

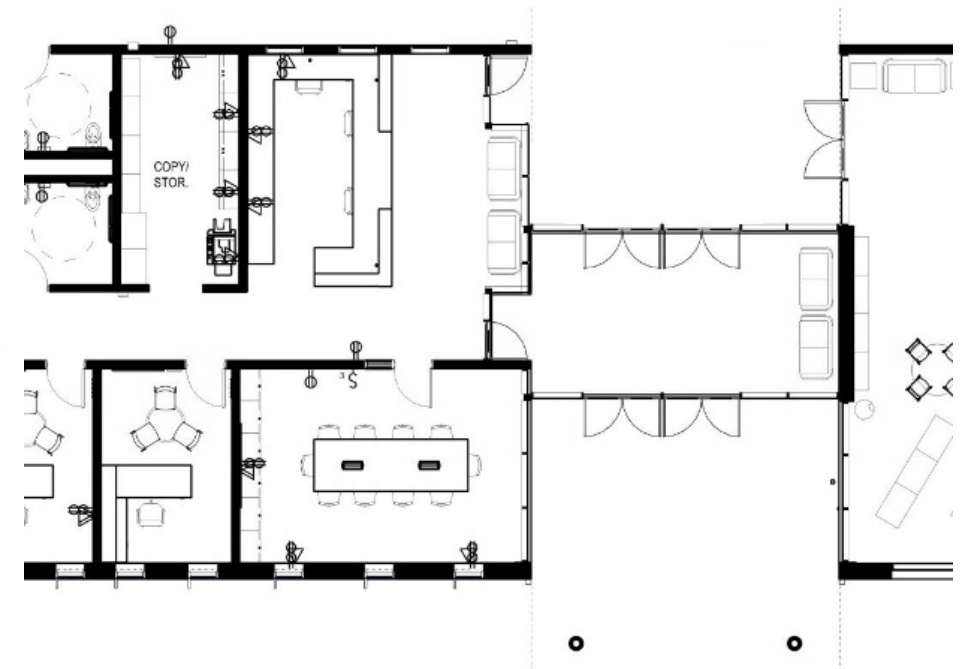
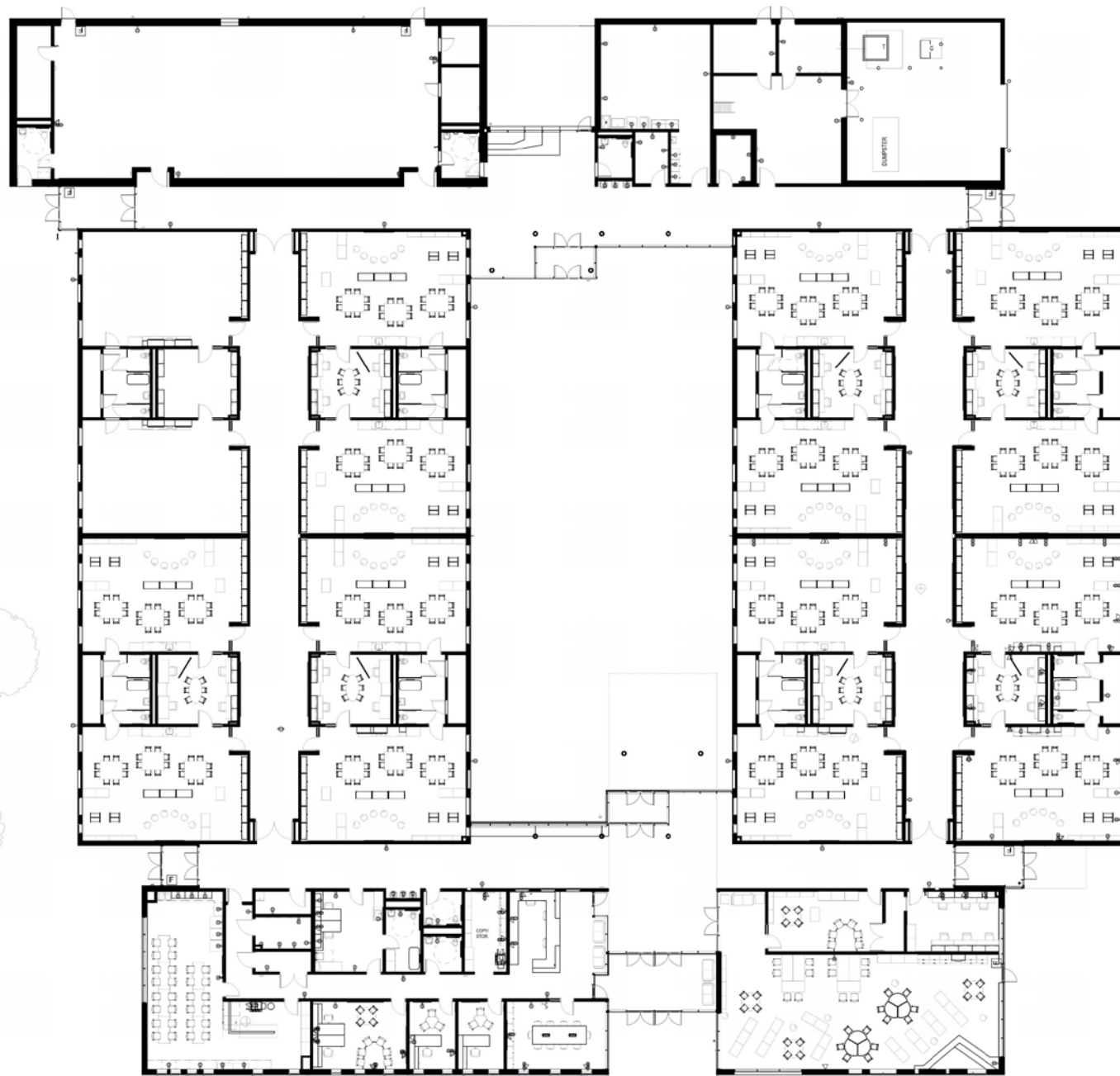
From Virtual Reality to Physical Barriers: Building a Safer School

