

# **MARSHALL PUBLIC SCHOOLS**

## **Board of Education**

### **Regular Meeting Minutes**

#### **Board Room**

**October 21, 2015**

The meeting was called to order by Jon Bunch at 6:00 p.m. as duly posted under State Statutes §19.84(1)(2)(c).

#### **Roll Call of the Board**

Board of Education Present: Jon Bunch, Cecil Chadwick, Bonnie Clayton, Debbie Frigo, Sandra Litang-Canon, John Lutz, Michelle Voigts

Board of Education Absent:

Administration Present: Lisa Blochwitz, Bob Chady, Rich Peters, Brian Sniff, Barb Sramek, Becca Stein, Brian Sutton

#### **Approval of Agenda**

A motion to approve the agenda as presented was made by Lutz and seconded by Voigts. Carried 7-0.

#### **Proof of Giving Public Notice**

A motion that public notice was provided to The Courier on October 16, 2015 was made by Clayton and seconded by Bunch. Carried 7-0.

#### **Consent Agenda**

- A. Approval of receipts and expenditures. General Fund checks #88358 to #92015 and Activity Fund checks #16500 to #16507
- B. Board Minutes dated September 16 and October 13, 2015
- C. Disposal of property - none
- D. Approval of Resignations/Retirements
  - a. Geoff Collins - MS Science Olympiad
  - b. Kate Brattlie - Special Education Paraeducator
  - c. Joe Chadwick - Freshmen Boys Basketball
- E. Offer contracts/letters of employment
  - a. Laurie JaDoul - School Nutrition Services
  - b. Carly Knoche - MS Science Olympiad
  - c. Rosie Vela - Special Education Paraeducator
- F. Second reading regarding Board policy:
  - a. 322 School Day

Motion by Chadwick, seconded by Lutz to remove the Approval of Expenditures from the Consent Agenda, and add it to the end of the Agenda as a separate item. Carried 7-0.

Motion by Lutz, seconded by Canon, to approve all remaining items (excluding item A) on the consent agenda as presented. Carried 7-0.

## **Reports**

### **Committee Reports**

**Curriculum Committee** - The October committee meeting featured the Social Studies Departments and Middle School Students sharing their existing curriculum and projects with the Board.

**Finance Committee** - John Lutz reported that they received information on energy projects and budget information.

**Legislative Report** - Jon Bunch shared info on legislation that has been introduced, limiting the timing of school referendums after a failed referendum. Barb Sramek indicated that there is a proposal to eliminate Act 32 for energy savings and legislation that has been introduced regarding the use of school bathrooms and locker rooms for transgender students.

**Old Business** - none

### **New Business**

#### **Discussion and potential action regarding a request by the boys basketball program for an overnight trip**

Jason McConnell, high school boys basketball coach, presented information regarding The varsity team's attendance of a tournament at Concordia University. The trip is funded through the basketball team activity account. Motion by Frigo, seconded by Voigts to approve the overnight trip. Carried 7-0.

#### **Discussion regarding Student/School Learning Objectives (SLOs)**

Each building principal shared information on their building specific SLOs.

- Rich Peters, ELC Principal, shared that ELC focus is on literacy with a goal of moving from 76% to 86% of students reading at benchmark.
- Becca Stein, Elementary Principal, shared the assessment data for the Elementary School. After looking at STAR assessment results from Fall 2015, building objectives were set with a focus on literacy and improving instructional practices. The building goal is to move from 30% to 68% of students scoring proficient or advanced. by Spring, 2016.
- Lisa Blochwitz, Middle School Principal, shared that their focus is moving all students forward to next proficiency level in literacy. The focus on literacy extends to every classroom. For example, social studies classes emphasize vocabulary and writing, while math teachers are using literacy goals to have students articulate their math understanding.
- Brian Sniff, High School Principal, shared that only 6% of students achieve an Advanced score for the ACT assessment. Now all Juniors take the exam, so the baseline has changed. That change makes it difficult to compare results with previous years.

No Action Sought

#### **Discussion and potential action regarding Youth Options requests**

Motion by Lutz, seconded by Canon, to approve Youth Options requests as presented, limited to 18 credits per student, throughout their high school career. Additionally the Board is not required to pay for courses under Youth Options if the District offers a comparable course. Carried 7-0.

