

# Medina City Schools



## Energy Savings Program

PERFORMANCE YEAR 8  
October 2016 – September 2017  
YEAR END SAVINGS REPORT  
February 12<sup>th</sup>, 2018

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Appendix: CHP Summary, Electric and Gas Savings Summaries

### **Section 1: Overview**

The Brewer-Garrett Company (“Brewer-Garrett”) is pleased to present results of this year’s energy savings benefits of the Energy Savings Program at Medina City Schools (“Medina”). Construction completed in the fall of 2009, so we are currently tracking savings for Performance Year 8 (October 2016 through September 2017). This report also highlights the success of the combined heat and power (“CHP”) unit installed at the High School in May 2014. Brewer-Garrett used additional data directly from the CHP unit to calculate savings during Performance Year 8.

*Performance Year 8 results:* Year 8, ending in September 2017, was another successful year. Medina saved an additional \$460,049 from both the original energy savings program and the CHP unit for a total cumulative savings of \$3,884,128. See Section 3 for an updated summary of savings over the entire history of the project.

*CHP Performance Results:* As part of total, the CHP unit itself yielded \$48,747 in energy savings during the performance year. The CHP unit has performed well since its official start in May 2014, producing both electrical and thermal energy as expected. During Performance Year 8, the CHP unit delivered 879,857 kWh net electricity, while consuming 8,853 MCF of natural gas. At the same time, the CHP unit contributed waste heat to the High School’s space conditioning and pool heating system, offsetting 6,701 MCF of natural gas normally used in the boiler. Subtracting the cost of the annual service contract for engine oil changes and maintenance (\$17,761), the CHP unit has delivered net savings of \$48,747.



Brewer-Garrett, together with W.W.Williams (the maintenance service provider for the CHP engine), continues to optimize the performance of the CHP system. Medina maintenance staff members have been great partners in this process, making adjustments to the building control system to maximize the benefits of CHP. Brewer-Garrett installed additional temperature sensors to help optimize run times with the goal of maximizing the effectiveness of the heat recovery system while managing maintenance costs. More details are provided in Section 11: CHP Net Savings.

**YEAR END SAVINGS and CHP REPORT**

**Section 2: Savings Guarantee Summary**

The Performance Guarantee is governed by the Energy Performance Agreements executed by Medina City Schools and The Brewer-Garrett Company on August 31, 2007 and September 30, 2013 (collectively as the "Contract"). The Performance Guarantee, summarized in Table 2a, is based on the Contract dated 8/31/2007 Schedule C "Energy and Operational Savings Guarantee." The Total Guaranteed Savings over the term of this agreement (15 years) is \$4,736,535.

**Table 2a: Performance Guarantee Summary**

Total Guaranteed Savings (\$) per Contract 8/31/2007	\$4,736,535	<u>See Table 3a.</u>
Total Guaranteed Savings (\$) per Contract 9/30/2013	\$419,467	

Guaranteed Savings (\$)					
Performance Year	Water/Sewer/ Energy Savings (\$)	Stipulated Operational Savings (\$)	Total Guaranteed Savings (\$)	Cumulative Guaranteed Savings (\$)	
1	2010	\$315,769	\$0	\$315,769	\$315,769
2	2011	\$315,769	\$0	\$315,769	\$631,538
3	2012	\$315,769	\$0	\$315,769	\$947,307
4	2013	\$315,769	\$0	\$315,769	\$1,263,076
5	2014	\$315,769	\$0	\$315,769	\$1,578,845
6	2015	\$315,769	\$0	\$315,769	\$1,894,614
7	2016	\$315,769	\$0	\$315,769	\$2,210,383
8	2017	\$315,769	\$0	\$315,769	\$2,526,152
9	2018	\$315,769	\$0	\$315,769	\$2,841,921
10	2019	\$315,769	\$0	\$315,769	\$3,157,690
11	2020	\$315,769	\$0	\$315,769	\$3,473,459
12	2021	\$315,769	\$0	\$315,769	\$3,789,228
13	2022	\$315,769	\$0	\$315,769	\$4,104,997
14	2023	\$315,769	\$0	\$315,769	\$4,420,766
15	2024	\$315,769	\$0	\$315,769	\$4,736,535
Total	\$4,736,535	\$0	\$4,736,535		

Note: The Combined Heat and Power (CHP) project (contract executed 9/30/2013) guaranteed \$537,112 to cover the cost of the project (adjusted to \$419,467 since the project was not financed.) This guarantee amount is not included in the table above, since the CHP project was funded via excess savings from years 1 through 3 of the program. See Table 3a.

A second Energy Performance and Service Agreement dated 9/30/2013 provided for the installation of a Combined Heat and Power (“CHP”) Project that was estimated to generate \$62,833 in additional energy savings and increase operational costs by \$17,760 annually for a net savings of \$45,073. This second agreement guaranteed that Medina would recover the cost of the CHP project including construction and financing costs estimated at \$537,122. Since Medina was able to fund the project without financing, thereby eliminating interest costs, the guaranteed amount was adjusted to \$419,467, equivalent to the installed cost for the CHP system.

For auditing and verification purposes the parties agreed that the original Total Guaranteed Savings amount of \$4,736,535 for the original contract should not be increased to reflect the additional CHP project guarantees; instead the Cumulative Actual Savings achieved during Performance Years 1 through 3 was reduced by \$419,467 as shown in Table 3a.

**YEAR END SAVINGS and CHP REPORT**

**Section 3: Performance History**

At the end of Performance Year 8, Medina City Schools had accumulated more than \$3 million in savings since the beginning of the energy savings program, with more than \$1 million above the guaranteed savings.

**Table 3a:** Performance History for the Medina City Schools Energy Savings Program

Performance Year	Guaranteed Savings (\$)	Actual Savings (\$)	Cumulative Guaranteed Savings (\$)	Cumulative Actual Savings (\$)
--- Interim Period	-----	\$470,472	-----	\$470,472
1 10/09 - 9/10	\$315,769	\$438,675	\$315,769	\$909,147
2 10/10 - 9/11	\$315,769	\$478,648	\$631,538	\$1,387,795
3 10/11 - 9/12	\$315,769	\$444,287	\$947,307	\$1,832,082
Note: CHP Project contract was signed 9/30/2013 and guaranteed total savings of \$419,467; this Project was funded via the excess savings from years 1 through 3 of the guarantee. The annual Guaranteed Savings amount has not been increased to reflect the additional CHP Project guarantee; instead the Cumulative Actual Savings for Performance Year 3 has been reduced by \$419,467.				
<b>3 rev</b>	<b>10/11 - 9/12</b>	<b>\$315,769</b>	<b>\$444,287</b>	<b>\$947,307</b>
4	10/12 - 9/13	\$315,769	\$501,965	\$1,263,076
5	10/13 - 9/14	\$315,769	\$566,866	\$1,578,845
6	10/14 - 9/15	\$315,769	\$501,972	\$1,894,614
7	10/15 - 9/16	\$315,769	\$440,660	\$2,210,383
8	10/16 - 9/17	\$315,769	\$460,049	\$2,526,152
9	10/17 - 9/18	\$315,769		
10	10/18 - 9/19	\$315,769		
11	10/19 - 9/20	\$315,769		
12	10/20 - 9/21	\$315,769		
13	10/21 - 9/22	\$315,769		
14	10/22 - 9/23	\$315,769		
15	10/23 - 9/24	\$315,769		
Total		\$4,736,535		

**Energy Audit for Medina City Schools, Year 8**

The undersigned agrees that The Brewer-Garrett Company delivered this audit report to Medina City Schools. If no written reply is made to The Brewer-Garrett Company concerning the validity of this audit in 30 days, it will be considered received by Medina City Schools.

Received by:

Date:

Medina City Schools

Delivered by:

Date:

