

Annual Savings Report – School Performance Contracting Program

State of Ohio Standard Forms and Documents

Project Name New Richmond EVSD

Date December 20, 2017

Project Number 1319

Project Summary	
School District Name	New Richmond EVSD
State Project Number (SN)	1319
Total Project Cost (\$)	\$1,686,036
Length of Contract Term (years)	13.1
Projected Avg. Annual Savings (\$)	\$128,678
Construction Started / Completed	July 2013 – December 2014
Reporting Year (1, 2, or 3)	2
Guaranteed Energy Savings (\$)	\$110,395
ESCO Name	Energy Optimizers USA
ESCO Address	7950 S. County Rd. 25 A Tipp City, OH 45371
ESCO Phone Number	(937) 877-1919
ESCO Contact Person	Shalini Kumaralingam
ESCO E-mail Address	skumar@energyoptusa.com

At a minimum, the following items must be included in the annual report in order to support the summary table above. Additional information may be included and the items below are in no particular order within your report.

Please check that the following are included in the report.

- ✓ Baseline utility tables (gas, electric, water/sewage, etc.) including rates
- ✓ Actual monthly utility data for the current year
- ✓ List of Adjustments from baseline to current year and the supporting documentation
- ✓ Adjusted utility tables for the current reporting year
- ✓ Conclusion as to whether the project has its savings projection
- ✓ Conclusion as to whether the project has met its guarantee (for projects approved after September 2013)
- ✓ In case of shortfall, what measures are proposed to remedy the shortfall (if applicable)

Prepared By:

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12/20/2017
Date

Certified By:

Mike Mowery
Mike Mowery, Treasurer
New Richmond EVSD

12/20/17
Date

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1 Annual Savings Summary

Below is a quick overview of the School Performance Contracting project completed at New Richmond Schools.

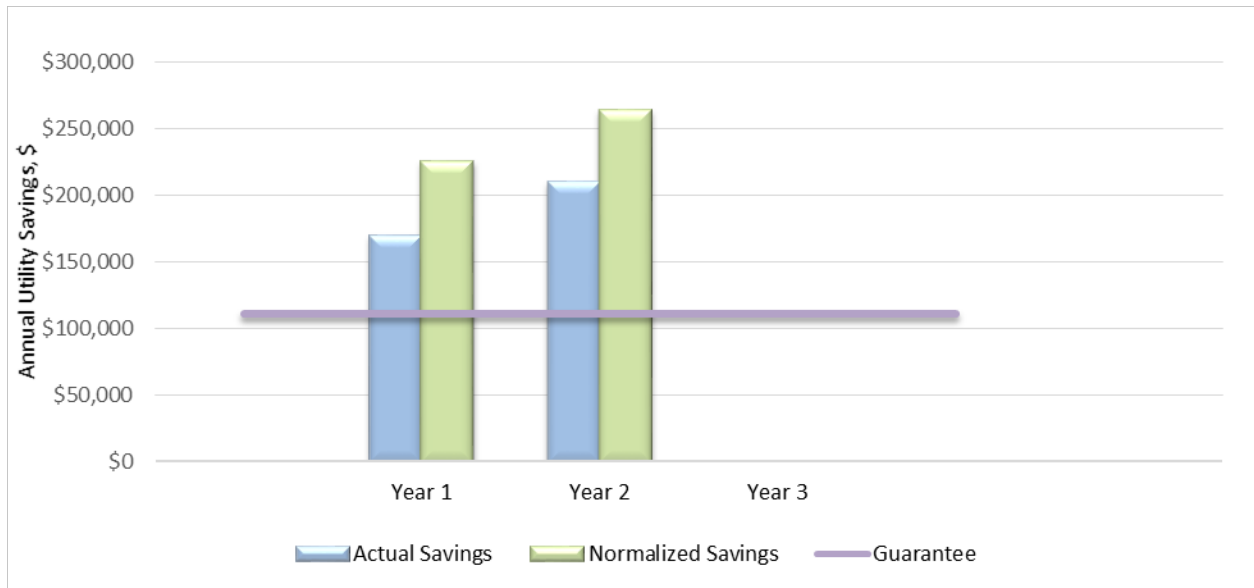
New Richmond Exempted Village Schools	Benchmark	Guarantee		Actual Post-Project			Normalized Post-Project		
	Consumption & Costs	Consumption & Costs	Savings	Consumption & Costs	Savings	% Change to Benchmark	Consumption & Costs	Normalized Savings	% Change to Benchmark
Electric									
Annual Usage, <i>kWh</i>	6,773,710	5,750,359	1,023,351	4,296,434	2,477,276	-36.6%	4,266,006	2,507,704	-37.0%
Annual Cost, \$	\$611,476	\$519,096	\$92,380	\$416,988	\$194,489	-31.8%	\$375,261	\$236,216	-38.6%
Fuel									
Annual Usage, <i>MMBtu</i>	9,183	6,415	2,768	4,671	4,512	-49.1%	4,798	4,385	-47.8%
Annual Cost, \$	\$59,774	\$41,759	\$18,015	\$44,872	\$14,903	-24.9%	\$32,008	\$27,766	-46.5%
Total Annual Utility Cost	\$671,251	\$560,856	\$110,395	\$461,859	\$209,391	-31.2%	\$407,269	\$263,982	-39.3%
Weather									
Cooling Degree Days, <i>CDD</i>	1,298			1,379			6.3%		
Heating Degree Days, <i>HDD</i>	4,469			4,335			-3.0%		

*Normalized savings are adjusted for pricing, weather conditions, and major facility changes to ensure an “apples to apples” comparison with benchmark data.

