

# CANTON CENTRAL SCHOOL DISTRICT

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## BACKGROUND

IBC Engineering was retained by the Canton Central School District to provide a forensic engineering study of their existing steam physical plant and all the facilities building systems.

## APPROACH

This extensive study included the evaluation of an existing 800 BHP output steam plant serving over 300,000 SF. The plant was only 18 years old but was experiencing numerous failures well before the industries expected life cycle. Results of the study indicated that the campus had a large number of systems that were original to the buildings and were at the end of their useful lives. The project was prioritized with a phased approach for replacement based on need and available funding for implementation. The result is a (4) phase implantation with an M/E/P construction cost of \$13.5 million.



## PHASE ONE

- Removed a 1000 BHP steam plant and convert to an 800 BHP hot water plant. The plant included four boilers, two condensing and two non-condensing boilers based on upfront cost and a return-on-investment scenario through energy savings.
- Removed 10 steam to hot water heat exchangers, 13 heating hot water pumps, 21 condensate return pumps, 5 steam boilers, 3 steam to domestic hot water generators.
- Replaced (9) Air handling systems serving High School classrooms, auditorium, cafeterias, and a natatorium ranging from 1000 cfm to 12,500 cfm.
- Updated Controls on all the systems replaced.
- Three domestic water heating plants were installed.



## PHASE TWO

- Building wide toilet room renovations.
- Crawl Space Ventilation.
- Two Classroom wings renovation.



## PHASE THREE

- Converted H&V System for entire Middle School to Central Station VAV reheat including the addition of a 185 Ton Air Cooled chiller.
- Replaced (20) Air handling systems serving Middle and Elementary School classrooms, ranging from 1740 cfm to 15,750 cfm.
- Replaced 140 Reheat Coils
- Replaced all heating piping at Middle School and Elementary School.

## PHASE FOUR

- Added Air Conditioning to Auditorium.
- Administration Air Handling upgrade
- Finish Temperature Controls upgrades on equipment not covered in replacement scope of work.