



Porridge Prairie  
SCHOOL DISTRICT

# Investment Grade Audit Presentation

November 13, 2024



Presented by:

Josh Grant – Account Executive

Eric Petrazio – Senior Account Executive

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Kameron Lynch – Project Development





# Agenda for Today's Meeting

Project Scope  
Overview

Project Cost &  
Savings Matrix

Process &  
Next Steps

Questions &  
Answers

# Portage Area School District

## Project Scope

- HS Central Heating Plant Replacement
- HS HVAC Controls
  - Front end upgrade
- Solar PV field



# Existing HVAC Systems

The High School Central Heating plant consists of two large tri-fuel boilers operating on natural gas. Installed in 1980, these boilers are well beyond the useful ASHRAE expected lifecycle. The lifecycle of these boilers is approximately 25-30 years of useful operations. The refractory and seals on the boilers no longer operate effectively. Pumps and piping appear to be in poor shape with leaking valves, standing water and corrosion.



The third boiler is a coal boiler which appears to have been installed during the original construction of the building in 1958. This boiler is in poor condition, rarely used and difficult to operate.



# Proposed HVAC Systems

The High School Central Heating Plant can be upgraded to include installation of a new high efficiency steam boiler plant.

A new Central Heating Plant will include all piping, pumps, expansion tanks, variable frequency drives, air/dirt separators, housekeeping pads and necessary controls to operate the plant.

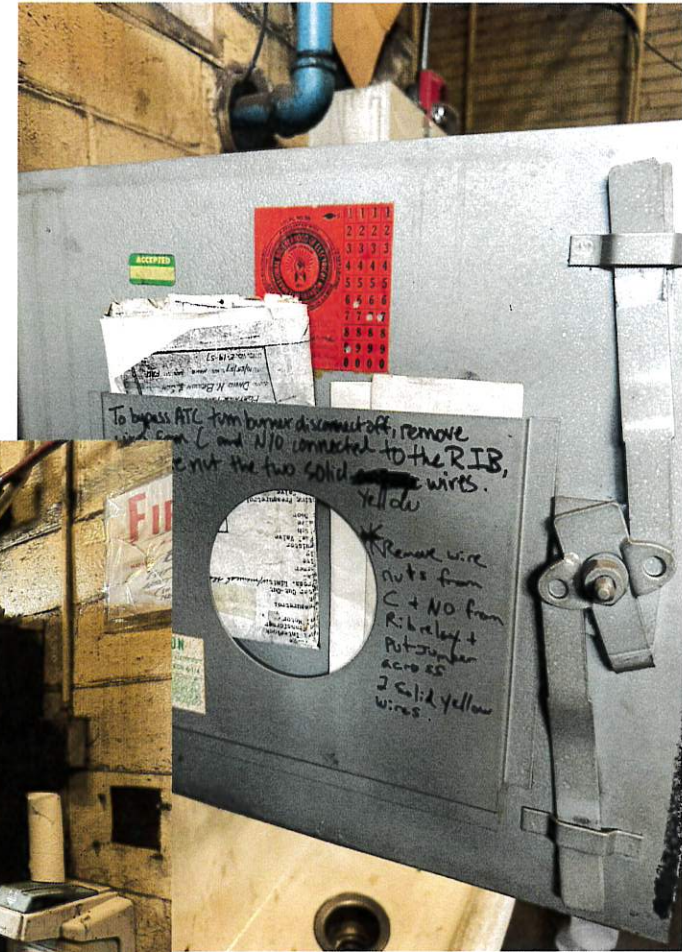


# Existing HVAC Controls

The school buildings are currently controlled by an Automatic Temperature Control system manufactured by Johnson Controls. This system does not utilize the current generation of software available and no longer meets the needs of the district.

Additionally, this system is a proprietary one which has proven to be a challenge with the manufacturer regarding having access to their equipment.