## Discussion and potential action regarding approval of an Energy Efficiency (Revenue Limit)

### Exemption for Act 32 projects

Motion by Bunch, seconded by Lutz, to approve and utilize the Revenue Limit Energy Efficiency Exemption (related to current Act 32 work throughout the District) as provided below. Carried 7-0.

### **RESOLUTION FOR REVENUE LIMIT EXEMPTIONS FOR ENERGY EFFICIENCIES**

*Be it resolved that the Marshall Public School District is exercising its taxing authority under §121.91(4)(o), Wis. Stats., to exceed the revenue limit on a non-recurring basis by an amount the district will spend on new energy efficiency measures and energy efficiency products for the 2015-16 school year and 20 years of debt for the term of the \$8,000,000 General Obligation Refunding Bonds dated September 2, 2015.*

*The amount to be expended annually via debt service payments on the above noted obligations is as follows:*

School Year	Amount		School Year	Amount
2015-2016	\$310,585		2025-2026	\$311,450
2016-2017	\$311,450		2026-2027	\$1,053,238
2017-2018	\$311,450		2027-2028	\$1,054,325
2018-2019	\$311,450		2028-2029	\$1,057,225
2019-2020	\$311,450		2029-2030	\$1,053,825
2020-2021	\$311,450		2030-2031	\$1,054,125
2021-2022	\$311,450		2031-2032	\$1,053,025
2022-2023	\$311,450		2032-2033	\$1,052,913
2023-2024	\$311,450		2033-2034	\$1,056,300
2024-2025	\$311,450		2034-2035	\$1,055,700

*After review of the recommendations report per §66.0133(2)(b), Wis Stats., the district has determined that the \$11,619,774 it would spend on energy efficiency projects recommended in the report is not likely to exceed the amount to be saved in utility costs of \$80,170 and non-utility costs of \$500,819 over the remaining 75 year useful life of the facility to which the measures apply.*

*The board has entered into a 20 year performance contract under §66.0133, Wis. Stats., with McKinstry Essention, LLC for a project to implement the following energy efficiency measures or purchase energy efficiency products and identified the following cost recovery performance indicators to measure energy savings and/or operational savings for each including the timeline for cost recovery:*

*See Attachment A for a list of each energy efficiency measure/product with related cost recovery performance indicators, estimated cost, estimated savings and payback period. Also provided are McKinstry Table 3.1 - Energy Savings Summary and Table 4.2 – Facility Improvement Measure (FIM) Summary.*

*The Board shall annually perform an evaluation of the performance indicators and shall report to the electorate as an addendum in the required published budget summary document per §65.90, Wis. Stats., and in the school district's newsletter or in the published minutes of the school board meeting. The Board shall use this evaluation to determine the amount of energy (utility) cost savings, as a result of the project, that shall be applied to retire the debt.*

## Discussion and potential action regarding the October 15-16 Budget Adjustments

Bob Chady presented the adjustments to revenue and expenditures that have been made since the budget was presented to the Board on October 19. Motion by Voigts, seconded by Canon, to approve the revised budget as presented. Carried 7-0.

**Discussion and potential action regarding setting the 2015 tax levy.**

Motion by Lutz, seconded by Canon, that the Board of Education set the tax levy to fund the 2015-16 School District budget at \$4,746,178.00. Further, the Board Clerk shall certify said levy and forward to the clerk of the respective municipalities, their tax levy certification form. Carried 7-0

**Discussion and potential action regarding approval of withdrawal from the Local Government Property Insurance Fund.**

Motion by Voigts, seconded by Chadwick, approving the District withdrawal from the Local Government Property Insurance Fund to accept the proposal from Chubb Insurance Company as our property insurance provider, effective December 1, 2015. Carried 7-0.

**Discussion regarding Board self-evaluation**

No Action Sought

**Discussion of future board agenda items**

Recognition of staff members for their accomplishments was recommended as a future agenda item.

Scheduled a special meeting and work session for November 4 at 6:15 p.m.

No Action Sought

**Approval of Receipts and Expenditures**

Motion by Canon, seconded by Lutz, to approve receipts and expenditures, including General Fund checks #88358 to #92015 and Activity Fund checks #16500 to #16507. Carried 7-0.

