

Key to the Future:



UAF's Security Overhaul



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Course Description

- This course offers an in-depth look into the challenges and solutions encountered during the comprehensive rekey project undertaken to enhance security and accessibility across campus.
- Participants will learn about the strategic planning, technological innovations, and operational adjustments made to successfully navigate unforeseen obstacles, including the impacts of COVID-19, and achieve project goals.
- The course aims to share valuable insights on project management, adaptive strategies, and collaborative problem-solving in a large-scale, dynamic environment.



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Learning Objectives

- Understand key system overhaul for improved security and accessibility.
- Learn project planning and execution with a focus on cost-effective solutions.
- Explore technological innovations for enhanced accountability and efficiency.
- Identify strategies for accomplishing multiple objectives with a single investment.
- Discuss adaptive strategies for overcoming unexpected challenges.
- Highlight collaboration in implementing security and efficiency enhancements.



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Hello!



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Acknowledgement

I would like to acknowledge the Alaska Native nations upon whose ancestral lands our campuses reside. In Fairbanks, our Troth Yeddha' campus is located on the ancestral lands of the Dena people of the lower Tanana River. I appreciate their legacy of stewardship.

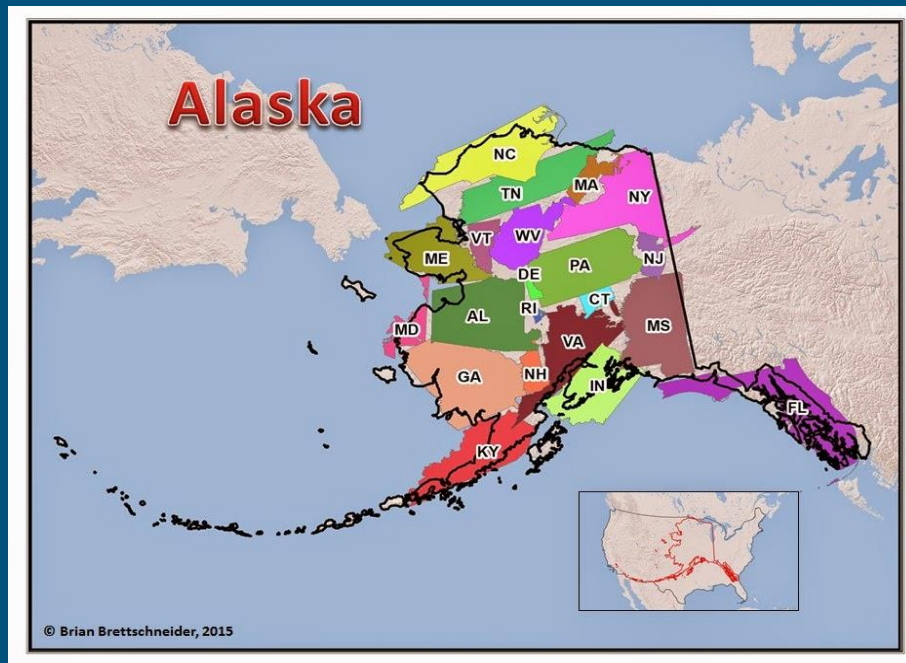
I would also like to acknowledge the indigenous nations upon whose ancestral lands we gather today.

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UA/UAF Locations

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Alaska is BIG!

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We're a little different...



UAF students "celebrating" the cold weather according to tradition.



Man walking in ice fog February 2024.



Background and Solutions



The Predicament:



- Emergency re-keys were frequent and costly,
- Security practices outdated.
- Fragmented key system compromised access control.
- Over 20 incompatible key systems.
- Maintenance costs high, hardware old, rekey & reissue, repeat.
- Accountability was deficient.
- Key management - outdated, manual, incomplete and inefficient.
- Lax security culture.
- Absence of a formal key policy.
- Master keys by default.
- A major overhaul was necessary to improve safety, accountability, and cost-effectiveness.

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Stand Up for Security!