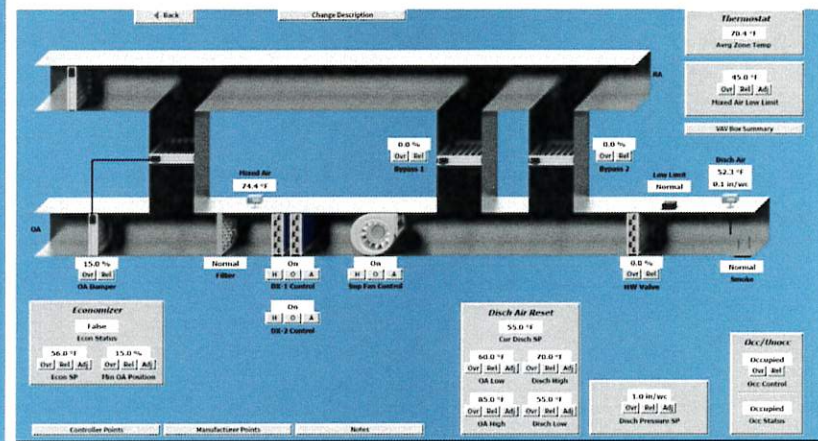
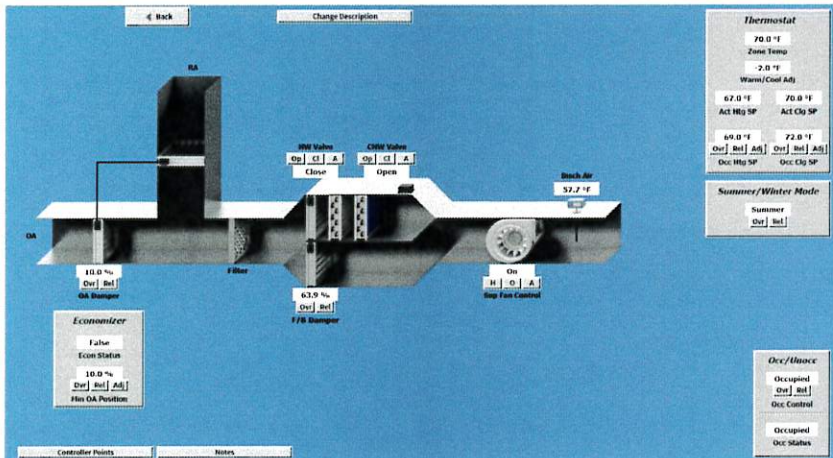
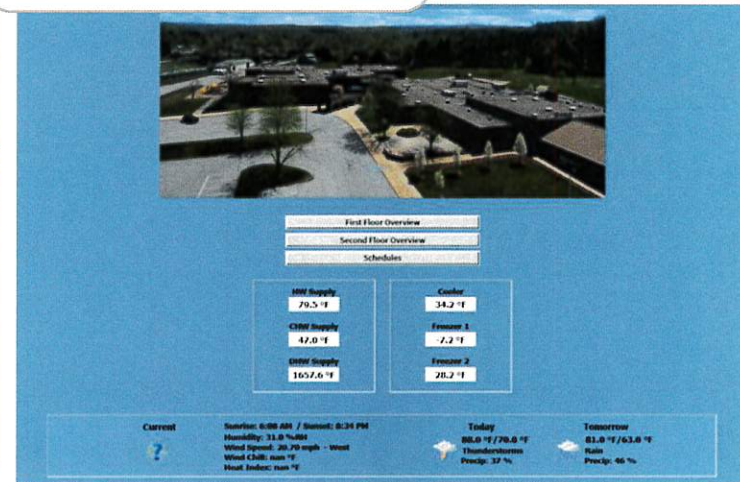
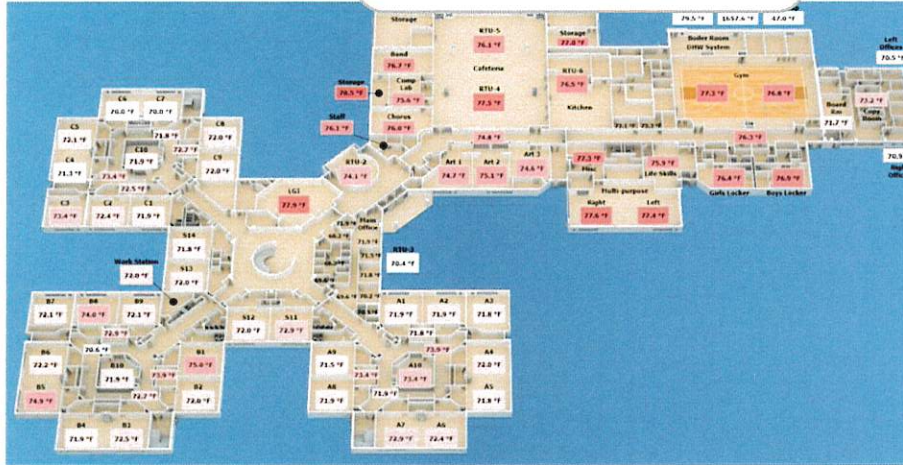
Upgrading this system will enhance the condition of the building to better provide heat and cooling.