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

rrandall@legat.com

School Safety Goal: A Safe Learning Environment for Every Student

Christy Miller

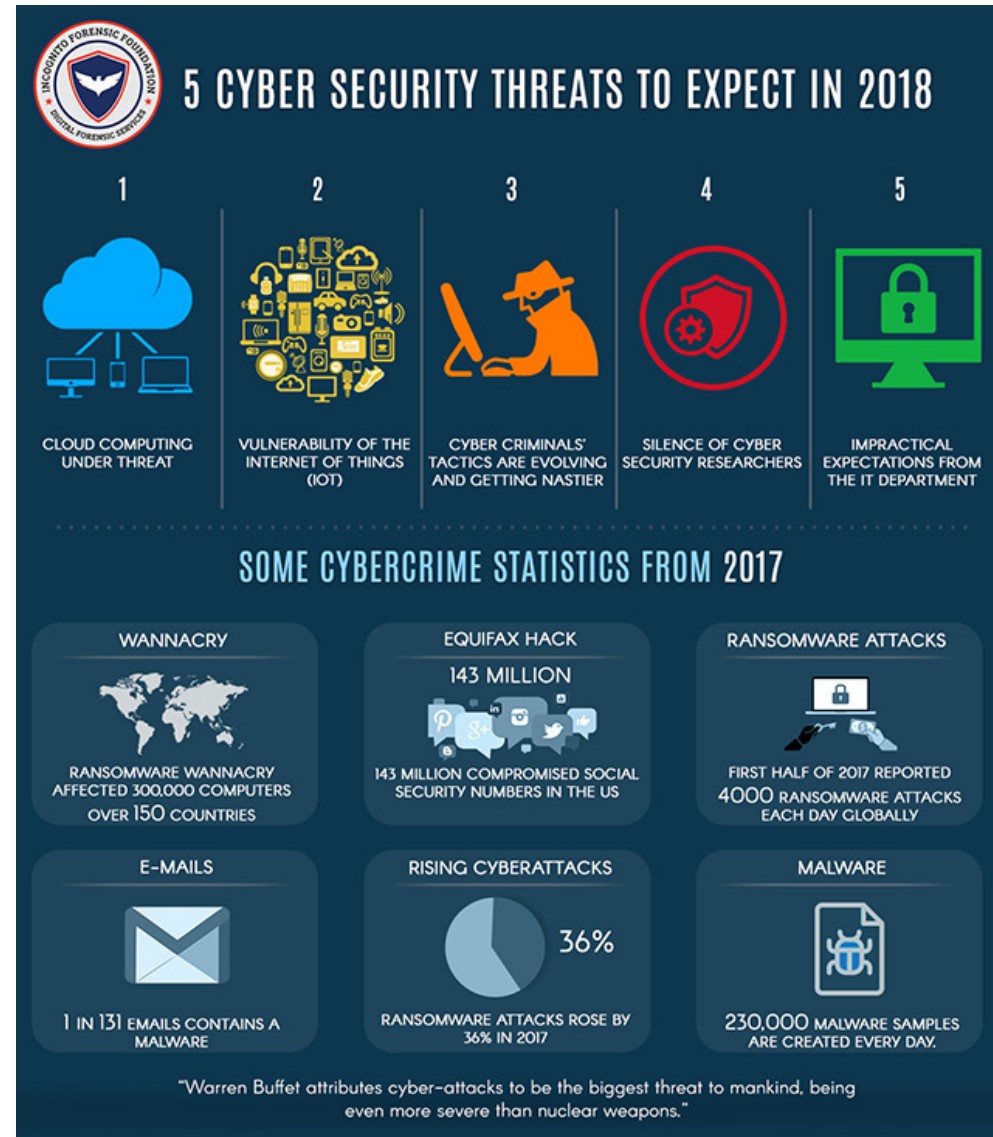
Caitlin Brudnicki

BCL IT Consulting

Security is a Battle of Wits



Hacking is more common than a physical threat.



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?

