

**JOURNAL OF COMMISSION WORK SESSION**  
**September 6, 2016**

City Commission Work Session  
Civic Center, Gibson Room 212

Mayor Kelly presiding

**CALL TO ORDER:** 5:30 p.m.

**CITY COMMISSION MEMBERS PRESENT:** Bob Kelly, Bill Bronson, Bob Jones, Tracy Houck and Fred Burow.

**STAFF PRESENT:** City Manager; City Attorney; Directors of Fiscal Services, Library, and Planning and Community Development; Police Chief arrived at 5:45 p.m.; and, the City Clerk.

*\*\* Action Minutes of the Great Falls City Commission. Please refer to the audio/video recording of this meeting for additional detail. \*\**

**1. PUBLIC COMMENT**

There were no public comments.

**2. ENERGY PERFORMANCE CONTRACTING - MCKINSTRY**

Tom Phillips, Account Executive, reviewed and discussed the attached PowerPoint presentation that included issues and challenges facing cities like Great Falls, McKinstry's unique solution with energy performance contracting, as well as project delivery.

Karen Hedglin, Project Manager, also reviewed and discussed the attached PowerPoint presentation that included the summary of findings regarding lighting at the Civic Center, Convention Center, Theatre and Library; Parking Garage lighting as well as street lights and surface lots; Civic Center mechanical systems; Convention Center cooling; Civic Center rooftop units; Library mechanical systems and controls; water conservation and green IT.

Mayor Kelly stepped out at 6:24 p.m., and returned at 6:26 p.m.

In conclusion, Account Executive Phillips reported that the next steps may include McKinstry continuing to work with the City towards an RFQ and selection process if it's something the City thinks is viable. He seen a lot of opportunity in the City buildings/facilities that he went through. The parking garages alone are viable projects. There are items identified within the Civic Center building that can pay for themselves. Also, if there are deferred maintenance needs, he would like to collaborate to address those needs through this type of procurement method.

**3. DISCUSSION OF POTENTIAL UPCOMING WORK SESSION TOPICS**

Office renovations in the Civic Center will be discussed at the September 20<sup>th</sup> work session.

Staff is reviewing cell phone violations and statistics and will present to the Commission at a future work session.

Commissioner Bronson will inquire about funding for cell phone/healthy community behavior change public service announcements at the City-County Health Board meeting tomorrow.

**ADJOURN**

There being no further discussion, Mayor Kelly adjourned the informal work session of September 6, 2016 at 6:46 p.m.



# Great Falls

*solutions*

McKinstry | 2016

# Agenda

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- Issues & Challenges
- Solutions
- Path

# Big Issues



# Challenges for Cities

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- Aging infrastructure
- Inadequate O&M budgets
- Limited funds for needed capital improvements
- Increasing utility and operational costs
- Reluctance from public to increase taxes
- Economic Development

# Snowball Effect

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- Overpay on utility costs by 30%.
- Higher installation costs.
- Poor infrastructure can lead to businesses opting for other cities affecting tax revenue and economic development.
- Efficient use of tax funds.

# The Solution

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- Replace aging infrastructure
- Reduce O&M costs
- Reduce exposure to increasing utility costs.
- Free up capital budget dollars to contribute to economic development or other initiatives.

