



CITY MARKET AND OLD CITY HALL
Indianapolis, Indiana

DRAFT

OLD CITY HALL FACILITY ASSESSMENT AND CAPITAL PLANNING REPORT

JSH No.: 21060108

Date
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Prepared For:
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I. Introduction

CORE Planning Strategies, now known as J.S. Held LLC (J.S. Held), provides design and construction consulting, planning, and management services for clients on a variety of matters, and has a record of consulting and providing opinions on many complex projects involving municipal projects. For the City of Indianapolis, we consulted on: Community Justice Center (with AECOM Hunt and Smoot dba Community Justice Partners), Indy 3.0's City County Building Space Assessment, Richard G. Lugar Plaza, and Old City Hall (with Browning Investments).

J.S. Held was engaged by the City of Indianapolis Department of Metropolitan Development (DMD) on or about March 8, 2021 to assess current conditions, identify needs, provide capital budget estimates, and conceptualize a potential "grey box" project at the former City Hall building (Old City Hall or OCH) at 202 North Alabama Street, Indianapolis, Indiana.

J.S. Held provided Jason Larrison, AIA as team project manager. He led architectural, historic preservation, and space planning services. Deb Kunce, FAIA provided engagement support.

We engaged with consultants to provide the best services possible. CMTA Inc. provided mechanical, electrical, plumbing, and telecommunications systems analysis. Doug Fick, PE PMP led CMTA's services. Wiss, Janney, Elstner Associates (WJE) provided structural, building envelope, and fire protection analysis. Noah Fehrenbacher, PE SE led WJE's services with Seth Lindley supporting.

In the course of our work, J.S. Held and our consultants conducted an inspection of Old City Hall. Our investigations were based on what we could reasonably access without the use of special equipment, including lifts. We did not conduct destructive testing, core samples, or excavations. We also did not balance or conduct operational tests of the existing mechanical equipment. We have however reviewed the available documentation provided by DMD, the Indianapolis Marion County Building Authority (IMCBA), and the Department of Business and Neighborhood Services (BNS) online permitting portal known as the Accela Citizens Access.

This report has been prepared for DMD and is intended for the use of its representatives only. Reliance upon this document or upon information, observations or opinions contained in this report should not be made by any party except the intended recipient designated on the title sheet of this report. J.S. Held and our consultants reserves the right to change or modify its opinion should further information become available subsequent to the issuance of this report.

II. Background on Old City Hall

Built between 1909 and 1910, Old City Hall is a Beaux Arts structure design by Indianapolis architectural firm Rubush and Hunter. The building housed many components of city government until the completion of the City-County Building (CCB) at 200 E. Washington Street in 1962.

Old City Hall remained under city ownership but was leased to the State of Indiana for use as the Indiana State Museum in 1967. The museum remained until a new building was opened in 2002 at 650 W. Washington Street in White River State Park. During the renovation of and addition to the Central Library of the Indianapolis Marion County Public Library System, Old City Hall served as an interim library facility. After the library vacated in 2007, use of Old City Hall was limited to special activities, including DMD's Plan 2020 and activation during the Super Bowl in 2012. Around 2015, the City of Indianapolis took possession of the parking lot located north of Old City Hall at 222 N. Alabama Street. The property was previously owned by the State of Indiana for support of the Indiana State Museum.

Efforts to reuse the building continued. Hotel and art museum operator 21c proposed using Old City Hall and the adjacent parking lot as a boutique hotel. However, an agreement between the city and 21c could not be reached.

Old City Hall currently sits vacant. It is one block from City Market and the Massachusetts Avenue cultural district. It is located on the Indianapolis Cultural Trail. The building was added to the National Register of Historic Places in 1974. In 2017, the Indianapolis Historic Preservation Commission (IHPC) establish protections for Old City Hall and the adjacent parking lot. The IHPC protections cover the exterior and the interior of the building.

III. Stakeholder Engagement Summary

J.S. Held was charged with conceptualizing a future use for the Old City Hall and establishing capital budgets to “grey box” or “cold shell” the building for a future user(s). In this scenario the basic building systems would be in place but basic finishes of the spaces would not be complete (as compared to a “white box” or “warm shell” situation). To identify a “grey box” scenario, we met with community stakeholders. The stakeholders include:

- Brad Beaubien, Director of Destination Development, Visit Indy
- Jeff Bennett, Deputy Mayor, City of Indianapolis
- Ken Clark, Controller/CFO, City of Indianapolis
- James Corry, Deputy Director, IMCBA
- Mark Dollase, Vice President of Preservation Services, Indiana Landmarks
- Catherine Esselman, Senior Project Manager, Indy Chamber
- Eric Gershman, Principal, Gershman Partners
- Carmen Lething, Long Range Planner, DMD
- Danicia Malone, Creative Director, Designer, and Planner
- Meg Purnsley, Administrator, IHPC
- Bob Schultz, Senior Vice President of Marketing, Communications, and Events, Downtown Indy Inc.
- Jim Walker, Executive Director, Big Car Collaborative

Stakeholder meeting notes are included in appendix A. A summary of the feedback follows:

Mission and Purpose

Everybody agrees that the Old City Hall building should remain and be restored.

There are numerous ideas on what Old City Hall could be but there is no consensus on a final use(s). The most common suggestions are a return to municipal government and a cultural and/or assembly space (i.e. art museum, cultural events, conference events, weddings, etc.). The government and cultural uses are not mutual exclusive; a mix of both was also suggested. Other suggested uses include:

- Central service center for constituent services, including a DMD planner, BNS staff, etc.
- Neighborhood information center
- Small business incubator space with a focus on minority and/or disadvantaged populations
- A component of a boutique hotel (and potentially revisit the 21c proposal)
- A hub for non-profit organizations
- Visitors center/city discovery center

It was suggested that a DMD-led public strategy session should inform the final use of the building.

Old City Hall is a community minded space with a lot of history. All agree that the main lobby/rotunda should be accessible to the public. It is a warm and welcoming space. It is located at the intersection of the Massachusetts Avenue cultural district, Market East district, and the downtown central business district. Alabama Street was described as a jewel with the opportunity to be slower paced and pedestrian scaled. With the Cultural Trail on Alabama Street, Old City Hall has a lot of foot traffic and could spur the local economy with any function.

Programming and Operation

The challenge with government services is balancing the security needs, such as metal detectors. If government services are located in Old City Hall, it will impact the use and vacancy rate of CCB. Another challenge with government services and any office function is the low impact on the local economy. These functions typically operate five days a week between 8am and 5pm. There is a desire for functions that contribute to an “18 hour downtown” concept. Finally, there is a question related to the efficiency and cost effectiveness of operating Old City Hall as a government building.

If additional space is needed for a selected future function, a new building or addition could be constructed in the adjacent parking lot. Additionally, additional space is in close proximity at Market Square Center at 151 E. Ohio Street, Two Market Square Center at 251 E. Ohio Street, and the Indiana Bar Center at 230 E. Ohio Street.

Ownership

The majority of stakeholders stated that city ownership of the building should continue. A few felt that IHPC protection was sufficient for the city to sell the building and remain confident that the building will remain. A well-funded private owner could be acceptable if the end use is great.

Physical Conditions and Modifications

Modifications to the building are inevitable. To balance modern impacts to the historic fabric of the building, it should be determined if the materials have to be touched and if so, how can they be revered. All attempts should be made to avoid altering something important and making alterations inconspicuous.

There are existing challenges at Old City Hall. The LED lights installed in the light fixtures blink, indicating a phase problem. The steam system is still in use but corroding, causing damage to historic finishes. There is a lot of abandoned materials from past users, requiring a large clean up effort to access all parts of the building. Modifications over the decades make some restoration efforts more challenging.

Aside from preventing continued damage, there is a desire to make improvements in the short term. Installing new windows where old windows were removed and filled is a high priority.

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Developing the parking lot can fund the restorations and improvements to Old City Hall. Most agree that the parking lot has a lot of flexibility related to use (i.e. hotel, mixed use, residential).

IV. Previous Studies and Activations

Using Old City Hall for offices, museums, galleries, and events is not unprecedented. These are all previous uses for the building. Other options have been suggested and the Market East district has needs that could be supported or partially fulfilled by Old City Hall.

National Preservation Conference

In 2013, a brainstorming session was held at Old City Hall as part of the National Preservation Conference held in Indianapolis. Four teams of developers, architects, preservationists, and civic leaders presented ideas for reuse of the building. The recommendations included a motor sports museum, a distillery, a hotel and spa, an innovation center for startup companies, an event and ceremony venue, and an education center.

As part of the Indy Star news coverage, readers were surveyed on what they thought Old City Hall's future use should include. A casino was the top option with 28%, followed by 15% for a homeless shelter, 11% for a brewery, 8% for an art gallery, 5% for a motor sports museum, and 1% for a spa. 15% wanted something not listed and 12% did not care what became of Old City Hall.

Market East Study

In 2015, Downtown Indy Inc. and the City of Indianapolis collaborated on a study titled "Market East: Future Strategies for Urban Design and Development." Consultants included American Structurepoint, Anderson-Bohlander, and Walker Parking Consultants. Market East is defined roughly by Park Avenue on the east, the elevated CSX rail line on the south, and New York and Vermont Streets on the north.

The study identified opportunities for near-, mid-, and long-term developments. It assumed that the 149 room 21c hotel would occur in the mid-term. The study's long-term vision also called for an additional 600 hotel rooms. Stakeholders confirmed the continued need for hotel rooms in the district with a focus on 100-150 room boutique and destination hotels.

In the mid- and long-term, the study also calls for an additional 3,000 residential units, over 100,000 sf of retail, about 900,000 sf of commercial space, and about 1,500,000 sf of office space. Stakeholders agreed that the study remains mostly accurate though questions regarding the future demand of office space persists considering the COVID 19 pandemic.

Public Activation

During the 2012 Super Bowl, the Indianapolis Downtown Artists and Dealers Association hosted a three week event at Old City Hall called “TURF.” It included 23 gallery spaces for 21 juried artists. Along with the art installations, a temporary tourist information center was operated in the main lobby.

Between 2014 and 2015, the first floor of Old City Hall served as a public engagement space for the creation of the city’s Bicentennial Agenda, called Plan 2020. The space was branded as “The Hall” with office and collaboration space on the north side of the building and exhibit space on the south side. Working with People for Urban Progress (PUP) and IMCBA, and supported by the Central Indiana Community Foundation, the public was able to engage and interact with DMD staff, Greater Indianapolis Progress Committee (GIPC) staff, and the Plan 2020 Team.



Indianapolis Star, Oct. 30, 2013



Studio space created in “The Hall.” From People for Urban Progress website.

V. Summary of Current Conditions and Estimates

The assessment and recommendations are limited to Old City Hall. The assessment does not include conditions of infrastructure in the public right-of-way or the adjacent parking lot. Detailed observations are included as an attachment to this report. The estimated cost ranges provided include hard costs (materials, labor, general conditions, general contractor markups, and construction manager fees) and soft costs (architect fees, engineer fees, and owners representative fees). Estimated costs for each work type assume that work is done in phases and independent from each other. Estimates are in 2021 dollars and does not account for future fluctuations in labor or material costs.

The estimated cost to maintain the building as is ranges between \$3,340,000 and \$4,190,000. If the work is completed as a singular project, savings could range between \$242,000 and \$490,000.

- Building envelope, structural, and site conditions
 - Façade: Deteriorated mortar joints, spalling limestone, and door damage were found.
 - Estimate: \$2,403,000-\$2,896,000
 - Roof: Repairs and partial replacement is required. Additional testing of the roof drain lines and skylight water tightness is recommend.
 - Estimate: \$282,000-\$340,000
 - Structure: Structural steel framing requires cleaning and painting at limited locations
 - Estimate: \$21,000-\$26,000
 - Site: The building has vaults under sidewalks that need new waterproofing
 - Estimate: \$237,000-\$285,000
- Mechanical system
 - Chiller: The existing chiller, cooling tower and associated support components are past their useful life and should be replaced to maintain existing building conditions
 - Estimate: \$350,000-\$549,000
 - Steam Condensate: Steam for the building is obtained from the Citizens Energy Steam System. The condensate disposal system associated with building is in poor condition and needs to be replaced to provide a proper disposal of the system
 - Estimate: \$26,000-\$43,000
 - Fan Coil Units: While the building maintenance staff has been maintaining the fan coil units located throughout the building. A reserve fund should be included to replace units as they cease to function.
 - Estimate: \$21,000-\$51,000

- Electrical system
 - The existing electrical system has numerous issues, but no modifications are required to maintain the existing limited building operation.
- Plumbing system
 - There are numerous issues with the existing plumbing infrastructure, but no modifications are required to maintain the existing conditions in which the system are not functioning.
- Telecommunications system
 - The building has limited telecommunication systems, but no modifications are required to maintain the existing conditions.
- Fire protection
 - The building is not currently sprinklered and therefore there are no modifications are required to maintain the existing conditions.
- Life/safety
 - There are numerous egress concerns. Exit doors are chained and locked. Two east stairs are blocked in locations. However, no modifications are required to maintain the existing conditions.
- Accessibility
 - The elevators are not operable, and the licenses are expired. However, no modifications are required to maintain the existing conditions.
- Finishes
 - There is damaged plaster ceilings and walls. Future failures of the existing heating system may cause additional damage. However, no modifications are required to maintain the existing conditions.

VI. “Grey Box” Option Summary

The approved “grey box” concept is a mix of office functions and event/assembly space. This concept allows for cultural and arts programming, government offices, non-profit offices, and incubator space. It also correlates with the concept presented by 21c.

Areas in Old City Hall defined as assembly will correlate with the 2014 Indiana Building Code’s (IBC) Assembly Groups A-2 and A-3. Assembly Group A-2 allows banquet halls and restaurants. Assembly Group A-3 allows art galleries, community halls, exhibition halls, lecture halls, libraries, and museums. Areas defined as office will correlate with IBC’s Business Group B which allows civic administration, data processing, higher education (above grade 12), police stations, post offices, professional services, radio and television stations, and training and skill development not within a school or academic program.

To compensate for egress concerns and occupancy loads on the existing stairs, assembly spaces (which have a larger occupancy load) are limited to areas with direct access to the outside (basement/lower and ground/first levels) and spaces with direct access to the stair hall.

On all floors, the main lobby/rotunda, side lobbies, and stair hall are considered assembly space. Also on all floors, the space east of the side lobbies will be used wholly or partially as restrooms.

At the basement/lower level, spaces south and east of the main lobby are considered assembly space. Spaces north of the main lobby will continue as mechanical and storage space.

