

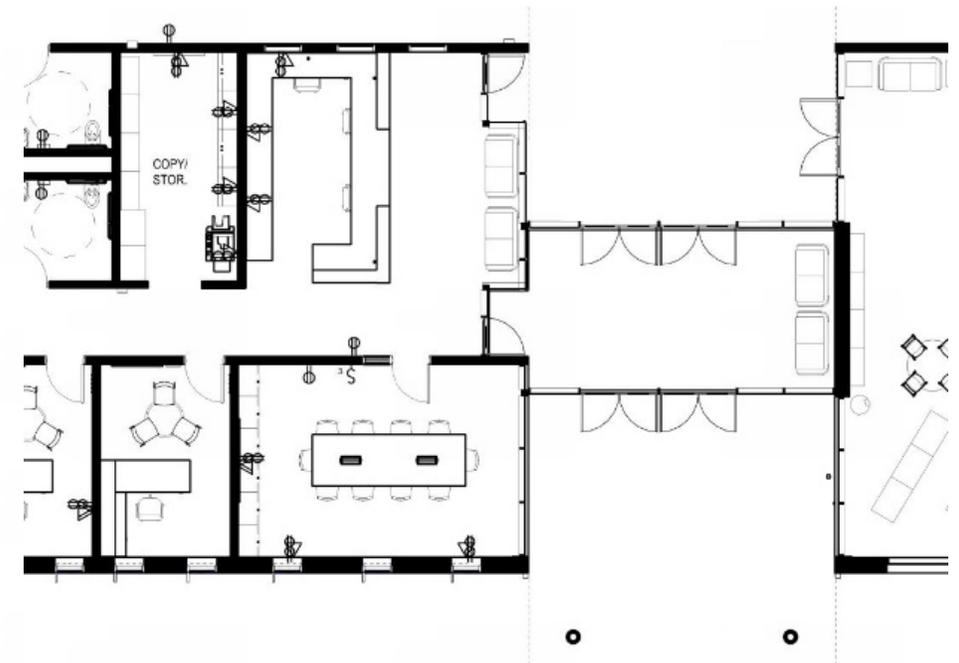
From Virtual Reality to Physical Barriers: Building a Safer School

Robin Randall

Principal, Legat Architects

Virtual Reality Training Facility for Security Officers





Architectural Rendering and Simulation of Controlled Vestibule



Visually Communicating Circulation Spaces







Limited landscape around the outside of the school

Questions?

Robin Randall

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School Safety Goal: A Safe Learning Environment for Every Student

Christy Miller

Caitlin Brudnicki

BCL IT Consulting

Security is a Battle of Wits



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Hacking is more common than a physical threat.

