Veolia Scope of Work

**Week 1**
- Provide a review of current actions
- Engage staff, visit facilities and analyze data
- Make interim report

**Week 2**
- Carry out more detailed study of initial findings
- Make recommendations for Improving water quality
- Provide a plan, cost and schedule for change

**Items of Note**
- **Not in scope** – studying why the change from DWSD or the history of the utility
- **What we found** – A very frustrated community and a staff trying to solve the problem, having some success but frustrated with the pace of change
City, state, news media, universities and other groups

Safe = compliance with state and federal standards and required testing

- Latest tests show water is in compliance with drinking water standards
- Monthly report available on web page

More than 20,000 tests required annually for city

Strict testing requirements in place (what and how to test)
TTHM is formed as a result of the reaction between chlorine and organic material in the water.

City is required to test quarterly at 8 sites:
- *Last summer, several sites had more TTHM than allowed*

City has reduced levels of TTHM and now all sites are in compliance:
- *Customer notification letters are required until tests are in compliance an average of four quarters*

It will take at least 2 more quarters to lower average:
- *Even a change to DWSD water doesn’t solve problem*

Flint is not alone – hundreds of communities are facing TTHM issues.
Old cast iron pipes
- Always has been some discolored water problems – mostly after water breaks
- Efforts to reducing TTHM didn’t help discoloration
  - Doesn’t mean the water is unsafe but it is not appealing and raises questions
- City will test the water at your home – call 787-6537 or email flintwater@cityofflint.com
- Tracking customer complaints is important
Water Quality Can Be Improved

- Adjust the chemicals being fed – stop some, increase some and change some
- Provide better monitoring of water quality to help make adjustments
- Continue repair or replacement of broken parts
- Reduce the over capacity of the distribution system
- Do a better job explaining what is happening
- Do a better job of asking for help
Further Explanation of Solutions
Solution Involves Coordination of 3 Activities

- **Water plant improvements**
  - Optimize chemical dosages
  - Consider different chemicals
  - Change dosing points
  - Install granulated activated carbon
  - Complete plant upgrades
  - Implement best mgt practices

- **Distribution system improvements**
  - Fix broken valves
  - Ask for customer feedback
  - Reduce tank storage
  - Target line flushing
  - Run a hydraulic model

- **Better communication with customers**
  - Engage advisory committees
  - More accessible utility
  - Make it easy to access information
  - Better customer communication
Optimize Plant Processes

- **Test** each unit to find the best combination of chemical & dosage
- **Compare** combined process to industry benchmarks for water quality
- **Use models to predict** results for TTHM, Chlorine Levels and Corrosion
Complete Plant Construction & Re Prioritize Capital

**Cost effective plan in budget**

- Complete water plant renovation
  - *Target SCADA and instrumentation in plant*
- Speed up valve turning contract & provide money for replacements
- Speed up hydraulic model update to reduce tank volume
- Evaluate installing of granulated activated carbon on filters

*Weather can impact timing*

Digging up a water valve for repair
Need good weather to start
Activities to Help Operators Maintain Good Water Quality

- Process Control Management Plan
- Lab QA/QC Program
- Computerized Maintenance Management System
- Asset Management System
- Training and Certification Program
- Vulnerability Plan
Distribution System Improvements

- Speed up flow of water from plant to homes – 2 weeks plant to house
  - Find closed valves & open them
  - Replace broken valves
  - Update hydraulic model
  - Reduce system storage
- Track customer complaints
  - Test customer water
  - Spot flush hydrants to clean areas of stagnant water in the system

Flushing out discolored water
Improving Customer Service
Make It Easy to Access Information and People

**Develop a proactive customer communication plan**

- Create advisory committees to help direct efforts and improve flow of information
- Establish a single point of contact to manage all water quality complaints
- Provide additional customer service training to staff
- Expand neighborhood and community outreach
- Change monthly billing statements from card to envelope with information
Example - Communicate in the field

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:

9/24 through 9/30

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.

*sample door hanger provided by DC Water & Sewer Authority

○ Provide field crews with additional communications tools to use to address questions or concerns from the public
  ○ Create door hangers, flyers, or yard signs to notify neighborhoods about main breaks, hydrant flushing, or system maintenance that may affect the public
  ○ Create a business card or other contact card with the name and phone number of the single point of contact with the Department of Public Works who is managing information flow
Clear, concise information is key

- Simplify the reports on the web page dedicated to addressing water system questions
  - Create a single-page, easy to understand report for the public
  - Use charts or provide other examples to demonstrate water quality testing and system or treatment plant improvements underway
  - Provide name, phone number and email address for identified point of contact so customers can request more information
  - Continue to provide Monthly Operation Report and Water Quality Report Summary for those customers interested in more technical information
  - Use site to provide additional notice of field work that may impact customers
What Is Next
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REMEMBER
We just started. Might not have an answer yet to your question

- **When will water improve** - The water has improved with current actions. More changes will occur over weeks and months because of safety reviews.

- **Date of next update and final report** – An update will be provided next week and a report the following week.

- **Time frame for implementing recommendations** – The City is already started. Others a few days and some weeks or months due to State approval being required or weather.

- **Cost of changes** – Don’t know yet but we are aware of the financial concerns.
How are TTHM formed – It’s the reaction of chlorine to organics (leaves, dirt) in the water.

How to reduce TTHM – Reduce organics before introducing chlorine and shorten time chlorine has to react with the organics

What causes discoloration – Older lines, the iron parts of the system will leach iron into the water causing the discoloration. Other times it’s just air built up.

Why no discoloration with DWSD – There was. Flint had a bad time with breaks of old line and is doing lots of construction. This stirred up the water and caused discoloration.
More Questions Being Heard

- **Can you test my water** – The city will test your water for free. But, only 2 of 20 people have taken the city up on the offer since it began offering the service.

- **Medical problems** – Some people may be sensitive to any water. Talk to your doctor. The City is communicating with the medical community.

- **Confidence that future problems will be avoided** – Recommendations will include putting programs in place to better respond to water changes and assure quality.
Questions?