

November 7, 2025

Dalton Hiley
Lead Lineman
Columbus Utilities
950 Maple Avenue, PO Box 228
Columbus, WI 53925
920-623-5912

RE: Heritage Way Water Main Loop

Dear Mr. Hiley,

In 2013 the City of Columbus created Gateway Business Park. The development was initiated by Enerpac expansion and relocation from James Street location to Gateway Court.

In order to facilitate the construction two new streets along with utilities was created. In addition to sanitary sewer service and storm water management to serve the business park, the water main was extended from near Prairie Ridge Health parcel to the new end of the cul de sac.

This extension was approximately 2600 feet in length and consisted of a 10-inch water main meeting all city standards. The extension contains one small section of 12-inch water main that was planned for a future loop in the city when other development occurred. This extension created a long dead end to the water main.

In 2013 at the time of development of the infrastructure, model information that contained water main pressure and flow was provided to the engineer designing Enerpac to assist in their internal design of the building.

At the time of design, it was estimated that the city would be able to provide water at the end of Gateway Court at the following pressures. The water main was tested after construction to confirm the model results. This information was shared with Enerpac engineers. The Enerpac design team indicated this was the low end of the range they needed to meet their fire protection needs. Recently the city also tested the hydrant to determine any impact or change to the water delivered.

Location	Date	Flow	Pressure
C7/67/28 (End of Cul De Sac)	Spring 2013	1757 gpm	20 psi
C7/67/28 (End of Cul De Sac)	11/27/2013	1844 gpm	20 psi
C7/67/28 (End of Cul De Sac)	10/1/2025	1694 gpm	20 psi

Note that flow rates shall meet WDNR code requirements of 500 gpm at 20 psi. Also, during tests, results may vary based on running pumps and the level of water in the water tower at Tower Drive. Flow rates could fluctuate as much as 20 gpm up or down from results shown above.

In years following the 2013 design and construction Enerpac has had new people at the facility that are responsible for their fire protection system and has periodically reached out to the city asking how to increase the flows to their facility. We let them know that these flows were known and incorporated at the time of design. Recently Enerpac provided additional data from their testing claiming a significant drop in flows from 2014-2024 testing inside their facility. The drop is from 1600 gpm to 1200 gpm at 20 psi.

~8220-00000 > Heritage Way Water Main Loop Summary.docx~

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The city has not observed the same drop in the public system. Enerpac has stated that this issue is not occurring due to their issues or operation and is asking the city to resolve this issue to prevent them from making significant improvements to address. Furthermore, they speculate the hospital has increased usage and that is contributing to their impact.

The city has confirmed the public water main has not experienced any changes to the system, all valves are open and reviewed. In addition, they have reviewed the hospital usage, and the increase is not significant and doesn't reflect the flow drop Enerpac has observed.

In an ongoing effort to support development the city has been working on a solution to improve water to the Gateway development. In 2025 the Brookside Lane Street Reconstruction extended a 12-inch water main west to provide a secondary feed and ultimately "loop" the water main to Heritage Way. The future plan was to create easement and budget and plan for a 2027 construction of the water main loop to provide a redundant source of water for helping support future development in this area. The below information is the expected results from modeling when the system is looped in 2027 at the same hydrant.

Location	Date	Water Main Size	Estimated Flow	Pressure
C7/67/28 (End of Cul De Sac)	2027 post construction	8-inch	2341 gpm	20 psi
C7/67/28 (End of Cul De Sac)	2027 post construction	10-inch	2596 gpm	20 psi
C7/67/28 (End of Cul De Sac)	2027 post construction	12-inch	2784 gpm	20 psi

The utility has planned to extend the 12-inch main above resulting in an increase in flow at the end hydrant of 1,090 gpm higher than the test conducted on 10/1/25.

Enerpac has recently requested the city move up the construction date to 2026 to respond to their needs to improve their internal fire test results.

Respectfully,

RUEKERT & MIELKE, INC.

Jason P.
Lietha

Digitally signed by Jason P. Lietha
Date: 2025.11.07
10:25:41 -06'00'

Jason P. Lietha, P.E. (WI, MN, MI)
Senior Vice President
jlietha@ruekert-mielke.com

JPL:ied
Enclosure(s)

**FIRE FLOW ANALYSIS
CITY OF COLUMBUS**

October 1, 2025

12:30 p.m.

- Location: At the end of the Cul de sac on Gateway Court near the entrance of Enerpac.
- Present during the test:
 - Jake Tanner: Columbus Utilities
 - Craig Schultz: Columbus Utilities
- Equipment used: 4-inch pollard diffuser with pitot tube, pressure gauges
- Weather: Clear/Sunny
- Temp: 80 deg F.

Flow Testing Results

Time of Test: 12:44 p.m.

Flowing Hydrant

Static Pressure	Flow Pressure (psi)	Flow (gpm)
53	12	1490

Residual Hydrant

Static Pressure	Residual Pressure (psi)	Static Pressure at High Tower Level	Static Pressure at Low Tower Level
55	25	55.5	54.5

Tower Level

Level During Flow Test (ft.)	Overflow Level (ft.)	Low Level (ft)	High Level (ft.)
118.9	122.5	118	120
Flow Test Elevation (ft.)	Overflow Elevation (ft.)	Low Operating Level Elevation (ft)	High Operating Level Elevation (ft.)
994.4	998	993.5	995.5

Calculated Fire Flow Results

Calculated Flow at 20 psi (Tank Level During Flow Test)	Calculated Flow at 20 psi (High Tank Level)	Calculated Flow at 20 psi (Low Tank Level)
1681	1694	1668

Flow Testing Photos:



ENERPAC Columbus
City H₂O Supply - Pump Suction

Factory
Mutual
System

WATER SUPPLY GRAPH NO. N 1.85

