

**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**

BOARD OF DIRECTORS

***WATER QUALITY AND WATER SERVICES
COMMITTEE MEETING AGENDA***

**Thursday, September 15, 2016
11:00 a.m.
5000 Overlook Avenue, SW
Washington, DC 20032**

11:00 a.m. I. Call to Order

Rachna Butani
Chairperson

11:05 a.m. II. Water Quality Monitoring

Charles Kiely

Coliform Testing
LCR Compliance Testing

11:15 a.m. III. Fire Hydrant Upgrade Program

David Wall

Status Report of Public Fire Hydrants
Out of Service Fire Hydrant Map

11:30 a.m. IV. Unidirectional Flushing Notification Update

Joshua Mazurek

11:50 a.m. V. Non Joint Use

1. IFB No. 140220 - Small Diameter Water Main Replacement 11b
Fort Myer Construction Corp.
2. IFB No. 130140 - Spring Valley Water Main Rehabilitation and Replacement
Fort Myer Construction Corp.

Charles Kiely

12:15 p.m. VI. Executive Session*

Adjournment

*The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10); proprietary matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.

Status Report of Public Fire Hydrants for DC Water Services Committee - September 1, 2016

| | June Cmte. Report (Jun 06, 2016) | July Cmte. Report (Jul 08, 2016) | August Cmte. Report (Aug 09, 2016) | September Cmte. Report (Sep 01, 2016) |
|--|--|--|--|---|
| Public Fire Hydrants: | 9,484 | 9,517 | 9,504 | 9,515 |
| In Service: | 9,425 | 9,437 | 9,446 | 9,457 |
| Marked Out-of-Service (OOS) | 59 | 80 | 58 | 58 |
| OOS - defective requiring repair/replacement | 29 | 34 | 28 | 32 |
| % OOS requiring repair or replacement (DC Water goal is 1% or less OOS) | 0.31% | 0.36% | 0.29% | 0.34% |
| OOS - due to inaccessibility or temp construction work | 30 | 46 | 30 | 26 |

Note: The number of public hydrants in the DC Water system fluctuates; this number fluctuates as hydrants are added and removed during development or construction activities as well as at the request of the Fire Dept.

Breakdown of Public Fire Hydrants Out-of-Service (OOS) as of September 1, 2016 58

Breakdown of Defective

| | 0-7 Days | 8-14 Days | 15-30 Days | 31-60 Days | 61-90 Days | 91-120 Days | > 120 Days | Total |
|--|-------------|--------------|---------------|---------------|---------------|----------------|---------------|-------|
| Hydrant Needs Repair/Investigation | 10 | 0 | 0 | 0 | 0 | 0 | 3 | 13 |
| Needs Valve Investigation for Low Flow/Pressure or Shut Test for Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Needs Replacement | 0 | 0 | 3 | 2 | 1 | 0 | 12 | 18 |

Defective 32 ←

Breakdown of Others

| | 0-7 Days | 8-14 Days | 15-30 Days | 31-60 Days | 61-90 Days | 91-120 Days | > 120 Days | Total |
|--|-------------|--------------|---------------|---------------|---------------|----------------|---------------|-------|
| Temporarily OOS as part of operations such as a main repair | 0 | 0 | 0 | 3 | 7 | 3 | 3 | 16 |
| Construction* - OOS | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 5 |
| Obstructed Hydrant – OOS hydrant due to operation impeded by an obstruction. | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 |

