an asset that should sync to Lucity the common ID must be filled out or the asset will not sync into Lucity.
6. When complete click **Ok**.
7. When all editing is complete click the  button.

How to Edit a Feature's Location/Shape

1. Click the  button and select one or more features in the map.
2. Click the  button.
3. Click on the feature that needs to be edited.
4. A box will appear around the markup.
   - To ***resize*** the markup, use the control points around the box.
   - To ***rotate*** the markup, use the control point on the line that sticks out from the box.
   - To ***change the shape*** of the markup use the points that appear on the markup. Or click on the edges of the markup to add more points.
   - To ***move*** the markup click in the middle of it and drag it to a new location.

How to Edit a Feature's Attributes

1. Click the button and select one or more features in the map.
2. Click the button.
3. Click on the feature that needs editing. The Attributes pop-up will appear:

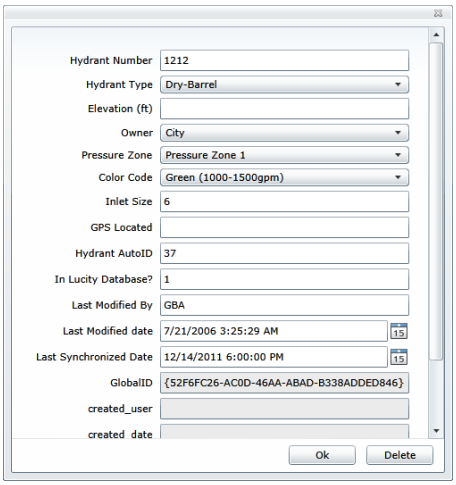


4. Make any needed changes and click **Ok**.
5. When all editing is complete click the button.

How to Delete a Feature

1. Click the button and select one or more features in the map.
2. Click the button to delete the selected features.

   OR
3. Click the button.
4. Click on the feature that needs editing. The attributes pop-up will appear:



5. Click the **Delete** button.

Analysis Tools

In the top right of the Web map are the analysis tools. The tools on this toolbar allow users to Identify and select assets, view work locations, etc…

The Analysis Toolbar provides ways for users find features in the map, get information out of the map, and interact with the related information. It is made up of the following tools

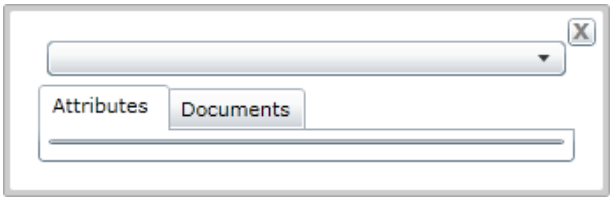
Identify

This allows users to draw a box and identify any features in that box. It provides a way to quickly see all the attribute information about a specific feature in the map. It also shows documents attached to features in the map.

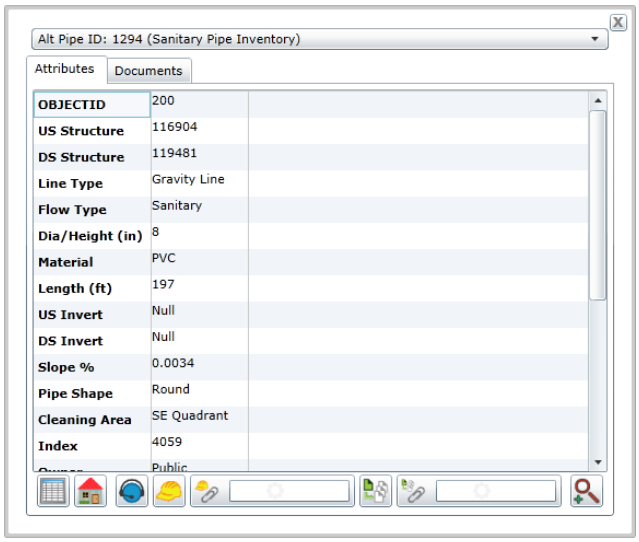
> *Note: Some features might have the Identify tool disabled depending on settings controlled by the system admin.*

To identify an asset

1. Click  , and then click on a feature in the map.
2. If there is more than one visible feature at that location the identify popup will appear like this:

