



KalisPELL School District Energy Savings Performance Project Review

Gwyn Andersen – Business Director
KalisPELL Public Schools

Brian Solan, P.E. – Montana Business Leader
Ameresco, Inc.

Overview

The Process – What is Energy Performance Contracting?

Enabling Legislation & Selection Process

Benefits/Drawbacks

Implementation – Change Orders, Local Contractors

What does a project look like?

Types of Projects, Financing, outcome.

Photos & Specifics.

Funding

Types of funding, grants, leveraged savings, etc.

Performance & Outcomes

Measurement & Verification

Phased Projects



The Process

Enabling Legislation MCA 90-4-1102 to 1114

90-4-1103. Authority to enter into energy performance contracts. (1) A governmental entity may enter into an energy performance contract. A governmental entity that enters into an energy performance contract shall do so in accordance with this part.

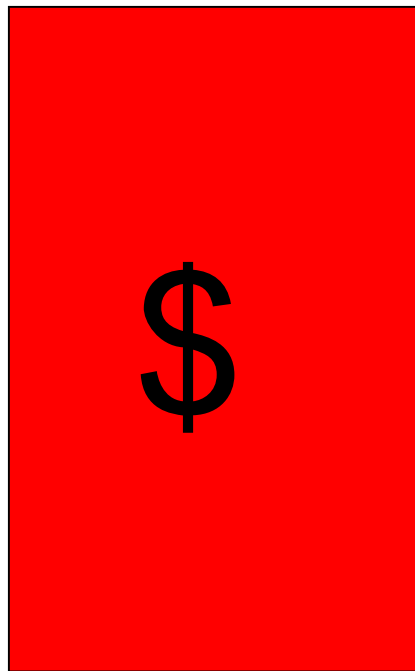
(2) Nothing in this part prevents a governmental entity from entering into a contract that is not an energy performance contract for conservation measures under any other legal authority.

90-4-1112. Selection of qualified energy service providers. (1) Before entering into an energy performance contract, a governmental entity shall solicit a request for proposals from a minimum of three qualified energy service providers. The governmental entity may award the performance contract to the qualified energy service provider determined by the governmental entity to best meet the needs of the governmental entity. The qualified energy service provider selected is not required to have submitted the proposal with the lowest cost.

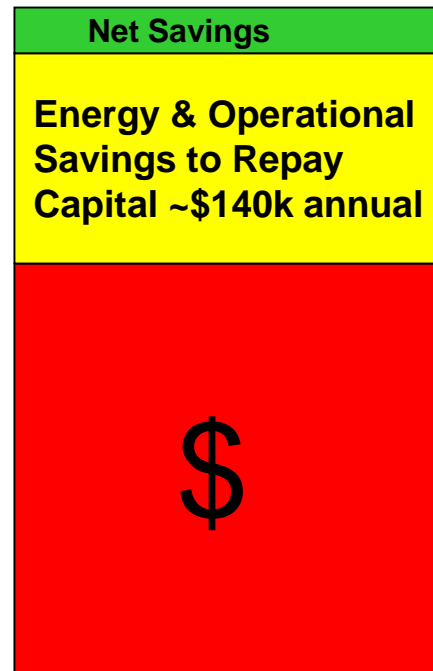


The Process – Energy Performance Contracting (EPC)

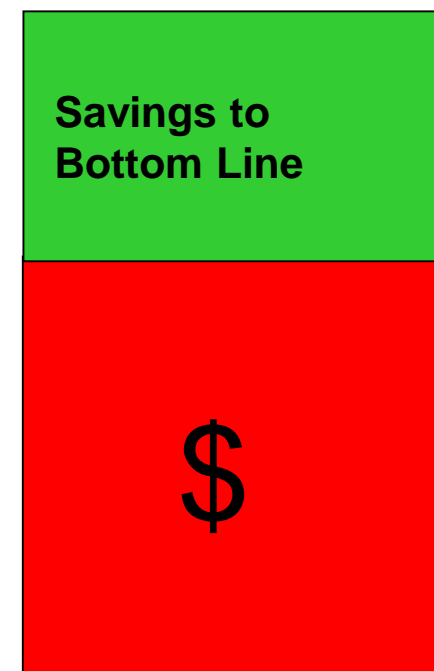
“Budget-Neutral” or “Self-funding” Project



Current Utility Costs:
Electric, Gas, Water
~\$900,000 annually



Costs *during*
Capital Repayment
Term (15 years)



Costs *after*
Capital Repayment Term



EPC Overview

Guaranteed Costs & Savings – *No Change Orders & Verified Savings*

15-Year Simple Payback Project Term – *Long Term Relationship*

Self Funding Project – *The savings pays for the financed portion of the project*

Grant Funding – *Pursue grants & rebate funding for District*

Financial – Leverage savings for further capital improvements from existing funds

Capital Projects – Prioritized with Facilities Staff



EPC Overview

Competitive Bidding Process – (3) Qualified Subcontractors per trade, but not required by statute

Local Subcontractors – 86% of Subcontractors Local on Kalispell Project

Timeline – Construction timeline can be compressed

Quality – We guarantee performance, so we install better systems

Equipment Selection – Pre-approved by Facilities staff (not lowest bid)



Engineering Focused Project Management

■ Identification of Your Needs & Goals

- ECMs = Energy Conservation Measures
- FIMs = Facility Improvement Measures

■ Pre-Design & Budgeting

- Options Analyses & Reasonable Scope Selection
- Possible Funding Sources
- (ESPC / Deferred Maintenance / Other)

■ Engineering

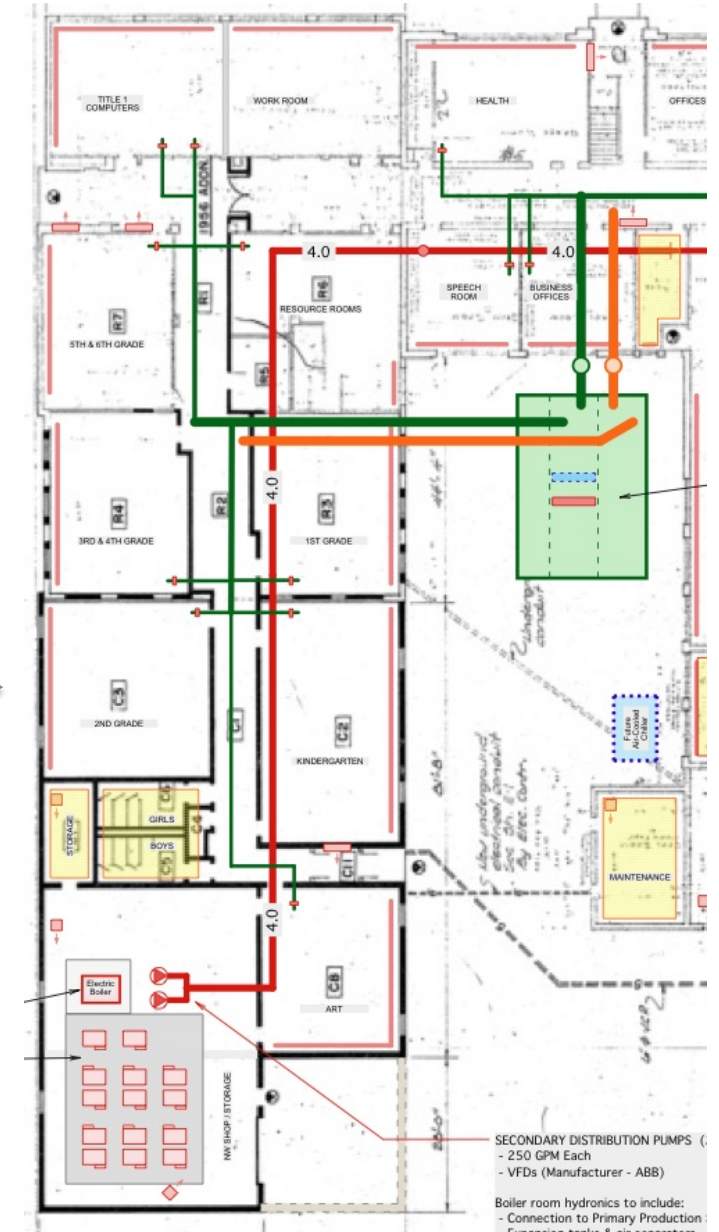
- Detailed Design for Competitive Contractor Pricing
- (As required for some funding sources)