**Adjournment**

A motion to adjourn was made by Voigts and seconded by Canon. Carried 7-0.

Meeting adjourned at 8:00 p.m.

Respectfully submitted,

A handwritten signature in blue ink, reading "Bonnie Clayton", is written over a horizontal line.

Bonnie Clayton, Clerk

# Attachment A

Use to collect information for resolution to exceed the revenue limit for energy efficiency projects.

Name of School District	Marshall Public Schools
Name of Qualified Contractor	McKinstry Essention
Contract Length (years)	20
Total Project Cost*	\$11,619,774
Total Project Payback Period	20
Years of Debt Payments	20
Remaining Useful Life of the Facility	75

Project is still in construction period until Fall 2016

SUMMARY COST/SAVINGS ANALYSIS									
PROJECT EXPENDITURES				Payback Years		PROJECT COST SAVINGS			
Specific Energy Efficiency Measure or Products	Project Cost	Financing Cost (Interest)	Total Project Cost Including Financing	Cost/Savings		Total Annual Utility Cost Savings	Total Annual Non-Utility Cost Savings	One-time Savings	
Boiler Replacements	\$ 228,701		\$ 228,701	\$ 21,417,821		\$ 581	\$ 9,857	\$ 3,000	
Building Envelope	83,628		83,628	12,583,208		3,042	3,604	-	
Exterior Lighting	170,401		170,401	13,605,607		4,890	7,344	3,950	
Interior Lighting	1,983,164		1,983,164	17,633,406		25,737	85,476	22,100	
Masonry & EFIS Upgrades	115,400		115,400	23,200,643		-	4,974	-	
Roofing Upgrades	2,749,376		2,749,376	22,686,118		2,692	118,500	-	
Water Conservation	95,161		95,161	7,482,387		8,617	4,101	-	
ES Chiller Replacement	268,767		268,767	16,562,407		3,919	11,584	12,000	
HS Chiller Replacement	265,254		265,254	14,948,477		5,375	11,433	14,000	
Controls Upgrade	228,968		228,968	8,575,902		16,830	9,869	-	
Deaerification Fans	29,319		29,319	17,125,584		448	1,264	-	
HS Domestic Hot Water Heater Replacement	46,997		46,997	19,796,546		348	2,026	-	
HS Masonry Rehabilitation	86,550		86,550	23,203,753		-	3,730	-	
HS Wall Cladding	249,171		249,171	23,202,440		-	10,739	-	
HS Water Softener Replacement	33,178		33,178	23,201,399		-	1,430	-	
MS Domestic Hot Water Heater Replacement	42,753		42,753	20,034,208		291	1,843	-	
Window Replacement	825,291		825,291	23,179,727		33	35,571	-	
Door Replacement	77,607		77,607	22,009,926		181	3,345	-	
Masonry Rehabilitation	63,326		63,326	23,204,837		-	2,729	-	
Mechanical Upgrades	3,763,942		3,763,942	22,373,765		5,734	162,228	6,000	
Phone System Upgrades	209,530		209,530	23,201,240		-	9,031	-	
Vending Machine Controls	3,289		3,289	2,202,947		1,351	142	-	
Entire Energy Efficiency Project*	\$ 11,619,774		\$ 11,619,774			\$ 80,169	\$ 500,819	\$ 61,050	