Others 26 ←

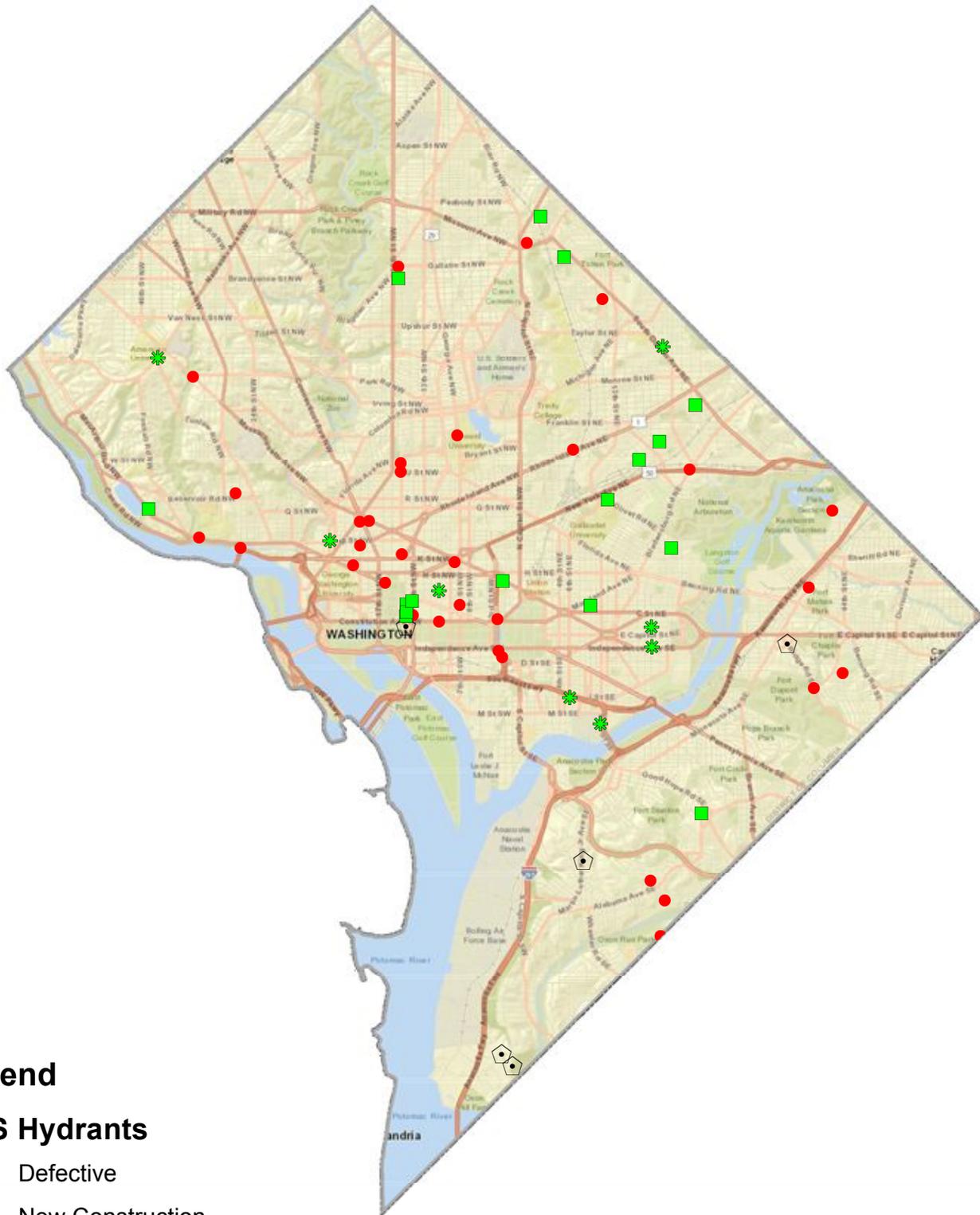
*Fire hydrants not accessible due to construction activities. Also includes new hydrants which have not yet been commissioned or old hydrants which will be abandoned as part of ongoing construction projects.

Status of Private Fire Hydrants-Based on FEMS Inspection Reporting

| | |
|-------------------------|-------|
| Private Hydrants: | 1,318 |
| • In Service: | 1,189 |
| • Out-of-Service (OOS): | 129 |

Map of Public Out-of-Service Hydrants

September 1, 2016



Legend

OOS Hydrants

- Defective
- * New Construction
- ⬠ Obstructed
- Temporary

Unidirectional Flushing Customer Notification Process Improvements

Joshua Mazurek, P.E.