If you agree, **STAND.**

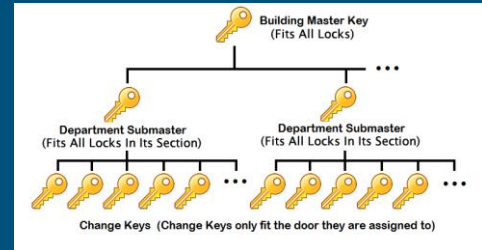
If you don't, **REMAIN SEATED.**

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Project Foundations

In Depth Assessment & Planning

- Robust, Scalable Design
- Good Key Management to Protect Investment
- What Value Can We Add?



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Goals and Envisioned Outcomes

What are we trying to accomplish?

Safety & Cost reduction!

- Complete Door/lock Survey
- Ensure ADA Compliance
- Implement Access Control Policy
- Eliminate Exterior Building Keys
- Better Management, Requests & Reporting
- Increase Accountability/Reduce Risk
- Simplify Emergency Response
- Incorporate AS/SIP Guidelines
- Meet Federal Grant Standards
- Minimize the Impact on Operations & Research

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Door Survey

A critical first step

Building #	Building Name	Total Known Doors	New Hardware				Approved	Approved	Approved	UAF Location Code	UAF
			Needed	Costs, lower, etc.	Cost?	Total					
F0001	Arctic Healthy Water Lab	300	100	35	200	100%	A	100	yes	2014	THM West
F0002	Magagnoli-Murray Building	200	20	25	140	40	A	160	yes	2010	THM West
F0009	West Ridge Research Building	352	11	0	141	11	A	304	yes	2014	THM West
F0050	DeWitts Field Station	200	50	2	260	25	A	600	yes	2014	THM Middle
F0144	Student Recreation Center	80	24	2	10	30	A	90	no	210	THM Middle
F0140	Patty Grace N. Building (Patty Center)	95	15	7	11	42	A	190	no	210	THM Middle
F0200	Casper Lane House D20	10	11	2	1	22	A	30	no	210	THM Middle
F0143	Patty Ice Arena	88	11	1	20	18	A	88	no	210	THM Middle
F0141	Loth The Commons	43	27	12	5	39	A	80	no	210	THM Middle
F0300	Charles Burnett Building	224	12	12	200	24	A	448	yes	2014	THM East
F0304	Engineering Learning and Innovation Facility	200	27	20	100	107	A	400	yes	2014	THM East
F0302	Administration Services Building	54	7	1	40	8	A	108	no	210	THM East
F0306	Faculty Research Building	45	10	6	20	16	A	90	no	210	THM East
F0303	Johnson, Jane J. Building	49	49	10	10	44	A	98	no	210	THM East
F0311	Energy Technology Test Modules	12	20	3	7	10	A	24	no	210	THM East
F0308	McIntire Building	30	25	7	12	11	A	60	no	210	THM East
F0313	Null	20	27	0	2	120	A	40	no	210	THM East
F0306	Null	2	40	0	2	60	A	4	no	210	THM East
F0318	Geophysical Institute Storage	2	1	1	0	2	A	4	no	210	THM East
F0310	Null	3	1	0	0	60	A	6	no	210	THM East
F0312	Hardware Materials Handling Facility	1	1	0	0	100	A	6	no	210	THM East
