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| APPLICATION<br>NUMBER | FILING or<br>371(c) DATE | GRP ART<br>UNIT | FIL FEE REC'D | ATTY. DOCKET NO | TOT CLAIMS | IND CLAIMS |
|-----------------------|--------------------------|-----------------|---------------|-----------------|------------|------------|
| 60/981,784            | 10/22/2007               |                 | 105           | HYDR-1-1006     |            |            |

CONFIRMATION NO. 6658

## FILING RECEIPT



Christopher T.L. Douglas, Esq.  
BLACK LOWE & GRAHAM PLLC  
Suite 4800  
701 Fifth Avenue  
Seattle, WA 98104

Date Mailed: 10/31/2007

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

### Applicant(s)

Andrew S. Moren, Gig Harbor, WA;  
Robert J. Moren, Gig Harbor, WA;

### Power of Attorney:

Christopher Douglas--56950

### If Required, Foreign Filing License Granted: 10/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 60/981,784**

**Projected Publication Date:** None, application is not eligible for pre-grant publication

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

### Title

METHODS AND SYSTEMS FOR A GLOBAL POSITIONING DATABASE AND REGISTRY

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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### **Title 37, Code of Federal Regulations, 5.11 & 5.15**

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andrew Stanton Moren et al.

Attorney Docket No. HYDR-1-1006

Serial No.: —

Filing Date: October 22, 2007

Title: METHODS AND SYSTEMS FOR A GLOBAL POSITIONING DATABASE AND REGISTRY

## TRANSMITTAL FOR PROVISIONAL APPLICATION

37 C.F.R. § 1.51(c)(1)

TO THE COMMISSIONER FOR PATENTS:

The following comprises the information required by 37 C.F.R. § 1.51(c)(1):

## 1. Inventors:

| LAST NAME | GIVEN NAME AND INITIALS | CITIZENSHIP   |
|-----------|-------------------------|---------------|
| 1. MOREN  | Andrew S.               | United States |
| 2. MOREN  | Robert J.               | United States |

## 2. Addresses of the Inventors:

| ADDRESS                   |
|---------------------------|
| 1. Gig Harbor, Washington |
| 2. Gig Harbor, Washington |

## 3. Title of the Invention:

METHODS AND SYSTEMS FOR A GLOBAL POSITIONING DATABASE AND REGISTRY

## 4. Correspondence Address and Telephone Number of the Patent Attorney or Agent for this Application:

**Christopher T.L. Douglas, Esq.**BLACK LOWE & GRAHAM<sup>PLLC</sup>

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25315

CUSTOMER NUMBER

-1-

HYDR-1-1006T1.doc

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BRYCER Exhibit 1012

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5. Docket Number Used to Identify this Application: HYDR-1-1006
6. Invention Made by an Agency of the U.S. Government or Under Contract with an Agency of the U.S. Government?

|          |
|----------|
|          |
| <b>x</b> |

YES

NO

Name of the U.S. Government Agency and Government Contract Number: N/A

Respectfully submitted,

BLACK LOWE & GRAHAM<sup>PLLC</sup>



Christopher T.L. Douglas

Registration No. 56,950

Direct Dial: 206.381.3300

METHODS AND SYSTEMS FOR A GLOBAL  
POSITIONING DATABASE AND REGISTRY

INVENTORS

Andrew S. Moren  
Robert J. Moren

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## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Friday, April 20, 2007 6:49 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Licensing Services Proposal

Andrew,

Answers in line.

Talk more soon.  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Friday, April 20, 2007 8:23 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Licensing Services Proposal

Brian,  
Glad to see phase 1 complete. Thanks! The website didn't have much to look at but I understand it's mostly backend work up to now.  
Yeah, phase 1 doesn't really leave much to see. That's why I whipped up the little app just so you could see something. I didn't want to charge you with nothing to show.

We're sending payment out for phase one.  
Excellent. Thanks

Im still lost with user licenses, admin licenses, server licenses, MobileFrame licenses.

Is this right?

From the Inspection Company, I'll be using the server as a 'SQL server' to help run the MobileFrame units. For each MobileFrame unit I need one license to access the server. After 40 licenses it makes sense to get one server license instead (which allows up to 100 MobileFrame users).  
That is correct. I am guess at the maximum number of users a server can handle before we will need a separate one.

From the Global Registry, I'll be using the server as a 'web server' to allow access to the Registry. For each MobileFrame unit and each Registry user I will need one license to access the Registry. After 40 licenses it makes sense to get one server license instead (which allows up to 1000 users).  
That is correct as well. Again I am guess at the number of users that a server can handle. Once server could support a huge number of users that never log in. But what will the concurrent load be.

Are the Admin Licenses 2 of the 40 licenses I'll be using?  
No. I figured those into the base price since there really no way for you two to use the app without them.

How does the MobileFrame licenses work with this? I have to pay \$499 for each unit license to run the MobileFrame platform.  
So the Mobile Frame licenses are probably a one time charge (For a version) that will be on top of the Microsoft license fees. You could buy the Microsoft licenses in a similar fashion but you would be spending much more money up front to purchase the server cpu based licenses. I can get you more info on this direction if you want. I didn't figure that would be the best approach during the startup phase. But you could switch to that direction at any time.

One concern with MobileFrame is what does the maintenance agreement cost. Or what are the upgrade costs. You will have to assume that every year or two you will be paying a upgrade. So your pricing will need to take that into account.

Anything you can offer as far as clarification would help. And feel free to dumb it way down for me. Microsoft wants to be paid a license fee per authenticated user that connects to the server. So that means if they give you a user id and password you have to pay. Even if they aren't paying you at all. The same is true for the database. Which is why Mobile frame requires the SQL server license but the Global Registry does not. Since the global Registry is going against MySQL it doesn't require a SQL Server license. But it does touch Windows 2003 so it requires that. Unauthenticated users, like those who would be evaluating your company on the web are free.

Did you have a chance to talk to MobileFrame about the best suited package for us that would work with what you're doing?

I am going to try to get them on the phone next week. I wanted to get the basic Microsoft costs figured out first.

Thanks,

Andrew Moren  
Firesield Inc  
253-851-0030

-----Original Message-----

**From:** Brian Nelson [mailto:brian@concretize.com]

**Sent:** Thursday, April 19, 2007 8:11 AM

**To:** 'Andrew Moren'

**Subject:** Licensing Services Proposal

Andrew,

I have attached an estimate for Concretize to provide hosting and licensing services for your production startup phase. This would be a month-to-month contract that we could modify or cancel at any time.

I have included the Microsoft Licensing costs. The way the estimate is setup is based on the number of users. Below 40 users the licensing works out better based on a per user model. Above 40 users it is more cost effective to be based on per server. On websites Microsoft counts licensing based on if a user is authenticated or not. So every user that creates an account on the global registry will count against you.

Thanks,  
Brian

## Andrew Moren

---

**From:** Andrew Moren [andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 19, 2007 11:21 AM  
**To:** 'Brian Nelson'  
**Subject:** RE: Ebay style web query  
**Attachments:** registry website pages.pdf; registry advanced search.pdf

That sounds good. I'd like to come up with a better name than 'Favorites', if appropriate. Maybe 'Saves', 'Collections', 'Groups', 'Sets' – I'm not sure about those either though. Any ideas?

Is there a way to allow a user to automatically have hydrants added into a 'Collection'?

Here's my scratches for a few of the main web pages. (I have many more – even more illegible)  
Also, here's an early version of the advanced search pages.

In general, I'm probably going to call the 'Bid Arena' the "Hydrant Marketplace"

Call me and we can discuss any illegible writing.

It may be useful to have a long sit down and go over a lot of these details. There are lots of details in building the website.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Friday, June 15, 2007 4:22 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Ebay style web query

I am also adding to the search screen the ability to save searches. So between that and "Favorites" users should have some good abilities.

I may also be able to pull off a Not in Favorites capability. So a user could have a standard "Gig Harbor" type query but only return results they don't currently have in their favorites. So that would provide a nice way to look for new hydrants.

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Friday, June 15, 2007 3:34 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Ebay style web query

That new date works good for us. I want to give you my advanced search criteria and the website info I'm currently doing. I'll try to get that this weekend but more realistically it will be Monday.

Thanks,

Andrew Moren  
Fireshield Inc  
253-851-0030

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Friday, June 15, 2007 2:19 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Ebay style web query

Excellent. I am looking forward to seeing what you have.

Quick Status –

The final task for me for Phase 2 is the Testing Cases. I setup a website that is based on Bugzilla (a Mozilla project). I will get you access to it once we have it configured so you can create defects/request and check the status of them. I should have the Phase 2 test cases defined next week.

I have my developer working on the mobile client now and he is up to speed on the architecture and starting to make progress. So that should move much faster now. My guess right now is that I will have something for you to see on June 25<sup>th</sup>. I will schedule a time as we get closer.

I am on to the Phase 3 for the website. I am starting with the search screen so hopefully I will have a build that can show you some progress in that by the end of the weekend. After I get that mostly finished I will add the add to favorites and favorites management code into the system. Then move onto the other Phase 3 requirements.

I think that given the state of the mobile client we are going to have to slip the final date. I think we can make up some of the time but not all of it. I think a realistic date will be July 29<sup>th</sup> for completion of testing for phase 3. That would give me 2 days to deploy and shake down the system to the production equipment. The system would be available on August 1<sup>st</sup> for use in that way.

Let me know if that will work for you.

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Friday, June 15, 2007 1:52 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Ebay style web query

Yeah, I like that too.

I've been planning the website look and feel the last few days. When I got to the 'Bidding Arena', I realized the importance of our 'Favorites' feature. It will help a fire marshal organize a specific batch of hydrants that he wants to open for bidding. All he'll have to do is attach the named favorite file and provide some details regarding the bid request.

I was happy with the way the bidding arena laid out. Unlike eBay, we can predict 99% of the type of sales (i.e. City requesting bids for parts, Private Owner requesting bids for testing, etc). The limited types of bidding will allow us to customize each type of bidding experience.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Friday, June 15, 2007 12:12 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Ebay style web query

Andrew,

Here is one search that I like. It has the ability to narrow the search on the left.

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Wednesday, June 13, 2007 10:21 AM  
**To:** brian@concretize.com  
**Subject:** RE: Ebay style web query

I'd also like to add Make, Model, Inspection Company, and Inspector's initials to that list.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 12, 2007 5:40 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Ebay style web query

I'm thinking (in order)  
Picture, Hydrant #, Address, City, State, Authority, Static Pressure, Residual Pressure, Flow, Last Inspection Date, Maintenance Needed (None, Light, Moderate, Critical), Maintenance Complete Date.

That seems like a lot but we may be able to couple a few things like Picture and Hydrant # below it. Address, City, and State together. Static, Res, and Flow are just numbers. Organizing the table in order of any of these columns is important. One other feature should allow the user to view the hydrants queried on a GIS map.

Here's the Dell Outlet website that I've always really liked. It certainly shows more information on the table than ebay. I would love our registries to be similar. Everything about this page is setup great to me. From the title and pull down bars at the top to the disclaimer and additional links at the bottom. I would add the ability to view more hydrants per page, though.

[http://outlet.us.dell.com/ARBOnlineSales/topics/global.aspx/arb/online/en/InventorySearch?c=us&cs=22&l=en&lob=DIM&MODEL\\_DESC=XPS%20600&s=dfh](http://outlet.us.dell.com/ARBOnlineSales/topics/global.aspx/arb/online/en/InventorySearch?c=us&cs=22&l=en&lob=DIM&MODEL_DESC=XPS%20600&s=dfh)

I like Ebay's categorizing from the front page. It really invites people to start searching. In our case we could categorize by State, then City. And by Make, then Model. And maybe by Inspection Company, then inspector.

I still have to get you the advanced search criteria.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Monday, June 11, 2007 11:18 PM  
**To:** 'Andrew Moren'  
**Subject:** Ebay style web query

Andrew,

What would be the key information that would show up in the result screen

On Ebay you get the photo, description, pricing and time to expire.

I would imagine the hydrant would include the

- Image
- Address
- Authority
- ???

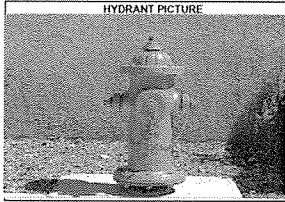
Then a hyperlink takes you to the more detail oriented screens.

Thanks,  
Brian

|                                                           |  |                            |  |                                         |  |
|-----------------------------------------------------------|--|----------------------------|--|-----------------------------------------|--|
| I FULL TEST (ANNUAL)<br>VISUAL INSPECTION (15 MIN ANNUAL) |  | ADDRESS 1805 64TH ST CT NW |  | # IS NEW<br>INTEGRITY # <b>00100187</b> |  |
| DATE 14-FEB-2009                                          |  | TOWN GIG HARBOR            |  | GPS                                     |  |
| TIME 12:55 PM                                             |  | DISTRICT #3                |  | LAT 61.4730333                          |  |
| WEATHER RAIN CLOUDY                                       |  | ZONE 5                     |  | LONG W 122.56486                        |  |
| TEMP 42 DEG F                                             |  | COMMUNITY MILL BROOK       |  | ELEV 100 344                            |  |

| PHYSICAL DESCRIPTION |                 |                         |           | NOZZLE SIZE AND ORIENTATION |  |  |  |
|----------------------|-----------------|-------------------------|-----------|-----------------------------|--|--|--|
| MARK                 | U.S. PIPE       | NOZZLE COEFFICIENT      |           |                             |  |  |  |
| SIZE                 | 1/2             | MARKER TYPE             | DRY TYPED |                             |  |  |  |
| DATE                 | 10/15           | DIST FROM END OF NOZZLE | 22 1/2"   |                             |  |  |  |
| COLOR                | YELLOW          | ARC SIZE OF BROAD       | 20 1/2"   |                             |  |  |  |
|                      |                 | ARC SIZE OF NARROW      | NORTH     |                             |  |  |  |
| WRENCH TYPE          | PR. 6000 Invert | SPECIAL MARKINGS        |           |                             |  |  |  |
| GATE VALVE           | Intersect       | Engraved "On FWD"       |           |                             |  |  |  |
| BASE SIZE            | 4"              |                         |           |                             |  |  |  |
| BASE CONNECTION      | FLANGE          | NOTES                   |           |                             |  |  |  |
| BASE ELEVATION       | 1" ABOVE GROUND | Log 3x3 concrete pad    |           |                             |  |  |  |

| FLOW TEST INFORMATION         |                       |                                     |        |
|-------------------------------|-----------------------|-------------------------------------|--------|
| STATIC PRESSURE               |                       | 50 PSIG                             |        |
| REMEDIAL PRESSURE             |                       | 52 PSIG                             |        |
| FLOWING                       |                       | 7000 GPM                            |        |
| RESIDUAL HYDRANT #            |                       | 50146                               |        |
| RESIDUAL HYDRANT LOCATION     |                       | Approx. 1/2 mi. east on 54th St. SW |        |
| NOTABLE SIZE                  |                       |                                     |        |
| 22 PS                         | PITOT TUBE READING #1 | 2.5"                                |        |
| 22 PS                         | PITOT TUBE READING #2 | 2.5"                                |        |
| 2.5"                          |                       |                                     |        |
| 2. WAS WATER FLOWED INTO TANK |                       |                                     |        |
| A HOSE #1 USED                | SIZE                  | 2.5"                                | LENGTH |
| A HOSE #2 USED                | SIZE                  | 2.5"                                | LENGTH |
| A HOSE #3 USED                | SIZE                  |                                     | LENGTH |
| ESTIMATED TIME FLOWED         |                       | 20 SEC                              |        |
| ESTIMATED GALLONS FLOWED      |                       | 615 GAL                             |        |



| CONDITION     |   | D-BEST          | W-WORST |
|---------------|---|-----------------|---------|
| FREE OF RUST  | 4 | ID # LEGIBILITY | 4       |
| PAINING       | 4 | CLEANLINESS     | 4       |
| ACCESSIBILITY | 5 | FUNCTIONALITY   | 5       |
| VISIBILITY    | 5 | OVERALL         | 5       |

CONDITION NOTES

[illegible]

| YES                                 | NO                                  | NO | CHECKLIST                                         |
|-------------------------------------|-------------------------------------|----|---------------------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | OPERATING NUT COUPLER                             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | PACKED COUPLER                                    |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | THROTTLE COUPLER COUPLER                          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | HYDRAULIC OIL LEVELS IN TANK MORE THAN HAND TIGHT |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | THERE ARE NO CAPS IN THE TOP OF THE HYDRO         |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | THERE ARE NO LIPS IN THE COUPLER LOWER CAP        |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | HYDRAULIC OIL COUPLER IN THE COUPLER HANGING      |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | HYDRAULIC OIL COUPLER                             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | OPERATING NUT IS NOT WORKING AND BOUND COUPLER    |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | NOZZLE IS NOT WORKING AND NOT DAMAGED             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | NOZZLE IS CAP PRESENT                             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | NOZZLE CAPS FIT EASILY                            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | CHAINS PRESENT                                    |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | CHAINS ATTACHED                                   |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | HYDRAULIC TANKS MANAGED                           |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |    | BLUE REFLECTOR IN ROAD                            |
|                                     |                                     |    | INSPECTOR'S DETAILS                               |
|                                     |                                     |    | ASAM                                              |

P O BOX 2285  
GOSNARD, WA 28035

[illegible]

**HYDRANT MAP**  
(FOR SERVICE RECORD)

HYDRANT LOCATION

DATE \_\_\_\_\_ BY \_\_\_\_\_

|                                    |  |
|------------------------------------|--|
| HAS MAINTENANCE BEEN<br>SUGGESTED: |  |
|------------------------------------|--|



|                           |                |                                              |                                                 |
|---------------------------|----------------|----------------------------------------------|-------------------------------------------------|
| Model                     | alpha/num      | prompt                                       | default last                                    |
| Year manufactured         | num            | yyyy                                         | prompt normally printed on hydrant make/models. |
| Installation Date         | date           | yyyy/mm                                      | skip but allow editing                          |
| Barrel Color              | alpha          | r.o.y*,g,b,s,w,other                         | prompt                                          |
| Top Color<br>Nozzle Color | alpha<br>alpha | r.o.y*,g,b,s,w,other<br>r.o.y*,g,b,s,w,other | prompt<br>prompt                                |
| Barrel type               | alpha          | wet or dry                                   | verify default last                             |
| Base size                 | num            | 4",5,other                                   | verify                                          |

MakeModel will be a pull down menu with an "Other" option. If other is selected then a text prompt to type in the info or open a reference file to select from a larger bank of known hydrants. There's 1000's of models of hydrants. Will need a way to easily update reference file with added make/models.

Installation date is more pertinent for adding hydrant online, but occasionally can be done in field.

NFPA defines required colors but allows jurisdictions to adopt different colors.

Inspection manager may need to set up a 'City Profile' before an.

This city profile will need to be referenced with each inspection to see if color needs to be changed and to what.

Areas subject to freezing use dry type hydrants. Southern areas (no freezing) are often wet. This answer usually be defaulted to last given, even if necessary.

MakeModel will fill in these answers automatically.

|                                                                           |                                 |                                                                                 |                       |                                     |
|---------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------|-----------------------|-------------------------------------|
| Base connection<br>Base height above<br>grade (inches)<br>Foundation type | alpha<br><br>alpha/num<br>alpha | flanged* or grooved<br>-60 to +60, or "other"<br>concrete, asphalt, dirt, grass | verify<br>prompt      | pull down<br>default 0<br>pull down |
| Number of nozzles                                                         | num                             | 1-6                                                                             | prompt                |                                     |
| Nozzle 1 size                                                             | num                             | 2.5", 4, 5, 6                                                                   |                       |                                     |
| Nozzle 1 thread type                                                      | alpha/num                       | nat", nphs                                                                      |                       |                                     |
| Nozzle 1 orientation                                                      | alpha/num                       | A to H                                                                          | select from a graphic |                                     |
| Nozzle 1 height<br>above grade (inches)                                   | num                             | 1 to 60                                                                         |                       |                                     |
| Nozzle 2 size                                                             | num                             | 2.5", 4, 5, 6                                                                   |                       |                                     |
| Nozzle 2 thread type                                                      | alpha/num                       | nat", nphs                                                                      |                       |                                     |
| Nozzle 2 orientation                                                      | alpha/num                       | A to H                                                                          |                       |                                     |
| Nozzle 2 height<br>above grade (inches)                                   | num                             | 1 to 60                                                                         |                       |                                     |
| Nozzle 3 size                                                             | num                             | 2.5", 4, 5, 6                                                                   |                       |                                     |
| Nozzle 3 thread type                                                      | alpha/num                       | nat", nphs                                                                      |                       |                                     |
| Nozzle 3 orientation                                                      | alpha/num                       | A to H                                                                          |                       |                                     |
| Nozzle 3 height<br>above grade (inches)                                   | num                             | 1 to 60                                                                         |                       |                                     |
| Nozzle 4 size                                                             | num                             | 2.5", 4, 5, 6                                                                   |                       |                                     |
| Nozzle 4 thread type                                                      | alpha/num                       | nat", nphs                                                                      |                       |                                     |
| Nozzle 4 orientation                                                      | alpha/num                       | A to H                                                                          |                       |                                     |
| Nozzle 4 height<br>above grade (inches)                                   | num                             | 1 to 60                                                                         |                       |                                     |
| Wrench type<br>Hydrant picture                                            | alpha/num<br>picture            |                                                                                 | auto                  |                                     |
| Description Notes#1                                                       | alpha/num                       |                                                                                 |                       |                                     |

selectable otherwise skipped

Hydrants have various nozzles. Only the number of nozzles reported should cue the following questions.  
If three nozzles are chosen then only nozzles 1, 2, and 3 prompt questions.

This should be automatically filled out by MakeModel selection. May be a reason for inspector to report a unique wrench type during  
This is for the inspector if he feels there is unique information regarding the hydrant such as unique markings.

| Description Notes#2                                                                                     | alphanumeric                      |                     |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ICE RECORD<br>Date                                                                                      | date                              | yyyymmdd            | auto                             | <p>the first<br/>questions and<br/>will change the<br/>format of<br/>questions</p> <p>If yes, this will<br/>give the<br/>Inspector a<br/>chance to verify<br/>that the work was<br/>completed. This<br/>summarized<br/>history will help<br/>him focus on key<br/>problems for this<br/>hydrant.</p> <p>If a main crew<br/>has performed<br/>the work, this will<br/>be auto checked<br/>to yes, however<br/>the Inspector will<br/>be able to verify<br/>the work and<br/>either leave it yes<br/>or change it to<br/>no.</p> <p>be filed out<br/>online by the<br/>maint crew.<br/>They are the few<br/>fields that are<br/>allowed to be<br/>altered for an<br/>inspection.</p> <p>Maint needed<br/>and performed<br/>will generate a<br/>report to send to<br/>the authorities as<br/>established in a<br/>City Profile file.</p> <p>marked for<br/>'needing maint'<br/>will have a box<br/>for checking<br/>complete or not<br/>complete. Not<br/>complete is<br/>defaulted.<br/>notes if<br/>necessary<br/>notes if<br/>necessary</p> |
| Inspection type<br>Weather<br>Temperature                                                               | alpha<br>alpha<br>alphanumeric    | insp, test and insp | select<br>select<br>select range |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Previous<br>maintenance<br>required                                                                     | y/n/na                            |                     | auto                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Previous<br>maintenance<br>performed                                                                    | y/n/na                            |                     | auto                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maintenance date                                                                                        | date                              | yyyymmdd            | auto date or N/A                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maintenance<br>performed by who                                                                         | alpha                             |                     | auto based on account info       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| All maintenance<br>complete<br>Maintenance<br>completed details<br>Maintenance not<br>completed details | y/n/na<br>alpha<br>alpha<br>alpha |                     |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                  |                        |                      |                                                      |                                                                                                                                                  |
|--------------------------------------------------|------------------------|----------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Maintenance notes                                | alpha                  |                      |                                                      | notes if necessary                                                                                                                               |
| NG                                               |                        |                      |                                                      | Items will be manually inputted, later they will be automatically inputted from the flow testing device                                          |
| Static Pressure (PSI)<br>Residual Pressure (PSI) | num<br>num             | 1 to 200<br>1 to 200 | numeral input                                        | automatically filled out based on several other factors (below)                                                                                  |
| Rated Capacity / Flow (GPM)                      | num                    | 1 to 20000           |                                                      | automatically filled out based on rated capacity                                                                                                 |
| Hydrant Capacity Classification                  | alpha                  | AA,A,B,C             | auto                                                 | There are many ways to test hydrants. We will be performing 1 type 89% of the time. Will be selectable from different searchable configurations. |
| Test Layout #                                    | num                    | 1 to 50              | default 1                                            |                                                                                                                                                  |
| Residual hydrant #<br>Residual city hydrant      | alpha/num<br>alpha/num |                      |                                                      |                                                                                                                                                  |
| Residual hydrant location                        | alpha                  |                      |                                                      |                                                                                                                                                  |
| Flow hydrant location                            | alpha                  |                      |                                                      |                                                                                                                                                  |
| Hydrant discharge coefficient                    | num                    | .70, .80, .90        | select from a graphic/picture list                   |                                                                                                                                                  |
| Number of Pict tube readings                     | num                    | 0 to 6               | 0 default, answer will determine sub questions below |                                                                                                                                                  |
| Pict tube reading #1                             | num                    | 1 to 150             | subquestion                                          |                                                                                                                                                  |
| Pict tube reading #2                             | num                    | 1 to 150             | subquestion                                          |                                                                                                                                                  |
| Pict tube reading #3                             | num                    | 1 to 150             | subquestion                                          |                                                                                                                                                  |
| Pict tube reading #4                             | num                    | 1 to 150             | subquestion                                          |                                                                                                                                                  |
| Pict tube reading #5                             | num                    | 1 to 150             |                                                      |                                                                                                                                                  |
| Pict tube reading #6                             | num                    | 1 to 150             |                                                      |                                                                                                                                                  |
| Pict tube nozzle size1                           | num                    | 2.5", 4.5, other     | subquestion                                          |                                                                                                                                                  |
| Pict tube nozzle size2                           | num                    | 2.5", 4.5, other     | subquestion                                          |                                                                                                                                                  |
| Pict tube nozzle size3                           | num                    | 2.5", 4.5, other     | subquestion                                          |                                                                                                                                                  |
| Pict tube nozzle size4                           | num                    | 2.5", 4.5, other     | subquestion                                          |                                                                                                                                                  |
| Pict tube nozzle size5                           | num                    | 2.5", 4.5, other     | subquestion                                          |                                                                                                                                                  |