■ Construction

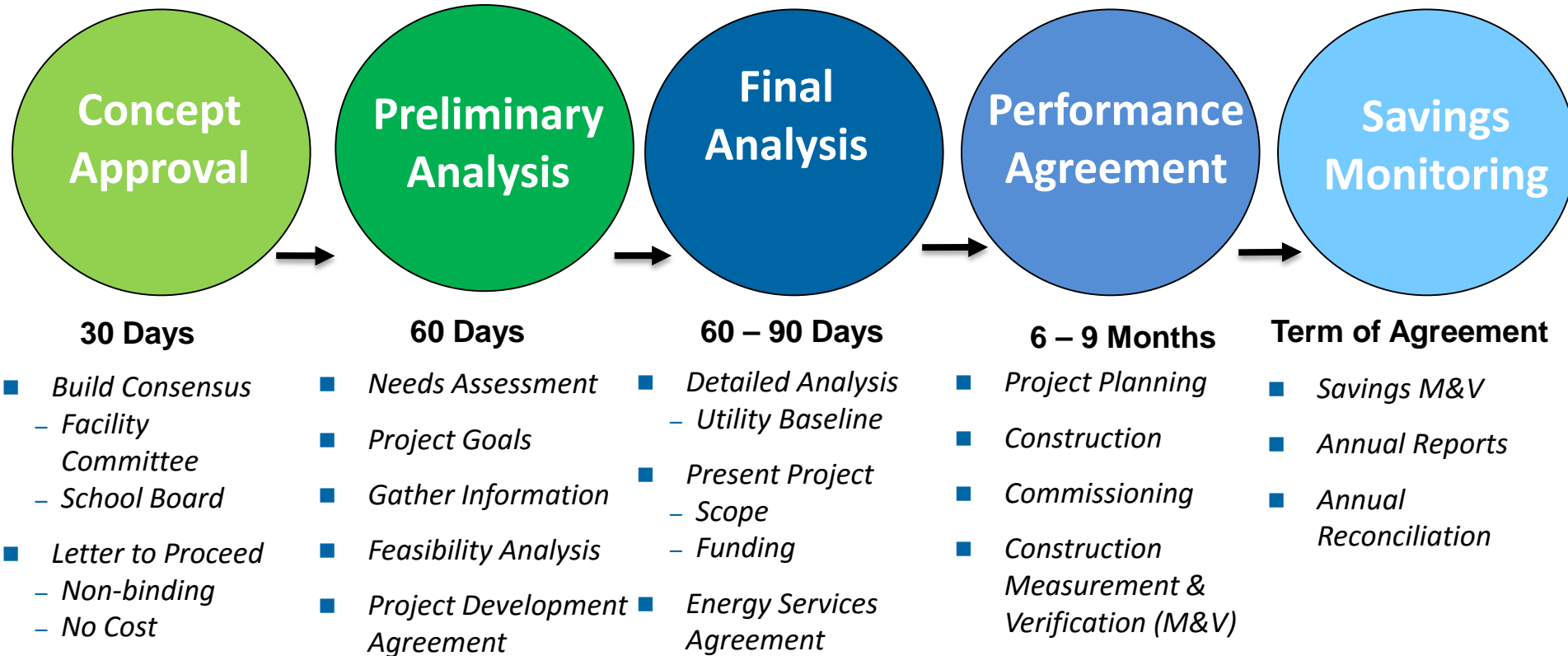
- Management & Supervision

■ Commissioning

- Startup & Testing
- Training

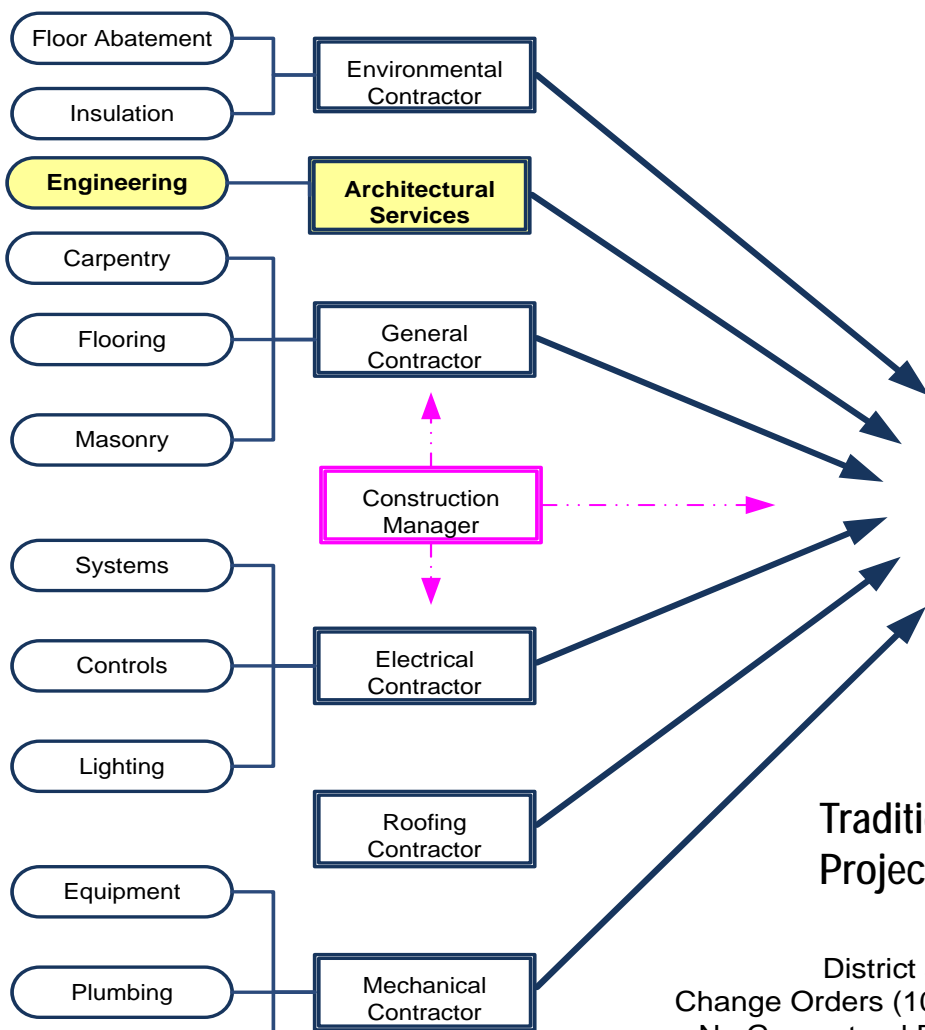


Long-Term Partnership Process from Concept through Savings Reconciliation



Streamlined Implementation – Minimizes In-House Staff Time & Quicker Results

Traditional Project



Kalispell Public Schools



Traditional Project

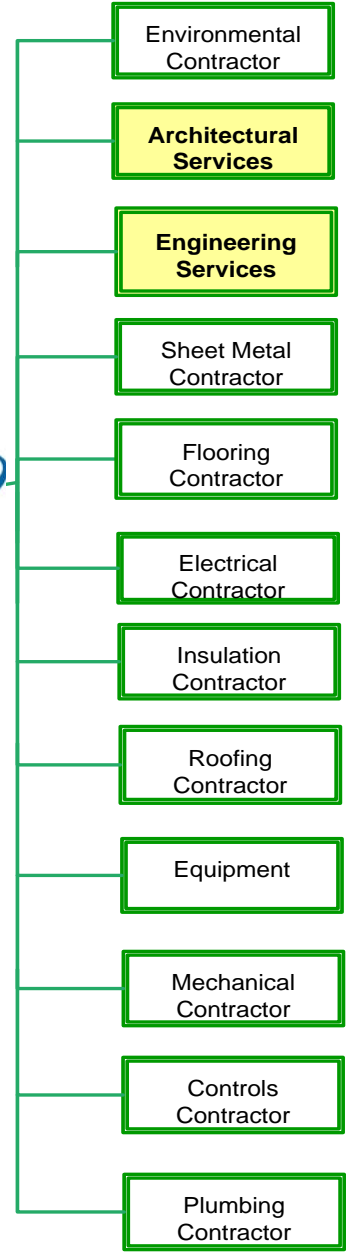
District at Risk
 Change Orders (10-20%)
 No Guaranteed Results
 Multiple District Contracts
 Low Bidders Only
 No Savings Measured/Leveraged
 Multi Layers of Mark-up (vertical)

Vs.