INCIDENT RESPONSE FOUNDATION
DIGITAL FORENSIC SERVICES

5 CYBER SECURITY THREATS TO EXPECT IN 2018

- 1**

CLOUD COMPUTING UNDER THREAT
- 2**

VULNERABILITY OF THE INTERNET OF THINGS (IOT)
- 3**

CYBER CRIMINALS' TACTICS ARE EVOLVING AND GETTING NASTIER
- 4**

SILENCE OF CYBER SECURITY RESEARCHERS
- 5**

IMPRACTICAL EXPECTATIONS FROM THE IT DEPARTMENT

SOME CYBERCRIME STATISTICS FROM 2017

- WANNACRY**

RANSOMWARE WANNACRY AFFECTED 300,000 COMPUTERS OVER 150 COUNTRIES
- EQUIFAX HACK**
143 MILLION

143 MILLION COMPROMISED SOCIAL SECURITY NUMBERS IN THE US
- RANSOMWARE ATTACKS**

FIRST HALF OF 2017 REPORTED 4000 RANSOMWARE ATTACKS EACH DAY GLOBALLY
- E-MAILS**

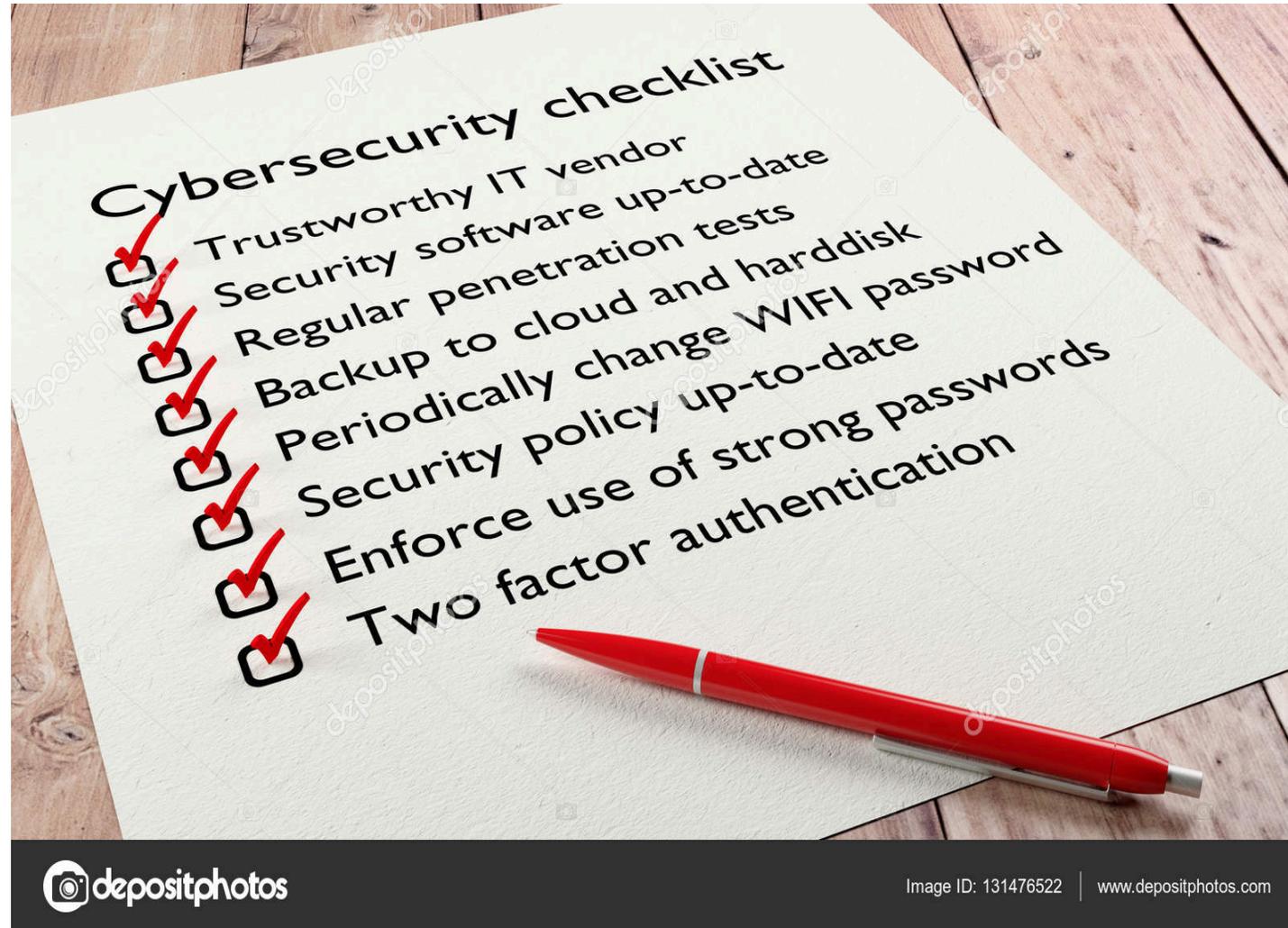
1 IN 131 EMAILS CONTAINS A MALWARE
- RISING CYBERATTACKS**

36%
RANSOMWARE ATTACKS ROSE BY 36% IN 2017
- MALWARE**

230,000 MALWARE SAMPLES ARE CREATED EVERY DAY.

"Warren Buffet attributes cyber-attacks to be the biggest threat to mankind, being even more severe than nuclear weapons."

Cybersecurity starts with simple steps.



On the physical side...



Designing for Security (CPTED)



Security means knowing everyone that walks in your building is supposed to be there.



Questions?