**HDD/CDD – Are a measurement of heating and cooling loads and are defined as the amount of degrees per day that the average temperature deviates from 65 F. For example, a cold day with an average temperature of 20 F would have 45 degree-days for that day (65 F – 20 F).

The School has met its savings!

New Richmond EVSD



OFCC Approved Savings	Guaranteed Savings	Actual Savings	Normalized Savings
Electric \$ 94,485	\$ 18,015	\$ 194,489	\$ 236,216
Natural Gas \$ 28,157	\$ 92,380	\$ 14,903	\$ 27,766
Total Savings \$ 122,642	\$ 110,395	\$ 209,391	\$ 263,982

2 Introduction

The Reconciliation Report is meant to highlight the energy savings due to the School Energy Performance Contracting Project for New Richmond Schools. There is a slight difference in the initial submittal savings versus the guaranteed savings due to the adjustments in detailed engineering calculations as well as what the true savings are compared to what we guarantee. The implementation of the energy savings measures was completed in December 2014. This report details energy savings only; operations and maintenance savings have not been tabulated.

2.1 Energy Savings Summary

It was anticipated that the School Performance Contracting Project would save the district \$110,395 in energy per year. In the second year of post-project energy data considered, it has been calculated that the district saved \$263,982 in energy!

Reconciliation Report – Energy Savings Summary

OFCC Approved Savings	Guaranteed Savings	Actual Savings	Normalized Savings
Electric \$ 94,485	\$ 18,015	\$ 194,489	\$ 236,216
Natural Gas \$ 28,157	\$ 92,380	\$ 14,903	\$ 27,766
Total Savings \$ 122,642	\$ 110,395	\$ 209,391	\$ 263,982

Note: The table above only includes Energy Savings; it does not include Operations and Maintenance Savings.

3 Project Adjustments

There are no adjustments. This page was intentional left blank

4 Savings Calculations

We at Energy Optimizers, USA find that the most accurate and reliable way of calculating the savings is Option C which is to compare energy usage data from after the project to data from before the project. Energy data from the time period after the project has been completed, or the “post-project period” is measured against the energy data from before the project started, the baseline or benchmark time period. These two time periods are:

Benchmark Time Period: March 2011 – February 2012
 Post-Project Time Period: January 2016 – December 2016

4.1 Normalized Savings

4.1.1 Need for Normalization

Due to fluctuations in weather and prices in energy, the amount of money spent on energy can change drastically from year-to-year. In order to compare “apples to apples,” normalizing the data for the same weather and energy cost baseline is necessary. For example, if the price of electricity increases from \$0.10/unit to \$0.12/unit from one year to the next, and the owner uses 10% less energy, the overall cost will still increase because of the increased cost per unit.

Normalization is accomplished by adjusting the savings figures by a ratio of the benchmark heating or cooling demand and the post-project heating or cooling demand. Also, the benchmark energy cost rate is multiplied by the energy saved. These two steps remove the variables of weather and energy cost from the savings figures so that they are comparable to the anticipated savings. In turn, this allows us to determine the accurate amount of energy that was saved due to the School Performance Contracting project.

4.1.2 Usage Dependency

The first step is separating each respective energy usage by two or three categories, namely Weather-dependent, Occupancy-dependent, and/or Independent use. The percentages will allow the energy usage that is dependent on the weather to be normalized with respect to changes in weather from year to year. The independent portion is separated so it is not normalized for weather or occupancy. These percentages for the district are displayed in the table below.

Energy Usage Dependence Percentages

New Richmond Exempted Village Schools	Pre - Project					
	Electric			Natural Gas		
	Ind %	Wea %	Occ %	Ind %	Wea %	Occ %
New Richmond High School	79.0%	21.0%	0.0%	8.0%	85.7%	6.3%
New Richmond Middle School	98.0%	2.0%	0.0%			
New Richmond Elementary School	79.0%	21.0%	0.0%	10.8%	89.2%	0.0%
Monroe Elementary School	98.0%	2.0%	0.0%			
Locust Corner Elementary	77.9%	18.6%	3.5%	12.5%	87.5%	0.0%

Post - Project						
New Richmond Exempted Village Schools	Electric			Natural Gas		
	Ind %	Wea %	Occ %	Ind %	Wea %	Occ %
New Richmond High School	79.0%	21.0%	0.0%	8.0%	85.7%	6.3%
New Richmond Middle School	98.0%	2.0%	0.0%			
New Richmond Elementary School	79.0%	21.0%	0.0%	10.8%	89.2%	0.0%
Monroe Elementary School	98.0%	2.0%	0.0%			
Locust Corner Elementary	77.9%	18.6%	3.5%	12.5%	87.5%	0.0%

4.1.3 Weather Differences

To adjust for differences in weather, it is necessary to determine the annual heating and cooling demand. Energy Optimizers, USA chooses to use heating degree days (HDD) and cooling degree days (CDD) for this measurement, as degree days are a great representation of the typical heating/cooling requirements for a building.