|                               |           |                    |                                                                     |                                                                                                                                                                       |
|-------------------------------|-----------|--------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pistol tube nozzle size6      | num       | 2.5"-4.5, other    | 1 default, answers will determine subquestions below                | Id like to have a built in timer during flow test that says "Start Test/Timer" "Stop Test/Timer" that automatically fills out this and then can be changed if needed. |
| Hoses used                    | num       | 0-4                |                                                                     |                                                                                                                                                                       |
| Hose #1 size (inches)         | num       | 2.5"-4.5           |                                                                     |                                                                                                                                                                       |
| Hose #1 length (feet)         | num       | 1 to 1000          |                                                                     |                                                                                                                                                                       |
| Hose #2 size (inches)         | num       | 2.5"-4.5           |                                                                     |                                                                                                                                                                       |
| Hose #2 length (feet)         | num       | 1 to 1000          |                                                                     |                                                                                                                                                                       |
| Hose #3 size (inches)         | num       | 2.5"-4.5           |                                                                     |                                                                                                                                                                       |
| Hose #3 length (feet)         | num       | 1 to 1000          |                                                                     |                                                                                                                                                                       |
| Hose #4 size (inches)         | num       | 2.5"-4.5           |                                                                     |                                                                                                                                                                       |
| Hose #4 length (feet)         | num       | 1 to 1000          |                                                                     |                                                                                                                                                                       |
| Estimated flow time           | num       | 1 sec to 10 min    |                                                                     |                                                                                                                                                                       |
| Estimated gallons flowed      | num       | 10 gal to 5000 gal |                                                                     |                                                                                                                                                                       |
| Water sample taken            | y/n       |                    |                                                                     |                                                                                                                                                                       |
| Water sample number           | alpha/num | 10000000           |                                                                     |                                                                                                                                                                       |
| Water quality test taken      | y/n       |                    |                                                                     |                                                                                                                                                                       |
| Water quality test results #1 | alpha     |                    |                                                                     |                                                                                                                                                                       |
| Water quality test results #2 | alpha     |                    |                                                                     |                                                                                                                                                                       |
| Notes/Comments                | alpha     |                    |                                                                     |                                                                                                                                                                       |
| ANT CONDITION                 |           |                    | These are items for the inspector to rate 1 (lowest) to 5 (highest) |                                                                                                                                                                       |
| Paint                         | num       | 1,2,3,4*,5         | How is the paint holding up on the hydrant?                         | 1<br>Paint color is no longer visible<br>severe chipping                                                                                                              |
|                               |           |                    |                                                                     | 2<br>normal wear and tear                                                                                                                                             |
|                               |           |                    |                                                                     | 3<br>minor chipping, scratches, overall good                                                                                                                          |
|                               |           |                    |                                                                     | 4<br>looks new                                                                                                                                                        |

|                                       |       |                     |                                                                                                  |                                                                              |                                   |                           |
|---------------------------------------|-------|---------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------|---------------------------|
| Free of Rust                          | num   | 1,2,3,4*,5          | How free of rust is this hydrant                                                                 | covered with rust and affecting p severe rusting                             | significant rusting minor rusting | looks new                 |
| Cleanliness                           | num   | 1,2,3,4*,5          | Is the hydrant free of dirt, etc?                                                                | hydrant entirely covered with dirt severe dirt, will soon affect performance | normal dirt                       | looks new                 |
| Accessibility                         | num   | 1,2,3,4*,5          | Can the hydrant and all ports be easily accessed?                                                | no accessibility                                                             | hydrant not easily accessed       | mostly good, minor issues |
| Visibility from road                  | num   | 1,2,3,4*,5          | How visible is the hydrant from the road?                                                        | no visibility                                                                | severe blockage                   | completely accessible     |
| ID # legibility                       | num   | 1,2,3,4*,5          | How legible is the ID # from the road?                                                           | no visibility                                                                | severe blockage                   | completely visible        |
| Functionality                         | num   | 1,2,3,4*,5          | May not keep this                                                                                | no visibility                                                                | severe blockage                   | completely visible        |
| Overall                               | num   | 1,2,3,4*,5          | This will automatically be figured as an average of the other items (rounded to nearest integer) |                                                                              |                                   | completely visible        |
| Condition Notes                       | alpha |                     | This allows the inspector to note any unique situations about the condition of the hydrant.      |                                                                              |                                   |                           |
| SECTION                               |       |                     |                                                                                                  |                                                                              |                                   |                           |
| Hydrant operative                     | y/n   |                     | If no then ask next question                                                                     | critical                                                                     |                                   |                           |
| Reason if inoperative                 | alpha |                     |                                                                                                  |                                                                              |                                   |                           |
| Operating nut opens easily            | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Operating nut in good condition       | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Hydrant frozen                        | y/n   |                     |                                                                                                  | critical                                                                     |                                   |                           |
| Hydrant wrapped or covered            | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Hydrant in acceptable location        | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Hydrant at acceptable elevation       | y/n   |                     | If no then ask next question                                                                     | light                                                                        |                                   |                           |
| Raise or lower hydrant                | alpha | raise, lower, *none |                                                                                                  | light                                                                        |                                   |                           |
| Elevation change by how much (inches) | num   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Hydrant in acceptable orientation     | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| All flange bolts present              | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Flange bolts in good condition        | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Couplings present                     | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Couplings in good condition           | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Operating nut lubricated              | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Packing lubricated                    | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Thrust Collar lubricated              | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Stem lubricated                       | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Plug lubricated                       | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Outlets lubricated                    | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Caps lubricated                       | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Top free of cracks and leaks          | y/n   |                     |                                                                                                  | light                                                                        |                                   |                           |
| Barrel free of cracks and leaks       | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Outlets free of cracks and leaks      | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Outlet caps present                   | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Outlet caps removable                 | y/n   |                     |                                                                                                  | critical                                                                     |                                   |                           |
| Outlet cap threads in good condition  | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |
| Outlet threads in good condition      | y/n   |                     |                                                                                                  | moderate                                                                     |                                   |                           |

|                                                                                                                                                           |       |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|
| Quiet caps slightly more than hand                                                                                                                        | y/n   | light    |
| Outlet cap gaskets in good condition?                                                                                                                     | y/n   | light    |
| Quick pumpier connection available                                                                                                                        | y/n   | light    |
| (Stortz)                                                                                                                                                  | y/n   | x        |
| Chairs present                                                                                                                                            | y/n   | light    |
| Chairs attached                                                                                                                                           | y/n   | light    |
| Chairs in good condition                                                                                                                                  | y/n   | light    |
| Wire present                                                                                                                                              | y/n   | light    |
| Wire attached                                                                                                                                             | y/n   | light    |
| Wire in good condition                                                                                                                                    | y/n   | light    |
| ID # stamped on hydrant (not tag)                                                                                                                         | y/n   | light    |
| ID # mark in good condition                                                                                                                               | y/n/a | light    |
| ID # tagged to hydrant                                                                                                                                    | y/n   | light    |
| ID # tag in good condition                                                                                                                                | y/n/a | light    |
| Hydrant drains properly                                                                                                                                   | y/n/a | light    |
| Drain / overflow viable                                                                                                                                   | y/n   | light    |
| Adequate clearance around hydrant                                                                                                                         | y/n   | x        |
| Clear of snow and ice                                                                                                                                     | y/n/a | moderate |
| Reflective type paint tested pressure                                                                                                                     | y/n/a | moderate |
| stenciled in black on top                                                                                                                                 | y/n/a | light    |
| Rated capacity stenciled on top                                                                                                                           | y/n/a | light    |
| MAINTENANCE - All these fields will be filled out automatically based on other fields. Not sure whether to include in database or figure for programming. |       |          |
| 'Critical' maintenance needed                                                                                                                             | y/n/a |          |
| 'Important' maintenance needed                                                                                                                            | y/n/a |          |
| 'Light' maintenance needed                                                                                                                                | y/n/a |          |
| Thaw hydrant                                                                                                                                              | y/n/a |          |
| Relocate hydrant                                                                                                                                          | y/n/a |          |
| Rotate hydrant                                                                                                                                            | y/n/a |          |
| Remove hydrant                                                                                                                                            | y/n/a |          |
| Replace hydrant                                                                                                                                           | y/n/a |          |
| Repair hydrant                                                                                                                                            | y/n/a |          |
| Release hydrant                                                                                                                                           | y/n/a |          |
| Lower hydrant                                                                                                                                             | y/n/a |          |
| Replace top                                                                                                                                               | y/n/a |          |
| Repair or replace gaskets, packing, or parts                                                                                                              | y/n/a |          |
| Pump out water after each use                                                                                                                             | y/n/a |          |
| Repair drain                                                                                                                                              | y/n/a |          |
| Repair or replace barrel                                                                                                                                  | y/n/a |          |

|                                  |       |                     |  |
|----------------------------------|-------|---------------------|--|
| Repair or replace nozzle threads | y/n/a |                     |  |
| Repair or replace operating nut  | y/n/a |                     |  |
| Wrap / cover hydrant             | y/n/a |                     |  |
| Paint barrel                     | y/n/a |                     |  |
| Suggested barrel color           | alpha | r.o.y.g.b.s.w.other |  |
| Paint top                        | y/n/a |                     |  |
| Suggested top color              | alpha |                     |  |
| Paint caps                       | y/n/a |                     |  |
| Suggested cap color              | alpha |                     |  |
| Hydrant cap                      | alpha | b.g.o.r             |  |
| stenciled in black on top        | y/n/a |                     |  |
| Rated capacity                   | y/n/a |                     |  |
| stenciled on top                 | y/n/a |                     |  |
| Cleaning                         | y/n/a |                     |  |
| Landscape / Provide clearance    | y/n/a |                     |  |
| Add Hydrant ID Tag               | y/n/a |                     |  |
| Replace Hydrant ID Tag           | y/n/a |                     |  |
| Add Hydrant ID marking           | y/n/a |                     |  |
| Re-mark Hydrant ID               | y/n/a |                     |  |
| Add Blue Reflector in road       | y/n/a |                     |  |
| Replace Blue Reflector in road   | y/n/a |                     |  |
| Add Guard Post                   | y/n/a |                     |  |
| Relocate Guard Post              | y/n/a |                     |  |
| Add Caps                         | y/n/a |                     |  |
| Replace Caps                     | y/n/a |                     |  |
| Check isolating valve            | y/n/a |                     |  |
| Add chains                       | y/n/a |                     |  |
| Replace chains                   | y/n/a |                     |  |
| Replace chains                   | y/n/a |                     |  |
| Add wire                         | y/n/a |                     |  |
| Replace wire                     | y/n/a |                     |  |
| Reattach wire                    | y/n/a |                     |  |
| Lubricate Cap                    | y/n/a |                     |  |
| Lubricate Stem                   | y/n/a |                     |  |
| Lubricate Plug                   | y/n/a |                     |  |
| Lubricate Threads                | y/n/a |                     |  |
| Add bolts                        | y/n/a |                     |  |
| Replace bolts                    | y/n/a |                     |  |
| Add coupling                     | y/n/a |                     |  |
| Replace coupling                 | y/n/a |                     |  |
| Repair gate valve                | y/n/a |                     |  |
| Other                            | alpha |                     |  |
| HYDRANT ELEMENTS                 |       |                     |  |
| Isolating Valve present?         | y/n   |                     |  |
| prompt                           |       |                     |  |

|                        |        |
|------------------------|--------|
| Isolating Valve        | GPS    |
| location               |        |
| Gate Valve             | y/n/na |
| accessible             | y/n/na |
| Gate Valve operates    |        |
| easily                 | y/n/na |
| Gate Valve             |        |
| located                | y/n/na |
| Gate Valve GPS         | num    |
| latitude               | num    |
| Gate Valve GPS         | num    |
| longitude              | num    |
| Gate Valve GPS         | num    |
| elevation              | num    |
| Gate Valve notes       | alpha  |
| Blue reflector in road | y/n    |
| Blue reflector in      | y/n/na |
| good condition         | y/n/na |
| Blue reflector in      | y/n/na |
| good location          | num    |
| Blue Reflector GPS     | num    |
| latitude               | num    |
| Blue Reflector GPS     | num    |
| longitude              | num    |
| Blue Reflector GPS     | num    |
| elevation              | alpha  |
| Blue Reflector notes   | y/n    |
| Guard post present     | y/n/na |
| Guard post in good     | y/n/na |
| condition              | y/n/na |
| Guard post in good     | y/n/na |
| location               | y/n/na |
| Guard post             | y/n    |
| recommended            | alpha  |
| Guard post notes       | y/n    |
| Hose House present     | y/n/na |
| Hose House in good     | y/n/na |
| condition              | y/n    |
| Hose House in good     | y/n/na |
| location               | alpha  |
| Hose House notes       | y/n    |
| Road sign present      | y/n/na |
| Road sign in good      | num    |
| condition              | num    |
| Road sign in good      | num    |
| location               | num    |
| Road sign distance     | num    |
| from hydrant (feet)    | num    |
| Road sign GPS          | num    |
| latitude               | num    |
| Road sign GPS          | num    |
| longitude              | num    |
| Road sign GPS          | num    |
| elevation              | num    |
| Road sign details      | alpha  |
| Indicator Flag         | y/n    |
| present                | y/n/na |
| Indicator Flag in      |        |
| good condition         |        |

prompt: If 'yes'

Isolating valves are sometimes easily located. If location is known it should be reported but it's not absolutely necessary.

|                   |       |
|-------------------|-------|
| Indicator Flag in | yn/na |
| good location     |       |
| Wall Hydrant GPS  |       |
| latitude          | num   |
| Wall Hydrant GPS  |       |
| longitude         | num   |
| Wall Hydrant GPS  |       |
| elevation         | num   |
| Fire Station GPS  |       |
| latitude          | num   |
| Fire Station GPS  |       |
| longitude         | num   |
| Fire Station GPS  |       |
| elevation         | num   |
| Pump House GPS    |       |
| latitude          | num   |
| Pump House GPS    |       |
| longitude         | num   |
| Pump House GPS    |       |
| elevation         | num   |

|                       |           |
|-----------------------|-----------|
| ECTOR INFORMATION     |           |
| Date                  | date      |
| Company/Employer      | alpha     |
| Contact Address       |           |
| Line1                 | alpha/num |
| Contact Address       |           |
| Line2                 | alpha/num |
| Contact Phone #       | alpha/num |
| Inspector's Initials  | alpha/num |
| Inspector's Unit# (or | alpha     |
| employee #)           | alpha/num |
| Inspector's District# | alpha/num |
| Inspector's Region#   | alpha/num |

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Tuesday, July 17, 2007 3:17 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: GPS

There is also a Ephemeris data file that we need to test with updating. Intermec provides a new one every week I believe. This helps it know better where the satellites are. So that may be part of the issue.

I will keep you up to date. I think this will be resolved. There should be open source code for getting a better result too.

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**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, July 17, 2007 3:01 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: GPS

I've read about 'warm-up' time for getting accurate measurements. I was hoping it was the time from when the machine was turned on until the first measurement is taken. So when you get to your second measurement it's already warmed up. If we can't get closer than 23 feet consistently, we may need to consider a Bluetooth GPS unit with better accuracy. Im not crazy about that because of the difficulty of carrying two handhelds around. I believe Trimble has a unit that takes a strong measurement to a vehicle mount and then fine tunes the location with a Bluetooth GPS device. Very expensive though. We may use one sparingly for Hydrants but I can see other industries needing better GPS readings. Let me know what you find.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Tuesday, July 17, 2007 9:05 AM  
**To:** 'Andrew Moren'  
**Subject:** RE: GPS

My guess is the sample code just reads the instantaneous value. Most GPS product that I have seen take a little while to fix a location. My guess is that they are doing the statics in the back ground on 30 plus samples.

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, July 17, 2007 8:54 AM  
**To:** 'Brian Nelson'  
**Subject:** RE: GPS

Even 23 feet isn't super. Let's hope we can get within the 10feet. I know Trimble is the leader on GPS accuracy. Maybe Byron has access to someone with some ideas.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Monday, July 16, 2007 8:25 PM

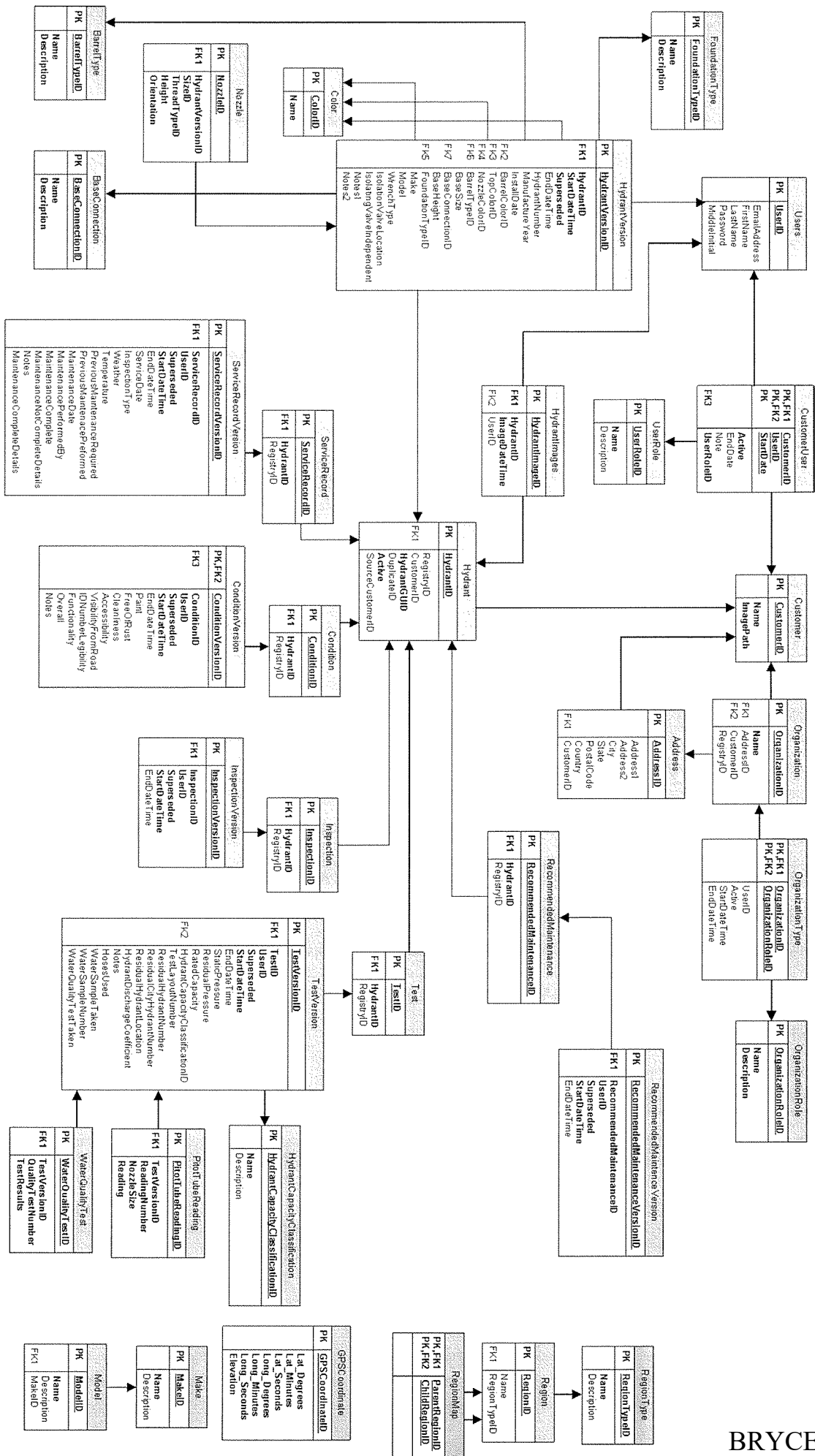
**To:** 'Andrew Moren'  
**Subject:** GPS

Andrew,

We did some additional testing with the GPS. We think if we average multiple reading we should be able to get much closer. We tried it with 3 reading and were able to go from 65 feet off down to 23 feet. So we are going to take about a minutes worth of readings and see how close that gets.

We will let you know what we find.

Thanks,  
Brian



## **Hydrantworks Overview**

### ***Goal***

**1 Year**  
**5 Years**  
**10 Years**

### ***Job types***

#### **Inspectors**

**Inspector's description**

#### **Local Manager**

**Local Manager's description**

#### **District Manager**

**District Manager's description**

#### **Regional Manager**

**Regional Manager's description**

#### **General Manager**

**General Manager's description**

#### **National Manager**

**National Manager's description**

#### **District Salesman**

**District Salesmen's description**

#### **District Sales manager**

**District Sales Manager's description**

#### **General Sale's Manager**

**General Sales Manager's description**

#### **National Sale's Manager**

**National Sales Manager's description**

## **Responsibilities**

### ***Inspector***

**Directly responsible to:**

### ***Local Manager***

**Directly responsible to:**

### ***District Manager***

**Directly responsible to:**

### ***Regional Manager***

**Directly responsible to:**

### ***General Manager***

Directly responsible to:

***National Manager***

Directly responsible to:

***District Salesman***

Directly responsible to:

***District Sales Manager***

Directly responsible to:

***General Sales Manager***

Directly responsible to:

***National Sales Manager***

Directly responsible to:

## **Duties**

***Inspector***

Job requirements

Goals

***Local Manager***

Job requirements

Goals

***District Manager***

Job requirements

Goals

***Regional Manager***

Job requirements

Goals

***General Manager***

Job requirements

Goals

***National Manager***

Job requirements

Goals

***District Salesman***

Job requirements

Goals

***District Sales Manager***

Job requirements

Goals

***General Sales Manager***

Job requirements

Goals

***National Sales manager***

Job requirements

Goals

**Salaries**

*Inspector*

*Local Manager*

*District Manager*

*Regional Manager*

*General Manager*

*National Manager*

*District Salesman*

*District Sales Manager*

*General Sales Manager*

*National Sales manager*

**Advancements**

*Inspector*

*Local Manager*

*District Manager*

*Regional Manager*

*General Manager*

*National Manager*

*District Salesman*

*District Sales Manager*

*General Sales Manager*

*National Sales manager*

**Training**

*Inspector*

*Local Manager*

*District Manager*

*Regional Manager*

*General Manager*

*National Manager*  
*District Salesman*  
*District Sales Manager*  
*General Sales Manager*  
*National Sales manager*

## **Expenses**

*Inspector*  
*Local Manager*  
*District Manager*  
*Regional Manager*  
*General Manager*  
*National Manager*  
*District Salesman*  
*District Sales Manager*  
*General Sales Manager*  
*National Sales manager*

## **Vehicle**

*Acquiring*  
*Maintaining*  
*Disposal*  
*Insurance*  
*Licensing*

## **Equipment**

*Acquiring*  
*Maintaining*  
*Disposal*

## **Retirement**

*Inspector*  
*Local Manager*  
*District Manager*  
*Regional Manager*  
*General Manager*  
*National Manager*  
*District Salesman*  
*District Sales Manager*  
*General Sales Manager*  
*National Sales manager*

*Others*

Training  
Training  
Training  
Training

## Andrew Moren

---

**From:** Byron Whipple [bcwhipple@yahoo.com]  
**Sent:** Wednesday, October 10, 2007 12:22 PM  
**To:** Andrew Moren  
**Subject:** Hydrant Works message

Andrew,

Please redline this and make a list of every reason a Fire Chief wants a HydrantWorks account.

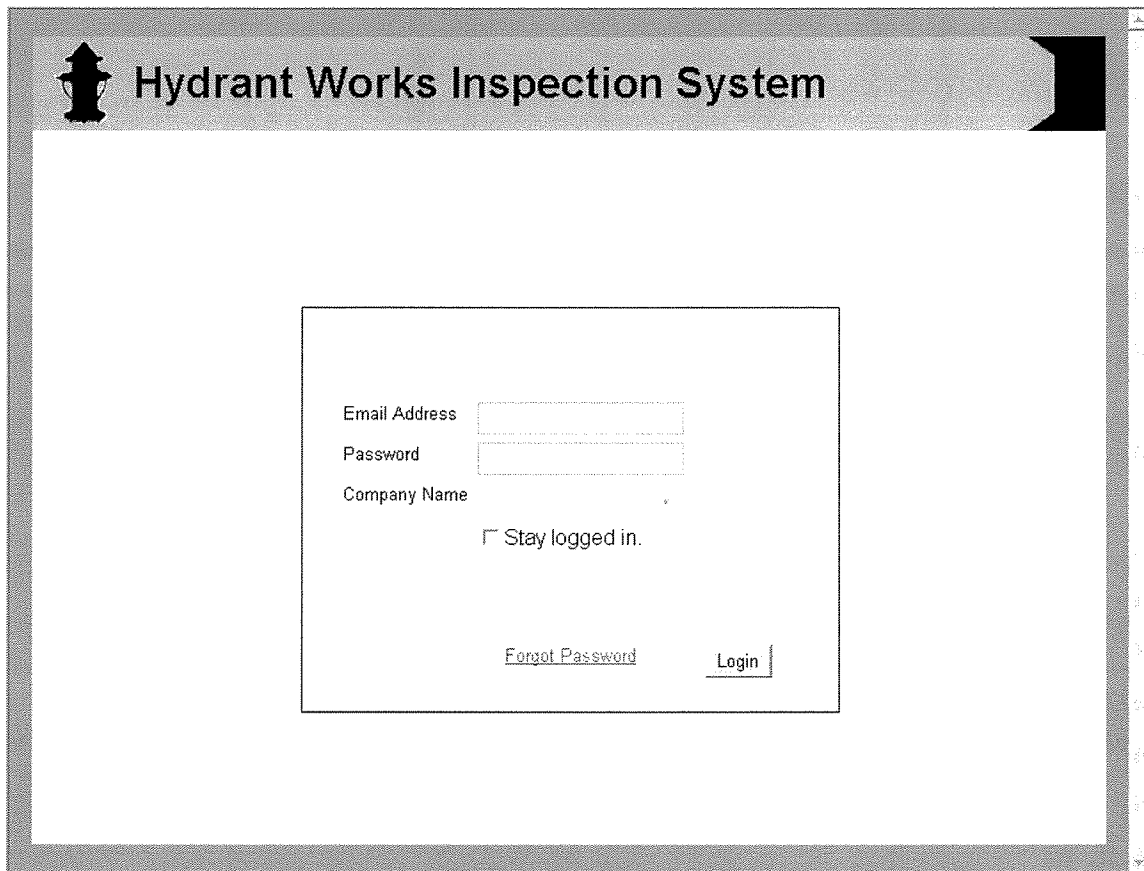
All the hydrants must be located when needed and they must function. Lives and property depend on it. How do you guarantee that today? It is a difficult and important challenge. We think we can help.

We at Hydrant Works know that web applications are the wave of the future. Web applications bring benefits to you immediately, and redefine the way information is shared.

Hydrant Works provides a web based registry of Fire Hydrants. Globally. Our registry records the location, asset record, inspection and maintenance record of Fire Hydrants in your community and worldwide. The GPS coordinates of the Hydrant and a photographic record of the Hydrant are kept captured and kept available to our mobile locator solution.

Hydrant Works combines a rich web based asset management solution, wireless communications with the latest mobile handheld computer technology. Photos, GPS tracking, realtime communications, smart inspection forms are combined to solve all the challenges of distributed asset management.