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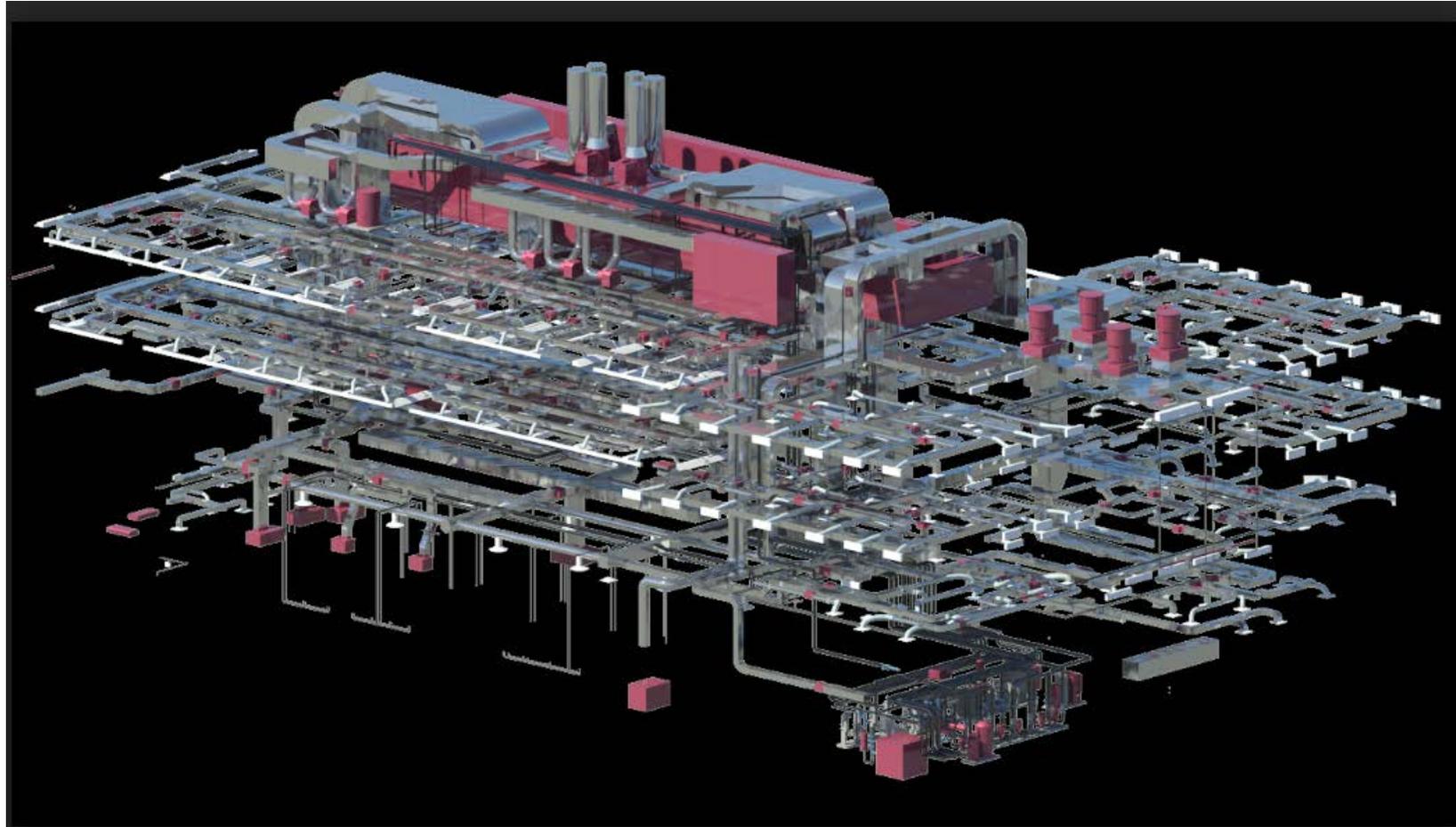
Reality Capture/3D Modeling of Existing Buildings with FM Integration

Randy Smith

Gilbane Building Company

Challenges of 3D Reality Capture in FM

- BIM file sizes
- Design vs Reality
- Software required
- Training required
- Integration to FM not simple



Matterport – New approach to 3D modeling

- **Quick to create**
- **Small file sizes**
- **Cloud-based software and model**
- **Easy to use (intuitive, mobile)**
- **Use for critical or complex Spaces**
- **Minimal data resides in the model**
- **One-click bi-directional interface links**
- **Adaptable to most FM software**



"360° cameras provide an immediate visual of that piece of equipment, room or space. Often times, when you're having conversations about an asset, you spend a lot of time trying to explain where something is located. Now, you can just show them in a photograph."