At the ground/first level, the vestibule and spaces south of the main lobby are considered assembly space. Spaces north of the main lobby are considered office space.

On levels two through four, spaces south, east, and north of the main lobby are considered office space.

The steps and accessible ramp east of the building will be retained.

The landscaping and lower level egress stairs will be retained.

The alley west of the building will be vacated by the Department of Public Works (DPW). Alley vacations are usually evenly divide between adjacent properties. This concept assumes either a full vacation to the Old City Hall parcel or the City negotiating the purchase of the adjacent property’s rights to the vacated alley. Access rights through an easement agreement for building maintenance and emergency access will be needed by the adjacent property owner. A one story loading dock structure will be constructed at the north end of the alley. The remainder of alley could be landscaped to provide outdoor event space and egress.

The parking lot north of the building is not included in this concept.

The main lobby, side lobbies, stair hall, and vestibule will be completely restored. New restrooms and HVAC will be provided. Rooms with existing dropped ceilings will receive new ceiling grids, tiles, and light fixtures, with the exception of the space south of the main lobby on the fourth level. All other spaces will receive restored plaster finishes with new or restored light fixtures. All spaces that do not have marble floors will receive new carpet or vinyl tile finishes. Electrical and communication services to the spaces are not included in this concept.

All of the existing building mechanical, plumbing and electrical systems are past their useful life and need to be replaced. A water source heat pump system is proposed to minimize piping routed through the building and allow for modification with improved energy performance. A new normal and emergency power system will be installed and will be configured to provide for flexibility of the final configuration.

VII. Recommendations to Improve to “Grey Box” Condition

The scope for building finishes is illustrated in Attachment B. The estimated cost ranges provided include hard costs (materials, labor, general conditions, general contractor markups, and construction manager fees) and soft costs (architect fees, engineer fees, and owner’s representative fees). Estimated costs for each work type assume that work is done in phases and independent from each other. Estimates are in 2021 dollars and does not account for future fluctuations in labor or material costs.

The estimated cost for the “grey box” condition ranges between \$36,288,000 and \$54,939,000. If the work is completed as a singular project, savings could range between \$3,845,000 and \$7,298,000.

A phased investment could be considered. See Attachment C for a recommended phasing approach.

- Building envelope, structural, and site conditions
 - All building envelope, structural, and site conditions items in Section VI need to be addressed in Grey Box improvements
 - Façade: Clean all limestone to remove staining
 - Estimate: \$1,064,000-\$1,283,000
 - Windows: Re-open infilled windows and install new windows
 - Estimate: \$2,661,000-\$6,151,000
 - Doors: Restore bronze doors
 - Estimate: \$42,000-\$51,000
 - Doors: Replace non-bronze doors
 - Estimate: \$23,000-\$30,000
 - Site: Repair steps and ramps, install new handrails, and replace sealants
 - Estimate: \$193,000-\$233,000
 - Loading Dock Addition: Vacate portion of alley to provide loading dock structure with opening facing north. Provide structure for potential mechanical equipment.
 - Estimate: \$538,000-\$702,000
- Mechanical system
 - Water Source Heat Pump System: Infrastructure, building piping and water source heat pumps.
 - Estimate: \$6,020,000-\$8,606,000
 - Mechanical system items in Section VI do not need to be addressed if Water Source Heat Pump System is installed.
 - Atrium Smoke Exhaust System

- Estimate: \$322,000-\$507,000
- Electrical system
 - Normal Electrical System
 - Estimate: \$4,480,000-\$6,413,000
 - Add Emergency Electrical System
 - Estimate: \$350,000-\$5,232,000
 - Add Rooftop Photovoltaic System
 - Estimate: \$189,000-
- Plumbing system
 - Plumbing Infrastructure
 - Estimate: \$1,960,000-\$2,307,000
 - Restrooms: Install new restrooms on each floor
 - Estimate: \$2,100,000-\$2,742,000
- Telecommunications system
 - MDF Room
 - \$105,000-\$237,000
- Fire and life safety
 - Install new fire alarm, smoke control, and fire sprinkler system, expand standpipe system, address fire resistance deficiencies, add handrails to stairs, extend guardrails, and address other damaged or missing components
 - Estimate: \$6,900,000-\$8,317,000
- Accessibility
 - Elevators: Modernize two passenger elevators and one freight elevator
 - Estimate: \$2,324,000-\$3,035,000
- Finishes
 - Marble cleaning: Main lobby, side lobbies, vestibule, and stair on all levels
 - Estimate: \$271,000-\$353,000
 - Ceilings and walls: Repair and paint plaster where exposed, replace ceiling grid and tile where remaining.
 - Estimate: \$3,453,000-\$4,508,000
 - Flooring: Install carpet tile and/or vinyl tile in spaces without marble flooring
 - Estimate: \$350,000-\$457,000

VII. Attachments

Attachment A: Stakeholder Meeting Notes
Attachment B: Grey Box Concept Finish Diagrams
Attachment C: Grey Box Phasing Concept
Attachment D: J S Held observations
Attachment E: WJE observations
Attachment F: CMTA observations

Attachment A: Stakeholder Meeting Notes

MEETING NOTES

Subject: OCH and CM
Date / Time: May 17, 2021 / 11:00 AM
Location: Virtual
Attendees: Stakeholder: Brad B at Visit Indy
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. What is the future of the CCB?
 - ii. If \$ were no issue, use OCH as ceremonial space and build new facility on parking lot
 - iii. Thought the hotel was an amazing alternative
 - 1. Kept OCH open to the public
 - 2. Rotunda should remain open to the public
 - iv. Arts and culture was a piece of the hotel project
 - v. The building doesn't provide a positive impact to the pro forma
 - vi. Is there demand for the arts and culture there?
 - vii. How does it not cannibalize the other places
 - viii. Denver City Hall: look at security set up
 - ix. Would prefer to have rotunda open before security
 - 1. Same desire for CCB observation level
 - x. Maybe the first floor is non-profit/cultural use/city gallery
 - xi. "The City Discovery Center"
 - 1. Brad and Scott Truex
 - 2. Chicago Architectural Center-esque
 - xii. Don't know the future of downtowns
 - 1. Big cities are bleeding residents
 - 2. Small big cities are reaping the benefits
 - 3. How does the post pandemic office market look?
 - xiii. Needs for the space
 - 1. Society has gone feral
 - 2. How to bring people back together for a conversation, to reconnect
 - 3. Ned Lampkin (book on how to govern and how to be a good citizen) and Brian Payne
 - 4. Ways to bring conflicting groups together; find common ground
 - 5. Temple to democracy
 - 6. Civic minded space

7. Maybe sell parking lot to fund OCH
 8. Not office, not residential
 9. Maybe hotel but not big box
 - a. Not one 1,000 hotel, but 10 x 100 hotels
- b. City Market
- i. 95% residents; needs to support the city
 - ii. Intersection of what residents and visitors want/demand
 - iii. It doesn't have to be a "food court"
 - iv. More off street farmers market
 - v. Remove wing and install a farmers market structure for more
 1. Mass Ave residential population
 2. Transit Center proximity
 3. Income equity story can play pretty well
 - vi. Remove other wing and build on music strategy or build on family strategy
 1. Lugar Plaza didn't end up being the playground for downtown
 2. Portland has random ¼ block parks
 3. Family playground
 - vii. It is okay to leave it as a non profit public use
 1. Part of original city plan
 - viii. It is a food court, not a food hall
 1. So is Garage and AMP
 2. Multiple check outs in food court
 3. One check out in a food hall
 4. Food hall could have more experimentation, flexibility
 - a. Bring in more cooks from different regions
 - i. International Marketplace
 - ii. Promote other food regions in Indy
 - b. Can still bring in Martha Hoover, Cunningham, etc.
- c. Downtown
- i. Future of CCB
 - ii. Future of Red and Gold buildings, connecting garage
 - iii. Future of office space

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: May 6, 2021 / 2:00 PM
Location: Virtual Meeting
Attendees: Stakeholder: Jeff Bennett
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. Perceived uses
 - 1. Government offices
 - 2. Event space/venue
 - a. All levels, not just main level
 - 3. Mixed use combo
 - ii. City ownership should continue
 - iii. Event space and government offices could co-mingle
 - iv. Additional office space would be needed in new build or red/gold buildings
 - v. Relocation of city government would allow CCB to turn workforce development
 - vi. Stuff has to happen this year
 - 1. Windows
- b. City Market
 - i. People inhabiting downtown positively impacts City Market
 - ii. City Market as traditional market is still a viable option
 - iii. City Market as food hall is still viable, despite Bottleworks and 16 Tech
 - iv. Broadening of options
 - v. Hours of operation
 - vi. Look at attraction, retention, and leasing
 - vii. Gold Building can positively impact
 - viii. Wings are less cool
 - ix. Concrete/hard surface is tough; look at softer options
 - x. Y was a vanity project; square peg in a round hole
 - xi. Bike shop is still good
 - xii. More potential for west wing; it is wide open
 - xiii. Pop-Up/Food Truck -> Food Stall -> Full service space
 - xiv. Soften west plaza
 - xv. Redevelop the east wing and plaza; could package with CCB redevelopment

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: April 29, 2021 / 9:00 AM
Location: Virtual Meeting
Attendees: Stakeholder: Ken Clark
CORE Planning Strategies: Jason Larrison

1. Notes
 - a. City Market
 - i. Concepts
 1. Central Hall
 - a. Competing with Garage, 16 Tech
 - b. Farm/agriculture is a bygone concept; what is our brand?
 - c. Trajectory of vendors to fit community
 - d. Has to have food
 - e. First floor seating
 - f. Main entrance experience
 2. West Wing
 - a. Tomlinson makes sense
 3. West Plaza
 - a. Could be really cool
 - ii. Getting City Market off of city subsidies
 1. Goal for 2024; maybe 2025
 - iii. Options
 1. Historic Hall
 2. West Wing
 3. West Plaza
 - b. Old City Hall
 - i. Grey box concept
 1. No agreement on future of OCH
 2. Include
 - a. Windows
 - b. Accessibility
 - c. Restrooms
 - d. HVAC
 3. Options
 - a. High
 - b. Medium

- c. Low
- 4. Use options
 - a. City government
 - b. Event/meeting space
- 5. Connectivity discussion
 - a. To other buildings

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: April 30, 2021 / 2:00 PM
Location: Virtual Meeting
Attendees: Stakeholder: James Corry
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Excited about the opportunities
- b. Connect Jim with CMTA re MEP
- c. Offers team members for a conversation with both teams
- d. Electronic drawings available; maybe reports from work order system
- e. City Market
 - i. Formal agreement to do regular maintenance
 - 1. Since 2017
 - 2. Air filters
 - 3. Weekly PM's
 - 4. Stay out of tenant spaces
 - 5. Enzymes in drains
 - ii. Chilled water piping replacement last week
 - 1. Gap/seal integrity into basement level
 - iii. MEP issues
 - iv. Wagon wheel lights have LED lights now
 - v. Heating coil replacement in one of the air handlers
 - vi. Need to rebuild steam valves
 - vii. Rebuild chilled water valves
 - viii. Elevator in west wing needs rehabbed
 - ix. Basement infrastructure (chiller, freezer, etc.) need to be assessed
 - x. Mechanical, custodial room has drawings
 - 1. Basement on way to east wing
 - xi. Christmas wish list
 - 1. Clean outs
 - 2. Access to mechanicals
 - 3. Bigger fan system; supplemental system
- f. Old City Hall
 - i. Roof leak over winter
 - ii. Major roof leak several years ago that damaged 4th floor
 - iii. LED lights in fixtures are blinking; phase problem

- iv. Steam system still in use; corroding
- v. Big cleanup effort is needed
- vi. Elevators is not safe
- vii. Marble steps are worn
- viii. 4th floor south end rendered useless with ductwork in place
- ix. IMCBA has been mostly at arms length; emergency services
 - x. More recent relationship with grounds keeping, etc.
 - xi. Have done some small scale restorations (exterior lamps, north windows, etc.)

MEETING NOTES

Subject: OCH and CM
Date / Time: May 11, 2021 / 10:30 AM
Location: City Market West Plaza
Attendees: Stakeholder: Mark Dollase
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. Interior is incredible, needs to be preserved
 - ii. Younger people don't really know the building
 - iii. Open it up for regular use, public access
 - iv. Windows are a priority
 - v. Maybe move some CCB functions?
 - vi. Cultural and arts role ideal
 - vii. It is more approachable government building than CCB
 - viii. Important landmark
 - ix. DMD should have a public strategy session for use
 - x. Not opposed to private use if it is a great use and well funded
 - xi. Respect historic integrity
- b. City Market
 - i. Central Hall
 - 1. Has the visual of successful farmers markets
 - 2. Does Indy have culture to support a traditional farmer market?
 - 3. IS there neighborhood support?
 - 4. Shifting audience, shifting use
 - a. Okay to focus on current food vendor trajectory
 - 5. 2021 will be a steep hill to climb operationally
 - ii. Wings
 - 1. Use has never emerged; could be more important
 - 2. Redevelopment should be considered
 - 3. Catacombs should be retained
 - 4. Public space is valuable
 - 5. Lugar Plaza is probably meeting different needs
 - 6. East could be interesting reuse
 - a. Commerical
 - b. Low rise
 - c. Don't put central hall in shadow

7. Concern about use conflicting with residential developments
 8. Build out West Wing, maintain some plaza
 9. Plaza could be more attractive, but is definitely worthwhile use
- iii. Catacombs
1. “Rathskeller”, Beer Hall opportunity
 2. What is feasible?
 3. Not sure of an actual agreement in place between CM and Indiana Landmarks
- c. Relationship
- i. Mark has been a consultant to CM in the past

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: May 12, 2021 / 1:30 PM
Location: Virtual Meeting
Attendees: Stakeholder: Catherine Esselman
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. Office space is not the best use for it
 - ii. Look at Market East study
 - iii. Alabama is a jewel, with energy to be slower and pedestrian scale
 - 1. Connects CBD (Class A space) to Arts District on Mass Ave
 - iv. The 21c proposal had everything to it
 - v. Need a browsing, lingering function that is missing
 - vi. Have a museum-like, public facing is a better use
 - vii. A building for the people; give back to the people
 - viii. CCB is the elephant in the room
 - ix. How does Alabama and Delaware talk/connect with each other?
 - x. Take the monetary wins on the surface parking lot and invest it in a public OCH space
 - xi. Maybe there is a for profit component on the upper floors
 - 1. Boutique hotel is still a need
 - xii. How does it add to the 18 hour downtown concept
 - xiii. How do you salvage the building without completely gutting?
 - xiv. Atrium is beautiful but a lot of dead space making redevelopment
- b. City Market
 - i. Land trust requirements?
 - ii. Plazas without truck access feels limited
 - iii. East wing and plaza: should be fitness, public serving entity
 - 1. BGI, Rusted Moon, etc.
 - 2. Access to Cultural Trail
 - 3. If not Y, some other entities
 - 4. High density thing (redevelopment) isn't really needed
 - iv. Central Market House
 - 1. It is very co-working, co-locating incubator/launching pad space
 - 2. What happens at CCB will impact CM
 - 3. Partner with high ed (Ivy Tech) to provide mentorship, etc.