For example, the process of calculating the annual heating degree days is:

When the average outdoor air temperature (T_{oa}) is less than the balance point temperature (T_{bal} - the outdoor air temperature at which heating/cooling is initiated), calculate the difference between the balance point temperature and average outdoor air temperature.

Sum that difference up for all days in the given year.

This equates to the heating degree days per year, and gives us an estimate of the annual heating energy use for a given location and balance temperature. The calculation for heating degree days is represented in the equation below; the process is nearly identical for cooling degree days.

$$\text{Heating Degree Days} = \sum_{i=1}^{365} (T_{bal} - T_{oa,i})$$

The heating and cooling degree days for the both time periods are displayed in the table below.

Heating and Cooling Degree Days			
Weather Data	Baseline	Post Project	% Change to Baseline
Cooling Degree Days CDD	1,298	1,379	6.3%
Heating Degree Days HDD	4,469	4,335	-3.0%

Using the heating and cooling degree days for each time period, as well as the Baseline Energy Signature breakdown from the initial analysis of the district's energy use, we were able to determine how much of the total energy was used for heating or cooling the facility. The percentage breakdown allows us to adjust the weather dependent portion of the usage with the ratio of heating/cooling degree days of the two time periods, which enables us to calculate the normalized post-project savings. This, in turn, will allow us to see how well the project has performed in comparison to the anticipated savings.

4.1.4 Electricity

Now that the heating and cooling degree days have been determined, it is possible to normalize the energy savings to determine just how much energy and money the School Performance Contracting project saved the district. To adjust for the electricity cost per unit change from the benchmark to the post-project time frame, we will multiple the weather normalized savings by the benchmark electricity cost per unit. The calculations and results are displayed below.

Non-Weather Normalized Electricity Usage Calculations

Non-Weather Normalized Data			
Electricity Usage Data	Baseline	Post-Project	Change from Baseline
Annual kWh Usage	6,773,710	4,296,434	-36.6%
Annual kWh Cost	\$611,476	\$416,988	(\$194,489)
Average Cost per kWh	\$0.090	\$0.097	7.5%
Annual kW Usage (Demand)	24,464	18,010	-
Average Cost per kWh and kW	\$0.00	\$0.00	-
Electrical kBtu/SqFt	55.23	35.03	-36.6%

Weather Normalized Electricity Usage Calculations

Weather Normalized Data			
Electricity Usage Data	Baseline	Post-Project	Change from Baseline
Independent kWh Usage	5,935,570	3,780,356	-36.3%
Weather-Dependent kWh Usage	838,140	516,078	0.0%
Electrical kWh/CDD	645.92	374	0.0%
Weather Normalized kWh	6,773,710	4,266,006	-37.0%
Total Electrical kWh/CDD	5,220	3,094	-40.7%

4.1.5 Natural Gas

The same process that was completed to ascertain the normalized electricity savings has been executed for the natural gas side of the savings venture. The calculations and savings associated are shown below.

Non-Weather Normalized Natural Gas Usage Calculations

Non-Weather Normalized Data			
Heating Fuel Usage Data	Baseline	Post-Project	Change from Baseline
Annual MMBtu Usage	9,183	4,671	-49.1%
Annual MMBtu Cost	\$59,774	\$44,872	(\$14,903)
Average Cost per MMBtu	\$6.51	\$9.61	47.6%
Heating Fuel kBtu/SqFt	21.94	11.16	-49.1%

Weather Normalized Natural Gas Usage Calculations

Weather Normalized Data			
Heating Fuel Usage Data	Baseline	Post-Project	Change from Baseline
Independent MMBtu Usage	1,190	567	-52.3%
Weather-Dependent MMBtu Usage	7,993	4,104	-48.7%
Heating Fuel MMBtu/HDD	1.79	0.95	-47.1%
Weather Normalized MMBtu	9,183	4,798	-47.8%
Total Heating Fuel MMBtu/HDD	2.05	1.11	-46.1%

4.1.6 Savings Summary

Total Summarized Savings

OFCC Approved Savings	Guaranteed Savings	Actual Savings	Normalized Savings
Electric \$ 94,485	\$ 18,015	\$ 194,489	\$ 236,216
Natural Gas \$ 28,157	\$ 92,380	\$ 14,903	\$ 27,766
Total Savings \$ 122,642	\$ 110,395	\$ 209,391	\$ 263,982

5 Operation and Maintenance Savings

New Richmond Schools approves that Energy Optimizers, USA has met the operations and maintenance savings of \$18,100.

Treasurer's Signature Michael R Mowery

6 Proposed Measures for Shortfall in Savings

This project does not include any shortfalls.

The School has met its savings!

7 Appendices

7.1 District Reconciliation Analysis

New Richmond Exempted Village School

District Summary

Reconciliation Report: HVAC, Weather and Price Normalized

Baseline Energy Use Time Period: March 2011 - February 2012

Post-Project Energy Use Time Period: March 2016 - August 2016

Note: Energy savings figures only reflect (12) months of post-project data.