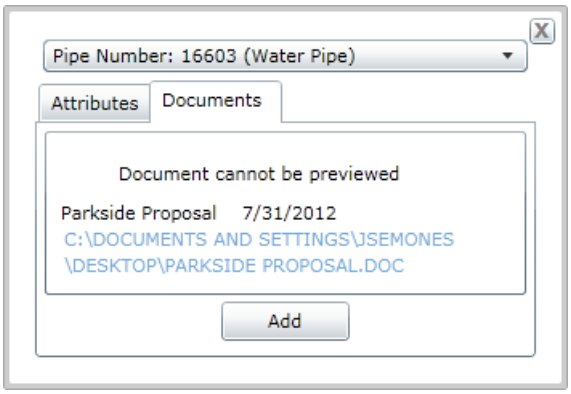


3. Select the asset to identify from the drop down. This selection can be changed later.
4. The Attributes tab will be filled out with the fields and attributes of the asset



5. At the bottom of the Attributes tab several of the Lucity tools from the Data Table appear. These only work if the asset being identified is a Lucity asset and when run from this location they only apply to one asset at a time. For more information about these tools look at the Data table section of this guide.

6. The Documents tab shows any documents attached to the asset and allows users to add new ones. For more information on documents go to the Data table section and read about the document control tool.



7. When complete close the Identify window.

Selection

This tool allows you to select features. This icon may appear differently depending on which selection mode is currently being used. When the select tool is used the Data Table automatically pops up with the selected features.

The Selection tool has three modes. The dropdown button to the right of the Selection tool in the Analysis toolbar allows you to toggle between these modes. Click on the button to select a different mode. Switching modes does not automatically select the Selection tool. After switching modes, click the Selection tool to use it. The last used selection mode is saved locally and will be used by default the next time the map is opened on the same machine by the same user.

Select by Rectangle — This mode allows users to click and drag to create a rectangle. Click a point in the map and drag the mouse diagonally to select the area.

Select by Polygon — This mode allows users to draw a selection polygon. Click to begin the polygon. Each new click creates a new corner for the polygon. Double clicking completes the polygon and selects anything that intersects it.

Select by Point — This mode allows users to click one point in the map and selects everything near that point.

Remember that layer selectabilty is controlled using the Map Layers tool.

Clear All Selections

Clears any selections currently made.

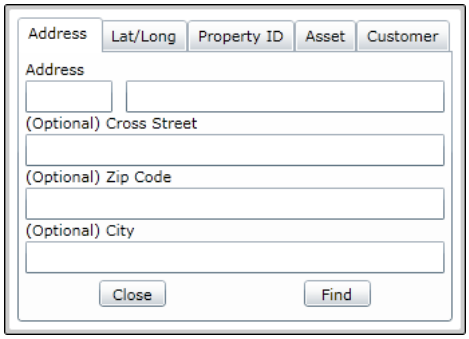
Find

This tool searches for Addresses, Property ID's, Assets, and Customers based on criteria the user enters

The Find tool allows you to quickly search for Addresses, XY coordinates, Property ID tags, Assets, and Customers. Some of these tools will only work if the agency tracks the data the tool is reliant on. For example, if they do not track property ids the Property ID search will not work.

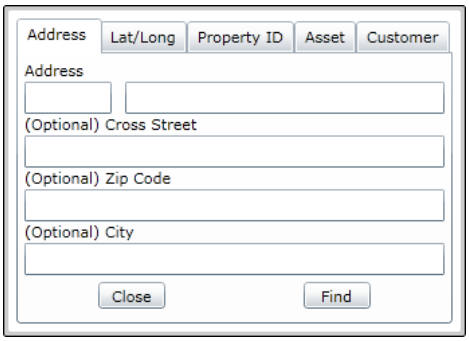
To use the find tool

1. Click on the Find tool and the following dialog will appear:
2. Select the type of search to perform.



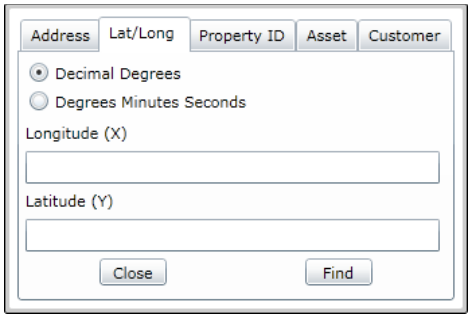
Address

1. Enter an ***Address*** and ***Street***. The program will provide a dropdown list of matches as you type
2. Enter other optional information
3. Click Find.
4. A point will be put in the map at the address location.