4. Partner with organizations (chambers, etc.) to provide wrap around services (Be Nimble at 16 Tech)
5. People will happen upon at CM
6. Lack of information/visitors center
- v. West wing and plaza:
 1. Platform is a weird space for co-working, leasable space
 2. It feels like a one user space
 3. Higher institutions, higher ed, cultural institution
 4. What would it look like if Ivy Tech occupied entire space?
 5. Should stay "Market" in feel with food, but there is a lot of flexibility
- vi. Catacombs
 1. Increase tours, review deal with Landmarks
 2. What makes it unique and promote the hell out of it
 3. How to make it not so scary and not quite as messy
 4. Destination driver
- vii. Can act as a visitors center for the city
 1. Information center
 2. More signage, digital signage, wayfinding
 3. Come out from the shadows and tell the story in an engaging way
- viii. Circulators between districts, cultural resources, City Market, etc. connect to hotels, convention center, etc.
 1. Role out at CFB championship and keep it rolling after
 2. We do them just for visitors; what can we do just for us
- ix. Weekend traffic
 1. How do we collect/drive traffic?
 2. Partner with the right people/groups?
 - a. Kan Kan
 - b. Indy Film Fest
 3. More night time activations
- x. Infrastructure for events is needed
- xi. Don't renew leases
- xii. Parking wayfinding and partnerships is needed
- xiii. So many property owners need City Market to be successful
 1. How can others compliment and vice versa

MEETING NOTES

Subject: OCH and CM
Date / Time: May 11, 2021 / 1:00 PM
Location: Gershman Partners
Attendees: Stakeholder: Eric Gershman
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. Proximity to Cultural Trail is a big draw for residential development
 - ii. Lack of hospitality is an issue; should be a new big
 - iii. OCH should be a cultural amenity
 - 1. Would drive more traffic
 - iv. Low impact office is okay, but not as high functioning
 - v. Red brick building could have a connection with OCH
- b. City Market
 - i. Central hall should remain a food hall
 - ii. Wings are an issue
 - iii. Property is tough to operate, but it is an amenity
 - iv. Developers see CM as an amenity but isn't meeting expectations
 - v. CCB changes will be impactful
 - vi. Should celebrate history and be activated
 - vii. Activate public space in alley
 - viii. Gershman plans to work with Ball State to design alley
 - ix. Parker Alley in Detroit is a precedent
 - x. Alley will be activated with street level venues in gold building and garage
 - xi. West Wing should be for entertainment
 - xii. East Wing is up for discussion
 - xiii. Bottleworks demonstrates demand
 - xiv. Looking forward: needs evening and weekends and mornings
 - xv. Be able to buy fish, flowers, gum, etc.
 - xvi. Demographics changing positively
 - xvii. CM plazas are different; shouldn't compete with Lugar and Cummins
 - xviii. Farmer's Market is Important
 - xix. Loading dock: whatever is needed is no issue
 - xx. CM can have access to parking garage
 - xxi. Short term loading on Alabama, not alley
 - xxii. Operations should have one agenda: Kick Ass and Make Money

- xxiii. Look at Food Hall operators in Chicago
- xxiv. Add a golf simulator
- xxv. Be ruthless
- xxvi. Change perspective
 - 1. Not a philanthropy for food vendors
 - 2. Have more of a profit mentality
- xxvii. Look at Columbus (Ohio) Farmer's Market
- xxviii. Bike Shop should be more open
- xxix. Open catacombs for more events
- xxx. Move bus stops (Megabus)
- c. Indianapolis
 - i. What is the plan for all the properties?
 - 1. CCB, CM, OCH
 - ii. Public/private partnerships come in to play
 - iii. How does the TIF come in to play

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: April 30, 2021 / 9:00 AM
Location: Virtual Meeting
Attendees: Stakeholder: Carmen Lethig
CORE Planning Strategies: Jason Larrison

1. Notes

a. City Market

- i. Food entrepreneurs test out food; incubation; pop ups
- ii. How does former Tomlinson inform the use?
- iii. Multi-use space
 - 1. Valpo covered space
 - 2. Four seasons use
- iv. Why is it not as successful?
- v. How do we create a draw?
- vi. Things can be scalable
- vii. Look at NYC Chelsea Market
 - 1. Business development functions and incubation functions?
- viii. How to tie in to other properties like Union Station?

b. Old City Hall

- i. How to draw people and communicate story?
- ii. Central City Services
 - 1. One stop question desk: Planner, BNS staff, etc.
 - 2. The Harrison – neighborhood info desk
- iii. Small business incubation
 - 1. Minority populations

c. Long Range Planning

- i. Regional Center Design updates
- ii. Cultural Plan
 - 1. Could be a small task force or a larger effort
 - 2. Cultural Asset Audit
 - 3. Arts, history, culture, equity, historic architecture
 - 4. Fuse placemaking, equity, art, history in to land use decisions
 - 5. “Why does this place matter?”
 - 6. Boston has a great cultural plan
 - 7. Help build an identity

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: May 10, 2021 / 10:00 AM
Location: Virtual Meeting
Attendees: Stakeholder: Danicia Malone
CORE Planning Strategies: Jason Larrison

1. Notes

- a. About
- b. Old City Hall
 - i. Used OCH arts and culture events (3-4 years ago)
 - 1. Could be made contemporary without a whole lot of redesign
 - 2. Allow for free form activity
 - 3. A space with a lot of history
 - 4. Already community mind
 - ii. CCB doesn't have a great connotation to it; using OCH as a great community space would be helpful
 - iii. Update: technology, electrical, lighting, more wall space, flexibility
 - iv. Democratic space: open wifi for all; OCH as an infrastructure for the community; foot traffic; entrepreneurs; incubation; spur economy
- c. City Market
 - i. Could tie OCH and CM incubation
 - 1. OCH is the learning space?
 - ii. Internship at CM; cultural engagement activation
 - iii. CM is discombobulated
 - 1. Exterior is not as friendly for sitting, playing, meeting
 - a. Except when farmer's market is in session
 - 2. Interior is not as easy to navigate
 - a. Where is the information desk?
 - b. Cramped space; can be overwhelming
 - c. Misses the mark engaging the diverse population
 - iv. CM can include food producers
 - 1. Having a space for urban farmers with flexibility
 - 2. Pop-op/Co-op/Co-working opportunities
 - a. On trend of the food evolution
 - 3. Working with the urban ag community and dealing with food scarcity
 - 4. Affordability of current products
 - v. West Wing and Plaza

1. A lot of dead space
 2. Need for well structured space to host events
 3. Not widely known how it is used and if it is available
 4. Doesn't need to be programmed, but needs reintroduction and rebranding
- vi. Ideas
1. Outdoor wellness/fitness/health park
 - a. Active
 - b. Passive: mental wellness
 2. Art Park
 - a. Some permanent
 - b. Multi functional
 - c. Plexiboards inside for a walking gallery
 3. Skate Park
 - a. Small ramps, small rails
 4. More fun seating
 - a. Functional
- vii. Keep dignity at the forefront when dealing with the populations that use the space
1. Include a service center for them
 2. Outdoor vendor station
 3. Rotation of services
 4. Community space for every community and every citizen
 5. Opportunity to partner with Chip
- d. Staff
- i. Limited staff
 - ii. How are the improvements staffed and invested in the future?
 1. Not just 3-5 years, but 10-20 years

MEETING NOTES

Subject: Follow Up OCH
Date / Time: May 26, 2021 / 11:30 AM
Location: Virtual Meeting
Attendees: Stakeholder: Meg Purnsley
CORE Planning Strategies: Jason Larrison

1. Notes
 - a. Old City Hall
 - i. Loading dock and cooling tower
 1. Linda at current planning
 - ii. Alley
 1. Precedent concerns
 - iii. Egress
 1. Blue path is preferred
 - iv. Windows
 1. Files documenting window selection at IHPC or DMD
 2. Meg will pursue
 - v. Restrooms
 1. Site visit to nail down details
 - vi. Adding insulation on walls
 1. Seems invasive
 2. Seems destructive
 - vii. Flooring
 - 1.
 - viii. Ceilings
 1. Plaster restoration
 2. Dropped Ceilings
 - a. Don't add hangers
 - ix. HVAC
 - x. State historic preservation fund
 - b. From 4/28 discussion
 - i. Modifications
 1. Do you have to touch historic materials?
 2. Can you do it with soft contacts (reversible)?
 3. Union Station is a comparable situation
 - a. Gene King
 - b. Sensitive alterations

- ii. Protection of original materials
- iii. Discuss ways to modify and mitigate
 - 1. Make inconspicuous
 - 2. Avoid altering something important
 - 3. Prefer surface mounted conduit versus cutting through walls
- iv. Commission feedback or presentation not needed
- v. Concerns
 - 1. Continued plaster damage
 - a. Maintenance plan

MEETING NOTES

Subject: Kickoff Meeting
Date / Time: April 28, 2021 / 8:00 AM
Location: Virtual Meeting
Attendees: Stakeholder: Meg Purnsley
CORE Planning Strategies: Jason Larrison

1. Notes

- a. City Market
 - i. Not a protected
 - ii. Original plans at IHPC?
- b. Old City Hall
 - i. Modifications
 - 1. Do you have to touch historic materials?
 - 2. Can you do it with soft contacts (reversible)?
 - 3. Union Station is a comparable situation
 - a. Gene King
 - b. Sensitive alterations
 - ii. Protection of original materials
 - iii. Discuss ways to modify and mitigate
 - 1. Make inconspicuous
 - 2. Avoid altering something important
 - 3. Prefer surface mounted conduit versus cutting through walls
 - iv. Commission feedback or presentation not needed
 - v. Concerns
 - 1. Continued plaster damage
 - a. Maintenance plan

MEETING NOTES

Subject: OCH and CM
Date / Time: May 13, 2021 / 1:00 PM
Location: Starbucks on Mass Ave
Attendees: Stakeholder: Bob Schultz
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. Private dollars needed to preserve and add on to OCH
 - ii. OCH can be an anchor for the south end of Mass Ave
 - iii. There is still demand for residential
 - iv. A non-profit hub could be useful
 - 1. Offices for Arts Council, etc.
 - 2. Special Event Space
 - v. Hotel need is still there
 - 1. Cater to urban core adventurer
 - vi. Mass Ave is doing well
 - vii. Government office option
 - 1. Seems like a stretch
 - 2. Seems inefficient... is it really functional?
 - 3. Seems expensive to maintain
 - 4. Would it remain accessible to the public
 - a. Accessibility if security check is required
 - b. Should mayor's office be accessible
 - 5. Is, at best, a romantic notion
- b. City Market
 - i. Bottleworks Garage demonstrates that food hall experience is desired
 - ii. Wings don't seem to take advantage of the plazas
 - 1. Tavern on Green – signature restaurant
 - iii. Wings feel old and disconnected
 - iv. There is no collective brand
 - v. TTR is underpromoted
 - 1. Should be at street level
 - 2. Should have plaza access
 - 3. Look at Campus in Detroit, Ftn. Sq. in Cincy
 - vi. Cater to after work crowd
 - vii. Lugar is great, but large and across from transit center

- viii. Plazas are smaller and easier to contain
- ix. Make connection between indoor and outdoor spaces
- x. Close to plenty of residential
 - 1. Push hours and days
- xi. Don't bring ice skating
 - 1. Covered by Pacers Plaza
- xii. Catacombs could be a gem
 - 1. Unique, compelling, authentic, memorable
- c. Downtown
 - i. Needs a dog park
 - ii. Needs more shaded outdoor dining
 - iii. Don't be tourist focused like Georgia Street; cater to locals

MEETING NOTES

Subject: OCH and CM
Date / Time: May 17, 2021 / 2:00 PM
Location: Virtual
Attendees: Stakeholder: Jim Walker
CORE Planning Strategies: Jason Larrison

1. Notes

- a. Old City Hall
 - i. 21c was a great concept
 - ii. Missing pieces
 - 1. Contemporary art museum
 - 2. Unique hotel options
 - iii. Everybody is doing everything
 - 1. What is it that isn't happening at 16 Tech and Bottleworks?
 - iv. Arts and culture investments still needed
 - v. Revisit Super Bowl activation
 - vi. Look at contemporary art museum in Cincy
 - vii. Builds on art legacy at Mass Avenue
 - viii. Not another restaurant (i.e. Cunningham)
 - ix. Government offices are a good idea too
 - x. CCB doesn't feel like it is for people
 - xi. OCH would feel like something special
 - xii. The planning space was enjoyable
 - xiii. Government and arts/culture can co-exist
 - xiv. Exhibition that doubles as conference space
 - 1. Art may have to be "safer", but that's okay
- b. City Market
 - i. Level plazas/create accessibility to allow vehicles to load and unload
 - ii. Full market direction
 - 1. Eastern Market in Detroit
 - 2. Cleveland Market
 - 3. Findley Market
 - 4. St. Louis Market – Solard
 - 5. Milwaukee Market
 - 6. All have outdoor market shells and components
 - a. Bloomington Farmers Market
 - iii. West Plaza for Farmers Market