Cost Saving (Recovery) Performance Indicators and Measures										
Electricity Utility Savings				Heating Utility Savings				Water Utility Savings		
Measurement Units KwH	Unit Savings	Cost per Unit	Cost Savings	Measurement Unit Therms	Unit Savings	Cost per Unit	Cost Savings	Measurement Units Gallons	Unit Savings	Cost per Unit
KwH	-	-	-	- Therms	757	0.900	681	681 Gallons	-	-
KwH	-	-	-	- Therms	3,464	0.878	3,042	3,042 Gallons	-	-
KwH	81,491	0.06	4,890	Therms	-	-	-	Gallons	-	-
KwH	212,803	-	27,910	Therms	(2,474)	0.879	(2,174)	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	-	-	-	- Therms	3,019	0.892	2,692	Gallons	-	-
KwH	-	-	-	Therms	1,004	0.886	890	Gallons	627,572	0.01232
KwH	30,147	0.13	3,919	Therms	-	-	-	Gallons	-	-
KwH	41,347	0.13	5,375	Therms	-	-	-	Gallons	-	-
KwH	64,389	0.13	8,371	Therms	9,400	0.900	8,460	Gallons	-	-
KwH	1,074	0.13	139	Therms	345	0.893	308	Gallons	-	-
KwH	-	-	-	- Therms	387	0.899	348	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	-	-	-	- Therms	331	0.879	291	Gallons	-	-
KwH	-	-	-	- Therms	38	0.868	33	Gallons	-	-
KwH	-	-	-	- Therms	206	0.879	181	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	41,018	0.13	5,332	Therms	456	0.882	402	Gallons	-	-
KwH	-	-	-	- Therms	-	-	-	Gallons	-	-
KwH	10,391	0.13	1,351	Therms	-	-	-	Gallons	-	-

Cost Saving(Recovery) Performance Indicators and Measures				
Annual Capital Cost Avoidance		One-Time Savings		
Description	Cost Savings	Description	Cost Savings	
Avoidance of using capital funds	\$ 9,857	Potential Incentives (Focus, etc...)	\$ 3,000	
Avoidance of using capital funds	3,604			
Avoidance of using capital funds	7,344	Potential Incentives (Focus, etc...)	3,950	
Avoidance of using capital funds	85,476	Potential Incentives (Focus, etc...)	22,100	
Avoidance of using capital funds	4,974			
Avoidance of using capital funds	118,500			
Avoidance of using capital funds	4,101			
Avoidance of using capital funds	11,584	Potential Incentives (Focus, etc...)	12,000	
Avoidance of using capital funds	11,433	Potential Incentives (Focus, etc...)	14,000	
Avoidance of using capital funds	9,869			
Avoidance of using capital funds	1,264			
Avoidance of using capital funds	2,026			
Avoidance of using capital funds	3,730			
Avoidance of using capital funds	10,739			
Avoidance of using capital funds	1,430			
Avoidance of using capital funds	1,843			
Avoidance of using capital funds	35,571			
Avoidance of using capital funds	3,345			
Avoidance of using capital funds	2,729			
Avoidance of using capital funds	162,228	Potential Incentives (Focus, etc...)	6,000	
Avoidance of using capital funds	9,031			
Avoidance of using capital funds	142			