James Harrod, Business and Operations Manager at [UW Health](#)⁷

Use for Construction Documentation



Evaluating Critical Space Setup



FM Integration



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Matterport – The right tool for the job

- Structured Light Scans
- Easy to create
- Small file size
- Cloud-based
- Web viewing
- Embed key data
- Links for FM integration



Questions?

Randy Smith

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Lessons Learned: General Contracting

Ramzi Najjar

Program Manager | K-12 North

General Information

- OFCC has started 180 GC projects since January 2012
- GC projects range in value from \$49K to \$29M
- Most diverse scale and type of projects in comparison to other delivery methods used by OFCC

Lessons Learned

- Need for Preconstruction Stage Support
 - Estimating experience
 - Conducted at end of each Design Stage
 - Independent validation
 - Knowledge of market conditions
 - Ability to perform compliance/constructability review
 - Basic knowledge of means & methods
 - Assistance in phasing construction

Lessons Learned

- Public Bidding Challenges (similar to Multiple Prime)
 - Soliciting sufficient GC bidder interest to ensure competitive prices
 - Scope, scale, timing and location of project
 - Bonding capacity
 - Lack of transparency to Subs
 - Harder to identify true cost drivers
 - Potential need for rebidding (>10% over estimate)
 - + First-hand knowledge of market conditions
 - Confidence varies with number of bids received

Lessons Learned

- Need to Verify Quality of Schedule
 - While GC is responsible for schedule performance by all Subs, Owner team still needs to evaluate and carefully monitor schedule (both technical development of schedule & its outcomes)
 - Schedule logic (predecessors/successors)
 - Relationship types (finish to start, etc)
 - Durations
 - Constraints
 - Float (total, free)
 - Lags

Questions?

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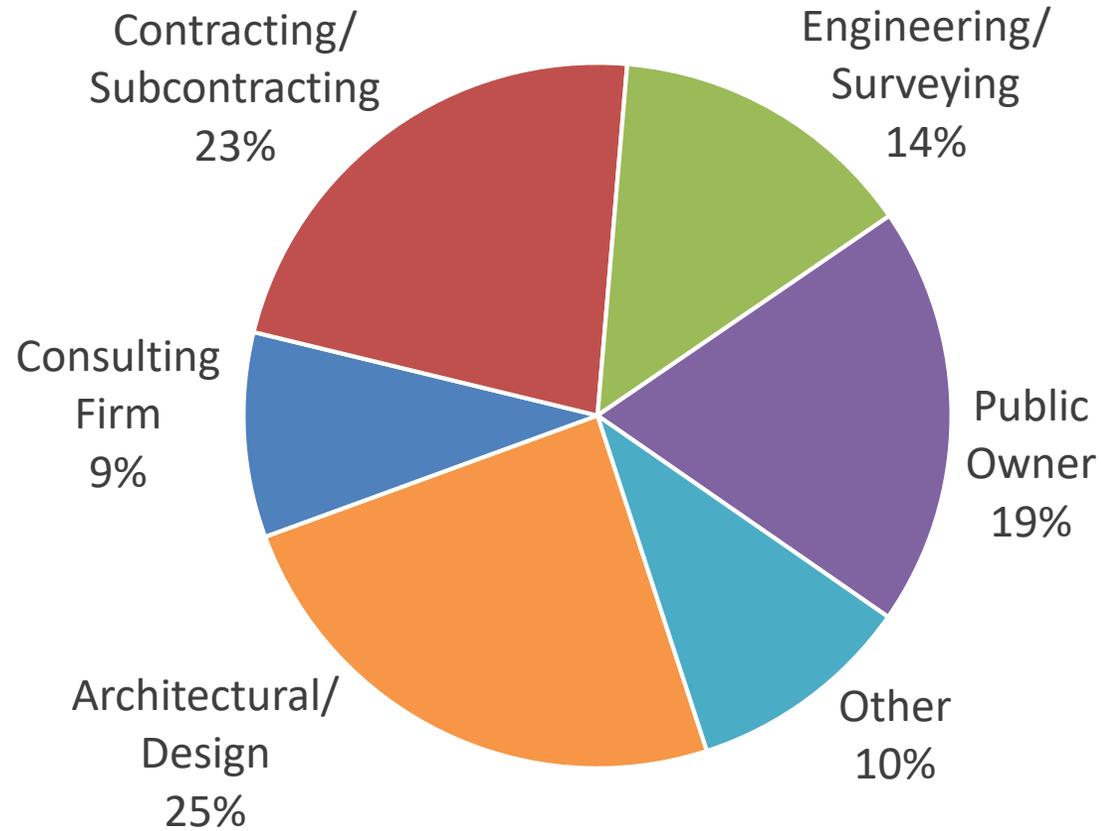
Business Opportunities