***Most if not all can be accomplished within your existing budget (Budget-Neutral Solution)!***



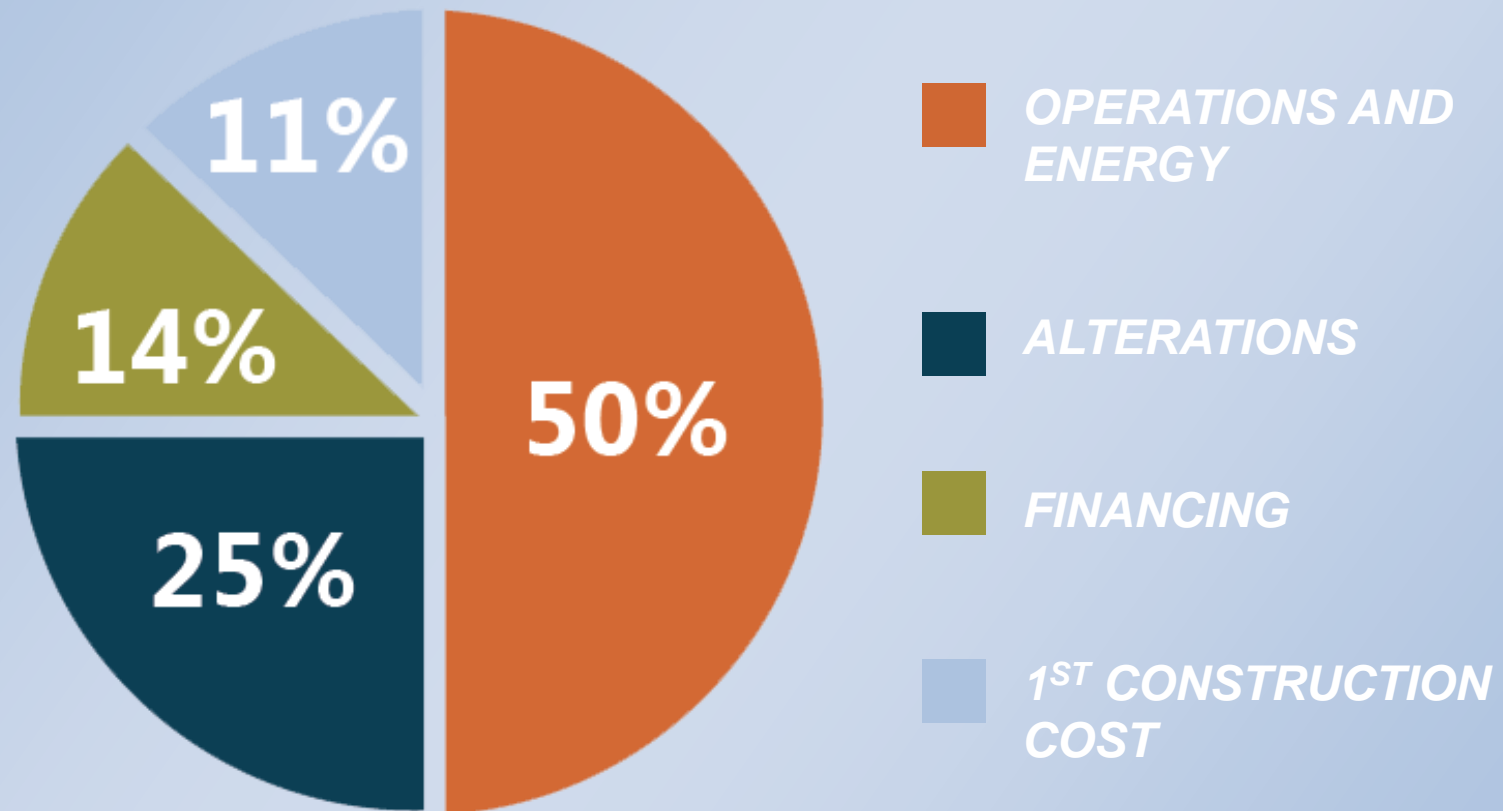
# PROCUREMENT OPTIONS - DESIGN BUILD/EPC

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## MONTANA CODE ANNOTATED (MCA)

- Design Build - DB
  - MCA 2015 Title 18-2-501 establishes and defines the Alternative Delivery (Design Build)
  - One Contract with Guaranteed Maximum Pricing – No Change Orders
  - All consultants under General Contractors Contract / Allows for bidding
  
- Energy Performance Contracting - EPC
  - MCA 2015, Title 90-4-1101 – 1114 establishes and defines the EPC program promoted by DEQ. Created Prequalified ESCOs, EPC process and Funding Options
  - One Contract with Guaranteed Maximum Pricing and Guaranteed Energy Performance – No Change Orders
  - All consultants under EPC Contractors Contract / Allows for bidding

