

City of Ottawa

Boiler Replacement

City Hall, Elgin Street, Ottawa.

Project Statistics

Description:	High efficiency boiler Replacement 4 Boilers
Project budget	\$250,000

Responsibilities

Complete design to replace the hot water heating plant.

Services Provided:

- ▣ *Operating cost analysis*
- ▣ *Mechanical design*
- ▣ *Electrical design*
- ▣ *Project commissioning*

Project Objectives

To replace the existing four, atmospheric, medium efficiency boilers with three or possibly four gas fired, high efficiency boilers.

Provide new pumps and controls.

Reduce the venting system to allow for condensing type boilers to be installed.

Provide a new control strategy to utilize the existing DDC system's ability to control the heating water temperature setpoint based on occupancy schedule and outdoor air reset to maximize the system's efficiency.

Liaise with Technical Standards and Safety Association (TSSA) for registrations and inspections.

Challenges

To satisfy the energy efficiency requirements required by the City of Ottawa in order to secure funding for the project.

Be of a physical size that would permit access through the building elevators, stairways and doorways;

Have a heating output capable of satisfying the heating demand during winter design day with one boiler on standby.



Solutions and Successes

- ▣ Utilized four, small footprint, high efficiency condensing boilers all controlled in a staged and rotating basis to match the precise heating requirements.
- ▣ Carried out all construction activities with a minimum of disruption to the City Hall.
- ▣ This project has realized significant energy saving through the operation and controls strategies designed into the new system.