- iv. East Plaza could be green space
 - 1. Just grass
 - 2. Not as built out as Lugar or Cummins
- v. Both places don't need programmed
- vi. Function of wings depends on function of plaza
- vii. Garage doors could open the spaces and connect to the plaza
- viii. Bar space on plaza level
- ix. Lots of street retail opportunities
- x. Bike Hub and YMCA are good uses
 - 1. Open the spaces to the outdoors
- xi. Rain garden at east plaza
 - 1. Good spot of nature
- xii. CM
 - 1. Needs to be a destination
 - 2. Expand Farmer's Market opportunity
- xiii. Garage and AMP are Food Courts
- xiv. CM needs to be an Un-Food Court
- xv. Can't just be a grocery store
- xvi. Whole Foods isn't necessarily stocking local products
- xvii. City subsidy for local vendors makes sense
- xviii. Don't give up on traditional market activity
- xix. Grab a beer/beverage, first thing you do
- xx. Tom Tap shouldn't feel secluded, like a club
- xxi. Location is fine
- xxii. Expand hours
- xxiii. If you open it, they will come
- xxiv. Catacombs
 - 1. Neat space
 - 2. Would lose appeal if it is available all the time
 - 3. Look at catacombs from above?
 - 4. Add natural light?
 - 5. Could be good rental space, good revenue generator
 - 6. Adding light, make a photogenic space
- c. Downtown
 - i. OCH and CM can tie in together
 - ii. How does it tie in to CCB
- d. Big Car would be open to being a partner on future activities
 - i. Hasn't met Keisha yet

Attachment B: Grey Box Concept Finish Diagrams

Areas labeled 1: Construct at two (2) locations four (4) gender neutral, accessible, family-friendly restrooms with water closet, sink, and accessories; and a multi-stall restroom for an assigned gender; entire space is under a mechanical mezzanine

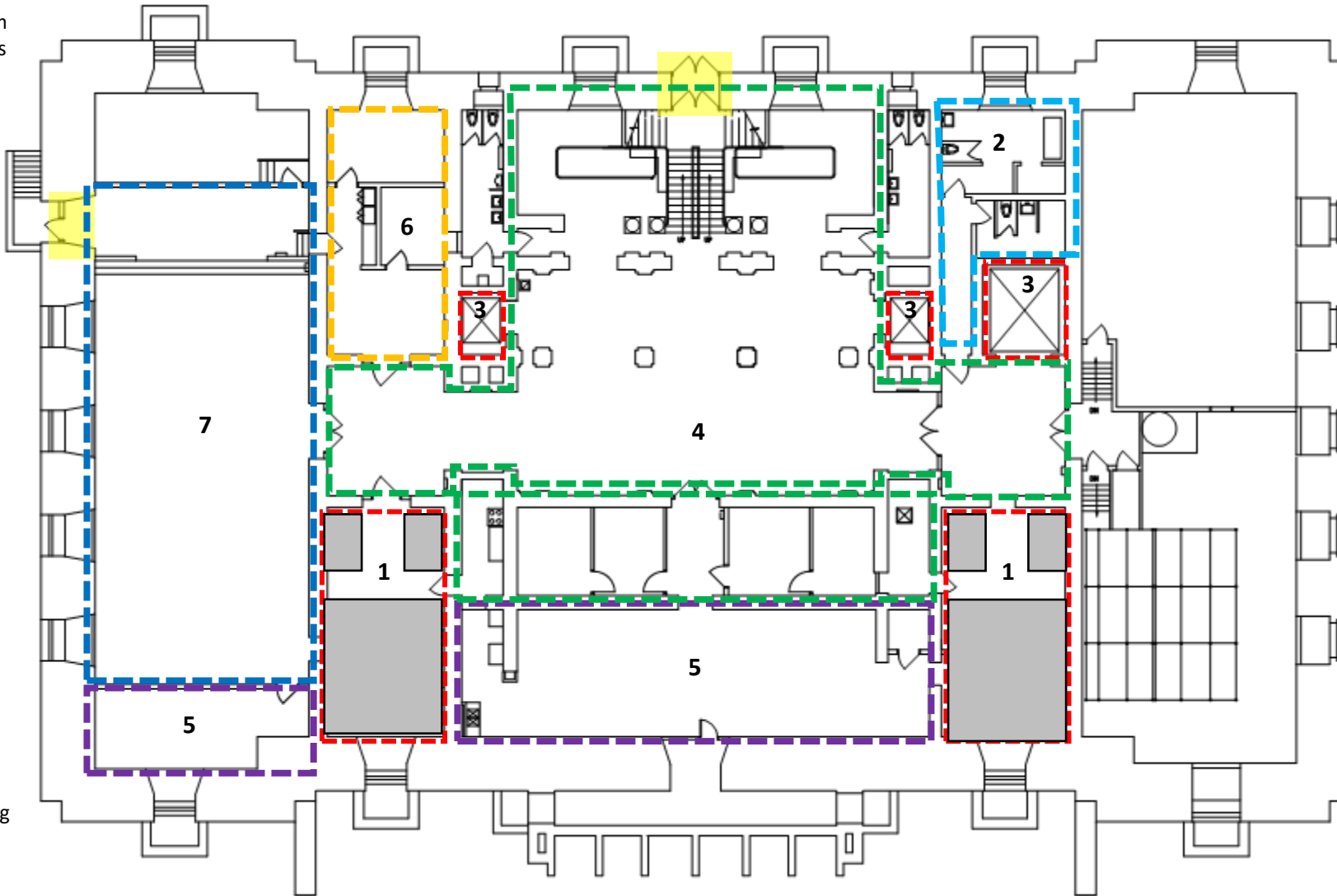
Areas labeled 2: Remove fixtures and walls; finish space for storage room

Areas labeled 3: Replace two (2) passenger elevators and one (1) freight elevator

Area labeled 4: Remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster work; paint plaster work

Areas labeled 5: Remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light figures

Areas labeled 6: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster walls; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; replace ceiling grid, tile, and lights



Areas labeled 7: Remove any existing surface mounted junction boxes and metal clad wiring; remove elevated flooring; install new stairs where needed; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light figures

Replace egress doors

Areas labeled 1: Construct at two (2) locations four (4) gender neutral, accessible, family-friendly restrooms with water closet, sink, and accessories under a mechanical mezzanine

Area labeled 2: Construct approx. 16' x 60' one (1) story structure with limestone finish and overhead door on north end to allow deliveries by truck. Include loading dock and equipment. Structure should accommodate chiller/cooling tower and/or similar HVAC equipment on roof

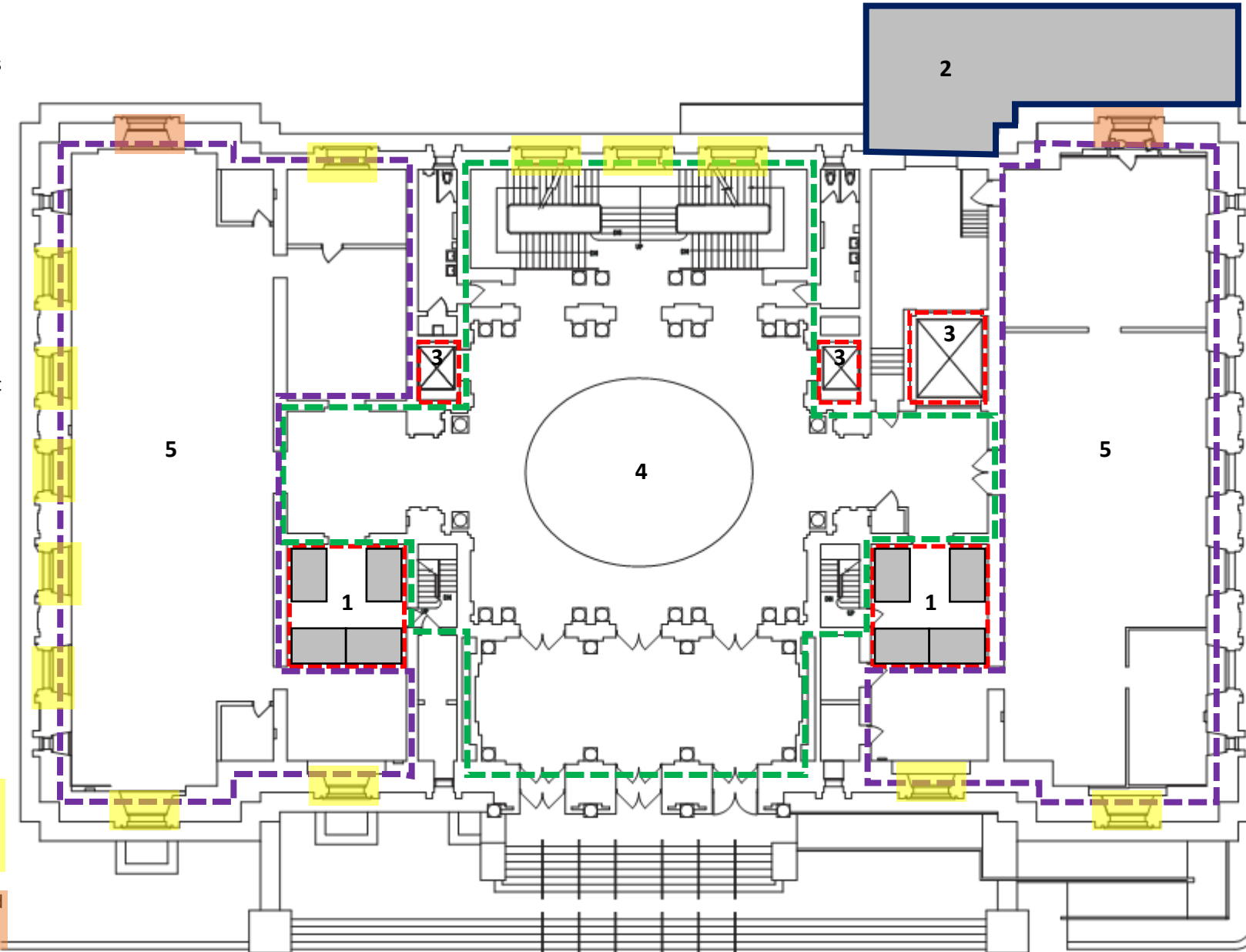
Areas labeled 3: Replace two (2) passenger elevators and one (1) freight elevator

Area labeled 4: Remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster work; paint plaster work

Areas labeled 5: Remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light fixtures

Remove blocking and install new wood double hung windows matching windows on north end of building

Remove blocking, enlarge opening, and install egress door



Areas labeled 1: Construct at two (2) locations four (4) gender neutral, accessible, family-friendly restrooms with water closet, sink, and accessories under a mechanical mezzanine

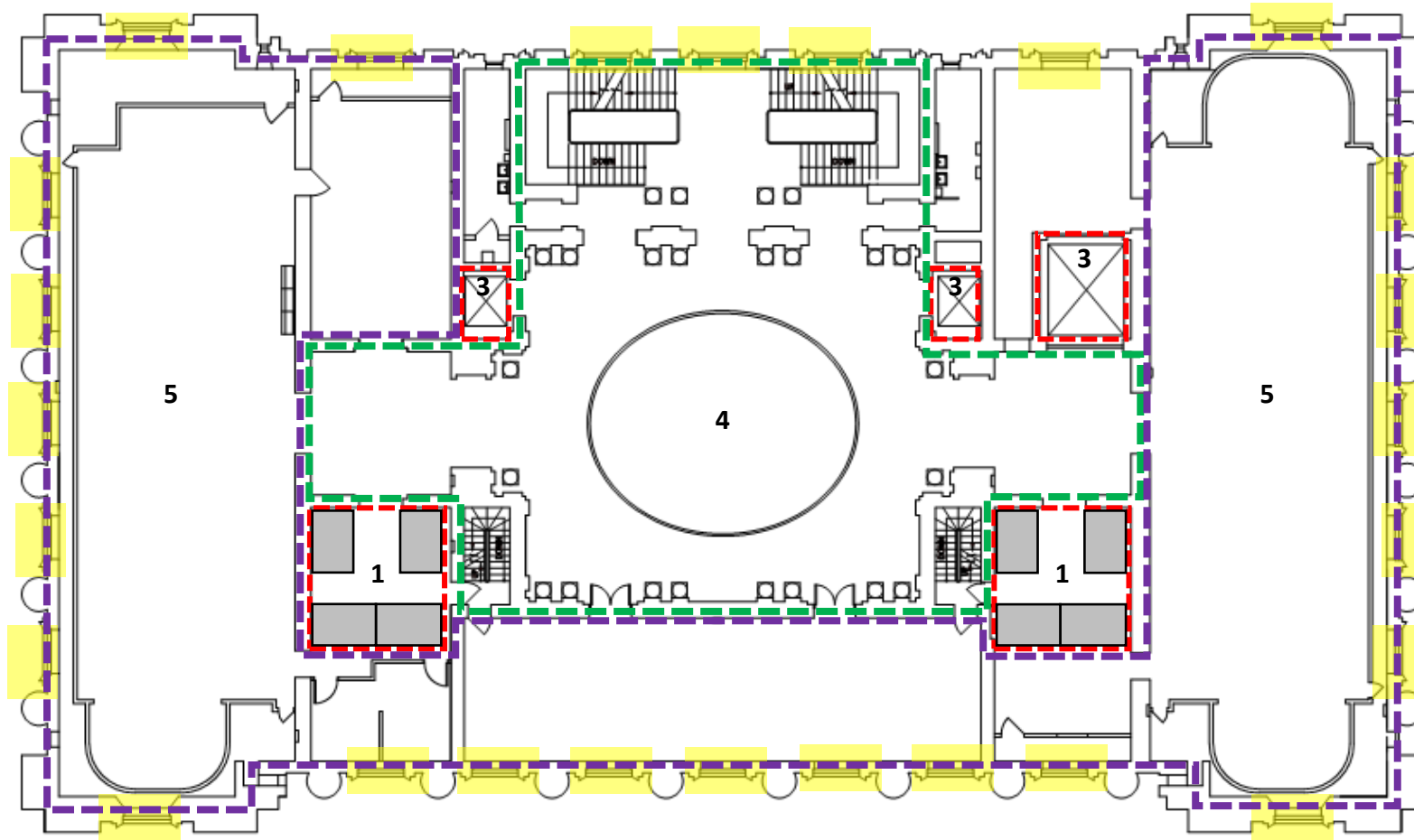
Area labeled 2: Not used

Areas labeled 3: Replace two (2) passenger elevators and one (1) freight elevator

Area labeled 4: Remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster work; paint plaster work

Areas labeled 5: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; replace ceiling grid, tile, and lights

Remove blocking and install new wood double hung windows matching windows on north end of building



Areas labeled 1: Construct at two (2) locations four (4) gender neutral, accessible, family-friendly restrooms with water closet, sink, and accessories under a mechanical mezzanine