Energy Performance Contract

Ameresco at Risk
NO Change Orders
Guaranteed Results
One Contract
Pre-Qualified Trades
Savings Measured & Leveraged
No Layers of Mark-up (horizontal)
Can use Bond Issuance \$'s
Can use Private Financing
No Impact on Bonding Capacity
33% Faster Implementation, with significant construction cost savings*

Energy Performance Contract



* 1997 Construction Industry Institute study, in conjunction with Penn State University, 351 projects studied in 37 states

Kalispell Schools Phase 1 – EPC Project Review

TOTAL PROJECT

\$3,287,495 – Energy Savings Performance Contract

Quality Schools Grant

~30%– Quality Schools Grant – HB 15

QZAB bonds using Energy Savings (~\$116,000/year guaranteed)

~60% – QZAB's at 0% Financing

~5% Private Donation (Ameresco)

~5% District Cash



Kalispell Schools Phase 1 – EPC Project Review

Focus on Flathead High

Lighting Upgrades – All Buildings (Standardize)

Building Envelope Improvements – All Buildings

Water Fixture Retrofits – Most Buildings

Boiler System Upgrades / Replacement – Flathead High

Domestic Hot Water Upgrade – Flathead High

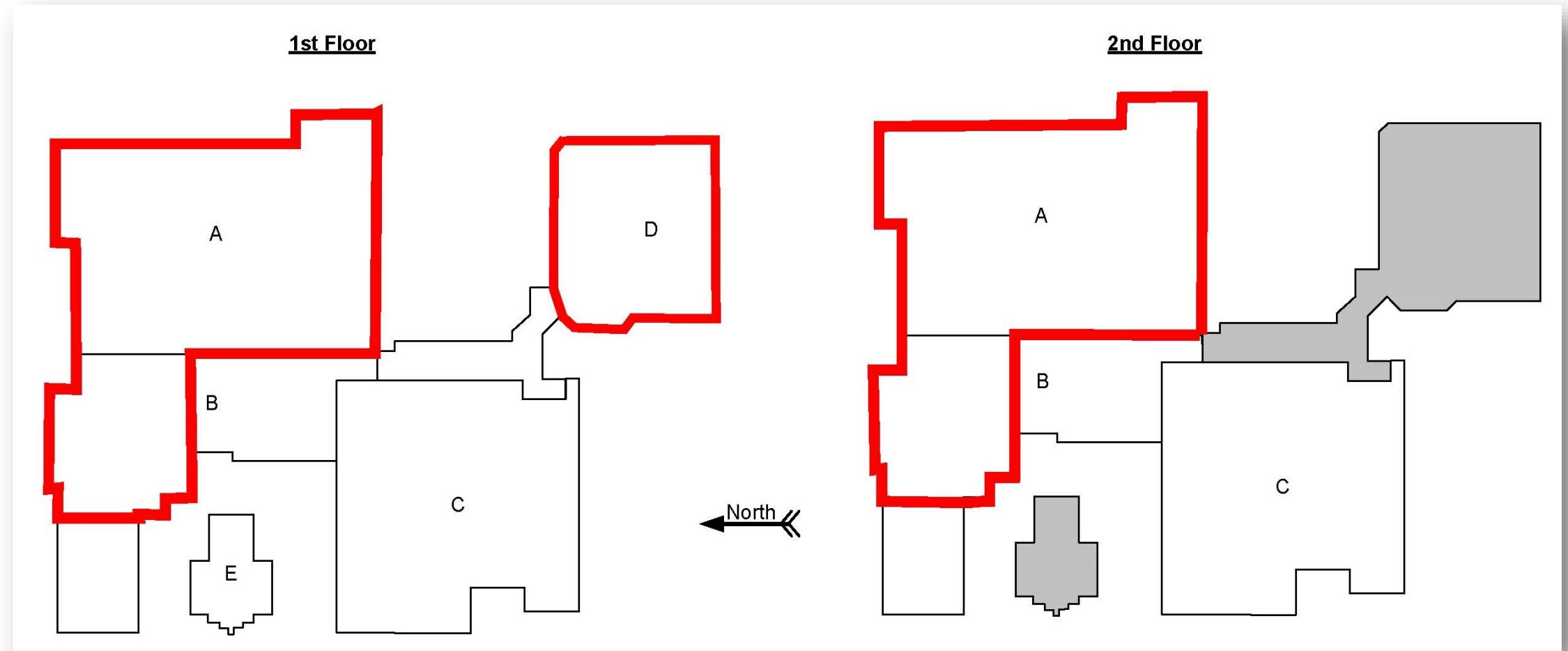
HVAC System Upgrades – Flathead High, Edgerton

Asbestos Abatement – Flathead High

New Roof – Flathead High West Annex



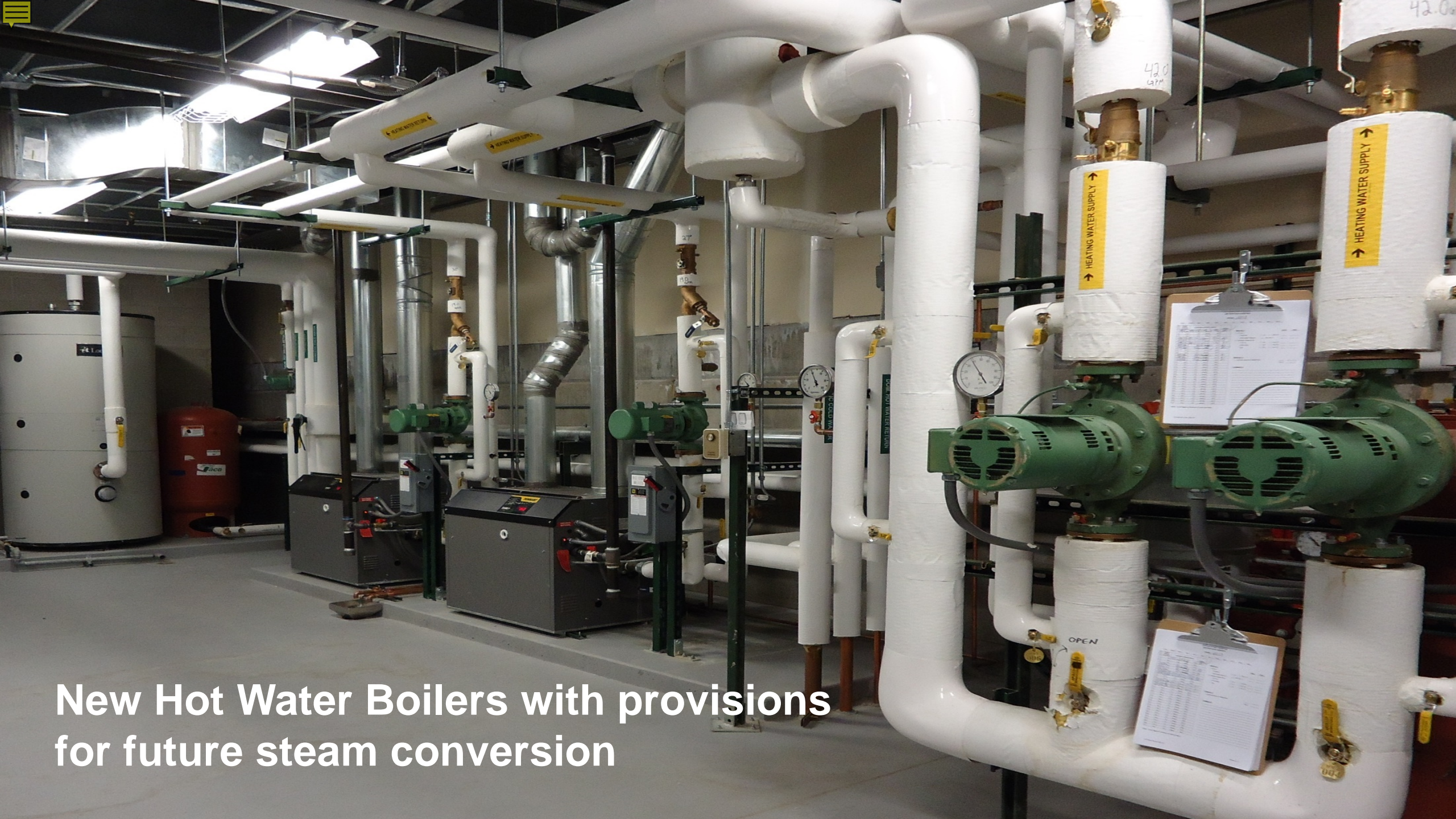
Phase 1 – Energy Savings Performance Project Review