The Brewer-Garrett Company

**Section 4: Summary of Savings**

**Table 4a**

<b>Medina City Schools ~ Performance Year 8</b>
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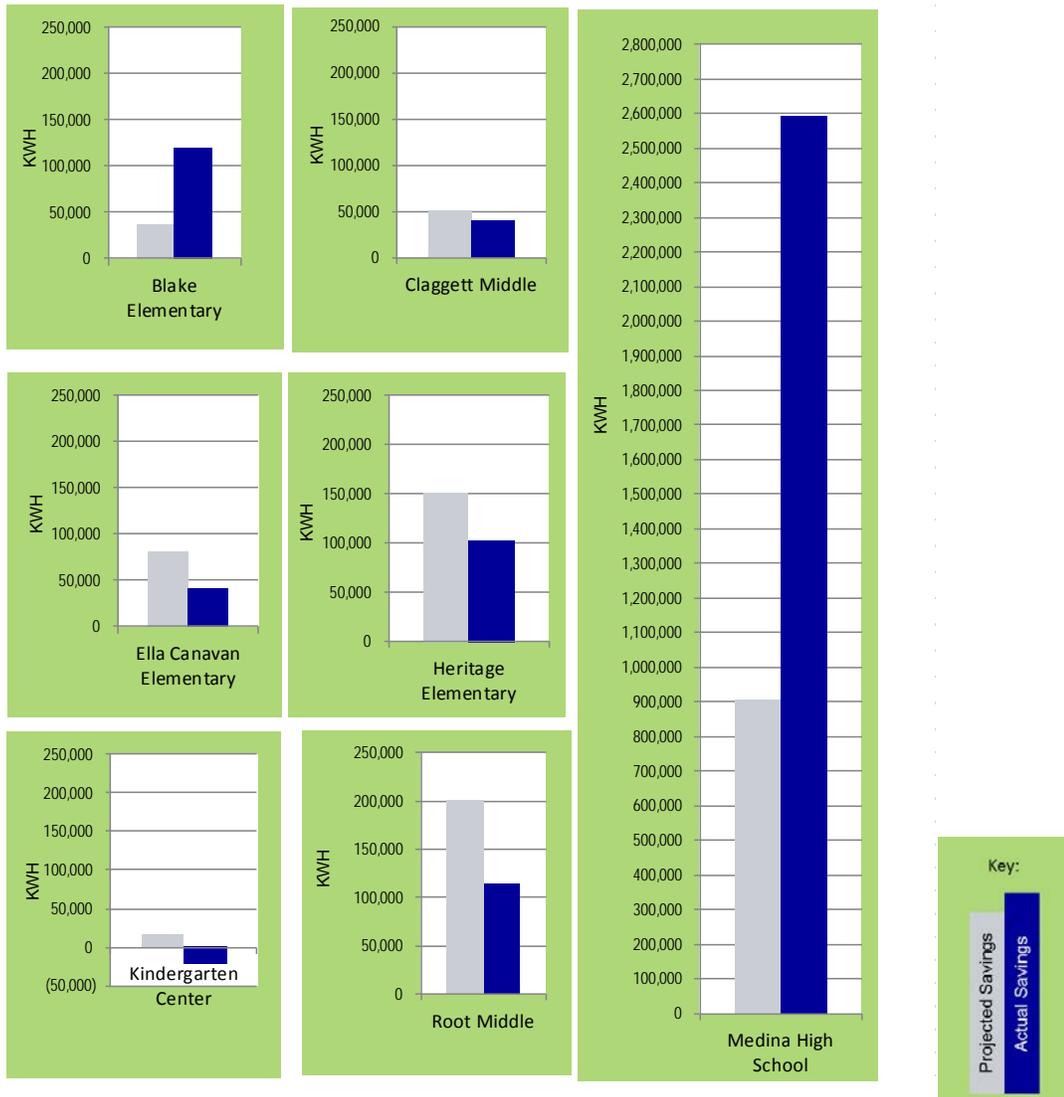
**Summary of Savings**

<b>Electric</b>			
KWH Used In Base Year		11,180,440	KWH
Baseline for	Performance Year 8	11,536,407	KWH
Actual Usage for	Performance Year 8	8,471,664	KWH
<b>Total KWH Saved</b>		<b>3,064,743</b>	<b>KWH</b>
<b>Total Dollars Saved</b>		<b>\$398,828</b>	
<b>Natural Gas</b>			
MCF Used In Base Year		42,373	MCF
Baseline for	Performance Year 8	39,205	MCF
Actual Usage for	Performance Year 8	34,744	MCF
<b>Total MCF Saved</b>		<b>4,461</b>	<b>MCF</b>
<b>Total Dollars Saved</b>		<b>\$51,931</b>	
<b>Water and Sewer</b>			
Water Used In Base Year		3,676	CCF
Water Baseline for	Performance Year 8	3,676	CCF
Water Actual Usage for	Performance Year 8	2,176	CCF
<b>Total Water CCF Saved</b>		<b>1,500</b>	<b>CCF</b>
<b>Total Water Dollars Saved</b>		<b>\$5,425</b>	
<b>Total Sewer Dollars Saved</b>		<b>\$20,258</b>	
<b>Lighting M&amp;V Savings at Bus Garage</b>	Performance Year 8	<b>\$1,370</b>	
<b>Stipulated Operational Savings (Costs)</b>			
<b>CHP Maintenance Costs</b>	Performance Year 8	<b>(\$17,761)</b>	
<b>Total Actual Savings</b>	Performance Year 8	<b>\$460,049</b>	
<b>Total Guaranteed Savings</b>	Performance Year 8	<b>\$315,789</b>	

**Section 5: Electric Savings**

Several projects implemented as part of the Medina City Schools Energy Savings Program were projected to achieve electric savings. These projects include a) district wide lighting retrofits and occupancy sensor installations, b) lighting controls at the High School, c) district wide vending machine control, d) variable frequency drives at Ella Canavan, Root and the High School, e) demand ventilation at Blake, Heritage, High School and Root, f) building automation system upgrades at the High School, and g) electric fan coil unit replacement with a natural gas unit at Heritage. The savings at Blake, as a result of our rate investigation with First Energy/Ohio Edison have continued.

The annual projected and actual electric savings for each school are charted side by side on the next page in Figure 5a. We are very pleased to report that the actual electric savings have exceeded the projected savings. In order to provide some perspective on the contribution of each school to savings, the graphs have been scaled similarly. It is clear that the High School provides the largest contribution to electrical savings.



**Figure 5a**

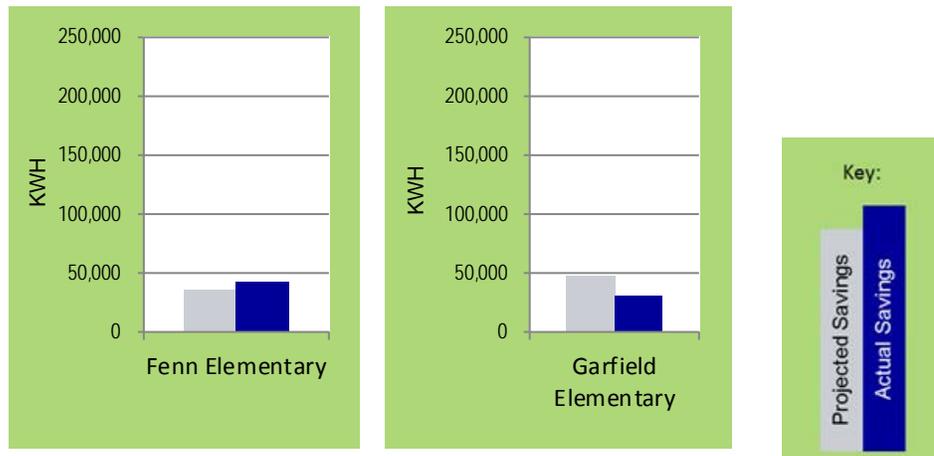
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## YEAR END SAVINGS and CHP REPORT

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Heating/ventilating units at Fenn and Garfield were replaced and air conditioning was added as part of the Energy Savings Program. The energy use associated with the air conditioning equipment is an adjustment to the baseline as addressed in Schedule F of the Contract: Savings Calculation

Formulae: Methodology to Adjust Baseline. The annual projected vs. actual electric savings for these buildings are shown below in Figure 5b.



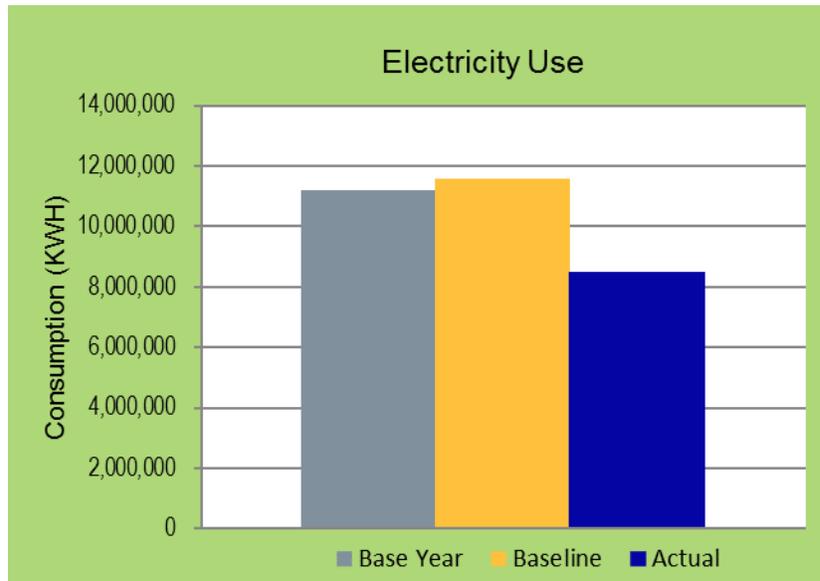
**Figure 5b**

Electric savings are determined by multiplying the energy and demand saving units by the applicable utility rate to convert units saved to dollars saved. Units of electricity saved are equal to the Baseline kWh minus Actual kWh, where the Baseline is the Base Year adjusted for time, weather and events. The electric savings are calculated monthly and then summed to yield an annual amount.

The applicable utility rate is based on the larger of the electric rate paid during the Performance Year or the Base Year as specified in Section 8.1 of the Contract.

The electricity savings at the Bus Garage as a result of the lighting retrofit are calculated based on the Measurement and Verification (M&V) methodology explained in Schedule F of the Contract. This methodology is used because the lighting retrofit is the only Energy Conservation Measure implemented at the Bus Garage; therefore, electric savings due to lighting can be isolated. An analysis of the utility bill is unnecessary. Voltage and amperage readings were taken in several locations throughout the Bus Garage and the other Medina schools, before and after the lighting retrofits took place. The before and after readings were taken with the same meters, in the same locations, and were used to calculate an average of watts of energy used by each lamp technology. The average readings for both the before and after measurements were inserted into a standard lighting spreadsheet to generate units saved. These units saved were multiplied by the utility rate to convert units saved to dollars saved. The electric savings at the Bus Garage resulting from the lighting retrofit are \$1,370 for each year including this Performance Year.

Electric use in all of the Medina City Schools that were affected by Brewer-Garrett is summarized in Figure 5c. During Performance Year 8, the annual electric usage in the schools affected by the Energy Savings Program decreased by over 3 million kWh (27%) from the Baseline. This is a savings of \$398,828 to Medina, and a reduction of 2,155 metric tons of CO<sub>2</sub> emissions.