## Hydrant Works Screen shots



The screenshot shows a web browser window with a grey header bar. On the left of the header is a black silhouette of a fire hydrant. To its right, the text "Hydrant Works Inspection System" is displayed in a bold, black, sans-serif font. The main content area is white and contains a central login box with a black border. Inside this box, the labels "Email Address", "Password", and "Company Name" are aligned to the left of their respective input fields. The "Email Address" and "Password" fields are rectangular with dashed borders, while the "Company Name" field is a simple rectangle. Below these fields is a checkbox with the text "Stay logged in." to its right. At the bottom of the login box, there are two links: "Forgot Password" on the left and "Login" on the right, which is enclosed in a small rectangular button.

 **Hydrant Works Inspection System**

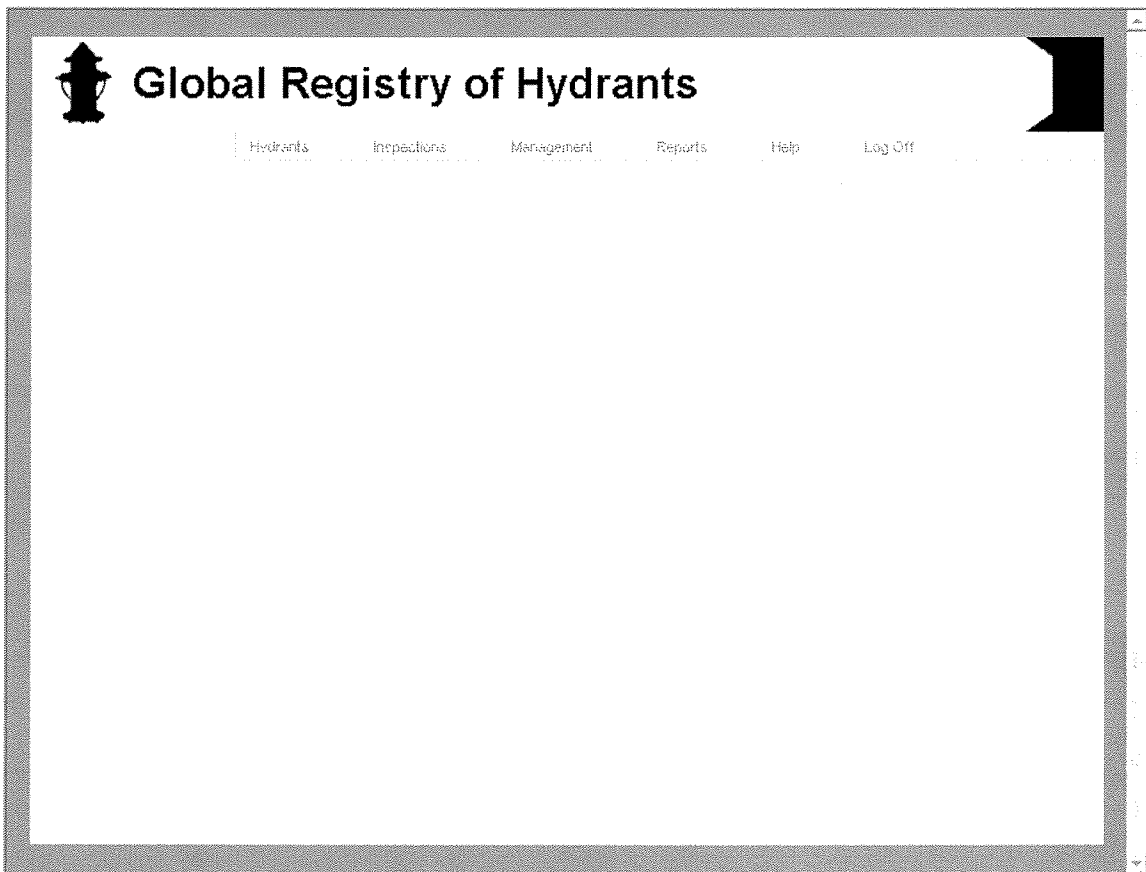
Email Address

Password

Company Name

☐ Stay logged in.

[Forgot Password](#) [Login](#)





## Global Registry of Hydrants

### Create Hydrant

|                         |                                      |
|-------------------------|--------------------------------------|
| Hydrant Number          | <input type="text"/>                 |
| AuthorityOrganizationID | City of Modesto <input type="text"/> |
| Address 1               | <input type="text"/>                 |
| Address 2               | <input type="text"/>                 |
| City                    | <input type="text"/>                 |
| State                   | <input type="text"/>                 |
| Zip Code                | <input type="text"/>                 |
| Foundation Type         | Concrete <input type="text"/>        |
| Barrel Type             | Dry Type <input type="text"/>        |
| Base Connection         | Bolts <input type="text"/>           |
| Barrel Color            | Blue <input type="text"/>            |
| Top Color               | Blue <input type="text"/>            |
| Nozzle Color            | Blue <input type="text"/>            |
| Manufacture Year        | <input type="text"/>                 |
| Install Date            | 1/1/1980 <input type="text"/>        |
| Base Size               | <input type="text"/>                 |
| Base Height             | <input type="text"/>                 |

Cancel

Save & Done

Save & New

Save & Inspect



## Global Registry of Hydrants

### Create Hydrant

Hydrant Number 12345

AuthorityOrganizationID City of Oregon City

Address 1 607 Main

Address 2

City Oregon City

State OR

Zip Code 97045

Foundation Type Concrete

Barrel Type Dry Type

Base Connection Bolts

Barrel Color Blue

Top Color Blue

Nozzle Color Blue

Manufacture Year 1967

Install Date 04/28/1970

Base Size

Base Height

Cancel

Save & Done

Save & New

Save & Inspect



# Global Registry of Hydrants

## Search Criteria

Select Saved Query ▾

Save Query

ClearSearch

Hydrant #

City

State

Zip

Make

Model

## Hydrant Search

Cancel



# Global Registry of Hydrants

## Search Criteria

Select Saved Query

Save Query

Clear

Search

Hydrant #

City

State

Zip

Make

Model

## Hydrant Search

Cancel

| Action                  | Image | Hydrant # | Address                                         | Make      | Model      | Barrel      | Top         | Noz |
|-------------------------|-------|-----------|-------------------------------------------------|-----------|------------|-------------|-------------|-----|
| <a href="#">Details</a> |       | 1         | 18670 Lassen Court<br>Oregon City, OR 97045     | Test Make | Test Model | Blue        | Green       |     |
| <a href="#">Details</a> |       | 25        | 18670 Lassen Court<br>Oregon City, OR 97045     |           |            | Blue        | Blue        | E   |
| <a href="#">Details</a> |       | 344       | 2200 West North Street<br>Oregon City, OR 97045 |           |            | Blue        | Blue        | E   |
| <a href="#">Details</a> |       | 12345     | 12345 My Way<br>Oregon City, OR 97045           | Test Make | Test Model | Unspecified | Unspecified | L   |
| <a href="#">Details</a> |       | 38        | Oregon City, OR 97045                           |           |            | Unspecified | Unspecified | L   |
| <a href="#">Details</a> |       | 12347     | 111 The Ave<br>Molalla, OR 97045                |           |            | Unspecified | Unspecified | L   |
| <a href="#">Details</a> |       | 20        |                                                 |           |            | Unspecified | Unspecified | L   |

Change page: < 1 2 > | Displaying page 1 of 2, items 1 to 20 of 32.

Inspection

ConditionReport

Test

ServiceRecord

RecommendedMaintenance

## Hydrant Details

Save

Hydrant Number

344

Address

GPS

Lat:45.334380, Long:-122.540233

...

R

Line 1

2200 West North Street

Line 2

City, State, Zip

Oregon City

OR

97045

Make

Model

Barrel Color

Blue

▼

Install Date

1/1/1900

Barrel Type

Dry Type

▼

Top Color

Blue

▼

Distance from CL

Side Of Road

Not Specified

▼

Nozzle Color

Blue

▼

Wrench Type

Nozzle Coeff.

Base Size

0.00

Gate Valve

Base Connection

Bells

▼

Base Elevation

0.00

Special Markings

Notes

Nozzles

Nozzle Height Size Fitting

No records to display.

No Image Loaded

Hydrant Details

Save

Inspection Item

Inspection

Save

Cancel

|                                       |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| Hydrant Operative                     | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Reason if inoperative                 |                                                               |
| Operating nut opens easily            | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Operating nut in good condition       | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Hydrant frozen                        | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Hydrant wrapped or covered            | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Hydrant in an acceptable location     | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Hydrant at acceptable elevation       | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Raise or lower hydrant                | none                                                          |
| Elevation change by how much (inches) | 0 00                                                          |
| Hydrant in acceptable orientation     | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| All flange bolts present              | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Flange bolts in good condition        | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Couplings present                     | <input checked="" type="radio"/> Yes <input type="radio"/> No |

No Image Loaded

Color

Blue

if

Blue

Color

Blue

Nozzle Height Size Fitting

records to display.

Hydrant Details

Inspection Item

Ins

Condition Report

Save

Cancel

Paint

No Value Set

Free of Rust

No Value Set

Cleanliness

No Value Set

Accessibility

No Value Set

Visibility from Road

No Value Set

ID Number Legibility

No Value Set

Functionality

No Value Set

Overall

No Value Set

Notes

No Image Loaded

color

Blue

Dr

Blue

Color

Blue

nozzle Height Size Fitting

records to display.

BRYCER Exhibit 1012  
Page 42 of 138

Ins

Cor

Ser

Rev

Test

Save

Cancel

Static Pressure (PSI)

0.00

Residual Pressure (PSI)

0.00

Flowing (GPM)

0.00

Pitot Tube Reading 1 (PSI)

0.00

Nozzle Size 1 (Inches)

0.00

Pitot Tube Reading 2 (PSI)

0.00

Nozzle Size 2 (Inches)

0.00

Pitot Tube Reading 3 (PSI)

0.00

Nozzle Size 3 (Inches)

0.00

Was Water Flowed Into Tank

☐ Yes
☒ No

Hose #1 Used

☐ Yes
☒ No

Hose #1 Size

0.00

Hose #1 Length

0.00

Hose #2 Used

☐ Yes
☒ No

Hose #2 Size

0.00

Hose #2 Length

0.00

Save

No Image Loaded

color

Blue

Dr

Blue

Color

Blue

Nozzle Height Size Fitting

records to display.

Ins

Col

Te:

Re

Inspection Items

Service Record

Save

Cancel

Service Date

1/1/1980

Inspection Type

Weather

Temperature

Previous Maintenance Required

☐ Yes
☐ No
☒ N/A

Previous Maintenance Performed

☐ Yes
☐ No
☒ N/A

Maintenance Date

1/1/1980

Maintenance Performed by Who

Maintenance Complete

☐ Yes
☐ No
☒ N/A

Maintenance Complete Details

Maintenance Not Complete Details

Maintenance Notes

Save

No Image Loaded

Color

Blue

Dr

Blue

Color

Blue

Nozzle Height Size Fitting

records to display.

Hydrant Details

Ins

Co

Te

Ser

Re

Inspection Item

Recommended Maintenance

Save

Cancel

|                                              |                           |                          |                                      |
|----------------------------------------------|---------------------------|--------------------------|--------------------------------------|
| Critical Maintenance Needed                  | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Important Maintenance Needed                 | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Light Maintenance Needed                     | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Thaw Hydrant                                 | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Relocate Hydrant                             | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Rotate Hydrant                               | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Remove Hydrant                               | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Replace Hydrant                              | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Repair Hydrant                               | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Raise Hydrant                                | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Lower Hydrant                                | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Replace Top                                  | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |
| Repair or Replace gaskets, packing, or parts | <input type="radio"/> Yes | <input type="radio"/> No | <input checked="" type="radio"/> N/A |

Save

No Image Loaded

Color

Blue

Dr

Blue

Color

Blue

Nozzle Height

Size

Fitting

records to display.



# Global Registry of Hydrants

## User Manager

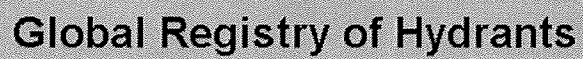
Cancel

Active Only

 [Add new record](#)

 [Refresh](#)

| Email Address            | First Name | Last Name | User Role          |
|--------------------------|------------|-----------|--------------------|
| brian@concretize.com     | Brian      | Nelson    | Inspection Manager |
| sandy.roy@concretize.com | Sandy      | Roy       | Inspection Manager |



Cancel

Nelson, Brian

10/9/2007





## Global Registry of Hydrants

### Time Card

Cancel

Start Time 10/10/2007 12:36 PM  

Note

Note

Stop Time   

Note



# Global Registry of Hydrants

## Time Entry

Cancel

Roy, Sandy

10/10/2007



[Add new record](#)



[Refresh](#)

**Start**

**End**

**Hours**

**Note**

No records to display.



[Add new record](#)



[Refresh](#)



# Global Registry of Hydrants

## Time Entry Review

Cancel

10/7/2007



| First Name | Last Name | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|------------|-----------|-----|-----|-----|-----|-----|-----|-----|
|------------|-----------|-----|-----|-----|-----|-----|-----|-----|

No records to display.



# Global Registry of Hydrants

## Routes

Cancel

 [Add new record](#)

 [Refresh](#)

**Define Name Description**

No records to display.



# Global Registry of Hydrants

## Customizable Screen Maintenance

Cancel

Firefield Web Application

Create Hydrant Wizard

| Included                            | Name                    | Description     |
|-------------------------------------|-------------------------|-----------------|
| <input checked="" type="checkbox"/> | Hydrant Number          | Hydrant Number  |
| <input checked="" type="checkbox"/> | AuthorityOrganizationID | Authority       |
| <input checked="" type="checkbox"/> | Address 1               | Address 1       |
| <input checked="" type="checkbox"/> | Address 2               | Address 2       |
| <input checked="" type="checkbox"/> | City                    | City            |
| <input checked="" type="checkbox"/> | State                   | State           |
| <input checked="" type="checkbox"/> | Zip Code                | Zip Code        |
| <input checked="" type="checkbox"/> | Foundation Type         | Foundation Type |
| <input checked="" type="checkbox"/> | Barrel Type             | Barrel Type     |
| <input checked="" type="checkbox"/> | Base Connection         | Base Connection |
| <input checked="" type="checkbox"/> | Barrel Color            | Barrel Color    |
| <input checked="" type="checkbox"/> | Top Color               | Top Color       |

Save



# Global Registry of Hydrants

## Manage User Settings

Save

Cancel

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Email Address         | <input type="text" value="Landy.roy@concrete.com"/> |
| First Name            | <input type="text" value="Sandy"/>                  |
| Middle Initial        | <input type="text"/>                                |
| Last Name             | <input type="text" value="Roy"/>                    |
| Business Phone Number | <input type="text"/>                                |
| Mobile Phone Number   | <input type="text"/>                                |
| Address 1             | <input type="text"/>                                |
| Address 2             | <input type="text"/>                                |
| City                  | <input type="text"/>                                |



## Hydrant Works Inspection System

You have been logged off. To log back in go to the following [page](#).

# HYDRANT WORKS

[PRODUCT FEATURES](#) | [CUSTOMERS](#) | [START NOW](#) | [CONTACT US](#) | [SUPPORT](#) | [ABOUT HYDRANT WORKS](#)

## Welcome to Hydrant Works

We at Concretize, Inc. know that web applications are the wave of the future. Web applications integrate technologies, make business tasks more efficient, and redefine the way information is transmitted.

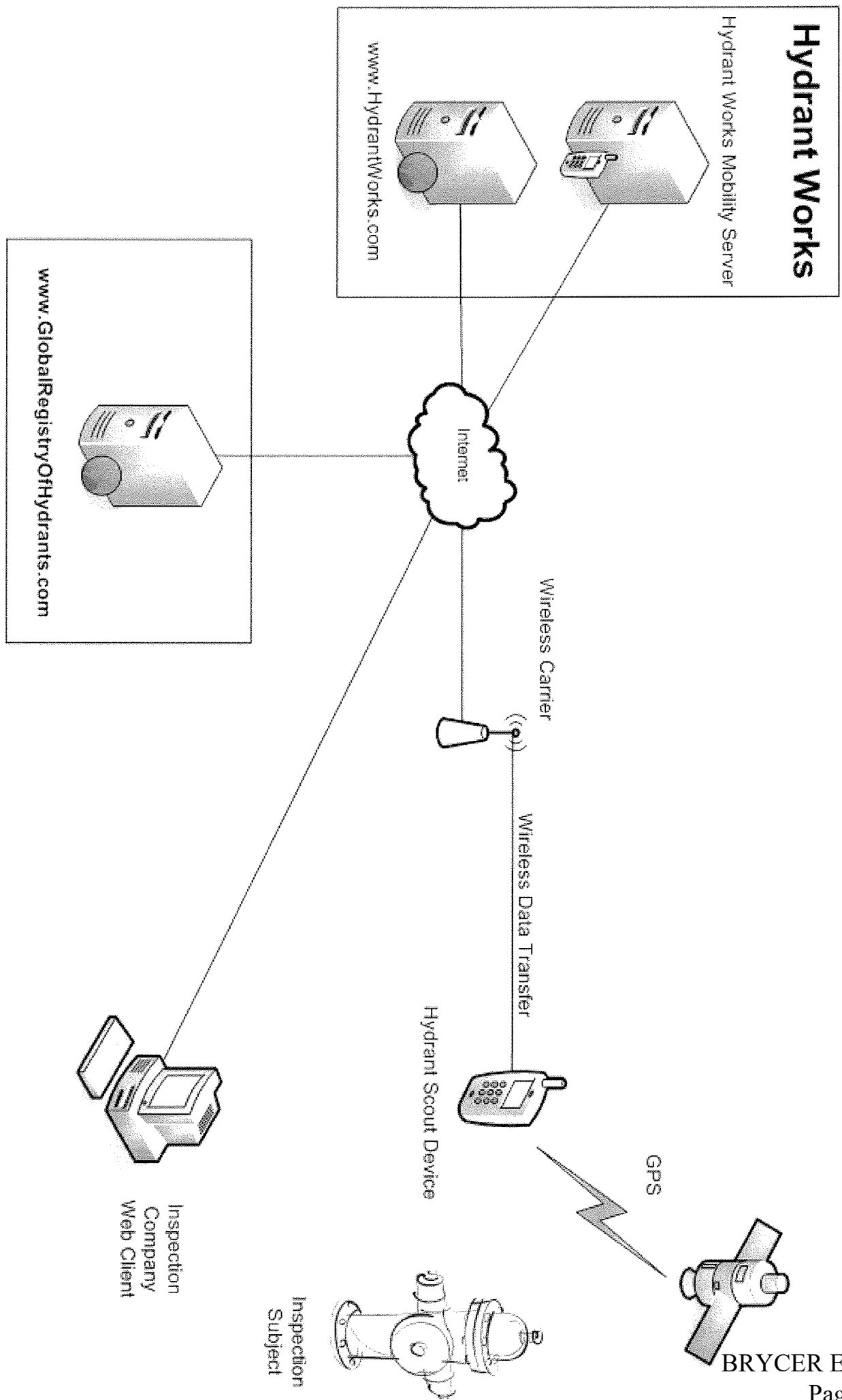
Let us help guide you to the next level in utilizing technology to forward your business. We specialize in the creation of both web applications and highly usable web sites.

Additionally, we are equipped to perform usability testing and provide a variety of other services.

Contact Concretize, Inc. to find out how a web application can accentuate your business.

[Home](#) | [Product Features](#) | [Customers](#) | [Start Now](#) | [Contact Us](#) | [Support](#) | [About](#)

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## Mobile / Field Application

**Field Unit Setup**  
Development of field screen shots  
Incorporating camera picture input  
Incorporating GPS input  
Database Setup (service company)  
Defining entities and values  
Address security / backup / recovery  
Service company database to pass through nonrent data to Registry Database

**Communication**  
Send data from field unit to service database - Manually?  
Send data from field unit to service database - Automatically  
Retrieve data from database to field unit - Manually  
Retrieve data from database to field unit - Automatically  
Send data from service database to field unit - Manually  
Send data from service database to field unit - Automatically  
Send data from Service Database to Registry Database - Automatically

## Mobile Unit Features

Accounting  
Time sheets  
Direction Assistance  
GIS Maps for viewing  
Using GIS Map - Manually plan routing  
Load a previously generated route  
Communication  
Text messaging with Admin  
Input Standardizing  
"Loading" mode with GPS finds the nearest known Hydrant  
"Add New Hydrant" mode -  
"Use Existing Hydrant" mode -  
Keypress and touch screen  
(needed when unit has no connectivity with database)  
Review past inspections  
Security  
Mobile Unit tracking (security)  
Tamper proofing programs (security)

## Administrator Application

**Server Setup**  
Accessible via any device  
**Accounting**  
Collect Payroll information  
Generate report for confirmation  
Print information into accounting software  
Automatic paycheck printing  
Automatic invoicing sent  
**Database Management (service company)**  
Manage transfer of data from service database to registry database  
Monitor service database for inconsistencies and generate report  
Provide routing and editing of database

## Field Unit Monitoring

Progress Monitoring  
Review current status  
Generate report of activity for each field unit daily  
Review current status and location of field unit  
automatic warnings of battery, inspection, delays  
Direction Assistance  
Route planning  
Generate and save routes  
GIS Mapping  
Communication  
Text messaging - time stamped

## Reality Website Development

**Database Management (service company)**  
Provides viewing and editing of database  
**Searching**  
Input multiple criteria to refine search  
Use of area map as criteria for searching  
Provides table of results with pertinent data allowing  
able to select individual results for full page report  
(for printing or email)  
Be able to arrange table with "sort by" feature  
**GIS Mapping**  
Use known hydrants on GIS Map  
selecting item on GIS Map opens full page report  
selecting multiple items on GIS map generates table  
data open for everyone to see  
username/password needed for adding/editing

**Insulating Inspection Reports**  
Change from manual to field call for direct insurance  
(automation needed)  
**Editing Maintenance Status**  
Full page report will have box for checking completed maintenance  
and space for notes (automation needed)  
**User preferences**  
Menu option to be updated on status of hydrants  
Sets area and criteria (filter) of information sent  
responsibilities/capacity (fire marshal, maintenance, public, insurance, etc)  
**Communication**  
Generate reports (based on user input) and email  
**Reporting**  
given certain criteria and time, generate standard (i.e. monthly) reports  
Program for easily creating custom automatic reports  
for user defined criteria  
best city for hydrant health  
**Ability to easily load reports (automatically?) into webpage**  
**Associates**  
Input information from associates  
show associates, material providers, maint providers, inspection providers  
**Maintenance Assistance**  
From search results - offer total list of recommended material  
Request estimates from associates (materialman or inspection)

## Registry Database Application

**Registry Database Management (through server)**  
Program for viewing/editing database  
with based ok if secure  
Accept transfer of data from service database  
Automatically transfer database from there on website user information  
**Automatic Reporting to Admin**  
Generate reports for inconsistencies and automatically generate and send report to admin  
Generate reports on weekly growth  
Reports on new customers/associates user names/keywords  
**Admin Editing**  
Ability to view/edit/delete entire  
Plan for preventing tampering  
Plan for backup and recovery  
**Security**  
1 year - 20,000 reports  
3 years - 100,000 reports  
8 years - 2,000,000 reports  
each report may have 2-50 unique data values  
**Scalability**

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Saturday, July 07, 2007 3:24 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Google Map Terms

Sounds good. I will call them on Monday.

I will also give you a call on Monday.

My new developer is pretty well done with the phase 2 work on the mobile device. Much more work than expected, but a solid foundation. So that is good. I want to do some testing of it, but should be able to demo it like before on Tuesday. I also want to show you results of some redesign for the searching that we had talked about earlier.

I have received the CN3 device so we will start testing on that and getting the image/gps functionality integrated next week. It sure is a cool looking device.

Talk to you soon,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, July 05, 2007 8:41 AM  
**To:** 'Brian Nelson'  
**Subject:** RE: Google Map Terms

Hi Brian,  
I guess it would be better if you called. I'm not sure if we need standard or advanced version. Or if we need a 'per transaction' and 'per known user' license model. We will have known users but is that cheaper than by transaction?

Call me when you get a chance.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Wednesday, July 04, 2007 8:07 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Google Map Terms

Andrew,

Here is a link to Microsoft's product (MapPoint Web Services).

<http://www.microsoft.com/mappoint/products/webservice/howtobuy.aspx>

We can use either technology. It just has a cost to it.

I am not sure what the Microsoft Pricing is. Do you want to contact them at the phone number on the web page above. Or do you want me to.

Thanks,  
Brian

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**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 19, 2007 8:35 AM  
**To:** 'Brian Nelson'  
**Subject:** RE: Google Map Terms

**Q: Why would I pay for Google Maps for Enterprise if the Google Maps API is free?**

A: Google Maps for Enterprise offers several features worth paying for, including implementation guidance, telephone support and the ability to use Google Maps for internal and external applications. And of course, if and when we start to display advertising on Google Maps, it is optional to include or exclude it in Google Maps for Enterprise (we hope you find it so useful that you choose to include it).

What do you think of this? Are we not able to use Google Maps API for our applications?

It starts at \$10,000 per year. Any idea how this compares to any competitor products?

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Saturday, June 16, 2007 6:16 PM  
**To:** 'Andrew Moren'  
**Subject:** Google Map Terms

Andrew,

I am reviewing the terms of use and the are limits on commercial software for Google.

<http://www.google.com/enterprise/maps/>

You should probably start a discussion with them on the cost of using their service before we commit to them.

I will look at other vendors functionality. Obviously Google's is pretty cool.

Thanks,  
Brian

## Andrew Moren

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**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Friday, July 27, 2007 10:38 AM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

Back on the product idea.

We are going to be able to sell a generic **hosted** inspection platform that people could configure for their web and mobile needs. It just won't be a platform that could be deployed at the clients site like mobileframe is. But a major advantage we could offer is the hosting/backups for the customers.

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**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, July 26, 2007 4:17 PM  
**To:** 'Brian Nelson'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

I agree the customizing is a better approach. I just like the benefits to our company of getting residual income for a downloaded program with little maintenance and no selling. All that being said, I'm confident you can build it someday. ☺

By the way, think about the rough business plan (and a more in depth one) as it relates to how we're going to grow the business. I want to get everyone's ideas on the table so we can start defining our strategy. After we define the broader strokes we'll get more into the details.

1. What do we do?
  2. Who are our customers?
  3. What are our partnerships?
  4. How will we make money?
  5. What are our goals?
  6. How will we achieve our goals?
  7. How is the company going to grow with stability?
- Let me know what you guys are thinking.

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, July 26, 2007 3:43 PM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

All that being said, I can get that built too. ☺

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, July 26, 2007 3:41 PM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

As I am coding I am looking for ways to make the deliverables as generic as possible. We won't be there at the end of this project but should be able to come up with a generic inspection platform after that.