# Facility Economics–Building Costs Over 40 Years

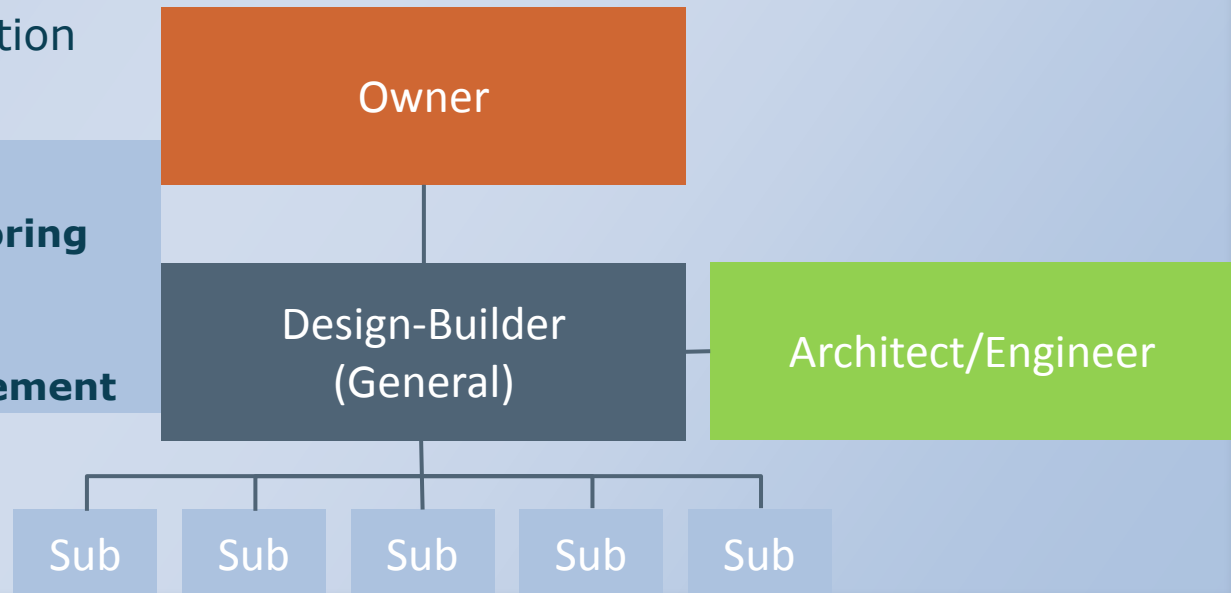


\*ASHRAE – American Society for Heating, Refrigeration & Air Conditioning

# PROJECT DELIVERY

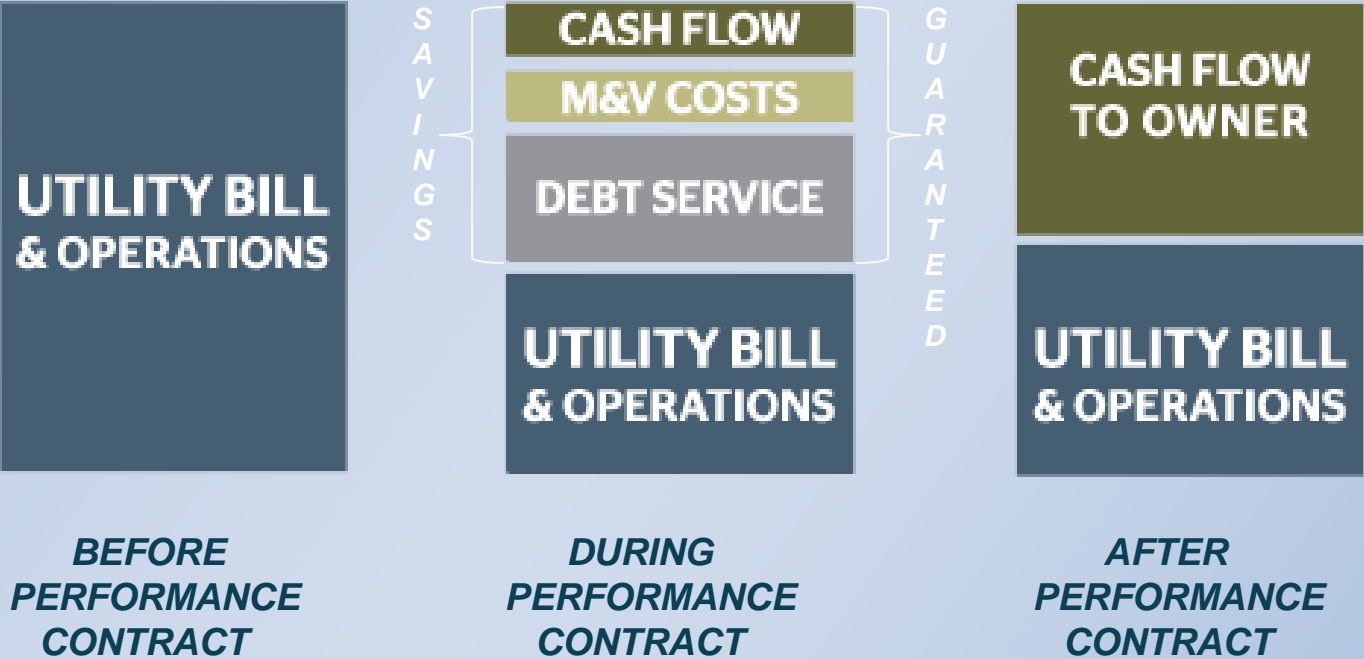
## Energy Performance Contracting

- Design and construction services contracted by single entity:
  - Single point of responsibility
- Design-builder often the GC but can be a design professional
- “Master Builder” concept
  - **Guaranteed cost**
  - **Guaranteed performance**
- Design and construction phases overlap
- **Commissioning**
  - **Continued Monitoring**
  - **Performance Verification**
  - **Warranty Management**



# Project Delivery

## McKinstry Process Continued...



# The McKinstry Solution

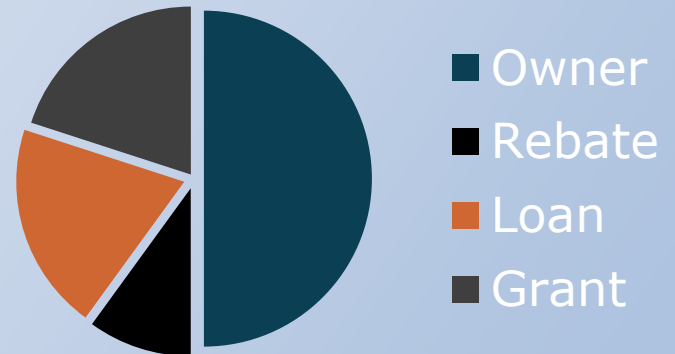
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- Guaranteed project cost.
- Guaranteed energy performance.
- Improved streamlined approach for delivery.
- Lower cost to client – No Change Orders.
- Reduced risk to client through single point of accountability.
- Stretch the given dollar & total cost of ownership reduced.
- Easier to budget and phase work.
- Sustainability focused and overall public message.