F0317	Chemical Engineering Building	8	3	0	1	37	A	16	no	210	THM East
F0315	Null	4	5	0	0	60	A	8	no	210	THM East
F0310	Null	6	5	0	0	60	A	12	no	210	THM East
F0308	Null	8	7	1	0	67	A	16	no	210	THM East
GARD HOUSE OVERSEES											
S0013	Stationary Storage	3	2	0	1	2	A	6	no	N/A	
F0005	CHWU, William A. Resources Building	175	140	32	0	175	B	350	yes	2014	THM West
F0002	Laurence Young Building for Biosciences I	250	113	12	25	130	B	500	yes	2014	THM West
F0006	Laurence Young Building for Biosciences II	90	77	13	3	90	B	180	no	210	THM West
F0010	Joseph Chapman Building	194	96	12	5	107	B	388	no	210	THM West
F0100	Reynolds, Ernest E. Library	311	129	310	67	246	B	622	yes	2014	THM East
F0003	Physical Plant	120	127	13	10	140	B	240	no	210	THM East
F0112	Fine Arts Complex (Concert Hall & Music Rooms)	139	109	23	17	82	B	238	no	210	THM East
F0111	Fine Arts Complex (Grand Hall, Theater, & K12AC)	346	30	18	20	10	B	692	no	210	THM East
F0221	University Park Building	304	75	14	15	89	B	208	no	210	THM East
F0103	Robert Memorial Building	115	86	9	20	95	B	230	no	210	THM East
F0111	Five Arts Complex (Art Gallery & Rooms)	89	10	20	10	30	B	138	no	210	THM East
F0402	Siggett Hall	83	75	3	1	78	B	166	no	210	THM East
F0305	Brooks Memorial Annex Building	96	76	15	1	91	B	182	no	210	THM East
F0304	Constitution Hall	86	12	14	40	26	B	172	no	210	THM East
MECHANICAL OFFICES											
F0003	Ervey, C. J. Building	324	240	45	31	188	C	628	yes	2014	THM West
F0114	Broadway Building	308	247	13	70	190	C	616	yes	2014	THM Middle
F0205	Wood, William R. Center	177	110	41	15	139	C	354	yes	2014	THM Middle
F0300	Henry Building	52	27	47	1	49	C	104	no	210	THM Middle
F0306	Duckering, William E. Building	406	206	110	81	146	C	612	yes	2014	THM East
F0307	Health, Risk & Security	65	25	5	24	16	C	160	no	210	THM East
F0114	Coal Lake/Carb Prep Storage (MRL)	27	20	5	7	25	C	54	no	210	THM East
F0106	Modular Building 8	3	0	0	0	60	C	6	no	N/A	
F0142	Modular Building 12	1	0	0	0	60	C	6	no	N/A	
F0007	Null	1	0	0	0	60	C	6	no	N/A	
F0107	Modular Building 9	1	0	0	0	60	C	6	no	N/A	
F0106	Modular Building 10	1	0	0	0	60	C	6	no	N/A	
F0102	Modular Building 1	4	4	0	0	60	C	6	no	N/A	
F0104	Modular Building 3	4	4	0	0	60	C	6	no	N/A	
F0103	Modular Building 5	6	5	0	1	5	C	12	no	N/A	
F0102	Modular Building 7	8	5	0	1	5	C	20	no	N/A	
F0103	Modular Building 11	2	0	0	0	60	C	4	no	N/A	
F0103	Modular Building 1	2	0	0	0	60	C	4	no	N/A	
F0103	Modular Building 2	2	0	0	0	60	C	4	no	N/A	

