



# University of Alaska

## *Facilities Maintenance and Deferred Maintenance & Renewal Overview*

House Finance Subcommittee  
February 6, 2020

# Agenda

- Introduction
- Facilities Overview & Prioritization
- Facilities Stewardship
- Budget Reduction Impacts
- Critical Deferred Maintenance (DM) Priorities

# Introduction

- Facilities Services across the University of Alaska are extensive and a unique subset of public facilities.
  - 417 facilities totaling over 8 million square feet, valued at over \$4 billion
  - Average age of UA's buildings is 34-years old
- UA's physical footprint serves academic, research, and community service focused mission priorities.
  - Facility type varies from residential housing, general offices and classrooms to complex laboratories
- Through active stewardship, UA leverages shrinking maintenance operations budgets to lengthen the service life of buildings beyond the typical age for major renewal.
- Emergency repairs are becoming more common place as major components and systems surpass their normal life-span. Resources are going toward reactive maintenance.

# Facilities Overview & Prioritization

# Statewide Footprint

Number of facilities	417
Total gross square footage	8.1 million
Average age of facilities	34 years
Value (adjusted for inflation)	\$4.2 billion
Annual maintenance budget (\$25M on-going operating funds + \$5M in possible one-time capital funds)	\$30 million
Annual maintenance long-term target (on-going operating funds)	\$60 million
Deferred maintenance/renewal & repurposing backlog	\$1.2 billion
DM/R&R backlog pay-down request (one-time capital funds)	\$50 million
DM/R&R backlog per sq ft	\$152/sf

Source: Facilities Inventory fall 2018

- *University is largest landlord in State Government*
- *Are there assets that can be closed, sold or eliminated? YES!*

# Prioritization

Facilities Council is focused on:

- Operating Cost Reductions
- Process Improvement and Automation
- Reducing Deferred Maintenance, Renewal & Replacement Backlog
- Reducing Off-Campus Leases (since 2013)
  - Net lease space reduced by 212,000 gsf
- Space Utilization Efficiencies (since 2013)
  - Owned facilities reduced by 190,000 gsf

# Prioritization (continued)


- Facilities stewardship is prioritized by the following criteria:
  - Safety, regulatory and code requirements
  - Programmatic mission requirements and student success
  - Energy and other operating cost savings opportunities
  - System or component reliability and remaining operational life
  - Modernization and Aesthetics

# Facilities Stewardship



# Terminology

- **Maintenance** – preventive maintenance and repair to keep a facility in its current condition
- **Repair** - restoration of facility components to operational conditions
- **Renewal and Replacement** Periodic Renewals - scheduled replacement or restoration of components that have exceeded their service life
- **Deferred Maintenance (DM)** – facilities renewal and replacement not performed when scheduled, thus delayed to a future period
- **Repurposing** or As Needed Alterations - renovating space to meet current needs, not part of DM