**Upgraded ~50% of Flathead High Infrastructure
(HVAC, Boilers, Piping & Controls)**



Existing Steam Boilers

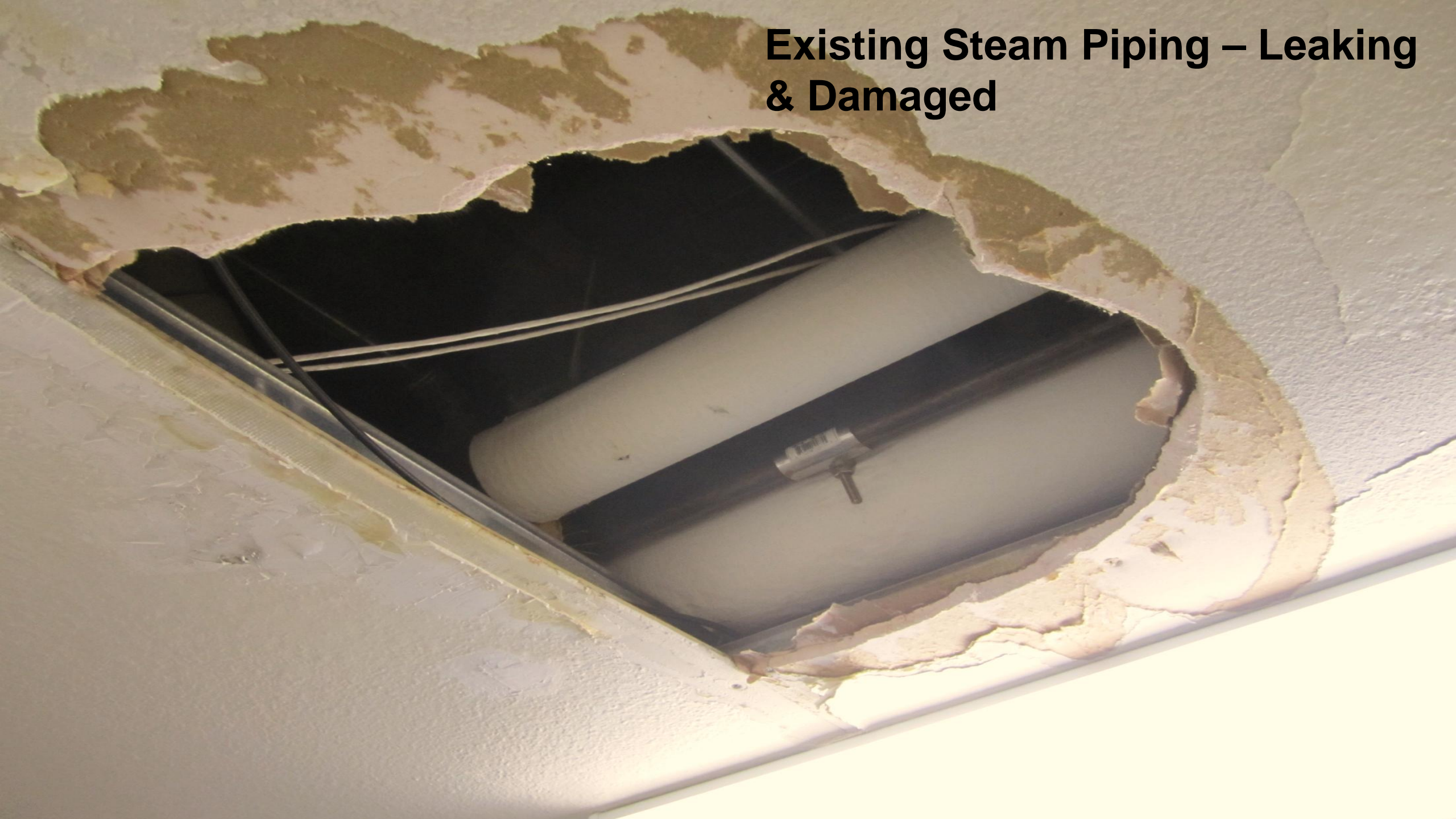


New Hot Water Boilers with provisions for future steam conversion



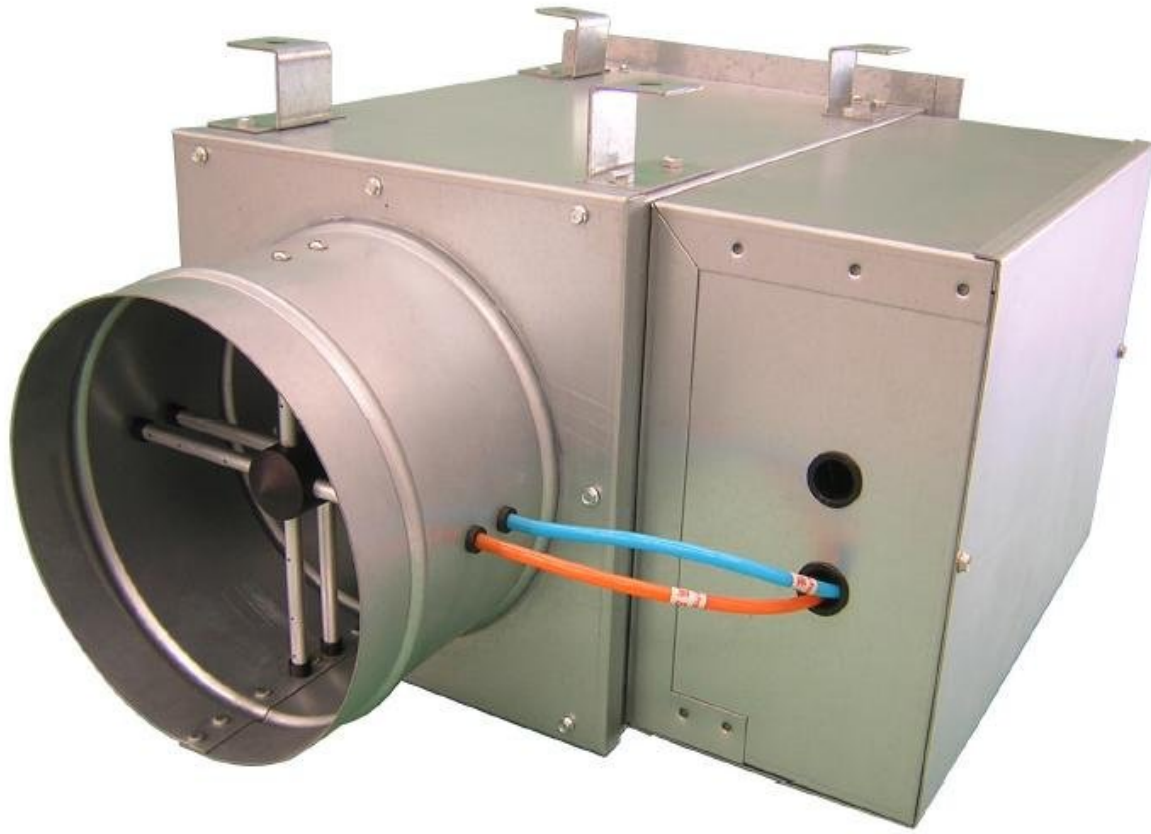
Eliminate Steam Condensate Pumps & associated Flooding issues in Fine Arts