The marketplace on the other hand we will try to get there on the first go round.

The big problem with the generic platform for sale (like mobile frame) is having to provide user interfaces to build user interfaces and the associated configuration code. It adds a lot of bulk to the product and will significantly up the costs. If we can leave the platform at an internal use configurable framework we can beat MobileFrame out in cost on most of our sales.

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**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, July 26, 2007 3:25 PM  
**To:** 'Brian Nelson'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

Perfect. We can encourage the vendor to give a 2% discount on goods automatically purchased through the marketplace. We'll take 1%. He'll love the automated ordering and payment and the customer gets a discount. Meanwhile we'll be a VAR for Corrigo (and others) to encourage customers to couple our platform with Corrigo's. "Two for one low price". I'd like to find someone (maybe Corrigo) that can help with the content and customer building of our vertical solutions.

So my theory on Corrigo is that they were considering the 'ecosystem' concept because they're tired of just selling software to new industries. Someone must have thought, "if we could just get a tiny percentage of every work order that our customers generate, we'd be rich". They've had success bringing customers to them but no way of bringing an industry to back it. We bring an industry with our registry concept, so the marketplace is viable. Now Corrigo sends their customers through the marketplace and is able to finally get a piece of every work order.

The hardest part is focusing an industry on one website/registry/marketplace. I think we'll be able to do that with a 'vertical solution' team that focuses first on authorities (if appropriate), then partners with the major vendors (suppliers, services, buyers, sellers, etc) to offer automatic ordering, instant payment, and online advertising. Then they focus on the major customers who get the 2% discount. After that, we mass sell our mobile inspection platform and Corrigo's work order platform.

Our vertical solutions are as important as our horizontal solutions. Both of those combined with deep partnerships with other companies will give us an incredibly strong business.

So from our end, we need to build our great mobile/web-to-registry platform as generic as possible, a strong industry website template, and a complete marketplace solution. After that we can look for partners to customize each one (and do some ourselves). Part of me also wants to sell a generic, self-customizable product (almost like MobileFrame, but richer).

That's a rough business plan – what do you guys think? Add something? Do something different?

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, July 26, 2007 1:54 PM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

Correct.

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, July 26, 2007 1:47 PM  
**To:** 'Byron Whipple'; 'Brian Nelson'  
**Subject:** RE: Integration with Corrigo/others via marketplace

By "Sole Sourcing", are you talking about when a customer has his favorite vendor he always uses and just wants automatic ordering right to him? No bidding necessary.

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Byron Whipple [mailto:bcwhipple@yahoo.com]  
**Sent:** Thursday, July 26, 2007 10:16 AM  
**To:** Brian Nelson; 'Andrew Moren'  
**Subject:** RE: Integration with Corrigo/others via marketplace

also a couple of things to support general asset management.

- 1, barcode printing
2. attached documents with asset record

**Brian Nelson** <brian@concretize.com> wrote:  
Exactly.

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**From:** Byron Whipple [mailto:bcwhipple@yahoo.com]  
**Sent:** Thursday, July 26, 2007 8:06 AM  
**To:** Brian Nelson; 'Andrew Moren'  
**Subject:** RE: Integration with Corrigo/others via marketplace

or the "sole source" will be their own organization who are following up with work orders for requirements discovered during inspection.

**Brian Nelson** <brian@concretize.com> wrote:  
One other thing that I was thinking of this morning is that we need to allow customers to "Sole source" there vender needs rather than have them bid out.

So that would be a slightly more streamlined workflow, but it would still be able to be tracked through the marketplace.

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, July 26, 2007 12:39 AM  
**To:** 'Brian Nelson'; 'Byron Whipple'  
**Subject:** RE: Integration with Corrigo/others via marketplace

This is a great idea. It adds a great dimension to the marketplace. Finding partners for the marketplace is going to completely unlock its use.

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Wednesday, July 25, 2007 10:01 AM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** Integration with Corrigo/others via marketplace

I had an idea last night for the integration with Corrigo and others via the marketplace. Corrigo has been hot on this "Ecosystem" concept where all entities come together and work orders magically fly around between companies. But they have been very slow to execute on the concept. Your concept of the marketplace and their concept of the ecosystem are very similar. But the work marketplace is much easier to intuitively get than the term ecosystem.

So the direction that I would suggest that we beat them to the punch and don't tie the Hydrant system to Corrigo, but tie the Market Place to Corrigo and others.

So the work flow would be

1. Hydrant owners ask for inspection bid via marketplace
2. Hydrant Inspectors bid and win inspection work via marketplace
3. Hydrant Inspectors suggest maintenance via inspections
4. Hydrant owners bid out maintenance work via marketplace
5. Maintenance Vendors bid and win work. If they use Corrigo (Or other workorder software that we link into) at that point the work orders are automatically created into their system.
6. Work Completed by Maintenance Vendor
7. Hydrant owners are updated by data flowing back from Corrigo that work is complete.

So the marketplace becomes the hub.

Brian

## Andrew Moren

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**From:** Andrew Moren [andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 12, 2007 6:20 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: New Idea for Hydrant System

Yes, that's a great idea. I can see it working like an 'Add to Cart' feature or in this case 'Add to Favorite'. They could name their favorite and email the name or link to maintenance workers. If new hydrants are added to their city, it would be nice if they had the option to automatically add them to their favorites.

I see the idea of a favorites list evolving into a 'My Registry' page (like 'My Ebay'). A page that they can link to automatically, that shows their preferences, tracks hydrants of interest to them, credit card information (future), etc. Maybe even, eventually, a ranking of their city's hydrants with other cities.

I can see lots of different people wanting a personal page. State FM, City FM, Maint workers, Inspection companies, Insurance agents, Civil engineers, and more.

Great idea! Let's add it.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Tuesday, June 12, 2007 9:36 AM  
**To:** 'Andrew Moren'  
**Subject:** New Idea for Hydrant System

Andrew,

I had a new concept of adding something like Favorites to the system. Basically the users could setup and share with coworkers a list of hydrants. They could create multiple of these lists. This would greatly speed their searches and they could exclude all hydrants out of their area.

So the workflow would be

1. Search for hydrants
2. Add hydrants to their list
3. Then they are able to search the lists that they have access to or to search all in the system.

It would allow the Fire Marshals (or others) to set up a list of hydrants for their area and not have extraneous results.

Let me know if you like the idea and I will add it to the Phase 3 list.

Thanks,  
Brian

## Andrew Moren

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**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Thursday, June 07, 2007 2:42 PM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** RE: New Customer Setup

Ok. Perfect. That is what I figured. As we give solid names to things it makes it much easier.

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, June 07, 2007 2:34 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: New Customer Setup

Okay, I think I understand. You're talking about when Brand X Hydrant Inspection Company decides to buy our software. We set them up with an administrative account and mobile user accounts. I'm open to suggestions on how to charge but my initial feeling is to sell the equipment and lease the software to them. We'd probably secure payment first for the equipment, send it out, and then give them a two month free trial. After that point we secure payment of the software on an annual or monthly basis. Refunds accepted prior to end of free trial. Late payment gets the software shut off until further notice. All this will be handled through the 'Tegris Software' company.

HydrantWorks and Fireshield will both be customers of Tegris Software.

Fireshield will be buying/leasing the 'Sprinkler System Inspection' software that we're creating next. I'm really excited to go over that project with you as soon as we get past this one.

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Tuesday, June 05, 2007 7:47 PM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** RE: New Customer Setup

Andrew,

That helps some. In the original Use Case diagrams that we did we ended up with two sets of functionality

### Global Registry Functionality

- Create User Account
- Create Hydrant
- Enter Inspection
- Modify User Account
- Modify Hydrant (With Versioning)
- Modify Inspection (With Versioning)
- Search Hydrant
- URL like <http://www.globalhydrantregistry.com> or something similar.

Then for the Inspection Company we added to the above the following

- Assign Inspection Route
- Mobile Functionality (Create, modify time, hydrants, inspection, etc...)
- Create Inspection Route
- Create Inspector
- Enter Time
- Extract for accounting
- Review Inspections
- Review Routes
- Review Time
- Bi-Directional Global Registry Data Transfer
- Secured down to just the single Inspection company.
- URL like <http://www.tegrissoftware.com/hydrantinspectionsystem>
- Or for Fireshield as a customer of Tegriss Software you might offer <http://fireshield.tegrissoftware.com>

So for the Global Registry side they can create their own user accounts and enter hydrants/inspections. This is pretty straight forward.

For the Inspection Company side it gets more complicated. Since they are setting up a company as well as users. So that is the side where I see most of my questions focused on.

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 05, 2007 1:20 PM  
**To:** 'Brian Nelson'  
**Cc:** 'Byron Whipple'  
**Subject:** RE: New Customer Setup

Im not sure what you mean on #2. Let me give it a shot though.

For people who want to sign up for the hydrant mobile unit:

We should have an online demo available to see a specific hydrant inspection and simulate uploading and downloading to the registry. Then let's have them sign up and secure payment for a 12month+ lease which will be automatically charged after a 1 month free trial. If the unit is returned before 1 month then we don't charge.

Does that answer your question?

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Tuesday, June 05, 2007 12:07 PM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** RE: New Customer Setup

Excellent. Just in time. I am going to be working on customer creation today.

On 2.

For the global registry users will be able to sign up without any problems. I am thinking more on the Inspection Software side where they get the routing and all of the additional features and the handheld integration.

Byron can comment better than I on pricing.

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Tuesday, June 05, 2007 11:53 AM  
**To:** 'Brian Nelson'  
**Cc:** 'Byron Whipple'  
**Subject:** RE: New Customer Setup

Hi Brian,

1. Automatic sign up. I don't want to manage who's who.
2. No charge for anyone to input, for hydrants. We'll try to sell them on our hydrant inspection software and handhelds and we'll charge for web advertising. In a year or two, (after companies start to use it) we'll provide the option for a 'Premium Account' for \$25/mo(?) that makes them an 'Affiliate' of the registry which gives them access to references and puts them in the 'Bidding Arena'. For now they will have free access to bidding (whenever available). The thinking behind all of this is to allow the authorities to require using the registry in good conscience because it's free. When cities/owners and service companies start using the website, then the bidding arena will have validity and be worth a 'Premium Account'. I'm fine with a free trial (how long will depend on how many people are using the website).
3. I want the payment system to be automatic. Paypal (or Google) would probably be best for now and eventually we'll grow into our own credit card processing. I still have to learn more about this. Any ideas on this?
4. If our only charge is for Premium Accounts then that should be able to be done online. When the bidding arena is being used I'd like to charge a small percentage of winning bids. This will either be taken out automatically when the transaction is done online, or possibly invoiced to the owner who receives the winning bid. We'll encourage online transactions by encouraging service companies to give a 2% discount for automatic payment.
5. Sign up for premium accounts will be per company. Charges for bids will be per transaction.
6. Not per user.
7. Yes. I'll have to get this to you. Effectively it will say that they are solely responsible for the data inputted. The 'Registry' will not be held responsible for anything. By accepting below, you acknowledge this information.
8. Yes. This will say that the data has been provided by third party users and as such is only as accurate as the data they've inputted. Use of the registry is at the user's risk. By accepting below you acknowledge this information.

Let me know what you think.

Andrew Moren  
Fireshield Inc  
253-851-0030

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**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Saturday, June 02, 2007 3:09 PM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** New Customer Setup

Andrew,

What are your thoughts on how a new customer signs up for an account (as in a new hydrant maintenance company not a global registry user)?

Questions

1. Do you want it on demand or do you want them to call you to set it up?
2. Do they need to pay first or do they get a free trial period? 30days, etc.
3. Do you have any constraints on a payment system? Paypal, Google, etc. Or do you want to process the credit card info yourself?
4. Do you want to be able to invoice the customer and have them pay that way?
5. What is the payment model? Per user? Per company? Per hydrant? Per inspection?
6. If it is per user do I stop them from creating more than a set number of users or do I let them go over and then you bill later?
7. Do you want legal verbiage presented when a customer signs up?
8. Do you want legal verbiage when a user signs in for the first time?

I am sure that these answers will change as we go into new markets, but we need to decide on a starting point and then can enhance it as we go forward.

Thanks,  
Brian

## PARTNERSHIPS / ASSISTANCE

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NFPA                    | Approve/Endorse an electromagnetic flowtest (250gal flow test)<br>Approve/Endorse the flow into a tank (closed system test)<br>Approve/Endorse the entire service<br>Making the online registry a standard or at least a recommended practice<br>Provide Grants for cities to begin service?<br>List our services on their website<br>Consider position on our advisory board                                                                                                                                                                                                                                                                                                                                                                                        |
| EPA<br>(AWWA?)          | Approve/Endorse flushing methods for removing contaminants<br>Approve/Endorse flushing methods for protecting environment/landscaping<br>Approve/Endorse testing methods for protecting environment/landscaping<br>Approve/Endorse Water Conservation methods<br>Recommend water quality testing methods<br>Discuss options of pumping water back into system. (not favored)<br>Provide Grants for cities to begin service? <ul style="list-style-type: none"><li>For flushing</li><li>For protecting environment/landscaping (water control)</li><li>For conserving water</li><li>For providing water quality testing</li></ul> Discuss Safe Water Drinking Act impact to service.<br>List our services on their website<br>Consider position on our advisory board |
| ISO/WSRB<br>(insurance) | Approve/Endorse the Hydrant Registry<br>Provide General Statement of Benefits to Cities participating in annual<br>Provide specific list of cities that would likely improve their PPC rating<br>Create a (one year) rating improvement / insurance break for cities that<br><ul style="list-style-type: none"><li>To alleviate the cost of beginning service</li></ul> Provide general or specific letters of recommendation of services<br>Provide a list of every city/state ISO WSRB score and rating for public<br>List our services on their website<br>Consider position on our advisory board                                                                                                                                                                |
| STATE FM                | Approve/Endorse the registry<br>Require statewide (free) use of the registry for all new and/or existing<br><ul style="list-style-type: none"><li>implemented at the permit desk or building inspector's</li></ul> Consider statewide implementation of a hydrant inspection company.<br>Provide Grants (or loans) for cities to begin service?<br>Provide a letter of recommendation of registry use or hydrant inspection<br>Consider position on our advisory board<br>Assist in sales to specific cities                                                                                                                                                                                                                                                         |

## Private Hydrants

Either

1. They're not being tested and the FM is not requesting records and therefore has no idea if they're working.
2. Has the maint crew/fire dept do testing and inspection.
3. Has the crew do it all and charge the owner.
4. Requires the owner to do all his own testing.

The goal:

1. To have them incorporate into the registry and distinguish public vs. private
2. To have them on an annual/semi-annual service plan per code.
3. To use these hyd's to fund the public hyd service
4. to provide the owners an inexpensive solution to be compliant and help protect their property.

If an owner is non-compliant then he should be red-tagged. Just as if he wouldn't test his sprinkler system or take his system out of service.

Charging for Private:

1. If the FM knows whos hydrants are whos then he can individually bill the owner (time consuming)
2. Charge a hydrant maint tax
3. Fire dept need to take over service (no charge to owners if necessary). They don't have to maintain the hydrants but can insist the owners fix them.
4. Are the hydrants marked private? If so, this will be noted on database and can be referenced by FM and charged accordingly.

All NEW hydrants are put into the registry for free via the permit desk or initial fire marshal inspection.

## Andrew Moren

---

**From:** Byron Whipple [bcwhipple@yahoo.com]  
**Sent:** Wednesday, April 18, 2007 9:11 AM  
**To:** Brian Nelson; 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** Re: Phase 1 complete.

Brian,

Good work! I am very excited to see this product come alive. I look forward to further progress.

Regards,

Byron

**Brian Nelson** <[brian@concretize.com](mailto:brian@concretize.com)> wrote:

Andrew,

Ok. I have the demo of Phase 1 functionality available. You can check it out at the following web address

[http://Test\\_2\\_0.concretize.com/firesield](http://Test_2_0.concretize.com/firesield)

You can add customers, users, and hydrants. This is only a small subset of the functionality that we have done. It is really just to give you some visibility into the progress. I have included a list of all of the objects that are available at the bottom.

As we get the real web app started you will be able to see much more.

Thanks,

Brian

These are the objects that are currently available in the database/object model.

AbstractHydrantObject.cs  
Address.cs  
ConditionReport.cs  
ConditionReports.cs  
Customer.cs  
CustomerInspectionItem.cs  
CustomerInspectionItems.cs  
Customers.cs  
CustomerUser.cs  
CustomerUsers.cs  
GPSCoordinate.cs  
HistoricalCollection.cs  
HistoricalObject.cs  
Hydrant.cs  
HydrantObjects.cs  
Hydrants.cs  
IFiresieldObject.cs  
Image.cs

Images.cs  
Inspection.cs  
InspectionItem.cs  
InspectionItems.cs  
InspectionRecords.cs  
Inspections.cs  
InspectionValue.cs  
InspectionValues.cs  
InspectorLocation.cs  
Location.cs  
LookupValue.cs  
LookupValues.cs  
ManageList.cs  
Organization.cs  
Organizations.cs  
OrganizationType.cs  
OrganizationTypes.cs  
Parameter.cs  
ParameterList.cs  
PitotTubeReading.cs  
PitotTubeReadings.cs  
RecommendedMaintenance.cs  
RecommendedMaintenanceItem.cs  
RecommendedMaintenanceItems.cs  
RecommendedMaintenanceRecords.cs  
Region.cs  
Regions.cs  
Route.cs  
RouteAssignment.cs  
RouteAssignments.cs  
RouteExecution.cs  
RouteExecutionLink.cs  
RouteExecutionLinks.cs  
RouteExecutions.cs  
Routes.cs  
Search.cs  
ServiceRecord.cs  
ServiceRecords.cs  
Session.cs  
Test.cs  
TestRecords.cs  
User.cs  
Users.cs  
WaterQualityTest.cs  
WaterQualityTests.cs  
WayPoint.cs  
WayPoints.cs

## Andrew Moren

---

**From:** Byron Whipple [bcwhipple@yahoo.com]  
**Sent:** Wednesday, April 25, 2007 9:22 AM  
**To:** Andrew Moren  
**Subject:** RE: Phase 1 complete.

Andrew,

Intermec will lend a device for 2 weeks. I don't think that will be enough. I am going to get you a deep volume discount price. I will get a quote over to you later today. If you choose not to use the CN3 ( and I see no reason you would not). Resale of this new device would be easy. California State Parks has chosen the CN3 for mobile asset inspection with use fo MRO Software bckoffice soluiton, and the City of Boston has just chosen the CN3 for thier building inspectors connect to their Hansen backoffice application.

Also I'm working the California State Technology Conference in mid-May. In fact I've been invited to speak on mobile applications. Would you want me discussing to any degree what you are doing? Might be a good way to cue up some possible customers.

I've been doing a little market testing with my contacts at Intermec on the commercial side about the idea of a web based asset inspection tool and I'm getting a lot of interest. One area was around vending machines. I've I also emphasised to Brian to keep the design flexible and open. Of course that's waht he's good at!

Another are of discussion is not using a third party tool like MobileFrame, byt instead writing the mobile app using the .NET framework. This would elimiante having to relicense MobileFrame for every user. This would lower product cost and increase profit. The trade off is that it will take a bit longer for development. Brian does not think this wil be a big hit, but will better understand as he begins this phase.

If we can get this product built and to market fast you will have jumped the competition. Even the larger asset management software companies will not have a web based app for this. I have the national list of Intermec resellers nd I believe there could be alot of interest in reselling you solution as a way of driving hardware sales. Food for thought!

Regards,

Byron

Byron

**Andrew Moren <andrew@fireshieldinc.com>** wrote:

Byron,  
We need to get a CN3 to Brian for development. What can Intermec do for us?

Also, as we all have discussed, it sounds like we're going to design without MobileFrame. This sounds like a good decision. As Brian mentioned, customizing unique apps for the customer will give a much more personized feel. This seemed to have been MobileFrames biggest feature. The other features I will miss (immediately) are the administration monitoring and control of the units. We will need to focus on adding similar features as soon as possible. Overall I think it's a wise decision to minimize the use of third party apps wherever possible. Now if we can just make some PDA's and an operating system . . .

Bob and I have been discussing three applications that have very strong potential in the Fire Protection world that we want to build off our platform as soon as we're done fine tuning the Fire Hydrants. I think being able to market to a few specific industries as well as marketing a general customizable product will be a good balance.

Andrew Moren  
Fireshield Inc  
253-851-0030

-----Original Message-----

**From:** Byron Whipple [mailto:bcwhipple@yahoo.com]  
**Sent:** Wednesday, April 18, 2007 9:11 AM  
**To:** Brian Nelson; 'Andrew Moren'  
**Cc:** 'Byron Whipple'  
**Subject:** Re: Phase 1 complete.

Brian,

Good work! I am very excited to see this product come alive. I look forward to further progress.

Regards,

Byron

*Brian Nelson <brian@concretize.com> wrote:*

Andrew,

Ok. I have the demo of Phase 1 functionality available. You can check it out at the following web address

[http://Test\\_2\\_0.concretize.com/fireshield](http://Test_2_0.concretize.com/fireshield)

You can add customers, users, and hydrants. This is only a small subset of the functionality that we have done. It is really just to give you some visibility into the progress. I have included a list of all of the objects that are available at the bottom.

As we get the real web app started you will be able to see much more.

Thanks,  
Brian

These are the objects that are currently available in the database/object model.

AbstractHydrantObject.cs  
Address.cs  
ConditionReport.cs  
ConditionReports.cs  
Customer.cs  
CustomerInspectionItem.cs  
CustomerInspectionItems.cs  
Customers.cs  
CustomerUser.cs  
CustomerUsers.cs  
GPSCoordinate.cs  
HistoricalCollection.cs  
HistoricalObject.cs  
Hydrant.cs

HydrantObjects.cs  
Hydrants.cs  
IFireshieldObject.cs  
Image.cs  
Images.cs  
Inspection.cs  
InspectionItem.cs  
InspectionItems.cs  
InspectionRecords.cs  
Inspections.cs  
InspectionValue.cs  
InspectionValues.cs  
InspectorLocation.cs  
Location.cs  
LookupValue.cs  
LookupValues.cs  
ManageList.cs  
Organization.cs  
Organizations.cs  
OrganizationType.cs  
OrganizationTypes.cs  
Parameter.cs  
ParameterList.cs  
PitotTubeReading.cs  
PitotTubeReadings.cs  
RecommendedMaintenance.cs  
RecommendedMaintenanceItem.cs  
RecommendedMaintenanceItems.cs  
RecommendedMaintenanceRecords.cs  
Region.cs  
Regions.cs  
Route.cs  
RouteAssignment.cs  
RouteAssignments.cs  
RouteExecution.cs  
RouteExecutionLink.cs  
RouteExecutionLinks.cs  
RouteExecutions.cs  
Routes.cs  
Search.cs  
ServiceRecord.cs  
ServiceRecords.cs  
Session.cs  
Test.cs  
TestRecords.cs  
User.cs  
Users.cs  
WaterQualityTest.cs  
WaterQualityTests.cs  
WayPoint.cs  
WayPoints.cs

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Friday, May 04, 2007 11:59 AM  
**To:** andrew@fireshieldinc.com  
**Subject:** Change Control

Andrew,

I have been investigating the change in scope and have reconsidered the change control. At this time, I don't think we will need to increase the costs. I think that there are enough good examples on the Microsoft site to accomplish what we need that I don't think the auto upgrade mechanism will significantly impact our schedule.

So that leaves us with the following change in scope.

### Remove

- Mobile Frame Client
- Mobile Frame Integration

### Add

- Add in a native .net web application that will allow the inspectors to conduct the inspections, collect gps info, and pictures
- Add a automatic deployment mechanism.

I think that we can accomplish this under the existing hour estimates.

Since this doesn't have a cost impact, I am ok with you just approving the scope change via email. If you would rather have it signed off I can put that into a formal change control.

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Thursday, May 31, 2007 3:09 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Test Problems

Andrew,

It will be evolving. I am going to be getting a process setup where new features will be automatically updated every night. I think I have the first set functional working now and probably Monday the automatic updates will be running. I will let you know when major functionality advances are done.

I don't want to slip the final date yet, I like working under pressure. Also already I am getting bugs out so that is good. And I want to get the Phase 2 work done asap so I can get paid. 😊

I have an additional developer who will be ramping up to help out with phase 3.

So a quick status of Phase 2 deliverables.

- Web App
  - Create Account – Not Started
  - Create Hydrant –Functional. (Dynamic Screen)
  - Create Inspector - Functional
  - Enter Inspection – Started. (Dynamic Screen)
  - Modify Account – Not Started
  - Modify Hydrant – In progress
  - Modify Inspector - Functional
  - Modify Inspection - Started
  - User Documentation (First Draft) – Not Started
  - Test Plan – Not Started
  - Login – Functional
  - Logout - Functional
  - Change Password - Functional
- Mobile Application
  - Create Hydrant – Started (Dynamic Screen)
  - Enter Inspection – Started (Dynamic Screen)
  - Load Hydrants to Mobile – Not Started
  - Modify Hydrant – Not Started
  - User Documentation (First Draft) – Not Started
  - Test Plan – Not Started

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, May 31, 2007 2:05 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Test Problems

Not a problem, Brian. If you need some extra time that's okay. I really want you to be proud of the product when it's finished. We can add some flexibility into our timeline to make sure it's what we want it to be. Let me know how much extra time you need.

Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, May 31, 2007 9:57 AM  
**To:** andrew@fireshieldinc.com  
**Subject:** Test Problems

Andrew,

It looks like I still don't have all of the deployment bugs worked out. I will let you know when I have it resolved.

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Wednesday, June 06, 2007 10:52 PM  
**To:** 'Andrew Moren'  
**Subject:** Status update

Andrew,

I rolled out a new version of the web client today. Still working through open issues. I don't think it is ready for you to really hammer it. I am thinking that Monday will be pretty good to go over the web site.

If you are available I would like to plan on having a GoTo meeting so I can walk you through the application on the phone and talk through issues. Byron should be on the call as well if possible. Let me know when you are available and I will set it up.

### Status

- Web App
  - Create Account – Functional (Dynamic Screen) - Only available under Global Registry. Under the Inspection company the inspection Manager will be able to create users using the user manager screen.
  - Create Hydrant –Functional. (Dynamic Screen)
  - Create Inspector - Functional
  - Enter Inspection – Started. (Dynamic Screen)
  - Modify Account – Not Started
  - Modify Hydrant – In progress
  - Modify Inspector - Functional
  - Modify Inspection - Started
  - User Documentation (First Draft) – Started – Targeting a first draft with Phase 2 functionality for initial review by Monday June 11<sup>th</sup>. The first draft will be for the Inspection Company side only. We will be starting in Microsoft Word but will port it to HTML based help as we get closer to completion.
  - Test Plan – Not Started
  - Login – Functional
  - Logout - Functional
  - Change Password - Functional
- Mobile Application
  - Create Hydrant – Started (Dynamic Screen)
  - Enter Inspection – Started (Dynamic Screen)
  - Load Hydrants to Mobile – Not Started
  - Modify Hydrant – Not Started
  - User Documentation (First Draft) – Not Started
  - Test Plan – Not Started

Thanks,  
Brian

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, May 31, 2007 3:09 PM  
**To:** 'Andrew Moren'  
**Subject:** RE: Test Problems

Andrew,

It will be evolving. I am going to be getting a process setup where new features will be automatically updated every night. I think I have the first set functional working now and probably Monday the automatic updates will be running. I will let you know when major functionality advances are done.