**Figure 5c**

**Section 6: Natural Gas Savings**

Several projects implemented as part of the Medina City Schools Energy Savings Program were projected to result in natural gas savings. These projects include a) demand ventilation at Blake, Heritage, High School and Root, b) building automation system upgrades at the High School, c) heat recovery and pool system modifications at the High School, and d) replacement of heating/ventilating units at Fenn and Garfield. The replacement of an electric fan coil unit with a gas-fired unit at Heritage was expected to save electricity, but use more natural gas.

Similarly, the cogeneration unit consumes approximately one third of the natural gas at the High School, but recovered heat from exhaust gases partially offset that usage by reducing load on the boilers.

The annual projected and actual natural gas savings for each school are charted side by side on the next page in Figure 6a. As expected, natural gas use at Heritage increased due to the installation of the gas-fired heating unit.

In order to provide some perspective on the contribution of each school to the total savings, the graphs have been scaled similarly.

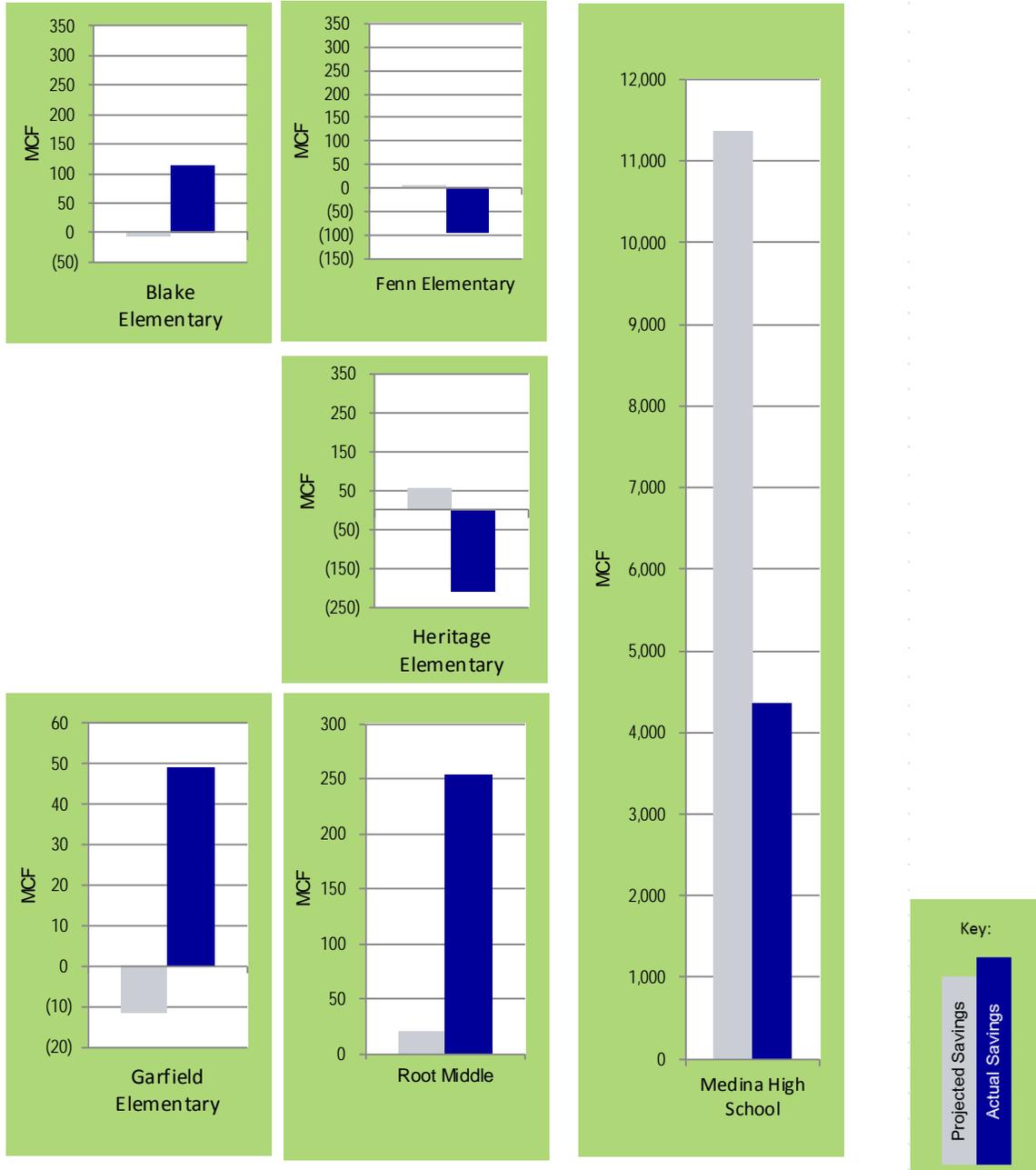


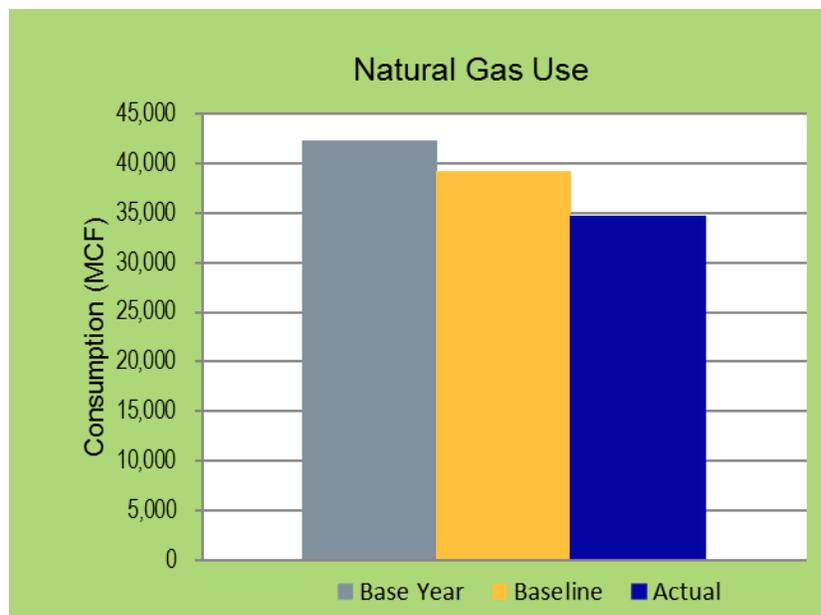
Figure 6a

## YEAR END SAVINGS and CHP REPORT

Natural gas dollar savings are calculated each month by multiplying the monthly natural gas rate in \$/MCF by the units of natural gas saved. The monthly natural gas rate in \$/MCF is calculated based on Total Natural Gas \$ / Total Natural Gas MCF and is calculated separately for each building. The units of natural gas saved are equal to the Baseline MCF minus Actual MCF, where Baseline is the Base Year adjusted for time, weather and events. The natural gas savings are calculated each month, and then summed to yield an annual savings.

The energy savings are calculated based on the larger of the natural gas rate paid during the Performance Year or the Base Year as specified in Section 8.1 of the Contract.

Natural gas use in all of the Medina City Schools that were affected by Brewer-Garrett is summarized in Figure 6b. During Performance Year 8, the natural gas usage in the schools affected by the Energy Savings Program has been reduced by 4,461 MCF, or 11% from the Baseline. This is a savings of over \$51,931 to Medina, and a reduction of 245 metric tons of CO<sub>2</sub> emissions.



**Figure 6b**

**Section 7: Water and Sewer Savings**

Water conservation projects were implemented at Claggett and Garfield as part of the Medina City Schools Energy Savings Program, and included the replacement of water cooled condensers with air cooled units, and the automation of flush systems for urinals in the boys' bathrooms. In addition, Brewer-Garrett was instrumental in effecting a sewer rate change for Claggett. As a result, water and sewer savings were expected at both Claggett and Garfield.

Sewer savings were expected at the High School, where a sub-meter was installed for the cooling tower. This sub-meter enables the measurement of water evaporation to the atmosphere during the cooling process.

During a review of sewer billing data, it was determined that the Medina County Sanitary Engineering Department has reduced the quantity of sewer UNITS that each school is billed, no doubt in response to a reduction in water use. An analysis was performed to validate the sewer billing practices; this summary is shown in Table 7a. It appears that the High School is under-billed while Claggett and Garfield are over-billed. This data is provided to Medina for informational purposes; we have not approached the Medina County Sanitary Engineering Department.