**Existing Steam Piping – Leaking
& Damaged**



Existing Steam Piping – Leaking & Damaged





New VAV Box, Controls and Hot Water Piping



Comprehensive Project By Building

ECM #	Overall Project Savings & Costs - by ECM	Total Savings	Installed Cost
1	Flathead High School	\$61,121	\$ 2,502,651
2	Glacier High School	\$2,258	\$ 30,196
3	Kalispell Middle School	\$16,280	\$ 265,393
4	Edgerton	\$12,590	\$ 188,989
5	Hedges	\$3,683	\$ 51,824
6	Linderman	\$3,310	\$ 43,940
7	Russell	\$3,087	\$ 48,599
9	Peterson	\$3,193	\$ 41,528
10	Elrod	\$4,338	\$ 49,910
11	Vo-Ag	\$3,228	\$ 43,360
12	Administration	\$925	\$ 3,340
13	Central Supply	\$212	\$ 2,332
15	Maintenance	\$2,559	\$ 15,431
Project Totals		\$ 116,785	\$ 3,287,495



Comprehensive Project By Energy Conservation Measure

ECM #	Overall Project Savings & Costs - by ECM	Total Savings	Installed Cost
1	Lighting Upgrades - Interior	\$36,180	\$ 469,678
2	Lighting Control Upgrades - Controls	\$5,900	\$ 94,594
3	Lighting Upgrades - Exterior	\$2,128	\$ 68,239
4	Building Envelope Improvements	\$12,696	\$ 150,891
5	Water Fixture Retrofits	\$9,398	\$ 109,539
6	Domestic Hot Water Upgrade	\$5,521	\$ 20,805
7	Boiler Plant Modifications	\$11,287	\$ 745,319
10	Temperature Control System Upgrades	\$1,825	\$ 8,014
13	VAV Upgrade	\$13,473	\$ 1,285,444
15	High Efficiency Transformer Replacement	\$3,610	\$ 75,567
16	Roof Replacement & Insulation	\$750	\$ 84,378
17	Retro-Commissioning	\$14,017	\$ 175,026
Project Totals		\$ 116,785	\$ 3,287,495

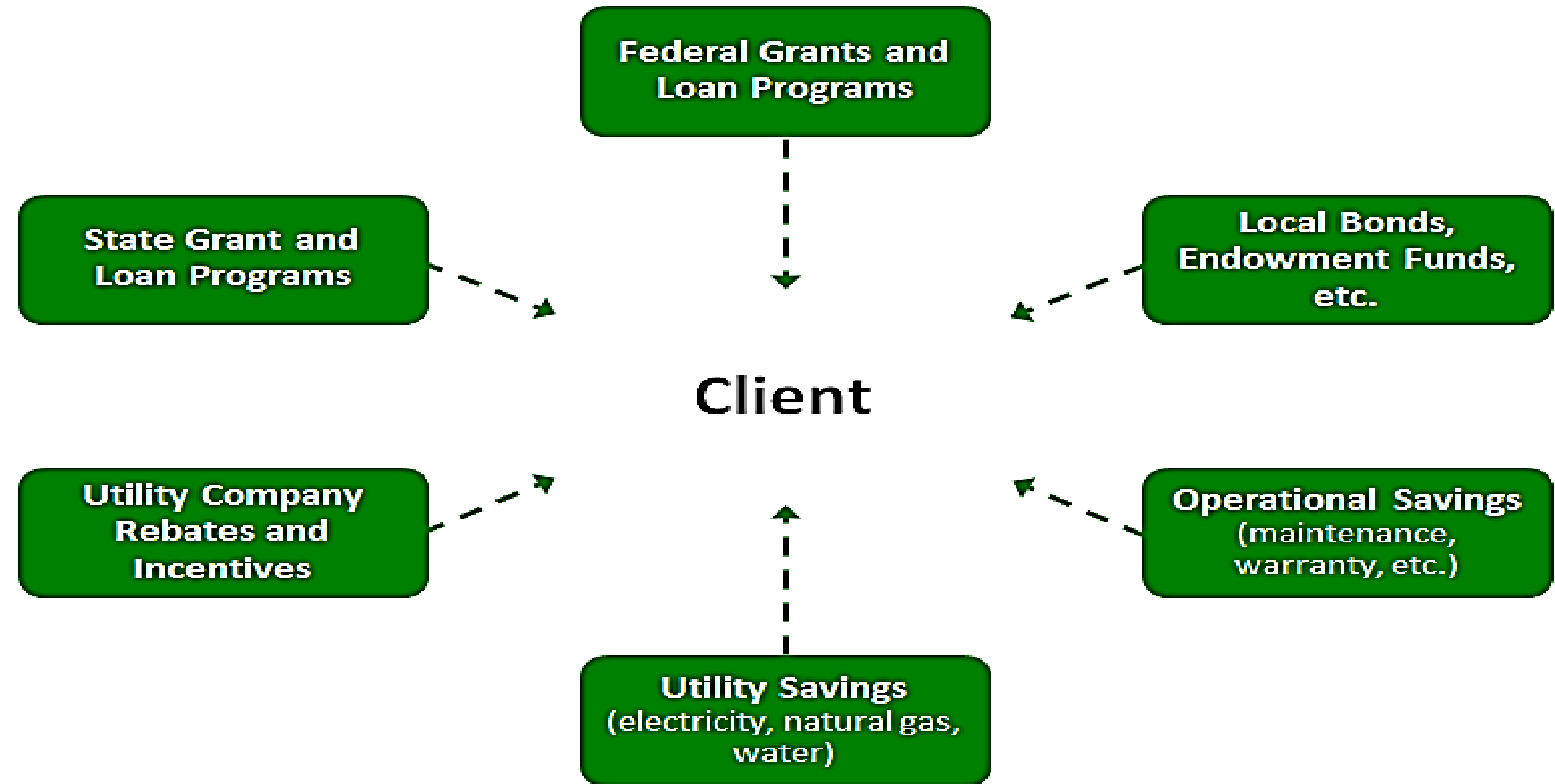


Additional Costs – No Change Orders to Kalispell Schools

Kalispell Additional Work Summary		
<i>Flathead High School</i>	Miscellaneous Lighting	\$ 1,458
	Lighting for Room 215	\$ 1,444
	Exterior Lighting	\$ 21,072
	Mechanical/Boiler Room Stairway	\$ 53,859
	Cabinet Unit Heaters/piping/asbestos removal	\$ 73,552
	Vice Principal/Teachers Room Additional Heat	\$ 24,750
<i>Kalispell Middle School</i>	Additional ballasts (dual switching)	\$ 8,173
	Miscellaneous Lighting	\$ 2,021
	Exterior Lighting	\$ 4,758
<i>Edgerton</i>	Lighting - Coridor 1	\$ 10,010
	Exterior Lighting	\$ 3,431
<i>Linderman</i>	Additional Lighting	\$ 6,064
<i>Elrod</i>	Additional Lighting	\$ 3,031
<i>Vocational Ag</i>	Additional Lighting	\$ 5,844
<i>Miscellaneous</i>	Occupancy Sensor Changes various schools	\$ 11,969
	Measurement & Verification initial testing	\$ 2,475
	Northern Industrial Asbestos Inspections	\$ 11,034
	TOTAL	\$ 244,943
	Kalispell Contract Value	\$ 3,287,495
	Extra Costs (% of contract) covered by AMERESCO	7.45%



Funding Sources



Energy Savings Project Funding Options

INTERCAP LOAN PROGRAM

- Administered By *Board of Investments*
- Variable Interest Rate – **1.55% Currently**
- Rate Re-set Annually in February
- 10 Year Average Interest Rate – **2.23%**
- Overall Average Interest Rate – **4.097%**
- Cap on Interest Rate – **16.5%**
- No Cost of Issuance
- No Pre-Payment Penalty
- Note is backed by Operation Budget & General Fund or Energy Savings
- Not subject to appropriation
- Required to have 15 years of M&V – *added burden to project*