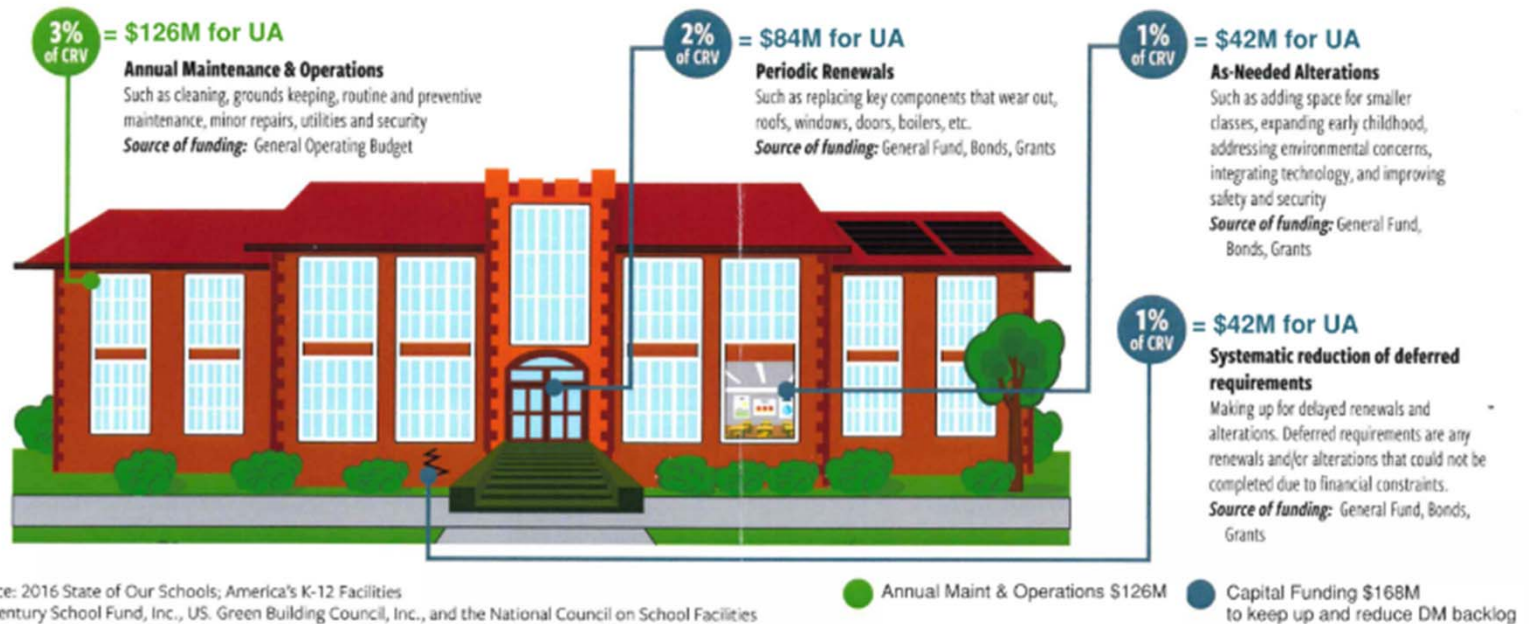
 Operating Budget - generally funded through UGF

 Capital Budget - generally funded through capital investment or General Obligation Bonds

# National Standard for Facility Investment

UA's Cost Replacement Value (CRV) is \$4.2B

The proposed national standard for annual investment is based on industry best practice. Funding at these levels should be able to deliver healthy, safe, educationally appropriate, and environmentally sustainable school buildings.



For comparison:

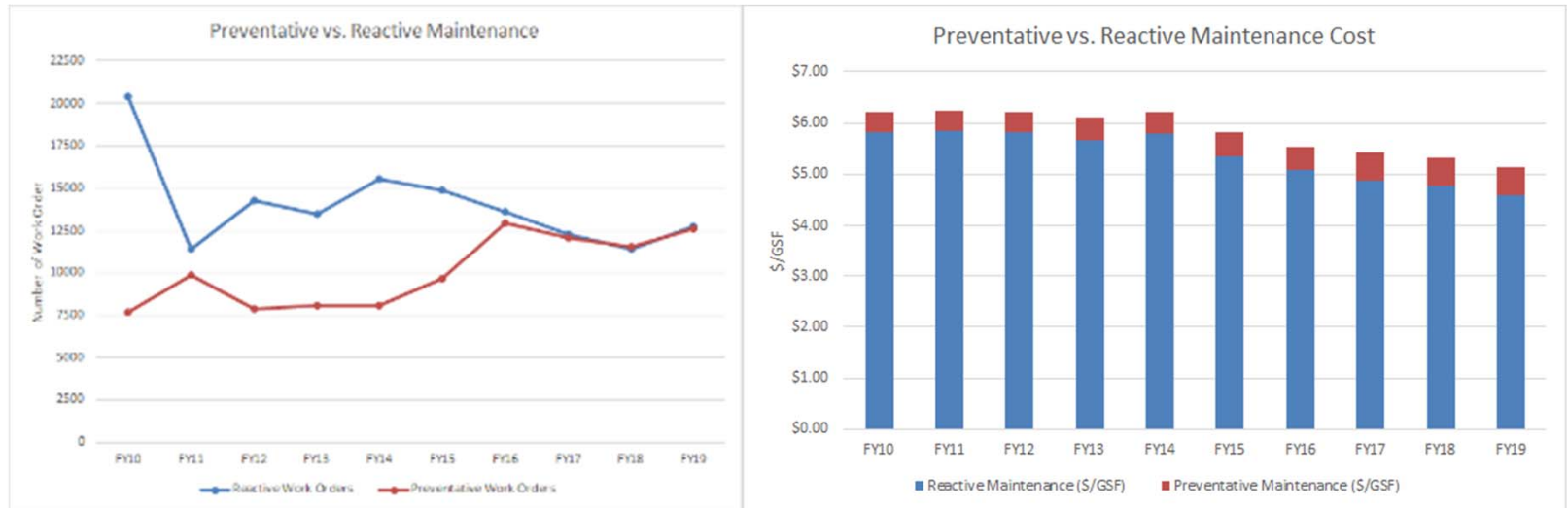
- UA's FY20 General Operating budget for Maintenance and Operations is \$121.5M of which \$25M is to pay back debt.
- UA's FY20 Capital Budget for DM and R&R is \$5M. Based on this national standard, the capital budget target should be around \$126M for DM&R.