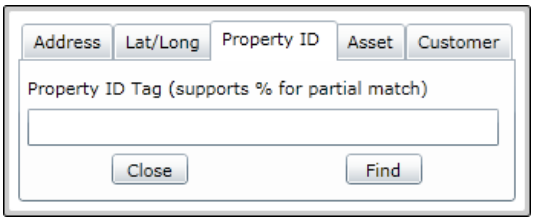


Lat/Long

1. Click Lat/Long to find an XY coordinate
2. Select the types of Degrees being entered
3. Enter the coordinates fin the Longitude and Latitude fields
4. Click Find.
5. A point will be put in the map at the XY location.

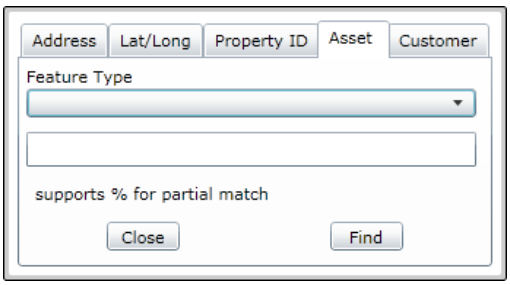


Property ID



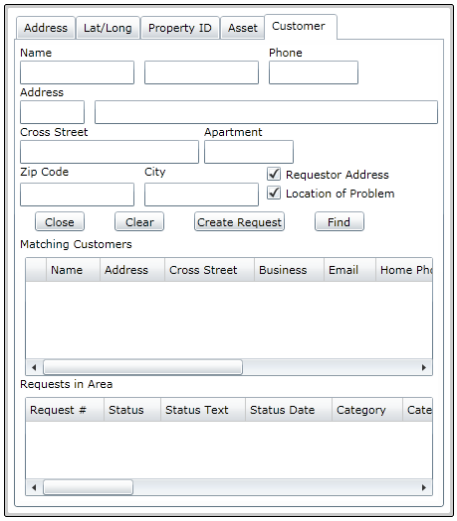
1. Click Property ID to search based on Property ID tags
2. Enter a Property ID number
3. Click Find

Asset



1. Click asset to search through the Lucity assets in the map
2. Select a feature type. This list is populated form the Lucity feature classes in the map
3. Type in an asset number
4. Click Find.
5. The assets will be selected in the map.

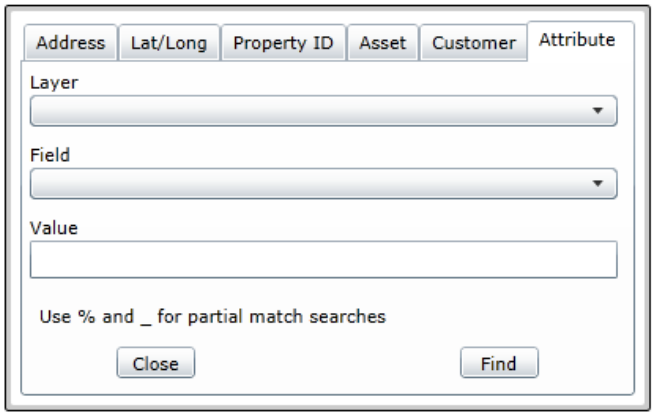
Customer



1. Click Customer to search for a Customer using name, address, or phone number
2. Type in any known information in the fields. Click Find. Any matching records will appear in the Matching Customers grid.
   - If the desired customer record appears in the Matching Customers grid, select it by checking the box.
     - The tool will try to locate the associated addresses for that record in the map.
     - Any information missing in the search fields will be filled out from the Customer/Address record.
   - To create a request mark if this is the above address is the ***Requestor Address***, the ***Location of Problem***, or both
   - Click Create Request.

Attribute

1. Click Attribute to search a layer based upon field values
2. Select a layer
3. Select a field
4. Enter a value to search on.
5. Click Find.
6. The asset(s) that meet the search criteria will be selected in the map.

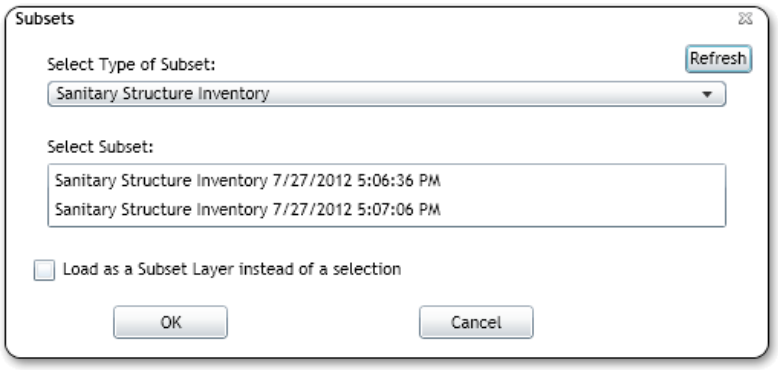


Load Subsets

Using this tool you can load a subset in the map. This tool can either select the records in the subset, or create a temporary subset layer.