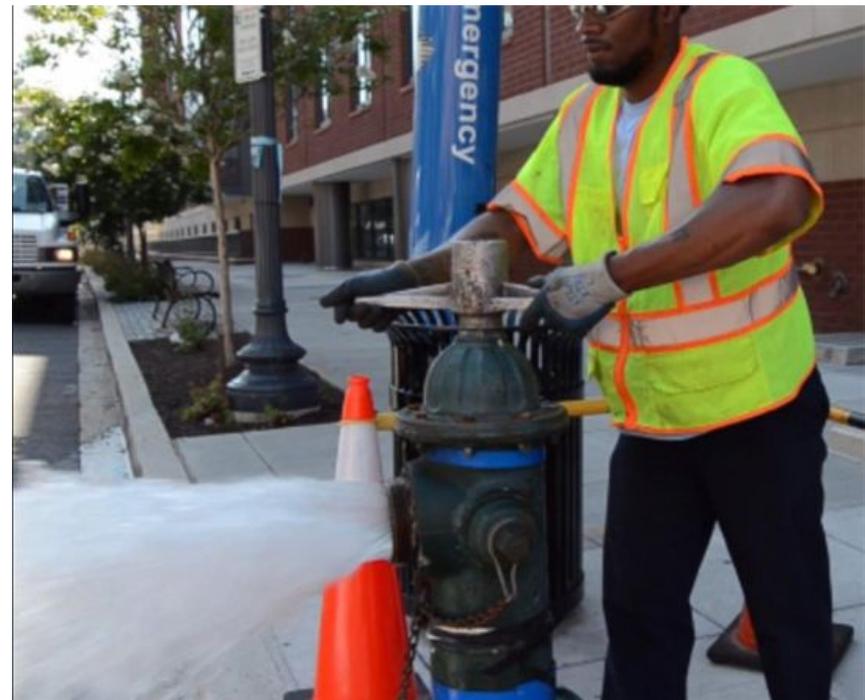
Department of Water Services

September 15, 2016



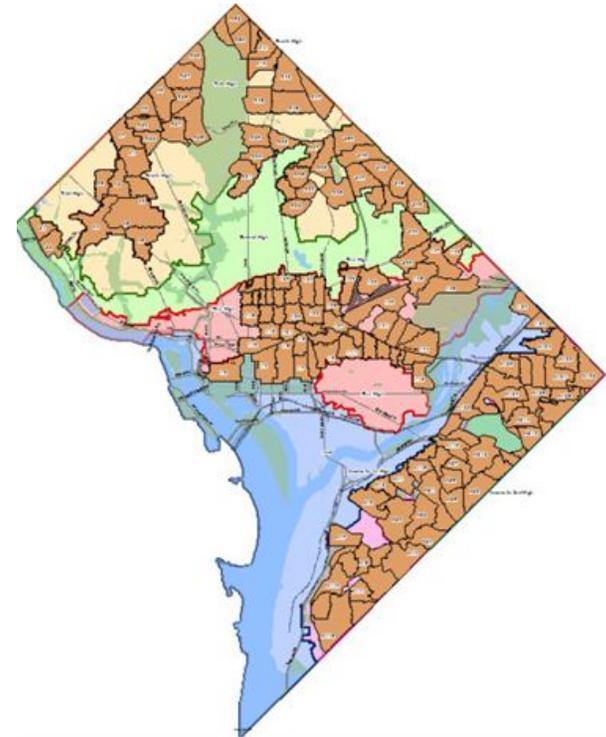
Unidirectional Flushing (UDF): Background

- Conduct targeted flushing to draw water from a clean water source
- Closure of pre-defined valves to develop scouring velocities
 - Step-by-step plans are available for crews
- Scouring helps to remove accumulated sediment and pipe deposits
 - Traditional Flushing: 1-3 ft/sec
 - Unidirectional Flushing: 5+ ft/sec



Unidirectional Flushing (UDF): Statistics

- 263 unique flushing zones within the District
 - Approximately 50% of zones are flushed in a given year
- The UDF flushing season lasts from March through late November
 - Conducted by DCB crews in support of the Dept. of Water Quality
 - In any given week, 4+ zones are in progress
- ≈ 160,000 unique premises
 - ≈ 80,000 premises per UDF season



2016 Flushing Season: 151 Zones

Notification Requirements

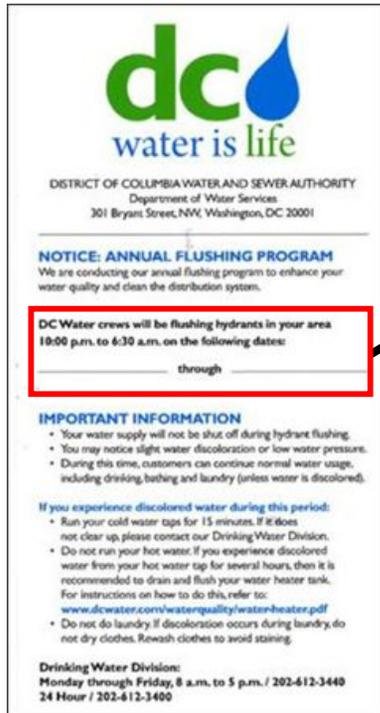
- Notification informs customers of potential impacts, such as:
 - Discolored water
 - Slight reduction in pressure
 - Activities take place from 10 p.m. to 6:30 a.m.

All premises within the flushing zone must be notified



DC Water Flushing Crews: June 2016

Motivation for Change



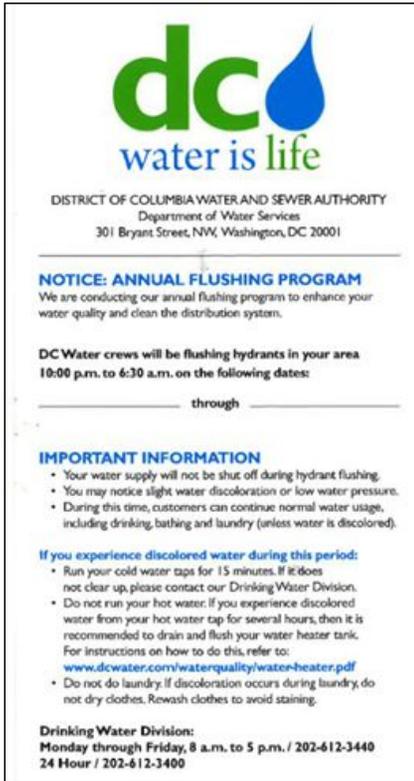
DC Water crews will be flushing hydrants in your area
10:00 p.m. to 6:30 a.m. on the following dates:
_____ through _____



Hand Delivery of Door Hangers



Transition to Mailings



dc water is life

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
Department of Water Services
301 Bryant Street, NW, Washington, DC 20001

NOTICE: ANNUAL FLUSHING PROGRAM
We are conducting our annual flushing program to enhance your water quality and clean the distribution system.

