


OUC Hydrant Audit Life-Cycle



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Overview

- Original Hydrant Program
 - Out-Sourced and In-House Hydrant Audits
 - OUC MS Access Hydrant Database and GIS Information
 - Benefits and Problems of OUC Hydrant Audit Program
 - Fire Departments and Fire Hydrants
 - New Fire Hydrant GIS Solution
 - Demo
 - Questions
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Original Hydrant Program

- Pre-GIS
- Map Location of Hydrants
- Flow Hydrants Only for Customer Flow Tests
- Repair Hydrants Only When Reported Broken
- Paint Hydrants When Scheduled
- Paper Service Records

Outsourced Hydrant Audit

- November 1998 - Metro Service Consultants
 - 2000 Hydrants Audited in the NE and SE Areas of OUC's WSA.
 - Data Collected on Each Hydrant Along with the Work Required
 - Generalized Look at the State of OUC Hydrants
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- Decorative water ripples in the bottom right corner of the slide.


Summary of Work Needed

<u>Work Required</u>	<u>No. of Hyd.</u>	<u>Work Required</u>	<u>No. of Hyd.</u>	<u>Work Required</u>	<u>No. of Hyd.</u>
Bonnet Rework	43	Replace Operating Nut	1	Lube Operating Nut	1
Replace Oper. Screw	3	Replace Weather Cap	99	Flange Gasket	1
Replace Oil Fill Plug	4	Replace Safety Cplg.	5	Rotate Hydrant	5
Replace Hose Cap	20	Replace Pumper Cap	1	Safety Flange Kit	1
Lube Nozzles	1	No Cement Collar	1205	Non-Traffic Style Hyd.	333
Replace Hose Nozzle	5	Needs Set of Chains (3)	119	Private Hydrants	390
Set of Chains/Hooks (3)	532	Replace Valve Box	2	Rework Cap	54
Straighten Valve Box	3	Add "S" Hook	127	Add (2) "S" Hooks	56
Replace (3) "S" Hooks	3	Straighten Hydrant	67	Replace Valve Box Lid	3
Replace Bonnet Gasket	2	Upper Stem Replace.	1	Main Valve Replace.	34
Drain Facing Replace	4	Operating Nut Area	164	Exten. Required (12")	48
Exten. Required (18")	7	No Shut Off Valve	1131	Out of Service	12


In-House Hydrant Audit

- Pre-GIS
- MS Access Database - Jan 1999
- Dedicated Hydrant Person/Truck
- Based on Field Comments
 - Database of Hydrants Specs
 - Database of Audit Information

MS Access Hydrant Spec Search/Report

FastLook Viewer				Calculator		
Address/Map Panel Finder				QUIT APPLICATION		
OUC Street Index						
OUC The Reliable One FIRE HYDRANT PROGRAM						
DATABASE PROGRAM						
Search Database by:		<input type="text"/>				
Preview Report by:		<input type="text"/>				
Print Report by:		<input type="text"/>				
		Hydrant Address				
		Intersecting Street				
		Map Section				
		Hydrant ID				
		Hydrant Make				
		Hydrant Model				
		20 psi Rate				
Hydrant Database Program		Month Preview/Report		Hyd. Flows <500 gpm Report		
Hydrant Audit Program		Hyd. Repaired by Date Preview/Report		Hyd. Flows <1000 gpm Report		
		Monthly Flow Test Gals Preview/Report				