<b>Sewer UNITS Billing Analysis</b>		Claggett	Garfield	High School
Annual Actual Water Use	CCF	1,067	1,109	15,627
Annual Actual Water Use	Gallons	798,116	829,532	11,688,996
Annual Actual UNITS Used	UNITS	114	119	1,670
Annual UNITS Billed	UNITS	147	183	971
Monthly Actual UNITS Used	UNITS	9.5	9.9	139.2
Monthly UNITS Billed	UNITS	12.27	15.25	80.95
Overbilled or (Underbilled)	UNITS	33	65	(698)
Overbilled or (Underbilled)	\$	\$971	\$1,888	(\$20,430)
Total Overbilled (Underbilled)	UNITS		(601)	
Total Overbilled (Underbilled)	\$		(\$17,571)	

Note:

1 "Unit" = 230 gallons/day

1 "Unit" = 7,000 gallons/month

**Table 7a**

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## YEAR END SAVINGS and CHP REPORT

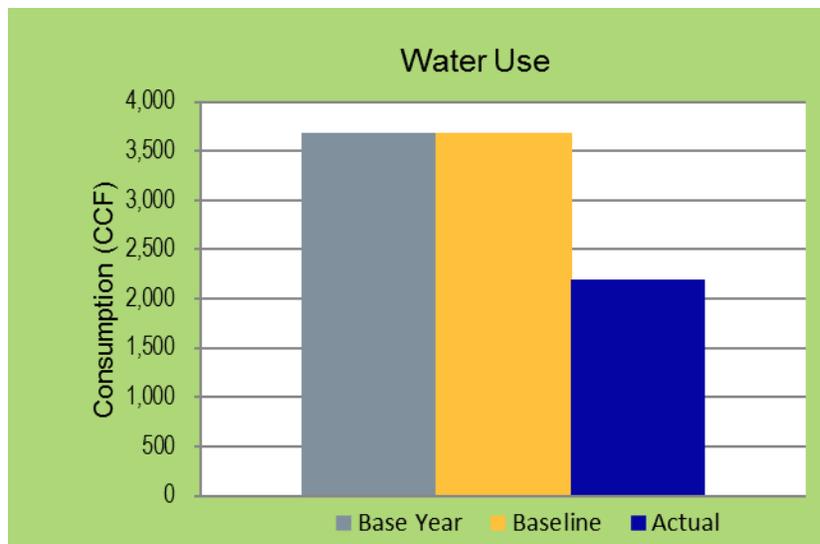
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Water dollar savings are calculated each month by multiplying the monthly water rate in \$/CCF by the units of water saved. The monthly water rate in \$/CCF is calculated based on: Total Water \$ / Total Water CCF, and is calculated separately for each building. The units of water saved are equal to the Baseline CCF minus Actual CCF, where Baseline is the Base Year use with no adjustments. The water savings are calculated each month, and then summed to yield an annual savings.

Sewer dollar savings are calculated bi-monthly, to correspond with actual sewer bills. Sewer savings in this performance report are from: a) Claggett, as the result of the reduction in sewer “units” that Brewer-Garrett was instrumental in securing, and b) Garfield, as the result of the reduction in water use, and the corresponding reduction in sewer “units” that the Medina County Sanitary Engineering Department implemented. No sewer savings for the High School were included in this report. The sewer savings in terms of “units” are multiplied by the sewer rate in \$/unit” on a bi-monthly basis, and then summed to yield an annual savings.

The water and sewer savings are calculated based on the larger of the water and sewer rates paid during the Performance Year or the Base Year as specified in Section 8.1 of the Contract.

The combined water use for Claggett and Garfield is summarized in Figure 7b. The Base Year, Baseline and Actual total usage during Performance Year 8 are shown side-by-side for comparison. The overall water usage in these schools has been reduced by approximately 41% from the Baseline; this is a savings to Medina of over \$25,682 in water and sewer charges.



**Figure 7b**

**Section 8: Operational Savings**

No operational savings were claimed on this project.

**Section 9: Adjustments**

Adjustments are incorporated in the baseline projection for energy use to include changes in the number of days in a billing period as well as weather fluctuations.

The heating/ventilating units at Fenn and Garfield were replaced and air conditioning was added as part of the Energy Savings Program. The energy use associated with the air conditioning equipment is an adjustment to the baseline as addressed in Schedule F of the Contract: Savings Calculation Formulae: Methodology to Adjust Baseline.

The additional demand and energy use for these units is calculated based on the information in Table 9a and is included in the Electric Baseline.

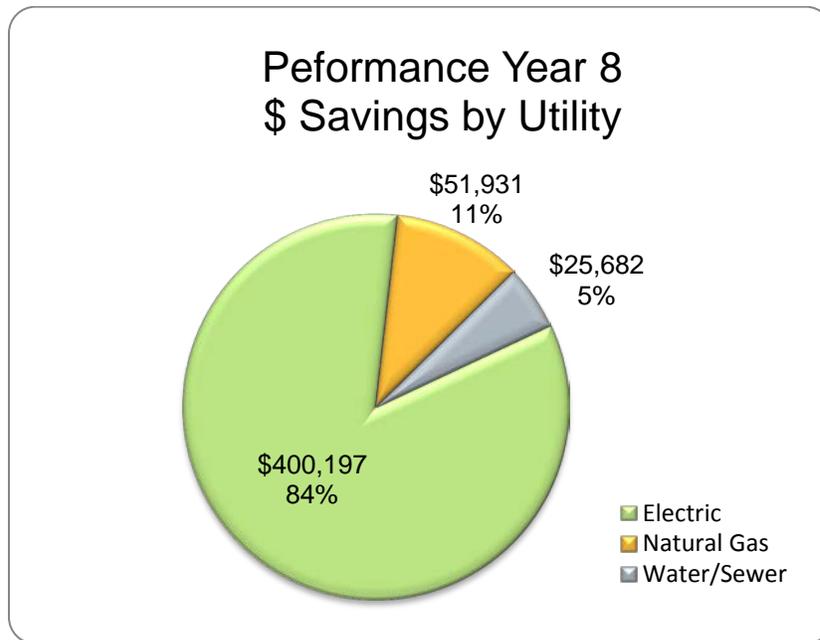
<b>School Name</b>	<b>Quantity</b>	<b>Unit Description</b>
Fenn Elementary	1	Library/Computer Lab Unit 10 ton, EER=11, 2300 hrs
	1	Gym Unit 10 ton, EER=11, 2700 hrs
Garfield Elementary	1	Gym Unit 12 ton, EER=9.7, 2925 hrs

**Table 9a**

**Section 10: Energy Savings – Performance Year 8**

For Performance Year 8 (October 2016 through September 2017), Brewer-Garrett guarantees \$315,769 in annual savings as shown in Table 2a.

Based on utility bills for electric, natural gas, water and sewer, Medina saved \$477,810. However, Medina has incurred additional maintenance costs for oil changes and other CHP engine service items provided by W.W.Williams. These costs were included in the project's savings projections as a stipulated annual amount of \$17,761. Including these costs reduces the net savings to \$460,049 in Performance Year 8.



**Figure 10a**

**Section 11: CHP Net Savings**

Brewer-Garrett wants to highlight the performance of the combined heat and power (CHP) unit installed at the High School. The unit feeds electricity and thermal energy to both the High School and adjoining recreation center. The CHP unit itself records electricity production and other important parameters, so Brewer-Garrett was able to assemble data, spanning the Performance Year.

During the past year, the unit operated for 7,022 hours. Across all operating hours, the unit generated 879,857 kWh gross electricity. Deducting for parasitic users on the machine (1%) such as the lube oil pump, water pumps and cooling fan, the unit generated 871,058 kWh.

To produce this power, the unit consumed 8,853 mcf. At the same time, the CHP unit contributed waste heat to the High School's heating system, offsetting 6,701 mcf of natural gas normally used in the boiler. Subtracting the cost of the annual service contract for engine oil changes and maintenance (\$17,761), the CHP unit has delivered net savings of \$48,747 during this period.



**Figure 6a.** CHP Unit (front and back views with heat recovery piping)

In order to calculate net savings, Brewer-Garrett collected data directly from the CHP unit showing operating temperatures, output and performance. This information was compared to specifications to ensure that performance remained consistent.

During this Performance Year, the unit experienced downtime in April and May due to issues with the heat exchanger. Brewer-Garrett has been working with WW Williams to resolve these issues. The CHP Unit would see an even larger new benefit if there were no extended shutdowns next year.

Brewer-Garrett is committed to not only continue to enhance the value of the CHP asset for Medina but also to quickly address any issues.

**Section 12: Conclusion**

This report concludes that both the CHP unit and the larger Energy Savings Program at Medina City Schools have so far exceeded guarantee savings targets. The CHP unit has integrated seamlessly into the High School heating system and consistently delivers both electrical and thermal energy to the system.

Brewer-Garrett is pleased to be Medina's energy partner. We believe in bringing value to the partnership in areas outside of merely reporting energy savings.

Natural gas prices remain steady and have even declined over the period, while electricity continues to be more expensive. Therefore, Brewer-Garrett expects the CHP unit to deliver increasing value to Medina in the years to come.

## Medina City Schools ~ Performance Year 8 (High School only)

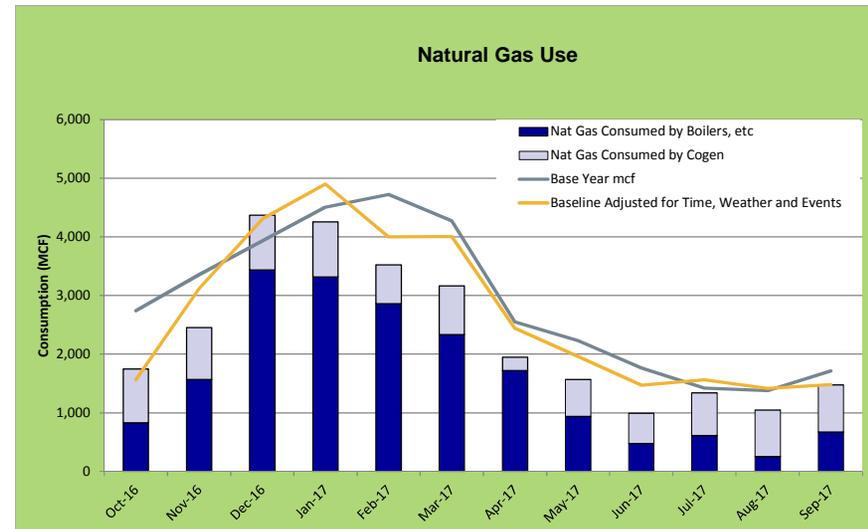
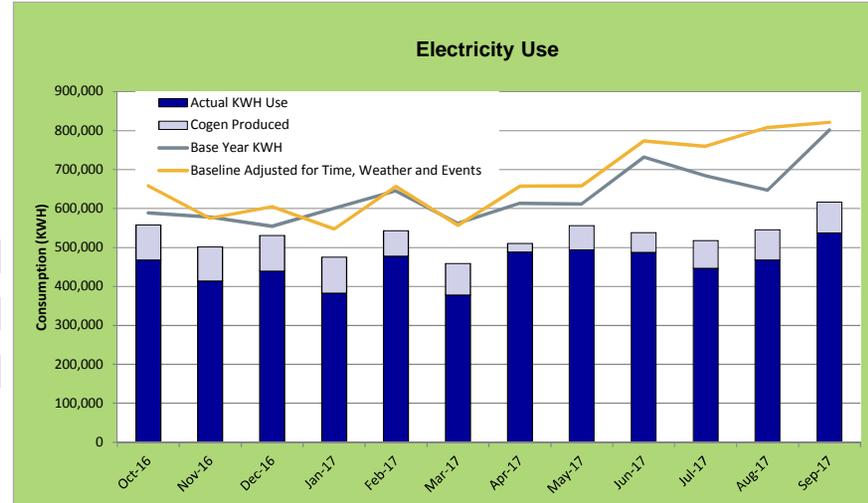
### Cogeneration Summary - Medina High School