Weather Data	Cooling Degree Days (CDD)	Baseline: 1,298	Post Project: 1,379	Difference from Baseline: 6.3%
Weather Stn. Location:	Heating Degree Days (HDD)	Baseline: 4,469	Post Project: 4,335	Difference from Baseline: -3.0%

ENERGY USAGE COMPARISON

Electricity Usage Data

Non-Weather Normalized Data				Weather Normalized Data			
Electricity Usage Data	Baseline	Post-Project	Change from Baseline	Electricity Usage Data	Baseline	Post-Project	Change from Baseline
Annual kWh Usage	6,773,710	4,296,434	-36.6%	Independent kWh Usage	5,935,570	3,780,356	-36.3%
Annual kWh Cost	\$611,476	\$416,988	(\$194,489)	Weather-Dependent kWh Usage	838,140	516,078	0.0%
Average Cost per kWh	\$0.090	\$0.097	7.5%	Electrical kWh/CDD	645.92	374	0.0%
Annual kW Usage (Demand)	24,464	18,010	-	Weather Normalized kWh	6,773,710	4,266,006	-37.0%
Average Cost per kWh and kW	\$0.00	\$0.00	-	Total Electrical kWh/CDD	5,220	3,094	-40.7%
Electrical kBtu/SqFt	55.23	35.03	-36.6%				

Heating Fuel Usage Data

Non-Weather Normalized Data				Weather Normalized Data			
Heating Fuel Usage Data	Baseline	Post-Project	Change from Baseline	Heating Fuel Usage Data	Baseline	Post-Project	Change from Baseline
Annual MMBtu Usage	9,183	4,671	-49.1%	Independent MMBtu Usage	1,190	567	-52.3%
Annual MMBtu Cost	\$59,774	\$44,872	(\$14,903)	Weather-Dependent MMBtu Usage	7,993	4,104	-48.7%
Average Cost per MMBtu	\$6.51	\$9.61	47.6%	Heating Fuel MMBtu/HDD	1.79	0.95	-47.1%
Heating Fuel kBtu/SqFt	21.94	11.16	-49.1%	Weather Normalized MMBtu	9,183	4,798	-47.8%
				Total Heating Fuel MMBtu/HDD	2.05	1.11	-46.1%

Savings Summary

	Proposed Savings - Unit	Proposed Savings Cost	Bill to Bill Savings by Unit	Bill to Bill Savings Cost	Normalized Savings - Unit	Normalized Savings Cost
Electrical Savings - kWh	1,023,351	\$92,380	2,154,476	\$194,489	2,507,704	\$236,216
Heating Fuel Savings - MMBtu	2,768	\$18,015	2,289	\$14,903	4,385	\$27,766

TOTAL SAVINGS:

Anticipated Savings	\$110,395	Bill to Bill Comparison Savings	\$209,391	Normalized Savings	\$263,982
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7.2 District Utility Analysis



New Richmond Exempted Village Schools

District Summary

Post Project Period September 2016 - August 2016

FACILITY LOCATION NAME	FACILITY SIZE (S.F.)	ANNUAL ELECTRIC		ANNUAL KW	COST/ KWH	KBTU/ SF	ANNUAL FUEL (Total)		COST/ MMBTU	KBTU/ SF	TOTAL	TOTAL	TOTAL
		KWH	COST				MMBTU	COST (Total)			ANNUAL COST	KBTU/SF	\$/SF
1 New Richmond High School	110,000	1,187,648	\$ 103,212	4560.0	\$ 0.087	36.85	1,175	\$ 14,699	\$ 12.51	10.68	\$ 117,912	47.53	\$ 1.07
2 New Richmond Middle School	66,000	969,632	\$ 78,573	3982.8	\$ 0.081	50.14	-	\$ -	\$ -	-	\$ 78,573	50.14	\$ 1.19
3 New Richmond Elementary School	73,600	477,379	\$ 58,013	2077.6	\$ 0.122	22.14	2,210	\$ 18,077	\$ 8.18	30.03	\$ 76,090	52.17	\$ 1.03
4 Monroe Elementary School	83,000	976,266	\$ 100,531	9466.8	\$ 0.103	40.14	-	\$ -	\$ -	-	\$ 100,531	40.14	\$ 1.21
5 Locust Corner Elementary	86,000	685,509	\$ 76,659	3179.8	\$ 0.112	27.21	1,286	\$ 12,096	\$ 9.41	14.95	\$ 88,754	42.16	\$ 1.03
District Totals	418,600	4,296,434	\$ 416,988	23267.1	\$ 0.097	35.03	4,671	\$ 44,872	\$ 9.61	11.16	\$ 461,859	46.19	\$ 1.10