MS Access Hydrant Audit Search/Report

<div>FastLook Viewer</div> <div>Address/Map Panel Finder</div> <div>OUC Street Index</div>			<div>OUC </div> <div><i>The Reliable One</i></div> <div>FIRE HYDRANT PROGRAM</div>		<div>Calculator</div> <div>QUIT APPLICATION</div>	
<div>DATABASE PROGRAM</div> <div>Search Database by: <input type="text"/></div> <div>Preview Report by: <input type="text"/></div> <div>Print Report by: <input type="text"/></div>			<div>AUDIT PROGRAM</div> <div>Search Database by: <input type="text"/></div> <div>Preview Report by: <input type="text"/></div> <div>Print Report by: <input type="text"/></div>			
<div>Hydrant Database Program</div> <div>Hydrant Audit Program</div>		<div>Hyd. Audits per Month Preview/Report</div> <div>Hyd. Repaired by Date Preview/Report</div> <div>Monthly Flow Test Gals Preview/Report</div>		<div>Hyd. F</div> <div>Hyd. F</div> <div><div>Replaced Hydrant</div><div>Replaced Valve Seat</div><div>Replaced Main Valve</div><div>Replaced Traffic Kit</div><div>Sandblast,Prime,Paint</div><div>Hyd Extension 6</div><div>Hyd Extension 12</div><div>Hyd Extension 18</div><div>To be Repaired</div><div>Out of Service by Date</div><div>Hydrant ID Query</div><div>Concrete Collar</div></div>		

MS Access Hydrant Spec Input Form

FIRE HYDRANT DATABASE PROGRAM			
DATE:	8/17/2006	TRUCK ASSIGNED:	286
MAP SECTION:	Sw14F	HYDRANT NO.:	04
		HYDRANT ID:	HSw14F04
HYDRANT ADDRESS:	LUGE LN		
INTERSEC. STREET:	ZUNA WAY		
OPENING DIRECTION:	FIRE HYDRANT:	LEFT	VALVE: LEFT
VALVE LOC. FROM HYD.:	EAST	BURY DEPTH:	5'
YEAR MFR'D.:	2005	NON-TRAFFIC:	NO
		PRIV. HYD.:	NO
		CONC. COLLAR:	YES
MANUFACTURER:	AMERICAN DARLING	MODEL:	B-84-B (5_25")
NOT FOR DESIGN PURPOSES			
STATIC PRESSURE:	70	PSI	RESIDUAL PRESSURE: 0 PSI
			FLOW TEST: 60 PSI
FLOW:	1301	GPM	AVAILABLE FIRE FLOW AT 20 PSI: 0 GPM
VALVE MILEAGE:	115'S 11"W C/L S.D. C.B.		
COMMENTS:	NEW INSTALL. JH JT 299		
		GO TO RECORD	
		[Back] ←	
		[Forward] →	
		PRINT SELECTION	
		EXIT	
CALCULATOR		OPEN AUDIT PROGRAM	