To load a subset

1. Click . The following popup will appear:



2. Choose an asset type from the ***Select Type of Subset*** field.
3. The tool will select the features in the subset by default. To create a subset layer instead mark the ***Load as a Subset Layer****....* box.
4. Click **OK**.
5. The assets will be selected in the map and appear in the ***Data Table*** or a layer will be added to the ***Map Layers tool***.

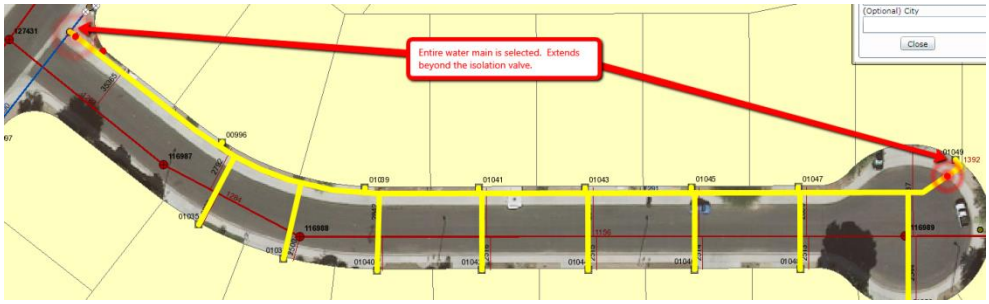
Trace Tool

This tool can perform the following traces:

- Water Isolation Valve Trace: designed to find the closest operational water isolation valves to a given location.
- Sewer and Storm: Upstream, Upstream Distance, Upstream Segment, Downstream, Downstream Distance, Downstream Segment

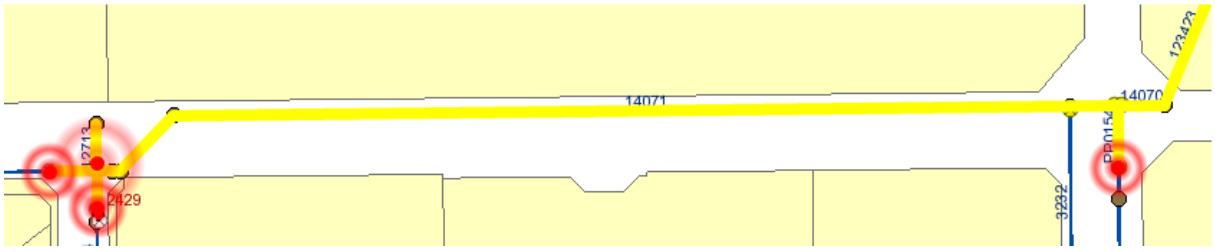
All traces are based on the information as it is listed in Lucity. These trace tools do not require the use of a geometric network or other spatial components in the web map, the trace is based upon the to/from node information as it is listed in the Lucity asset inventory module for the pipe.

For best results, water mains should be split at all isolation valves. If mains are not split at isolation valves, the trace will still work; however, the entire main will be selected, extending the selection past the isolation valve.



How to run a Water Isolation Valve Trace

1. On the Lucity toolbar, click the Water Trace tool .
2. With the trace tool active, click on a water pipe in the map.
3. The tool will automatically trace outwards from that pipe. It will continue to trace water pipes until it comes to a valve.
4. If the valve is marked as an isolation valve inside of Lucity the trace will highlight the valve and stop tracing pipes along that path.
5. All of the pipes, hydrants, system valves, and control valves that were selected during the trace will appear in the Data Table.



Create Work Point

Using this tool you can create a point in the map and records it location. These points can be used to add an X/Y point to a work order or request.