I don't want to slip the final date yet, I like working under pressure. Also already I am getting bugs out so that is good. And I want to get the Phase 2 work done asap so I can get paid. 😊

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  - Modify Account – Not Started
  - Modify Hydrant – In progress
  - Modify Inspector - Functional
  - Modify Inspection - Started
  - User Documentation (First Draft) – Not Started
  - Test Plan – Not Started
  - Login – Functional
  - Logout - Functional
  - Change Password - Functional
- Mobile Application
  - Create Hydrant – Started (Dynamic Screen)
  - Enter Inspection – Started (Dynamic Screen)
  - Load Hydrants to Mobile – Not Started
  - Modify Hydrant – Not Started
  - User Documentation (First Draft) – Not Started
  - Test Plan – Not Started

Thanks,  
Brian

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]  
**Sent:** Thursday, May 31, 2007 2:05 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Test Problems

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Andrew Moren  
Fireshield Inc  
253-851-0030

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Thursday, May 31, 2007 9:57 AM

**To:** andrew@fireshieldinc.com  
**Subject:** Test Problems

Andrew,

It looks like I still don't have all of the deployment bugs worked out. I will let you know when I have it resolved.

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Tuesday, June 12, 2007 9:53 AM  
**To:** 'Andrew Moren'  
**Subject:** Notes from 06/11/2007 meeting

Andrew,

Here are my notes from the meeting yesterday.

### Defects found (Phase 2)

- Hydrant Description not being set correctly when new hydrant loaded on Manage Hydrants Screen

### Remaining work (Phase 2)

- Edit the Nozzle size, height, and fitting

### Additions to system (Phase 3)

- Allow users to add Authorities to the system.
- Nozzle control needs to be able to support multiple nozzles in one position.
- Allow user to order inspections by date (asc/desc)
- Look at the possibilities of adding other hydrant details to tree instead of tab
- Search screen with more details of hydrant and the ability to page results for large searches. With drill down capabilities

Let me know if I missed anything.

I think I will rework some of my screens slightly in Phase 3 to allow better integration with the search screen. I will make the search screen more of the centerpiece of the system. Then the other screens will be used by it.

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Tuesday, July 24, 2007 9:22 AM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'; 'Rick Stone'  
**Subject:** Latest test version

Andrew,

I have the latest test version of the Inspection Company web application up on the site.

You can reach it at [http://test20.concretize.com/fs\\_webapp/](http://test20.concretize.com/fs_webapp/)

Log in as me it is probably easiest.

User ID: [brian@concretize.com](mailto:brian@concretize.com)

Password: testers

Pick the company named Brian's Hydrant Werks

Things to explore

- Hydrants -> Search
- On the search screen check out the saved queries.
- Then on a Hydrant Detail screen check out the mapping and GPS.

---

Status update

Things in progress this week on the web

- Integrating the inspection data onto the Hydrant Details screen.
- Viewing image history
- Time Entry/Review
- Route Management

Coming up on the web

- Site Customization
- Integration with Global Registry DB
- Printable Reporting

Things in progress this week on the mobile

- GPS – This is coming along. We now have it doing statistics to come up with a good location. A little more tweaking and this should be done.
- Data Caching for disconnected use.
- Image storage (to db)

Coming up on the Mobile

- Hydrant Find (based on position)
- Time Entry
- Deployment / auto updating

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Friday, August 17, 2007 3:25 PM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'; 'Rick Stone'  
**Subject:** New test version

There is a new Web Test version. Use the same credentials supplied below

- Variety of minor improvements/bug fixes
- Check out the hydrant Search screens
  - Search by Hydrant Info – I have started adding the additional fields that are to be available
  - Search by State
- You can't see it yet, but we have the framework for finding hydrants near a GPS location. Will be used in mobile and web.

### Status of Mobile

- Capturing pictures and GPS
- Cache info when disconnected
- Uploading when reconnected
- Breadcrumb collection started. Final step is to ship them up to server.

I will be working on the breadcrumbing display this week end.

Thanks,  
Brian

---

**From:** Brian Nelson [mailto:brian@concretize.com]  
**Sent:** Tuesday, July 24, 2007 9:22 AM  
**To:** 'Andrew Moren'  
**Cc:** 'Byron Whipple'; 'Rick Stone'  
**Subject:** Latest test version

Andrew,

I have the latest test version of the Inspection Company web application up on the site.

You can reach it at [http://test20.concretize.com/fs\\_webapp/](http://test20.concretize.com/fs_webapp/)

Log in as me it is probably easiest.

User ID: [brian@concretize.com](mailto:brian@concretize.com)

Password: testers

Pick the company named Brian's Hydrant Werks

### Things to explore

- Hydrants -> Search
- On the search screen check out the saved queries.

- Then on a Hydrant Detail screen check out the mapping and GPS.

---

#### Status update

##### Things in progress this week on the web

- Integrating the inspection data onto the Hydrant Details screen.
- Viewing image history
- Time Entry/Review
- Route Management

##### Coming up on the web

- Site Customization
- Integration with Global Registry DB
- Printable Reporting

##### Things in progress this week on the mobile

- GPS – This is coming along. We now have it doing statistics to come up with a good location. A little more tweaking and this should be done.
- Data Caching for disconnected use.
- Image storage (to db)

##### Coming up on the Mobile

- Hydrant Find (based on position)
- Time Entry
- Deployment / auto updating

Thanks,  
Brian

## Andrew Moren

---

**From:** Brian Nelson [brian@concretize.com]  
**Sent:** Tuesday, August 28, 2007 9:10 PM  
**To:** 'Andrew Moren'; 'Byron Whipple'  
**Subject:** Hydrants uploaded successfully

Lots of good news to report.

Rick started full time today. And we have successfully loaded hydrants with GPS and images up to the server. If you go up to the site and log in you will find hydrants that we uploaded today after a walk around down town. We still have some resolution and brightness issues to resolve but those are relatively minor. Our next item to finish up on the hand held is the Find Hydrant functionality. So Byron when do we go for drinks ☺

I have the breadcrumb rollups now working so I will begin integrating the breadcrumb trail review screens into the system. This functions as a background service that sweeps up the breadcrumbs at a regular interval and aggregates them into fewer points for maps that are zoomed further out. This will allow data to be displayed faster on the maps.

I talked to Sandy about coming on full time and she is very interested. I am going to meet with her on Friday to go over more details. I realized after we talked that she will help for the October 15<sup>th</sup> deliverables. Not in getting more software out, but in getting documents out that define the system. This will show that we are not just building software, but are mature enough as an organization to document what we have constructed.

These are the things I will have her working on

for the October 15<sup>th</sup> deliverables

- Hosting Plans
- Disaster Recovery (DR) Plans
- High Level System Documentation
- Entity Relational Diagram (ERD) (The database map) documentation
- Coding documentation
- Testing
- Testing Documentation
- Global Registry Portal Work

For the Post October 15<sup>th</sup> Goals

- Sprinkler system requirements and design
- Market Place Requirements
- Helping to react quickly to other Vertical Requirements as they come up.
- Testing
- Implementation of Hosting and DR platforms
- Global Registry Portal Work
- Assisting in the Definition of IT Organization Structures (Testing, Core Dev Team, Vertical Dev Teams, Support, Operations, etc) so we have a smart plan for growing

I really view Rick, Sandy and myself as the foundation of the IT organization going into the future. We all are equal quality, but have skills and personalities that balance each out each other

- Rick Stone – Excellent reliable lead developer who is very good at getting things finished. He will be the lead developer on the Core Technology team. Rick has about 15 years of development experience six of them at PacifiCorp. He has also worked at a variety of other development shops including 800.com while it was functioning. So he understands both the startup and the larger company.

- Sandy Roy – Sandy has worked at PacifiCorp for 25+ years and brings the ability to gather requirements, manage projects, manage developers, and work with clients. She will help us show that we are not just a start up but have significant experience in running a reliable software development shop.
- Me – My role will evolve over time away from just coding and be more focused on the Architectural vision, working with Sales and others to talk about our technology advantages, and setting the vision for the IT shop.

I realize that this is looking out into the future, but I want you to have an understanding on where I want to take the IT side of the business.

Thanks,

Brian

## Andrew Moren

---

**From:** Brian Nelson [brian.nelson@lobissoftware.com]  
**Sent:** Tuesday, October 16, 2007 5:37 PM  
**To:** 'Andrew Moren'; robert.moren@lobissoftware.com  
**Cc:** byron.whipple@lobissoftware.com; 'Rick Stone'; 'Sandy Roy'  
**Subject:** Live Sites

Everyone.

The last month has been an incredibly busy one, but I think we really have a bunch to show for it.

The list below is all of the code that is out in production.

Thanks,  
Brian

### Web Sites

Hydrant Works [www.hydrantworks.com](http://www.hydrantworks.com)

- Need content... Lots of content.

Hydrant Inspection Manager [www.hydrantworks.com/hw-webapp](http://www.hydrantworks.com/hw-webapp)

- Still finishing up getting the reports integrated.
- Web Help documents in process for this and the mobile

Global Registry of Hydrants [www.globalregistryofhydrants.com](http://www.globalregistryofhydrants.com)

- We are working on a new sponsor button. I don't like how the current one looks.
- We should sit down with Sandy and go over your screen diagrams.

### Mobile Client

Hydrant Scout

- New version in the works that fixes many bugs and has additional GPS info visible.

### Background Processes

- Ephemeris Download
- Hydrant Works Publisher
- Hydrant Work Subscriber
- Hydrant Works Address Fixer
- Hydrant Works Breadcrumb Rollup Agent

### Databases in Production (SQL Server)

- HydrantWorks
- GlobalRegistry
- ImageHandler

### Software Libraries

- LoBI Core (Windows Common Library)
  - Users
  - Security
  - Assets
  - Observations

- GPS Data
  - GPS Calculations
  - Database Access
- ppcLoBI Core (Pocket PC common library)
  - GPS Calculations
  - Object Caching
  - Device Functionality

# ADVANCED SEARCH

AND #

TEXT

## LOCATION

WE PROVIDE MANY WAYS FOR YOU TO ESTABLISH  
SEARCH THE DATABASE BY LOCATION.

MAP, SELECT A STATE / SELECT A CITY BY MAP OR BY LIST  
BY ZIP CODE

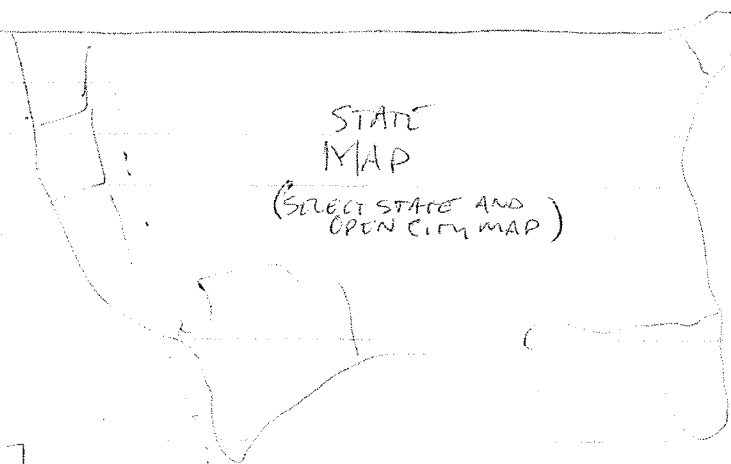
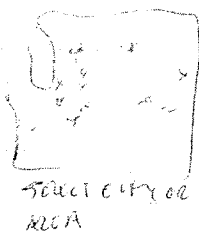
BY ADDRESS OR CROSS STREETS

WITHIN A RADIUS OF A GIVEN POINT

MULTIPLE AREAS

BY GPS COORDINATES

## SINGLE AREA SEARCH



-OR- ENTER ZIP CODE

-OR- ENTER ADDRESS  STREET

CROSS STREET?  CITY

PREFIX  STREET NAME  SUFFIX

STATE

WITHIN RADIUS  100 FT ☐ 1 mile ☐ 2 mile ☐

-OR- GPS COORDINATES  LAT = N

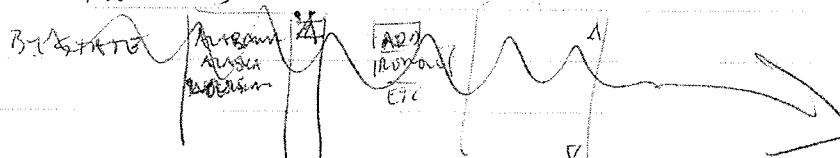
LONG = E

WITHIN RADIUS  1 mile ☐ 5 mile ☐ 2 mile ☐

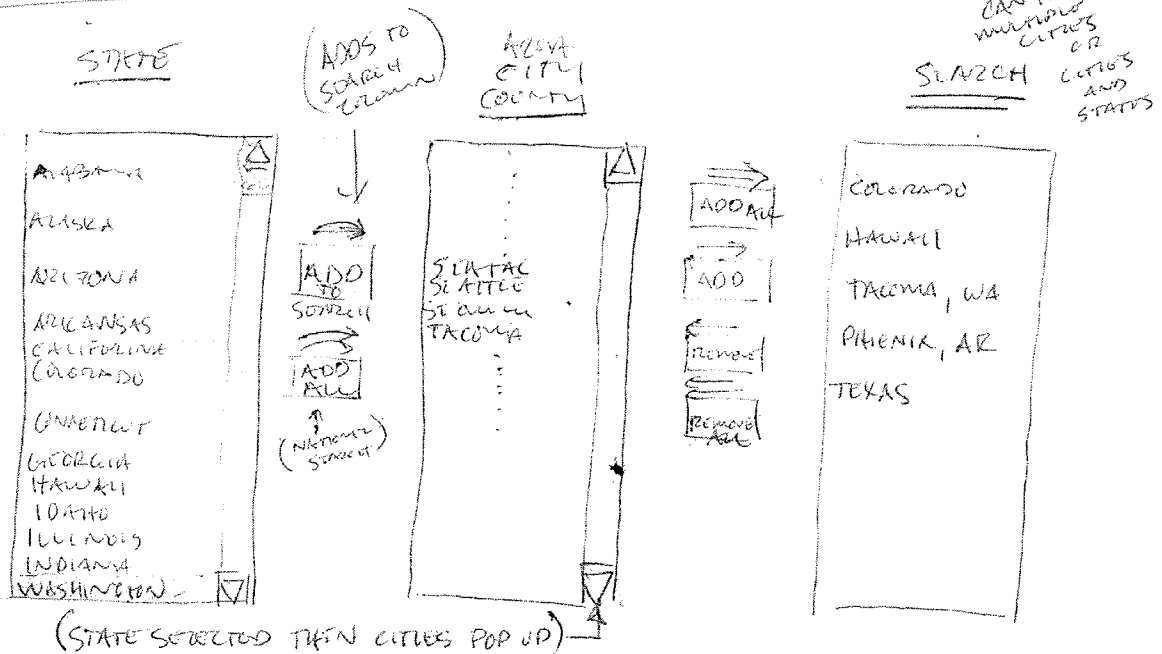
-OR- SELECT  LAT1 = N  LAT2 = N

LONG1 = E  LONG2 = E

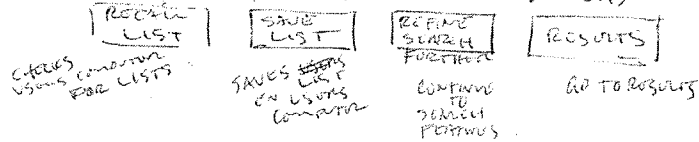
SELECT MULTIPLE AREAS



# MULTIPLE ADDS



(CITY SELECTED + ADD BUTTON = ADDS TO SEARCH)



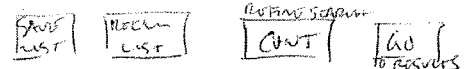
HYDRAULICS REQUIRING MAINTENANCE? ☒ YES

MAINTENANCE

- ☐ SHOW ALL HYDRAULICS - REQUIRING OR NOT REQ. MAINT.
- ☐ SHOW ONLY HYD REQ. MAINT FOR CHECKLIST BELOW
- ☐ SHOW ONLY HYD NOT REQ. MAINT FOR CHECKLIST BELOW

## WANT CHECKLIST

- |                                                             |                                                                     |                                                        |                                           |
|-------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> SELECT ALL CRITICAL                | <input type="checkbox"/> CLEAN ALL                                  | <input type="checkbox"/> IMPORTANT DISCOVER ALL        | <input type="checkbox"/> MAINT E DISCOVER |
| <input type="checkbox"/> NO WATER PRESSURE                  | <input type="checkbox"/> NOzzle caps MISSING                        | <input type="checkbox"/> CHAINS MISSING                | <input type="checkbox"/> SOLO             |
| <input type="checkbox"/> SUSPECTED CLOSED GATE VALVE        | <input type="checkbox"/> NOZe caps NOT FITTING                      | <input type="checkbox"/> CHAINS UNATTACHED             | <input type="checkbox"/> CLEAN            |
| <input type="checkbox"/> OUTLETS/CAPS TOO TIGHT TO OPEN     | <input type="checkbox"/> NOZe caps DAMAGED                          | <input type="checkbox"/> NO TAG/MARK                   |                                           |
| <input type="checkbox"/> OPERATING NOT DAMAGED OR WORN DOWN | <input type="checkbox"/> DOESN'T DRAIN PROPERLY                     | <input type="checkbox"/> BLUE REFL MISSING             |                                           |
| <input type="checkbox"/> OPERATING NOT TOO TIGHT TO OPERATE | <input type="checkbox"/> LIMITED ACCESSIBILITY                      | <input type="checkbox"/> BLUE REFL DAMAGED             |                                           |
| <input type="checkbox"/> LEAKS IN TOP OF HYD                | <input type="checkbox"/> PAINT COLOR CHANGE SUGGESTED               | <input type="checkbox"/> LIMITED VISIBILITY            |                                           |
| <input type="checkbox"/> LEAKS IN GASKET UNDER CAP          | <input type="checkbox"/> (NO STOP CONNECTION) NOT HAD MAINT SECTION | <input type="checkbox"/> LANDSCAPING AFFECTING         |                                           |
| <input type="checkbox"/> CRACKS IN BASE OF                  | <input type="checkbox"/> OTHER NOTES MARKED 'CRITICAL'              | <input type="checkbox"/> REPAINTING NEEDED             |                                           |
| <input type="checkbox"/> NOZZLE THREADS DAMAGED             | <input type="checkbox"/> OTHER NOTES MARKED 'IMPORTANT'             | <input type="checkbox"/> RUSTING                       |                                           |
| <input type="checkbox"/> OTHER NOTES MARKED 'CRITICAL'      |                                                                     | <input type="checkbox"/> OTHER NOTES MARKED 'UPLOADED' |                                           |



## FLOW & PRESSURE

~~SHOW ALL~~

- ☐ SHOW ALL FLOWS & PRESSURES
- ☐ LIMIT SEARCH TO FLOWS SPECIFIED

FLOW GPM MIN  (H = 0-5000 + "NO MIN")  
 MAX  (H = 0-5000 + "NO MAX") IF MAX < MIN DONT ALLOW  
 PRESSURE PSI MIN  (H = 0-200) + VICE VERSA  
 MAX  (H = 0-200) IF MAX < MIN DONT ALLOW

## SERVICES

### INSPECTION DATE

- ☐ SHOW ~~ALL~~ <sup>MOST RECENT</sup> INSPECTIONS / TESTS
- ☐ LIMIT SEARCH TO HYD'S INSPECTED MOST RECENTLY
- ☐ LIMIT TO HYD'S INSPECTIONS

GOOD EXAMPLE  
CHECK WINDOWS  
'FIND' FEATURES

INCLUDE?

- ☐ SHOW ALL HYDRANTS SERVICED IN LAST  ☒ 10 YEARS
- ☐ SHOW ALL HYDRANTS' <sup>MOST RECENT</sup> REPORT
- ☐ SHOW ALL HYDRANTS REPORTS (EX: NEW = DUPLICATE HYDRANTS)
- ☐ SHOW HYD'S SERVICED AFTER  MONTH YEAR DAY  
 BEFORE  MONTH YEAR DAY  
 (DONT ALLOW BEFORE > AFTER)  
 + VICE VERSA

## PRIVATE OR PUBLIC

OR

## OWNER OR AUTHORITY

- ☐ SHOW ALL HYDRANTS
- ☐ SHOW PRIVATE HYDRANTS ONLY
- ☐ SHOW PUBLIC HYDRANTS ONLY
- ☐ SHOW HYDRANTS FOR OWNER

CONTAINING TEXT

# MAKE

☐ SHOW ALL MAKES (BRANDS) OF HYDRAUTS

(Deselect All) ☐ SHOW SPECIFIED MAKES ONLY

- |                                         |                          |                          |
|-----------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> U.S. PINT      | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> STOCKHOLM      | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> PORTER CROMBIE | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> MURDOCH        | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/> |

DEFAULT ALL OTHERS

OTHER

THAT BRAND

☐ OTHER UNKNOWN

# MODEL

☐ SHOW ALL MODELS OF HYDRAUTS (OF MAKES SELECTED ABOVE)

USE THIS HANDY REFERENCE TOOL TO FIND A SPECIFIC MODEL CONTAINING TEXT  (eg. 350, H-12, H12, etc)

TAKE'S YOU TO HYDRAUT MAKE/MODEL SHEET

# YEAR

☐ SHOW ALL

☐ SHOW SPECIFIED

YEARS  (will include all those years listed)

- |                                        |                                   |
|----------------------------------------|-----------------------------------|
| <input type="checkbox"/> over 50 years | <input type="checkbox"/> 10-19    |
| <input type="checkbox"/> 40-49 years   | <input type="checkbox"/> 5-9      |
| <input type="checkbox"/> 30-39         | <input type="checkbox"/> 2-4      |
| <input type="checkbox"/> 20-29         | <input type="checkbox"/> 1+       |
| <input type="checkbox"/> 1-19          | <input type="checkbox"/> < 1 year |

# STARTZ

☐ SHOW ALL HYDRAUTS

☐ SHOW HYD WITH STARTZ CONNECTION

☐ SHOW HYD WITHOUT STARTZ CONNECTIONS

WE SHOULD ACT AS CO-ORDINATING FOR LISTING THEM IN OUR SOURCE CHANGE

# INSPECTED BY

# SERVICE COMPANY

☐ SHOW ALL

☐ SHOW ALL CONTAINING TEXT

☐ SHOW ALL NOT CONTAINING TEXT

WEATHER ELEVATION  
DRI OR WET TIDE  
DATE VALUE (INT OR EXT)  
BASE SIZE  
BASE CONNECTION - FLG  
OTHER STOPS

NOT SURE SET

## HYDRANT TYPE

- ☐ SHOW ALL HYDRANT TYPES
- ☐ SHOW WET TYPE ONLY
- ☐ SHOW DRY TYPE ONLY

## CONNECTIONS

- ☐ SHOW ALL CONNECTIONS
- ☐ 1" - 2" ALL CONNECTIONS
- ☐ 2 1/2" CONNECTION
- ☐ 4" CONNECTION
- ☐ OTHER

- ☐ SHOW ALL CONNECTIONS

☐ 2 1/2" - 2 1/2"

☐ 2 1/2" - 4"

☐ 4" - 4"

☐ OTHER

- ☐ 3" CONNECTION

☐ 2 1/2" 2 1/2" - 4"

☐ 4" 2 1/2" 2 1/2"

☐ 4" 4" 2 1/2"

☐ 4" 4" 4"

☐ OTHER

☐ 4" OTHER

# ADVANCED SEARCH

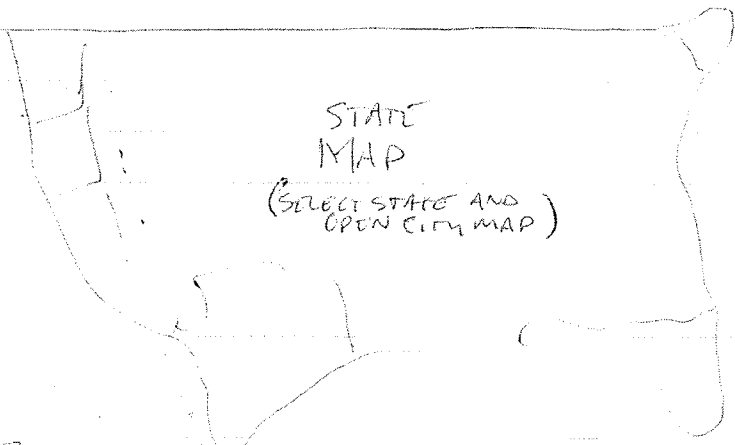
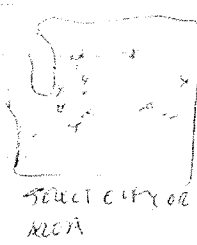
AND #

TEXT

## LOCATION

- WE PROVIDE MANY WAYS FOR YOU TO ESTABLISH
- SEARCH THE DATABASE BY LOCATION.
- MAP, SELECT A STATE / SELECT A CITY BY MAP OR BY LIST
- BY ZIP CODE
- BY ADDRESS OR CROSS STREETS
- WITHIN A RADIUS OF A GIVEN POINT
- MULTIPLE AREAS
- BY GPS COORDINATES

## SINGLE AREA SEARCH



-OR- ENTER ZIP CODE

-OR- ENTER ADDRESS  STREET

CROSS STREET?