MS Access Hydrant Audit Input Form

FIRE HYDRANT AUDIT PROGRAM			
AUDIT DATE:	<input type="text" value="8/17/2006"/>	TRUCK ASSIGNED:	<input type="text" value="286"/>
		FIND HYDRANT ID:	<input type="text" value="HSW14F04"/>
HYDRANT OUT OF SERVICE:	<input type="text" value="NO"/>	HYDRANT NEEDS REPAIR:	<input type="text" value="NO"/>
		REPAIR DATE:	<input type="text"/>
CHANGE THIS DATA ONLY IN THE FIRE HYDRANT DATABASE PROGRAM			
		HYDRANT ID:	<input type="text" value="HSW14F04"/>
YEAR MFR'D.:	<input type="text" value="2005"/>	MANUFACTURER:	<input type="text" value="AMERICAN DARLING"/>
		MODEL:	<input)"="" type="text" value="B-84-B (5_25"/>
HYDRANT ADDRESS:		<input type="text" value="LUGE LN"/>	
INTERSEC. STREET:		<input type="text" value="ZUNA WAY"/>	
WORK NEEDED			
		LEAD PAINT:	<input type="text" value="NO"/>
PLUG BLEEDERS:	<input type="text" value="NO"/>	ROTATE HYD.:	<input type="text" value="NO"/>
		V. BOX TO GRADE:	<input type="text" value="NO"/>
		HYD. EXTENSION 6":	<input type="text" value="NO"/>
BONNET REWORK:	<input type="text" value="NO"/>	STRAIGHTEN HYD.:	<input type="text" value="NO"/>
		VALVE BOX LID:	<input type="text" value="NO"/>
		HYD. EXTENSION 12":	<input type="text" value="NO"/>
CONC. COLLAR:	<input type="text" value="NO"/>	SB/ PRIME/ PAINT:	<input type="text" value="NO"/>
		STRAIGHT. V. BOX:	<input type="text" value="NO"/>
		HYD. EXTENSION 18":	<input type="text" value="NO"/>
REPLACE			
BONNET GASKET:	<input type="text" value="NO"/>	UPPER STEM:	<input type="text" value="NO"/>
		OPERATING NUT:	<input type="text" value="NO"/>
		HOSE CAP:	<input type="text" value="NO"/>
FLANGE GASKET:	<input type="text" value="NO"/>	HYDRANT:	<input type="text" value="NO"/>
		VALVE SEAT:	<input type="text" value="NO"/>
		PUMPER CAP:	<input type="text" value="NO"/>
HOSE NOZ. GASKET:	<input type="text" value="NO"/>	BONNET:	<input type="text" value="NO"/>
		MAIN VALVE:	<input type="text" value="NO"/>
		WEATHER CAP:	<input type="text" value="NO"/>
PUMP NOZ. GASKET:	<input type="text" value="NO"/>	PUMPER:	<input type="text" value="NO"/>
		TRAFFIC REPAIR KIT:	<input type="text" value="NO"/>
		SET OF 3 CHAINS:	<input type="text" value="NO"/>
MAINTENANCE			
LUBE NOZZLES:	<input type="text" value="YES"/>	LUBE FILL PLUG:	<input type="text" value="NO"/>
		LUBE OPER. NUT:	<input type="text" value="NO"/>
		GREASE FITTING OP. NUT:	<input type="text" value="NO"/>
COMMENTS:	<input type="text" value="JH JT 299."/>		
		GO TO RECORD	
		[Back]	<input type="text" value="←"/>
		[Forward]	<input type="text" value="→"/>
		PRINT SELECTION	EXIT
		CALCULATOR	OPEN DATABASE PROGRAM

GIS/MS Access Hydrant Database

- GIS Implemented Nov 2002
- Geographical Location of Hydrants
- MS Access Database Referenced to GIS
 - Geo-coded Hydrant ID Number
- GIS & MS Access Database Still Disconnected
 - Hydrant ID Number Manually Inputted

GIS OUC Hydrant Information

- Hydrants ID Tagged in Field
- Approx 9,330 Public Hydrants
- Approx 5,340 Hydrants in Orlando City Limits
- Approx 3,990 Hydrants in Orange County
- GIS Confidence Level of Hydrant Location
 - Valve Audit
 - OUC Database MS Access
 - OUC Existing Map Location
 - OUC GPS
 - Fire Department GPS
 - Unknown



Current GIS Hydrant Attributes

Attributes of Hydrant							
SubtypeCD	UTILITYNUMBER	Shape^	DATECREATED	CREATIONUSER	DATEMODIFIED	LASTUSER	CONFIDENCE
Public Hydrant	HNE07F04	Point	2/26/2003	mcline	6/14/2006	zassh281	6
Public Hydrant	HNE07F05	Point	2/27/2003	mcline	6/14/2006	zassh281	6
Public Hydrant	HNE07F07	Point	1/5/2004	MCline	6/22/2006	zassh281	6
Public Hydrant	HNE07F07	Point	1/5/2004	MCline	6/22/2006	zassh281	6
Public Hydrant	HNE07F08	Point	1/5/2004	MCline	6/26/2006	zassh281	6
Public Hydrant	HNE07F09	Point	8/12/2003	mcline	6/26/2006	zassh281	6
Public Hydrant	HNE07F10	Point	12/31/2003	MCline	6/26/2006	zassh281	6
Public Hydrant	HNE07F12	Point	12/18/2003	MCline	6/26/2006	zassh281	6
Public Hydrant	HNE07F13	Point	8/11/2003	mcline	6/14/2006	zassh281	6
Public Hydrant	HNE07F1o	Point	12/18/2003	MCline	6/26/2006	zassh281	6
Public Hydrant	HNE07G01	Point	1/5/2004	MCline	6/22/2006	zassh281	6
Public Hydrant	HNE07G01	Point	1/9/2004	MCline	1/9/2007	clinm379	6
Public Hydrant	HNE07G02	Point	1/5/2004	MCline	6/20/2006	zassh281	6
Public Hydrant	HNE07G03	Point	1/8/2004	MCline	6/22/2006	zassh281	6
Public Hydrant	HNE07G04	Point	1/8/2004	MCline	6/22/2006	zassh281	6
Public Hydrant	HNE07G07	Point	6/29/2005	mcline	6/20/2006	zassh281	6
Public Hydrant	HNE07G08	Point	6/29/2005	mcline	6/20/2006	zassh281	6
Public Hydrant	HNE07G10	Point	6/29/2005	mcline	6/20/2006	zassh281	6
Public Hydrant	HNE07G11	Point	6/29/2005	mcline	6/20/2006	zassh281	6
Public Hydrant	HNE07G14	Point	6/29/2005	mcline	6/20/2006	zassh281	6