DC Water crews will be flushing hydrants in your area 10:00 p.m. to 6:30 a.m. on the following dates:
_____ through _____

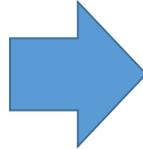
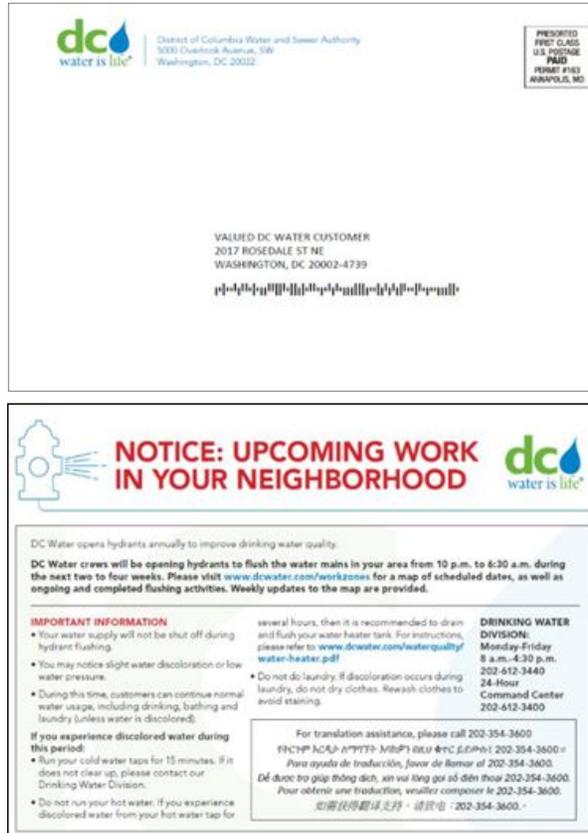
IMPORTANT INFORMATION

- Your water supply will not be shut off during hydrant flushing.
- You may notice slight water discoloration or low water pressure.
- During this time, customers can continue normal water usage, including drinking, bathing and laundry (unless water is discolored).

If you experience discolored water during this period:

- Run your cold water taps for 15 minutes. If it does not clear up, please contact our Drinking Water Division.
- Do not run your hot water: if you experience discolored water from your hot water tap for several hours, then it is recommended to drain and flush your water heater tank. For instructions on how to do this, refer to: www.dcwater.com/waterquality/water-heater.pdf
- Do not do laundry: if discoloration occurs during laundry, do not dry clothes. Rewash clothes to avoid staining.

Drinking Water Division:
Monday through Friday, 8 a.m. to 5 p.m. / 202-612-3440
24 Hour / 202-612-3400

dc water is life District of Columbia Water and Sewer Authority
3000 Dumbarton Avenue, SW
Washington, DC 20002

PRESORTED FIRST CLASS
U.S. POSTAGE
PAID
PERMIT #1163
BETHESDA, MD

VALUED DC WATER CUSTOMER
2017 ROSEDALE ST NE
WASHINGTON, DC 20002-4739

NOTICE: UPCOMING WORK IN YOUR NEIGHBORHOOD

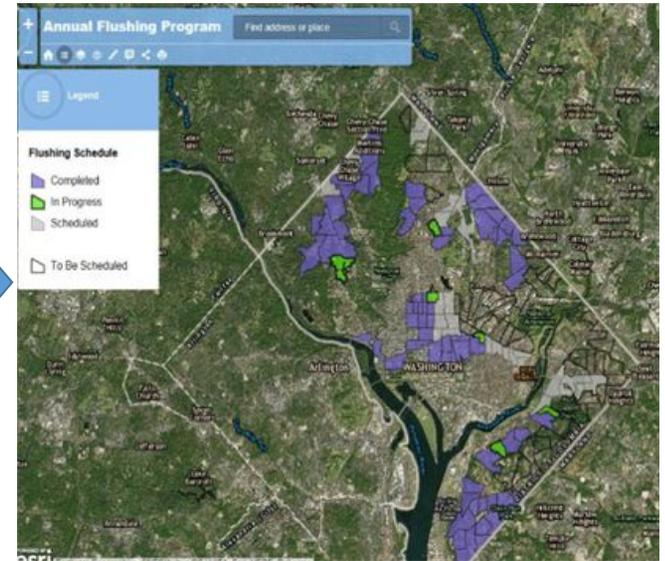
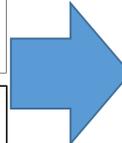
DC Water opens hydrants annually to improve drinking water quality. DC Water crews will be opening hydrants to flush the water mains in your area from 10 p.m. to 6:30 a.m. during the next two to four weeks. Please visit www.dcwater.com/waterquality for a map of scheduled dates, as well as ongoing and completed flushing activities. Weekly updates to the map are provided.