CITY

PREFIX ☐

STREET NAME

SUFFIX ☐

WITHIN RADIUS

100 FT ☐

1 mile ☐

2 mile ☐

-OR- GPS COORDINATES

SINGLE POINT

LAT = N

LONG = E

WITHIN RADIUS

1 mile ☐

.5 mile ☐

2 mile ☐

-OR- SELECT

AREA

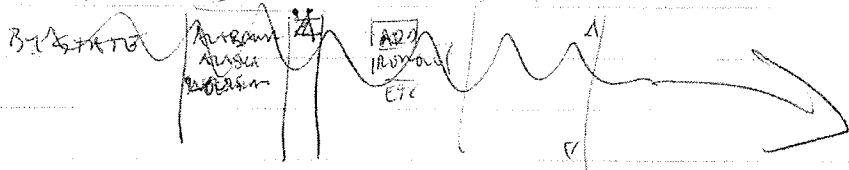
LAT1 = N

LONG1 = E

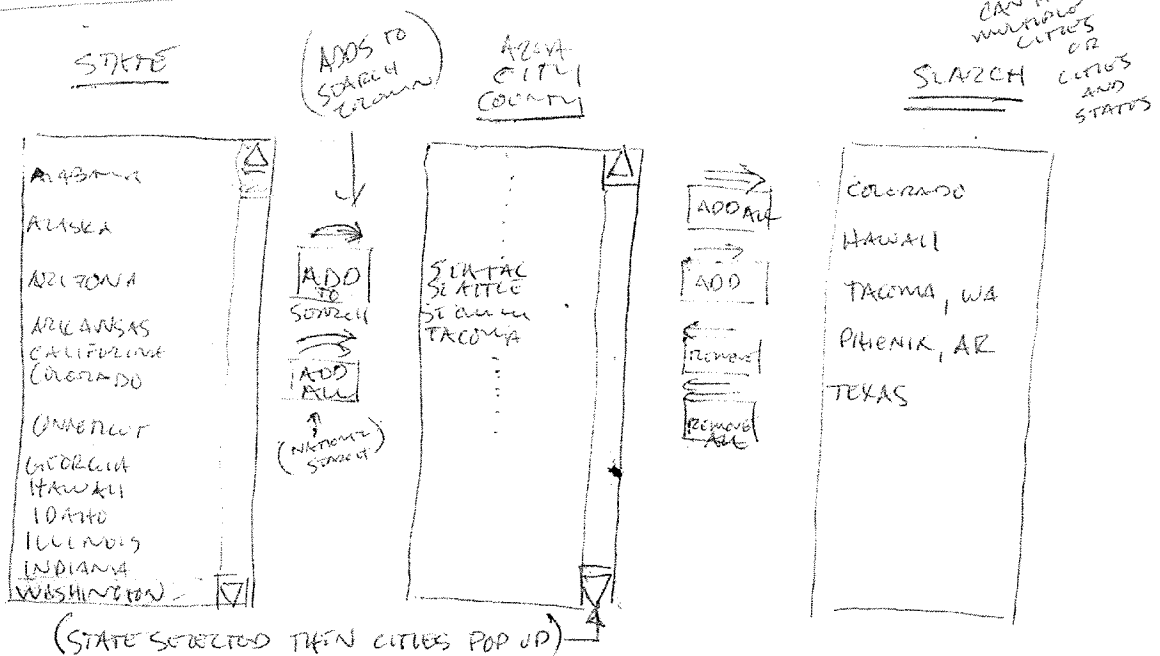
LAT2 = N

LONG2 = E

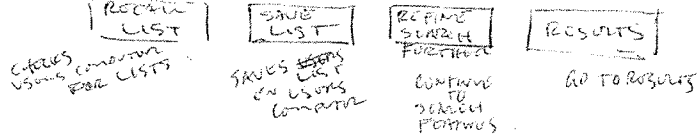
SELECT MULTIPLE AREAS



# MULTIPLE ADDS



(CITY SELECTED + ADD BUTTON = ADDS TO SEARCH)



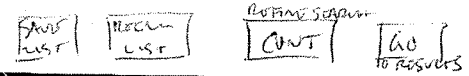
MAINTENANCE REQUIRED? ☒ YES

## MAINTENANCE

- ☐ SHOW ALL MAINTENANCE - REQUIRED OR NOT REQ. MAINT.
- ☐ SHOW ONLY THUD REQ. MAINT FOR CHECKLIST BELOW
- ☐ SHOW ONLY THUD NOT REQ. MAINT FOR CHECKLIST BELOW

## WANT CHECKLIST

- |                                                             |                                                        |                                                         |                                                      |
|-------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|
| <input type="checkbox"/> SELECT ALL                         | <input type="checkbox"/> CLEAR ALL                     | <input type="checkbox"/> IMPORTANT                      | <input type="checkbox"/> SELECT ALL                  |
| <input type="checkbox"/> NO WATER PRESSURE                  | <input type="checkbox"/> SUSPECTED CLOSED GATE VALVE   | <input type="checkbox"/> NOZZLE CAPS MISSING            | <input type="checkbox"/> CHAINS MISSING              |
| <input type="checkbox"/> OUTLETS/CAPS TOO TIGHT TO OPEN     | <input type="checkbox"/> OPERATING NOT DAMAGED         | <input type="checkbox"/> NOZZLE CAPS NOT FITTING        | <input type="checkbox"/> CHAINS UNATTACHED           |
| <input type="checkbox"/> OPERATING NOT TOO TIGHT TO OPERATE | <input type="checkbox"/> LEAKS IN TOP OF THUD          | <input type="checkbox"/> NOZZLE CAPS DAMAGED            | <input type="checkbox"/> NO TAG/MARK                 |
| <input type="checkbox"/> LEAKS IN GASKET UNDER CAP          | <input type="checkbox"/> CRACKS IN BASE                | <input type="checkbox"/> DOESN'T DRAIN PROPERLY         | <input type="checkbox"/> BLUE REFL MISSING           |
| <input type="checkbox"/> NOZZLE THREADS DAMAGED             | <input type="checkbox"/> OTHER NOTES MARKED 'CRITICAL' | <input type="checkbox"/> LIMITED ACCESSIBILITY          | <input type="checkbox"/> BLUE REFL DAMAGED           |
|                                                             |                                                        | <input type="checkbox"/> PAINT COLOR CHANGE SUGGESTED   | <input type="checkbox"/> LIMITED VISIBILITY          |
|                                                             |                                                        | <input type="checkbox"/> NO STREZ CONNECTION            | <input type="checkbox"/> LANDSCAPING AFFECTING       |
|                                                             |                                                        | <input type="checkbox"/> OTHER NOTES MARKED 'IMPORTANT' | <input type="checkbox"/> REPAINTING NEEDED           |
|                                                             |                                                        |                                                         | <input type="checkbox"/> RUSTING                     |
|                                                             |                                                        |                                                         | <input type="checkbox"/> OTHER NOTES MARKED 'UPKEEP' |



# FLOW & PRESSURE

FUNCTION THAT SHOWS  
INCREASED OR REDUCED  
FLOWS OR PRESSURES  
FROM ITS LAST  
REPORT?

- ☐ SHOW ALL FLOWS & PRESSURES
- ☐ LIMIT SUBJECT TO FLOWS SPECIFIED

FLOW  
GPM

MIN  (H = 0-5000 + "NO MIN")  
MAX  (H = 0-5000 + "NO MAX") IF MAX < MIN DONT ALLOW

PRESSURE  
PSI

MIN  (H = 0-200)  
MAX  (H = 0-200) IF MAX < MIN DONT ALLOW

## INSPECTION DATE

- ☐ SHOW ~~ALL~~ <sup>MOST RECENT</sup> INSPECTIONS / TESTS
- ☐ LIMIT SUBJECT TO HYD'S INSPECTION MOST RECENTLY
- ☐ LIMIT TO HYD'S INSPECTIONS

GOOD EXTENDED  
CHECK WINDOWS  
'FIND' FEATURES

INCLUDE?

- ☐ SHOW ALL HYDRANTS SERVICED IN LAST  ☒
- ☐ SHOW ALL HYDRANTS' SMOST RECENT REPORT
- ☐ SHOW ALL HYDRANTS REPORTS (exp + new = DUPLICATE HYDRANTS)
- ☐ SHOW HYD'S SERVICED AFTER  MONTH YEAR DAY  
BEFORE  MONTH YEAR DAY  
(DONT ALLOW BEFORE > AFTER)  
+ VICE VERSA

## PRIVATE OR PUBLIC OR OWNER OR AUTHORITY

- ☐ SHOW ALL HYDRANTS
- ☐ SHOW PRIVATE HYDRANTS ONLY
- ☐ SHOW PUBLIC HYDRANTS ONLY
- ☐ SHOW HYDRANTS FOR OWNER

CONTAINING  
TEXT

# MAKE

☐ SHOW ALL MARKS (BRANDS) OF HUDRANTS  
☐ SHOW SPECIFIED MARKS ONLY

- |                                        |                          |                          |
|----------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> U.S. PINE     | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> STOCKHOLM     | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> POTTER CORNER | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> MUELLER       | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>               | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/>               | <input type="checkbox"/> | <input type="checkbox"/> |
- OTHER ☐ OTHER UNKNOWN
- DEFAULT ALL OTHERS  
 TYPE BRAND IN

# MODEL

☐ SHOW ALL MODELS OF HUDRANTS (OF MARKS SELECTED ABOVE)  
☐ USE THIS HANDY REFERENCE TOOL TO FIND A SPECIFIC MODEL CONTAINING TEXT  (eg. 350, H-12, H12, etc)

TRIPS YOU  
 TO HUDRANT  
 MAKE MODEL  
 SHEET

# YEAR

☐ SHOW ALL  
☐ SHOW SPECIFIED

YEARS  (will include all those years listed)

- |                                |                                   |
|--------------------------------|-----------------------------------|
| <input type="checkbox"/> 1-9   | <input type="checkbox"/> 10-19    |
| <input type="checkbox"/> 20-29 | <input type="checkbox"/> 30-39    |
| <input type="checkbox"/> 40-49 | <input type="checkbox"/> 50-59    |
| <input type="checkbox"/> 60-69 | <input type="checkbox"/> 70-79    |
| <input type="checkbox"/> 80-89 | <input type="checkbox"/> 90-99    |
| <input type="checkbox"/> 100+  | <input type="checkbox"/> < 1 year |

# START

☐ SHOW ALL HUDRANTS  
☐ SHOW HUD WITH START CONNECTION  
☐ SHOW HUD WITHOUT START CONNECTIONS

WE SHOULD NOT  
 BE CO-ADJUSTING  
 FOR LISTING THEM  
 IN OUR SPREADS  
 SHEET

?

# INSPECTED BY

# SERVICE COMPANY

☐ SHOW ALL  
☐ SHOW ALL CONTAINING TEXT   
☐ SHOW ALL NOT CONTAINING TEXT

NOT  
 SURE  
 LIST

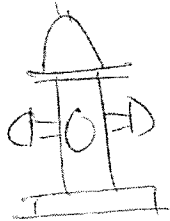
WEATHER  
 ELEVATION  
 DRY OR WET TIDE  
 GATE VALUE (WT OR EXT)  
 BASE SIZE  
 BASE CONNECTION - FGA  
 OTHER NOTES

## HYDRANT TYPE

- ☐ SHOW ALL HYDRANT TYPES
- ☐ SHOW WET TYPE ONLY
- ☐ SHOW DRY TYPE ONLY

## OUTLETS

- ☐ SHOW ALL HYDRANTS
- ☐ SHOW ALL 1 OUTLET HYDRANTS
  - ☐ 2 1/2" OUTLET
  - ☐ 4" OUTLET
  - ☐ OTHER
- ☐ SHOW ALL 2 OUTLET HYDRANTS
  - ☐ 2 1/2" x 2 1/2"
  - ☐ 2 1/2" x 4"
  - ☐ 4" x 4"
  - ☐ OTHER
- ☐ 3 OUTLET
  - ☐ 2 1/2" x 2 1/2" x 2 1/2"
  - ☐ 4" x 2 1/2" x 2 1/2"
  - ☐ 4" x 4" x 2 1/2"
  - ☐ 4" x 4" x 4"
  - ☐ OTHER
- ☐ 4 OUTLET



# GLOBAL REGISTRY OF FIRE HYDRANTS



OP BAR (top) WHO ARE WE WHO ARE YOU AFFILIATES NEWS/EVENTS ADV SEARCH BIDDING ARENA

SHORT PARAGRAPH DESCRIBING GRFH

ADVERT

HYDRANT  
MOBILE  
SOFTWARE

BASIC SEARCH  
CRITERIA

ADV.  
SEARCH

SIGN  
IN

NEW  
USER

ADVERTISING  
HYDRANT WORKS  
INSPECTORS

~~ADVERTISING~~  
HYDRANT WORKS  
INSPECTORS

BIDDING ARENA  
GLIMPSE

WHO  
FIX? SPECIALTY

FIRE  
FIGHTING  
④

MAINT  
CREW  
⑤

INSP.  
COMPANY  
⑦

PRIVATE  
COUNCIL

MANUFACTURING  
PARTS

PLANNING  
DEVELOPMENT  
ENGINEERING

INSURANCE

SOFTWARE  
DEVELOPMENT

OTHER

MOBILE USERS • CONTACT US • PRIVACY POLICY • SITE INDEX • FAQ • COMPANY INFO • JOBS  
LINKS • ADVERTISING WITH US • DONATIONS • (CONCEPT) WEB PROD. JOB • IDEAS/COMMENTS

WHO ARE WE

- ABOUT US
- WHAT IS THE REGISTRY?

WHO ARE YOU

- ④ FIRE OFFICIAL
- ⑤ MAINT. CREW
- ⑥ INSP. COMP.
- PRIVATE HYD. OWNER
- MANUFACTURING PARTS
- PLANNING, DEV./ENGR
- INSURANCE
- SOFTWARE DEVELOP
- OTHER

AFFILIATES

AFFILIATES OF THE REG.  
BECOMING AN AFF.

IDEAS

- \* FIND THE HYDRANT GAME
- \* EASTER EGGS

- NEWS & EVENTS ON HOME PAGE
- EACH SPECIALTY HAS ITS OWN "HOME PAGE"
- COOKIES TO REMEMBER LOCATIONS + SPECIALTY?

# FIRE OFFICIAL SPECIFIC PAGE (NOT SIGNED IN)

— MOSTLY A SIGN-IN PAGE —

4

SIGN IN (16)

## TOP BAR

ADVERT

TOWNED

FIRE  
MARSHALS/  
OFFICIALS

PARAGRAPH/STEPS POINTS FOR  
FIRE OFFICIAL TO ADD HIS CITY  
TO REGISTRY

ALL  
WHAT YOU NEED TO DO

IT'S FREE!

SIGN IN . CHECK IF YOUR CITY  
CITY \_\_\_\_\_ IS COMPLIANT

STATE \_\_\_\_\_

CHECK  
CITY PROFILE

CITY \_\_\_\_\_

STATE \_\_\_\_\_

CITY  
PROFILE

COLOR OF HYDRANTS \_\_\_\_\_

H. OF HYDRANTS \_\_\_\_\_

FIRE MARSHAL \_\_\_\_\_

email address \_\_\_\_\_

MAINT CROW \_\_\_\_\_

email \_\_\_\_\_

CITY STATISTICS:

FIND SOMETHING  
BETTER

CITIES CURRENTLY  
IN REGISTRY

FIRE OFFICIALS HAVE UNIQUE PRIVILEGES IN  
THE REGISTRY, AS SUCH WE NEED TO VERIFY  
YOUR CONTACT INFORMATION. PLEASE FAX  
YOUR CITY LETTERHEAD TO XXX XXX-XXXX OR

EMAIL TO \_\_\_\_\_ @ \_\_\_\_\_

LEGALIZE + DISCLAIMER

CITY HYDRANT RESULTS (WHEN CITY KT IS GIVEN)  
TABLE FORMAT OTHERWISE A DEFAULT

## BOTTOM BAR

NOTES: - WE NEED TO VERIFY FIRE ~~MAINT~~ OFFICIALS - FAX OR EMAIL LETTERHEAD?  
- SOME OTHER WAY? (ASK FIRE MARSHAL)

- WHAT DO WE DO WHEN FIRE OFFICIALS CHANGE (EVERY COUPLE YEARS)

- ADD MORE CITY STATISTICS - I.D.O. RATINGS? ~~REQUEST~~

- REQUEST NEW I.P.O. RATING?

- MENTION

MAINTENANCE CREW  
SPECIFIC PAGE  
- NOT SIGNED IN -

5

PARAGRAPH  
ABOUT  
IMPORTANCE OF MAINT CREW

TOP BAR

CHECK YOUR CITY  
CITY  
STATE

CITY PROFILES (BE FILLED OUT IF  
ALREADY DONE)  
READY TO FILL OUT IF NOT

CHECK

SIGN  
IN

19

EDIT  
HISTORY?

ADD/EDIT

AD POST

MOBILE  
UNIT

HOW TO USE THIS WEBSITE:

SIGN-IN  
VERIFY CITY/ST  
VIEW CITY PROFILE  
REVIEW AND NOOING <sup>CELL</sup>  
REQ. B.D FOR SERVICE/PARTS <sup>MOD</sup>  
<sup>LIGHT</sup>

OR ORDER PARTS DIRECT  
PERFORM MAINT  
REPORT FIXED IN REQ.

USE  
MOBILE UNIT TO ORGANIZE

AD

TOP RATED CITIES

HYDRANT REQUEST RESULTS  
FOR CITY (IF GIVEN - OTHERWISE DEFAULT)

ADV  
SEARCH

BID ARENA

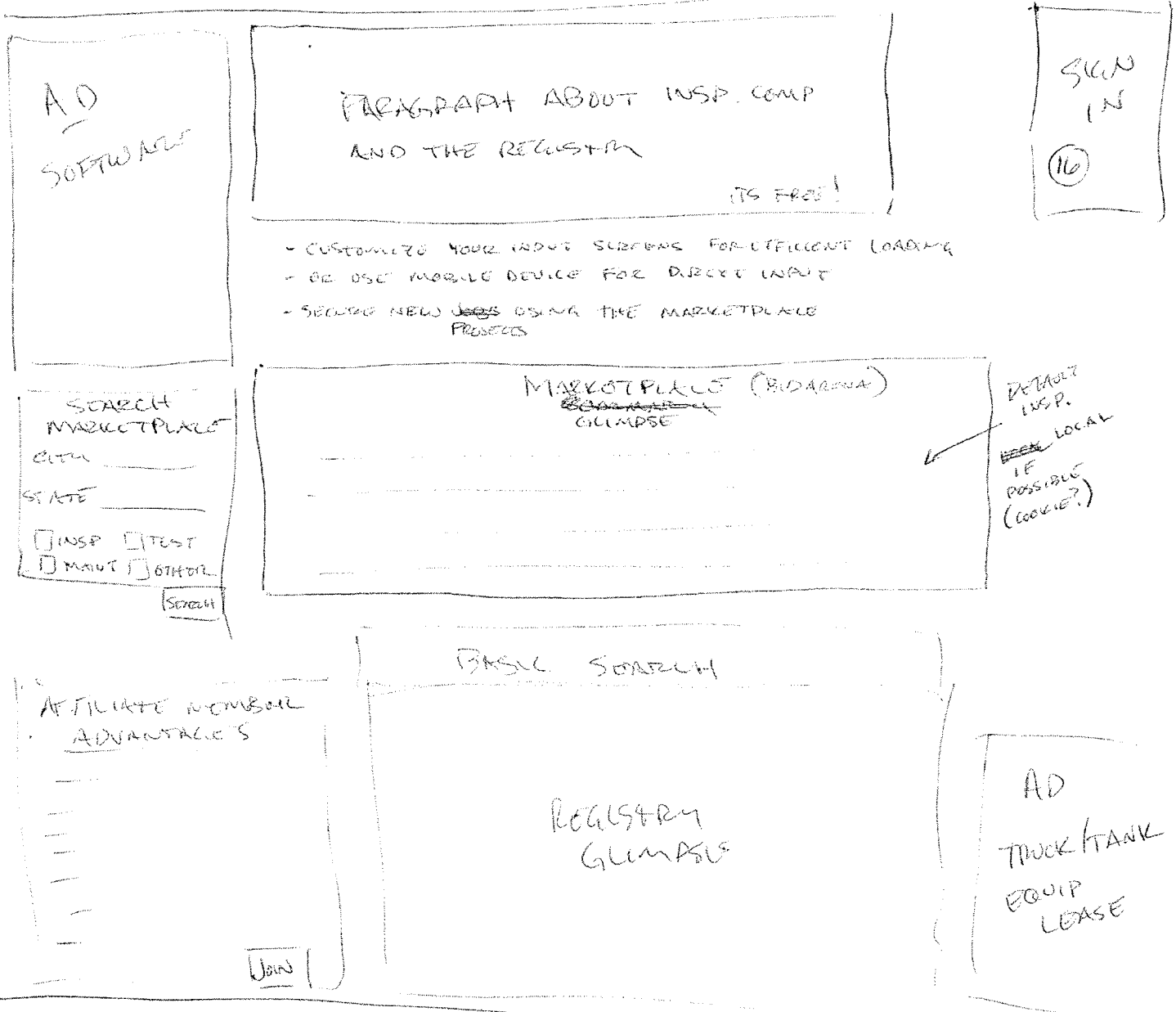
REQUEST  
BIDS  
FOR  
SERVICE OR  
PARTS

BOTTOM BAR

7

INSPECTION COMPANY  
SPECIFIC PAGE  
- NOT SIGNED IN -

TOP BAR



- BELOW AN AFFILIATE w/ AFFILIATE ADVANTAGES  
TIE INTO BIDDING ARENA

# PERSONAL PAGE

- SIGNED - IN -

16

## TOP BAR

### PERSONAL INFO

NAME:  
ORGANIZATION:  
TYPE OF MEMBERSHIP:  
EMAIL ADDRESS  
PHYSICAL ADDRESS  
PHONE NUMBER  
CREDIT CARD  
etc  
USERNAME  
PASSWORD  
CHANGE PASSWORD?

WELCOME [YOUR NAME],  
USE THIS PAGE TO KEEP TRACK OF YOUR HYDRANTS,  
PREFERENCES, CONTACT INFORMATION, CITY/COMPANY PROFILE,  
SAVED INPUT SHEETS, LIST OF CONTRACTS, BIOS, ETC.

#### 'FAVORITES' SAVED SEARCHES

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(smaller)  
↑  
[ ] DEFAULT?  
[ ] DEFAULT?  
[ ] DEFAULT?

Region  
Glimpse

↑  
Billion  
H

DEFAULT TO CREW  
OR [DEFAULT]

ADV.  
SEARCH

BIDDING ACTIVITY  
- MARKET PLACE -

Summary

#### PEOPLE REQUESTING YOUR CONTACT INFO

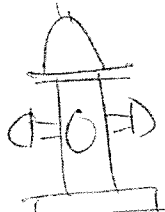
2  
1  
1  
1  
1

ADD TO LIST →

#### YOUR CURRENT LIST OF CONTRACTS

1  
1  
1  
1  
1

## BOTTOM BAR



# GLOBAL REGISTRY OF FIRE HYDRANTS



- WHO ARE WE
- WHO ARE YOU
- AFFILIATES
- NEWS/EVENTS
- ADV SEARCH
- BID ARENA

SHORT PARAGRAPH DESCRIBING GRFH

ADVERT  
HYDRANT  
MOBILE  
SOFTWARE

BASIC SEARCH  
CRITERIA

SIGN  
IN  
NEW  
USER

ADVERTISING  
HYDRANT WORKS  
INSPECTORS

BIDDING ARENA  
GLIMPSE

~~MOVE THIS  
UP~~

SPECIALTY

FIRE FIGHTING

MAINT CREW

INSP. COMPANY

PRIVATE CREW

MANUFACTURING PARTS

PLANNING DEVELOPMENT ENGINEERING

INSURANCE

SOFTWARE DEVELOPMENT

OTHER

- MOBILE USCLS
- CONTACT US
- PRVACY POLICY
- SITE INDEX
- FAR
- COMPANY INFO
- JOB5
- LINKS
- ADVERTISING WITH US
- DONATIONS
- (CONCEPT) WEB PROD. DEV.
- IDEAS/COMMENTS

WHO ARE WE

- ABOUT US
- WHAT IS THE REGISTRY?

- WHO ARE YOU
- FIRE OFFICIAL
  - MAINT. CREW
  - INSP. COMP.
  - PRIVATE HYD. OWNER
  - MANUFACTURING/PARTS
  - PLANNING DEV. ENGINEER
  - INSURANCE
  - SOFTWARE DEVELOP
  - OTHER

AFFILIATES

AFFILIATES OF THE REG.  
BECOMING AN AFF.

IDEAS

- \* FIND THE HYDRANT GAME
- \* EASTER EGGS

- NEWS & EVENTS ON HOME PAGE
- EACH SPECIALTY HAS ITS OWN "HOME PAGE"
- COOKIES TO REMEMBER LOCATIONS + CHOSEN SPECIALTY?

# FIRE OFFICIAL SPECIFIC PAGE (NOT SIGNED IN)

— MOSTLY A SIGN-IN PAGE —

4

SIGN IN (16)

## TOP BAR

ADVERT

TOWNED

FIRE MARSHALS / OFFICIALS

PARAGRAPH / STATES POINTS FOR  
FIRE OFFICIAL TO ADD HIS CITY  
TO REGISTRY

ALL  
WHAT YOU NEED TO DO

IT'S FREE!

SIGN IN - CHECK IF YOUR CITY  
CITY \_\_\_\_\_ IS COMPLIANT

STATE \_\_\_\_\_

CHECK  
CITY PROFILE

CITY \_\_\_\_\_

STATE \_\_\_\_\_

CITY  
PROFILE

COLOR OF HYDRANTS  
H. OF HYDRANTS

FIRE MARSHAL  
email address \_\_\_\_\_

MAINT CREW  
email \_\_\_\_\_

CITY SPECIES:

FIND SOMETHING  
BETTER

CITIES CURRENTLY  
IN REGISTRY

FIRE OFFICIALS HAVE UNIQUE PRIVILEGES IN  
THE REGISTRY, AS SUCH WE NEED TO VERIFY  
YOUR CONTACT INFORMATION. PLEASE FAX  
YOUR CITY LETTERHEAD TO XXX-XXX-XXXX OR  
EMAIL TO \_\_\_\_\_ @ \_\_\_\_\_

LEGALIZE + DISCLAIMER

CITY HYDRANT RESULTS (WHEN CITY/ST IS GIVEN)  
TABLE FORMAT OTHERWISE A DEFAULT

SHOW ALL

MAP ALL

## BOTTOM BAR

NOTES: - WE NEED TO VERIFY FIRE ~~MAST~~ OFFICIALS - FAX OR EMAIL LETTERHEAD?  
- SOME OTHER WAY? (ASK FIRE MARSHAL)

- WHAT DO WE DO WHEN FIRE OFFICIALS CHANGE (EVERY COUPLE YEARS)

- ADD MORE CITY STATISTICS - IPO RATINGS? ~~REQUEST~~

- REQUEST NEW I.P.O. RATING?

- MENTION

MAINTENANCE CREW  
SPECIFIC PAGE  
- NOT SIGNED IN -

5

PARAGRAPH  
ABOUT  
IMPORTANCE OF MAINT CREW

TOP BAR

CHECK - YOUR CITY  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_  
CHECK →

CITY PROFILE (IF FILLED OUT IF  
ALREADY DONE)  
READY TO FILL OUT IF NOT

SIGN  
IN

10

EDIT  
HISTORY?

ADD/EDIT

ADVERT

MOBILE  
UNIT

HOW TO USE THIS WEBSITE:

SIGN-IN  
VERIFY CITY/ST  
VIEW CITY PROFILE  
REVIEW AND NEEDING  
REQ. B.D FOR SERVICE/PARTS

CELL  
MOD  
LIGHT

OR ORDER PARTS DIRECT  
PERFORM MAINT  
REPORT FIXED IN REQ.