## Average Life Cycle of Building Systems

			<div></div> Routine/Preventative Maintenance	<div></div> Capital Renewals	<div></div> Adaptations & Upgrades			
Stage 1 <1 Year	Stage 2 1 – 16 Years		Stage 3 17 – 29 Years		Stage 4 30 – 49 Years		Stage 5 50+ Years	
	Years	System	Years	System	Years	System	Years	System
	10 – 15	Fire Alarm Security Camera Exit Signs Emergency Lights Paint	17 – 20	Flooring	30	Boilers Exterior Doors Exterior Windows Main Electrical Service	50	Replace/Renewal
	15	Water Heater Flooring	20	Building Controls Interior Lighting	35	Sprinkler System		
			25	Exhaust Systems Roofing				
	Funding Sources: <div><div></div><div></div></div>		Funding Sources: <div><div></div><div></div></div>		Funding Sources: <div><div></div><div></div><div></div></div>		Funding Sources: <div><div></div><div></div><div></div></div>	

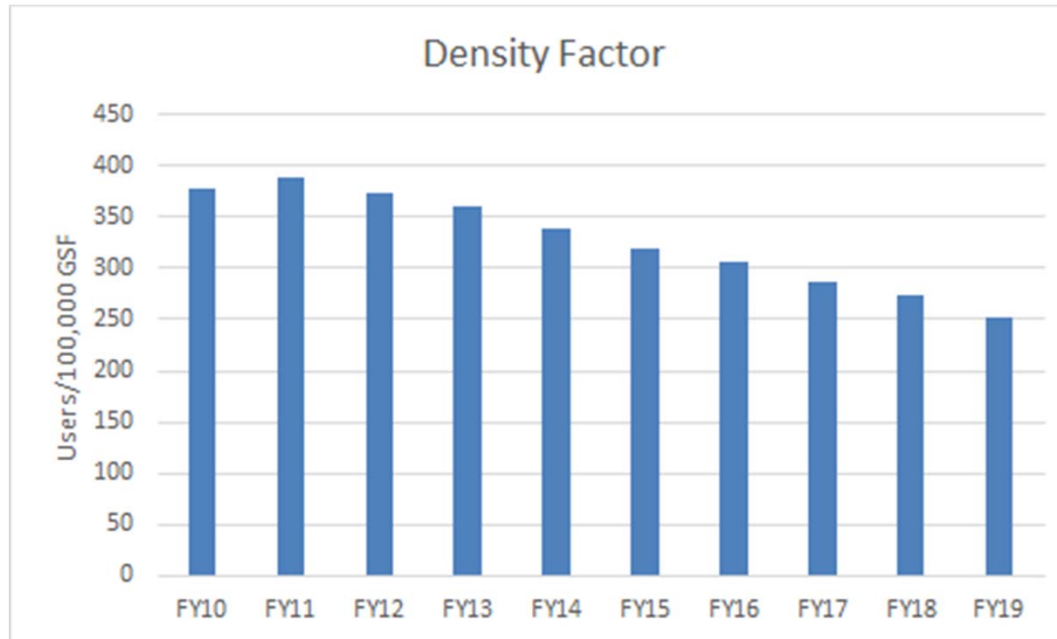
**UA Average Renovation  
Age: 34 years**