# Proposed HVAC Controls

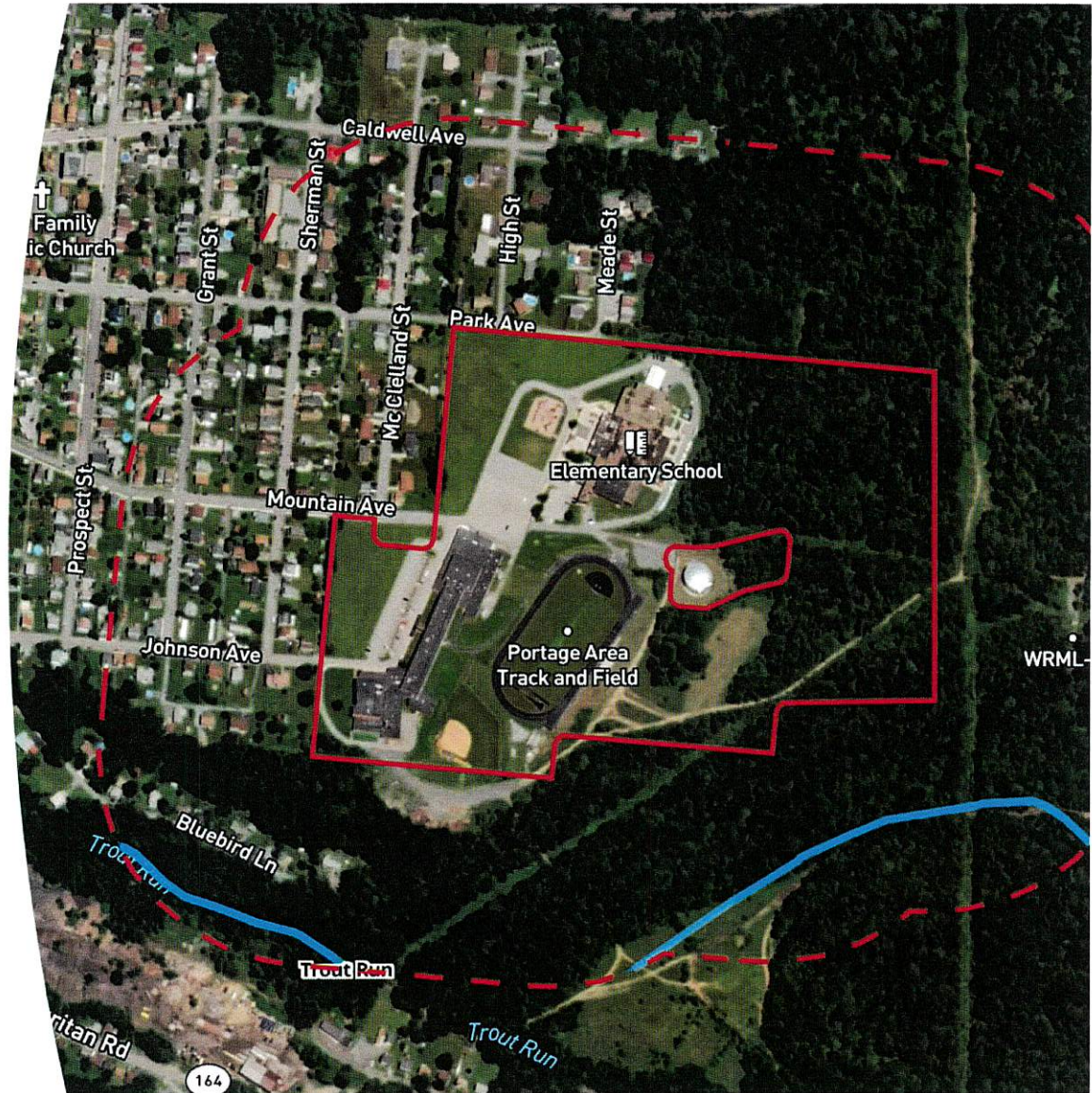
Installation of new front-end device will allow District personnel to view and access HVAC systems.