Jeff Westhoven, OFCC

Bruce Ferguson, Cleveland State University

Michael Bruder, Kent State University

Audience profile



Business Opportunities: Topics

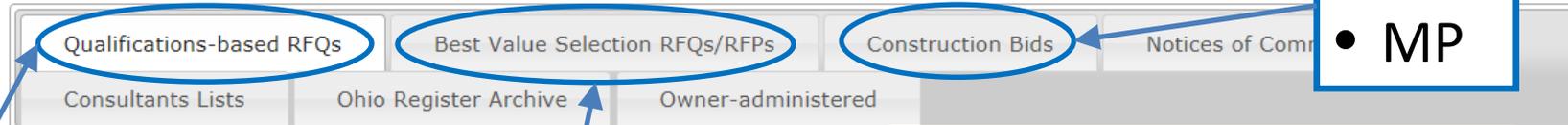
- Finding opportunities
- Finding background information on capital projects
- Upcoming K-12 projects
- Upcoming state agency/higher education projects

Finding Opportunities ... Opportunities Map



Opportunities

- A/E
- CxA
- Planning



- GC
- MP

Qualifications-based Selection (QBS) Requests for Qualifications

Qualifications-based Selection" (QBS) refers to a procurement process used by state agencies, institutions of higher education and school districts for the selection of Architect/Engineer (A/E) and A/E services for public construction projects. It is a competitive contract procurement process where bidders submit qualifications to the public owner, and the most qualified firm, and then select the firm based on schedule, budget and fees.

For the...Architect/Engineer (CMA); Owner Agent (OA); C Services (CxA) provider; and provider.

- CMR
- D-B
- Energy PC



*Highlighted designations may not reflect the actual project location.
*To enlarge the map, click icon.

[Enlarged map](#)
[Website Opportunities](#)

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Finding Opportunities ...

Opportunities Map: Cultural Facilities Projects



- Community School Classroom Facilities Grants - Round 2
- Cultural Facilities Grants**
- Program Eligibility
- Funding & Grant Process
- Program Resources
- Contacts
- School Security Grants
- Lead Fixture Replacement Grants - Round 2

Cultural Facilities Grant Program



[Cultural Facilities Projects](#)

Finding Background Information on Capital Projects

Legislative Service Commission: [Capital Projects by County](#)

- Service needed
- **Project size**
- **Location**
- Timing
- Delivery model
- **Owner**

CAPITAL PROJECTS BY COUNTY-ALL PROJECTS

County and Funding Agency	Fund	Line Item	Item/Project Name	Appropriations
Statewide				
Adjutant General	7026	C74535	Renovations and Improvements	\$5,561,505
Adjutant General	3420	C74537	Renovation Projects - Federal Share	\$10,330,366
Adjutant General	7026	C74541	Armory Technology Infrastructure	\$120,000
Adjutant General	5340	C74542	Renovations and Improvements	\$1,000,000
Department of Agriculture	7057	C70009	Clean Ohio Agricultural Easement	\$12,500,000
Department of Administrative Services	7026	C10011	Statewide Communications System	\$7,000,000
Department of Administrative Services	5KZ0	C10035	Building Improvement	\$39,424,700
Department of Developmental Disabilities	7033	C59004	Community Assistance Projects	\$24,000,000
Development Services Agency	7046	C19505	Coal Research and Development	\$5,000,000
Department of Natural Resources	7061	C72514	Clean Ohio Trail Fund	\$12,500,000
Department of Natural Resources	7031	C72549	Facilities Development	\$1,500,000
Department of Natural Resources	7035	C725A0	State Parks, Campgrounds, Lodges, Cabins	\$57,554,343