	<u>Electricity</u>		<u>Nat Gas</u>	
Energy Used In Base Year	7,618,800	kWh	34,602	mcf
Adjustments for Time, Weather and Events	457,309	kWh	(2,378)	mcf
Baseline Usage	8,076,109	kWh	32,224	mcf
Actual Usage	5,481,600	kWh	27,875	mcf
<b>Energy Saved</b>	<b>2,594,509</b>	<b>kWh</b>	<b>4,349</b>	<b>mcf</b>
<b>Dollars Saved</b>	<b>\$273,578</b>		<b>\$51,203</b>	<b>\$/yr</b>
<b>Total Dollars Saved</b>	<b>\$324,781</b>			<b>\$/yr</b>

#### Cogeneration Report

Cogen Electricity Generated	879,857	kWh
Adjustments*	0	kWh
Cogen Electricity Generated (adjusted)	871,058	kWh
Cogen Electricity Savings	\$91,849	\$/yr
Cogen Natural Gas Consumed	8,853	mcf
Cogen Recovered Heat	5,126	MMBtu
Boiler Natural Gas Offset by Recovered Heat	6,701	mcf
Net Natural Gas Savings	(2,152)	mcf
Net Natural Gas Savings	(\$25,340)	\$/yr
Cogen Engine Maintenance	(\$17,761)	\$/yr
<b>Cogen Net Benefit*</b>	<b>\$48,747</b>	<b>\$/yr</b>

\*Cogen net benefit is a subset of total dollars saved at the High School, not an additional amount.



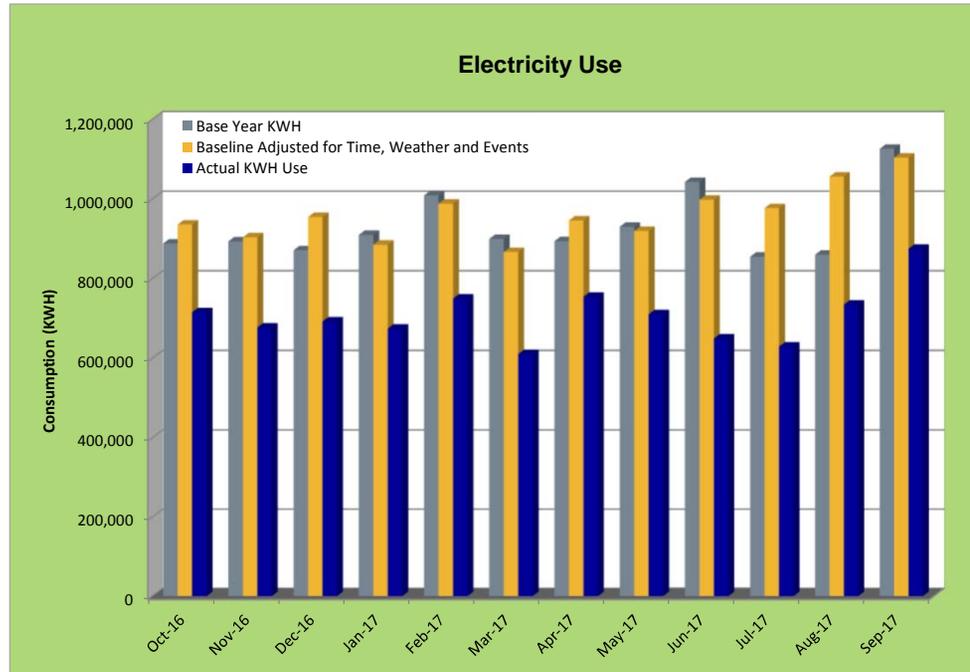
# Medina City Schools ~ Performance Year 8

## Electricity Summary

Electricity Used In Base Year	11,180,440	KWH
Adjustments for Time, Weather and Events	355,967	KWH
Baseline Usage	11,536,407	KWH
Actual Usage	8,471,664	KWH

<b>Total KWH Saved</b>	<b>3,064,743</b>
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<b>Total Dollars Saved</b>	<b>\$398,828</b>
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## Medina City Schools ~ Performance Year 8

### Electricity Savings

#### Electricity Base Year Units KWH

	October	November	December	January	February	March	April	May	June	July	August	September	Total
<b>KWH</b>													
Blake Elementary	53,120	55,640	55,920	47,080	60,880	58,760	48,520	56,240	53,440	34,360	41,800	55,360	621,120
Claggett Middle	38,080	41,280	40,160	45,920	49,760	45,440	34,560	41,920	33,120	21,440	21,600	44,960	458,240
Ella Canavan Elementary	27,520	24,880	24,720	23,360	25,760	25,760	24,080	29,840	29,360	18,240	14,800	26,800	295,120
Fenn Elementary	19,920	23,280	16,720	18,960	22,800	21,600	18,720	20,560	16,560	12,480	14,880	22,160	228,640
Garfield Elementary	27,360	24,960	26,040	20,160	27,840	26,400	24,120	26,520	29,160	15,000	24,480	30,720	302,760
Heritage Elementary	34,240	42,000	46,880	64,160	58,160	53,520	41,040	37,920	34,400	21,200	28,240	36,400	498,160
Medina High School	589,200	578,400	554,400	600,000	645,600	561,600	613,200	612,000	732,000	684,000	646,800	801,600	7,618,800
Kindergarten Center	8,160	9,240	8,880	8,880	11,040	8,160	9,800	8,520	7,280	6,240	6,080	9,400	101,680
Root Middle	90,640	93,920	97,520	81,280	107,200	98,560	80,080	96,640	107,680	42,000	61,440	98,960	1,055,920
<b>Total KWH</b>	<b>888,240</b>	<b>893,600</b>	<b>871,240</b>	<b>909,800</b>	<b>1,009,040</b>	<b>899,800</b>	<b>894,120</b>	<b>930,160</b>	<b>1,043,000</b>	<b>854,960</b>	<b>860,120</b>	<b>1,126,360</b>	<b>11,180,440</b>

#### Electricity Base Year Cost \$

	October	November	December	January	February	March	April	May	June	July	August	September	Total
<b>Cost \$</b>													
Blake Elementary	\$9,600	\$9,704	\$9,715	\$9,285	\$9,841	\$9,753	\$9,332	\$9,650	\$9,534	\$8,825	\$9,132	\$9,692	\$114,063
Claggett Middle	\$5,402	\$5,205	\$4,655	\$5,425	\$5,539	\$5,426	\$5,307	\$5,461	\$5,091	\$3,208	\$3,304	\$5,622	\$59,645
Ella Canavan Elementary	\$3,920	\$3,401	\$2,853	\$2,778	\$3,538	\$3,887	\$2,848	\$4,238	\$4,603	\$2,870	\$2,332	\$3,800	\$41,069
Fenn Elementary	\$2,254	\$2,380	\$1,896	\$2,246	\$2,345	\$2,313	\$1,403	\$2,267	\$2,235	\$1,256	\$1,593	\$2,459	\$24,647
Garfield Elementary	\$3,338	\$2,973	\$2,938	\$2,844	\$3,138	\$3,022	\$3,000	\$3,343	\$4,481	\$2,316	\$3,770	\$4,411	\$39,574
Heritage Elementary	\$4,169	\$4,947	\$5,756	\$6,266	\$6,093	\$6,324	\$5,201	\$4,286	\$5,078	\$3,021	\$4,223	\$4,411	\$59,776
Medina High School	\$58,128	\$57,109	\$54,509	\$39,837	\$46,096	\$52,823	\$56,607	\$56,576	\$63,172	\$61,799	\$60,844	\$63,586	\$671,086
Kindergarten Center	\$1,290	\$1,346	\$1,330	\$940	\$997	\$919	\$991	\$1,063	\$1,151	\$988	\$963	\$1,352	\$13,331
Root Middle	\$14,124	\$14,183	\$14,218	\$10,979	\$10,965	\$11,571	\$11,340	\$10,461	\$14,028	\$12,127	\$6,581	\$9,620	\$140,197
<b>Total Cost \$</b>	<b>\$102,225</b>	<b>\$101,247</b>	<b>\$97,872</b>	<b>\$80,600</b>	<b>\$88,552</b>	<b>\$96,037</b>	<b>\$96,028</b>	<b>\$97,345</b>	<b>\$109,374</b>	<b>\$96,412</b>	<b>\$92,742</b>	<b>\$104,952</b>	<b>\$1,163,388</b>