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How Many Doors?

What is your guess?

- 68 (50 Major) UAF buildings
- ? locking doors
- ? require hardware upgrades
- ? fire-rated doors
- ? card readers

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How Many Doors?

answers

- 68 (50 Major) UAF buildings
- 7,784 locking doors
- 4,250 require hardware upgrades
- 2,038 fire-rated doors
- 986 card readers

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That's a LOT of hardware!



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Access Control Policy Highlights

Make it timeless & adaptable

- Approach
- Fees
- Integrate keys & cards
- Responsibility definition & shift
- Request and audit processes
- 2 years to “final”

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System Design

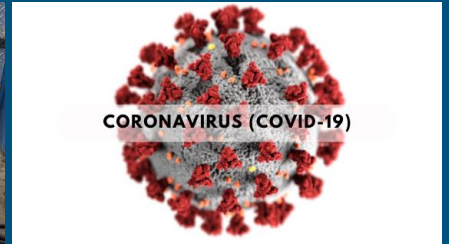
flexible and resilient

7-pin registered & patented
Simple hierarchy
Smaller emergency keyrings



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Challenges



Asbestos

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Innovative Solutions

Any ideas what this is?

What problem does the pictured part solve?

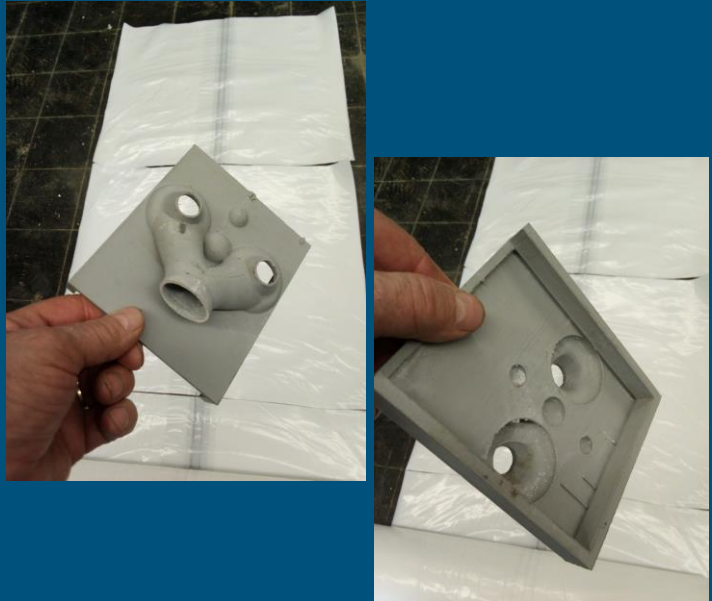


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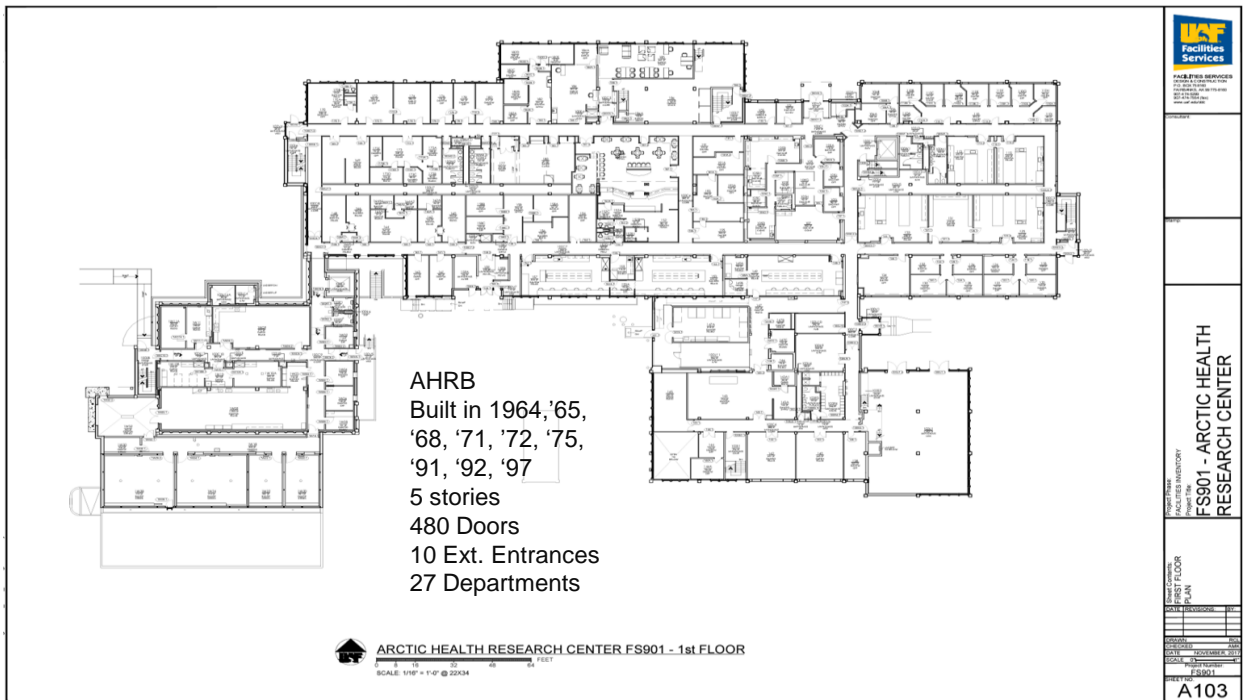
Innovative Solutions

A custom designed and printed asbestos abatement jig for drilling fire-rated doors with asbestos.

Removes the necessity to fully prep and abate every ACM door!



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Costs

So, how much does it cost to do all of this?

We planned to spread the cost over 5 years and complete the rekey within 3 years.