To create a Work Point

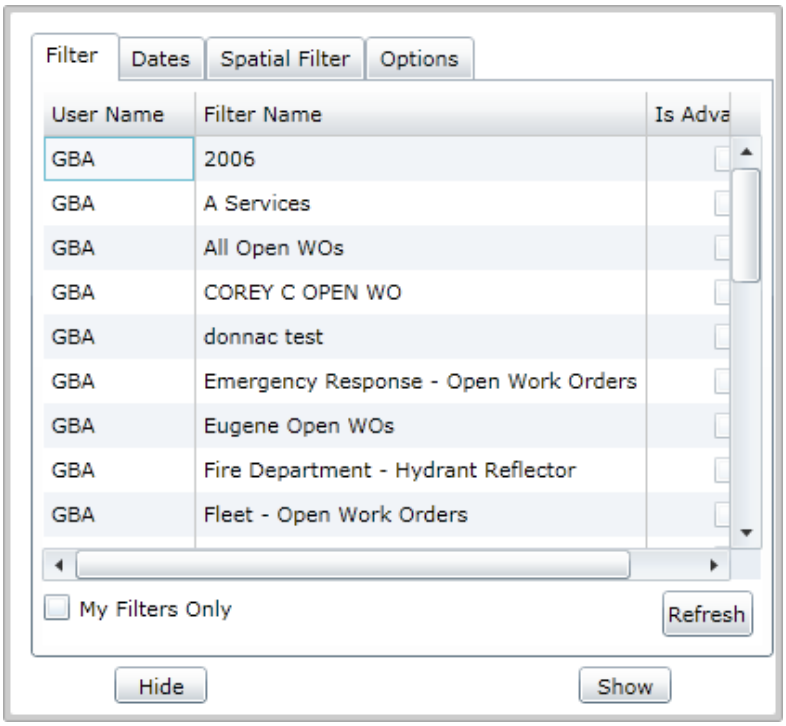
1. Select the ***Create Work Point*** tool and click on a location in the map.
2. A red pin will appear and the ***Data Table*** will be opened with a tab for UserPointGraphics.
3. Using the ***Data Table*** users can create Requests and create Work Orders based on one or more points.
4. They can also attach a point to a Work Order.
5. These points can be removed using the tools in the data table.

Work Order and Work Request Locations

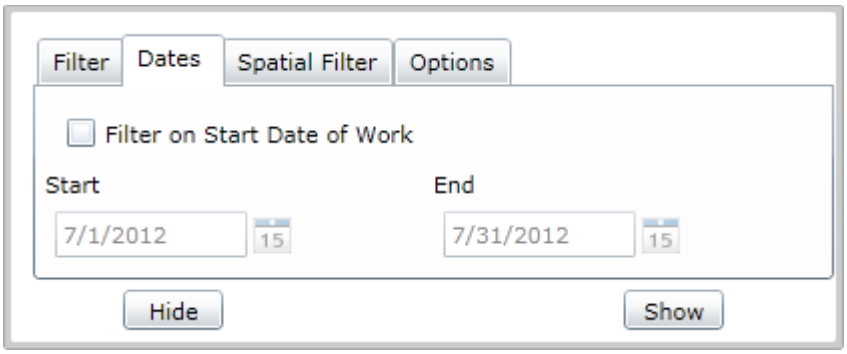
The Show Work Order Locations and Work Request Locations tools allow you to locate and display a filtered set of work order or work request locations. Each tool contains four tabs of options to control the output of the tool.

To view work locations

1. Go into the Work Order or Request module and create and save a filter for the records you would like to view in the map.
2. In the Webmap click on one of these two tools in the toolbar and it will popup.
3. Select the filter you created in the Work Order or Request module