The new front-end system will be non-proprietary in nature. McClure Company has local partners in Cambria County ready to assist. These partners will be able to help provide the District with ancillary services.



# Desktop Review

- Cambria County, Portage Township
- Parcel Acreage: 48.1
- Wetlands: none
- Streams: none
- Slope: suitable (12% and under)
- Nearest Transmission Line: 0.95 miles
- Near Substation: 0.77 miles



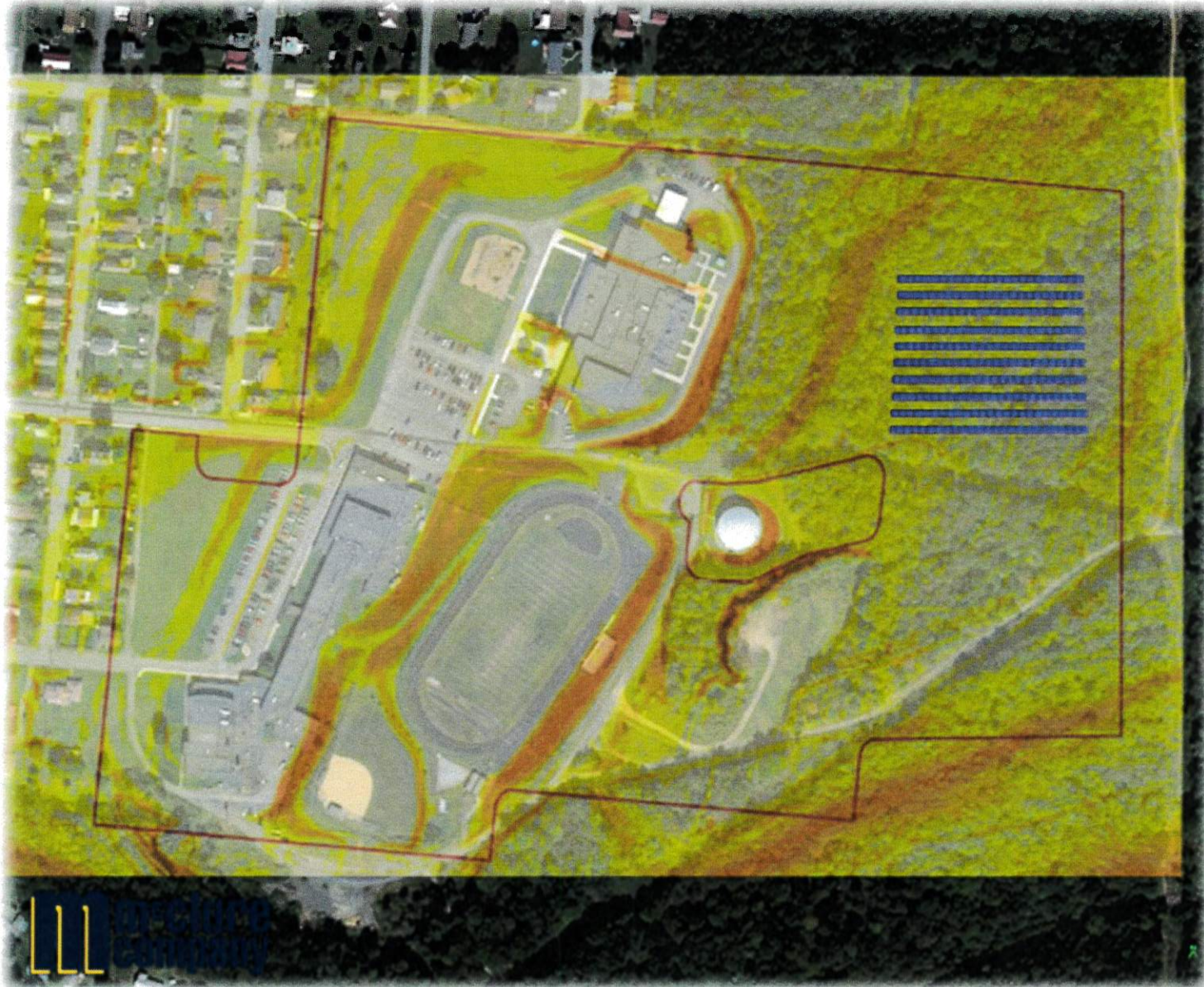


# Proposed Project Location

- Size: 1.2 mW DC
- Production: 1.5 GWH
- Offset: 112%
- Footprint: ~ 3 acres



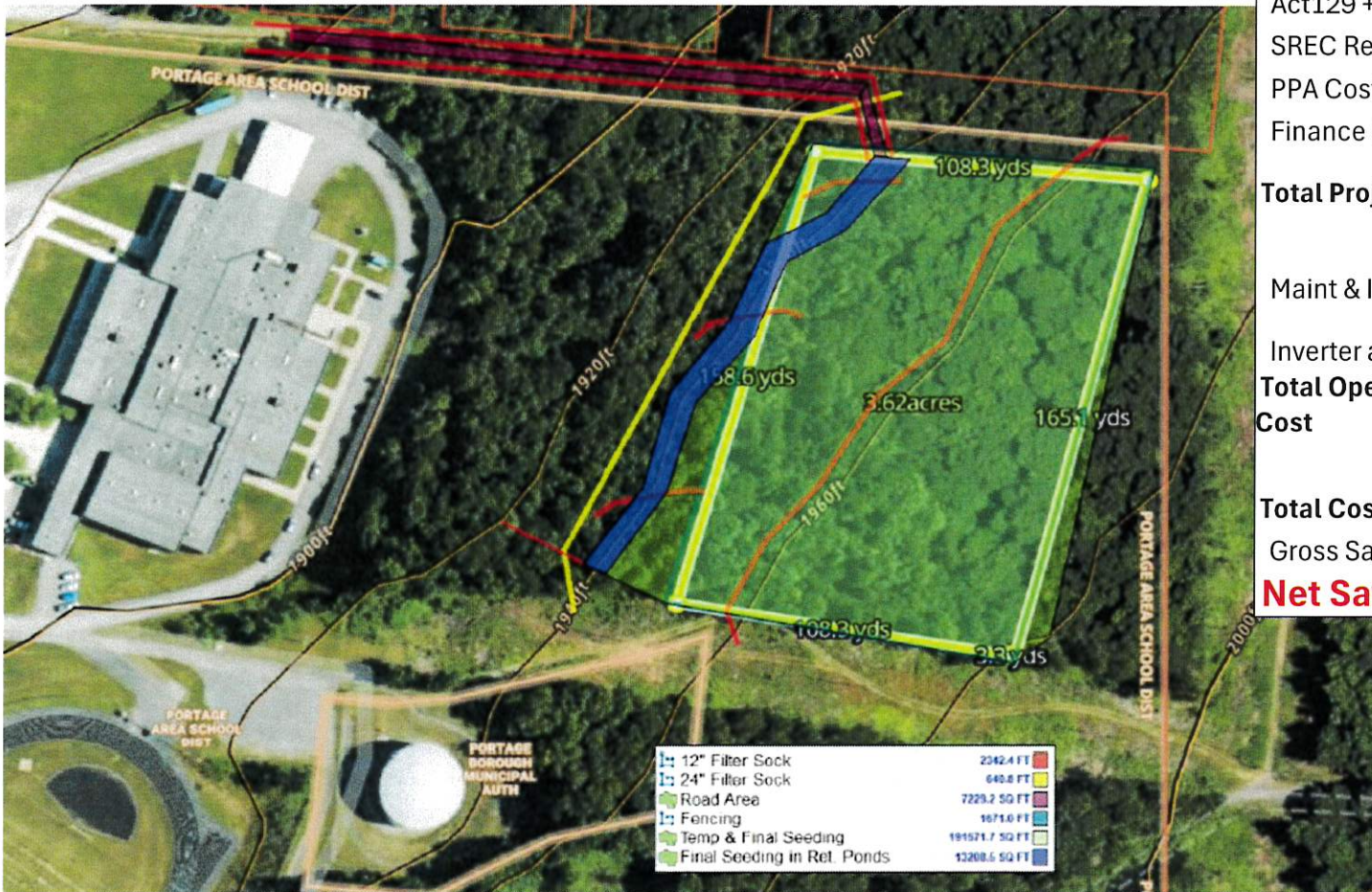
# Site Considerations



# Final Project Location

## Cost for Customer - Portage Area SD - 30Yr

Items	PPA-LOA	PPA- Scoping
Solar CAPEX	\$0	\$0
Act129 + Direct Pay	\$0	\$0
SREC Rev	\$0	\$0
PPA Cost	\$6,460,339	\$5,669,116
Finance Cost	\$0	\$0
<b>Total Project Cost</b>	<b>\$6,460,339</b>	<b>\$5,669,116</b>
Maint & Insurance	\$0	\$0
Inverter and Decom	\$0	\$0
<b>Total Operating Cost</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Cost</b>	<b>\$6,460,339</b>	<b>\$5,669,116</b>
Gross Savings	\$9,678,388	\$9,446,621
<b>Net Savings</b>	<b>\$3,218,049</b>	<b>\$3,777,505</b>



