

RHCC HEATING SYSTEM UPGRADE



Background

- Seed for Boiler Replacement Sown During Engineering for Chapin Hall Renovation

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- Seed for Boiler Replacement Sown During Engineering for Chapin Hall Renovation
- First Project Was New Control System and Zone Valves in February 2010
- March 2011, Finally Met Knowledgeable Steam Heating Specialist
- Developed Three Options for Heating System

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- Option 1: Operate Present System With Minimal Maintenance Until Boiler Fails

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- ⦿ Option 1: Operate Present System With Minimal Maintenance Until Boiler Fails
- ⦿ Option 2: Restore System To Its Original Functionality

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- Option 1: Operate Present System With Minimal Maintenance Until Boiler Fails
- Option 2: Restore System To Its Original Functionality
- Option 3: Convert Steam System to Hot Water System and Install Two or More Small Gas Fired Condensing Boilers

Project Scope

- Convert Steam Radiators & Piping to Hot Water System

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- ① Convert Steam Radiators & Piping to Hot Water System
- ① Increase Heating Zones to 16 from 10

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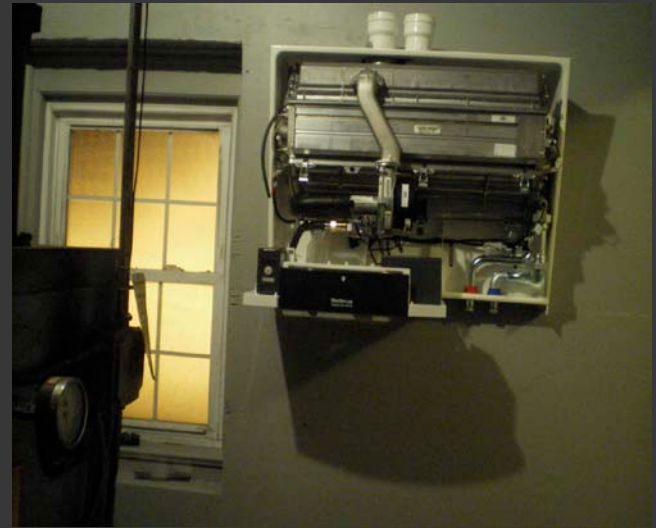
Project Scope

- ① Convert Steam Radiators & Piping to Hot Water System
- ① Increase Heating Zones to 16 from 10
- ① Replace Boiler With 2 or 3 Condensing Boilers
- ① Switch Fuel from Oil to Natural Gas

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- ① Replace Boiler With 2 or 3 Condensing Boilers
- ① Switch Fuel from Oil to Natural Gas
- ① Domestic Hot Water Solar Ready

Visible Changes - Boiler Room



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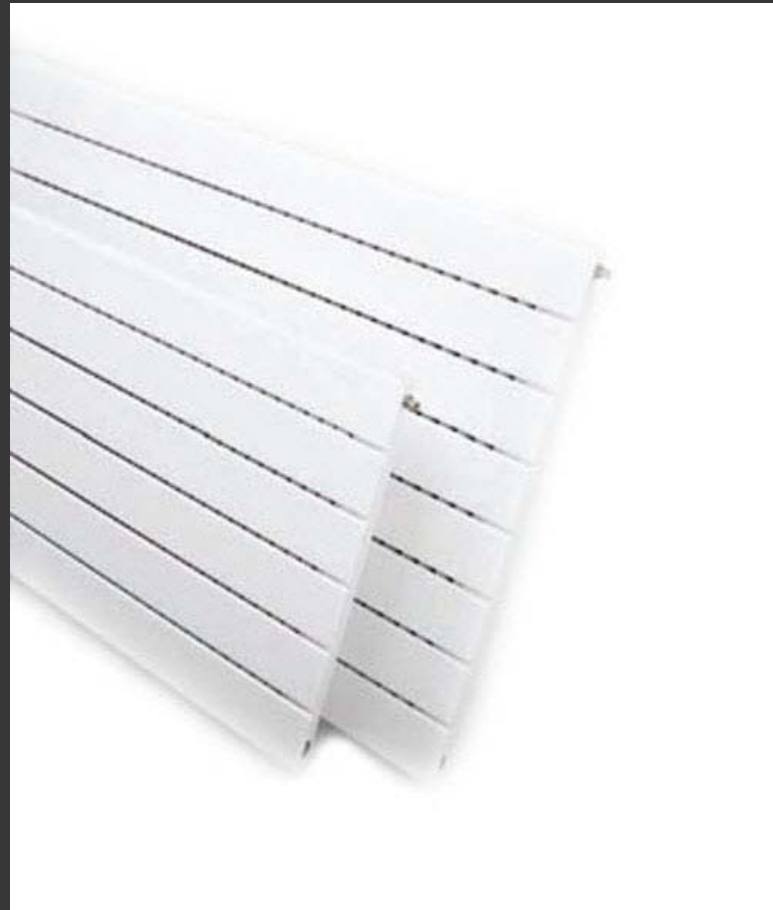
Visible Changes - Boiler Exhaust