# Table 4.2 - Facility Improvement Measure (FIM) Summary

Project Summary		FIM Description							
Project Name	Project Date	FIM Description	Project	Current Cost	Annual Utility Savings	Annual Operational & Capital Cost Savings	Potential First Year Savings	Net Cumulative Cost (Less First Year Savings)	Equivalent Payback
Marshall Public Schools Fiscal Year May 22, 2015									
ELC Boiler Replacement		Remove the existing Bryan boilers installed in 1993 and replace them with two new condensing Thermal Solutions ultra high efficiency hot water boilers.	Marshall Early Learning Center	\$226,701	\$681	\$9,857	\$3,000	\$225,701	25
ELC Building Envelope		Seal the roof/wall intersection in all applicable areas, replace door sweeps and weather stripping throughout the building and caulk around all windows to minimize air infiltration into and from the building.	Marshall Early Learning Center	\$20,447	\$723	\$881	\$0	\$20,447	10 - 30
ELC Exterior Lighting		Replace the existing exterior lighting including building wall packs, enhancement lighting, walkway lighting and parking lot lighting with new LED fixtures and lamps.	Marshall Early Learning Center	\$27,727	\$735	\$1,195	\$750	\$26,977	15
ELC Interior Lighting LED		Replace the existing fluorescent lighting throughout the school except the gymnasium with new LED fixtures and lamps. Replace the existing gymnasium fluorescent fixtures with new high efficient fluorescent fixtures with program start ballasts. Classroom lighting will have dimming capabilities.	Marshall Early Learning Center	\$201,572	\$2,169	\$12,998	\$5,500	\$226,072	20
ELC Masonry & EIFS Upgrades		Remove and replace all caulk on the exterior of window / brick joint, grind all movement and structural cracks in the masonry and re-caulk with urethane sealant. Caulk all vertical joints in the EIFS panels on the top perimeter of the building, waterblast EIFS to clean material, remove debris and discolorations and add a layer of elastomeric coating to help maintain EIFS integrity.	Marshall Early Learning Center	\$115,400	\$0	\$4,974	\$0	\$115,400	15
ELC Roofing Upgrades		Tear the existing asphalt shingled roof off to the wooden underlayment and replace with new standing seam metal roof system.	Marshall Early Learning Center	\$97,715	\$0	\$4,212	\$0	\$97,715	40
ELC Water Conservation		Replace flush tubes, flow restrictors and diaphragms in toilets, sinks, showers and urinals to minimize water flow while maintaining required levels to expel waste and maintain sewage piping.	Marshall Early Learning Center	\$19,494	\$1,637	\$840	\$0	\$19,494	5 - 40
				\$611,052	\$4,905	\$33,017	\$9,250	\$611,052	
ES Building Envelope		Seal the roof/wall intersection in all applicable areas, replace door sweeps and weather stripping throughout the building and caulk around all windows to minimize air infiltration into and from the building.	Marshall Elementary	\$26,758	\$1,134	\$1,153	\$0	\$26,758	10 - 30
ES Chiller Replacement		Replace the existing HVAC chiller and replace with a 247 nominal tonnage variable speed screw air cooled chiller. Modify the existing rooftop supports as required to keep chiller on the roof.	Marshall Elementary	\$268,767	\$2,919	\$11,584	\$12,000	\$256,767	23
ES Exterior Lighting		Replace the existing exterior lighting including building wall packs, enhancement lighting, walkway lighting and parking lot lighting with new LED fixtures and lamps.	Marshall Elementary	\$56,852	\$1,248	\$2,450	\$1,100	\$55,752	15
ES Interior Lighting LED		Replace the existing fluorescent lighting throughout the school except the gymnasium with new LED fixtures and lamps. Replace the existing gymnasium fluorescent fixtures with new high efficient fluorescent fixtures with program start ballasts. Classroom lighting will have dimming capabilities.	Marshall Elementary	\$544,267	\$8,941	\$23,458	\$5,600	\$538,667	20
ES Water Conservation		Replace flush tubes, flow restrictors and diaphragms in toilets, sinks, showers and urinals to minimize water flow while maintaining required levels to expel waste and maintain sewage piping.	Marshall Elementary	\$20,542	\$1,803	\$1,316	\$0	\$20,542	5 - 40