# 30-Year PPA Cash Flow

Column 1: 30 Year PPA for 1,200 kW Ground Mounted Solar Array, \$0 Cost Upfront

Column 2: Generating 110% of Electricity Usage with 0.5% annual system degradation

Column 3: Existing Electric Savings escalated 3% per year (Price to compare \$0.137/kWh)

Column 4: 30-Year Fixed PPA fee, including annual solar maintenance and inverter replacement in year 15. Fee also includes savings from Act 129 rebate, Tax Credits, Accelerated Depreciation, Solar Renewable Energy Credits (SRECs), and Generated Electricity

Column 5: Projected Annual Net Savings to District

Column 6: Projected Cumulative Savings to District

Year	Column 1	Column 2	Column 3	Column 4	Column 5		Column 6
	Annual Generation	Existing Electric Cost Savings	Fixed PPA + Maintenance Fee	Net Customer Savings		Cumulative	
	(KWH)	(\$)	(\$)	Annual	(\$)		
1	1,566,000	\$220,978	\$172,363	\$48,615	\$48,615		
2	1,558,170	\$226,470	\$174,931	\$51,538	\$100,154		
3	1,550,379	\$232,097	\$177,538	\$54,560	\$154,713		
4	1,542,627	\$237,865	\$180,183	\$57,682	\$212,395		
5	1,534,914	\$243,776	\$182,868	\$60,908	\$273,303		
6	1,527,240	\$249,834	\$185,592	\$64,241	\$337,544		
7	1,519,603	\$256,042	\$188,358	\$67,684	\$405,229		
8	1,512,005	\$262,405	\$191,164	\$71,240	\$476,469		