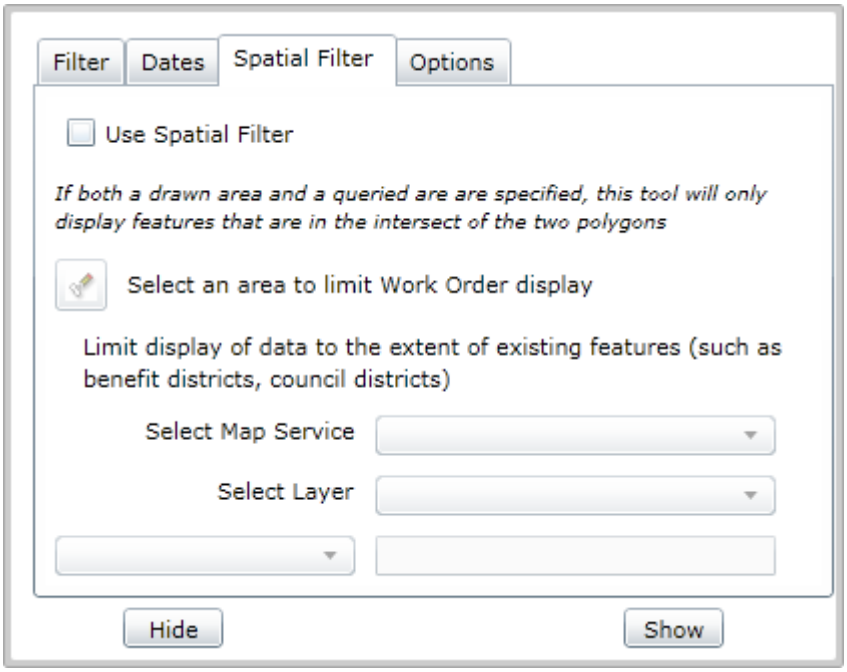


4. Click the Dates tab

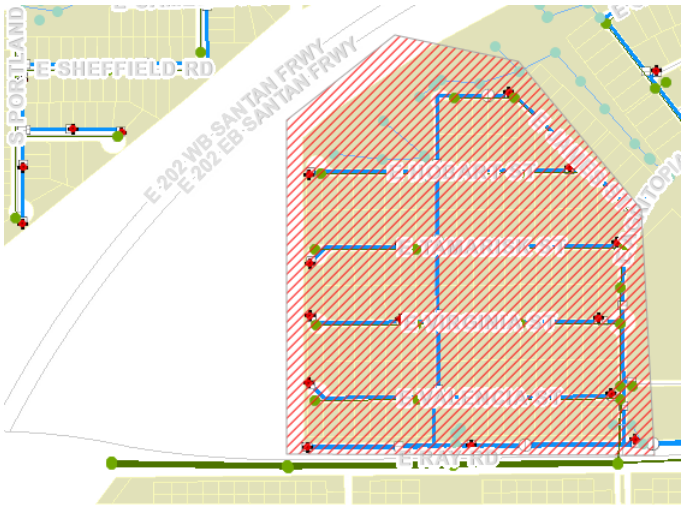


5. If you want to narrow down the filter further to a specific date range check the box and choose the dates here.

6. Click the Spatial Filter tab

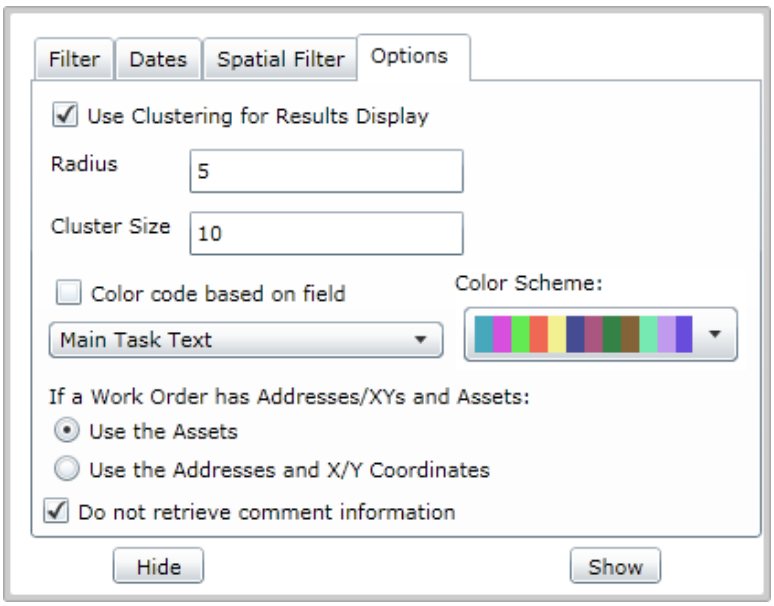


7. If you want to restrict the work locations that are displayed to a specific area mark the box.
    - To draw a polygon of the area you want to see work order for click the
    - Click the ***Select an area....*** button.
    - Click on a location in the map to start the polygon. Each new click creates a new corner for the polygon. Double clicking completes the polygon.
    - The selected area will be highlighted in red as below:



- To restrict the area based on a polygon in another feature class
  - Mark the Use Spatial Filter box.
  - Select a Map Service.
  - Select a Layer from the map service. This must be a polygon feature class.
  - The bottom two boxes are to select a specific polygon. Use the drop down box to select a specific feature.