Finding Background Information on Capital Projects

Legislative Service Commission:
[Capital Appropriations, Complete Analysis, pp. 65-183](#)

- **Service needed**
- **Project size**
- **Location**
- Timing
- Delivery model
- **Owner**

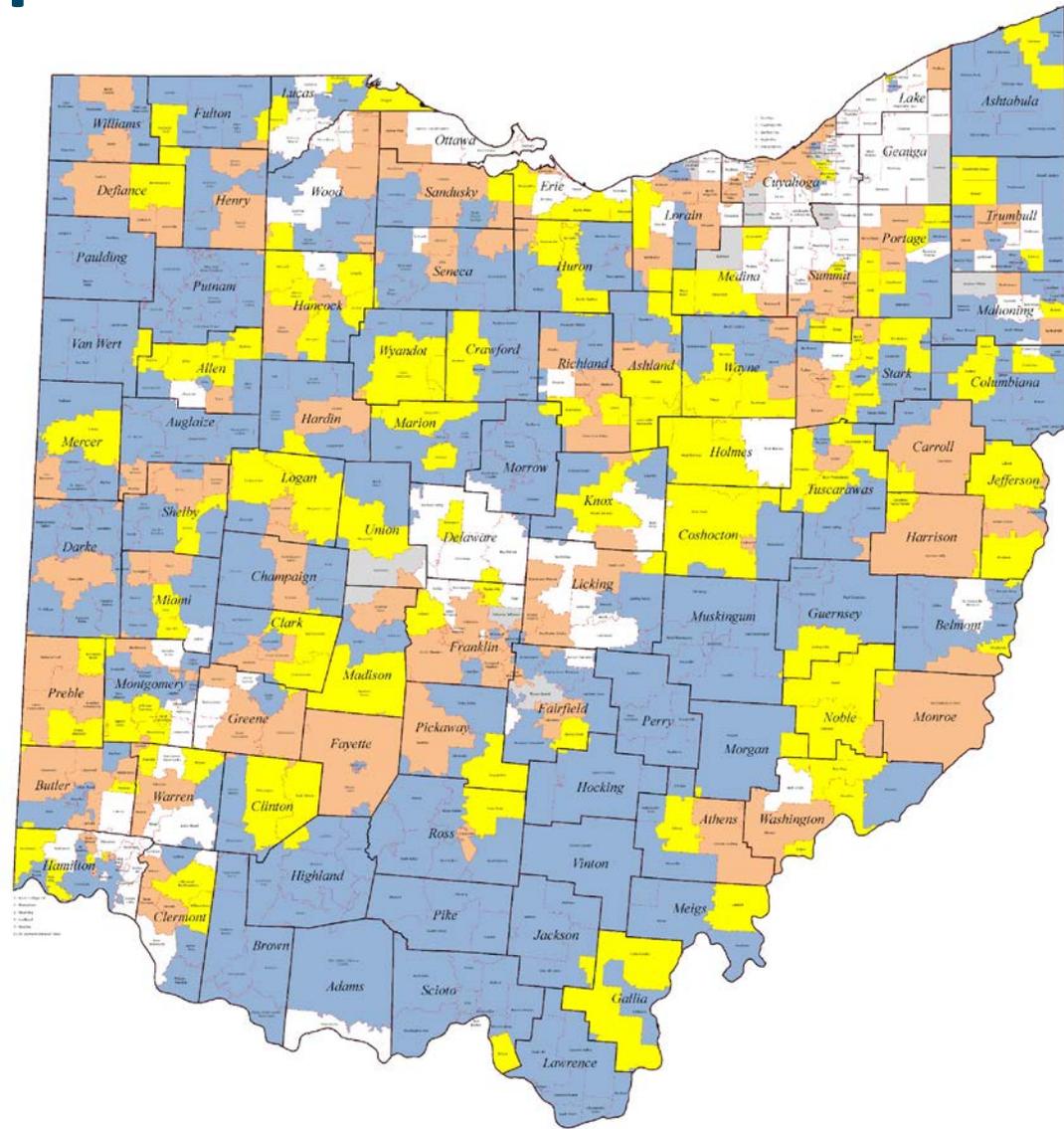
(AGO) ATTORNEY GENERAL	
Administrative Building Fund	\$3,813,752
TOTAL - All Funds	\$3,813,752
ADMINISTRATIVE BUILDING FUND (7026)	
C05517	General Building Renovations \$200,000
<i>County:</i> Multi-county - Madison, Summit	
<p>This capital appropriation will support general renovation projects in facilities operated by the Attorney General. The Ohio Facilities Construction Commission has identified a number of small projects where building renovations are necessary to remediate issues that absent this capital money might require the Office of the Attorney General to use money appropriated for its operating budget.</p>	
C05521	BCI London Renovations \$969,752
<i>County:</i> Madison	
<p>This capital appropriation will be used to complete a three-phase HVAC upgrade project at the Bureau of Criminal Investigation (BCI) headquarter facility in London, Ohio. The age of the existing HVAC controls and components, along with the need for improved compatibility between the newer chillers (installed in phases 1 and 2 of the project) and existing controls created the need for this final phase of the upgrade project.</p>	