Record: 0 Show: All Selected Records (0 out of 9554 Selected.) Options

Benefits of Hydrant Audit Program

- The Insurance Services Office (ISO)
 - An independent statistical rating and advisory organization serving the property and casualty insurance industry
 - 40% of the grade is based on the water supply, distribution of fire hydrants, and capacity of the water supply for fire suppression above the maximum consumption.
 - Points for preventive maintenance records on hydrants
 - ISO reviews number of times a fire hydrant is audited/flowed per year.
- (FL Senate Bill 1774, Chapter 2006-65), sponsored by State Senator Lee Constantine
 - Requiring annual inspections of both public and private hydrants

Problems with Current In-House Hydrant Audit Program

- New Requirements Require Additional Hydrant Person
- One MS Access Field Database
 - Two Field Users
 - One Upload File
 - Last One in Wins
- Additional MS Access Program
 - Two Field Databases
 - Compile into One Server Database (Monthly)

Fire Departments and Hydrants

➤ Three Fire Departments

- City
- County
- GOAA (Greater Orlando Aviation Authority)

➤ Submitted Monthly

- Compiled MS Access Database
- Extracted Personal Geodatabase

New Fire Hydrant GIS Solution

- InfraMap from iWater Has Hydrant Audit Functionality
 - Field Tested
- Runs on ArcGIS Engine
- Check-in/Checkout Process
 - Personal Geodatabase
- More Closely Aligned to OUC Enterprise GIS
- Editor and Viewer Versions
- ArcGIS 9.2 Supports a File-Based Geodatabase

infraMap Hydrant Form

Fire Hydrant

Operational Status

OK

Barrel Size

Hydrant ID

Model

Operation Comments

Replace Flange Gasket, Replace Hose Cap

☐ Replace Weather Cap
☐ Lube Nozzles
☐ Lube Fill Plug

Barrel Type

Iso. Valve

Port Counts

2in 1 4in 2

Model Year

2003

Manufacturer

Jones

Fire Flow

Static PSI

67

Residual PSI

54

Pitot

32

Flow Mins.

2

Outlet Size

2.5

Flow (GPM)