IMPORTANT INFORMATION

- Your water supply will not be shut off during hydrant flushing.
- You may notice slight water discoloration or low water pressure.
- During this time, customers can continue normal water usage, including drinking, bathing and laundry (unless water is discolored).
- If you experience discolored water during this period:
 - Run your cold water taps for 15 minutes. If it does not clear up, please contact our Drinking Water Division.
 - Do not run your hot water: if you experience discolored water from your hot water tap for several hours, then it is recommended to drain and flush your water heater tank. For instructions, please refer to www.dcwater.com/waterquality/water-heater.pdf
 - Do not do laundry: if discoloration occurs during laundry, do not dry clothes. Rewash clothes to avoid staining.

DRINKING WATER DIVISION:
Monday-Friday 8 a.m.-6:30 p.m. 202-612-3440
24-Hour Command Center 202-612-3400

For translation assistance, please call 202-354-3600
 Для перевода на русский язык, пожалуйста, позвоните по телефону 202-354-3600.
 Para ayuda de traducción, favor de llamar al 202-354-3600.
 Để được trợ giúp thông dịch, xin vui lòng gọi số điện thoại 202-354-3600.
 Pour obtenir une traduction, veuillez composer le 202-354-3600.
 如需获得翻译支持，请致电：202-354-3600。



ArcGIS Online Map

Door Hanger Placard

Postcard Mailing

Transition to Mailings

Considerations

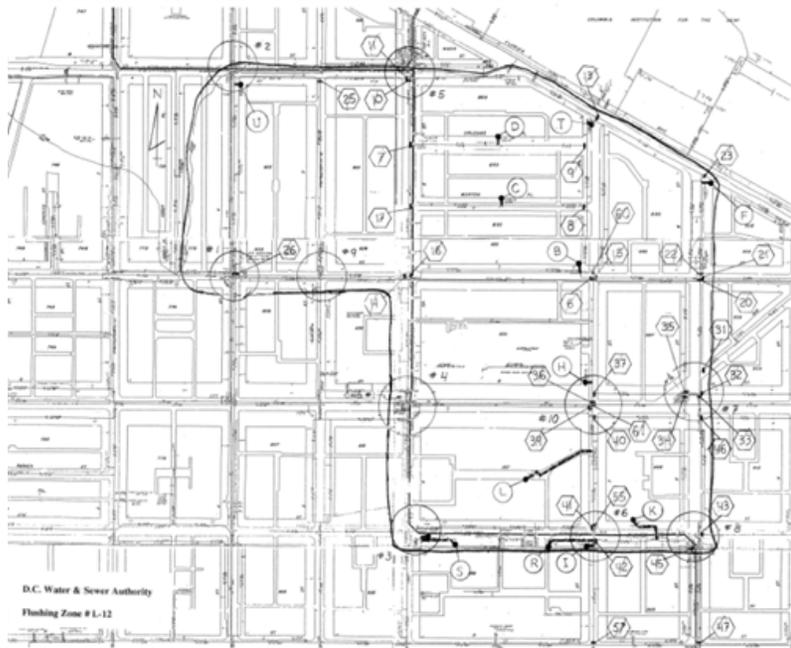
1. Stakeholder Buy-In
2. New Notification Challenges
3. Search for a Printer
4. GIS Development

Existing Resources

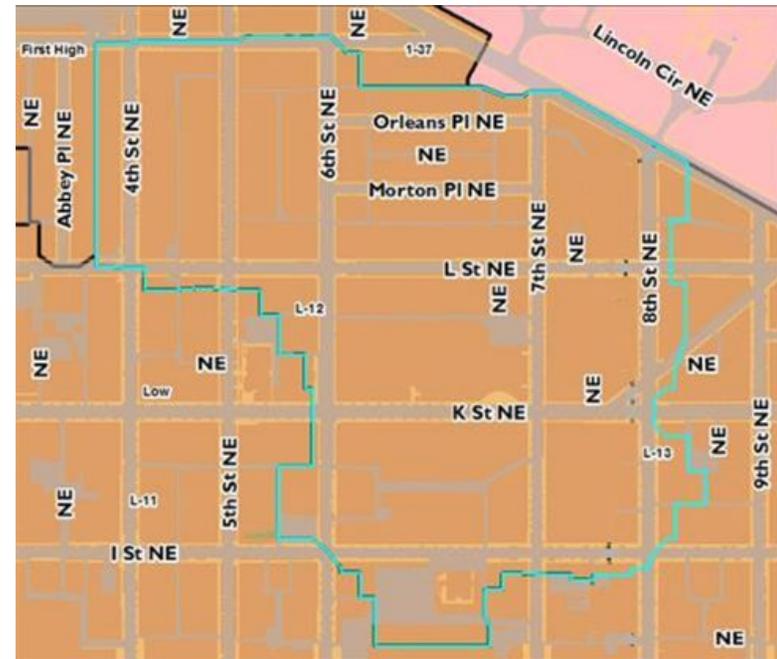
- **Door Hanger Notification** → **Transition to a New Template**
- **Flushing Zones GIS Feature Class** → **Outdated, Worked with Mott MacDonald to Revise**
- **Premise Database** → **Required a Gap Analysis to be Performed**