Business Opportunities: Topics

- Finding opportunities
- Finding background information on capital projects
- Upcoming K-12 projects
- Upcoming state agency/higher education projects

Upcoming K-12 Projects ...

K-12 Completion Status 2017



Complete

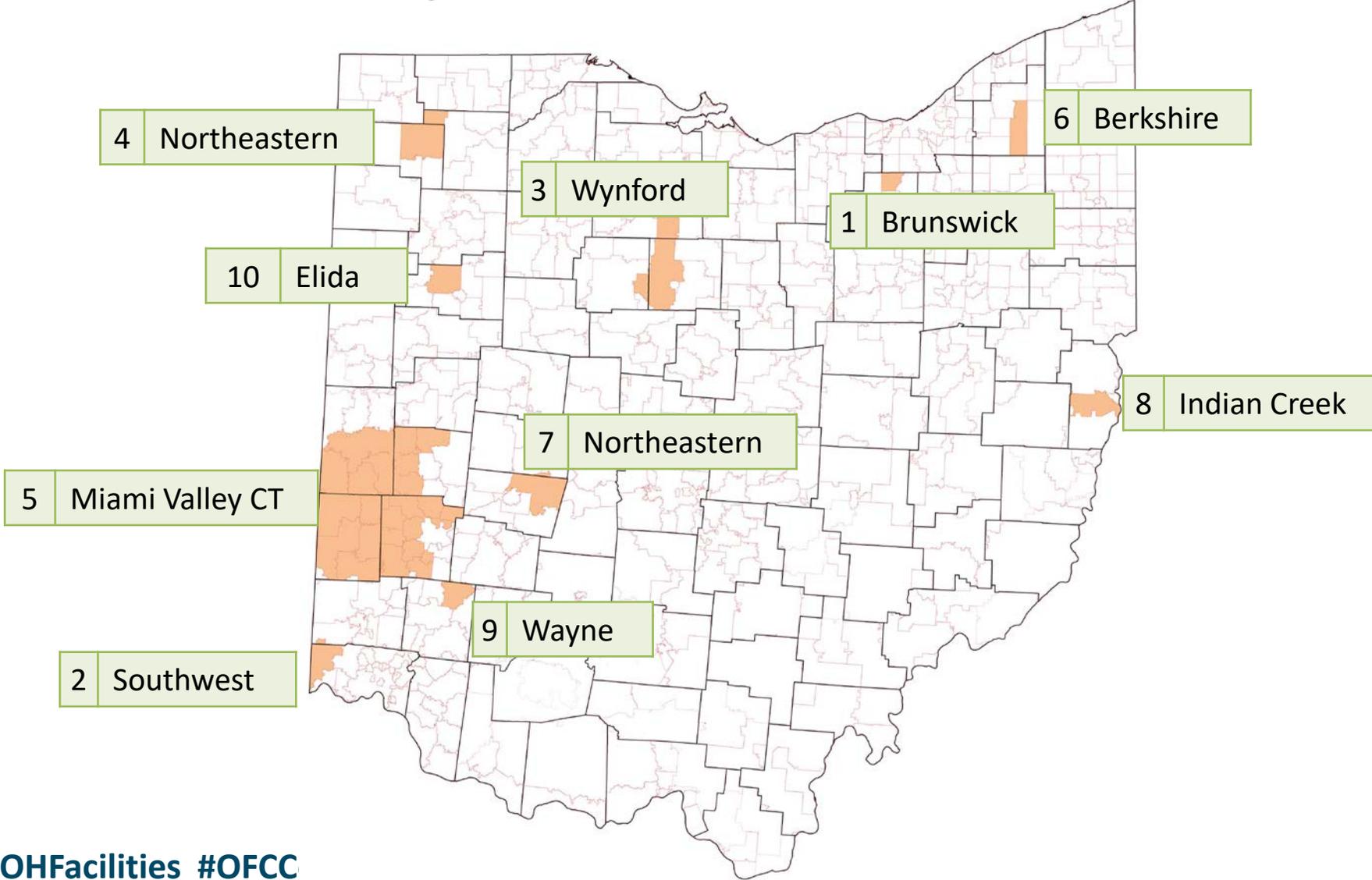
Partial

Waiting for local \$

Waiting for state \$

Upcoming K-12 Projects ...

New K-12 Projects 2018-2019



Upcoming K-12 Projects ...

New K-12 Projects 2018-2019

Map #	District	County	Co-funded Budget	Delivery Method	A/E Solicitation	CMR/DB/GC Solicitation
1	Brunswick City School District	Medina	\$ 50,322,457	CMR	Dec 2017	Jan 2018
2	Southwest Local School District	Hamilton	\$ 84,695,998	CMR	Feb 2018	March 2018
3	Wynford Local School District	Crawford	\$21,528,679	CMR	Feb 2018	March 2018
4	Northeastern Local School District	Defiance	\$ 33,981,044	CMR	Feb 2018	March 2018
5	Miami Valley Career Tech	Montgomery	\$ 61,409,284	CMR	Feb 2018	April 2018
6	Berkshire Local School District	Geauga	\$ 41,572,615	CMR	June 2018	July 2018
7	Northeastern Local School District	Clark	\$ 102,422,404	CMR	Aug 2018	Sept 2018
8	Indian Creek Local School District	Jefferson	\$ 45,778,588	CMR	Sept 2018	Sept 2018
9	Wayne Local School District	Warren	\$ 22,007,490	GC	Jan 2018	Spring 2019
10	Elida Local School District	Allen	\$ 53,502,328	TBD	Feb 2019	April 2019
	Total		\$ 517,220,887			

Upcoming Capital Projects: Cleveland State University

Bruce Ferguson

Director of Planning, Design and Construction + University Architect

Project	Construction Budget	Method	A/E Selection	BVS/Bid
Film School, Phase 3	\$500,000	C. O. to existing CMR	VAA	N/A