\$5 Million

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Specific Initiatives

Things we did on purpose!

EASIER! Online Request system

Access Approving Authority (AAA)
Training course

Electronic Key Control Boxes

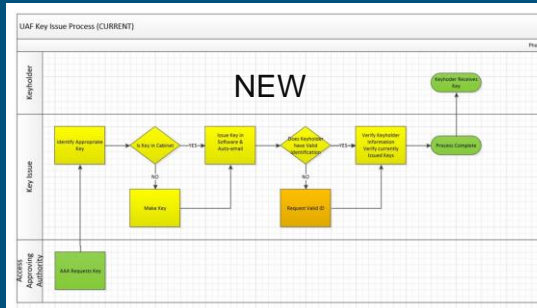
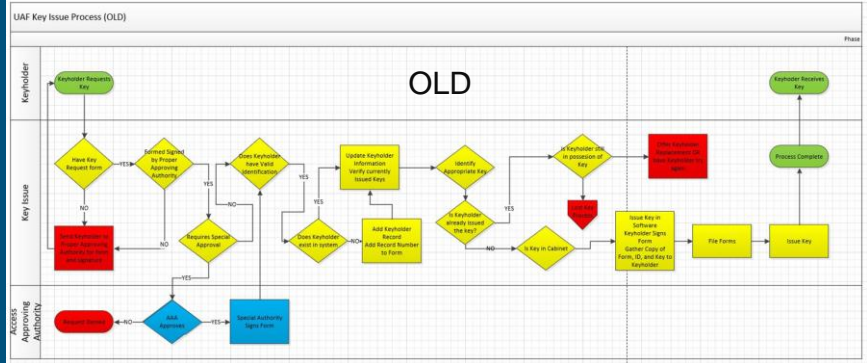
Streamline Knox Boxes

Expand card access whenever
affordable

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EASIER Key Issue Process

limited approval areas



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AAA Training Course

Comprehensive Course

- Vocabulary
- Policy
- Responsibilities
- Access Evaluation
- Parameters & Processes



Access Approval Questions

Are you the appropriate Access Approving Authority for the requested space? I.e. you have been designated to approve access for this space.	Yes	No
Does the requestor have a valid business reason to need access to this space? I.e. they require access to these rooms to perform work for UAF.	Yes	No
Have you made the Requestor aware of any safety concerns or additional precautions/training that may pertain to accessing this space? I.e. hazardous materials, special procedures, prior notifications, lab safety training, etc.	Yes	No
Is the requestor aware of all the keyholder responsibilities for this access? These are detailed in UAF Access Control Policy .	Yes	No
Is the requestor aware of the financial responsibility they are committing themselves and your department to if they were to lose keys accessing the requested spaces?	Yes	No

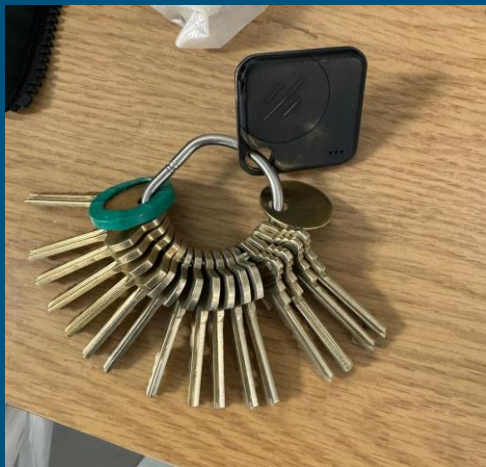
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Electronic Key Control Boxes



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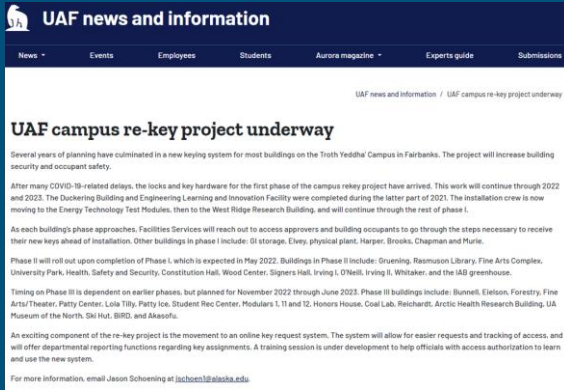
Building Key Rings Before and After Streamlining Knox boxes and simplifying access



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Communication & Collaboration

"If you get locked out, talk to the lock calmly. Communication is the key!"