GIS Integration



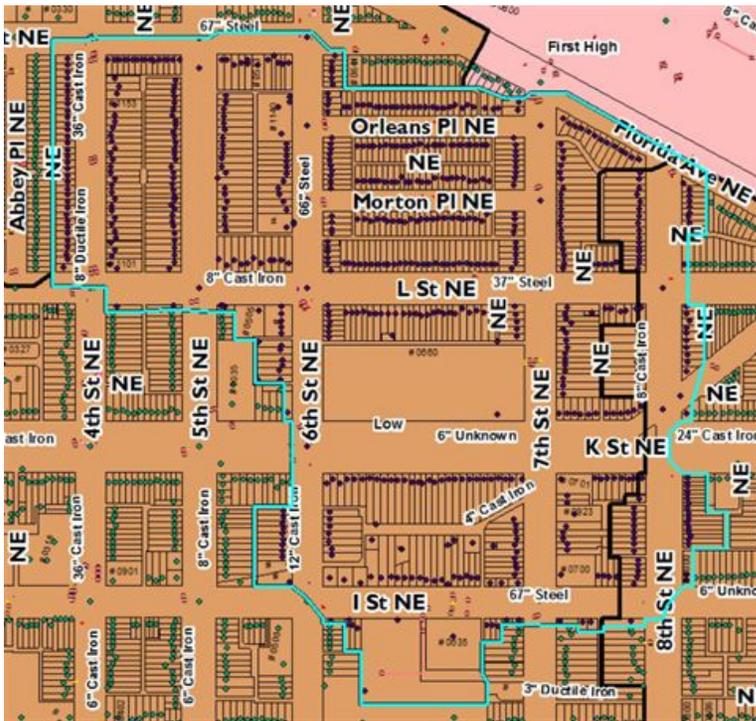
Hard Copy of Flushing Maps



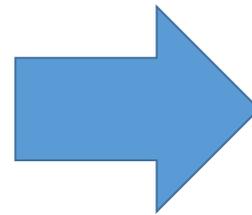
GIS Integration



Premise Data Extraction



Premise Extract



| | A | B | C | D |
|-----|----------------|-------|---|---|
| 1 | 1135 5TH ST NE | 20002 | | |
| 131 | 1138 4TH ST NE | 20002 | | |
| 132 | 1140 4TH ST NE | 20002 | | |
| 133 | 1142 4TH ST NE | 20002 | | |
| 134 | 1144 4TH ST NE | 20002 | | |
| 135 | 1146 4TH ST NE | 20002 | | |
| 136 | 1150 4TH ST NE | 20002 | | |
| 137 | 1152 4TH ST NE | 20002 | | |
| 138 | 1154 4TH ST NE | 20002 | | |
| 139 | 1115 8TH ST NE | 20002 | | |
| 140 | 1117 8TH ST NE | 20002 | | |
| 141 | 1119 8TH ST NE | 20002 | | |
| 142 | 1121 8TH ST NE | 20002 | | |
| 143 | 1123 8TH ST NE | 20002 | | |
| 144 | 1125 8TH ST NE | 20002 | | |
| 145 | 1127 8TH ST NE | 20002 | | |
| 146 | 1129 8TH ST NE | 20002 | | |
| 147 | 1131 8TH ST NE | 20002 | | |
| 148 | 1114 6TH ST NE | 20002 | | |
| 149 | 1116 6TH ST NE | 20002 | | |
| 150 | 1122 6TH ST NE | 20002 | | |
| 151 | 1124 6TH ST NE | 20002 | | |
| 152 | 1126 6TH ST NE | 20002 | | |
| 153 | 1128 6TH ST NE | 20002 | | |
| 154 | 1130 6TH ST NE | 20002 | | |
| 155 | 1132 6TH ST NE | 20002 | | |
| 156 | 1134 6TH ST NE | 20002 | | |
| 157 | 1136 6TH ST NE | 20002 | | |
| 158 | 1151 5TH ST NE | 20002 | | |
| 159 | 1149 5TH ST NE | 20002 | | |
| 160 | 1147 5TH ST NE | 20002 | | |
| 161 | 1145 5TH ST NE | 20002 | | |
| 162 | 1143 5TH ST NE | 20002 | | |
| 163 | 1141 5TH ST NE | 20002 | | |
| 164 | 1139 5TH ST NE | 20002 | | |