8. Click the Options Tab



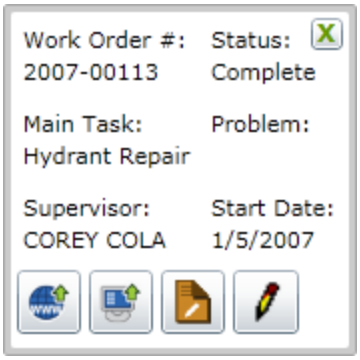
9. This tab allows you to change the following default settings.
   - Radius and Clustering Size - These options are designed to make the map less cluttered. When users are viewing the locations after running the tool the app will group work orders that are close together. Clicking on a cluster will expand the cluster so that users can drill down and see some individual work order information without zooming in. As users zoom in the locations will ungroup and show their individual locations. This is turned on by default.
     - The Radius is how close together locations must be to be grouped.

- The Cluster Size puts a cap on how many records a cluster can hold and still expand. If a cluster exceeds this number users will have to zoom in until the cluster breaks down into smaller clusters before they can expand them
- Color code based on field - This colors the location dots based on a field. Check the Color code.... box. Select a field in the drop down box to base the color coding off. Choose a color scheme.
- If a Work Order has Addresses/XYs and Assets - Work orders can use both assets and address/xy information to provide a location. Use this field to tell the program which type of information to use for the location when a work order has both available.
- This only shows up for the Work Order Location tool.
- Do not retrieve comment information - It takes longer to include comment information when processing the locations. Unmark this box to include comments that are attached to work orders or requests.

10. Click the show button. The bottom of the tool will extend to show it progress.
11. After the process is complete new layers will be added to the map and a new page will open in the data table. There will one layer for point assets, one for line assets, and one for polygon assets.

To interact with the work order locations

1. Click on a work location in the map for a popup with information about the work order or request.
2. Along the bottom are four tools to work with this record.



Open in Web - Opens the selected record in Lucity Web.

Open in Desktop - Opens the selected record in Lucity Desktop.

Edit in Web - Opens a form for the selected record in Lucity Web.

Edit in Desktop - Opens the selected record in Edit mode in Lucity Desktop.

3. Work orders and requests can also be selected in the Data table and there are similar tools available there.

Print

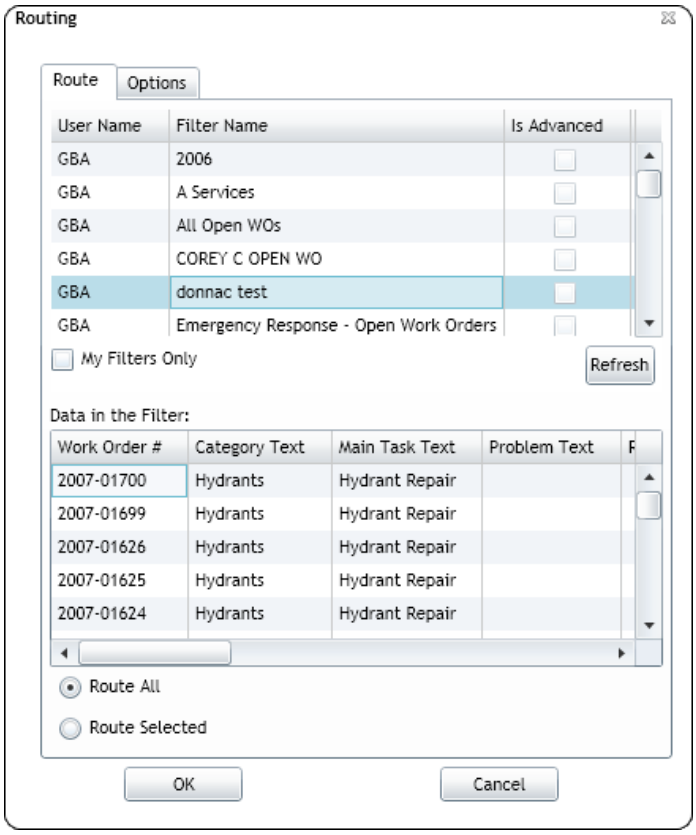
Prints a copy of the current map extent

Route Work Orders

With this tool you can take a set of work orders from a work order filter and locate them in the map. It then uses a GIS routing service to find the shortest route between the work orders. This helps work crews to more efficiently plan their work for the day. The Route Work Orders tool will only be available in the map if it has been configured in Lucity Administration Tools.

