

Meeting Date: 2/11/2026 Item: _____

Agenda Item Summary:

REPLACE BOILER- WATER TREATMENT PLANT

Summary: The Boiler system at the Water Treatment Plant is responsible for maintaining critical process temperatures and providing facility heat. The current unit is a Fulton -Pulse model installed in 2008. After 18 years of service, the unit has reached the end of its reliable operational life and is experiencing recurring mechanical failures that threaten plant operations during winter months.

Issue: The 2008 Fulton Pulse boiler has developed several "known issues" of this specific aging model, including:

Flapper Valve Degradation: These units rely on mechanical "flappers" for air/gas mixing; these require frequent, costly replacement as they age to prevent "short-cycling" and ignition lockouts.

Excessive Vibration and Noise: As internal components wear, the characteristic "pulse" vibration can increase, leading to loosened gas train connections and secondary leaks.

Difficulty Sourcing Parts: Due to the age of the 2008 model, specialized control boards and sensors are becoming increasingly difficult and expensive to procure.

Expected Service Life:

According to industry standards (ASME and ASHRAE), the normal life expectancy for a high-efficiency commercial pulse boiler is typically 15 to 20 years. At 18 years old, this unit is currently at the outer limit of its dependable service life. Continuing to repair this asset is no longer cost-effective compared to the efficiency and reliability of a modern replacement.

Budget: This replacement was not specifically itemized in the FY26 budget. However, due to the high risk of total system failure during the heating season, staff recommends replacement now with a budget amendment.

Final: Another local shop was contacted for a quote and they were not able to handle installation. We respectfully request the City Council approve the purchase and installation of a new high-efficiency boiler system from Mick Gage Plumbing and Heating for the amount not to exceed \$41,667, including the decommissioning and removal of the existing unit.

Mick Gage

PLUMBING & HEATING, INC.

1303 South Grand
Charles City, Iowa 50616
Ph: (641)257-6417
Fax: (641)257-6418

Website Address: www.mickgage.com

511 West Milwaukee P.O. Box 244
New Hampton, Iowa 50659
Ph: (641) 394-4985
Fax: (641) 394-3826

Proposal for City of Charles City Water Treatment Plant Boiler

Thank you for the opportunity to provide a proposal for a new boiler for your facility. Following is our proposal:

Thermal Solutions AMP-500C natural gas fired high efficiency hot water boiler with an input of 500 MBH and complete with:

- ASME construction
- CSD-1 code accessories
- Stainless steel heat exchanger
- ASME relief valve – 75 PSI
- Pressure and temperature gauge
- Probe type low water cutoff with manual reset and test switch
- Operating control
- Flow switch
- Supply water sensor
- Return water sensor
- Inlet and exhaust connections
- Rear flue outlet
- Circulating pump (shipped loose)
- Flue gas sensor
- Stainless steel burner
- Current: 120/60/1
- Direct spark ignition system
- Concert boiler control with touch screen display
- Modulating firing sequence – 10:1 turndown
- Pre and post purge
- Prewired panel cabinet with control fuse and switch
- Air pressure switch
- Operating gas valve
- Gas pressure regulator
- High gas pressure switch
- Low gas pressure switch
- Main gas shutoff cock
- Condensate trap with overflow protection
- Condensate neutralizer kit
- Freight allowed to jobsite
- Startup, efficiency testing and review with operating personnel

Serving Northeast Iowa Since 1969

24 HOUR EMERGENCY SERVICE

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Pump
Pipe & Fittings
Equipment
Wiring
Labor

Labor and Materials to install: \$41,676.00 (Forty-One Thousand Six Hundred Seventy-Six and 00/100 Dollars)

NOTE: This proposal is valid for 10 days, prices are subject to change after 10 days.

Terms: Balance due upon completion.

If you have any questions or if we can be of service, please call me at 641-394-4985.

Sincerely,
MICK GAGE PLUMBING AND HEATING, INC.



Mick Gage
President

Date of Proposal: February 2, 2026

Acceptance of Proposal: *The above price, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.*

Date of Acceptance: _____ Signature: _____