QZAB / QSCB / QECB Bonds

- Administered By *Board of Investments*
- Limited Funds Available
- **0% Interest Rate - Potential**
- No Cost of Issuance
- No Pre-Payment Penalty
- Note is backed by Operation Budget & General Fund or Energy Savings
- Not subject to appropriation
- Required to have 15 years of M&V – *added burden to project*
- 10% Matching private contributions required for QZAB



Energy Savings Project Funding Options

TAX-EXEMPT LEASE

- Administered By *Private Lenders*
- Fixed Interest Rate
- Current Interest Rate – ~**3.25% Fixed**
- No Costs of Issuance
- Prepayment on any payment date with a Penalty of **1-2%**
- Subject to Annual Appropriation
- 3 years only Measurement & Verification required – *lessens burden to the project*
- Flexible payment schedule

Reserve / Bond Election

- Taxpayer Liability
- Ameresco provides assistance & marketing for election
- Leverage funds for energy savings performance contract

Montana Quality Schools Grant


- Administered By *Department of Commerce*
- Competitive Grant Program
- **Free Money** that can be leveraged to further fund additional capital projects through an Energy Savings Performance Contract

Utility Rebates

- Administered By Utility
- Limited Funds Available
- Electric Utility Structure currently not geared towards conservation




Funding Sources - Kalispell


**Montana
Office of Public Instruction**
 Denise Juneau, State Superintendent
 opi.mt.gov

July 24, 2013

Gwyn Andersen, Director – Business Services
 Kalispell Public Schools
 233 1st Avenue East


**Montana
Office of Public Instruction**
 Denise Juneau, State Superintendent
 opi.mt.gov

Office of Public Instruction
 P.O. Box 202501
 Helena, MT, 59620-2501
 (406) 444-3095
 (888) 231-9393

July 24, 2013

Gwyn Andersen, Director
 Kalispell Public Schools
 233 1st Avenue East
 Kalispell, MT 59901

Dear Gwyn,

We are pleased to inform you that the State of Montana has approved your request for a Quality Schools Grant (QZAB) allocation. Acceptance of this letter (December 27, 2013) is required for the allocation, please notify us of your acceptance by that date.

QZAB allocations. Bonds issued using the 2012 allocation must be issued by December 31, 2014. The total QZAB allocation is \$619,800.

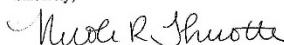
Allocation Year	Amount
2012	\$619,800

OPI receives inquiries about the projects that are financed with QZAB bonds. Please help us with these requests by providing information about your intended use of the funds.

Finally, please be aware that compliance with the federal rules and regulations pertaining to the QZAB program are the responsibility of the local education agency (LEA), which is Kalispell Elementary. OPI is not required to ensure that these rules are followed.

If you have any questions, please contact me at (406)-444-4524 or nthuotte@mt.gov.

Sincerely,


 Nicole Thuotte, School Finance Specialist
 OPI School Finance Division

**\$2,207,028
QZAB @ 0%**

has approved your request for a Quality Schools Grant (QZAB) allocation. Acceptance of this letter (December 27, 2013) is required for the allocation, please notify us of your acceptance by that date.

QZAB allocations. Bonds issued using the 2012 allocation must be issued by December 31, 2014. The total QZAB allocation is \$619,800.

Amount
\$559,200
\$1,028,028

s. Please help us with these requests by providing information about your intended use of the funds.

ns pertaining to the QZAB program are the responsibility of the local education agency (LEA), which is Kalispell Elementary. OPI is not required to ensure that these rules are followed.

nthuotte@mt.gov.

OFFICE OF THE GOVERNOR
STATE OF MONTANA

STEVE BULLOCK
GOVERNOR

JOHN WALSH
LT. GOVERNOR

September 24, 2013

Superintendent Darlene Schottle, Ed. D.
 Flathead High School District
 233 1st Ave East
 Kalispell, MT 59901


RE: Notice of Quality Schools Grant Program Award

Dear Superintendent Schottle:

On behalf of the State of Montana, I am pleased to announce its recent award of \$1,010,067 for the Quality Schools Grant Program. Projects such as this help local schools with repairs, deferred maintenance, and other capital projects. Enclosed is your grant contract for both original copies to Ms. Kelly Lynch, Development Division, P.O. Box 202501, Helena, MT 59620-2501. Do not hesitate to contact Ms. Lynch at DOCQualitySchools@mt.gov.

Again, congratulations and good luck with the project.

Sincerely,



STEVE BULLOCK
Governor

cc: Gwyn Anderson, Director of Operations and Business Services, Flathead High School District
 Brian Solan, PE, Ameresco, Inc.

**\$1,010,067
QUALITY
SCHOOLS
GRANT**

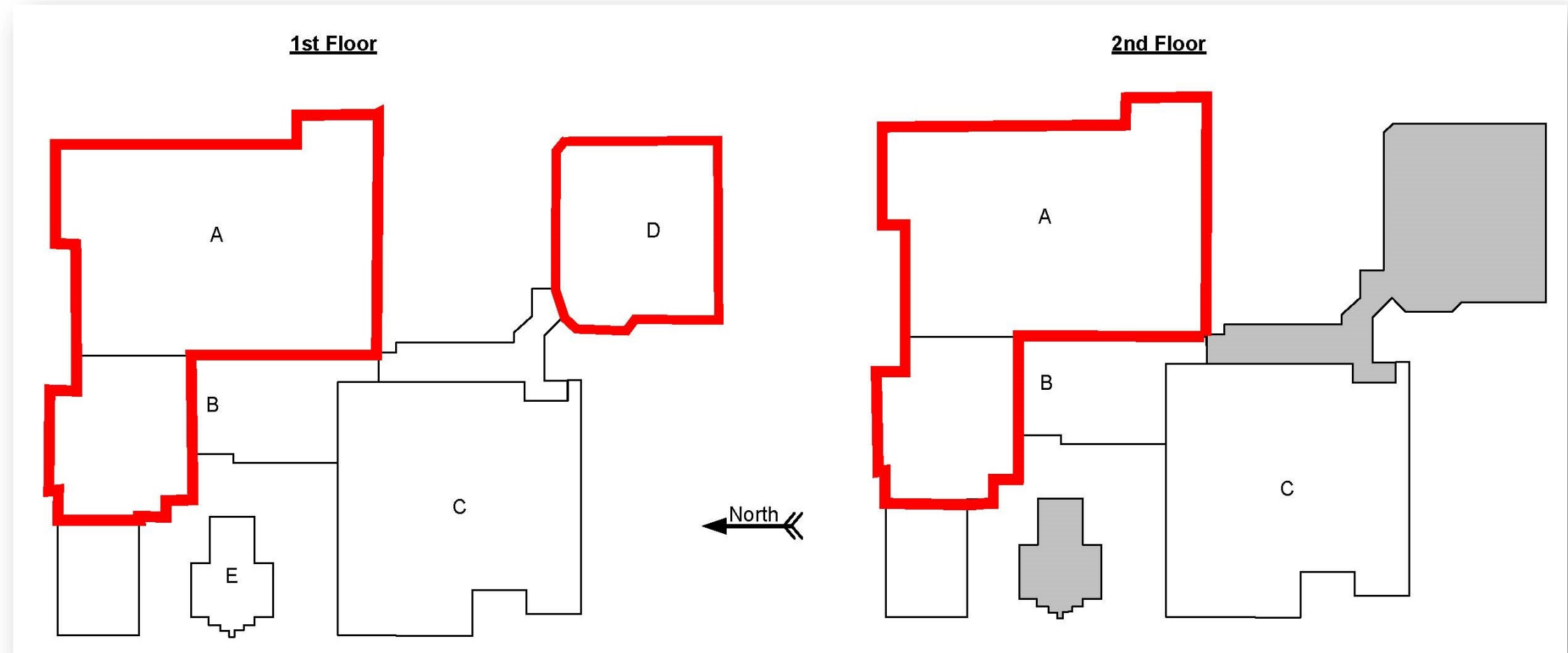


Funding Sources

- **\$1,010,067 grant = \$60,000/year in savings**
- **Leveraging the \$60,000/savings & other ECM's, the self funding project actually saved \$145,000+/year total**
- **Allowed for phased Hot Water Conversion of Flathead High**
- **The Energy Performance Contract is serving as a marketing tool to pass a bond to complete the phased upgrade of Flathead High**