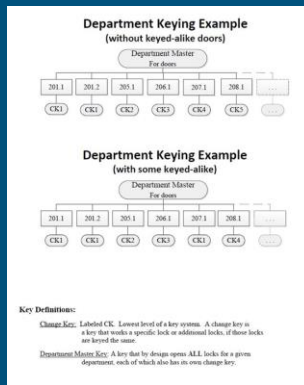


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Keying Meetings

General Rekeying timelines for each building

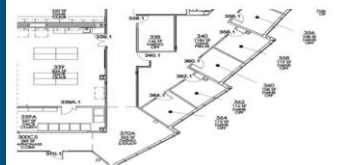
Task	Notes	Timeline
Contacting access approving authorities and department representatives for initial information to generate a keying plan – Keying meetings with stakeholders discussing department specific keying		6-8 Months ahead of Building rekey
Building key system is ordered & built to plan	Any major changes to Dlevels, Department organization, or space reassignments after this point should notify FS lock shop	6 Months ahead of Building rekey
Review of detailed keying plan	Collaboration between Approving Authorities and FS lock shop	about 1 month ahead of building rekey
Training for approving authorities	FS Lock shop will schedule with Approving Authorities	about 3-4 weeks ahead of building rekey
Requesting keys for building users	Must be completed 2-3 days ahead of rekey to give time to cut and create all requested keys	2-3 weeks ahead of rekey
Issuing of new keys		usually 1-2 weeks ahead of rekey
Changing of locks		takes a few days to a few weeks to complete each building depending on complexity and amount of hardware changes
Clean-up phase (resolve unforeseen issues, request additional keys, request changes)		usually by 1-2 weeks post rekey, any snafus, mismatches, and oversights are resolved



Key Definitions:
 Change Key: Labeled CK. Lowest level of a key system. A change key is a key that works a specific lock or additional locks, if those locks are locked for door.
 Department Master Key: A key that by design opens ALL locks for a given department, each of which also has its own change key.

D-Level to Door EXAMPLE:

Department	D-Level	Door #	Room Function	Key Differently (d/d/d)	Keyed the same as (d/d/d)	Space Shared with (D-LEVEL)
CEM RE Research Gen	DRINE	122.1	Private Office	x		
CEM RE Gen Research	DRINE	124.1	Private Office		x	
CEM RE Gen Research	DRINE	125.1	Private Office			124.1
CEM RE Gen Research	DRINE	247.1	Private Office			124.1
CEM Engineering General	DRENG	360.1	Private Office	x		
CEM Engineering General	DRENG	362.1	Private Office	x		
CEM Engineering General	DRENG	364.1	Private Office			360.1
CEM Engineering General	DRENG	201A.1	Research Lab Service	x		
CEM Engineering General	DRENG	241.1	Conference Room	x		DRINE



BUY-IN!

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85% COMPLETE

Expected completion September/October 2024

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Conclusion:

Summary of Achievements:

- Successfully transitioned to a scalable and secure key system, greatly enhancing campus security.
- Created & implemented comprehensive yet flexible access control policy.
- Changed Hardware across campus to be consistent and compliant.
- Implemented and installed electronic key boxes for reduced risk and increased accountability.
- Reduced risk by transitioning access from master keys to check out rings.
- Introduced Bluetooth key locators to aid in key retrieval
- Expanded card access locations - improving accessibility and control.

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Interesting facts

2,941 lock upgrades to “securable from within” levers

24 additional classroom spaces upgraded to card access

197 physical combo locks upgrade to digital combo locks

32 pallets of lock hardware

Approximately 14,340 pounds of lock hardware - just over 7 TONS!

Additional 1,350 pounds of keys and cores alone.

\$5 million dollar total project cost

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Questions? —



*Moose standing in campus core
Photo by: Brittany Van Eck*

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This concludes The American
Institute of Architects Continuing
Education Systems Course

