

Department of Public Works

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Racine, Wisconsin 53403
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Mark H. Yehlen, PE
Commissioner of Public Works

Thomas M. Eeg, P.E.
Asst. Comm. of Public Works/Operations

John C. Rooney, P.E.
Asst. Comm. of Public Works/City Engineer

August 21, 2015

Legistar Item: 15-00771

Alderman Jim Morgenroth, Chairman
Public Works and Services Committee
Racine, WI

Re: Proposal for the Analysis of the Central Heating Plant Chimney

Dear Alderman Morgenroth:

We are submitting a proposal for the analysis of the Central Heating Plant Chimney. This project will review and determine what needs to be done to extend the life of this chimney. The proposal is in the not-to-exceed amount of \$3,000.

Funding is available in Org-Object 45040-57200, DPW Building Improvements-Central Heating Plant Chimney.

Sincerely,

A handwritten signature in blue ink, appearing to read "T. Eeg", is written over a light blue circular stamp.

Thomas M. Eeg
Assistant Commissioner of Public Works/Operations

Attachment

TME:njp



civil . structural . plumbing / fire protection . mechanical . electrical. telecommunications / security

May 21, 2015

Thomas M Eeg, PE
Assistant Commissioner of Public Works / Operations
Racine City Hall
Department of Public Works
730 Washington Avenue, Room 303
Racine, WI 53403

**RE: City of Racine
Central Heating Plant
Boiler Chimney Venting Study**

Dear Tom,

Harwood Engineering Consultants, Ltd., (HECL), is pleased to offer an engineering proposal to study the steam boilers flue venting system.

DESCRIPTION OF PROJECT

The two large steam boilers that heat the City Hall and the Public Safety Building, vent their spent flue gas into and up the very tall brick set chimney. This chimney that predates the 1960's boilers by many years is showing signs of deterioration and efflorescence on the brick work near its top. This project will study options to replace the function of the chimney so the City of Racine can ultimately raze the chimney or possibly reduce the height.

Our intention is to study the following options to address this situation:

1. Convert to a boiler venting system that results in short "stub stacks" for each boiler that exits through the boiler room roof.
2. Convert to one common venting system that utilizes one larger "stub stack" to vent both boiler together.
3. Reduce the height of the brick chimney and add an internal metallic liner system.
4. Options one and two will allow the City of Racine to raze the old chimney to the central plant roof.

Please note that this study will require both mechanical and structural engineering analysis for options one and two. Our proposal includes that work.

We assume that the City of Racine will contract with a chimney restoration / removal specialist to advise on the complete removal or partial chimney removal aspects of our studied options.

DESCRIPTION OF SCOPE

- Consult with City of Racine staff and collect field data about the existing chimney conditions and the physical conditions within the central power plant.
- Review the boiler flue gas venting requirements and identify modification options.
- Analyze findings and document system deficiencies found along with proposed corrective measures and our opinion of the probable construction cost.

255 North 21st Street, Milwaukee, Wisconsin 53233 Phone: (414) 475-5554 Fax: (414) 773-9299 www.hecl.com

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May 21, 2015
Thomas M Eeg, PE
Racine City Hall
City of Racine
Central Heating Plant
Boiler Chimney Venting Study
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CITY OF RACINE PROVIDED ITEMS

- Copies of original central plant plans, prior chimney repair / study reports, and other documents related to the central plant.
- Staff time to facilitate access to the spaces necessary to field investigate areas of interest. This could also require our use of City provided ladders to reach the roof.

PROJECT DELIVERABLES

- Prepare a detailed written report summarizing the results of the study.
- Meet with staff to review findings, corrective measures, and cost.

FEE SCHEDULE FOR SERVICES

Engineering Study, a fixed fee of \$3,000

Thank you very much for this opportunity. Should you have any questions or require further clarification, please do not hesitate to call or email.

Sincerely,
Harwood Engineering Consultants, Ltd.

Robert J. Luk, PE
Principal | Director of HVAC Engineering

RJL/kg