Spreadsheet Conversion



Quality Control

- Erroneous values must be scrubbed from the data set, including:
 - Intersections
 - Incomplete Addresses
- Completed spreadsheets are sent to the printer for mailing
 - One week notice for the printer
 - Consistent 2-day delivery time

| | |
|-------------------------------|-------|
| 616 H ST NE | 20002 |
| 611 I ST NE | 20002 |
| @5TH ST @L ST NE | |
| @5TH ST @M ST NE | |
| @6TH ST @K ST NE | |
| @6TH ST @L ST NE | |
| @6TH ST @MORTON PL NE | |
| @6TH ST @ORLEANS PL NE | |
| @6TH ST @M ST NE | |
| @7TH ST @I ST NE | |
| @7TH ST @K ST NE | |
| @7TH ST @L ST NE | |
| @7TH ST @MORTON PL NE | |
| @7TH ST @ORLEANS PL NE | |
| @8TH ST @I ST NE | |
| @8TH ST @K ST NE | |
| @8TH ST @WEST VIRGINIA AVE NE | |
| @8TH ST @L ST NE | |
| @8TH ST @FLORIDA AVE NE | |
| 1106 8TH ST NW | 20001 |
| 508 L ST NE | 20002 |
| SE COR OF 5TH ST NE | 20002 |
| 1119 5TH ST NE | 20002 |
| 898 5TH ST NE | 20002 |



Lessons Learned

- USPS postage for bulk mail is surprisingly complicated
- Coordination with flushing crews is critical
- Having an experienced printer streamlines the process
- Prompt IT response is necessary
- Accurate GIS records are crucial



Benefits to the Authority

- **Collaborative Effort**: Coordination with DCB crews, Water Quality, External Affairs and the Command Center was completed
- **Cost Savings**: Preliminary estimates indicate that **\$30,000*** has been saved in FY 16'
- **Improved Accountability**: A record of when & where notification was completed
- **Customer Complaints**: As of September 6th, **≤25** customer complaints have been recorded. To date, **45,000+** postcards have been mailed.

*Initial estimate based on cost comparison (to September, 2016)



Future Goals and Objectives

- Use of DC Water's Print Shop to prepare, print, and stamp all notification materials
- Evaluation of internal control of mailings
- Link premises to specific distribution system assets, rather than just the Flushing Zone
- Integration of electronic notification

A Special Thanks To:

- DCB Management Staff
- Richard Penn (Flushing Foreman) & Flushing Crews
- External Affairs
- Water Quality
- Call Center



**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET**

ACTION REQUESTED

CONSTRUCTION CONTRACT:

**Small Diameter Water Main Replacement 11b
(Non-Joint Use)**

Approval to execute a construction contract for \$10,844,652.00.

CONTRACTOR/SUB/VENDOR INFORMATION

| PRIME: | SUBS: | PARTICIPATION: |
|---|---|-----------------------|
| Fort Myer Construction Corp. 2237 33 rd Street, NE Washington, D.C. 20018 | V. Fernandes Construction Co., Inc. Silver Spring, MD. MBE | 32.0% |
| | Hybrid Construction & Engineering Washington, D.C. WBE | 6.0% |

DESCRIPTION AND PURPOSE

| | |
|---------------------------------------|-----------------------------|
| Contract Value, Not-To-Exceed: | \$ 10,844,652.00 |
| Contract Time: | 555 Days (1 Year, 6 Months) |
| Anticipated Contract Start Date: | 12-08-2016 |
| Anticipated Contract Completion Date: | 06-16-2018 |
| Bid Opening Date: | 07-20-2016 |
| Bids Received: | 5 |
| Other Bids Received | |
| Sagres Construction Corp. | \$11,455,765.00 |
| Capitol Paving of D.C., Inc. | \$11,719,150.00 |
| J. Fletcher Creamer & Son | \$12,166,550.00 |
| Anchor Construction Corp. | \$12,425,566.00 |

Purpose of the Contract:

Replace water mains that have experienced failures, or have a history of low water pressure or water quality complaints.

Contract Scope:

- Replace approximately 3.0 miles of water mains and associated valves and appurtenances.
- Install copper water services 2 inch and smaller in public and private space.
- Install curb stops /curb stop boxes, meter boxes and penetration through building walls and connection to first fitting inside the building including installation of a shut-off valves and pressure reducing valves.
- Complete permanent pavement and surface restoration.

Federal Grant Status:

- Construction contract is funded in part by Federal grant.

PROCUREMENT INFORMATION

| | | | |
|---------------------------|--------------|-------------------------|---------------------------------------|
| Contract Type: | Fixed Price | Award Based On: | Lowest responsive, responsible bidder |
| Commodity: | Construction | Contract Number: | 140220 |
| Contractor Market: | Open Market | | |

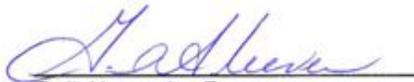
BUDGET INFORMATION

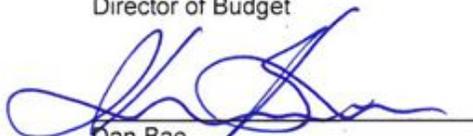
| | | | |
|----------------------|---------|-------------------------|------------------------------------|
| Funding: | Capital | Department: | Engineering and Technical Services |
| Service Area: | Water | Department Head: | Liliana Maldonado |
| Project: | O3 | | |

