



City of Hartford * County of Van Buren * State of Michigan

TO: Mayor Danger and Hartford City Commission

FROM: Quentin Clark, President, Certified Operator Services LLC

CC: Nicol Pulluiam, City Manager

DATE: December 15, 2025

RE: APPROVAL OF THE IRON REMOVAL PLANT MEDIA PILOT STUDY

ITEM BEFORE THE COMMISSION:

Staff recommends that the City of Hartford approve the proposal from Peerless-Midwest, Inc. for \$12,500 to conduct a catalytic (cathodic) filter media pilot study at the City's Iron Removal Plant (IRP) to evaluate long-term solutions for elevated manganese in finished drinking water.

BACKGROUND:

The City of Hartford's drinking water system relies on groundwater treated at the Iron Removal Plant for iron and manganese removal. During the 2025 EGLE Sanitary Survey, it was documented that manganese levels elevate following filter backwash cycles and, in some instances, exceed the Secondary Maximum Contaminant Level (SMCL). EGLE recommended optimization of backwash procedures and continued monitoring of pressure loss through the filters. **In response, City staff has increased both the frequency and duration of filter backwashing in an effort to improve manganese removal performance; however, these adjustments have resulted in little sustained improvement in finished water manganese levels.**

In addition, EGLE advised that if the elevated manganese issue persists, the City should consult with a qualified professional to conduct a thorough inspection and performance evaluation of the iron and manganese removal treatment system.

To comply with EGLE guidance and to avoid premature capital investment without verified performance data, the City solicited a professional pilot study proposal to evaluate an alternative catalytic filter media

PILOT STUDY OVERVIEW:

Peerless-Midwest, Inc. proposes installing and operating a representative pilot system inside the existing Iron Removal Plant using catalytic pyrolusite media. The media is a naturally mined mineral comprised

of approximately 75% manganese dioxide (MnO₂) and is NSF-61 certified for drinking water applications.

The pilot system will be operated until manganese breakthrough reaches one-half of the SMCL. The study will determine how many operational hours are achieved prior to breakthrough and evaluate long-term treatment performance under real Hartford system conditions.

Testing will include iron, manganese, and free chlorine residual monitoring using standard Hach field test methods. At the conclusion of testing, Peerless-Midwest will provide a formal engineering report detailing performance and design recommendations for potential full-scale treatment upgrades.

FINANCIAL IMPACT:

The total cost of the pilot study is \$12,500. Funding is proposed to be allocated from the City's Water Fund or applicable capital planning reserves. Completion of this pilot will reduce future financial risk by ensuring any long-term treatment upgrades are based on verified performance data rather than assumptions.

OPERATION BENEFITS:

- Improves long-term treatment reliability for iron and manganese without the need to change chemical treatment.
- Supports regulatory compliance and distribution system water quality stability.
- Provides data-driven guidance for future treatment plant upgrades.
- Protect ratepayers from unnecessary capital expenditures without proven benefit.

NEXT STEPS:

Upon Commission approval, Certified Operator Services will coordinate with Peerless-Midwest to schedule the pilot unit's mobilization and installation, oversee testing, and provide operational support during the study. Upon completion, results will be presented to the Commission for consideration of long-term treatment improvements.

RECOMMENDATION:

The Hartford City Commission approves the Peerless-Midwest catalytic media pilot study. This project directly supports EGLE's regulatory guidance and is a prudent, data-driven step toward improving Hartford's finished drinking water quality.

SUPPORTING DOCUMENTS

- Peerless-Midwest Pilot Study Proposal
- EGLE 2025 Sanitary Survey
- EGLE Email Correspondence