9	1,504,445	\$268,926	\$194,013	\$74,913	\$551,382		
10	1,496,923	\$275,608	\$196,903	\$78,705	\$630,087		
11	1,489,438	\$282,457	\$199,837	\$82,620	\$712,707		
12	1,481,991	\$289,476	\$202,815	\$86,661	\$799,368		
13	1,474,581	\$296,670	\$205,837	\$90,833	\$890,201		
14	1,467,208	\$304,042	\$208,904	\$95,138	\$985,339		
15	1,459,872	\$311,597	\$212,017	\$99,581	\$1,084,920		
16	1,452,573	\$319,341	\$215,176	\$104,165	\$1,189,085		
17	1,445,310	\$327,276	\$218,382	\$108,895	\$1,297,979		
18	1,438,084	\$335,409	\$221,636	\$113,773	\$1,411,753		
19	1,430,893	\$343,744	\$224,938	\$118,806	\$1,530,559		
20	1,423,739	\$352,286	\$228,290	\$123,996	\$1,654,555		
21	1,416,620	\$361,040	\$231,691	\$129,349	\$1,783,904		
22	1,409,537	\$370,012	\$235,143	\$134,869	\$1,918,773		
23	1,402,489	\$379,207	\$238,647	\$140,560	\$2,059,333		
24	1,395,477	\$388,630	\$242,203	\$146,428	\$2,205,761		
25	1,388,499	\$398,288	\$245,812	\$152,476	\$2,358,237		
26	1,381,557	\$408,185	\$249,474	\$158,711	\$2,516,948		
27	1,374,649	\$418,329	\$253,191	\$165,137	\$2,682,085		
28	1,367,776	\$428,724	\$256,964	\$171,760	\$2,853,846		
29	1,360,937	\$439,378	\$260,793	\$178,585	\$3,032,431		
30	1,354,132	\$450,296	\$264,678	\$185,618	<b>\$3,218,049</b>		

