



Central Islip UFSD Energy Performance Contract Phase II Proposal

BOARD OF EDUCATION PRESENTATION, DECEMBER 4, 2019

MATTHEW PROVIDENTE, DIRECTOR OF FACILITIES

Energy Performance Contracts


- An “EPC” uses energy savings to finance the cost of new equipment and capital improvements, generally over an 18-year ROI term, with 15 year financing via an EPC Municipal Lease Agreement
- Shorter Pay-Back initiatives (Solar, LED Lighting) are used to leverage longer term Pay-Back initiatives (BMS Controls)
- ESCO Performs the GC work and **Guarantees** the savings
- Savings are “audited” by an annual Measurement & Valuation Process
- Regulated by NYS Energy Law, Article 9- no vote of Community to authorize
- Globally, project must have an 18-ROI without factoring for State Aid



History



- September/October 2018 - Developed the RFP for Professional Services
- Issued RFP on November 14, 2018
- ECG, Tetra Tech and BBS Responded on January 11, 2019. ECG awarded Contract by BOE in February 2019

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- February/March 2019 ECG worked with District to develop an EPC RFP
 - March 28, 2019 issued RFP for EPC
 - May 30, 2019 ESG, Honeywell, EcoSystems responded (JCI, Trane, Ameresco did not)
 - June 24, 2019 ESCO interviews
 - July 2019 BOE Resolution declaring ESG the winner

EPC Project Development

- Undertook an “Investment Grade Audit”
 - Deployment of Data Loggers
 - Walk-throughs with Staff
 - Utility Bill Analysis
 - Mock-ups
- Technically & Financially Evaluated by ECG Group
- Subcontractors vetted with committed engagements of:
 - County Energy Controls – BMS
 - Renu Contracting- Ceilings
 - WESCO/Avon- Lighting



RENU CONTRACTING
RESTORATION



Summary of Energy Conservation Measures/Project Overview

- ▶ \$3MM of Lighting Upgrades to LED
- ▶ \$820K COGEN Unit (aka Combined Heat/Power)
- ▶ \$60K Pool Variable Frequency Drive
- ▶ \$20K Electric Transformer Upgrades
- ▶ \$375K Steam Trap Replacements & Pipe Insulation
- ▶ \$265K Domestic Hot Water Upgrades
- ▶ \$2.45MM of Heating/Generator/Refrigeration Controls Improvements
- ▶ \$1.25MM worth of Solar Photovoltaics (PV)

Energy Savings Measures Photovoltaic at Reed

Currently, Reed maintains a 27KW system.
The HS maintains a 50KW system.

Proposed addition of 375 KW at Reed in
addition to existing. Reed maintains a
newer roof with a warranty. Age of roofs
elsewhere inhibits PV installations with
approaching need to replace roofs.

Cost - 1.25MM. Annual Savings - 504,000
KWH or approx. \$70,000.00. Simple
Payback 15 years.

Who has Solar or is Developing Projects:

East Islip, Commack, Sachem, West Islip,
Kings Park, Plainedge, Long Beach,
Mineola, Lindenhurst, Middle Country



Energy Savings Measure Cogeneration at High School

- Cogeneration is a natural gas-powered engine which generates electricity (75 KW). The resulting heat is recovered and utilized. The HS Pool presents a highly viable use for waste heat year-round. Heat will also be used for ambient Natatorium heating and domestic hot water generation.
- *Schools with Cogen installed or in development: Sachem, Long Beach, Commack, Sayville (picture is of Sayville's unit)*
- Will generate 500,000 kwh for \$70,000 in elec savings, plus thermal savings with a net \$36,000 gas expense results in net savings of \$34,000 annually
- PSEG Rebate potential of \$80,000-\$100,000