Christy Miller

cmiller@bclitconsulting.com

Caitlin Brudnicki

cbrudnicki@bclitconsulting.com

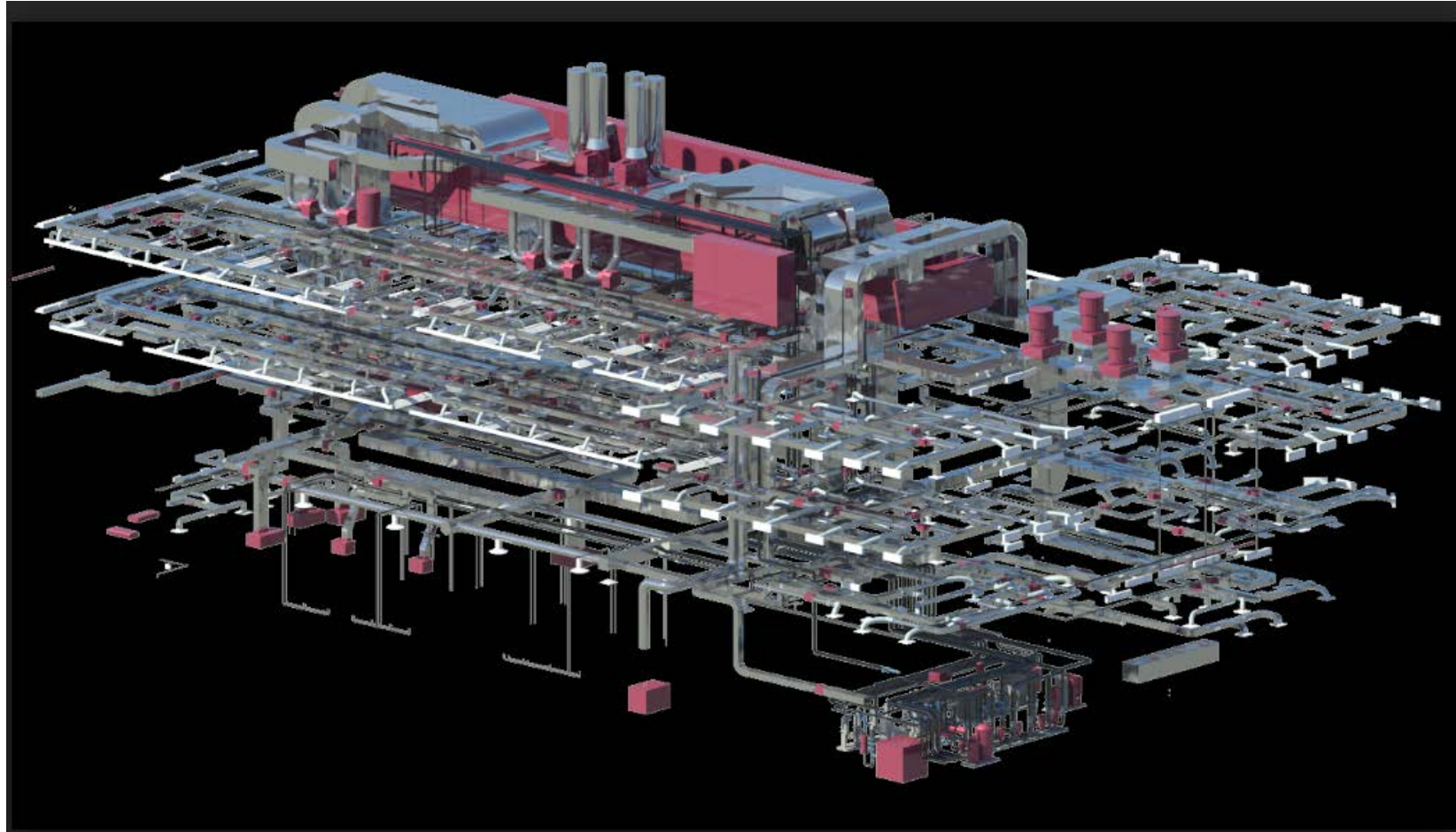
Reality Capture/3D Modeling of Existing Buildings with FM Integration

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



@OHFacilities #OFCCConf18

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

rsmith@gilbaneco.com

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?