Controls Offset- \$112K

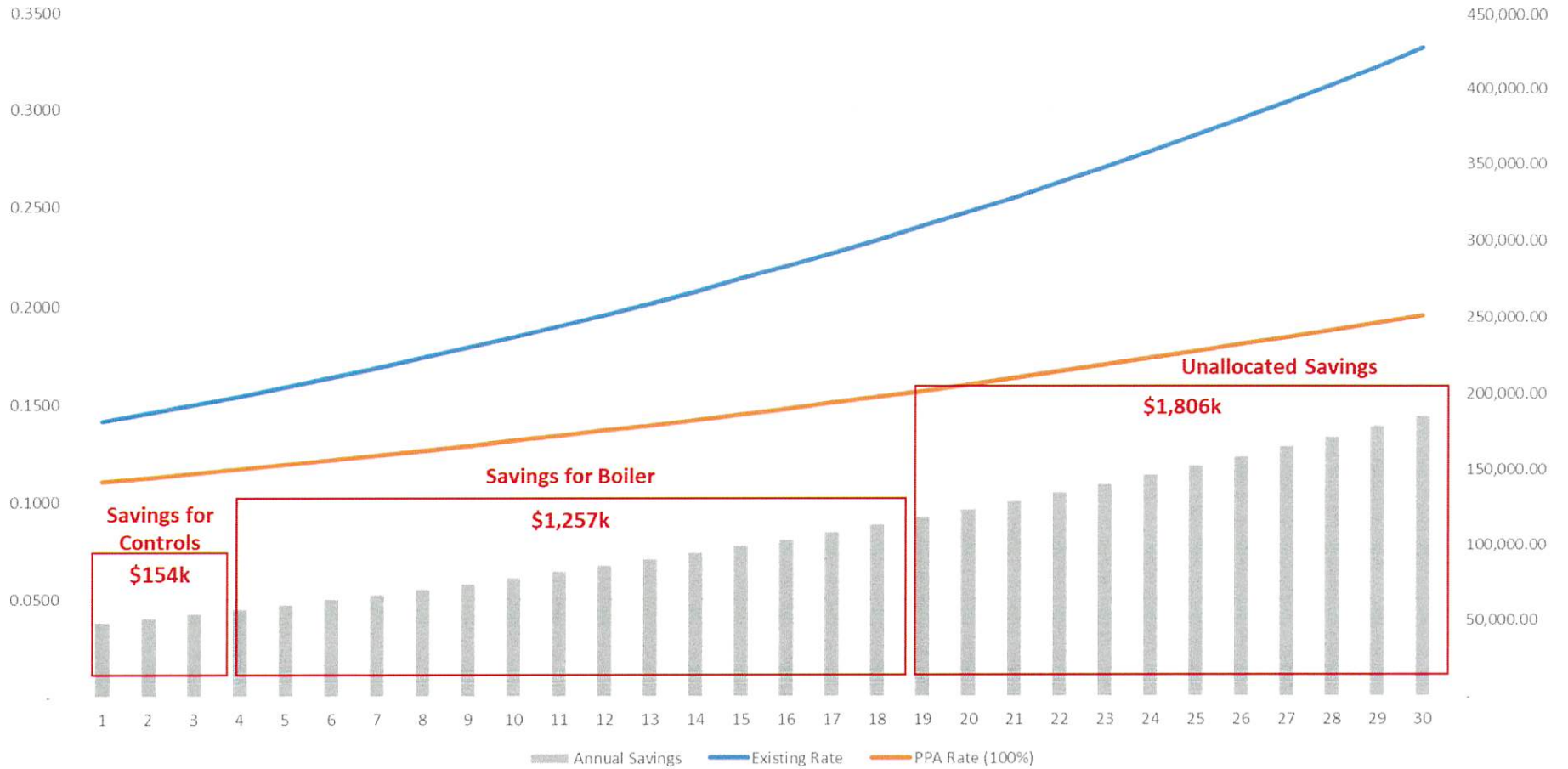
Boiler Offset- \$1.2M

Unallocated Savings- \$1,867,224



# Savings Projection

Rate Comparison / Total Savings



# Portage Area School District IGA Matrix

ECM	Description	Project Cost
1	High School Central Plant Upgrades	\$ 1,225,989
2	HS/ES Automated Temperature Controls Integration	\$ 112,131
Total		\$ 1,338,120
Performance Bond		\$ 12,705
Total Project Cost		\$ 1,350,825
20 Year Guaranteed Energy Savings		\$ 269,721
30 Year PV Solar Field Electrical Savings		\$ 3,218,048





### Feasibility Audit – Summer 2024

- ✓ Begin data collection, survey and detailed energy analysis
- ✓ Present project costs and savings estimates

### Partner with an Energy Service Company – September 2024

- ✓ Advertise a Request for Qualifications
- ✓ Select an Energy Service Company
- ✓ Finalize scope for Investment Grade Audit (IGA)

### Investment Grade Audit – September-November 2024

- ✓ Complete detailed design and phase development
- ✓ Develop firm costs and guaranteed savings associated with improvements
- ✓ Identify all financial incentives and options
- ✓ Present results to the District

### Contract – December 2024

- Contract terms and conditions negotiated
- Contract execution

# Project References

Adams County Government  
Allegheny-Clarion Valley School District  
Austin Area School District  
Beaver County Government  
Bedford County Government  
Bellefonte Area School District  
Benton Area School District  
Bethany Towers  
Bishop Hafey High School  
Bloomsburg Hospital  
Bradford Area School District  
Cameron County School District  
Camp Hill School District  
Carbon County Area Vocational Technical School  
Carlisle Water Pollution Control Facility  
Central PA Institute of Science and Technology  
Charles et Alice  
Chichester School District  
City of Allentown  
City of Bethlehem  
City of Bethlehem Ice Rink  
City of Harrisburg  
City of Lock Haven  
Clearfield County Career & Technology Center  
Columbia-Montour AVTS  
Commonwealth of PA, DPW, Selinsgrove Center  
Coudersport Area School District  