USE  
MOBILE UNIT TO ORGANIZE

AD

TOP RATED CITIES

HYDRANT REQUEST RESULTS  
FOR CITY (IF GIVEN - OTHERWISE DEFAULT)

ADV  
SEARCH

BID ARENA

REQUEST  
BIDS  
FOR  
SERVICE OR  
PARTS

BOTTOM BAR

INSPECTION COMPANY  
SPECIFIC PAGE  
- NOT SIGNED IN -

TOP BAR

AD  
SOFTWARE

PARAGRAPH ABOUT INSP. COMP  
AND THE REGISTRY

ITS FREE!

- CUSTOMIZE YOUR INPUT SCREENS FOR EFFICIENT LOADING
- OR USE MOBILE DEVICE FOR DIRECT INPUT
- SEND NEW ~~JOBS~~ USING THE MARKETPLACE PROCESS

SIGN  
IN

(16)

SEARCH  
MARKETPLACE

CITY \_\_\_\_\_

STATE \_\_\_\_\_

☐ INSP ☐ TEST  
☐ MAINT ☐ OTHER

Search

MARKETPLACE (BIDARENA)

~~SEARCH~~  
GLIMPSE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DEFAULT  
INSP.  
~~IF~~ LOCAL  
IF  
POSSIBLE  
(COOKIE?)

AFFILIATE MEMBERS  
ADVANTAGES

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Join

BASIC SEARCH

\_\_\_\_\_

\_\_\_\_\_

REGISTRY  
GLIMPSE

AD  
TRUCK/TANK  
EQUIP  
LEASE

BOTTOM BAR

- BECOME AN AFFILIATE w/ AFFILIATE ADVANTAGES
- TIE INTO BIDDING ARENA

# PERSONAL PAGE

- SIGNED - IN -

16

## TOP BAR

### PERSONAL INFO

NAME:  
ORGANIZATION:  
TYPE OF MEMBERSHIP:  
EMAIL ADDRESS  
PHYSICAL ADDRESS  
PHONE NUMBER  
CREDIT CARD  
etc  
USERNAME  
PASSWORD  
CHANGE PASSWORD?

WELCOME [YOUR NAME],  
USE THIS PAGE TO KEEP TRACK OF YOUR HYDRANTS,  
PREFERENCES, CONTACT INFORMATION, CITY/COMPANY PROFILE,  
SAVED INPUT SHEETS, LIST OF CONTRACTS, BIOS, ETC.

#### FAVORITES / SAVED SEARCHES

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(smaller)  
↑  
[ ] DEFAULT?  
[ ] DEFAULT?  
[ ] DEFAULT?

REQUEST  
GLIMPSE

↑  
BIDDER  
H

DEFAULT TO CRY  
OR [DEFAULT]

ADV.  
SEARCH

#### PERSONNEL STATISTICS

YOU HAVE INPUTTED \_\_\_\_ HYD  
\_\_\_\_ INSP.

YOU ARE RESPONSIBLE FOR  
\_\_\_\_ HYD  
\_\_\_\_ INSP.

BIDDING STATISTICS?

BIDDING ACTIVITY  
MARKET PLACE

Summary

#### PEOPLE REQUESTING YOUR CONTACT INFO

#### YOUR CURRENT LIST OF CONTRACTS

ADD TO LIST →

## BOTTOM BAR

TO: All water purveyors, businesses, and private hydrant owners

RE: Mandatory Hydrant Testing

With our commitment to the safety and protection of the residents and businesses of [your city] we will begin testing and inspecting all public and private hydrants effective [date]. This will be the first cycle of semi-annual inspections and annual testing in accordance with city/state code.

By including the private hydrants in our citywide service the cost to you is [\$50] per hydrant annually. If you wish to opt out of this program and have your hydrants tested independently please send in the form on the back. Otherwise your participation will be assumed. Please note independent inspection companies are required to report all records to the Hydrant Registry at [hydrantregistry.org](http://hydrantregistry.org).

Through our program, you will be able to access the Hydrant Registry and be notified of suggested and required maintenance. For minor-moderate hydrant problems the owner will be able to order and repair the hydrant himself. For hydrants requiring critical maintenance, maintenance companies may be suggested via the Hydrant Registry.

You will be charged by the city for each hydrant at your address. Acceptance of the inspection will not be complete until payment is received.

This service will improve the response time of the fire department to fight a fire at your location. Every second gained dramatically increases our ability to save lives and property.

In addition, the city's and your commitment to fire hydrant inspection, testing, and maintenance directly leads to improved insurance scores and will ultimately save you, personally, 8%-16% in reduced fire insurance premiums. This translates into \$100's or even \$1000's of dollars.

Please see [www.hydrantworks.com](http://www.hydrantworks.com) for more information.

## OWNERSHIP AND LOCATION

|   |                                     |           |                       |
|---|-------------------------------------|-----------|-----------------------|
|   | Public or Private                   | alpha     | public or private     |
| x | Owner                               | alpha     |                       |
|   | Owner Address Line 1                | alpha     |                       |
|   | Owner Address Line 2                | alpha     |                       |
|   | Property Being Inspected            | alpha     | (may be N/A)          |
|   | Property Address Line 1             | alpha     | (may be N/A)          |
|   | Property Address Line 2             | alpha     | (may be N/A)          |
|   | Country                             | alpha     | USA*,Canada,other     |
| x | State                               | alpha     | choice of states      |
| x | County                              | alpha     |                       |
| x | City                                | alpha     |                       |
|   | District                            | alpha/num |                       |
|   | Zone                                | alpha/num |                       |
|   | Community                           | alpha     |                       |
| x | Street Name                         | alpha/num |                       |
| x | House number                        | num       | (may be N/A)          |
|   | GPS latitude                        | num       |                       |
|   | GPS longitude                       | num       |                       |
|   | GPS elevation                       | num       |                       |
|   | Distance from center of road (feet) | num       | 0 to 500              |
|   | Location type                       | alpha     | city, suburb, highway |

## HYDRANT DESCRIPTION

These questions are important during an initial inspection. Follow

|   |                                  |           |                        |
|---|----------------------------------|-----------|------------------------|
|   | Registry Hydrant #               | alpha/num |                        |
| x | Labeled Hydrant #                | alpha/num |                        |
| x | Make                             | alpha     |                        |
| x | Model                            | alpha/num |                        |
|   | Year manufactured                | num       | yyyy                   |
| x | Installation Date                | date      | yyyy/mm                |
| x | Barrel Color                     | alpha     | r,o,y*,g,b,s,w,other   |
| x | Top Color                        | alpha     | r,o,y*,g,b,s,w,other   |
| x | Nozzle Color                     | alpha     | r,o,y*,g,b,s,w,other   |
| x | Barrel type                      | alpha     | wet or dry             |
|   | Base size                        | num       | 4*,6,other             |
|   | Base connection                  | alpha     | flanged* or grooved    |
|   | Base height above grade (inches) | alpha/num | _-60 to +60, or 'other |
|   | Foundation type                  | alpha     | concrete,asphalt,dir   |
|   | Number of nozzles                | num       | 1-6                    |
|   | Nozzle 1 size                    | num       | 2.5*,4,5,6             |
|   | Nozzle 1 thread type             | alpha/num | nst*,npsh              |
|   | Nozzle 1 orientation             | alpha/num | A to H                 |

|   |                                      |           |            |
|---|--------------------------------------|-----------|------------|
|   | Nozzle 1 height above grade (inches) | num       | 1 to 60    |
|   | Nozzle 2 size                        | num       | 2.5*,4,5,6 |
|   | Nozzle 2 thread type                 | alpha/num | nst*,npsh  |
|   | Nozzle 2 orientation                 | alpha/num | A to H     |
|   | Nozzle 2 height above grade (inches) | num       | 1 to 60    |
|   | Nozzle 3 size                        | num       | 2.5*,4,5,6 |
|   | Nozzle 3 thread type                 | alpha/num | nst*,npsh  |
|   | Nozzle 3 orientation                 | alpha/num | A to H     |
|   | Nozzle 3 height above grade (inches) | num       | 1 to 60    |
|   | Nozzle 4 size                        | num       | 2.5*,4,5,6 |
|   | Nozzle 4 thread type                 | alpha/num | nst*,npsh  |
|   | Nozzle 4 orientation                 | alpha/num | A to H     |
|   | Nozzle 4 height above grade (inches) | num       | 1 to 60    |
|   | Wrench type                          | alpha/num |            |
|   | Hydrant picture                      | picture   |            |
| x | Description Notes#1                  | alpha/num |            |
|   | Description Notes#2                  | alpha/num |            |

#### SERVICE RECORD

|  |                                   |           |                     |
|--|-----------------------------------|-----------|---------------------|
|  | Date                              | date      | yyyy/mm/dd          |
|  | Inspection type                   | alpha     | insp, test and insp |
|  | Weather                           | alpha     |                     |
|  | Temperature                       | alpha/num |                     |
|  | Previous maintenance required     | y/n/na    |                     |
|  | Previous maintenance performed    | y/n/na    |                     |
|  | Maintenance date                  | date      | yyyy/mm/dd          |
|  | Maintenance performed by who      | alpha     |                     |
|  | All maintenance complete          | y/n/na    |                     |
|  | Maintenance completed details     | alpha     |                     |
|  | Maintenance not completed details | alpha     |                     |
|  | Maintenance notes                 | alpha     |                     |

#### TESTING

|    |                                 |           |            |
|----|---------------------------------|-----------|------------|
| xx | Static Pressure (PSI)           | num       | 1 to 200   |
| xx | Residual Pressure (PSI)         | num       | 1 to 200   |
| xx | Rated Capacity / Flow (GPM)     | num       | 1 to 20000 |
|    | Hydrant Capacity Classification | alpha     | AA,A,B,C   |
|    | Test Layout #                   | num       | 1 to 50    |
|    | Residual hydrant #              | alpha/num |            |
|    | Residual city hydrant #         | alpha/num |            |

|    |                               |           |                    |
|----|-------------------------------|-----------|--------------------|
| xx | Residual hydrant location     | alpha     |                    |
| xx | Flow hydrant location         | alpha     |                    |
| xx | Hydrant discharge coefficient | num       | .70, .80, .90      |
|    | Number of Pitot tube readings | num       | 0 to 6             |
| xx | Pitot tube reading #1         | num       | 1 to 150           |
| x  | Pitot tube reading #2         | num       | 1 to 150           |
|    | Pitot tube reading #3         | num       | 1 to 150           |
|    | Pitot tube reading #4         | num       | 1 to 150           |
|    | Pitot tube reading #5         | num       | 1 to 150           |
|    | Pitot tube reading #6         | num       | 1 to 150           |
| xx | Pitot tube nozzle size1       | num       | 2.5*,4,5,other     |
| x  | Pitot tube nozzle size2       | num       | 2.5*,4,5,other     |
|    | Pitot tube nozzle size3       | num       | 2.5*,4,5,other     |
|    | Pitot tube nozzle size4       | num       | 2.5*,4,5,other     |
|    | Pitot tube nozzle size5       | num       | 2.5*,4,5,other     |
|    | Pitot tube nozzle size6       | num       | 2.5*,4,5,other     |
|    | Hoses used                    | num       | 0-4                |
|    | Hose #1 size (inches)         | num       | 2.5*,4,5           |
|    | Hose #1 length (feet)         | num       | 1 to 1000          |
|    | Hose #2 size (inches)         | num       | 2.5*,4,5           |
|    | Hose #2 length (feet)         | num       | 1 to 1000          |
|    | Hose #3 size (inches)         | num       | 2.5*,4,5           |
|    | Hose #3 length (feet)         | num       | 1 to 1000          |
|    | Hose #4 size (inches)         | num       | 2.5*,4,5           |
|    | Hose #4 length (feet)         | num       | 1 to 1000          |
|    | Estimated flow time           | num       | 1 sec to 10 min    |
|    | Estimated gallons flowed      | num       | 10 gal to 5000 gal |
|    | Water sample taken            | y/n       |                    |
|    | Water sample number           | alpha/num | 10000000           |
|    | Water quality test taken      | y/n       |                    |
|    | Water quality test results #1 | alpha     |                    |
|    | Water quality test results #2 | alpha     |                    |
| xx | Testing Notes/Comments        | alpha     |                    |

#### HYDRANT CONDITION

|                      |     |            |
|----------------------|-----|------------|
| Paint                | num | 1,2,3,4*,5 |
| Free of Rust         | num | 1,2,3,4*,5 |
| Cleanliness          | num | 1,2,3,4*,5 |
| Accessibility        | num | 1,2,3,4*,5 |
| Visibility from road | num | 1,2,3,4*,5 |
| ID # legibility      | num | 1,2,3,4*,5 |

|                 |       |            |
|-----------------|-------|------------|
| Functionality   | num   | 1,2,3,4*,5 |
| Overall         | num   | 1,2,3,4*,5 |
| Condition Notes | alpha |            |

#### INSPECTION

|    |                                            |       |                     |
|----|--------------------------------------------|-------|---------------------|
|    | Hydrant operative                          | y/n   |                     |
|    | Reason if inoperative                      | alpha |                     |
|    | Operating nut opens easily                 | y/n   |                     |
| xx | Operating nut in good condition            | y/n   |                     |
|    | Hydrant frozen                             | y/n   |                     |
|    | Hydrant wrapped or covered                 | y/n   |                     |
|    | Hydrant in acceptable location             | y/n   |                     |
|    | Hydrant at acceptable elevation            | y/n   |                     |
|    | Raise or lower hydrant                     | alpha | raise, lower, *none |
|    | Elevation change by how much (inches)      | num   |                     |
|    | Hydrant in acceptable orientatation        | y/n   |                     |
|    | All flange bolts present                   | y/n   |                     |
|    | Flange bolts in good condition             | y/n   |                     |
|    | Couplings present                          | y/n   |                     |
|    | Couplings in good condition                | y/n   |                     |
| xx | Operating nut lubricated                   | y/n   |                     |
| xx | Packing lubricated                         | y/n   |                     |
| xx | Thrust Collar lubricated                   | y/n   |                     |
|    | Stem lubricated                            | y/n   |                     |
|    | Plug lubricated                            | y/n   |                     |
|    | Outlets lubricated                         | y/n   |                     |
|    | Caps lubricated                            | y/n   |                     |
| xx | Top free of cracks and leaks               | y/n   |                     |
| xx | Barrel free of cracks and leaks            | y/n   |                     |
| xx | Outlets free of cracks and leaks           | y/n   |                     |
|    | Outlet caps present                        | y/n   |                     |
|    | Outlet caps removable                      | y/n   |                     |
|    | Outlet cap threads in good condition       | y/n   |                     |
| xx | Outlet threads in good condition           | y/n   |                     |
| xx | Outlet caps slightly more than hand tight? | y/n   |                     |
|    | Outlet cap gaskets in good condition?      | y/n   |                     |
|    | Quick pumper connection available (Stortz) | y/n   |                     |
|    | Chains present                             | y/n   |                     |
|    | Chains attached                            | y/n   |                     |
|    | Chains in good condition                   | y/n   |                     |
|    | Wire present                               | y/n   |                     |
|    | Wire attached                              | y/n   |                     |

|    |                                          |        |
|----|------------------------------------------|--------|
|    | Wire in good condition                   | y/n    |
|    | ID # marked on hydrant (not tag)         | y/n    |
|    | ID # mark in good condition              | y/n/na |
|    | ID # tagged to hydrant                   | y/n    |
|    | ID # tag in good condition               | y/n/na |
| xx | Hydrant drains properly                  | y/n/na |
|    | Drain / overflow visible                 | y/n    |
|    | Adequate clearance around hydrant        | y/n    |
|    | Clear of snow and ice                    | y/n/na |
|    | Reflective type paint                    | y/n/na |
|    | Rated pressure stenciled in black on top | y/n/na |
|    | Rated capacity stenciled on top          | y/n/na |

RECOMMENDED MAINTENANCE – All these fields will be filled out automatically based on other

|  |                                              |        |                     |
|--|----------------------------------------------|--------|---------------------|
|  | ‘Critical’ maintenance needed                | y/n/na |                     |
|  | ‘Important’ maintenance needed               | y/n/na |                     |
|  | ‘Light’ maintenance needed                   | y/n/na |                     |
|  | Thaw hydrant                                 | y/n/na |                     |
|  | Relocate hydrant                             | y/n/na |                     |
|  | Rotate hydrant                               | y/n/na |                     |
|  | Remove hydrant                               | y/n/na |                     |
|  | Replace hydrant                              | y/n/na |                     |
|  | Repair hydrant                               | y/n/na |                     |
|  | Raise hydrant                                | y/n/na |                     |
|  | Lower hydrant                                | y/n/na |                     |
|  | Replace top                                  | y/n/na |                     |
|  | Repair or replace gaskets, packing, or parts | y/n/na |                     |
|  | Pump out water after each use                | y/n/na |                     |
|  | Repair drain                                 | y/n/na |                     |
|  | Repair or replace barrel                     | y/n/na |                     |
|  | Repair or replace nozzle threads             | y/n/na |                     |
|  | Repair or replace operating nut              | y/n/na |                     |
|  | Wrap / cover hydrant                         | y/n/na |                     |
|  | Paint barrel                                 | y/n/na |                     |
|  | Suggested barrel color                       | alpha  | r,o,y,g,b,s,w,other |
|  | Paint top                                    | y/n/na |                     |
|  | Suggested top color                          | alpha  | b,g,o,r             |
|  | Paint caps                                   | y/n/na |                     |
|  | Suggested cap color                          | alpha  | b,g,o,r             |
|  | Rated pressure stenciled in black on top     | y/n/na |                     |
|  | Rated capacity stenciled on top              | y/n/na |                     |

|                                 |        |
|---------------------------------|--------|
| Cleaning                        | y/n/na |
| Landscape / Provide clearance   | y/n/na |
| Add Hydrant ID Tag              | y/n/na |
| Replace Hydrant ID Tag          | y/n/na |
| Add Hydrant ID marking          | y/n/na |
| Re-mark Hydrant ID              | y/n/na |
| Add Blue Reflector in road      | y/n/na |
| Replace Blue Reflector in road  | y/n/na |
| Relocate Blue Reflector in road | y/n/na |
| Add Guard Post                  | y/n/na |
| Relocate Guard Post             | y/n/na |
| Add Caps                        | y/n/na |
| Replace Caps                    | y/n/na |
| Check isolating valve           | y/n/na |
| Add chains                      | y/n/na |
| Replace chains                  | y/n/na |
| Reattach chains                 | y/n/na |
| Add wire                        | y/n/na |
| Replace wire                    | y/n/na |
| Reattach wire                   | y/n/na |
| Lubricate Cap                   | y/n/na |
| Lubricate Stem                  | y/n/na |
| Lubricate Plug                  | y/n/na |
| Lubricate Threads               | y/n/na |
| Add bolts                       | y/n/na |
| Replace bolts                   | y/n/na |
| Add coupling                    | y/n/na |
| Replace coupling                | y/n/na |
| Repair gate valve               | y/n/na |
| Other                           | alpha  |

#### NON-HYDRANT ELEMENTS

|                            |        |
|----------------------------|--------|
| Isolating Valve present?   | y/n    |
| Isolating Valve location   | GPS    |
| Gate Valve accessible      | y/n/na |
| Gate Valve operates easily | y/n/na |
| Gate Valve lubricated      | y/n/na |
| Gate Valve GPS latitude    | num    |
| Gate Valve GPS longitude   | num    |
| Gate Valve GPS elevation   | num    |
| Gate Valve notes           | alpha  |
| Blue reflector in road     | y/n    |

|                                        |        |
|----------------------------------------|--------|
| Blue reflector in good condition       | y/n/na |
| Blue reflector in good location        | y/n/na |
| Blue Reflector GPS latitude            | num    |
| Blue Reflector GPS longitude           | num    |
| Blue Reflector GPS elevation           | num    |
| Blue Reflector notes                   | alpha  |
| Guard post present                     | y/n    |
| Guard post in good condition           | y/n/na |
| Guard post in good location            | y/n/na |
| Guard post recommended                 | y/n    |
| Guard post notes                       | alpha  |
| Hose House present                     | y/n    |
| Hose House in good condition           | y/n/na |
| Hose House in good location            | y/n/na |
| Hose House notes                       | alpha  |
| Road sign present                      | y/n    |
| Road sign in good condition            | y/n/na |
| Road sign in good location             | y/n/na |
| Road sign distance from hydrant (feet) | num    |
| Road sign GPS latitude                 | num    |
| Road sign GPS longitude                | num    |
| Road sign GPS elevation                | num    |
| Road sign details                      | alpha  |
| Indicator Flag present                 | y/n    |
| Indicator Flag in good condition       | y/n/na |
| Indicator Flag in good location        | y/n/na |
| Wall Hydrant GPS latitude              | num    |
| Wall Hydrant GPS longitude             | num    |
| Wall Hydrant GPS elevation             | num    |
| Fire Station GPS latitude              | num    |
| Fire Station GPS longitude             | num    |
| Fire Station GPS elevation             | num    |
| Pump House GPS latitude                | num    |
| Pump House GPS longitude               | num    |
| Pump House GPS elevation               | num    |

#### INSPECTOR INFORMATION

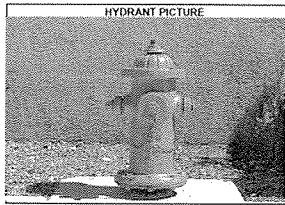
|    |                       |           |
|----|-----------------------|-----------|
| xx | Date                  | date      |
| x  | Company/Employer      | alpha     |
| x  | Contact Address Line1 | alpha/num |
| x  | Contact Address Line2 | alpha/num |
| x  | Contact Phone #       | alpha/num |

|    |                                   |           |
|----|-----------------------------------|-----------|
| xx | Inspector's initials              | alpha     |
|    | Inspector's Unit# (or employee #) | alpha/num |
|    | Inspector's District#             | alpha/num |
|    | Inspector's Region#               | alpha/num |

|                                  |  |                             |  |             |  |                     |  |
|----------------------------------|--|-----------------------------|--|-------------|--|---------------------|--|
| FULL TEST ANNUAL:                |  | ADDRESS: 6606 84TH ST CT NW |  | # IS NEW    |  | HYDRAUNT # 00100187 |  |
| VISUAL INSPECTION / SERV ANNUAL: |  | TOWN: GUY HARBOR            |  | GFD         |  | LAT N 47 20323      |  |
| DATE 14-FEB-2006                 |  | DISTRICT #3                 |  | COORDINATES |  | LONG W 112 56486    |  |
| TIME 12:55 PM                    |  | ZONE B                      |  | ELEV        |  | 100 244             |  |
| WEATHER: RAIN, CLOUDY            |  | COMMUNITY: MILBROOKE        |  |             |  |                     |  |
| TEMP 58 DEG F                    |  |                             |  |             |  |                     |  |

| PHYSICAL DESCRIPTION |                 |                      |          | NOZZLE SIZE AND ORIENTATION |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
|----------------------|-----------------|----------------------|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------|--------|------|---------|---|--------|--------|--------|---|--------|--------|--------|---|--------|--------|--------|---|--------|--------|--------|
| MAKER                | V.S. RSW        | NOZZLE COEFFICIENT   | 6.9      |                             | <table border="1"> <thead> <tr> <th>ORIENTATION</th> <th>HEIGHT</th> <th>SIZE</th> <th>FITTING</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2 1/2"</td> <td>2 1/2"</td> <td>THREAD</td> </tr> <tr> <td>2</td> <td>2 1/2"</td> <td>2 1/2"</td> <td>THREAD</td> </tr> <tr> <td>3</td> <td>2 1/2"</td> <td>2 1/2"</td> <td>THREAD</td> </tr> <tr> <td>4</td> <td>2 1/2"</td> <td>2 1/2"</td> <td>THREAD</td> </tr> </tbody> </table> |  |  | ORIENTATION | HEIGHT | SIZE | FITTING | 1 | 2 1/2" | 2 1/2" | THREAD | 2 | 2 1/2" | 2 1/2" | THREAD | 3 | 2 1/2" | 2 1/2" | THREAD | 4 | 2 1/2" | 2 1/2" | THREAD |
| ORIENTATION          | HEIGHT          | SIZE                 | FITTING  |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| 1                    | 2 1/2"          | 2 1/2"               | THREAD   |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| 2                    | 2 1/2"          | 2 1/2"               | THREAD   |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| 3                    | 2 1/2"          | 2 1/2"               | THREAD   |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| 4                    | 2 1/2"          | 2 1/2"               | THREAD   |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| MATERIAL             | H100            | DRAWN TYPE           | DRY TYPE |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| DATED                | 1979            | FRONT SIDE OF ROAD   |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| COLOR                | YELLOW          | FRONT SIDE OF ROAD   |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
|                      |                 | NORTH                |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| ORIENTN TYPE         | PS 6905/100mm   | SPECIAL MARKINGS     |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| GATE VALVE           |                 | Engineered "G" FLOW  |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| BASE SIZE            |                 |                      |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| BASE CONNECTION      | FLANGE          | NOTES                |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |
| BASE ELEVATION       | 1' ABOVE GROUND | On type concrete pad |          |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |             |        |      |         |   |        |        |        |   |        |        |        |   |        |        |        |   |        |        |        |

| FLOW TEST INFORMATION                                                                                                                                            |                       | HYDRANT PICTURE |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|--|
| STATIC PRESSURE                                                                                                                                                  |                       |                 |  |
| RESIDUAL PRESSURE                                                                                                                                                |                       |                 |  |
| FLOWING                                                                                                                                                          |                       |                 |  |
| RESIDUAL HYDRANT #                                                                                                                                               |                       |                 |  |
| RESIDUAL HYDRANT LOCATION                                                                                                                                        |                       |                 |  |
| Approximately 300' east on 68th St Ct fire                                                                                                                       |                       |                 |  |
| 22 PPD                                                                                                                                                           | PI/TOT TUBE READING 1 | 2.5             |  |
| 22 PPD                                                                                                                                                           | PI/TOT TUBE READING 2 | 2.5             |  |
|                                                                                                                                                                  | PI/TOT TUBE READING 3 |                 |  |
| K WAS WATER FLOWED INTO TANK<br>6 HOSE #USED    SIZE    7.5"    LENGTH    25'<br>6 HOSE EXHAUST    SIZE    2.5"    LENGTH    25'<br>HOSE #USED    SIZE    LENGTH |                       |                 |  |
| ESTIMATED TIME FLOWED                                                                                                                                            |                       | 30 SEG          |  |
| ESTIMATED GPM LOSS FLOWED                                                                                                                                        |                       |                 |  |



| YES                                 | NO                       | CHECKLIST                                         |
|-------------------------------------|--------------------------|---------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | OPERATING NUTS LUBRICATED                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | PACKING LUBRICATED                                |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THRUST COOLERS LUBRICATED                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | OUTLET SUFFERS SLIGHTLY MORE THAN PACKING TIGHT   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THERE ARE NO CRACKS IN THE TOE OF THE HYDRAUNT    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THERE ARE NO HOLLERS IN THE GASKET UNDER CAPS     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | THERE ARE NO CRACKS IN THE HYDRAUNT RAFFERS       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HYDRAUNT CRANKS PROPERLY                          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | OPERATING NUT IS NOT SOVERN (W/O BOLDING COINERS) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | NOZZLE THRUSTERS ARE NOT DAMAGED                  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HUZZLE CAPS ARE TIGHT                             |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | NOZZLE CAPS FIT EASILY                            |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | CHAINS PRESENT                                    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | CHAINS ATTACHED                                   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HYDRAUNT TACKLE NARROW                            |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS LOW REFLECTOR IN ROAD                          |

[illegible]

| CONDITION     |   | BEST 1-WORST 5 |
|---------------|---|----------------|
| RUSTING       | 4 | GENERAL        |
| PAINTING      | 4 | CLEANING       |
| ACCESSIBILITY | 5 |                |
| LANDSCAPING   | 5 |                |
| VISIBILITY    | 5 |                |
| OTHER         |   |                |

HYDRANT WORKS  
P.O. BOX 2586  
GRAND HARBOR, WA 98225  
HYDRANTWORKS.COM

NOZZLE HEIGHT ABOVE GROUND  
MORE NOZZLE OPTIONS (45 DEGREE ANGLES, DOUBLE STACKED)  
DATABASE OF HYDRANT MAKER, MODEL, YEARS FOR AUTOMATIC FILL OUT  
FOUNDATION - CONCRETE, PAVING, DIRT, ASPHALT, GRASS  
OWNER  
CAPACITY  
REMOVABLE MAT?