Ramzi Najjar

ramzi.najjar@ofcc.ohio.gov

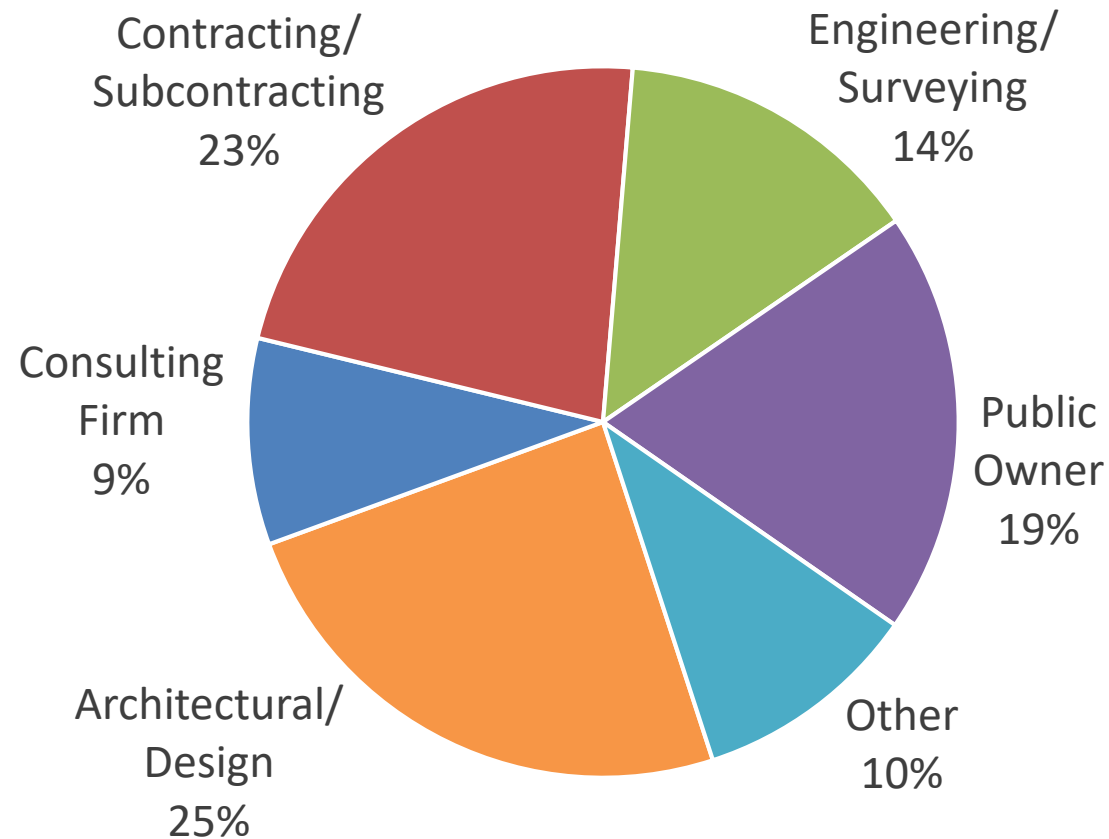
Business Opportunities

Jeff Westhoven, OFCC

Bruce Ferguson, Cleveland State University

Michael Bruder, Kent State University

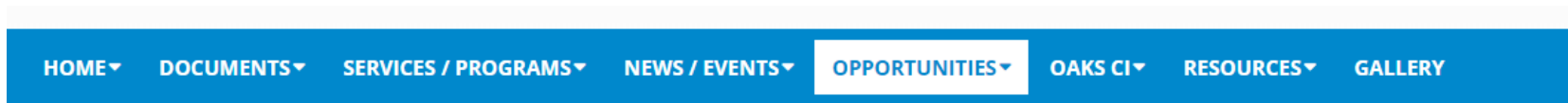
Audience profile



Business Opportunities: Topics

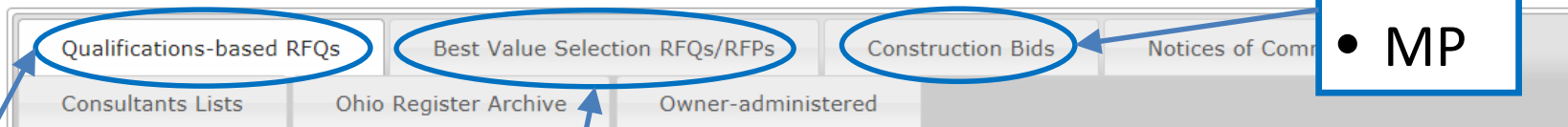
- Finding opportunities
- Finding background information on capital projects
- Upcoming K-12 projects
- Upcoming state agency/higher education projects

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 whereb qualifications to the public ov most qualified firm, and then schedule, budget and fees.

- CMR
- D-B
- Energy PC

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



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

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

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 | |

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.

| | | |
|----------------|-------------------------------|------------------|
| C05521 | BCI London Renovations | \$969,752 |
| <i>County:</i> | Madison | |