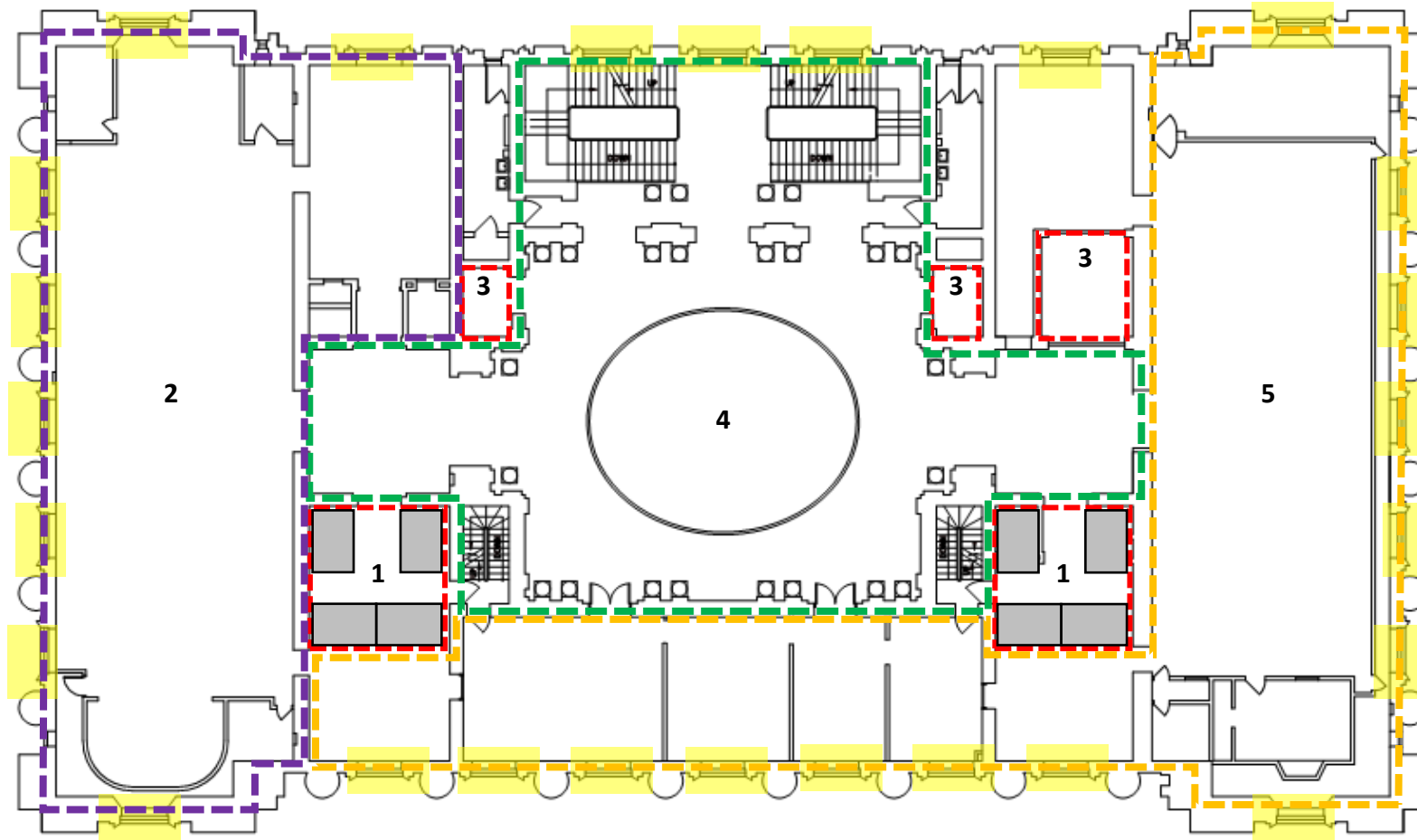
Area labeled 2: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light figures

Areas labeled 3: Replace two (2) passenger elevators and one (1) freight elevator

Area labeled 4: Remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster work; paint plaster work

Areas labeled 5: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster walls; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; replace ceiling grid, tile, and lights

Remove blocking and install new wood double hung windows matching windows on north end of building



Areas labeled 1: Construct at two (2) locations gender neutral, accessible, family-friendly restrooms with water closet, sink, and accessories (2 south and 3 north) under a mechanical mezzanine

Area labeled 2: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light figures

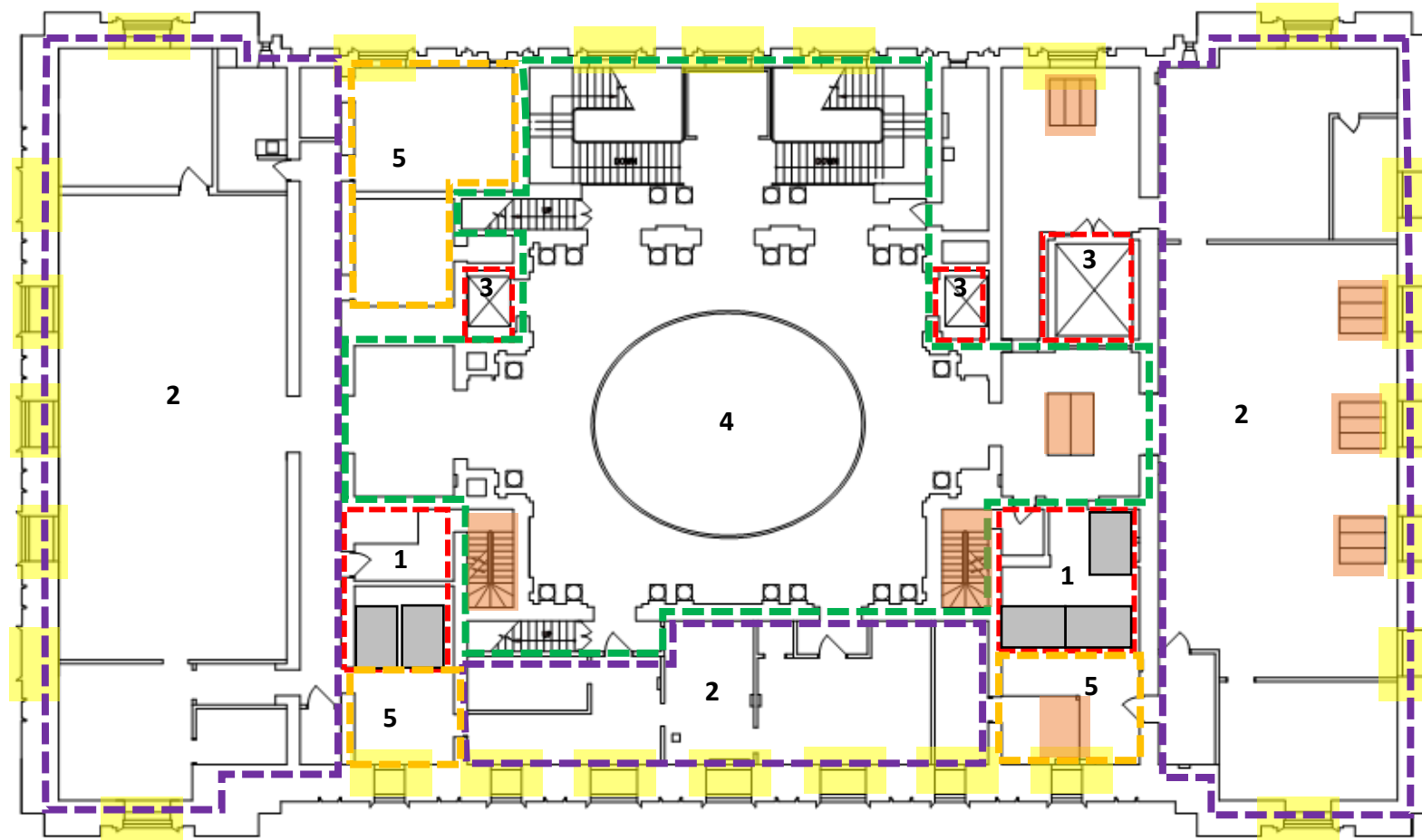
Areas labeled 3: Replace two (2) passenger elevators and one (1) freight elevator

Area labeled 4: Remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster work; paint plaster work

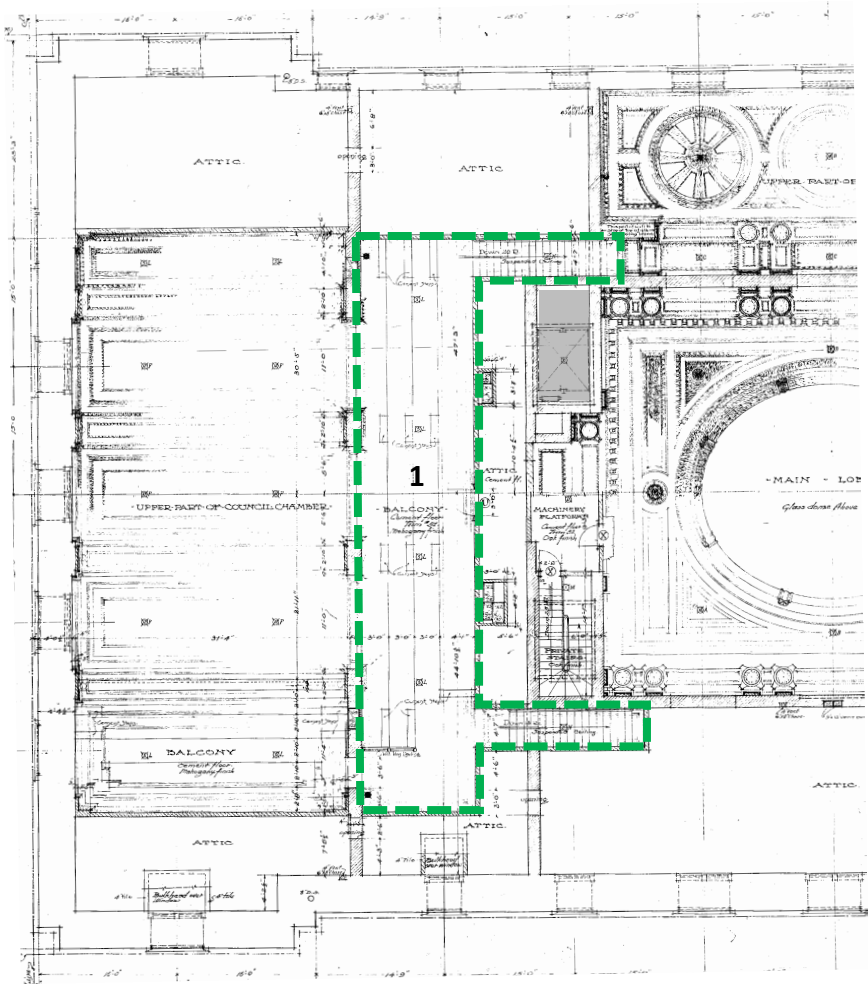
Areas labeled 5: Remove former exhibit walls; remove any existing surface mounted junction boxes and metal clad wiring; repair all plaster walls; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; replace ceiling grid, tile, and lights

Remove blocking and install new wood double hung windows matching windows on north end of building

Replace skylights with new triple glazed skylights



Area labeled 1: Remove any existing surface mounted junction boxes and metal clad wiring; remove any remaining drop ceiling components; repair all plaster work; paint plaster work; refinish existing woodwork; remediate existing flooring; install carpet tile; install light figures



Attachment C: Grey Box Phasing Concept

Old City Hall: Grey Box Sequence

Category	Project	Sequence	Cost estimate			Sequence Estimate		
			Low	Average	High	Low	Average	High
Building envelope, structural, and site	Façade Repairs	1	\$ 2,403,000	\$ 2,649,500	\$ 2,896,000	\$ 10,243,000	\$ 11,971,000	\$ 13,699,000
Building envelope, structural, and site	Roof Repairs	1	\$ 282,000	\$ 311,000	\$ 340,000			
Building envelope, structural, and site	Structure Repairs	1	\$ 21,000	\$ 23,500	\$ 26,000			
Building envelope, structural, and site	Vault Repairs	1	\$ 237,000	\$ 261,000	\$ 285,000			
Mechanical	HVAC Heat Pump System	1	\$ 6,020,000	\$ 7,313,000	\$ 8,606,000			
Building envelope, structural, and site	Replace Non-Bronze Doors	1	\$ 23,000	\$ 26,500	\$ 30,000			
Building envelope, structural, and site	Clean Limestone	1	\$ 1,064,000	\$ 1,173,500	\$ 1,283,000			
Building envelope, structural, and site	Repairs Steps and Ramps	1	\$ 193,000	\$ 213,000	\$ 233,000			
Building envelope, structural, and site	Re-Open Infilled Windows (1st Floor)	2	\$ 399,150	\$ 660,900	\$ 922,650	\$ 4,895,750	\$ 5,997,900	\$ 7,100,050
Building envelope, structural, and site	Restore Bronze Doors	2	\$ 42,000	\$ 46,500	\$ 51,000			
Electrical	Normal System (1st Floor)	2	\$ 1,792,000	\$ 2,178,600	\$ 2,565,200			
Finishes	Marble Cleaning	2	\$ 271,000	\$ 312,000	\$ 353,000			
Finishes	Ceilings and Walls (1st Floor)	2	\$ 690,600	\$ 796,100	\$ 901,600			
Finishes	Flooring (1st Floor)	2	\$ 70,000	\$ 80,700	\$ 91,400			
Mechanical	Smoke Exhaust System	2	\$ 322,000	\$ 414,500	\$ 507,000			
Plumbing	Infrastructure (1st Floor)	2	\$ 784,000	\$ 853,400	\$ 922,800			
Plumbing	Restrooms (1st Floor)	2	\$ 420,000	\$ 484,200	\$ 548,400	\$ 20,072,250	\$ 24,025,100	\$ 27,977,950
Telecommunications	MDF Room	2	\$ 105,000	\$ 171,000	\$ 237,000			
Accessibility	Modernize elevators	3	\$ 2,324,000	\$ 2,679,500	\$ 3,035,000			
Building envelope, structural, and site	Re-Open Infilled Windows (Remaining)	3	\$ 2,261,850	\$ 3,745,100	\$ 5,228,350			
Electrical	Normal System (Balance)	3	\$ 2,688,000	\$ 3,267,900	\$ 3,847,800			
Finishes	Ceilings and Walls (Balance)	3	\$ 2,762,400	\$ 3,184,400	\$ 3,606,400			
Finishes	Flooring (Balance)	3	\$ 280,000	\$ 322,800	\$ 365,600			
Fire and Life Safety	New alarm, sprinklers, and stair updates	3	\$ 6,900,000	\$ 7,608,500	\$ 8,317,000			
Plumbing	Infrastructure (Balance)	3	\$ 1,176,000	\$ 1,280,100	\$ 1,384,200	\$ 538,000	\$ 620,000	\$ 702,000
Plumbing	Restrooms (Balance)	3	\$ 1,680,000	\$ 1,936,800	\$ 2,193,600			
Building envelope, structural, and site	Loading Dock Addition		\$ 538,000	\$ 620,000	\$ 702,000			
Electrical	Emergency Electrical System		\$ 350,000	\$ 2,791,000	\$ 5,232,000			
Electrical	Rooftop Solar Electrical System		\$ 189,000	\$ 208,500	\$ 228,000			

Attachment D: J S Held observations

Fourth Floor Photos



Photo OCH - 4 - 1: Office south of central stairs. Drop ceiling covering original plaster ceiling.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 2: Former bathroom east of council chamber utilized as MDF room.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 3: Council chamber. Drop ceiling covering original plaster ceiling. Window openings blocked in.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 4: Office west of council chamber. Drop ceiling covering original plaster ceiling. Window openings blocked in and plastered.