#### Electricity Base Year Unit Cost \$/KWH

	October	November	December	January	February	March	April	May	June	July	August	September	Average Base Year Demand & Energy Rate	
<b>Unit Cost \$/KWH</b>														
Blake Elementary	\$0.181	\$0.174	\$0.174	\$0.197	\$0.162	\$0.166	\$0.192	\$0.172	\$0.178	\$0.257	\$0.218	\$0.175	\$17.00/KW	\$0.0400/KWH
Claggett Middle	\$0.142	\$0.126	\$0.116	\$0.118	\$0.111	\$0.119	\$0.154	\$0.130	\$0.154	\$0.150	\$0.153	\$0.125	\$16.11/KW	\$0.0593/KWH
Ella Canavan Elementary	\$0.142	\$0.137	\$0.115	\$0.119	\$0.137	\$0.151	\$0.118	\$0.142	\$0.157	\$0.157	\$0.158	\$0.142	\$14.68/KW	\$0.0686/KWH
Fenn Elementary	\$0.113	\$0.102	\$0.113	\$0.118	\$0.103	\$0.107	\$0.075	\$0.110	\$0.135	\$0.101	\$0.107	\$0.111	\$21.98/KW	\$0.0298/KWH
Garfield Elementary	\$0.122	\$0.119	\$0.113	\$0.141	\$0.113	\$0.114	\$0.124	\$0.126	\$0.154	\$0.154	\$0.154	\$0.144	\$15.08/KW	\$0.0662/KWH
Heritage Elementary	\$0.122	\$0.118	\$0.123	\$0.098	\$0.105	\$0.118	\$0.127	\$0.113	\$0.148	\$0.142	\$0.150	\$0.121	\$19.87/KW	\$0.0397/KWH
Medina High School	\$0.099	\$0.099	\$0.098	\$0.066	\$0.071	\$0.094	\$0.092	\$0.092	\$0.086	\$0.090	\$0.094	\$0.079	\$20.65/KW	\$0.0257/KWH
Kindergarten Center	\$0.158	\$0.146	\$0.150	\$0.106	\$0.090	\$0.113	\$0.101	\$0.125	\$0.158	\$0.158	\$0.158	\$0.144	\$14.28/KW	\$0.0724/KWH
Root Middle	\$0.156	\$0.151	\$0.146	\$0.135	\$0.102	\$0.117	\$0.142	\$0.108	\$0.130	\$0.289	\$0.107	\$0.097	\$15.43/KW	\$0.0652/KWH

## Medina City Schools ~ Performance Year 8

### Electricity Savings

#### Electricity Actual Performance Year Units KWH

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>KWH</b>													
Blake Elementary	40,882	39,984	39,780	47,002	40,066	40,596	40,800	36,516	30,559	35,659	45,410	51,530	488,784
Claggett Middle	35,200	42,400	33,760	40,000	41,600	33,920	40,960	33,440	23,040	21,120	28,320	49,120	422,880
Ella Canavan Elementary	18,240	18,960	17,200	20,320	19,280	17,680	21,040	16,720	14,080	9,440	20,160	25,840	218,960
Fenn Elementary	17,280	20,960	17,600	19,600	22,240	19,760	18,720	16,320	14,720	12,480	21,280	23,760	224,720
Garfield Elementary	24,600	26,880	27,480	29,280	25,200	23,160	24,480	19,440	18,840	20,040	27,960	33,360	300,720
Heritage Elementary	29,440	36,640	41,040	41,920	37,360	29,280	34,640	23,440	21,440	21,440	29,920	39,760	386,320
Medina High School	468,000	414,000	439,200	382,800	477,600	378,000	488,400	494,400	487,200	446,400	468,000	537,600	5,481,600
Kindergarten Center	9,240	8,440	11,320	9,920	11,480	9,040	9,120	8,800	10,840	11,240	11,480	10,360	121,280
Root Middle	72,640	68,880	64,960	83,600	74,880	58,720	76,000	61,200	28,720	51,200	81,920	103,680	826,400
<b>Total KWH</b>	<b>715,522</b>	<b>677,144</b>	<b>692,340</b>	<b>674,442</b>	<b>749,706</b>	<b>610,156</b>	<b>754,160</b>	<b>710,276</b>	<b>649,439</b>	<b>629,019</b>	<b>734,450</b>	<b>875,010</b>	<b>8,471,664</b>

#### Electricity Actual Performance Year Cost \$

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>Cost \$</b>													
Blake Elementary	\$4,985	\$4,724	\$4,268	\$4,880	\$4,606	\$5,269	\$5,292	\$5,016	\$4,313	\$4,616	\$5,580	\$6,170	\$59,721
Claggett Middle	\$4,149	\$4,359	\$3,631	\$4,305	\$4,517	\$4,009	\$4,043	\$4,197	\$2,433	\$3,486	\$3,960	\$5,268	\$48,357
Ella Canavan Elementary	\$2,713	\$2,557	\$1,952	\$2,243	\$2,705	\$2,752	\$2,890	\$2,955	\$2,614	\$2,388	\$3,521	\$3,627	\$32,920
Fenn Elementary	\$2,131	\$2,174	\$1,908	\$2,131	\$2,419	\$2,266	\$2,154	\$2,071	\$1,663	\$1,821	\$1,102	\$2,588	\$24,428
Garfield Elementary	\$2,871	\$2,940	\$2,963	\$3,178	\$2,982	\$2,589	\$3,006	\$2,885	\$1,935	\$2,260	\$3,530	\$3,850	\$34,989
Heritage Elementary	\$3,479	\$3,919	\$4,335	\$4,549	\$4,338	\$3,682	\$4,134	\$3,492	\$3,139	\$2,905	\$3,846	\$4,496	\$46,313
Medina High School	\$45,802	\$41,128	\$42,261	\$35,680	\$43,477	\$39,266	\$50,763	\$50,573	\$47,575	\$40,031	\$46,763	\$48,822	\$532,141
Kindergarten Center	\$1,092	\$962	\$1,153	\$1,043	\$1,182	\$1,056	\$1,039	\$1,072	\$1,394	\$1,290	\$1,285	\$1,222	\$13,788
Root Middle	\$10,794	\$7,853	\$8,696	\$9,116	\$10,184	\$7,639	\$10,196	\$9,452	\$4,598	\$6,804	\$7,065	\$12,392	\$104,790
<b>Total Cost \$</b>	<b>\$78,015</b>	<b>\$70,616</b>	<b>\$71,168</b>	<b>\$67,125</b>	<b>\$76,409</b>	<b>\$68,529</b>	<b>\$83,518</b>	<b>\$81,713</b>	<b>\$69,664</b>	<b>\$65,601</b>	<b>\$76,652</b>	<b>\$88,435</b>	<b>\$897,447</b>

#### Electricity Actual Performance Year Unit Cost \$/KWH

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	
<b>Unit Cost \$/KWH</b>													
Blake Elementary	\$0.122	\$0.118	\$0.107	\$0.104	\$0.115	\$0.130	\$0.130	\$0.137	\$0.141	\$0.129	\$0.123	\$0.120	
Claggett Middle	\$0.118	\$0.103	\$0.108	\$0.108	\$0.109	\$0.118	\$0.099	\$0.126	\$0.106	\$0.165	\$0.140	\$0.107	
Ella Canavan Elementary	\$0.149	\$0.135	\$0.114	\$0.110	\$0.140	\$0.156	\$0.137	\$0.177	\$0.186	\$0.253	\$0.175	\$0.140	
Fenn Elementary	\$0.123	\$0.104	\$0.108	\$0.109	\$0.109	\$0.115	\$0.115	\$0.127	\$0.113	\$0.146	\$0.052	\$0.109	
Garfield Elementary	\$0.117	\$0.109	\$0.108	\$0.109	\$0.118	\$0.112	\$0.123	\$0.148	\$0.103	\$0.113	\$0.126	\$0.115	
Heritage Elementary	\$0.107	\$0.106	\$0.109	\$0.116	\$0.126	\$0.119	\$0.149	\$0.146	\$0.135	\$0.129	\$0.113	\$0.120	
Medina High School	\$0.098	\$0.099	\$0.096	\$0.093	\$0.091	\$0.104	\$0.104	\$0.102	\$0.098	\$0.090	\$0.100	\$0.091	
Kindergarten Center	\$0.118	\$0.114	\$0.102	\$0.105	\$0.103	\$0.117	\$0.114	\$0.122	\$0.129	\$0.115	\$0.112	\$0.118	
Root Middle	\$0.149	\$0.114	\$0.134	\$0.109	\$0.136	\$0.130	\$0.134	\$0.154	\$0.160	\$0.133	\$0.086	\$0.120	

## Medina City Schools ~ Performance Year 8

### Electricity Savings

#### Electricity Baseline Units KWH

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>KWH</b>													
Blake Elementary	51,966	56,529	57,670	57,422	58,701	55,178	49,876	50,921	37,624	36,215	43,537	52,554	608,191
Claggett Middle	37,084	44,121	43,882	42,232	47,364	43,660	40,963	36,723	29,452	25,251	33,700	39,514	463,947
Ella Canavan Elementary	19,549	26,587	28,549	27,893	24,087	23,335	22,129	17,719	17,536	18,546	17,035	18,079	261,043
Fenn Elementary	16,569	21,729	22,757	21,294	22,055	19,481	19,157	17,765	30,085	26,903	25,848	23,907	267,549
Garfield Elementary	26,438	25,939	26,350	28,200	25,714	27,585	26,150	28,808	28,174	27,470	27,953	31,999	330,778
Heritage Elementary	35,067	54,699	56,523	55,594	49,409	40,279	40,392	29,899	30,281	32,244	28,995	35,510	488,894
Medina High School	658,217	575,029	604,131	547,567	656,843	556,891	657,341	658,228	773,196	759,399	807,954	821,313	8,076,109
Kindergarten Center	7,429	8,012	11,852	10,042	11,231	8,842	8,478	7,394	6,946	6,276	6,052	7,047	99,600
Root Middle	83,679	91,157	103,009	95,077	92,873	91,652	81,545	72,304	44,968	44,889	65,136	74,006	940,294
<b>Total KWH</b>	<b>935,997</b>	<b>903,803</b>	<b>954,722</b>	<b>885,320</b>	<b>988,277</b>	<b>866,904</b>	<b>946,031</b>	<b>919,761</b>	<b>998,261</b>	<b>977,193</b>	<b>1,056,210</b>	<b>1,103,929</b>	<b>11,536,407</b>