Baseline Period March 2011 - February 2012

FACILITY LOCATION NAME	FACILITY SIZE (S.F.)	ANNUAL ELECTRIC		ANNUAL KW	COST/ KWH	KBTU/ SF	ANNUAL FUEL (Total)		COST/ MMBTU	KBTU/ SF	TOTAL	TOTAL	TOTAL
		KWH	COST				MMBTU	COST (Total)			ANNUAL COST	KBTU/SF	\$/SF
1 New Richmond High School	110,000	2,204,369	\$ 189,595	12039.0	\$ 0.086	68.40	4,889	\$ 30,527	\$ 6.24	44.45	\$ 220,122	112.84	\$ 2.00
2 New Richmond Middle School	66,000	1,350,003	\$ 118,691	4069.9	\$ 0.088	69.81	-	\$ -	\$ -	-	\$ 118,691	69.81	\$ 1.80
3 New Richmond Elementary School	73,600	689,037	\$ 83,414	2705.9	\$ 0.121	31.95	2,726	\$ 17,225	\$ 6.32	37.03	\$ 100,639	68.99	\$ 1.37
4 Monroe Elementary School	83,000	1,609,106	\$ 133,847	8355.1	\$ 0.083	66.17	-	\$ -	\$ -	-	\$ 133,847	66.17	\$ 1.61
5 Locust Corner Elementary	86,000	921,195	\$ 85,930	3241.7	\$ 0.093	36.56	1,568	\$ 12,022	\$ 7.67	18.24	\$ 97,952	54.79	\$ 1.14
District Totals	418,600	6,773,710	\$ 611,476	30411.6	\$ 0.090	55.23	9,183	\$ 59,774	\$ 6.51	21.94	\$ 671,251	77.17	\$ 1.60

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Total
2016-2016 - Heating Degree Days	542	499	157	55	0	0	0	79	310	781	822	1,090	4,335
2011-2012 - Heating Degree Days	839	639	230	160	0	0	0	107	317	486	783	908	4,469
2016-2016 - Cooling Degree Days	0	0	28	175	305	427	300	106	38	0	0	0	1,379
2011-2012 - Cooling Degree Days	0	5	9	124	241	494	335	80	8	3	0	0	1,298

7.3 New Richmond High School Utility Data

New Richmond High School				
1131 Bethel Rd, New Richmond, OH			Facility Size	110,000

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/15/16	88,702	\$9,041	\$ 0.102	317.8	3/15/2016	225	\$2,180	\$ 9.71	\$11,222	\$ 0.10
	04/15/16	78,060	\$4,100	\$ 0.053	321.1	4/15/2016	201	\$2,024	\$ 10.08	\$6,125	\$ 0.06
	05/15/16	79,307	\$4,156	\$ 0.052	316.3	5/15/2016	13	\$518	\$ 40.71	\$4,674	\$ 0.04
	06/15/16	88,738	\$4,298	\$ 0.048	369.5	6/15/2016	9	\$497	\$ 53.16	\$4,795	\$ 0.04
	07/13/16	96,376	\$8,805	\$ 0.091	369.9	7/15/2016	5	\$472	\$ 91.95	\$9,277	\$ 0.08
	08/12/16	110,341	\$9,121	\$ 0.083	430.9	8/15/2016	8	\$475	\$ 60.09	\$9,596	\$ 0.09
	09/13/16	139,549	\$12,889	\$ 0.092	486.0	9/13/2016	8	\$496	\$ 60.41	\$13,385	\$ 0.12
	10/15/16	107,463	\$11,839	\$ 0.110	440.0	10/12/2016	4	\$470	\$ 114.36	\$12,309	\$ 0.11
11/16/16	92,135	\$9,234	\$ 0.100	354.5	11/10/2016	7	\$491	\$ 65.45	\$9,725	\$ 0.09	
12/18/16	117,183	\$10,914	\$ 0.093	340.2	12/9/2016	24	\$596	\$ 24.81	\$11,510	\$ 0.10	
01/15/16	87,594	\$8,967	\$ 0.102	405.9	1/15/2016	413	\$3,417	\$ 8.28	\$12,384	\$ 0.11	
02/15/16	102,200	\$9,848	\$ 0.096	407.8	2/15/2016	258	\$3,062	\$ 11.88	\$12,910	\$ 0.12	
Totals	1,187,648	103,212	\$ 0.087	4,560.0		1,175	14,699	\$ 12.51	\$45,688	\$ 0.42	

Baseline Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/01/11	155,427	\$13,315	\$ 0.086	443.3	03/01/11	723.0	\$4,503	\$ 6.23	\$17,818	\$ 0.16
	04/01/11	132,975	\$11,749	\$ 0.088	526.1	04/01/11	570.0	\$3,798	\$ 6.66	\$15,547	\$ 0.14
	05/01/11	146,274	\$12,640	\$ 0.086	608.7	05/01/11	203.3	\$1,382	\$ 6.80	\$14,022	\$ 0.13
	06/01/11	221,764	\$18,872	\$ 0.085	754.0	06/01/11	197.2	\$1,330	\$ 6.75	\$20,202	\$ 0.18
	07/01/11	190,374	\$16,156	\$ 0.085	563.2	07/01/11	0.0	\$0	\$ -	\$16,156	\$ 0.15
	08/01/11	204,722	\$17,120	\$ 0.084	533.8	08/01/11	4.1	\$28	\$ 6.79	\$17,148	\$ 0.16
	09/01/11	240,083	\$19,757	\$ 0.082	694.6	09/01/11	160.2	\$1,008	\$ 6.29	\$20,765	\$ 0.19
	10/01/11	234,100	\$19,461	\$ 0.083	611.2	10/01/11	177.7	\$1,101	\$ 6.19	\$20,562	\$ 0.19
11/01/11	207,121	\$17,495	\$ 0.084	612.2	11/01/11	362.5	\$2,163	\$ 5.97	\$19,658	\$ 0.18	
12/01/11	157,070	\$13,297	\$ 0.085	496.4	12/01/11	629.6	\$3,658	\$ 5.81	\$16,955	\$ 0.15	
01/01/12	162,256	\$14,560	\$ 0.090	456.8	01/01/12	850.4	\$4,709	\$ 5.54	\$19,269	\$ 0.18	
02/01/12	152,203	\$15,172	\$ 0.100	533.6	02/01/12	1,011.0	\$6,848	\$ 6.77	\$22,020	\$ 0.20	
Totals	2,204,369	189,595	\$ 0.086	12,039.0		4,889	30,527	\$ 6.24	\$220,122	\$ 2.00	