Photo OCH - 4 - 5: Office east of council chamber. Original plaster ceiling and wall damaged by water leaks. Window openings blocked in and plastered.



Photo OCH - 4 - 6: Office east of rotunda. Dropped ceiling covering original plaster ceiling. Original plaster ceiling and wall damaged by water leaks. Window openings blocked in and plastered. Same room as Photo OCH-4-7.



Photo OCH - 4 - 7: Office east of rotunda. Dropped ceiling covering original plaster ceiling. Original plaster ceiling and wall damaged by water leaks. Window openings blocked in and plastered. Same room as Photo OCH-4-6.



Photo OCH - 4 - 8: Office east of rotunda. Original plaster ceiling and wall damaged by water leaks. Window openings blocked in and plastered. Same room as Photo OCH-4-9.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 9: Office east of the rotunda. Original skylight. Same room as Photo OCH-4-8.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 10: Lobby north of rotunda. Original skylight. Same room as Photo-OCH-4-11.

DRAFT COPY – FOR REVIEW



Photo OCH - 4 - 11: Lobby north of rotunda. Original plaster ceiling and walls damaged by water leaks. Same room as Photo-OCH-4-11.



Photo OCH - 4 - 12: Interior of freight elevator.



Photo OCH - 4 - 13: Office north of rotunda. Original plaster ceiling and skylights. Windows openings blocked in and plastered. Same room as OCH-4-14.

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Photo OCH - 4 - 14: Office north of rotunda. Damaged floor tile. Testing for hazardous materials required. Same room as OCH-4-14.



Photo OCH - 4 - 15: Office east of north lobby. Mechanical mezzanine partially covering skylight. Windows openings blocked in and plastered. Same room as OCH-4-16.

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Photo OCH - 4 - 16: Office in east of north lobby. Original plaster ceiling and walls damaged by water leaks. Windows openings blocked in and plastered. Same room as OCH-4-15.

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Photo OCH - 4 - 17: North private stair view from 4th floor. Handrail only on one side.



Photo OCH - 4 - 18: North private stair. Skylight over stairwell. Roofing installed over original skylight.

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Photo OCH - 4 - 19: South private stair. Skylight over stairwell. Roofing installed over original skylight.



Photo OCH - 4 - 20: South private stair view from 4th floor. Handrail only on one side.



Photo OCH - 4 - 21: Rotunda



Photo OCH - 4 - 22: Southeast corner of rotunda. Original plaster ceiling and walls damaged by water leaks.

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Photo OCH - 4 - 23: East stairs to mezzanine overlooking council chambers. Handrail only on one side.



Photo OCH - 4 - 24: View from mezzanine looking over council chambers. Suspended ceiling blocks view. Ductwork fills space about suspended ceiling.



Photo OCH - 4 - 25: View from mezzanine looking at original plaster ceiling.

Third Floor Photos



Photo OCH - 3 - 1: North private stair view from 3rd floor. Handrail only on one side.

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Photo OCH - 3 - 2: Room east of north lobby. Original ceiling intact. Window is replacement and opening is partially blocked.



Photo OCH - 3 - 3: Exterior window in room east of rotunda. Exterior pane broken. Same room as Photos OCH-3-4 through OCH-3-6.



Photo OCH - 3 - 4: Room east of rotunda. Dropped ceiling covers original plaster ceiling. Windows are replacement and openings are partially blocked. Same room as Photos OCH-3-3 through OCH-3-6.



Photo OCH - 3 - 5: Room east of rotunda. Dropped ceiling covers original plaster ceiling. Windows are replacement and openings are partially blocked. Same room as Photos OCH-3-3 through OCH-3-6.



Photo OCH - 3 - 6: Room east of rotunda. Dropped ceiling covers original plaster ceiling. Windows are replacement and openings are partially blocked. Same room as Photos OCH-3-3 through OCH-3-5.

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Photo OCH - 3 - 7: Room east of the south lobby. Dropped ceiling covers original plaster ceiling. Damaged floor tile. Testing for hazardous materials required.



Photo OCH - 3 - 8: Room south of south lobby. Original plaster ceiling partially exposed. Plaster walls are not original and cover original walls. Same room as OCH-3-9 and OCH-3-10.

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Photo OCH - 3 - 9: Room south of south lobby. Original plaster ceiling partially exposed. Plaster walls are not original and cover original walls. Same room as OCH-3-8 and OCH-3-10.



Photo OCH - 3 - 10: Room south of south lobby. Original windows removed and opening blocked. Same room as OCH-3-8 and OCH-3-9.

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Photo OCH - 3 - 11: Room west of south lobby. Original window removed and opening blocked.

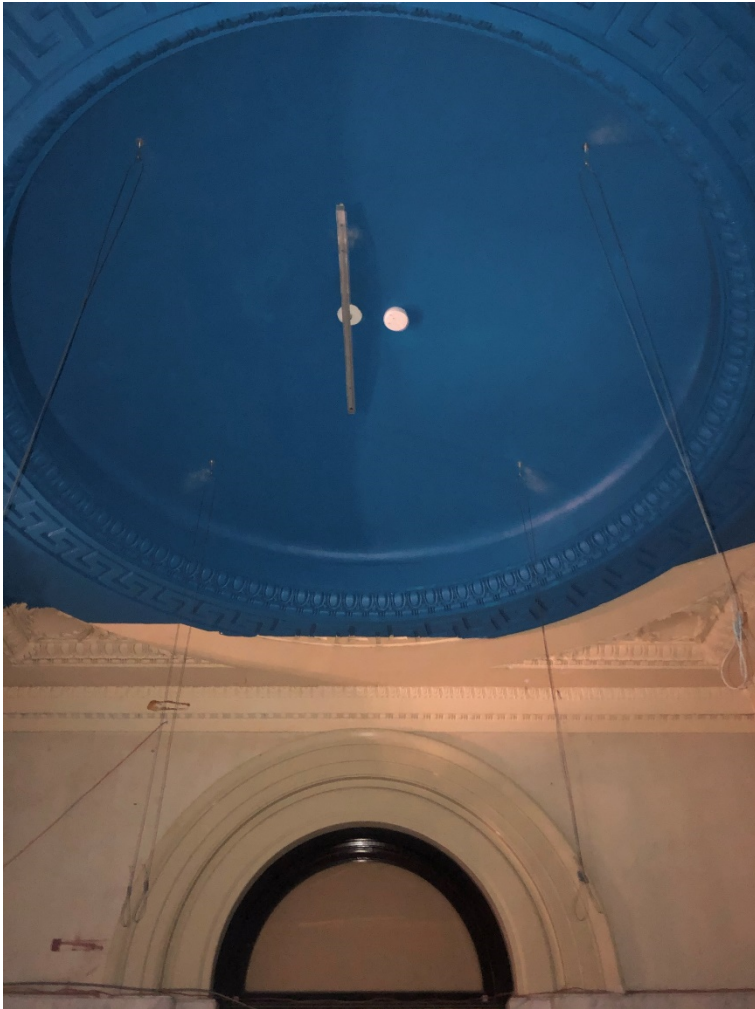


Photo OCH - 3 - 12: South lobby. Original plaster ceiling largely intact.

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Photo OCH - 3 - 13: North lobby. Original plaster ceiling and wall and marblework largely intact.

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Photo OCH - 3 - 14: View down to rotunda floor.



Photo OCH - 3 - 15: Northeast corner of rotunda. Damaged artwork and marblework. Utility boxes and wrapped wiring surface mounted on marblework.



Photo OCH - 3 - 16: Room west of north lobby. Original window removed and blocked. Adjacent to freight elevator.



Photo OCH - 3 - 17: Divided space in room north of the north lobby. Original windows removed and blocked. Mechanical equipment serves the room north of the north lobby.



Photo OCH - 3 - 18: Room north of the north lobby. Dropped ceiling covers original plaster ceiling. Plaster walls are not original and cover original walls.



Photo OCH - 3 - 19: Behind exhibit plaster walls installed in Room north of the north lobby. Typical condition found in rooms previously used for museum exhibit space.

Second Floor Photos

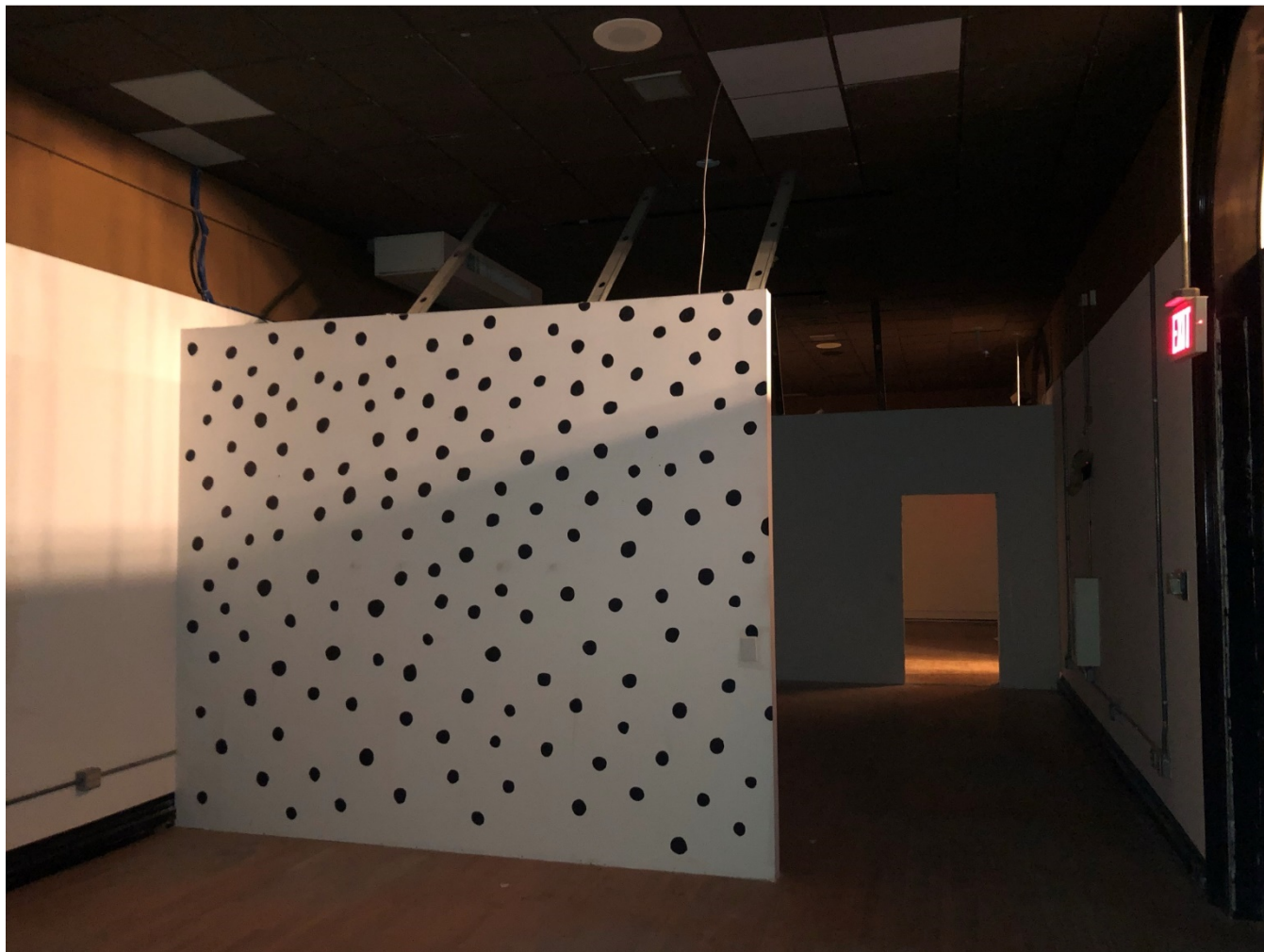


Photo OCH - 2 - 1: Room east of rotunda. Dropped ceiling covers original plaster ceiling. Original windows removed and openings blocked and covered. Walls installed for exhibitions.

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Photo OCH - 2 - 2: Rotunda viewed from southeast corner.



Photo OCH - 2 - 3: Southeast corner of rotunda. Artwork and marblework.

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Photo OCH - 2 - 4: South lobby. Exhibit walls cover original plaster walls.



Photo OCH - 2 - 5: Room east of south lobby. Dropped ceiling covers original plaster ceiling. Original windows removed and openings blocked and covered.



Photo OCH - 2 - 6: Behind exhibit plaster walls installed in room south of the south lobby. Typical condition found in rooms previously used for museum exhibit space.

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Photo OCH - 2 - 7: Room south of the south lobby. Walls installed for exhibitions.



Photo OCH - 2 - 8: West end of room south of south lobby. Mechanical space located behind plaster exhibit walls. Original window removed and blocked in. Same space as photos OCH-2-9 and OCH-2-10.



Photo OCH - 2 - 9: West end of room south of south lobby. Mechanical space located behind plaster exhibit walls. Original room removed and used for mechanical system. Same space as photos OCH-2-8 and OCH-2-10.



Photo OCH - 2 - 10: West end of room south of south lobby. Mechanical space located behind plaster exhibit walls. Equipment in southwest corner. Same space as photos OCH-2-8 and OCH-2-9.

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Photo OCH - 2 - 11: Room west of south lobby. Dropped ceiling covers original plaster ceiling. Plaster wall covers original plaster wall and blocked-in window opening.



Photo OCH - 2 - 12: Bathroom south of central stairs. Because of narrow pathway, restroom will not meet accessibility requirements.

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Photo OCH - 2 - 13: Room west of north lobby. Original window removed and opening blocked.