#### Electricity Savings or (Shortfall) KWH

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>KWH</b>													
Blake Elementary	11,084	16,545	17,890	14,694	21,603	14,582	9,076	14,405	7,065	4,332	(1,401)	1,024	130,898
Claggett Middle	1,884	1,721	10,122	2,232	5,764	9,740	3	3,283	6,412	4,131	5,380	(9,606)	41,067
Ella Canavan Elementary	1,309	7,627	11,349	10,860	10,646	5,655	1,089	999	3,456	12,541	(9,020)	(7,761)	48,750
Fenn Elementary	(711)	769	5,157	1,694	(185)	(279)	437	1,445	15,365	14,423	4,568	147	42,829
Garfield Elementary	1,838	(941)	(1,130)	5,399	(208)	4,425	1,670	9,368	9,334	6,366	1,789	(1,361)	36,547
Heritage Elementary	5,627	18,059	15,483	28,476	9,732	10,999	5,752	6,459	8,841	14,593	(1,425)	(4,250)	118,347
Medina High School	190,217	161,029	164,931	164,767	179,243	178,891	168,941	163,828	285,996	312,999	339,954	283,713	2,594,509
Kindergarten Center	(1,811)	(428)	532	122	(249)	(198)	(642)	(1,406)	(3,894)	(4,964)	(5,428)	(3,313)	(21,680)
Root Middle	11,039	22,277	38,049	11,477	17,993	32,932	5,545	11,104	16,248	(10,244)	(37,082)	(29,674)	89,664
<b>Savings KWH</b>	<b>220,475</b>	<b>226,659</b>	<b>262,382</b>	<b>239,721</b>	<b>244,338</b>	<b>256,748</b>	<b>191,871</b>	<b>209,485</b>	<b>348,822</b>	<b>354,177</b>	<b>297,336</b>	<b>228,919</b>	<b>3,080,932</b>

#### Electricity Savings or (Shortfall) \$

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>\$</b>													
Blake Elementary	\$3,991	\$4,213	\$5,173	\$4,939	\$5,092	\$3,834	\$3,605	\$3,823	\$3,528	\$3,332	\$2,620	\$2,355	\$46,504
Claggett Middle	\$571	\$648	\$1,173	\$627	\$875	\$1,163	\$1,756	\$573	\$2,834	\$682	\$823	(\$866)	\$10,859
Ella Canavan Elementary	\$910	\$1,043	\$1,504	\$1,266	\$729	\$1,026	\$867	\$926	\$1,065	\$2,303	(\$41)	(\$73)	\$11,524
Fenn Elementary	\$318	\$623	\$585	\$437	\$222	\$207	\$665	\$374	\$2,074	\$2,105	\$489	\$16	\$8,114
Garfield Elementary	\$586	\$68	(\$128)	(\$152)	\$61	\$1,061	\$674	\$1,390	\$2,110	\$1,591	(\$1)	(\$195)	\$7,064
Heritage Elementary	\$788	\$2,127	\$2,136	\$1,564	\$1,511	\$1,407	\$729	\$962	\$1,305	\$1,540	(\$138)	(\$515)	\$13,416
Medina High School	\$19,958	\$20,427	\$16,684	\$24,460	\$23,162	\$18,629	\$17,559	\$16,758	\$27,928	\$28,279	\$33,968	\$25,765	\$273,578
Kindergarten Center	\$36	\$230	\$277	\$13	(\$26)	(\$23)	(\$54)	(\$106)	(\$276)	(\$452)	(\$367)	(\$226)	(\$974)
Root Middle	\$1,945	\$5,338	\$5,547	\$2,473	\$2,447	\$4,284	\$785	\$2,221	\$3,648	\$3,520	(\$1,798)	(\$1,671)	\$28,741
<b>Savings \$</b>	<b>\$29,102</b>	<b>\$34,717</b>	<b>\$32,952</b>	<b>\$35,627</b>	<b>\$34,073</b>	<b>\$31,588</b>	<b>\$26,587</b>	<b>\$26,922</b>	<b>\$44,215</b>	<b>\$42,900</b>	<b>\$35,554</b>	<b>\$24,590</b>	<b>\$398,828</b>

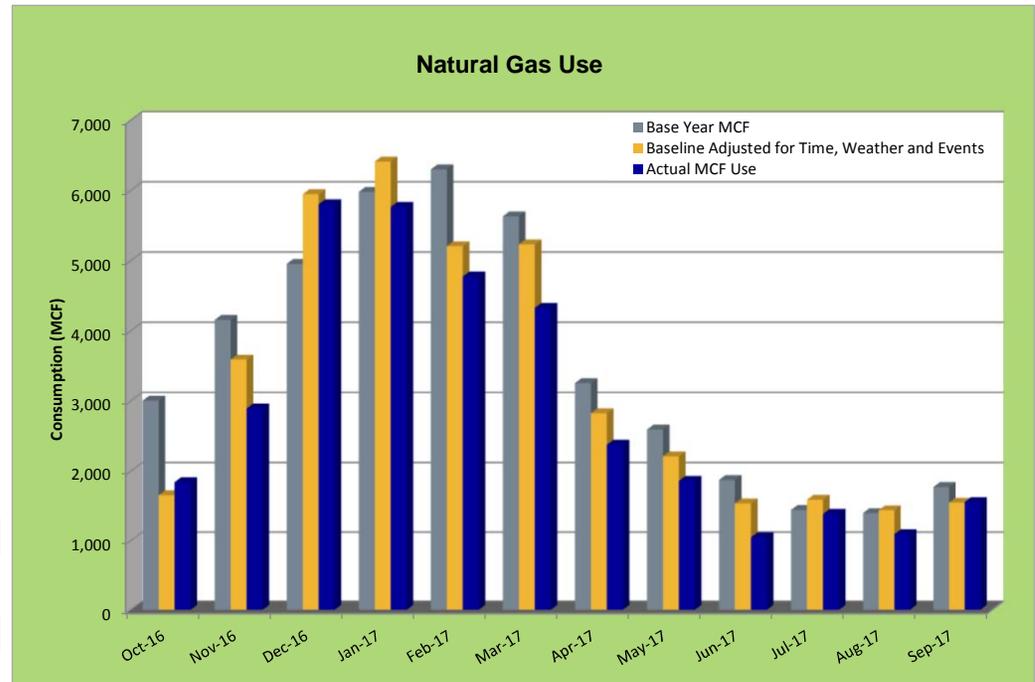
# Medina City Schools ~ Performance Year 8

## Natural Gas Summary

Natural Gas Used In Base Year	42,373	MCF
Adjustments for Time, Weather and Events	(3,168)	MCF
Baseline Usage	39,205	MCF
Actual Usage	34,744	MCF

<b>Total MCF Saved</b>	<b>4,461</b>
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<b>Total Dollars Saved</b>	<b>\$51,931</b>
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# Medina City Schools ~ Performance Year 8

## Natural Gas Savings

### Natural Gas Base Year Units MCF

	October	November	December	January	February	March	April	May	June	July	August	September	Total
<b>MCF</b>													
Blake Elementary	3	52	134	258	184	267	179	51	44	11	3	25	1,211
Fenn Elementary	88	250	238	372	407	333	148	101	15	4	14	4	1,974
Garfield Elementary	118	248	300	402	476	376	124	111	3	3	2	3	2,166
Heritage Elementary	12	17	36	64	46	54	27	1	5	0	2	2	266
Medina High School	2,742	3,356	3,932	4,508	4,725	4,275	2,550	2,233	1,765	1,424	1,379	1,713	34,602
Root Middle	43	233	315	376	462	327	227	96	44	3	0	28	2,154
<b>Total MCF</b>	<b>3,006</b>	<b>4,156</b>	<b>4,955</b>	<b>5,980</b>	<b>6,300</b>	<b>5,632</b>	<b>3,255</b>	<b>2,593</b>	<b>1,876</b>	<b>1,445</b>	<b>1,400</b>	<b>1,775</b>	<b>42,373</b>

### Natural Gas Base Year Cost \$

	October	November	December	January	February	March	April	May	June	July	August	September	Total
<b>Cost \$</b>													
Blake Elementary	\$48	\$571	\$1,567	\$3,714	\$2,265	\$3,679	\$1,947	\$582	\$445	\$125	\$54	\$302	\$15,300
Fenn Elementary	\$752	\$2,671	\$2,765	\$5,311	\$4,939	\$4,553	\$1,600	\$1,114	\$159	\$53	\$165	\$60	\$24,141
Garfield Elementary	\$954	\$2,551	\$3,085	\$5,703	\$5,580	\$4,986	\$1,295	\$1,177	\$21	\$42	\$36	\$48	\$25,479
Heritage Elementary	\$112	\$182	\$412	\$926	\$558	\$734	\$296	\$26	\$62	\$16	\$36	\$37	\$3,396
Medina High School	\$22,664	\$35,483	\$45,205	\$63,965	\$56,940	\$58,043	\$27,140	\$24,096	\$16,629	\$13,055	\$14,586	\$18,848	\$396,654
Root Middle	\$376	\$2,491	\$3,651	\$5,358	\$5,602	\$4,470	\$2,440	\$860	\$435	\$43	\$16	\$353	\$26,096
<b>Total Cost \$</b>	<b>\$24,906</b>	<b>\$43,948</b>	<b>\$56,685</b>	<b>\$84,978</b>	<b>\$75,885</b>	<b>\$76,464</b>	<b>\$34,718</b>	<b>\$27,855</b>	<b>\$17,751</b>	<b>\$13,334</b>	<b>\$14,893</b>	<b>\$19,648</b>	<b>\$491,066</b>