WEBSITE  
SELL PARTS FOR ALL HYDRANTS  
LINKS TO ISO AND WSRB  
MAP OF UNITED STATES  
LINE BOXES AND DELL

you need sterlized ports 5" barrel and 5" or larger supply to get full ISO credit  
SUGGEST COLORS  
IS IT AN ISO HYDRANT?  
FLUSH TYPE HYDRANT?

CURRENT 150 CREDIT POINTS (BASED ON FORMULAS:  
DRAFT SITES AND CISTERNS NEED TO BE TESTED WITH A PUMP/H AT DRAFT  
CAN THE FIRE DEPT GET water tanks/ credits?

CLEANING FIRE HYDRANTS W/PRESSURE TEST

[illegible]

|                                    |  |
|------------------------------------|--|
| HAS MAINTENANCE BEEN<br>SUGGESTED: |  |
|------------------------------------|--|

## SIMILAR SOFTWARE USES

Hydrants  
Fire Sprinkler Systems  
Fire Alarm System  
Backflow Preventers  
Fire Pumps  
Water Gate Valves  
Fire Department Connections  
Post Indicator Valves  
Culverts  
Telephone Poles  
Street Lights  
Traffic Lights  
Street Signs  
Bridges  
Mailboxes  
Animal Tracking  
Automobiles  
Warehouse Inventory  
Computers  
Houses/Real Estate  
Social Services  
Agriculture  
Vending Machines  
Trees  
Clearcut sites  
Pot Holes  
Virtually any asset - especially ones requiring continuing inspections and ones requiring

Even better for the Inspection company - Owner - Authority triangle

## Status Report

For the week ending 9/28/2007

### Accomplishments this week

- Build 1.0.1 was deployed to production. This build contained image memory fix, stability fixes and new inspection screens.
- Started the mobile auto update functionality
- Development database ported to SQL Server 2005 from MySQL
- General object model cleanup needed to continue development
- Began testing SQL Server reporting
- Began expansion of website security granularity
- Documented the requirements for the Inspection Compliance Registry

### Planned accomplishments for next week

- Sandy to take over Global Registry of hydrants (dot net nuke)
- Complete mobile auto update functionality
- Continue work on requirements for the Inspection Compliance Registry based on feedback
- Review additional requirements from client screen concepts for the Inspection Compliance Registry
- Continue work on security
- Continue work on SQL Server
- Continue testing web and mobile Hydrant Works application

### Issues

- Details of T&M contract will be sent Monday

## Andrew Moren

---

**From:** Andrew Moren [andrew@fireshieldinc.com]  
**Sent:** Monday, January 29, 2007 10:33 PM  
**To:** 'Brian Nelson'  
**Subject:** RE: Use Case Diagrams

Okay, I've spent some time looking at the User cases. Here's some things to consider. Let me know if you think I'm missing something. I appreciate your input.

Regarding the inspection company-

From the 'Inspector', I can see he would also need to 'CREATE HYDRANT (MOBILE)'

I can't think where he would need to CREATE HYDRANT (WEB), MODIFY HYDRANT (WEB), ENTER INSPECTION (WEB), or MODIFY INSPECTION (WEB) specifically as an 'Inspector'. Also I don't see him connected to ENTER TIME (WEB) or MODIFY TIME ENTRY (WEB). His entire connection will be MOBILE. Of course he has access to WEB as does anyone but only as a 'Data Entry' role. His connection to SEARCH HYDRANTS (WEB) might need to have a SEARCH HYDRANTS (MOBILE) between him and the WEB. As if to say, he'll search his mobile device first and if it's not found then the Mobile device will search the Server Database.

I'm not sure when the Inspector will need to ENTER TIME (WEB) or MODIFY TIME (WEB). I anticipate any modification to his time will need to happen at the Inspection Manager or Accounting level.

The Data Entry position will also need to SEARCH HYDRANT (WEB).

The Inspection Manager will need to ENTER TIME (WEB) (his own) and MODIFY TIME (everyones).

I don't know if we need a connection from MODIFY INSPECTION ROUTE and SEARCH HYDRANT (WEB).

There's a double line between Inspection Manager and MODIFY INSPECTION ROUTE. I didn't know if this has a different meaning.

I considered the idea of putting a new SAVE INSPECTION ROUTE bubble and connecting to FOLLOW ROUTE (MOBILE), MODIFY INSPECTION ROUTE, CREATE INSPECTION ROUTE, CREATE INSPECTION ROUTE, and ASSIGN INSPECTION ROUTE. However this may be redundant to the logic. Perhaps saving is already assumed.

Regarding the Global Registry cases-

We should show the distinction of someone who has signed up (CREATE ACCOUNT) versus the general public for SEARCHING HYDRANTS and SEARCHING INSPECTIONS. Im not sure what the difference is between searching hydrants and searching inspections.

The hardest thing for me was the MODIFY HYDRANT (WEB) or (MOBILE) bubbles. I can understand the need to modify inspections but I have to think about when I want someone to be able to modify or delete a hydrant. There needs to be an added level of security to prevent someone from WEB to modify/delete hydrants. I can see where someone makes a mistake during Data Entry and needs to fix or delete their mistake and start over (maybe) or hydrants that were intended to be installed were never done, but I don't want someone (maliciously or by accident) to permanently affect records. I'm still trying to solve this problem for both the Inspection company model and the Global Database model. Let me know if you have an idea. Call and we can discuss.

Thanks!

Andrew Moren  
Fireshield Inc  
253-851-0030

-----Original Message-----

**From:** Brian Nelson [mailto:brian@concretize.com]

**Sent:** Friday, January 26, 2007 10:59 AM

**To:** 'Andrew Moren'

**Subject:** RE: Use Case Diagrams

Sounds good

---

**From:** Andrew Moren [mailto:andrew@fireshieldinc.com]

**Sent:** Friday, January 26, 2007 10:58 AM

**To:** 'Brian Nelson'

**Subject:** RE: Use Case Diagrams

That sounds great. The databases will be separate but the coding is the same. I'm reviewing the case diagrams. I'll have a few changes when I'm done. I'll probably call you later when I get a chance.

Thanks!

Andrew Moren

Fireshield Inc

253-851-0030

-----Original Message-----

**From:** Brian Nelson [mailto:brian@concretize.com]

**Sent:** Friday, January 26, 2007 9:45 AM

**To:** 'Andrew Moren'

**Cc:** 'Byron Whipple'

**Subject:** Use Case Diagrams

Andrew,

I have attached two Use Case diagrams. Each bubble represents coding work. Going through the uses of both the Global Registry and the Inspection Company it looks like we really only have to build one system. The Global Registry is just a subset of the functionality of the Inspection Company. So that should reduce our overall coding effort.

For performance reasons we will implement multiple instances of the system, but we will only have to build one code base. So when we get to coding we will build in the configuration parameters to allow an instance of the system to have functionality turned on or off.

Let me know if you see any functionality that I have missed.

Talk more soon,

Brian

## Andrew Moren

---

**From:** Andrew Moren [andrew@fireshieldinc.com]  
**Sent:** Monday, April 09, 2007 11:43 AM  
**To:** 'Brian Nelson'  
**Subject:** RE: User Interface Concept Document

Brian,

Thanks for the update. I wasn't sure which page you were developing; the 'user interface' for our mobile crew or for the web user. My guess is this is for the web user based on screen size. Sample 1 is nice. I would shorten the width of the yellow border and add a yellow strip along the 'description' 'design' etc bar. I hadn't thought of the idea of keeping the top half available while changing the bottom half. It's interesting but I'm worried it's going to take up too much space for other pages. I'd like to minimize what's kept up on top so we have more space to organize the bottom of the page (same reason why I want to minimize the border).

I think it would be helpful to have the address and hydrant number showing at all times. The picture would be nice but I don't think most web user's will be able to load a picture. If one is available then let's have it up. Let's keep the other data under 'Description'.

Let me know what your plan is with 'Inspection Manager', 'Inspector', etc on the side. Where would each of those take me? If we use them, they may be better along the top row to save space.

My focus on entering data is to simplify/organize the look. Using rows and columns and breaking things up in little chunks are helpful even if it means more pages. Maybe we can minimize or hide data until its pertinent. (for example, hiding the GPS lat, long, and elevation until someone checks GPS) When I fill out forms online I'm always intimidated by the look of forms that have tons of entry points.

The people using the web user interface will be fire departments and 'brand-x' hydrant inspection companies. Each department/company has there own method of inspecting and testing data and there own form. Although a lot of the info is straight out of an NFPA form. What I'd like to see is a way to create a simplified form for them to create, print off, and use in the field that matches an online form that they can tab through and fill out. I like the form we are creating however it's going to require other dept/companies to have to tab past a lot of info. Perhaps we can have an online form created (manually or automatically) depending on the information that's standard (from NFPA) and what's of interest to them.

Regardless, the final report on the registry will look the same for everyone. Their hydrants will just have less information in them.

So to summarize for web based input –

1. Entry points should be organized into an easy to read columns and rows even if it takes up more space.
2. Allow user to create an online form to print and for data entry.

There are existing hydrant inspection software programs that collect the data and store it locally only (using their own software). We will need to provide 'hooks' for these programs so they can transfer their information into the registry easily as well. I suspect they use a simple database or save each inspection as a file. This coordination will have to happen later on but I wanted you to keep it in mind.

Call me so we can discuss. Also so we can discuss the look of the mobile unit interface and the registry report.

Thanks,

Andrew Moren  
Fireshield Inc  
253-851-0030

-----Original Message-----

**From:** Brian Nelson [mailto:brian@concretize.com]

**Sent:** Friday, April 06, 2007 4:54 PM

**To:** 'Andrew Moren'

**Subject:** User Interface Concept Document

Andrew,

Here are some options that we can look at for the design of the users interface.

Let us know what you like/dislike and why.

Thanks,

Brian

Concretize, Inc.

Making the abstract take shape

# Fireshield User Interface Concept Proposal

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## User Interface

### Overview

During Phase 1, User Interface prototypes have been created in order to assist in the actual creation of the web application, but also to ensure that the project direction is proceeding according to the expectations of all project participants.

### User Interface

The first mockup User Interface is for the main hydrant information page titled *Hydrant Editor*. The information included in this interface was derived directly from the *Excel* "Fire Hydrant Inspection, Test, and Maintenance Report Sheet" provided to Concretize, Inc. Due to the different parameters inherent in using web sites as opposed to paper, the information has been divided up into a series of sections.

The main section, which will be visible at all times while using the Hydrant Editor interface, includes the following information:

- Hydrant Number
- Location (address, community, etc.)
- GPS information
- Test Type
- Date and Time of test

The bottom half of the user interface will include input options for the additional required information.

The basic design strategy for the interface was to create a usable form that would be easy to read, input data, and adapt for varying needs. The form was created using CSS so that changing content or options at a later date will be easily accomplished.

### Input Categories

The data in the bottom half of the user interface is broken into six categories. A basic description of the contents of each of these categories is included.

### Description

The Description section (shown in all four samples) includes data about the make, model, color, and all physical description information included in the *Excel* sheet with the exception of the graphic relating to Nozzle Size and Orientation (which will be included under the heading Design).

## Design

The Design section will include the graphic and entry options shown in the Nozzle Size and Orientation section of the original *Excel* document.

## Flow Test

The Flow Test section will include input options for the static and residual pressure and all other options described in the Flow Test Information section of the *Excel* document.

## Check List

The Check List section will include yes/no/na options for the content of the Check List section of the *Excel* document.

## Condition

The Condition section will include information and the ability to rate the condition of the rusting, painting, accessibility, landscaping, and visibility of the hydrant.

## Service Record

The Service Record section will include the history of the service and tests performed on the hydrant.

## Samples

The following design concepts provide a variety of User Interface options.

### User Interface Sample 1

The screenshot displays a web browser window titled "Fireshield" with the URL "www.fireshield.com". The browser's address bar and menu bar are visible. The application interface features a sidebar on the left with a fire hydrant icon and a menu containing "Inspection Manager", "Inspector", "Data Entry", and "Accounting". The main content area is titled "Hydrant Editor" and contains a form for editing hydrant information. The form includes fields for Hydrant #, New Hydrant, District, Zone, Location Address, Town, Community, GPS coordinates (LAT, LONG, ELEV), Test Type (set to Full Test (Annual)), Date, Temp, Time (am/pm), and Weather. Below these fields is a table with columns: Description, Design, Flow Test, Check List, Condition, and Service Record. The table contains one row with the following data: Make, Model, Dated, Color (Yellow), Nozzle Coefficient, Barrel Type, Dist From CL of Road, Which Side of Road (North), Wrench Type, Gate Valve, Base Size, Base Connection, Base Elevation, Special Markings, and Notes.

**Fireshield**

Inspection Manager

Inspector

Data Entry

Accounting

**Hydrant Editor**

Hydrant #:  New Hydrant: ☐ District:  Zone:

Location: Address:

Town:  Community:

GPS: LAT:  LONG:  ELEV:

Test Type:  Date:  Temp:

Time:  ☐ am ☐ pm Weather:

| Description                                | Design                                                 | Flow Test                         | Check List                                 | Condition                                | Service Record                        |
|--------------------------------------------|--------------------------------------------------------|-----------------------------------|--------------------------------------------|------------------------------------------|---------------------------------------|
| Make: <input type="text"/>                 | Model: <input type="text"/>                            | Dated: <input type="text"/>       | Color: <input type="text" value="Yellow"/> | Nozzle Coefficient: <input type="text"/> | Barrel Type: <input type="text"/>     |
| Dist From CL of Road: <input type="text"/> | Which Side of Road: <input type="text" value="North"/> | Wrench Type: <input type="text"/> | Gate Valve: <input type="text"/>           | Base Size: <input type="text"/>          | Base Connection: <input type="text"/> |
| Base Elevation: <input type="text"/>       | Special Markings: <input type="text"/>                 | Notes: <input type="text"/>       |                                            |                                          |                                       |

Done

## User Interface Sample 2

Fireshield

[www.fireshield.com](#)
Google

[Getting Started](#)
[Latest Headlines](#)

[Disable](#)
[Cookies](#)
[CSS](#)
[Forms](#)
[Images](#)
[Information](#)
[Miscellaneous](#)
[Outline](#)
[Resize](#)
[Tools](#)

# Fireshield



### Hydrant Editor

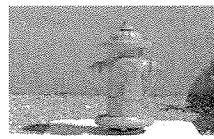
Inspection Manager

Inspector

Data Entry

Accounting

Hydrant #: 
New Hydrant: ☐
District: 
Zone:



Location: Address:

Town: 
Community:

GPS: LAT: 
LONG: 
ELEV:

Test Type: 
Date: 
Temp:

Time: 
☐ am
☐ pm
Weather:

| Description                                            | Design                                | Flow Test                                  | Check List                                 | Condition | Service Record |
|--------------------------------------------------------|---------------------------------------|--------------------------------------------|--------------------------------------------|-----------|----------------|
| Make: <input type="text"/>                             | Model: <input type="text"/>           | Dated: <input type="text"/>                | Color: <input type="text" value="Yellow"/> |           |                |
| Nozzle Coefficient: <input type="text"/>               | Barrel Type: <input type="text"/>     | Dist From CL of Road: <input type="text"/> |                                            |           |                |
| Which Side of Road: <input type="text" value="North"/> | Wrench Type: <input type="text"/>     | Gate Valve: <input type="text"/>           |                                            |           |                |
| Base Size: <input type="text"/>                        | Base Connection: <input type="text"/> | Base Elevation: <input type="text"/>       |                                            |           |                |
| Special Markings: <input type="text"/>                 |                                       |                                            |                                            |           |                |
| Notes: <input type="text"/>                            |                                       |                                            |                                            |           |                |



Done

## User Interface Sample 3



# Fireshield

### Hydrant Editor

Inspection Manager

Inspector

Data Entry

Accounting

Hydrant #:

New Hydrant: ☐

District:

Zone:

Location: Address:

Town:

Community:

GPS: LAT:

LONG:

ELEV:

Test Type:

Date:

Temp:

Time:

Weather:

| Description                                            | Design                                | Flow Test                                  | Check List                                 | Condition | Service Record |
|--------------------------------------------------------|---------------------------------------|--------------------------------------------|--------------------------------------------|-----------|----------------|
| Make: <input type="text"/>                             | Model: <input type="text"/>           | Dated: <input type="text"/>                | Color: <input type="text" value="Yellow"/> |           |                |
| Nozzle Coefficient: <input type="text"/>               | Barrel Type: <input type="text"/>     | Dist From CL of Road: <input type="text"/> |                                            |           |                |
| Which Side of Road: <input type="text" value="North"/> | Wrench Type: <input type="text"/>     | Gate Valve: <input type="text"/>           |                                            |           |                |
| Base Size: <input type="text"/>                        | Base Connection: <input type="text"/> | Base Elevation: <input type="text"/>       |                                            |           |                |
| Special Markings: <input type="text"/>                 |                                       |                                            |                                            |           |                |
| Notes: <input type="text"/>                            |                                       |                                            |                                            |           |                |



Done

## User Interface Sample 4

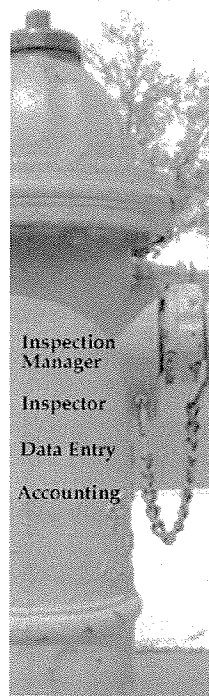
**Fireshield**

www.fireshield.com

Getting Started Latest Headlines

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# Fireshield



## Hydrant Editor

Hydrant #: \_\_\_\_\_ New Hydrant: ☐ District: \_\_\_\_\_ Zone: \_\_\_\_\_

Location: Address: \_\_\_\_\_

Town: \_\_\_\_\_ Community: \_\_\_\_\_

GPS: LAT: \_\_\_\_\_ LONG: \_\_\_\_\_ ELEV: \_\_\_\_\_

Test Type: Full Test (Annual) Date: \_\_\_\_\_ Temp: \_\_\_\_\_

Time: \_\_\_\_\_ am Weather: \_\_\_\_\_  
pm

| Description               | Design                 | Flow Test                   | Check List    | Condition | Service Record |
|---------------------------|------------------------|-----------------------------|---------------|-----------|----------------|
| Make: _____               | Model: _____           | Dated: _____                | Color: Yellow |           |                |
| Nozzle Coefficient: _____ | Barrel Type: _____     | Dist From CL of Road: _____ |               |           |                |
| Which Side of Road: North | Wrench Type: _____     | Gate Valve: _____           |               |           |                |
| Base Size: _____          | Base Connection: _____ | Base Elevation: _____       |               |           |                |
| Special Markings: _____   |                        |                             |               |           |                |
| Notes: _____              |                        |                             |               |           |                |

Done

Why the Fire Marshal can afford this –

One city worker is costing about \$80,000/yr (w/benefits etc). For that he is flushing some of the mains, inspecting and maintaining some of the hydrants, and occasionally flow testing (?). In most cases, this happens in teams of two or three workers that still don't inspect all the hydrants annually.

If a city has 2000 hydrants it may currently cost  $80k \times 3 \text{ workers} = \$240,000$  a year. HydrantWorks would cost approx  $\$30 \times 2000 = \$60,000$  to inspect, test, and flush the hydrants. Leaving a smaller crew free to repair or add hydrants. Now one worker could repair and maintain the hydrants for a cost of \$80,000/yr.

Current Budget = \$240,000 for 3 city workers (inspect, test, flush, maintain hydrants)

New Budget = \$60,000 for Hydrants Works  
\$80,000 for 1 city worker for repair/maintenance  
Total = \$140,000

Leaving  $(\$240,000 - \$140,000) = \$100,000/\text{yr}$  for improvements to the fire department and water system.

In addition to the savings, they get 100% hydrants inspected every year, flow tested, widespread flushing at every hydrant. The new maintenance staff has all the work setup and organized for them via the registry. They also get GPS coordinates and GIS mapping for all the hydrants. The registry will be a communication tool for the fire marshal/authority and the maint workers.

The maint crews save budgeted money because their work is laid out for them and they have the ability to order parts or service right from the registry or request bids.

Moreover adding HydrantWorks as a service can improve a city's ISO PPC rating which will decrease city wide fire insurance premiums 8%-16%. In a statewide study this created over \$100 million savings. (Gov Huckabee – AK).

## Electronic Patent Application Fee Transmittal

|                                             |                                                                    |                 |               |                             |
|---------------------------------------------|--------------------------------------------------------------------|-----------------|---------------|-----------------------------|
| <b>Application Number:</b>                  |                                                                    |                 |               |                             |
| <b>Filing Date:</b>                         |                                                                    |                 |               |                             |
| <b>Title of Invention:</b>                  | METHODS AND SYSTEMS FOR A GLOBAL POSITIONING DATABASE AND REGISTRY |                 |               |                             |
| <b>First Named Inventor/Applicant Name:</b> | Andrew S. Moren                                                    |                 |               |                             |
| <b>Filer:</b>                               | Richard Thomas Black/Myla Kent                                     |                 |               |                             |
| <b>Attorney Docket Number:</b>              | HYDR-1-1006                                                        |                 |               |                             |
| Filed as Small Entity                       |                                                                    |                 |               |                             |
| <b>Provisional Filing Fees</b>              |                                                                    |                 |               |                             |
| <b>Description</b>                          | <b>Fee Code</b>                                                    | <b>Quantity</b> | <b>Amount</b> | <b>Sub-Total in USD(\$)</b> |
| <b>Basic Filing:</b>                        |                                                                    |                 |               |                             |
| Provisional Application filing fee          | 2005                                                               | 1               | 105           | 105                         |
| <b>Pages:</b>                               |                                                                    |                 |               |                             |
| <b>Claims:</b>                              |                                                                    |                 |               |                             |
| <b>Miscellaneous-Filing:</b>                |                                                                    |                 |               |                             |
| <b>Petition:</b>                            |                                                                    |                 |               |                             |
| <b>Patent-Appeals-and-Interference:</b>     |                                                                    |                 |               |                             |
| Post-Allowance-and-Post-Issuance:           |                                                                    |                 |               |                             |
| <b>Extension-of-Time:</b>                   |                                                                    |                 |               |                             |

| Description              | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--------------------------|----------|----------|--------|----------------------|
| <b>Miscellaneous:</b>    |          |          |        |                      |
| <b>Total in USD (\$)</b> |          |          |        | <b>105</b>           |

## Electronic Acknowledgement Receipt

|                                             |                                                                    |
|---------------------------------------------|--------------------------------------------------------------------|
| <b>EFS ID:</b>                              | 2353952                                                            |
| <b>Application Number:</b>                  | 60981784                                                           |
| <b>International Application Number:</b>    |                                                                    |
| <b>Confirmation Number:</b>                 | 6658                                                               |
| <b>Title of Invention:</b>                  | METHODS AND SYSTEMS FOR A GLOBAL POSITIONING DATABASE AND REGISTRY |
| <b>First Named Inventor/Applicant Name:</b> | Andrew S. Moren                                                    |
| <b>Customer Number:</b>                     | 25315                                                              |
| <b>Filer:</b>                               | Richard Thomas Black/Myla Kent                                     |
| <b>Filer Authorized By:</b>                 | Richard Thomas Black                                               |
| <b>Attorney Docket Number:</b>              | HYDR-1-1006                                                        |
| <b>Receipt Date:</b>                        | 22-OCT-2007                                                        |
| <b>Filing Date:</b>                         |                                                                    |
| <b>Time Stamp:</b>                          | 20:22:51                                                           |
| <b>Application Type:</b>                    | Provisional                                                        |

### Payment information:

|                                          |        |
|------------------------------------------|--------|
| Submitted with Payment                   | yes    |
| Payment was successfully received in RAM | \$ 105 |
| RAM confirmation Number                  | 3887   |
| Deposit Account                          |        |

### File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)<br>/Message Digest | Multi Part /.zip | Pages (if appl.) |
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| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            | HYDR-1-1006T1.pdf   | 130398<br>64d6e2c5c7f233f16e4e4cb9403f94cd21885890   | yes        | 3   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Multipart Description/PDF files in .zip description</b> |                     |                                                      |            |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Document Description</b>                                |                     | <b>Start</b>                                         | <b>End</b> |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Miscellaneous Incoming Letter                              |                     | 1                                                    | 2          |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Specification                                              |                     | 3                                                    | 3          |     |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                     |                                                      |            |     |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |                     |                                                      |            |     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Specification                                              | HYDR-1-1006PROV.pdf | 11804598<br>216786cb10beb4ef98499c20adde584ae147c240 | no         | 128 |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                     |                                                      |            |     |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |                     |                                                      |            |     |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Fee Worksheet (PTO-06)                                     | fee-info.pdf        | 8166<br>01cd21f394d144d4109f9960cdbbfc6fd66c49c      | no         | 2   |
| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                     |                                                      |            |     |
| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |                     |                                                      |            |     |
| <b>Total Files Size (in bytes):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |                     | 11943162                                             |            |     |
| <p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b><br/> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b><br/> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b><br/> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p> |                                                            |                     |                                                      |            |     |