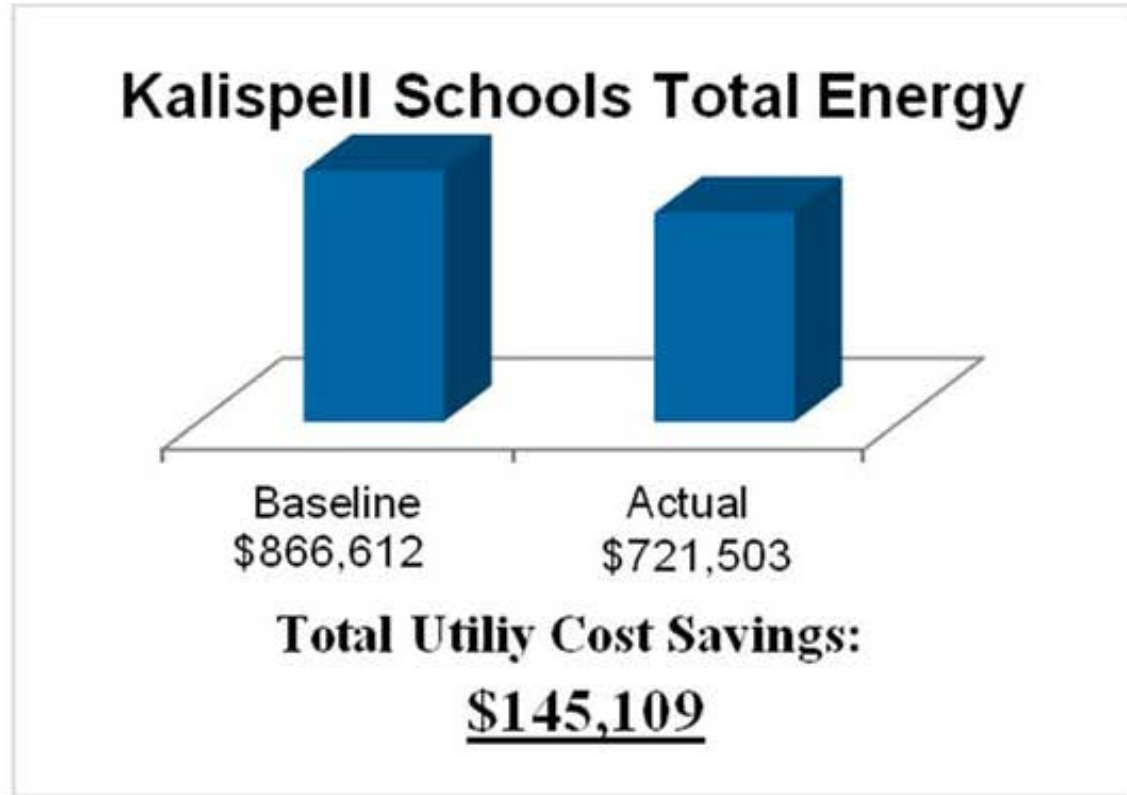
Results – Energy Savings Performance Project Review



**Upgraded ~50% of Flathead High Infrastructure
(HVAC, Boilers, Piping & Controls)**

Results – Measurement & Verification

Summary of Guaranteed and Verified Energy and Cost Savings



The EPC guaranteed a total annual utility cost savings of \$116,785.

In the absence of the EPC project, Kalispell Schools would have spent \$866,612 in utility costs during this performance period.

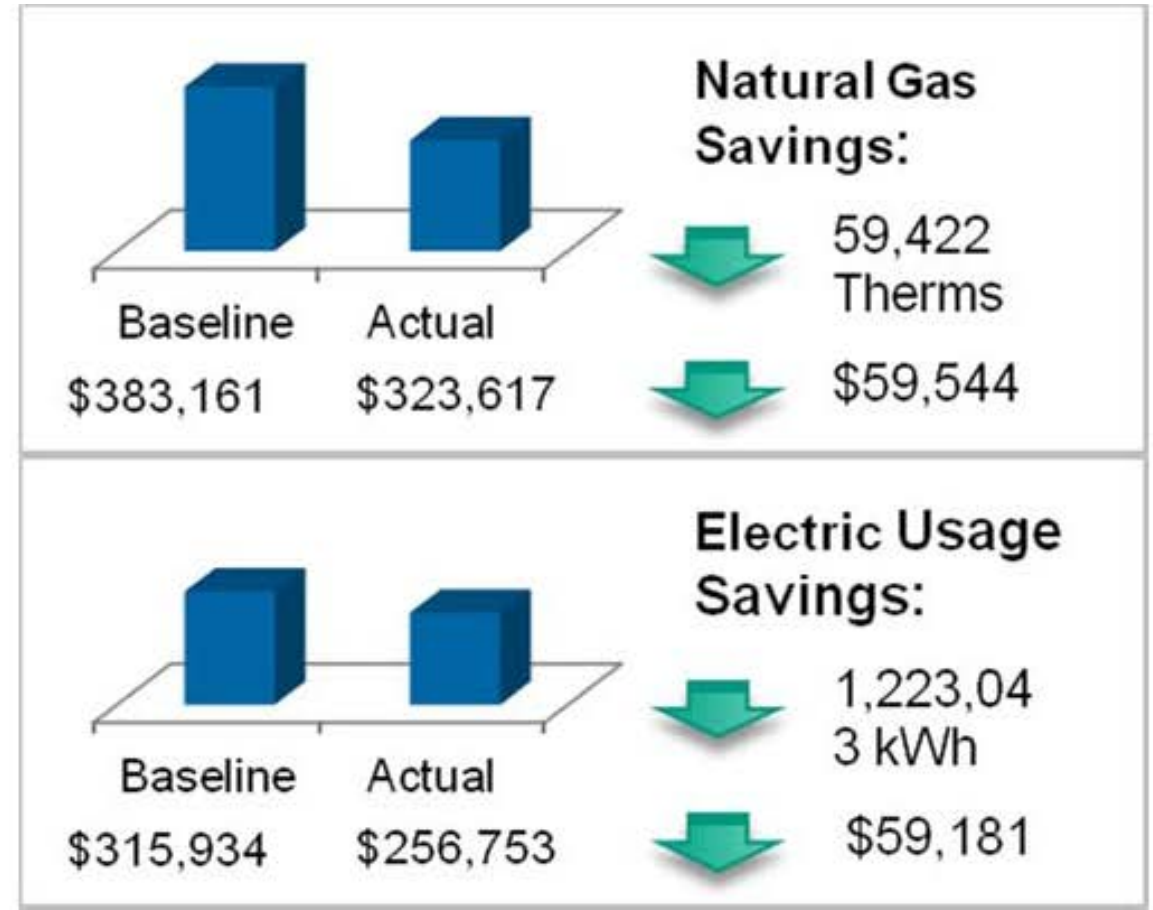
The verified utility cost expenditure during this performance period was \$721,503.

This represents a savings of \$145,109 which is \$28,324 greater than the guaranteed utility cost savings.

Results – Gas & Electric kWh

Without the EPC project, gas usage would have been 411,943 therms and would have cost \$383,161 this period. The actual gas usage for this period was 352,521 therms and the cost was \$323,617. This is a reduction of 59,422 therms and \$59,544.