***ESTIMATED USER SHARE INFORMATION**

| User | Share % | Dollar Amount |
|---|----------------|-------------------------|
| District of Columbia | 26.85% | \$ 2,911,789.00 |
| Federal Funds * | 73.15% | \$ 7,932,863.00 |
| Washington Suburban Sanitary Commission | 0.00% | \$ 0.00 |
| Fairfax County | 0.00% | \$ 0.00 |
| Loudoun County & Potomac Interceptor | 0.00% | \$ 0.00 |
| Total Estimated Dollar Amount | 100.00% | \$ 10,844,652.00 |

* Eligible for Federal Grant Funding at 80% of the District of Columbia share. Grant funding is insufficient to fund all eligible contracts. Federal Grant Funding may be used if additional funding becomes available or if other eligible projects are postponed.

 9/8/16
 Gail Alexander-Reeves Date
 Director of Budget

 9/7/16
 Dan Bae Date
 Director of Procurement

 9/6/16
 Leonard R. Benson Date
 Chief Engineer

_____/_____
 George S. Hawkins Date
 General Manager

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET**

ACTION REQUESTED

CONSTRUCTION CONTRACT:

**Spring Valley Water Main Rehabilitation and Replacement
(Non-Joint Use)**

Approval to execute a construction contract for \$4,688,208.00

CONTRACTOR/SUB/VENDOR INFORMATION

| PRIME: | SUBS: | PARTICIPATION: |
|--|--|-----------------------|
| Fort Myer Construction Corp. 2237 33 rd Street, Northeast Washington, DC 20018 | V. Fernandes Construction Silver Spring, MD MBE | 32.0% |
| | Hybrid Construction & Engineering Washington, DC WBE | 6.0% |

DESCRIPTION AND PURPOSE

| | |
|--|------------------------------|
| Contract Value, Not-To-Exceed: | \$4,688,208.00 |
| Contract Time: | 730 Days (2 Years, 0 Months) |
| Anticipated Contract Start Date (NTP): | 12-17-2016 |
| Anticipated Contract Completion Date: | 12-16-2018 |
| Bid Opening Date: | 06-29-2016 |
| Bids Received: | 2 |
| Other Bids Received | |
| Flippo Construction Co., Inc. | \$7,223,270.00 |

Purpose of the Contract:

To rehabilitate and replace water mains in Spring Valley, which was a former defense site in World War I. Affected streets include 49th Street NW, Woodway Lane NW, Hillbrook Lane NW, Glenbrook Road NW, Rockwood Parkway NW, and Nebraska Avenue NW, Washington DC.

Contract Scope:

- Structural (Class IV) cured-in-place lining of approximately 3,400 linear feet (LF) of 8-inch through 12-inch water main,
- Installation of approximately 205 LF of new 12-inch water main interconnection between existing 12-inch and 16-inch water main,
- Replacement in same trench of approximately 1,300 LF of 8-inch water main with 12-inch water main,
- Providing temporary water system of approximately 10,700 LF of 4-inch pipe and appurtenances, and
- Associated paving and replacement of sidewalk and curb and gutter.

Federal Grant Status:

- Construction Contract is not eligible for Federal grant funding assistance.

PROCUREMENT INFORMATION

| | | | |
|---------------------------|--------------|-------------------------|---------------------------------------|
| Contract Type: | Fixed Price | Award Based On: | Lowest responsive, responsible bidder |
| Commodity: | Construction | Contract Number: | 130140 |
| Contractor Market: | Open Market | | |

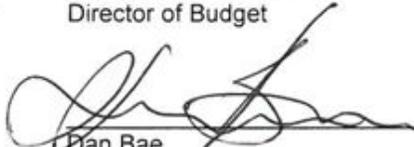
BUDGET INFORMATION

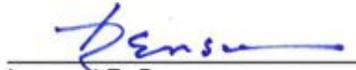
| | | | |
|----------------------|---------|-------------------------|------------------------------------|
| Funding: | Capital | Department: | Engineering and Technical Services |
| Service Area: | Water | Department Head: | Liliana Maldonado |
| Project: | O2 | | |

ESTIMATED USER SHARE INFORMATION

| User | Share % | Dollar Amount |
|---|----------------|-----------------------|
| District of Columbia | 100.00% | \$4,688,208.00 |
| Federal Funds | 0.00% | \$0 |
| Washington Suburban Sanitary Commission | 0.00% | \$0 |
| Fairfax County | 0.00% | \$0 |
| Loudoun County & Potomac Interceptor | 0.00% | \$0 |
| Total Estimated Dollar Amount | 100.00% | \$4,688,208.00 |

 9/6/16
 Gail Alexander-Reeves Date
 Director of Budget

 9/7/16
 Dan Bae Date
 Director of Procurement

 8-6-16
 Leonardo R. Benson Date
 Chief Engineer

_____/_____
 George S. Hawkins Date
 General Manager