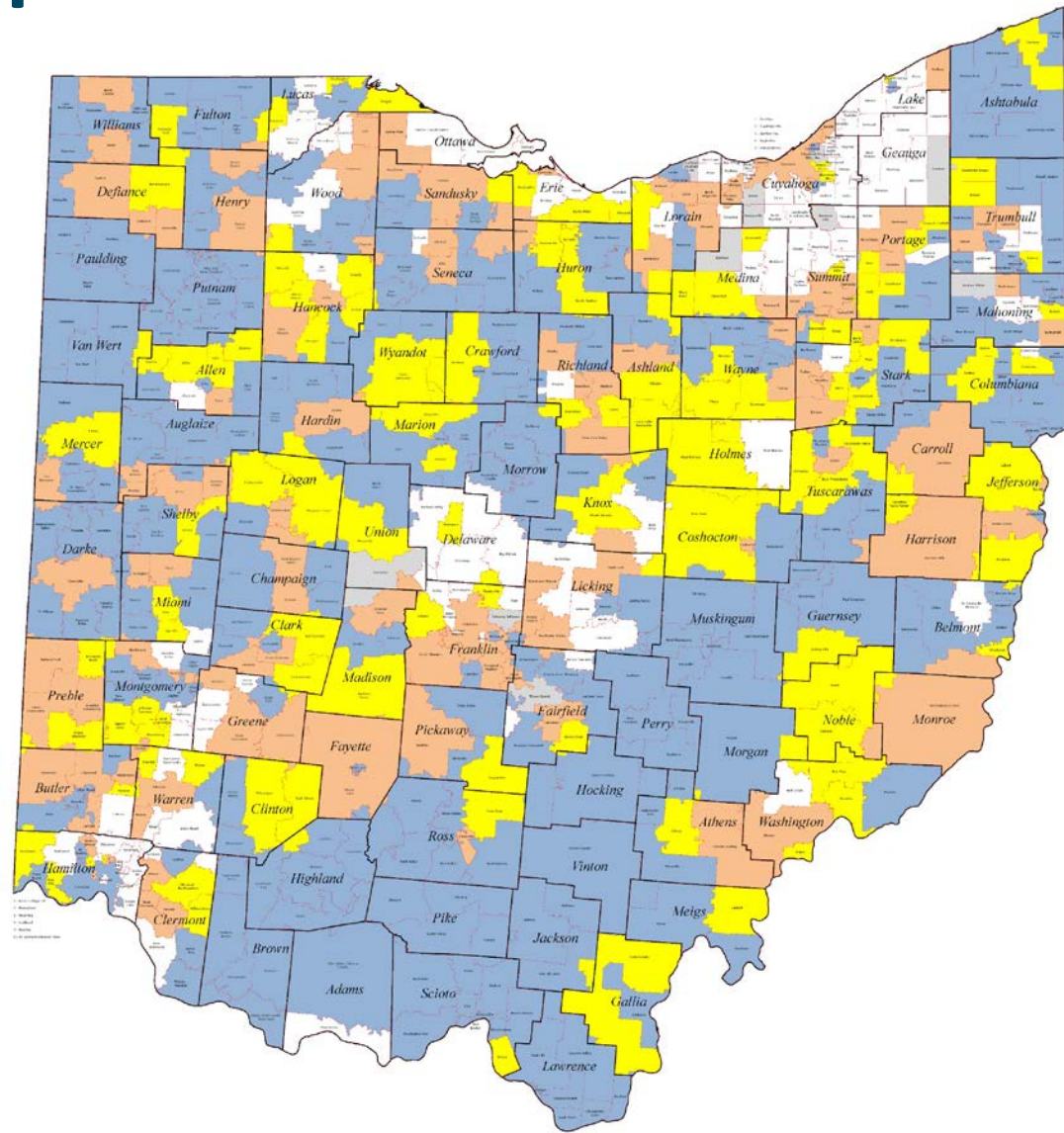
This capital appropriation will be used to complete a three-phase HVAC upgrade project at the Bureau of Criminal Investigation (BCI) headquarter facility in London, Ohio. The age of the existing HVAC controls and components, along with the need for improved compatibility between the newer chillers (installed in phases 1 and 2 of the project) and existing controls created the need for this final phase of the upgrade project.