				\$927,126	\$17,045	\$49,965	\$19,700	\$927,126	
HS Building Envelope		Seal the roof/wall intersection in all applicable areas, replace door sweeps and weather stripping throughout the building to minimize air infiltration into and from the building.	Marshall High School	\$25,027	\$924	\$1,079	\$0	\$25,027	10 - 30
HS Chiller Replacement		Remove the existing chiller and provide a replacement with a variable speed screw air cooled chiller. Modify the existing supports as required to maintain ground placement.	Marshall High School	\$265,254	\$5,375	\$11,433	\$14,000	\$251,154	23
HS Controls Upgrades		Replace the existing control system with a new building automation system. Program energy saving control strategies into the system to minimize energy consumption. Control strategies to include occupancy based HVAC control, mixed air control and economization.	Marshall High School	\$228,968	\$16,830	\$9,069	\$0	\$228,968	15
HS Deaeration Fans		Add deaeration fans to the high school gymnasium and high school cafeteria to optimize air mixing and minimize air stratification.	Marshall High School	\$17,859	\$276	\$774	\$0	\$17,859	15
HS Domestic Hot Water Heater Replacement		Remove the existing PVI Turbopower 1200 MBH hot water heater and 600 gallon storage tank and replace it with two AO Smith Cyclone HX1 120 hot water heaters.	Marshall High School	\$48,997	\$348	\$2,026	\$0	\$48,997	20
HS Exterior Lighting		Replace the existing exterior lighting including building wall packs, enhancement lighting, walkway lighting and parking lot lighting with new LED fixtures and lamps.	Marshall High School	\$86,683	\$2,812	\$2,874	\$1,900	\$84,683	15
HS Interior Lighting LED		Replace the existing fluorescent lighting throughout the school except the gymnasium with new LED fixtures and lamps. Replace the existing gymnasium fluorescent fixtures with new high efficient fluorescent fixtures with program start ballasts. Classroom lighting will have dimming capabilities.	Marshall High School	\$612,677	\$9,835	\$28,407	\$8,000	\$604,677	20
HS Masonry Rehabilitation		Caulk all perimeters and window sills, caulk all expansion joints and caulk all movement and structural cracks in the brick masonry. All areas of caulking will have existing caulking removed and / or routed to achieve a neat and uniform appearance.	Marshall High School	\$88,580	\$0	\$3,730	\$0	\$88,580	15
HS Roofing Upgrades		Remove the existing EPDM ballasted roof assembly, replace any wet insulation to ensure an R-Value of 24 throughout the building and replace the roof system with a hybrid built-up roof system. All exposed membrane flashing will be coated with aluminum roofing and new pre-finished metal counterflashing, gutters and copings will be installed at all flashings, walls, perimeters and penetrations.	Marshall High School	\$1,546,369	\$1,606	\$66,449	\$0	\$1,546,369	20
HS Wall Cladding		Installation of 24 ga. Kynar pre-finished steel concealed fastener flush wall panel assembly over the galvanized sub-framing above the EIFS. All work will reach work done in summer 2014 at the Commons.	Marshall High School	\$248,171	\$0	\$10,739	\$0	\$248,171	40
HS Water Conservation		Replace flush tubes, flow restrictors and diaphragms in toilets, sinks, showers and urinals to minimize water flow while maintaining required levels to expel waste and maintain sewage piping.	Marshall High School	\$28,052	\$3,313	\$1,209	\$0	\$28,052	5 - 40
HS Water Softener Replacement		Replace the existing water softener system with a new water softener with on-demand regeneration and brine recirculation.	Marshall High School	\$32,178	\$0	\$1,430	\$0	\$32,178	15
				\$3,208,315	\$30,510	\$120,310	\$22,600	\$3,208,315	
MS Building Envelope		Seal the roof/wall intersection in all applicable areas, replace door sweeps and weather stripping throughout the building to minimize air infiltration into and from the building.	Marshall Middle School	\$31,396	\$361	\$491	\$0	\$31,396	10 - 30