To create a work order route

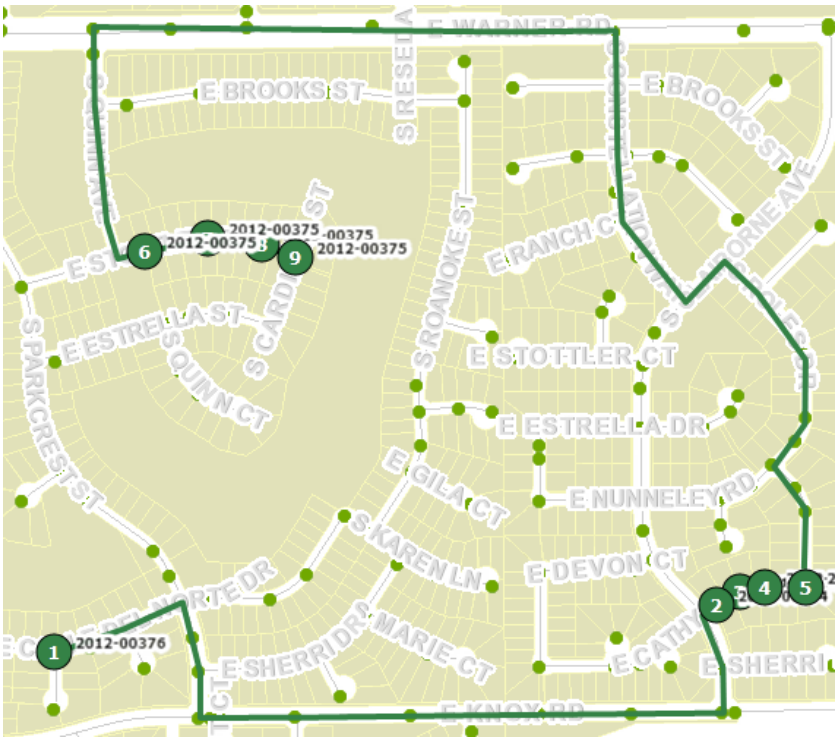
1. Go into the Work Order module and create a filter for the work orders you would like to route.



2. In the Webmap click the routing tool and it will popup.
3. On the routing tab select the filter that you would like to use. The work orders in this filter will be loaded into the bottom grid.
4. At this point you can either choose to Route All of the work orders in that filter, or Route Selected.
5. If you choose route selected you need to select one or more work orders in the bottom grid
6. Click on the options tab. This allows you to change several of the tools default options.
    - **One Route** or **Multiple Routes** - This option allows the user to create one route for all the selected work orders, or to create multiple routes based on Supervisor, Lead Worker, or Crew. This would allow them to quickly create several routes at once.
    - **Display Driving Directions** - Check this box to include driving directions with the map.

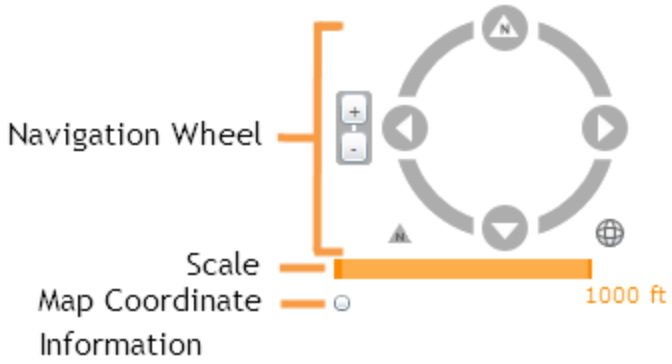
- **Use the Assets** or **Use the Address and X/Y -** Work orders can use both assets and address/xy information to provide a location. Use this field to tell the program which type of information to use for the location when a work order has both available.
- **Vehicle Starting Location** - By default the work order route will start at the location of the first work order, or at an address specified by the system admin. Enter an address in this field to start the route at an alternate location.

7. Click OK to start the work order route.



Navigation/Information Tools

The navigation wheel is in the bottom left corner. It provides a way to quickly navigate around the map. There are also a couple of tools that provide map information



Navigation Wheel - click on different parts of the wheel for different functions.

- Click the four arrows on the wheel to move the map North, East, South, and West.
- Click and drag the other areas of the compass to rotate the map in any direction.
- Click the arrow to the lower-left of the compass to reset the map to North.
- Click the globe icon to the lower-right of the compass to zoom to the full extent.
- Click the + and - buttons to the left side of the compass to zoom in or zoom out in the map
- Along with these functions users can:
    - Hold down the **Shift** key, click and drag the mouse to zoom to a selected area in the map.
    - Use the navigation tools on the Map Management Toolbar

Scale - Shows the scale the map is currently at. This changes as users zoom in and out.

Map Coordinate Information - After clicking this button XY information will appear in the lower left corner for wherever the mouse point is currently pointing. It will also display the map WKID. Click this button again to turn off.