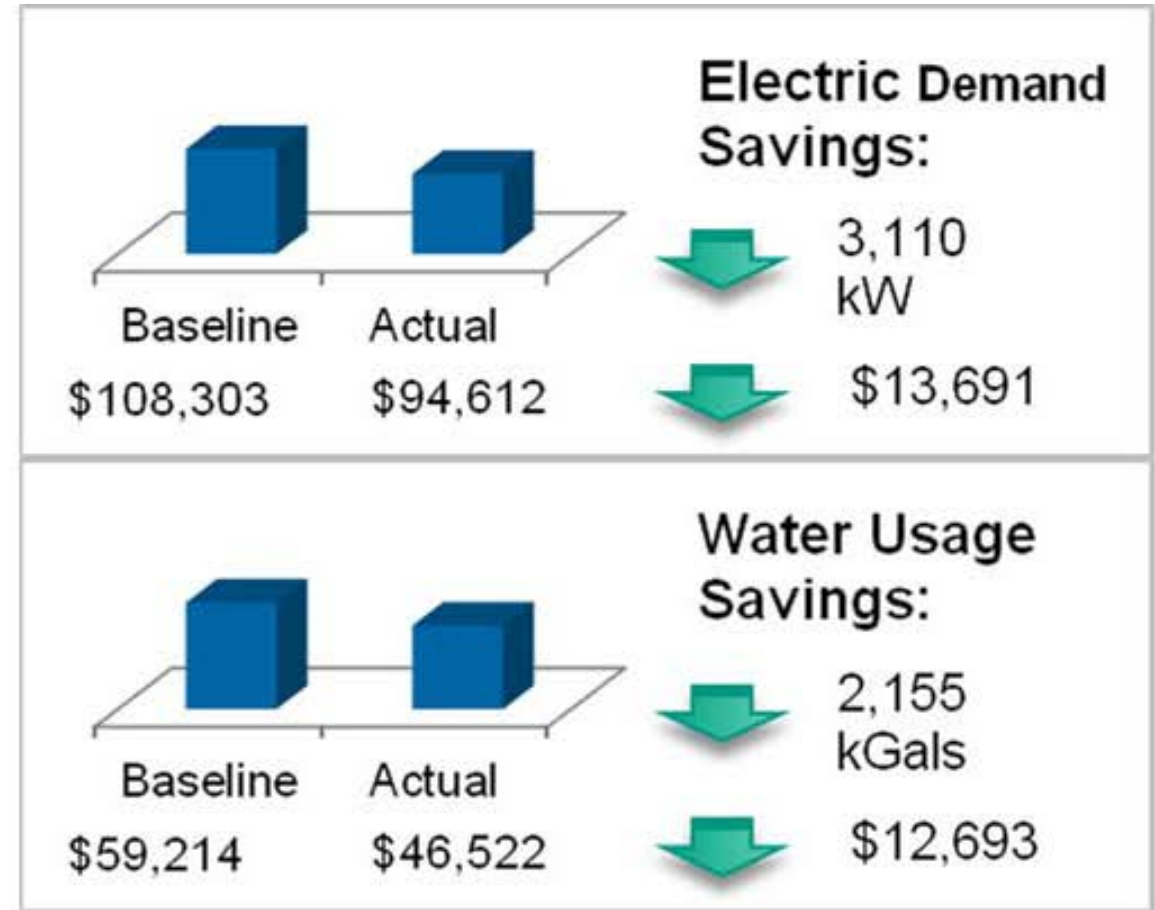
Without the EPC project, electric usage would have been 6,711,441 kWh and would have cost \$315,934 this period. The actual electric usage for this period was 5,488,398 kWh and the cost was \$256,753. This is a reduction of 1,223,043 kWh and \$59,181.



Results – Electric Demand & Water

Without the EPC project, electric demand would have been 22,809 kW and would have cost \$108,303 this period. The actual electric demand for this period was 19,698 kW and the cost was \$94,612. This is a reduction of 3,110 kW and \$13,691.

Without the EPC project, water usage would have been 10,240 kGals and would have cost \$59,214 this period. The actual water usage for this period was 8,085 kGals and the cost was \$46,522. This is a reduction of 2,155 kGals and \$12,693.





Phase 2 Energy Savings
Performance
Project Update
KalisPELL Middle School

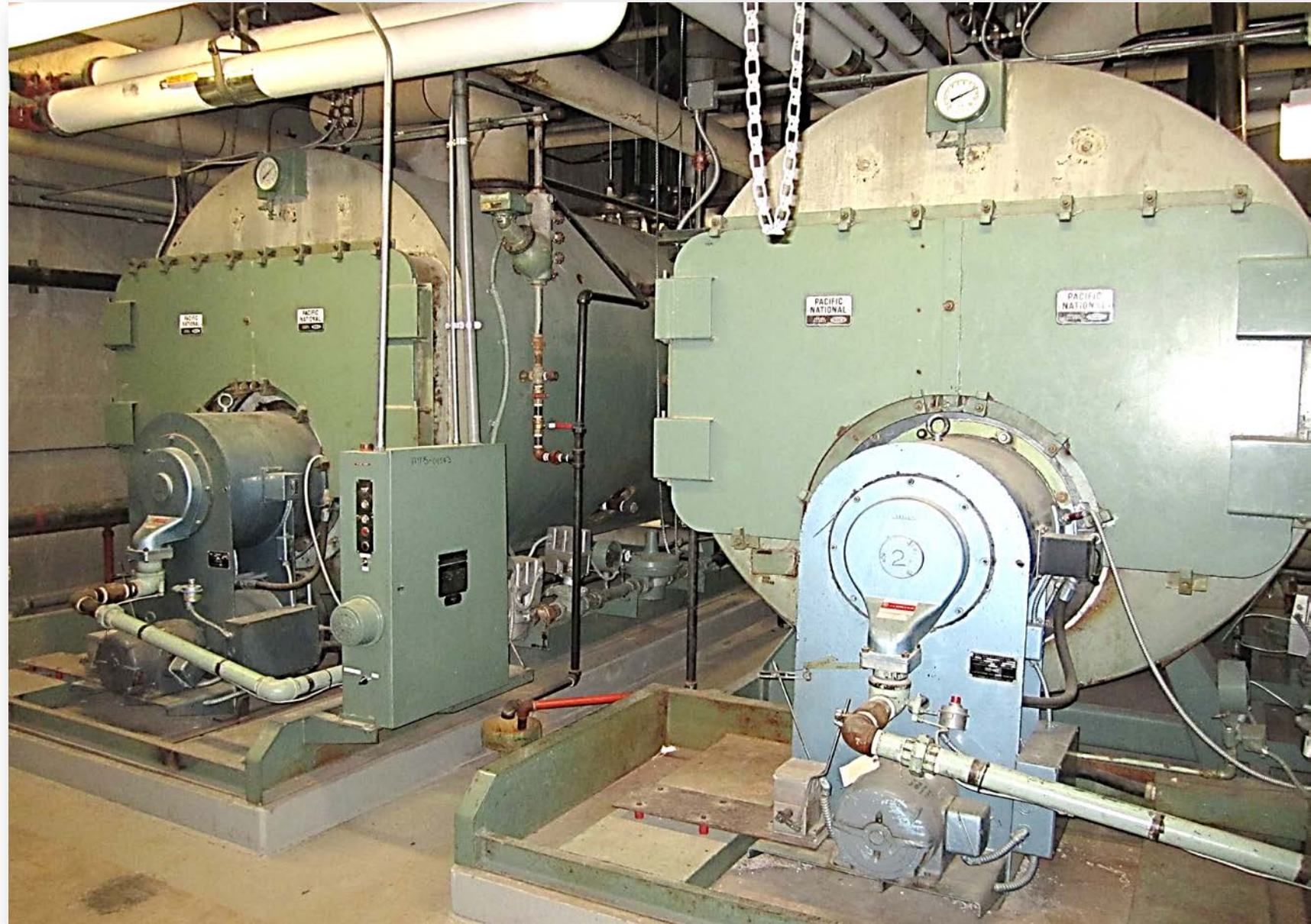
Phase 2 – Kalispell Middle School Boiler Replacement

- Boilers purchased directly and delivered in May 2016.
- Asbestos Abatement of insulation (Spring break 16')
- Control changes & Domestic Hot Water system changes through Jason
- Final Mechanical/Electrical Bid documents out to contractors January 2016.
- Schedule to be complete by 9/15/16, commissioning to extend through fall.
 - *Original Boilers and piping are 50+ years old*
 - *Noise Reduction in adjacent rooms (90+ decibel boilers)*
 - *Hot water pump replacement (4 pumps)*
 - *De-coupling of Domestic & Heating Systems (Spring/Summer/Fall operation)*
 - *Gymnasium steam coil, ventilation & pipe replacement*



Existing Systems

Original Boilers are 50+ years old (1960's)



Existing Systems

Original Pumps and Asbestos



QUESTIONS?



Your Trusted Sustainability Partner.