# Focus on Prevention



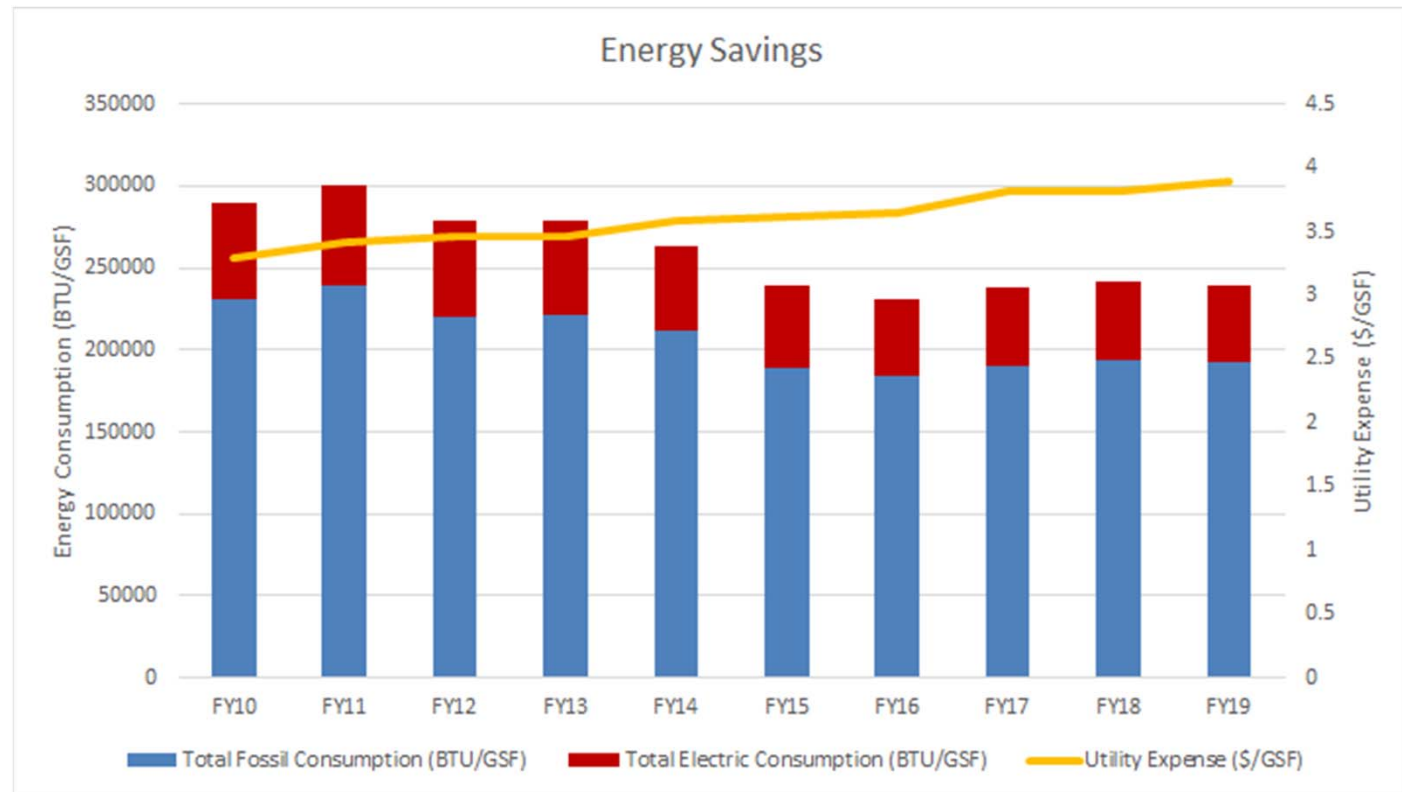
- Systemwide focus on Preventative Maintenance
  - Regular servicing of equipment
- More cost effective stewardship

# Space Utilization



- Consolidation efforts continue to be a first priority. However, the biggest impact to this metric will be increasing enrollment
- Though lower density decreases wear and tear on campus assets