### Natural Gas Base Year Unit Cost \$/MCF

	October	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	
<b>Unit Cost \$/MCF</b>													
Blake Elementary	\$15.95	\$10.99	\$11.70	\$14.40	\$12.31	\$13.78	\$10.88	\$11.40	\$10.11	\$11.40	\$18.13	\$12.09	
Fenn Elementary	\$8.54	\$10.68	\$11.62	\$14.28	\$12.13	\$13.67	\$10.81	\$11.03	\$10.61	\$13.16	\$11.80	\$15.06	
Garfield Elementary	\$8.08	\$10.28	\$10.28	\$14.19	\$11.72	\$13.26	\$10.44	\$10.61	\$6.95	\$14.07	\$18.03	\$16.04	
Heritage Elementary	\$9.35	\$10.68	\$11.44	\$14.47	\$12.14	\$13.58	\$10.97	\$26.43	\$12.30	\$0.00	\$18.03	\$18.39	
Medina High School	\$8.27	\$10.57	\$11.50	\$14.19	\$12.05	\$13.58	\$10.64	\$10.79	\$9.42	\$9.17	\$10.58	\$11.00	
Root Middle	\$8.75	\$10.69	\$11.59	\$14.25	\$12.13	\$13.67	\$10.75	\$8.96	\$9.89	\$14.47	\$0.00	\$12.62	

# Medina City Schools ~ Performance Year 8

## Natural Gas Savings

### Natural Gas Actual Performance Year Units MCF

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>MCF</b>													
Blake Elementary	19	41	242	255	221	206	71	51	13	11	11	20	1,161
Fenn Elementary	34	124	379	383	308	300	104	73	21	15	18	28	1,787
Garfield Elementary	12	147	390	435	322	287	118	83	8	7	6	10	1,825
Heritage Elementary	4	18	98	116	88	76	24	9	2	1	2	4	442
Medina High School	1,748	2,451	4,369	4,255	3,525	3,163	1,947	1,566	991	1,341	1,044	1,475	27,875
Root Middle	28	113	327	322	311	295	113	82	14	13	13	23	1,654
<b>Total MCF</b>	<b>1,845</b>	<b>2,894</b>	<b>5,805</b>	<b>5,766</b>	<b>4,775</b>	<b>4,327</b>	<b>2,377</b>	<b>1,864</b>	<b>1,049</b>	<b>1,388</b>	<b>1,094</b>	<b>1,560</b>	<b>34,744</b>

### Natural Gas Actual Performance Year Cost \$

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>Cost \$</b>													
Blake Elementary	\$192	\$312	\$1,375	\$1,634	\$1,379	\$1,059	\$482	\$391	\$178	\$168	\$167	\$219	\$7,557
Fenn Elementary	\$275	\$746	\$2,081	\$2,391	\$1,871	\$1,484	\$662	\$511	\$224	\$192	\$208	\$260	\$10,904
Garfield Elementary	\$150	\$845	\$2,097	\$2,653	\$1,917	\$1,395	\$722	\$557	\$150	\$145	\$139	\$161	\$10,932
Heritage Elementary	\$105	\$184	\$621	\$801	\$612	\$455	\$222	\$156	\$116	\$110	\$116	\$127	\$3,625
Medina High School	\$8,880	\$12,333	\$22,532	\$25,167	\$20,013	\$14,372	\$10,140	\$8,116	\$5,050	\$6,962	\$5,341	\$7,470	\$146,376
Root Middle	\$243	\$691	\$1,813	\$2,031	\$1,888	\$1,461	\$708	\$560	\$184	\$180	\$179	\$236	\$10,173
<b>Total Cost \$</b>	<b>\$9,846</b>	<b>\$15,111</b>	<b>\$30,518</b>	<b>\$34,677</b>	<b>\$27,680</b>	<b>\$20,225</b>	<b>\$12,937</b>	<b>\$10,290</b>	<b>\$5,902</b>	<b>\$7,757</b>	<b>\$6,149</b>	<b>\$8,473</b>	<b>\$189,566</b>

### Natural Gas Actual Performance Year Unit Cost \$/MCF

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	
<b>Unit Cost \$/MCF</b>													
Blake Elementary	\$10.11	\$7.60	\$5.68	\$6.41	\$6.24	\$5.14	\$6.79	\$7.67	\$13.72	\$15.31	\$15.20	\$10.94	
Fenn Elementary	\$8.09	\$6.01	\$5.49	\$6.24	\$6.08	\$4.95	\$6.36	\$7.00	\$10.66	\$12.77	\$11.53	\$9.29	
Garfield Elementary	\$12.54	\$5.75	\$5.38	\$6.10	\$5.95	\$4.86	\$6.12	\$6.71	\$18.77	\$20.76	\$23.14	\$16.15	
Heritage Elementary	\$26.29	\$10.25	\$6.34	\$6.91	\$6.96	\$5.98	\$9.24	\$17.29	\$57.84	\$110.05	\$57.86	\$31.73	
Medina High School	\$5.08	\$5.03	\$5.16	\$5.91	\$5.68	\$4.54	\$5.21	\$5.18	\$5.10	\$5.19	\$5.12	\$5.06	
Root Middle	\$8.68	\$6.11	\$5.54	\$6.31	\$6.07	\$4.95	\$6.27	\$6.82	\$13.15	\$13.85	\$13.75	\$10.25	

# Medina City Schools ~ Performance Year 8

## Natural Gas Savings

### Natural Gas Baseline Units MCF

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>MCF</b>													
Blake Elementary	1	103	261	253	205	205	99	67	22	19	17	24	1,276
Fenn Elementary	39	148	417	350	275	292	83	60	7	7	6	7	1,690
Garfield Elementary	14	104	466	439	348	351	88	51	3	4	3	3	1,874
Heritage Elementary	2	15	57	54	43	43	12	8	0	0	0	0	233
Medina High School	1,562	3,114	4,307	4,902	4,004	4,008	2,443	1,960	1,471	1,561	1,415	1,479	32,224
Root Middle	40	107	441	415	332	334	99	65	36	3	0	36	1,908
<b>Total MCF</b>	<b>1,658</b>	<b>3,591</b>	<b>5,948</b>	<b>6,413</b>	<b>5,206</b>	<b>5,233</b>	<b>2,825</b>	<b>2,210</b>	<b>1,540</b>	<b>1,593</b>	<b>1,441</b>	<b>1,550</b>	<b>39,205</b>

### Natural Gas Savings or (Shortfall) MCF

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>MCF</b>													
Blake Elementary	(18)	62	19	(2)	(16)	(1)	28	16	9	8	6	4	115
Fenn Elementary	5	24	38	(33)	(33)	(8)	(21)	(13)	(14)	(8)	(12)	(21)	(97)
Garfield Elementary	2	(43)	76	4	26	64	(30)	(32)	(5)	(3)	(3)	(7)	49
Heritage Elementary	(2)	(3)	(41)	(62)	(45)	(33)	(12)	(1)	(2)	(1)	(2)	(4)	(209)
Medina High School	(186)	663	(62)	647	479	845	496	394	480	220	371	4	4,349
Root Middle	12	(6)	114	93	21	39	(14)	(17)	22	(10)	(13)	13	254
<b>Savings MCF</b>	<b>(187)</b>	<b>697</b>	<b>143</b>	<b>647</b>	<b>431</b>	<b>906</b>	<b>448</b>	<b>346</b>	<b>491</b>	<b>205</b>	<b>347</b>	<b>(10)</b>	<b>4,461</b>

### Natural Gas Savings or (Shortfall) \$

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Total
<b>\$</b>													
Blake Elementary	(\$285)	\$683	\$222	(\$27)	(\$198)	(\$11)	\$301	\$184	\$122	\$118	\$100	\$52	\$1,262
Fenn Elementary	\$40	\$253	\$440	(\$470)	(\$404)	(\$115)	(\$227)	(\$146)	(\$149)	(\$111)	(\$137)	(\$316)	(\$1,340)
Garfield Elementary	\$22	(\$440)	\$777	\$56	\$304	\$849	(\$308)	(\$340)	(\$88)	(\$72)	(\$65)	(\$108)	\$586
Heritage Elementary	(\$55)	(\$35)	(\$472)	(\$899)	(\$549)	(\$448)	(\$127)	(\$36)	(\$116)	(\$110)	(\$116)	(\$127)	(\$3,089)
Medina High School	(\$1,540)	\$7,006	(\$712)	\$9,174	\$5,768	\$11,466	\$5,282	\$4,255	\$4,524	\$2,017	\$3,920	\$43	\$51,203
Root Middle	\$108	(\$63)	\$1,316	\$1,328	\$253	\$536	(\$152)	(\$156)	\$293	(\$143)	(\$179)	\$168	\$3,310
<b>Savings \$</b>	<b>(\$1,710)</b>	<b>\$7,404</b>	<b>\$1,570</b>	<b>\$9,164</b>	<b>\$5,174</b>	<b>\$12,277</b>	<b>\$4,770</b>	<b>\$3,761</b>	<b>\$4,586</b>	<b>\$1,699</b>	<b>\$3,524</b>	<b>(\$288)</b>	<b>\$51,931</b>