954

Avail. Flow @ 20 psi

1910

General Notes

Location Information

Address

2556

WESTMORELAND

Cross Street

ANDERSON

Last

Location Details

Activity History

Inspection

New

Save

Cancel

Map

6" DI

WANDERSON ST

6" CI

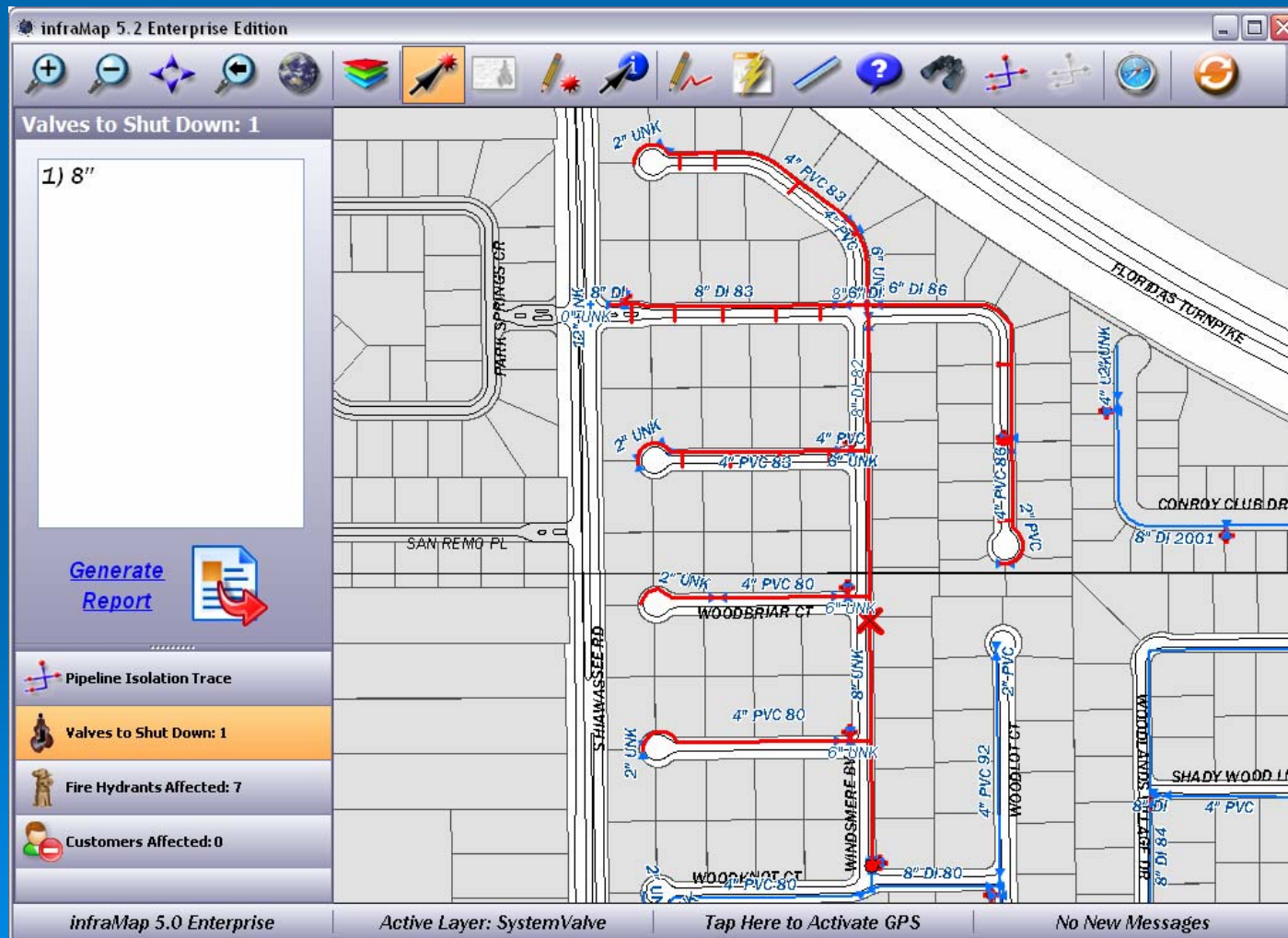
6" CI 72

S WESTMORELAND DR

kkashka

WATERKEVIN

infraMap Water Main Trace



infraMap Valve Form

System Valve

Operational Status	Diameter	Valve ID	# of Turns	Operation Comments
OK	8"	VSW15K07	26	Found Closed, Opened

Manufacturer	Left Hand	Current Position	Depth in ft.	<input type="checkbox"/> Hand Turn <input type="checkbox"/> Hydrant Removed <input type="checkbox"/> Installed Auxiliary Valve
	No	Open	14	

Valve Function
Distribution Valve

infraMap VMS

Navigation Panel

Bearing: Unavailable Distance: Unavailable

General Notes

Activity History

Exercise Valve New

Save Cancel

Location Information

Address 2234

PEREGRINE

Critical Customer

YACHT Last

Access RightOfWay

Location Details

V\4'E-HYD\11'N-CURB

Map showing 8" UNK and PEREGRINE AV

kka shka IWATERKEVIN

Demo



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Questions