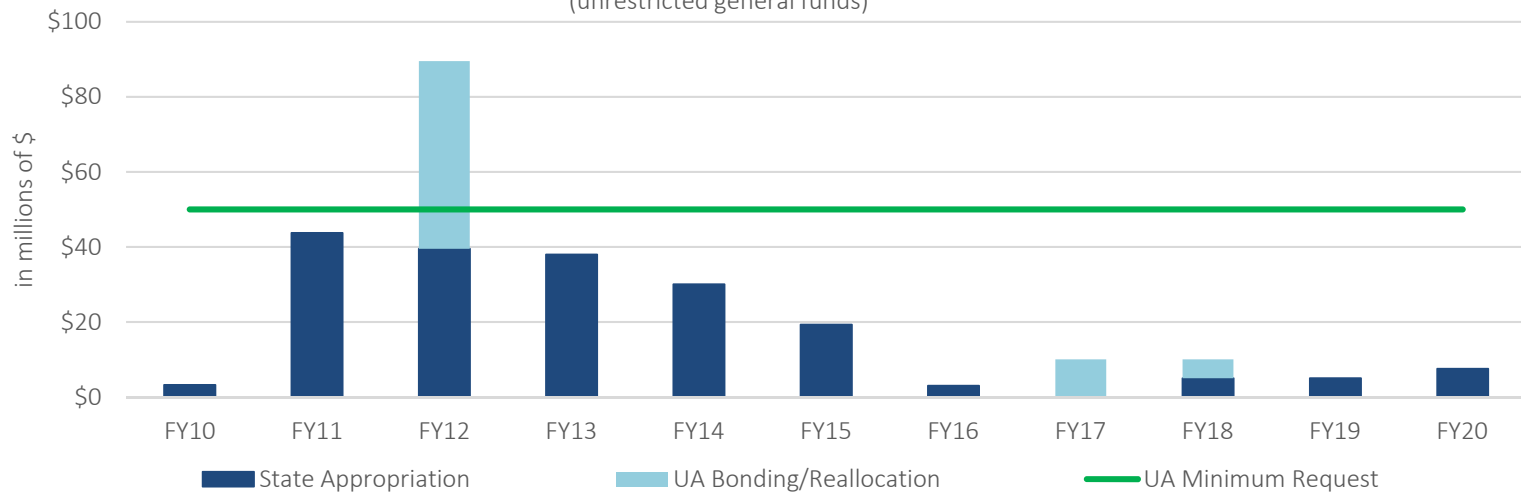
# Energy Savings



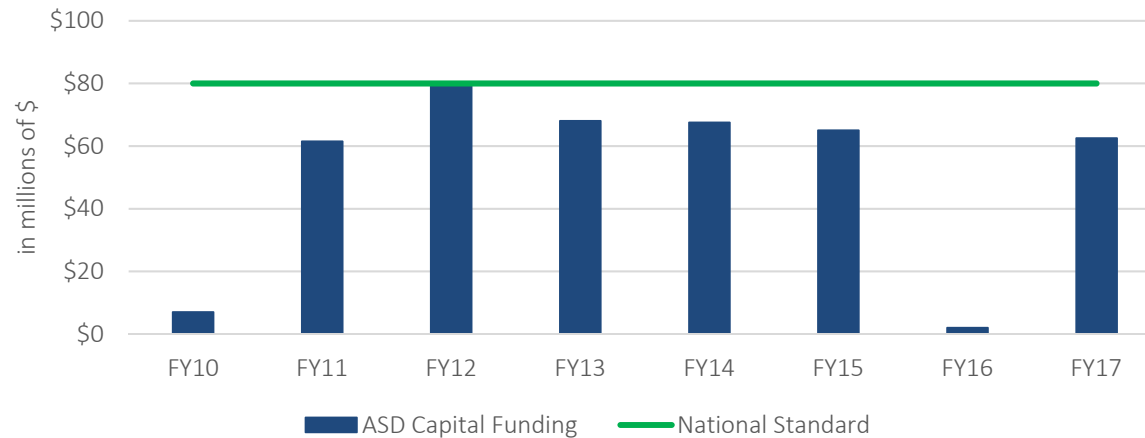
- System utility costs have increased
- Maintenance staff and timely upgrades/renovations have helped avoid the full impact