Visible Changes – Sanctuary Radiator Options



Visible Changes – Sanctuary Radiator Options



Why Proceed Now

- Stewardship of Our Facility

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- **Converting to All Hot Water Permits Use of High Efficiency Boilers (95% vs 80%)**

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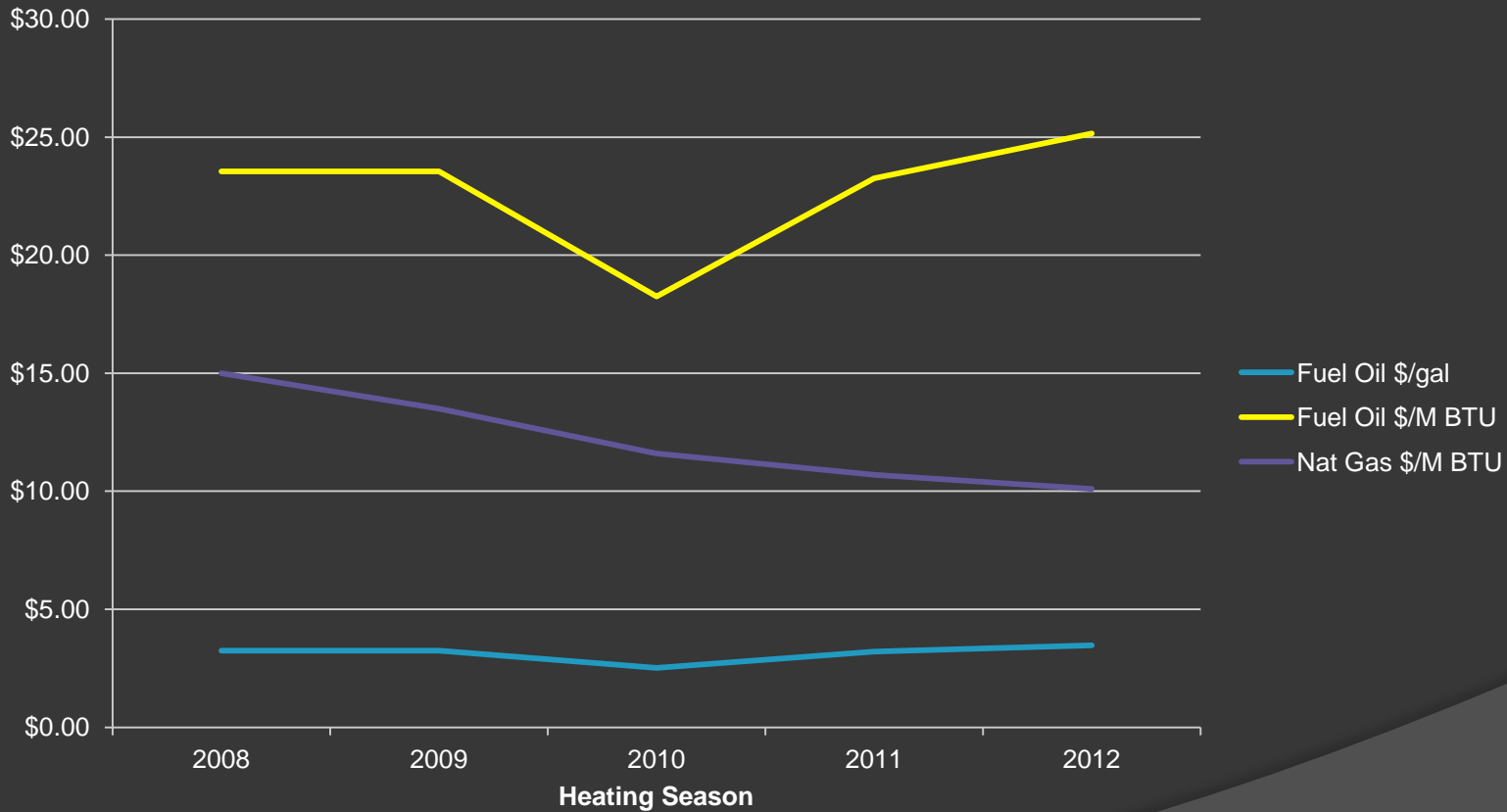
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- ① Adding Zones Allows Us to Match Heating to Building Use Better

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- **Natural Gas Cheaper Than Fuel Oil**

Recent Natural Gas & Fuel Oil Prices

Fuel Oil & Nat Gas Prices



Timetable

- Congregational Meeting February or March 2012

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- ⦿ Congregational Meeting February or March 2012
- ⦿ Construction In Summer of 2012 After Nursery School Is Out

Cost & Funding

- Current Estimate Is \$135,000

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- Estimate First Year Fuel Savings of \$9000 for Net Savings of \$5000

Selected Contractors

- Mechanical Energy (Dan Allen) And Connecticut Temperature Controls