

City of Benton Harbor Hydrant Repair & Replacement Update

City of Benton Harbor

May 11, 2022



History of Water Main Projects (2006-2021)

- Over the past 15 years the City of Benton Harbor has completed water main distribution and hydrant replacement projects.
- Projects include:

Year	Project	Hydrants
2006	Brunson Hill (Brunson, High, and Lincoln)	7
2009	Arts District	7
2009	Main Street (I-94 BL)	23
2010	Washington, Packard, Heck Ct, Pavone, Belleview (DWSRF)	8
2011	Graham Avenue	3
2011	Harbor Bluffs	5
2015-2016	Cherry, Summit, & Hydrant Replacements (FDCVT)	14
2017	McAllister Street (FDCVT)	1
2018-2019	Sherman Ct & Territorial (FDCVT)	3
2020-2021	Pipestone, Maple & Vineyard, Territorial & Highland, Stevens Street (DWSRF) and Clay Street	39
Total		110



Recent Study Background

- In the spring of 2020, the City was working with WachsWater to complete inspections on all existing hydrants and valves in the distribution system.
- Many of the hydrants were installed at the same time as the older distribution system piping and lead services throughout the City.
- Citywide hydrant inspections by WachsWater found the following:

Total Number of Located Hydrants	494	100%
In Service	436	88%
Out of Service	58	12%



Hydrant Flow Testing (2020)

Number of Hydrants Flowed		
Less than 500 GPM	231	47%
500 – 1000 GPM	199	40%
Over 1000 GPM	64	13%



Initial Action Plan

- **Analyze the Data From WachsWater**

- Work order reports were generated by WachsWater in conjunction with modeling data to determine the most optimal, systematic approach to improve hydrant performance and defects.
- Proposed improvements after the WachsWater assessment focused on hydrant repairs and replacement in the short term, rather than water main reconstruction (long term).
- Valve condition and repairs were reviewed at locations of hydrants with lower flow to determine if existing valving needed repairing or valves opened.

- **The Work Plan**

- Identify Hydrant Replacement candidates on water mains with adequate valves
- Perform surface repairs on Hydrants requiring minor surface defects (WachsWater)
- Complete Valve Repairs on surface improvements (WachsWater)
- Retest Hydrant Flows



- **2020 – 2021 Hydrants Scheduled for Replacement**

- 15 Hydrants within the system replaced as part of a hydrant replacement project by Kalin Construction.
- Additional hydrants scheduled for replacement could not be replaced without new valving and line stop installations requiring the City to secure additional funding.

- **2022 – 2023 Hydrants Scheduled for Repair**

- The City received a FDCVT grant in 2021 to replace additional hydrants.
- Hydrants to be replaced as part of the FDCVT grant will include new insertion valves and line stops to install the fire hydrant. Valve condition and configuration on distribution system needs addressing when replacing some of the City's hydrants.



Upcoming Work / Summary

- WachsWater is currently finishing any remaining valve repairs that can be completed at the pavement surface.
- Flow Testing of all City Hydrants has begun and will be completed in 2022.
- The City has received a 2021 FDCVT grant to replace fire hydrants. 15 fire hydrants are estimated to be replaced along with insertion valves to isolate water mains to properly replace the existing fire hydrant. Work is expected to be completed in 2022 and 2023.
- Future fire hydrant replacements will be more costly if additional insertion valves and/or line stops are required. Distribution system projects improving the water main will replace valves and hydrants during main replacement.
- The State of Michigan has recently provided the City of Benton Harbor SB 565 funding to complete replacement of older aging infrastructure, including improvements on fire hydrants, water valving, and water mains within the distribution system.