# University Capital Budget DM/R&R Funding History vs ASD Funding History

UA Capital Budget DM/R&R Funding History  
(unrestricted general funds)



ASD Capital Funding vs. National Standard  
(General Funds, Bonds, and Grants)



# Budget Reduction Impacts



# Impacts on Facilities & Students

- Impacts to students with increasing risk to emergency closures from overdue deferred maintenance past its useful life.
- Increased need to focus on reactive maintenance and preventative maintenance is being deferred.
- Higher costs for education as funding is diverted to resolve building system failures, safety, code and compliance related issues.
- Aging facilities detract from student recruitment and retention.

# Impacts on Facilities & Students



## UAA Administration Humanities Building Electrical Fire

- Full Building Closure - 11 days
- Relocated 58 classes and 70 staff/faculty

## RH Elevators Control Panel Failure

- Partial closure - relocated 5 classes
- ADA Accommodations for affected staff/students
- September 2019

## UC Air Handler Failure

- Sprinkler Pipe Freeze and Flood
- Fire Control Panel Water Damage  
Total Loss
- Fire Watch 24 -7
- January 2020

# Impacts on Facilities & Students



GHH Welding Lab Closure  
Fire Suppression Freeze January 6, 2020

## UAA Gordon Hartlieb Hall Air Handler Failure

- Fire Suppression Freeze
- Welding Lab Closure
- Replaced damaged suppression pipe, fittings, valves and replaced 25 fire suppression heads

# Impacts on Facilities & Students



## UAA Auto Diesel Technology Furnace Failure

- Deficient Ducting
- Code Deficiencies
- Reactive Maintenance taking limited resources away from critical priorities



Auto Diesel Technology Furnace Failure  
Ducting Collapsed and Separated  
May 2019

# Impacts on Facilities & Students



Rotted waste piping from  
Bartlett Hall March 2019

## UAF Bartlett Hall Restroom Plumbing

- Failures caused 4 restroom and dorm floor closures during the fall 2019 semester
- Disruptive relocations of students to other floors or temporary housing during the semester
- Repairs made but the infrastructure is past its useful life



Doors to secure research area with 1965  
lockset that cannot be re-keyed.

## UAF Fairbanks Campus Security

- Four recent lost-key incidents have caused high response cost to secure buildings
- UAF's keying system has reached the end of life and there are no longer keys/locks for a building re-key



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# Impacts on Facilities & Students



## UAS Replace old Garage Door to Ceramics Studio.

- Main suspect access point for 2018 burglary into Hendrickson Building
- Frequent entry point for students accessing building after hours

## UAS Lakeside Grill Exhaust Fan Grease Capture System Failing

- Unplanned closures effects student residential housing guests

## UAS Banfield Student Hall Elevator Failure

- Elevator equipment overheated nearly causing a fire in the building
- Elevator out of service for several months
- Some Students relocated until elevator repaired



# Critical Deferred Maintenance Priorities

# FY21 Regents Capital Budget

Unrestricted General Funds (in millions of \$)

	Regents	Governor
Facilities Deferred Maintenance/ Renewal & Replacement	\$50.0	\$0.0
USArray	\$2.5	\$2.5

A \$50.0 million state funding request for facilities deferred maintenance (DM)/renewal & replacement (R&R). Annual State capital appropriations for UA's DM/R&R activities averaged \$34 million from FY11-FY15, but has dropped to an average of \$3 million annually from FY16-FY20.

A \$2.5 million request to improve Alaska's ability to assess and prepare for earthquakes and tsunamis. Excludes \$26.5 million that may be leveraged from non-state sources.