ESM Districtwide Lighting & Partial Ceiling Replacements



Old Spline Ceilings with Surface Mounted Lights

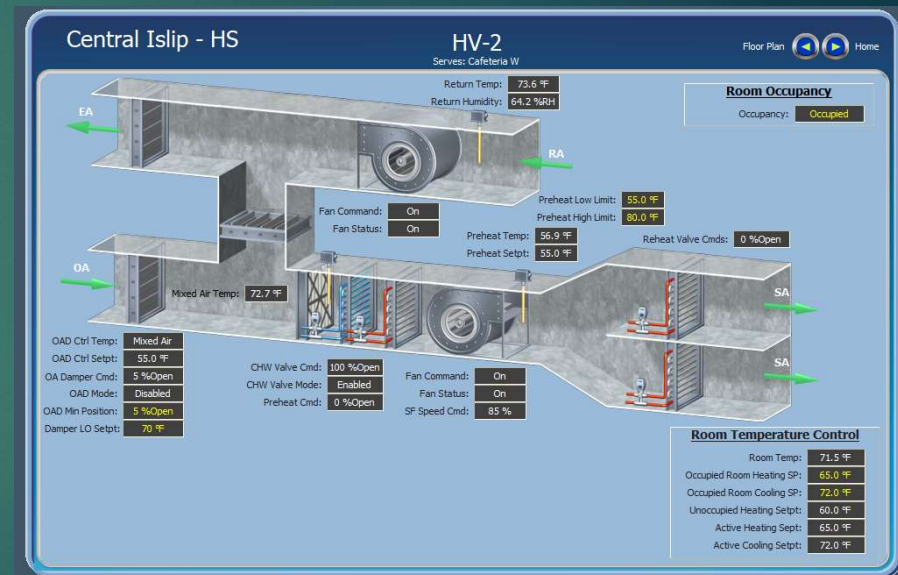
- 2.7MM of Interior Lighting Replacements to LED, 10,000+ fixtures
- \$135,000 of exterior lighting replacements (in house we completed Mulligan, Reed, Mulvey generating \$40,000 in rebates to-date)
- Generates \$205,000 in PSEG Rebates, and annual energy savings of \$72,000 and \$4,000 in haz-waste disposal savings
- Most importantly, rectifies issues with lighting fixture fires
- Also eases IT data runs, mechanical access, and improves room acoustics



New Drop Ceilings with Lay-In LED Lights

ESM Building Management System Expansion

- Updated Servers/Front Ends (HS System failed this year)
- New Software
- Elimination of all pneumatic controls in all buildings except HS
- Demand Controlled Ventilation
- Lighting Controls
- Generator Integration
- Plug load controllers on Window ACs, Water Fountains, Copiers, etc.
- 1.8MM in total improvements
- Energy Savings, Increased Comfort, Improved Controllability, Remote/Phone enabled access



EPC Project Financial Projections

- \$8,800,000 in projected Energy Savings over 18 years (2019 Budgeted Energy Spend is approx 1.1MM for electricity, 455k for gas, and 80k for oil.
- \$250,000 Guaranteed Project Rebates
- \$100,000 Possible Additional Rebates
- \$1,000,000 in projected O&M Savings over 18 years
- \$11,400,000 in Debt Service Payments over 15 years (at assumed 4% interest)
- \$7,100,000 in State Aid Revenue over 15 years
- *\$700,000 Additional State Aid with Voter Proposition Authorization*
- \$5,700,000 Projected Positive Cash Flow over 20 Years.

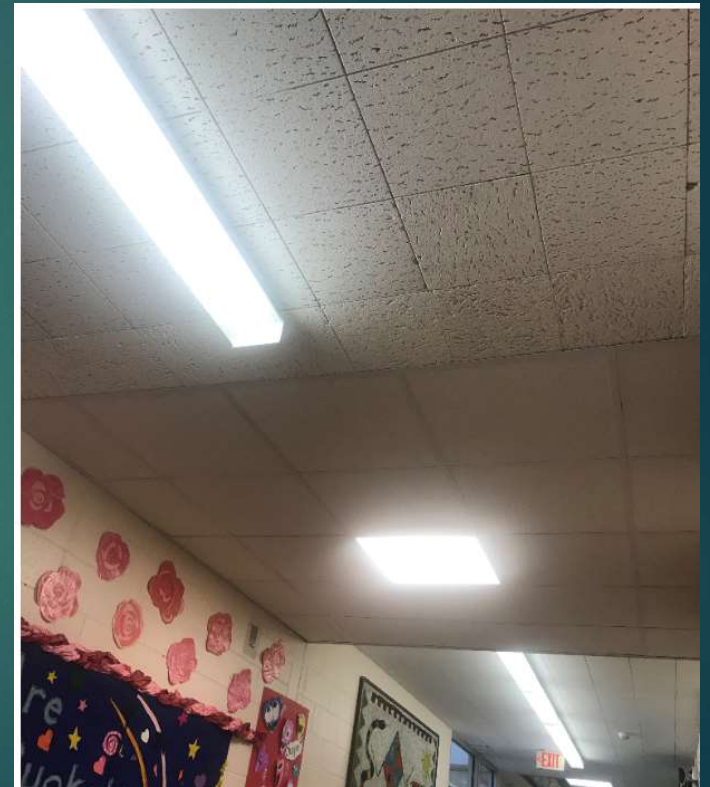
Next Steps...