MS Deaeration Fans		Add deaeration fans to the gymnasium of the middle school to aid in air circulation and mixing.	Marshall Middle School	\$11,360	\$172	\$490	\$0	\$11,360	15
MS Domestic Hot Water Heater Replacement		Remove the two Bock 395 MBH domestic hot water heaters and install (2) AO Smith Cyclone HX1 120 hot water heaters.	Marshall Middle School	\$42,753	\$291	\$1,843	\$0	\$42,753	20
MS Enlarge & Replace Windows		Enlarge the existing windows to increase the size and replace with high efficient aluminum non-operational windows with new solid surface window sills.	Marshall Middle School	\$825,291	\$33	\$38,571	\$0	\$825,291	25
MS Exterior Door Replacement		Remove and replace all exterior perimeter entry doors, frames and hardware around the middle school.	Marshall Middle School	\$77,607	\$181	\$3,345	\$0	\$77,607	20
MS Exterior Lighting		Replace the existing exterior lighting including building wall packs, enhancement lighting, walkway lighting and parking lot lighting with new LED fixtures and lamps.	Marshall Middle School	\$19,139	\$295	\$825	\$300	\$18,839	15
MS Interior Lighting LED		Replace the existing fluorescent lighting throughout the school except the gymnasium with new LED fixtures and lamps. Replace the existing gymnasium fluorescent fixtures with new high efficient fluorescent fixtures with program start ballasts. Classroom lighting will have dimming capabilities.	Marshall Middle School	\$524,648	\$4,773	\$22,613	\$3,000	\$521,648	20
MS Masonry Rehabilitation		Jack-point brick veneer in applicable locations and remove and replace caulk in expansion joints. Caulk all movement and structural cracks in the brick masonry. Clean the brick masonry on the south elevation entry #5 awning. Some joints of entry #5 will be resealed with urethane caulk and painted.	Marshall Middle School	\$63,326	\$0	\$2,729	\$0	\$63,326	15
MS Mechanical Upgrades		Remove the HVAC system in its entirety (except for the boiler plant) including all air handlers, piping and controls. In areas supplied by unit ventilators, install rooftop units with VAV boxes with reheat for each zone. Perimeter radiation will be installed under each window where the unit ventilators were removed. Replace all air handling units one-for-one except for a new RTU for the office area. Install a 300 ton air cooled chilled water plant cooled to HVAC equipment in a 4-pipe configuration. Install a new control system with energy savings control strategies including occupancy based HVAC control, mixed air temperature control, and economization. Also included is a natural gas replacement boiler heater to save an electrical demand for the district.	Marshall Middle School	\$3,763,942	\$5,734	\$162,228	\$6,000	\$3,757,942	20 - 25
MS Roofing Upgrades		Tear off and remove the existing roof assembly to the metal decking, install new polyisocyanurate insulation to achieve an R-Value of 24 and replace the roof system with a hybrid built-up roof system. New pre-finished metal counterflashing, gutters and copings will be installed at all flashings, walls, perimeters and penetrations.	Marshall Middle School	\$1,105,292	\$1,066	\$47,639	\$0	\$1,105,292	30
MS Water Conservation		Replace flush tubes, flow restrictors and diaphragms in toilets, sinks, showers and urinals to minimize water flow while maintaining required levels to expel waste and maintain sewage piping.	Marshall Middle School	\$17,073	\$1,864	\$736	\$0	\$17,073	20 - 25
				\$6,481,027	\$30,800	\$178,509	\$9,300	\$6,481,027	
Phone System Upgrades		Replace the existing phone system throughout the district with new hardware and software with security alert.	Marshall High School	\$209,530	\$0	\$9,031	\$0	\$209,530	10
Vending Machine Controls		Install vending machine controls throughout the school district's eligible vending machines to help minimize energy consumption.	District Wide	\$3,289	\$1,351	\$142	\$0	\$3,289	10
				\$212,819	\$1,351	\$9,173	\$0	\$212,819	
Totals				\$11,819,774	\$49,170	\$309,410	\$41,650	\$11,748,164	