Photo OCH - 2 - 14: Room north of north lobby. Behind the exhibit walls.

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Photo OCH - 2 - 15: Room north of north lobby. Dropped ceiling coverings original plaster ceiling. Walls installed for exhibits.



Photo OCH - 2 - 16: Non-original floor in room north of north lobby.



Photo OCH - 2 - 17: North lobby. Original plaster ceiling and walls. Exhibit graphics applied to original plaster.

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Photo OCH - 2 - 18: Room east of north lobby. Dropped ceiling covers original plaster ceiling. Plaster wall covers original plaster wall and blocked-in window opening.



Photo OCH - 2 - 19: North side of central stairs. Wall and door installed to control access above second floor. Original windows removed and openings blocked. Handrail only on one side of stairs.

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Photo OCH - 2 - 20: North side of central stairs. Handrail only on one side of stairs.

First Floor Photos



Photo OCH - 1 - 1: North side of central stairs. Chain link used to control access to basement. Handrail only on one side.



Photo OCH - 1 - 2: South side of central stairs. Chain link used to control access to basement. Handrail only on one side.



Photo OCH - 1 - 3: Landing at central stairs. Original window removed and blocked in. Used as display case.

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Photo OCH - 1 - 4: North side of central stairs. Stairs leading to second floor. Significant wear on stair treads.



Photo OCH - 1 - 5: Rotunda viewed from north end. Electrical conduits and metal wrapped wiring surface mounted on original plaster and marble.

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Photo OCH - 1 - 6: Room west of north lobby. Overhead door opens to alley. Dropped ceiling covers original plaster wall.

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Photo OCH - 1 - 7: Room north of north lobby. Dropped ceiling removed. Exhibit walls in place. Same room as photos OCH-1-8 and OCH-1-9.



Photo OCH - 1 - 8: Room north of north lobby. Dropped ceiling removed. Three window openings restored. Same room as photos OCH-1-7 and OCH-1-9.



Photo OCH - 1 - 9: East end of the room north of the north lobby. Example of plaster ceiling damage. Same room as photos OCH-1-7 and OCH-1-8.

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Photo OCH - 1 - 10: Room east of north lobby. Original window removed and opening blocked. Mechanical system up against ceiling.



Photo OCH - 1 - 11: Bottom of north private stairs. Handrails only on one side. Stairs do not exit to the exterior or to an egress path.

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Photo OCH - 1 - 12: Vestibule



Photo OCH - 1 - 13: Rotunda viewed from south end. Electrical conduits and metal wrapped wiring surface mounted on original plaster and marble.



Photo OCH - 1 - 14: Room east of south lobby. Dropped ceiling covering original plaster ceiling. Original window removed and opening blocked.

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Photo OCH - 1 - 15: Room south of south lobby. Dropped ceiling removed. Exhibit walls in place. Same room as photo OCH-1-16.

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Photo OCH - 1 - 16: Room south of the south lobby. Example of plaster ceiling damage. Same room as photo OCH-1-15.



Photo OCH - 1 - 17: Room west of south lobby. Dropped ceiling grid in place. South lobby viewed beyond.

Basement Photos



Photo OCH - B - 1: North side of central stairs leading to basement landing. Egress stairs on right. Handrail only on one side.

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Photo OCH - B - 2: Central lobby under rotunda.

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Photo OCH - B - 3: Room west of south lobby. Drop ceiling covers original ceiling. Office partitions are not original.

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Photo OCH - B - 4: Mechanical room at west end of room south of south lobby.

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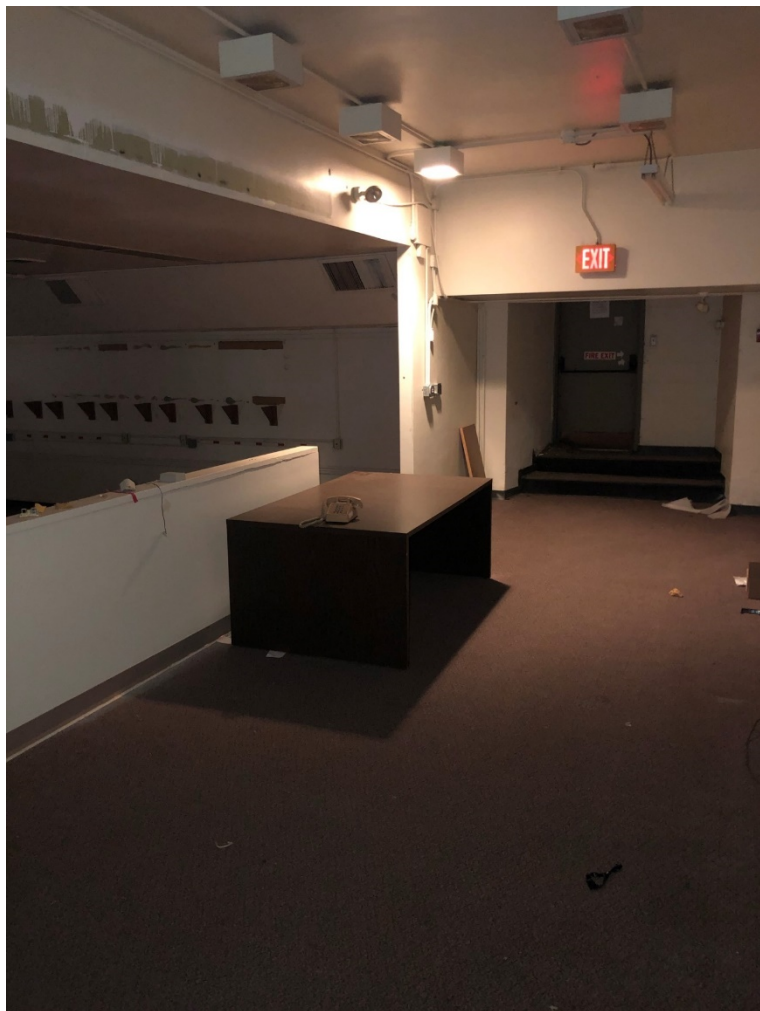


Photo OCH - B - 5: Room south of south lobby. Access to egress door in south wall.

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Photo OCH - B - 6: Room south of south lobby.

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Photo OCH - B - 7: Storage room in southeast corner of basement.

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Photo OCH - B - 8: Room east of south lobby. Same room as photo OCH-B-9.

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Photo OCH - B - 9: Room east of south lobby. Drop ceiling covers original ceiling. Same room as photo OCH-B-8.

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Photo OCH - B - 10: Chase under front steps.



Photo OCH - B - 11: Room east of north lobby. Previously used as locker room.

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Photo OCH - B - 12: Storage room in northeast corner of basement.

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Photo OCH - B - 13: Mechanical room in northwest corner of basement.

Exterior Photos



Photo OCH - EXT - 1: Ramp from building entry to landing. Curb or barrier edge protection missing.



Photo OCH - EXT - 2: Ramp from street level to landing. Curb or barrier edge missing.



Photo OCH - EXT - 3: East/front elevation. Multiple original windows removed and openings blocked.



Photo OCH - EXT - 4: North elevation. Multiple original windows removed and openings blocked. Three restored windows temporarily boarded.



Photo OCH - EXT - 5: Cooling tower for building located in parking lot north of building.

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Photo OCH - EXT - 6: West elevation. Multiple original windows removed and openings blocked. Adjacent to alley.



Photo OCH - EXT - 7: Loading dock and overhead door on west side adjacent to alley.

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Photo OCH - EXT - 8: West elevation. Previous window openings at original bathroom locations.



Photo OCH - EXT - 9: Egress doors at central stairs on west elevation adjacent to alley.



Photo OCH - EXT - 10: West elevation. Window wells at basement window openings. Window openings blocked.



Photo OCH - EXT - 11: Alley west of building.



Photo OCH - EXT - 12: Stairs to basement egress on south elevation adjacent to Ohio Street. No handrails. Guardrail is not code compliant.

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Photo OCH - EXT - 13: Basement egress door on south elevation adjacent to Ohio Street.

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Photo OCH - EXT - 14: East elevation adjacent to Alabama Street. Stairs leading to bronze doors at vestibule.

Attachment E: WJE observations



Indianapolis Old City Hall

Building Envelope Assessment

202 N Alabama Street
Indianapolis, IN 46204



DRAFT REPORT

June 16, 2021
WJE No. 2021.1775

PREPARED FOR:

CORE Planning Strategies
429 Pennsylvania Street, Suite 304
Indianapolis, IN 46204

PREPARED BY:

Wiss, Janney, Elstner Associates, Inc.
8606 Allisonville Road, Suite 205
Indianapolis, Indiana 46250
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Indianapolis Old City Hall

Building Envelope Assessment

202 N Alabama Street
Indianapolis, IN 46204

A handwritten signature in black ink, reading "Noah Fehrenbacher".

Noah Fehrenbacher, PE
Senior Associate and Project Manager

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Seth Lindley
Associate II

A handwritten signature in black ink, reading "Nicholas Ozog".

Nicholas E. Ozog, PE (IL)
Senior Associate

A handwritten signature in black ink, reading "Logan Cook".

Logan Cook, PE
Senior Associate and Unit Manager

Reviewed by:

A handwritten signature in black ink, reading "Kenneth Itle".

Kenneth Itle
Associate Principal

DRAFT REPORT

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APPENDIX A. Estimate of Probable Costs to Maintain Old City Hall Complex in Existing Configuration

APPENDIX B. Estimate of Probable Costs for Proposed Change of Use

INTRODUCTION

This report summarizes the conditions of the property's architectural and structural components as well as the fire protection and life safety features observed during our assessment. Based on the observations made during our assessment, interviews with maintenance personnel and a review of applicable drawings, general recommendations are provided for resolution of observed deficiencies or significant deferred maintenance, and an opinion of probable costs for anticipated repairs over a 10-year projection period.

The building is currently unoccupied but the City of Indianapolis Department of Metropolitan Development (DMD) is considering re-occupancy and a change of use of the building. This report also provides recommendations as it relates to the possible re-occupancy and change of use of based on the conceptual design provided by CORE Planning Strategies, LLC (CORE).

BACKGROUND AND BUILDING DESCRIPTION

The Indianapolis Old City Hall (OCH) is a four-story building with an attic space exists above the fourth floor. The building was dedicated in 1909. The building is rectangular in plan and measures approximately 185 feet in the north-south direction and 110 feet in the east-west direction. OCH served as the City Hall of Indianapolis until 1962 when the new City-County Building was opened. OCH housed the Indiana State Museum from 1964 to 2002 and served as the temporary home of the Indianapolis Central Library from 2002 to 2007. It has been unoccupied since 2007 with periodic inspections and limited maintenance. The building is listed in the National Register of Historic Places (NRHP).

The exterior walls of OCH consist of load-bearing mass masonry limestone cladding. A prominent cornice extends along all four facades at approximately the fourth level floor line. Fluted limestone columns dominate the north, east, and west facades. The east and west facades step outward forming re-entrant corners near the north and south ends of the building. The main entrance is located at the center of the east facade comprising six bronze clad wood doors at three entrances. Originally, 6 foot by 8 foot double hung, operable wood windows were present on all facades and all levels of the building. Decorative metal grating covered many of the windows at the fourth story. Most of original wood window sash were removed circa 1965, and the window openings were infilled with limestone units. Window openings remain only on the north and east facades of the building. Figures 1 through 4 provide overall views of each of the primary facades of OCH.



Figure 1. Overall view of the north facade.

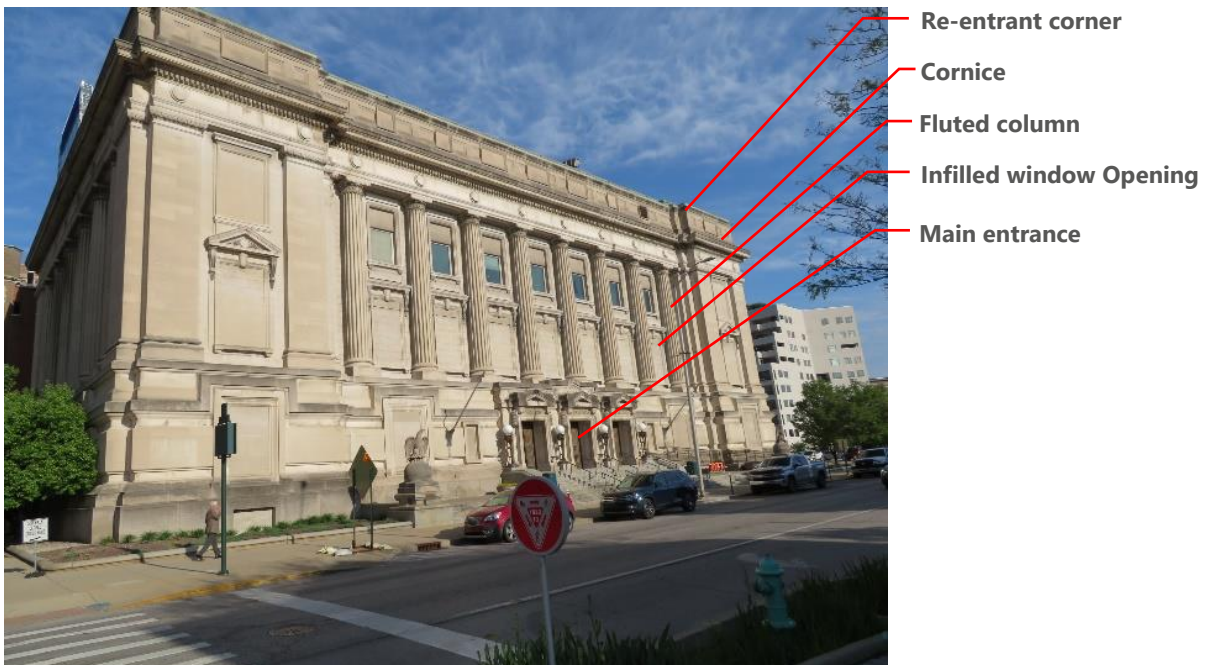


Figure 2. Overall view of the east facade.



Figure 3. Overall view of the south facade.