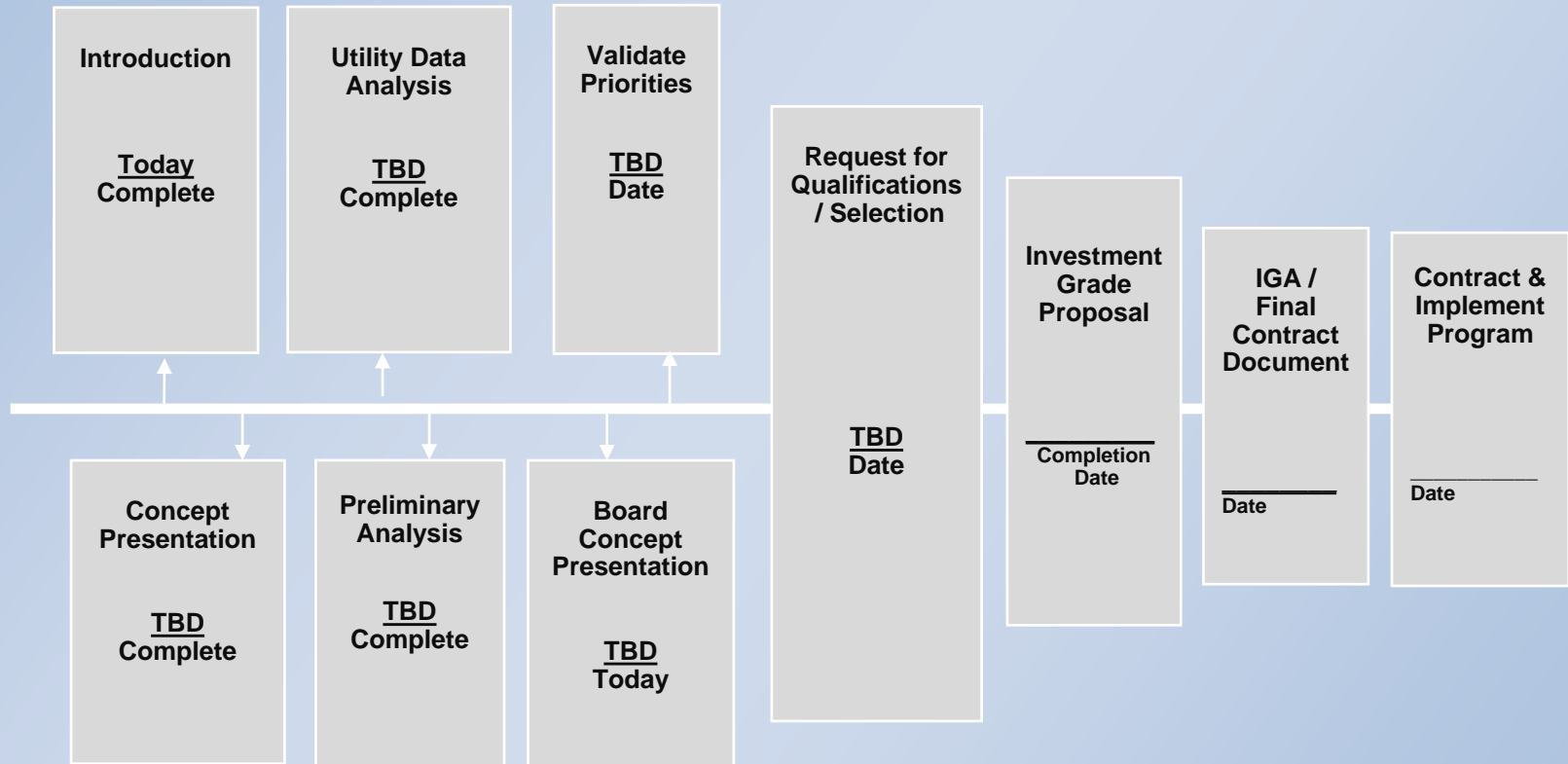
# Project Funding

- Utility Incentives
- State Grants
- Federal Grants
- Owner's Existing Funds
- Financing
  - State, Local - key is guarantee of savings. Montana Board of Investments for example.
  - Tax Exempt Lease / Municipal Lease
- Bonds & Capital Project Levies
- McKinstry Capital Support

## Funding Example



# Performance Contracting Timeline



# Summary of Findings



## Lighting

### Civic Center

- ❑ Upgrade existing lighting throughout the facility to LED being careful to preserve the historical character of the facility.

### Convention Center

- ❑ Rusted fixtures at Convention Center,
- ❑ 1000 Watts per fixture,
- ❑ Replace with LEDs and improve lighting quality, dimming and controls.

### Theatre

- ❑ 300 W incandescent lights
- ❑ Replace with LEDs

### Library

- ❑ Lighting in nearly every ceiling tile.
- ❑ T8 retrofit with LED
- ❑ Daylight harvesting, occupancy controls and removal of fixtures



# Summary of Findings



## Parking Lighting

### Parking Garage North

- Manual on/off controls, replace with programmed system
- Retrofit with LED fixtures, add dimming and occupancy sensing in existing fixture locations

### Parking Garage South

- Retrofit halogens with LEDs in existing fixture locations
- Add more lights for improved visibility

### Street Lights and Surface Lots

- Retrofit with LEDs

# Summary of Findings



## Civic Center Mechanical Systems

- ❑ Very well maintained steam boilers
- ❑ Steam pipe insulation is damaged, removed or not present in many area, especially the basement.
- ❑ Excessive overheating in turn leads to unnecessary cooling to maintain comfort
- ❑ Theater systems were recently replaced and upgraded. However facility staff was not given controls with the project requiring a service call to diagnose issues.
- ❑ Eliminate pneumatic controls and replace with direct digital controls with programmed night setbacks, consolidate multiple systems into one BAS
- ❑ Consider fire protection in file storage locations

# Summary of Findings



## Civic Center Convention Center Cooling

- ❑ Direct evaporative cooling systems are failing, ineffective, an operations and maintenance headache and potentially hazardous
- ❑ Half of systems no longer cool
- ❑ Replace direct evaporative cooling systems with DX cooling
- ❑ Add variable frequency drives to modulate fan speed (25 HP x4)
- ❑ Add to central BAS

# Summary of Findings



## Civic Center Replace Rooftop Units

- ❑ Rooftop units are nearing the end of their expected useful life
- ❑ Replace RTUs with new higher efficiency units
- ❑ Improve economizer cooling capabilities
- ❑ Consider adding heating capabilities to new units to be used during shoulder season
- ❑ Avoid starting large steam boiler plant up early. Take morning edge off which leads to overheating by the time outside temperatures heat up
- ❑ Add to central BAS