Danville Area School District  
Delaware Valley College  
Duquesne City School District  
Eastern Lebanon County School District  
East Lycoming School District

Forest Area School District  
Geisinger Health System  
Good Shepherd Rehab Center  
Gnauden Huetten  
Greenwood School District  
Greencastle-Antrim School District  
Halifax Area School District  
Hamilton Health  
Harrisburg City School District  
Hazleton Area School District  
Hershey Medical Center  
Jim Thorpe School District  
Juniata County Government  
Juniata County School District  
Kane Area School District  
King's College  
Lackawanna Trail School District  
Lackawanna County Government  
Lakeland School District  
Leechburg Area School District  
Lehigh Area School District  
Linden Hall School For Girls  
Lycoming College  
Lycoming Career and Technology Center  
Mifflin County School District  
Mifflin-Juniata Career and Technology Center  
Millville Area School District  
Minersville Area School District  
Mount Carmel Area School District  
Northampton County  
Northern Potter School District  
Northern York County School District  
Northumberland County AVTS  
Northwest Area School District

Northwestern Lehigh School District  
Old Forge School District  
Panther Valley School District  
PENNCREST School District  
Penns Manor Area School District  
Quaker Valley School District  
Ridgway Area School District  
St. Joseph's University  
Sacred Heart Hospital  
Salisbury Township School District  
Schuylkill County Government  
Smethport Area School District  
South Middleton School District  
Southern Columbia Area School District  
Steelton Highspire School District  
Sunbury Hospital  
Susquehanna Township School District  
Tamaqua Area School District  
Titusville Area School District  
Tunkhannock School District  
Troy Area School District  
United School District  
Union School District  
Wallenpaupack Area School District  
Waynesboro Area School District  
West Branch Area School District  
West Perry School District  
Williamsport Area School District  
Williams Valley School District  
York County Government