# Highlight: Critical DM Projects



UAA Priority: Campus Safety, Security and Access FY21: \$2M

- Access Control Software Upgrade
- Keyway Control Upgrade
- Door Hardware Upgrades
- Campus Spine Upgrades

UAA Priority: Regulatory Compliance, Safety and Code Upgrades FY21: \$2M

- Electrical Safety
- Exit Signs

UAA Priority: Interior Building System Upgrades FY21: \$5.85M

- ESCO: ESH/WWA/PSB/SSB/ADM
- UAA/APU Consortium Library
- RH Infrastructure Reliability

UAA Priority: Building Envelope and Roof Replacement FY21: \$2.35M

- GHH
- Campus Spine



# Highlight: Critical DM Projects

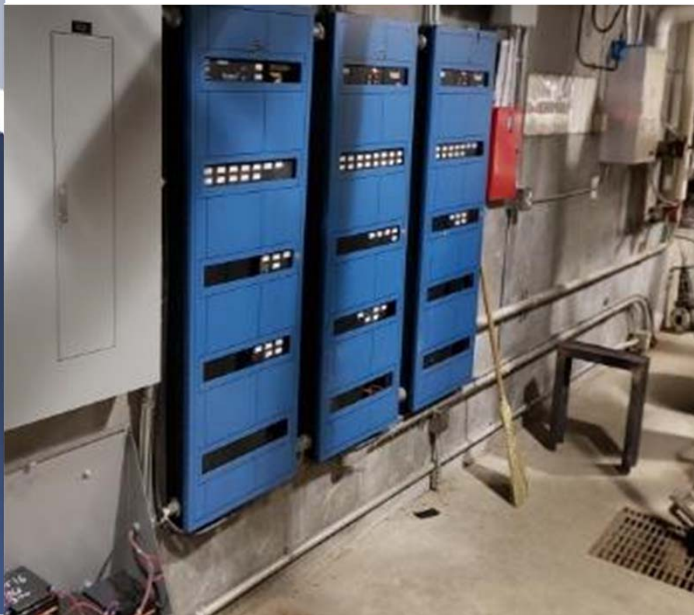


**UAF Priority: Building Interior and Systems Renewal:**  
**Bartlett Hall Plumbing Replacement, \$8.0M in FY21:**

- 320-bed undergrad housing
- Plumbing lines rotting and failing
- Project requires complete restroom renovations

**UAF Priority: Safety and Regulatory Compliance: Campus Wide Fire Alarm Replacement for End of Life, \$1M in FY21:**

- 30 fire alarm panels have reached end of life
- Control Panel parts are no longer available
- Maintaining alarm systems required for building occupancy



**UAF Priority: Building Envelope and Roof Replacement**  
**Fairbanks Campus Doors, Hardware, and Security, \$650,000 in FY21:**

- 9,000 doors secured with an outdated keying system
- UAF has a multi-year plan to purchase and install new keying system



# Highlight: Critical DM Projects



UAF Priority: Campus Wide Infrastructure and Exterior Renewal: Fairbanks Campus Sanitary and Storm Sewer Upgrades Hess to North Chandalar, Whittaker (Fire Station) and Wickersham, \$2.7M in FY21:

- Existing sanitary sewer line is severely degraded wood-stave pipe
- System has failed multiple times in the last 3 years
- Storm drains flood the sewer line



UAF Priority: Rural and Community Campus Renewal: Rural Campus Regulatory Compliance, \$2.2M in FY21:

- Fuel Tank replacement at five rural campus sites to meet EPA and ADEC regulations
- Fire alarm replacement where existing panels have reached end of life.
- Electrical panel replacement at Kuskokwim Campus



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# Highlight: Critical DM Projects



## UAS Priority: Novatney Roof Replacement: \$0.30M

- Roof is more than a decade past its warranty date
- Roof leak repairs are becoming more common
- University programs and building structure will be adversely impacted if the roof fails



## UAS Priority: Pedestrian Guardrail Replacement – Phase 2: \$0.32M

- Existing guardrail does not meet current safety codes
- Existing guardrail is expensive to maintain
- Bird droppings frequently cover the existing railing
- Phase 1 installed Stainless Steel Guardrails on about half the walkways

## 29



- Existing fuel tank is 35 years old and has reached the end of its useful life
- Existing fuel tank is single wall and is an environmental risk to the University
- New tank will be double wall with interstitial monitoring

- System self-cleaning not working
- Several Shutdowns last year
- Several repairs past couple of years
- Threatens closure of the char-grill if not replaced



# Thank You