# Summary of Findings



## Library Mechanical Systems and Controls

- ❑ Eliminate pneumatic controls and replace with direct digital control with programmed night setbacks, consolidate all systems into one BAS
- ❑ Convert (2) large constant volume multi-zone systems to variable volume systems
- ❑ Add heat recovery for ventilation air
- ❑ Consider replacement of steam boiler

# Summary of Findings



## Water Conservation

- Faucet aerators, water fountains
- Low flow fixtures

## Green IT

- PC power management
- Printer rationalization
- Consider further virtualization of servers to take advantage of rebates
- Reconfigure IT server room for more efficient cooling

# Project Savings

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- The Preliminary audit identified potential savings of \$20,000 / year in lighting alone.
- \$20,000 / year = \$300,000 over 15 years
- Leverage utility savings via the Energy Performance Contracting Program.

# Qualifications

- McKinstry performs \$500–\$600 million annually in design build construction and energy services projects
- We are one of the 10 largest firms in our space nationally
- Over \$45 million in completed Design Build / EPC funded projects in Montana
- Over 100 P.E.s on staff and 4 P.E.s in Montana
- Pioneer in Design-Build-Operate-Maintain (DBOM)
- Preferred Place to Work
- Vendor Neutral
- Privately Held, No Debt





# McKinstry Montana Projects

## • MSU Phase 1 & 2

- Contract Amount: \$13,400,000
- Annual Savings: \$510,316
- Scope: Lighting, windows, irrigation, water outside air upgrades, controls, HVAC system

## • Montana City SD

- Contract Amount: \$819,000
- Annual Savings: \$16,000
- Scope: Mechanical Design / Build

## • UM University Center

- Contract Amount: \$1,615,065
- Annual Savings: \$65,179
- Scope: HVAC, Controls, Lighting, GC, hydronic insulation, roofing.
- Utility rebate = \$33,148

## • City of Bozeman

- Contract Amount: \$494,008
- Annual Savings: \$43,287 utility, \$14,465 maintenance
- Scope: City Lighting, building envelope & mechanical, controls, PC power management.

## • Great Falls School Dis.

- Contract Amount: \$8,827,261
- Annual Savings: \$316,845
- Scope: Lighting, control, boiler, IT, water, HVAC system, and outside air upgrades.

## • City of Billings

- Contract Amount: \$1,977,390
- Annual Savings: \$170,000
- Scope: Three parking garage lighting upgrades, airport building controls, VFD's, lighting, & retro-commissioning.

• Utility rebates = \$57,000

## • Butte School District #1

- Contract Amount: \$1,591,865
- Contract Type: ESPC, guaranteed savings
- Term: 15 years
- Source of Funds: \$700,000 Capital, Department of Commerce Project Grant
- List of Improvements: Boiler replacement, Direct digital controls upgrade, HVAC system, and outside air upgrades.
- Savings: \$33,373 Annually

# Other McKinstry Local Projects

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## ■ State / Local Govt.

- City of Bozeman
- City of Billings
- Montana Department of Transportation
- Department of Military Affairs

## ■ Higher Ed

- Montana State University
- Montana Tech
- University of Montana - Missoula
- University of Montana - Western
- UM College of Technology

## ■ Health Care

- Francis Mahon Deaconess Hospital, Glasgow
- Clark Fork Valley Hospital
- Dahl Memorial Healthcare Facility, Ekalaka

## • K12

- Butte School District
- Montana City School District
- Great Falls School District
- Manhattan School District
- Laurel School District
- St Regis School District
- Colstrip School District
- St. Regis School District
- Hamilton School District
- Superior School District
- Townsend School District
- Sun River School District
- Polson School District
- Simms School District
- Florence-Carlton School District
- Cascade School District

## • Private

- Stockman Bank
- Kettlehouse Brewery
- Billings Federal Court House

# Conclusion

## TAKE AWAY

### Partner

- Shared risk
- Trusted relationship

### Transparent

- Open calculations
- Local & open bidding
- Clear guarantee
- Exposed fees

### Accountable

- First-cost guarantees
- Clear oversight
- Safety focus
- Robust & thriving company
- Integrity

### Best Cost Provider

- Open costs & fees
- Same scope, best price
- Local jobs
- Most project per dollar

### Solution-Focused

- Develop project for your unique needs
- Not aligned with any product or vendor

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Questions?