\* Since design cost, audit cost, etc. are distributed among the FIMs, the total project cost will not go up or down by exactly the amounts shown here if a FIM or FIMs are dropped.  
 \*\* For non recurring capital outlays, the values are averages over a 30 year term of life savings.  
 \*\*\* Incentives are contingent on final approval and are not guaranteed. Funds are shown for reference only.  
 \*\*\*\* Equipment durations are not guaranteed. Durations are shown for reference only.





# Table 3.1- Energy Savings Summary

Project: Marshall Public Schools  
 Scenario: PreFinal  
 Date: May 22, 2015

Facility Improvement Measures	Facility	Net Effective Guarantee Multiplier	Electricity		Natural Gas		Water		Sewer		Total **
			kWh	kWh (\$)	Therm	Therm (\$)	CCF	CCF (\$)	CCF	CCF (\$)	
ELC Boiler Replacement	Marshall Early Learning Center	90.0%	0	\$0	757	\$681	0	\$0	0	\$0	\$681
ELC Building Envelope	Marshall Early Learning Center	90.0%	0	\$0	804	\$723	0	\$0	0	\$0	\$723
ELC Exterior Lighting	Marshall Early Learning Center	90.0%	12,243	\$735	0	\$0	0	\$0	0	\$0	\$735
ELC Interior Lighting LED	Marshall Early Learning Center	88.7%	24,611	\$3,445	-286	-\$257	0	\$0	0	\$0	\$3,188
ELC Masonry & EIFS Upgrades	Marshall Early Learning Center	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
ELC Roofing Upgrades	Marshall Early Learning Center	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
ELC Water Conservation	Marshall Early Learning Center	90.0%	0	\$0	161	\$145	162	\$420	162	\$1,072	\$1,637
ES Building Envelope	Marshall Elementary	90.0%	0	\$0	1,325	\$1,134	0	\$0	0	\$0	\$1,134
ES Chiller Replacement	Marshall Elementary	90.0%	30,147	\$3,919	0	\$0	0	\$0	0	\$0	\$3,919
ES Exterior Lighting	Marshall Elementary	90.0%	20,606	\$1,248	0	\$0	0	\$0	0	\$0	\$1,248
ES Interior Lighting LED	Marshall Elementary	88.7%	74,438	\$9,677	-866	-\$736	0	\$0	0	\$0	\$8,941
ES Water Conservation	Marshall Elementary	90.0%	0	\$0	223	\$190	176	\$451	176	\$1,162	\$1,603
HS Building Envelope	Marshall High School	90.0%	0	\$0	915	\$824	0	\$0	0	\$0	\$824
HS Chiller Replacement	Marshall High School	90.0%	41,347	\$5,375	0	\$0	0	\$0	0	\$0	\$5,375
HS Controls Upgrades	Marshall High School	90.0%	64,389	\$8,371	9,400	\$8,460	0	\$0	0	\$0	\$16,830
HS Destratification Fans	Marshall High School	90.0%	550	\$71	227	\$204	0	\$0	0	\$0	\$276
HS Domestic Hot Water Heater Replacement	Marshall High School	90.0%	0	\$0	387	\$348	0	\$0	0	\$0	\$348
HS Exterior Lighting	Marshall High School	90.0%	41,866	\$2,512	0	\$0	0	\$0	0	\$0	\$2,512
HS Interior Lighting LED	Marshall High School	88.6%	73,906	\$9,608	-859	-\$773	0	\$0	0	\$0	\$8,835
HS Masonry Rehabilitation	Marshall High School	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
HS Roofing Upgrades	Marshall High School	90.0%	0	\$0	1,785	\$1,606	0	\$0	0	\$0	\$1,606
HS Wall Cladding	Marshall High School	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
HS Water Conservation	Marshall High School	90.0%	0	\$0	433	\$390	321	\$813	321	\$2,111	\$3,313
HS Water Softener Replacement	Marshall High School	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
MS Building Envelope	Marshall Middle School	90.0%	0	\$0	410	\$361	0	\$0	0	\$0	\$361
MS Destratification Fans	Marshall Middle School	90.0%	524	\$68	118	\$104	0	\$0	0	\$0	\$172
MS Domestic Hot Water Heater Replacements	Marshall Middle School	90.0%	0	\$0	331	\$291	0	\$0	0	\$0	\$291
MS Enlarge & Replace Windows	Marshall Middle School	90.0%	0	\$0	36	\$33	0	\$0	0	\$0	\$33
MS Exterior Door Replacement	Marshall Middle School	90.0%	0	\$0	206	\$181	0	\$0	0	\$0	\$181
MS Exterior Lighting	Marshall Middle School	90.0%	6,576	\$395	0	\$0	0	\$0	0	\$0	\$395
MS Interior Lighting LED	Marshall Middle School	88.6%	39,848	\$5,180	-463	-\$408	0	\$0	0	\$0	\$4,773
MS Masonry Rehabilitation	Marshall Middle School	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
MS Mechanical Upgrades	Marshall Middle School	90.0%	41,018	\$5,332	456	\$402	0	\$0	0	\$0	\$5,734
MS Roofing Upgrades	Marshall Middle School	90.0%	0	\$0	1,234	\$1,086	0	\$0	0	\$0	\$1,086
MS Water Conservation	Marshall Middle School	90.0%	0	\$0	187	\$165	180	\$502	181	\$1,190	\$1,864
Phone System Upgrades	Marshall High School	90.0%	0	\$0	0	\$0	0	\$0	0	\$0	\$0
Vending Machine Controls	Marshall High School	90.0%	10,391	\$1,351	0	\$0	0	\$0	0	\$0	\$1,351
Totals ***			482,659	\$57,287	16,933	\$15,155	839	\$2,185	840	\$5,543	\$80,170

\* The savings shown in this table are less than the calculated savings unless a guarantee multiplier of 100% is shown.

\*\* The guarantee is based on Key Performance Indicators shown in Table E4. Refer to Exhibit E of the ESP for the method of converting Key Performance Indicators to dollars during the M&V period.

\*\*\* The guarantee is based on the aggregate savings for all FIMs, not on individual FIM savings.

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