7.4 New Richmond Middle School Utility Data

New Richmond Middle School		
1135 Bethel-New Richmond	Facility Size	66,000

Post Project Data	Electricity				Summary		
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Total (\$)	\$/SF
	03/15/16	75,860	\$6,013	\$ 0.079	447.2	\$6,013	\$ 0.09
	04/15/16	66,616	\$4,950	\$ 0.074	441.6	\$4,950	\$ 0.08
	05/15/16	60,188	\$4,392	\$ 0.073	346.8	\$4,392	\$ 0.07
	06/15/16	64,906	\$5,972	\$ 0.092	305.2	\$5,972	\$ 0.09
	07/13/16	71,908	\$6,316	\$ 0.088	190.0	\$6,316	\$ 0.10
	08/10/16	67,550	\$5,530	\$ 0.082	206.4	\$5,530	\$ 0.08
	09/12/16	106,940	\$8,122	\$ 0.076	273.6	\$8,122	\$ 0.12
	10/15/16	89,147	\$7,473	\$ 0.084	226.8	\$7,473	\$ 0.11
	11/17/16	57,883	\$4,898	\$ 0.085	208.8	\$4,898	\$ 0.07
	12/20/16	94,210	\$7,901	\$ 0.084	366.8	\$7,901	\$ 0.12
	01/15/16	89,910	\$7,163	\$ 0.080	462.8	\$7,163	\$ 0.11
	02/15/16	124,514	\$9,843	\$ 0.079	506.8	\$9,843	\$ 0.15
	Totals	969,632	\$78,573	\$ 0.081	3,982.8	\$78,573	\$ 1.19

Baseline Pre-Project Data	Electricity				Summary		
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Total (\$)	\$/SF
	03/01/11	110,111	\$9,841	\$ 0.089	373.1	\$9,841	\$ 0.15
	04/01/11	86,212	\$7,815	\$ 0.091	382.4	\$7,815	\$ 0.12
	05/01/11	101,295	\$8,918	\$ 0.088	311.8	\$8,918	\$ 0.14
	06/01/11	98,828	\$8,633	\$ 0.087	268.1	\$8,633	\$ 0.13
	07/01/11	89,444	\$7,959	\$ 0.089	249.2	\$7,959	\$ 0.12
	08/01/11	106,958	\$9,400	\$ 0.088	280.2	\$9,400	\$ 0.14
	09/01/11	120,201	\$10,272	\$ 0.085	277.1	\$10,272	\$ 0.16
	10/01/11	108,042	\$9,467	\$ 0.088	345.7	\$9,467	\$ 0.14
	11/01/11	104,025	\$9,053	\$ 0.087	340.1	\$9,053	\$ 0.14
	12/01/11	126,464	\$10,938	\$ 0.086	386.6	\$10,938	\$ 0.17
	01/01/12	156,172	\$13,693	\$ 0.088	421.7	\$13,693	\$ 0.21
	02/01/12	142,251	\$12,705	\$ 0.089	433.9	\$12,705	\$ 0.19
	Totals	1,350,003	118,691	\$ 0.088	4,069.9	\$118,691	\$ 1.80

7.5 New Richmond Elementary School Utility Data

New Richmond Elementary School			
1141 Bethel Rd			Facility Size
			73,600

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/15/16	40,201	\$4,115	\$ 0.102	132.0	03/15/16	368.7	\$2,715	\$ 7.37	\$6,831	\$ 0.09
	04/15/16	35,980	\$2,839	\$ 0.079	212.0	04/15/16	200.9	\$1,619	\$ 8.06	\$4,458	\$ 0.06
	05/15/16	32,501	\$2,308	\$ 0.071	208.8	05/16/16	34.4	\$533	\$ 15.49	\$2,840	\$ 0.04
	06/15/16	34,788	\$2,061	\$ 0.059	233.1	06/16/16	32.7	\$521	\$ 15.96	\$2,582	\$ 0.04
	07/13/16	35,801	\$18,162	\$ 0.507	134.4	07/17/16	2.5	\$322	\$ 130.59	\$18,484	\$ 0.25
	08/13/17	36,606	\$3,024	\$ 0.083	143.5	08/17/16	0.1	\$306	\$ 2,982.5	\$3,330	\$ 0.05
	09/12/16	55,774	\$5,490	\$ 0.098	280.2	09/17/16	14.5	\$400	\$ 27.61	\$5,890	\$ 0.08
	10/15/16	39,813	\$3,992	\$ 0.100	158.4	10/18/16	19.0	\$429	\$ 22.59	\$4,421	\$ 0.06
11/16/16	34,074	\$3,462	\$ 0.102	121.0	11/18/16	62.4	\$712	\$ 11.39	\$4,174	\$ 0.06	
12/18/16	41,046	\$3,862	\$ 0.094	110.4	12/19/16	457.6	\$3,259	\$ 7.12	\$7,120	\$ 0.10	
01/15/16	42,074	\$4,223	\$ 0.100	173.5	01/15/16	386.3	\$2,830	\$ 7.33	\$7,054	\$ 0.10	
02/15/16	48,722	\$4,476	\$ 0.092	170.3	02/13/16	631.3	\$4,430	\$ 7.02	\$8,906	\$ 0.12	
Totals	477,379	\$ 58,013	\$ 0.122	2,077.6		2,210.3	\$18,077	\$ 8.18	\$76,090	\$ 1.03	