Science Lab Renovations, Phase 2	\$4,850,000	CMR	VAA	March 2019
Main Classroom Renovations, Phase 2	\$4,200,000	CMR	Bostwick	February 2019
Rhodes Tower Restroom Upgrades	\$862,000	Design/Bid/Build	WMF	April 2019

Upcoming Capital Projects: Kent State University

Michael Bruder

Executive Director and University Architect, Facilities, Planning and Design

Project	Construction Budget	Method	A/E Selection	BVS/Bid
Innovation Zone and Dining	\$30 M	CMR	complete	Subcontractor bids
Schwartz Center ROTC renovations	\$2 M	DB	complete	Subcontractor bids
MACC Annex renovations	\$3 M	GC	complete	GC bid
Eastway window replacement	\$7 M	DB		Subcontractor bids
Rockwell Hall roof replacement	\$1.2 M	GC	complete	GC bid
White Hall HVAC replacement	\$7 M	DB		BVS
Integrated Science Labs	\$7 M	CMR		BVS
Schwartz Center ROTC renovations	\$2 M	DB		Subcontractor bids
Henderson Hall HVAC	TBD	DB		BVS
Stark Main Hall Elevator	\$1 M	GC		Bid
East Liverpool Purinton Roof	TBD	GC		Bid

Business Opportunities: Topics

- Finding opportunities
- Finding background information on capital projects
- Upcoming K-12 projects
- Upcoming state agency/higher education projects

Contact Information

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Thank you!

@OHFacilities #OFCCConf18

ASK OFCC

Craig Weise
Chief of Projects

This concludes The American Institute of Architects Continuing Education Systems Course

Provider Name: Ohio Facilities Construction Commission
Provider #: G442
Contact: sue.meyer@ofcc.ohio.gov

Reminder:
***Pick up your Certificate of Participation at
the Registration desk.***