- ▶ Discussion of EPC and Coincident Proposed Capital Work (December)
- ▶ Determine whether voter proposition will be advanced to capture 10% additional aid (December-January)
- ▶ Pass BOE EPC Contract Resolution and SEQRA Resolution (January-February)
- ▶ ECG prepares plans and specifications for NYSED Review in February, 2019
- ▶ Permit Issuance after Fall 2020
- ▶ Phase I Construction Fall 2020 and beyond

Alternate –Coincident Capital Bond Work

- ▶ Using the remaining 1.037MM in the Capital Reserve (which sunsets in 2022/23), the funds could be “Flexed” to advance a project of 5.2MM with a bond issue
- ▶ EPC includes 35,000 sq. ft. of ceiling replacements (corridors) from Spline to Lay-in
- ▶ 256,000 sq. ft. of remaining original spline ceilings can be replaced at a budgeted cost of 4MM over summer 2021 and 2022
- ▶ Lighting would be coordinated with EPC & Capital Work

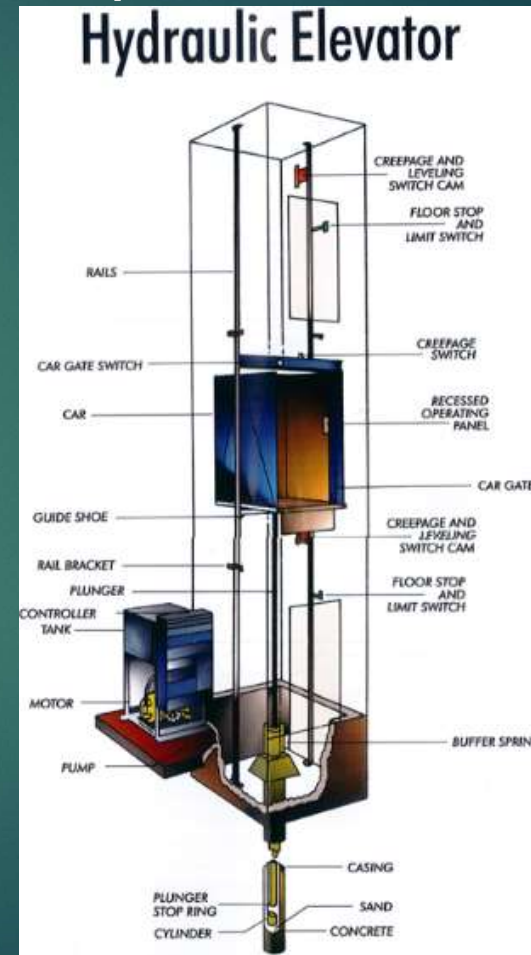
PLUS.....



Alternate –Coincident Capital Bond Work

- Replace HS's original elevator in the circle
- Elevator is frequently out of service for repairs
- Elevator reliability is on the decline
- Budget \$150,000

PLUS.....



Alternate –Coincident Capital Bond Work



Reed Middle School

- Renovate Home & Careers Room 111 to comparable level/finishes as room 112
- Budget \$125,000
- Room 112 is now 7 years old and continues to look pristine!



Kenneth Bogart • 1st

Director of Business Development at Health an...

2w • 🌐

This Home and Careers Room installation still looking pristine after 5 years!



6 Likes • 2 Comments



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Other Long Term Capital Needs

- ▶ TetraTech recently completed a district-wide roofing and masonry survey finding a need for 25mm to 30mm of work in the coming 2-5 years
 - ▶ All roofs except for Reed have expired/expiring roof warranties
 - ▶ Roof repair/maintenance costs are growing & leaks are surfacing
- ▶ Next BCS will be performed in 2021 with an AVI occurring in 2020.
- ▶ Expiring Bond/EPC Debt:
 - ▶ 2023 \$12,890,000
 - ▶ 2026 \$6,853,160
 - ▶ 2028 \$8,675,000
 - ▶ 2033+ \$17,900,000
 - ▶ Debt Svc Payments of \$7,838,500 in 2020 will decrease to \$3,665,301 in 2024 when the 2023-maturing debt drops off