Baseline Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/01/11	58,059	\$7,315	\$ 0.126	165.3	03/01/11	369.7	\$2,347	\$ 6.35	\$9,661	\$ 0.13
	04/01/11	50,704	\$6,877	\$ 0.136	274.4	04/01/11	221.8	\$1,504	\$ 6.78	\$8,382	\$ 0.11
	05/01/11	53,450	\$6,561	\$ 0.123	211.0	05/01/11	79.1	\$547	\$ 6.92	\$7,108	\$ 0.10
	06/01/11	57,307	\$6,381	\$ 0.111	311.1	06/01/11	29.8	\$204	\$ 6.87	\$6,586	\$ 0.09
	07/01/11	46,238	\$5,104	\$ 0.110	148.6	07/01/11	17.5	\$120	\$ 6.90	\$5,224	\$ 0.07
	08/01/11	57,937	\$5,863	\$ 0.101	258.2	08/01/11	17.5	\$121	\$ 6.91	\$5,984	\$ 0.08
	09/01/11	68,900	\$7,866	\$ 0.114	323.0	09/01/11	20.5	\$132	\$ 6.41	\$7,997	\$ 0.11
	10/01/11	60,172	\$7,527	\$ 0.125	276.5	10/01/11	38.0	\$240	\$ 6.31	\$7,767	\$ 0.11
11/01/11	54,021	\$7,085	\$ 0.131	253.4	11/01/11	165.3	\$1,006	\$ 6.08	\$8,091	\$ 0.11	
12/01/11	60,950	\$7,350	\$ 0.121	169.2	12/01/11	395.4	\$2,344	\$ 5.93	\$9,694	\$ 0.13	
01/01/12	61,764	\$7,668	\$ 0.124	151.3	01/01/12	617.2	\$3,491	\$ 5.66	\$11,160	\$ 0.15	
02/01/12	59,536	\$7,817	\$ 0.131	163.9	02/01/12	753.8	\$5,168	\$ 6.86	\$12,985	\$ 0.18	
Totals	689,037	\$ 83,414	\$ 0.121	2,705.9		2,725.7	\$ 17,225	\$ 6.32	\$100,639	\$ 1.37	

7.6 Monroe Elementary School Utility Data

Monroe Elementary School		
2117 Laurel-Lindale Rd	Facility Size	83,000

Post Project Data	Electricity					Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW billed)	Total (\$)	\$/SF
	03/15/16	92,530	\$7,367	\$ 0.080	1,204.8	\$7,367	\$ 0.09
	04/15/16	65,819	\$5,260	\$ 0.080	1,261.2	\$5,260	\$ 0.06
	05/15/16	45,990	\$3,678	\$ 0.080	816.0	\$3,678	\$ 0.04
	06/15/16	44,501	\$8,447	\$ 0.190	1,159.2	\$8,447	\$ 0.10
	07/14/16	40,842	\$7,774	\$ 0.190	288.0	\$7,774	\$ 0.09
	08/12/16	43,719	\$8,428	\$ 0.193	240.0	\$8,428	\$ 0.10
	09/12/16	97,519	\$14,892	\$ 0.153	277.2	\$14,892	\$ 0.18
	10/12/16	75,221	\$6,388	\$ 0.085	271.2	\$6,388	\$ 0.08
11/12/16	63,844	\$5,442	\$ 0.085	261.6	\$5,442	\$ 0.07	
12/12/16	118,347	\$9,972	\$ 0.084	1,138.8	\$9,972	\$ 0.12	
01/15/16	114,379	\$9,105	\$ 0.080	1,335.6	\$9,105	\$ 0.11	
02/15/16	173,555	\$13,776	\$ 0.079	1,213.2	\$13,776	\$ 0.17	
Totals	976,266	\$100,531	\$ 0.103	9,466.8	\$100,531	\$ 1.21	