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

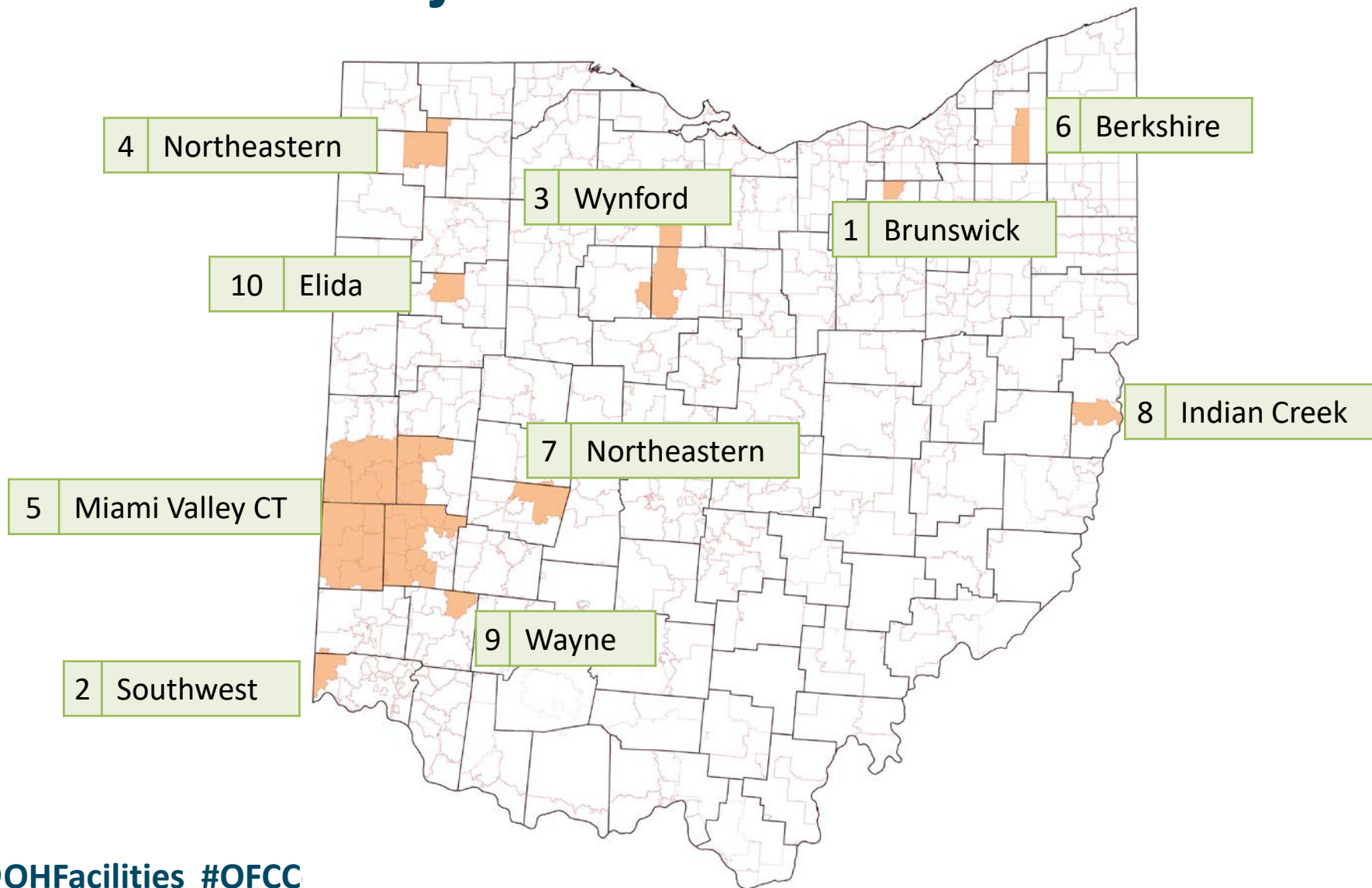
Partial

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.***