


December 23, 2019

**FOR YOUR INFORMATION**

To: Mayor and Members of Council  
From: Patrick A. Duhaney, City Manager   
Subject: Maintenance of City Infrastructure Used in Fire Operations

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The purpose of this memo is to outline steps the Greater Cincinnati Water Works (GCWW) and the Cincinnati Fire Department (CFD) are making to enhance mutual support for the maintenance of City infrastructure used in fire operations.

The City Administration understands that a recent fire in North Avondale has raised concerns regarding water supply for fire operations. We want to ensure residents and customers that there is ample water supply and resources available to support firefighting needs.

Both GCWW and CFD work tirelessly to ensure they are providing best-in-class service to our residents and customers. These efforts enable the City of Cincinnati to maintain an Insurance Services Office (ISO) Class 2 rating (1 being the top rating), which puts the City in the top 5% in Ohio. Cities around the country are periodically rated on fire protection capability, and GCWW assists CFD in the rating process. Additionally, GCWW follows standard practices as defined by the American Water Works Association (AWWA) Manual of Water Supply Practices, Distribution System Requirements for Fire Protection.

Below are more specific details about the current systems in place and proposed enhancements that will further enable the City to reinforce its water supply and firefighting systems.

**Background**

On average, the Cincinnati Fire Department responds to between 7,000 and 8,000 runs for reports of fire every year. CFD is normally aware of relevant premise history prior to arrival at the scene of a fire and uses that information for planning or operational decision making. However, no two fire runs are the same, and each presents its own unique challenges and learning opportunities. Even with adequate advanced knowledge and strong systems in place, difficulties may be experienced in the field that require on-the-fly adjustments. In some instances, CFD may have to rely on support agencies such as a mutual aid fire department or another City department, including GCWW, for assistance.

Each of these situations provide opportunities to review and potentially enhance operating procedures and practices. Some lead to operational changes to how fire companies combat the fires themselves while others affect pre-planning that assists first-responding fire companies.

### **Aging Infrastructure**

While the local water distribution system provides a robust and continuous supply of water across the region, GCWW does face challenges associated with the age and hilly topography of the Cincinnati area. Much of the water system in the core of the City was originally put in place more than 100 years ago.

GCWW regularly works to replace aging infrastructure across the City. The utility is conscious of the importance of water volume in firefighting and works to ensure that new mains are designed to meet CFD needs. It is also important to note that although 6-inch water mains exist, these pipes are also well gridded within the network of larger water mains, which provide strong sources of water throughout the system. Therefore, it is important to consider the water system in an area and not just the flow from one fire hydrant or one water main.

### **Avondale/North Avondale Water Main Replacement Program**

GCWW has a citywide water main replacement program. In Avondale and North Avondale specifically, GCWW has replaced 23.3 miles of water mains (123,183 feet) since 1990. There are also plans to replace another 6.5 miles of water mains (34,452 feet) over the next 6 years, many of which are already in the planning, design and construction phase. Please see the attached map as a reference.

### **Moving Forward**

The Administration wants to stress that it takes the concerns regarding water supply service for fire response operations seriously, but is confident the existing system more than adequately meets the City's current firefighting needs. GCWW routinely works and communicates with CFD so they are informed of the dynamics of the water system.

With that said, the Administration, in conjunction with GCWW and CFD, is taking proactive measures to enhance their operations to eliminate some of the variables that may exist at the scene of a fire. Some of those areas for improvement and enhancement include:

- GCWW acquiring necessary flow testing equipment – this equipment will allow for testing of each individual hydrant and will provide indication of the flow and pressure that may be available for fire-fighting purposes.
- CFD conducting flow tests on each hydrant within the City – the information from each flow test can be utilized by CFD to quickly inform firefighters in the field which hydrants will meet their water supply needs, and by GCWW to assist with planning for watermain replacement projects.
- Using technology to improve the availability of water system information (pipe sizes and locations) and hydrant flow and status to firefighters in the field.
- More high-level meetings between GCWW and CFD senior leaders.
- Improving the availability of water system information (pipe sizes and locations) and hydrant flow and status to firefighters in the field.
- Having CFD more involved in planning watermain improvements.

The CFD will work with GCWW to obtain software that will provide additional useful incident information to firefighters in the field including incident location, details about nearby fire hydrants, and notes related to the incident that are in the CAD. In addition to showing the

physical location of fire hydrants, the mapping software will display the color-coding for each hydrant — orange, red, blue or green — so firefighters will know the exact flow level of the hydrants in the area before arriving at the scene of a fire.

We encourage residents and businesses to provide information about fire hydrants in their respective neighborhoods, especially those that may need repair. This can be done through the 5916000.com website, the Fix it Cincy app, or by calling 591-6000. While the Fire Department performs functionality testing every fall and spring on each fire hydrant, additional input from other agencies will provide important data about the perceived status of local fire hydrants. As they do with all reports from Fire, GCWW investigates these hydrants and proceeds with repair or replacement, if necessary.

Through the combined efforts of Greater Cincinnati Water Works and the Cincinnati Fire Department, the City of Cincinnati will continue to keep Cincinnati safe by providing high quality, safe drinking water and fire protection services.

Attachment