Baseline Pre-Project Data	Electricity					Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW billed)	Total (\$)	\$/SF
	03/01/11	151,351	\$12,359	\$ 0.082	911.5	\$12,359	\$ 0.15
	04/01/11	123,466	\$10,182	\$ 0.082	858.0	\$10,182	\$ 0.12
	05/01/11	101,563	\$8,386	\$ 0.083	877.2	\$8,386	\$ 0.10
	06/01/11	100,810	\$8,735	\$ 0.087	388.8	\$8,735	\$ 0.11
	07/01/11	108,488	\$8,904	\$ 0.082	194.4	\$8,904	\$ 0.11
	08/01/11	99,995	\$8,335	\$ 0.083	193.2	\$8,335	\$ 0.10
	09/01/11	112,076	\$9,145	\$ 0.082	284.4	\$9,145	\$ 0.11
	10/01/11	94,237	\$7,720	\$ 0.082	709.2	\$7,720	\$ 0.09
11/01/11	123,439	\$10,095	\$ 0.082	1,104.0	\$10,095	\$ 0.12	
12/01/11	173,454	\$14,162	\$ 0.082	906.0	\$14,162	\$ 0.17	
01/01/12	217,749	\$18,215	\$ 0.084	930.0	\$18,215	\$ 0.22	
02/01/12	202,478	\$17,608	\$ 0.087	998.4	\$17,608	\$ 0.21	
Totals	1,609,106	\$133,847	\$ 0.083	8,355.1	\$133,847	\$ 1.61	

7.7 Locust Corner Elementary School Utility Data

Locust Corner Elementary			
3431 Locust Corner Rd			Facility Size
			86,000

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	03/14/16	48,985	\$5,888	\$ 0.120	272.3	03/14/16	191.4	\$1,558	\$ 8.14	\$7,446	\$ 0.09
	04/14/16	42,940	\$5,598	\$ 0.130	219.6	04/14/16	92.4	\$910	\$ 9.85	\$6,508	\$ 0.08
	05/15/16	52,947	\$6,059	\$ 0.114	261.6	05/15/16	24.3	\$466	\$ 19.16	\$6,526	\$ 0.08
	06/15/16	53,097	\$5,675	\$ 0.107	235.2	06/15/16	17.4	\$420	\$ 24.21	\$6,095	\$ 0.07
	07/13/16	55,031	\$5,790	\$ 0.105	186.0	07/16/16	6.7	\$350	\$ 52.39	\$6,139	\$ 0.07
	08/01/16	58,734	\$5,987	\$ 0.102	252.0	08/16/16	5.6	\$343	\$ 60.75	\$6,330	\$ 0.07
	09/12/16	86,888	\$8,761	\$ 0.101	361.2	09/12/16	8.7	\$407	\$ 46.61	\$9,168	\$ 0.11
	10/24/16	74,369	\$7,694	\$ 0.103	361.2	10/09/16	10.5	\$374	\$ 35.67	\$8,068	\$ 0.09
11/05/16	59,672	\$6,802	\$ 0.114	254.4	11/05/16	29.7	\$499	\$ 16.80	\$7,301	\$ 0.08	
12/16/16	63,558	\$7,027	\$ 0.111	231.6	12/02/16	337.4	\$2,485	\$ 7.36	\$9,512	\$ 0.11	
01/14/16	43,963	\$5,656	\$ 0.129	272.3	01/14/16	237.0	\$1,856	\$ 7.83	\$7,511	\$ 0.09	
02/12/16	45,325	\$5,721	\$ 0.126	272.3	02/12/16	324.7	\$2,428	\$ 7.48	\$8,149	\$ 0.09	
Totals	685,509	\$76,659	\$ 0.112	3,179.8		1,285.9	\$12,096	\$ 9.41	\$88,754	\$ 1.03	

Baseline Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW billed)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	03/01/11	61,135	\$5,756	\$ 0.094	203.8	03/01/11	258.8	\$1,934	\$ 7.47	\$7,689	\$ 0.09
	04/01/11	58,616	\$5,660	\$ 0.097	203.8	04/01/11	123.2	\$1,061	\$ 8.61	\$6,721	\$ 0.08
	05/01/11	73,789	\$6,879	\$ 0.093	351.6	05/01/11	17.5	\$242	\$ 13.87	\$7,121	\$ 0.08
	06/01/11	98,300	\$8,467	\$ 0.086	336.9	06/01/11	15.4	\$138	\$ 8.94	\$8,604	\$ 0.10
	07/01/11	72,676	\$6,540	\$ 0.090	296.7	07/01/11	12.3	\$99	\$ 8.00	\$6,638	\$ 0.08
	08/01/11	100,121	\$8,489	\$ 0.085	325.2	08/01/11	10.3	\$88	\$ 8.54	\$8,576	\$ 0.10
	09/01/11	109,648	\$9,390	\$ 0.086	384.4	09/01/11	14.4	\$108	\$ 7.53	\$9,499	\$ 0.11
	10/01/11	79,753	\$7,111	\$ 0.089	296.7	10/01/11	30.8	\$218	\$ 7.07	\$7,329	\$ 0.09
11/01/11	68,454	\$6,355	\$ 0.093	236.5	11/01/11	135.6	\$924	\$ 6.82	\$7,279	\$ 0.08	
12/01/11	70,941	\$6,521	\$ 0.092	208.0	12/01/11	248.5	\$1,829	\$ 7.36	\$8,350	\$ 0.10	
01/01/12	61,856	\$6,571	\$ 0.106	198.5	01/01/12	263.9	\$2,242	\$ 8.49	\$8,813	\$ 0.10	
02/01/12	65,906	\$8,191	\$ 0.124	199.6	02/01/12	437.5	\$3,140	\$ 7.18	\$11,331	\$ 0.13	
Totals	921,195	\$85,930	\$ 0.093	3,241.7		1,568.2	\$ 12,022	\$ 7.67	\$97,952	\$ 1.14	