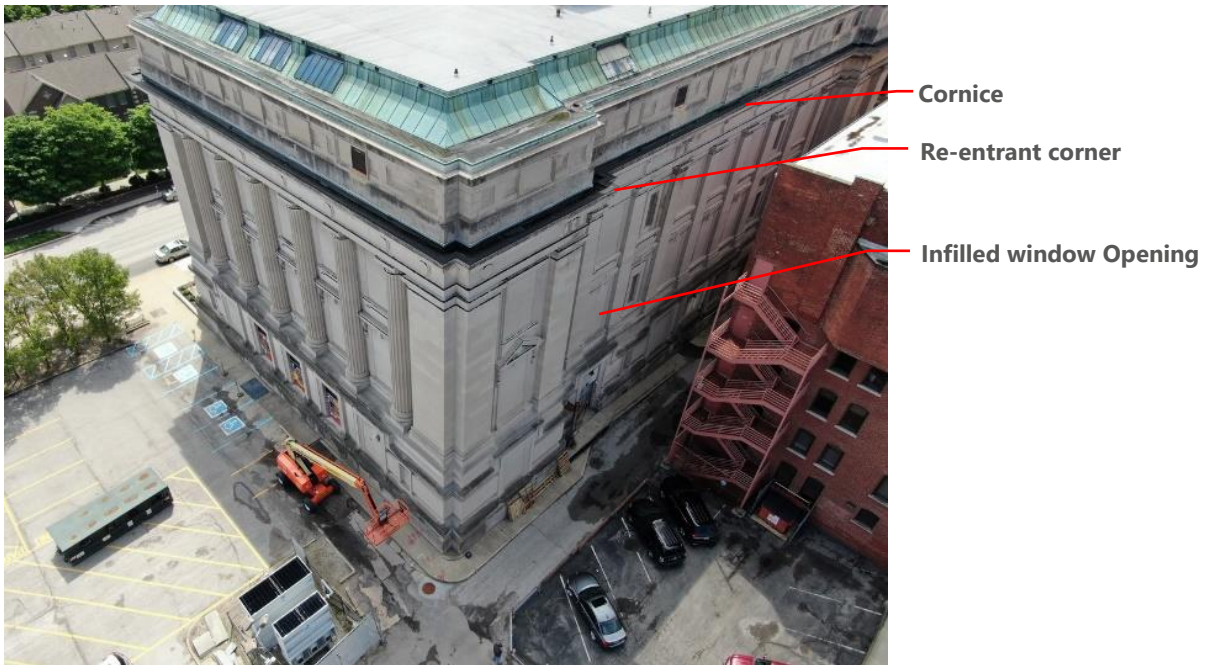


Figure 4. Partial view of the west and north facades looking southeast.

Floor framing consists of steel I beams which bear on exterior and interior masonry walls. Steel framing supports a clay tile flat arch floor system. Roof framing consists of built-up steel sections which also bear on exterior and interior masonry walls. The foundation is cast-in-place concrete. At isolated areas, the original floor framing has been replaced with concrete on metal deck.

The roofs on OCH comprise four distinct areas, with different roofing systems. See Figure 5 for an overall view of the roof and roof area labels. Roof Area 1 consists of a low-slopes roof covered with a granular surfaced modified bitumen (GSMB) roofing membrane. One large, gabled skylight near the middle of the roof exists above the interior atrium, which covers an art glass lay light. Six additional small, gabled skylights exist throughout Roof Area 1. Near the perimeter of the building, the roof transitions to an approximately 45-degree sloped mansard roof clad with standing seam copper panels, which makes up Roof Area 2. Six skylights are set within this roof area. Roof Areas 1 and 2 drain to Roof Area 3 at the perimeter of the building, which is covered with a black, single-ply, ethylene propylene diene monomer (EPDM) membrane. Roof Area 3 drains to four internal drains, located near the re-entrant corners along the east and west edges of the roof and building. Roof Area 4 is located below the Roof Area 3, atop the primary Cornice. Roof Area 4 is also covered with a black, single-ply, EPDM membrane and drains to four internal drains, which align with drains in Roof Area 3.

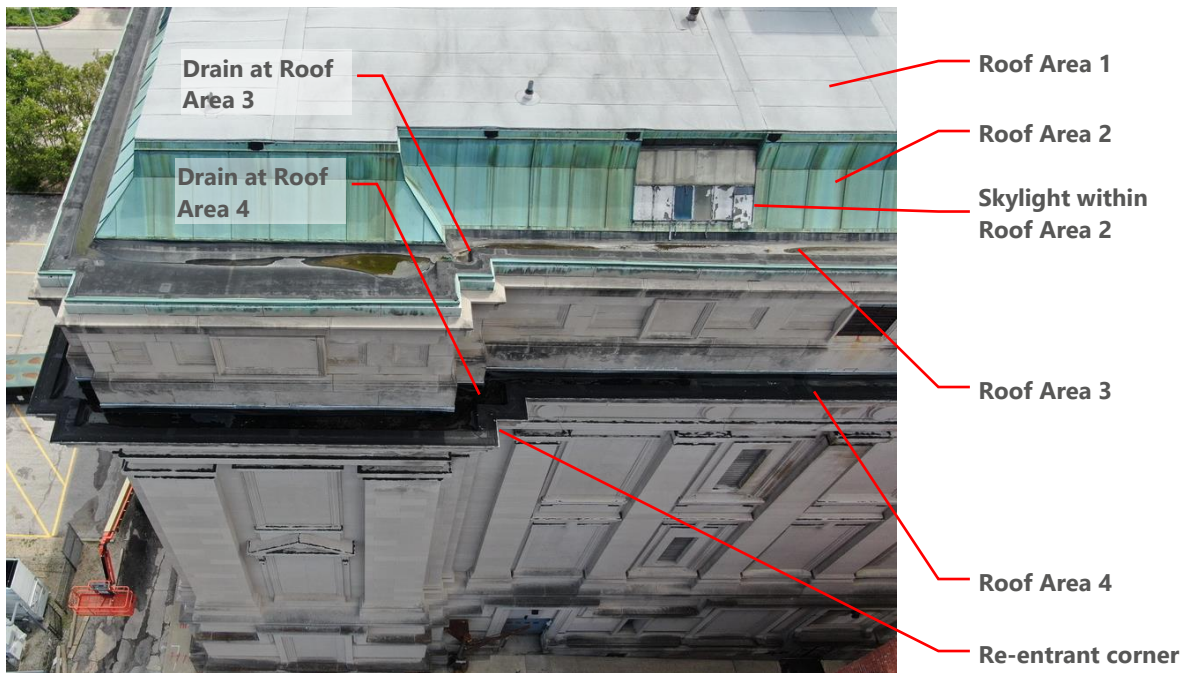


Figure 5. View of the northwest corner of OCH looking east and showing the various roof areas and components referenced in this report.

WJE previously completed an evaluation of the toilet rooms and other associated areas on the first floor of OCH in May 2020. WJE performed the evaluation to assist the DMD in determining the feasibility of renovating these existing toilet rooms to comply with the Americans with Disabilities Act (ADA). The evaluation included the two existing toilet rooms on the first floor, and an evaluation of the accessible route between those toilet rooms, the atrium lobby, the entry lobby, entry vestibules, main entrance

doors, and public right-of-way. Findings from WJE's May 2020 evaluation of the toilet rooms were summarized in our report dated June 22, 2020.

PROPOSED CHANGE OF USE

As noted, WJE was asked to review and provide recommendations related to modifications and/or repair of the architectural and fire and life safety features of the building based on the proposed, conceptual change of use design provided by CORE. Based on the conceptual design, it is proposed that the basement and first floor be used primarily as event space with a portion of the first floor dedicated to office space and that the second, third and fourth floors be used primarily as office space with the central atrium area of each of the upper floors dedicated to event space. We reviewed the following items as it relates to the proposed change of use:

- Maintenance and/or repair of architectural features including, facade, windows, doors, roof and the surrounding site which should be addressed in order to re-occupy and change the use of the building.
- Fire and life safety features which require modification or further evaluation to re-occupy and change the use of the building.

INTERVIEWS WITH MAINTENANCE PERSONNEL

WJE met with James Bonewitz from the Indianapolis Building Authority (IBA) to discuss ongoing maintenance items and recent repairs. IBA performs basic maintenance to maintain the building in its existing condition. IBA reported that recent repairs were performed to the roof to address water infiltration. Subsequent to the meeting, WJE was provided a proposal dated December 28, 2020 for water leakage repairs, see Document Review section for further details. It is assumed this proposal relates to the recent repairs described by IBA and that repairs were completed shortly after the proposal was provided. IBA reported that to their knowledge, water infiltration is not currently ongoing and all observed water damage is to due prior leakage which has been addressed.

DOCUMENT REVIEW

WJE reviewed pertinent documents provided to us by CORE as well as several documents found on site at OCH.

- Undated and Incomplete Indianapolis City Hall Architectural and structural steel framing drawings produced by Rubush & Hunter - Architects (no date, circa 1909)
 - Detail G, Sheet 13 shows main entrance doors comprised of 2 1/4-inch wood core and "bronze covered".
 - Fourth floor plan, Sheet 6 shows windows at the fourth level were originally set behind cast iron grilles.
 - Wall sections on sheet 11 show limestone facade units are secured to the masonry backup wall via metal anchors as well as intermediate limestone header courses (Figure 6).
 - 4th Floor plan on sheet 6 shows 8-inch roof drains with downspouts at the re-entrant corners which run internally through masonry walls (Figure 7).
 - Structural plans show structural floor framing consists of steel beams which frame into larger steel girders, or directly into load-bearing masonry walls. Floor framing is oriented north-south in some areas and east-west in others.

- The roof plan (sheet 8) indicates that all roof areas were to be finished with copper sheet metal.

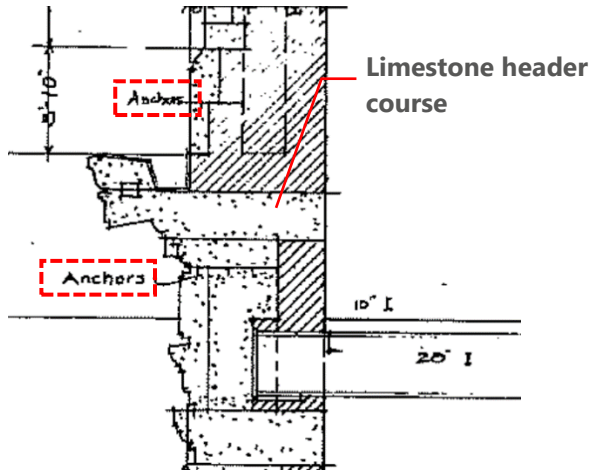


Figure 6. Section through the south wall showing various types of anchorage of limestone facade.

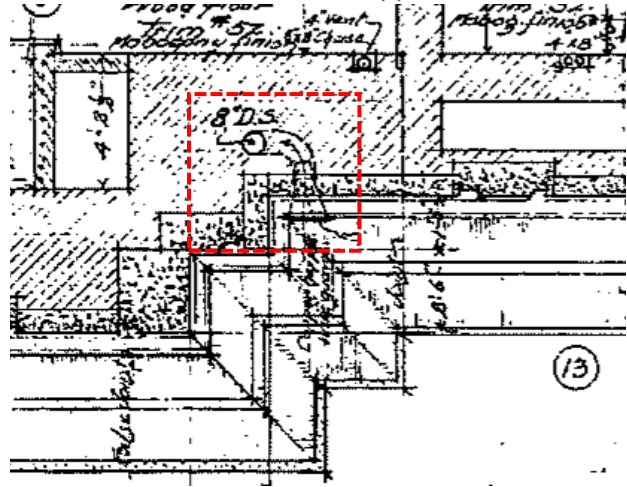


Figure 7. Partial fourth floor plan on sheet 6 showing internal downspout at the southeast re-entrant corner.

- 1964 State Museum renovation drawings produced by James Associates, Inc., as Architect of Record and Ammerman, Davis & Stout, Inc., as Engineer of Record, dated November 10, 1964
 - Floor plans show that most original wood framed windows on the first through third levels were removed and the openings infilled. Detail 28 on sheet A7 indicates limestone units to match the adjacent layout of limestone joints (Figure 8). All cast iron grilles and windows on the fourth level were similarly removed and their openings infilled.
 - Section 1 on sheet A2 shows a loading dock and materials staging platform was constructed on the west side of the building (Figure 9). On the exterior of the building, the loading platform consists of a 4-inch thick reinforced concrete slab over compacted granular fill. The walls of the loading dock comprise brick masonry cladding with 6-inch CMU backup wall. An overhead door was installed within an existing window opening at this location.

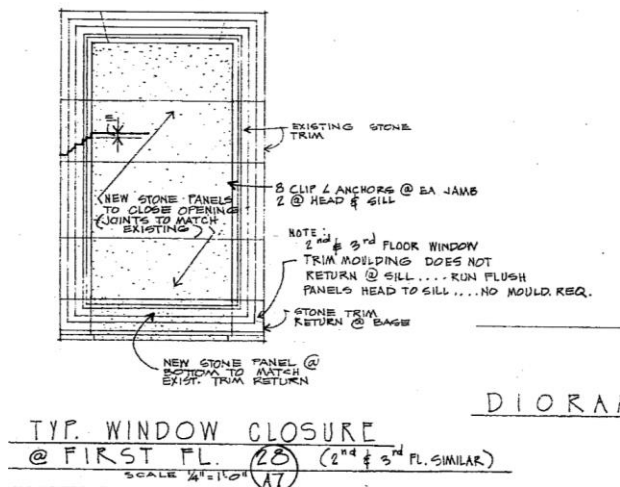


Figure 8. Detail 28, Sheet A7 showing window infill elevation and profile.

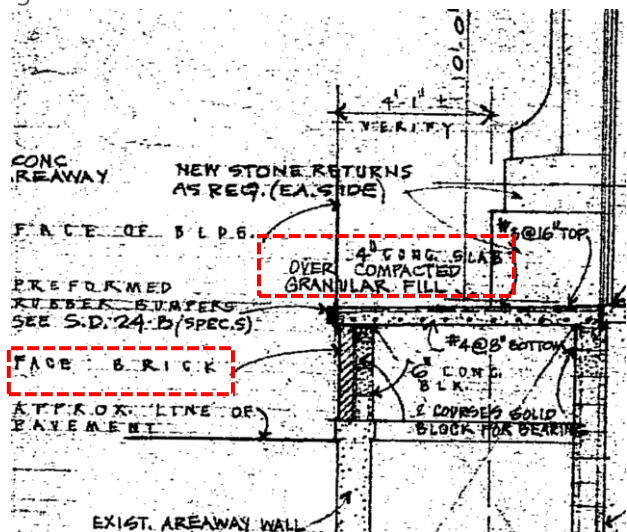


Figure 9. Section 1 on sheet A2 showing construction of loading dock.

- 1978 Replacement of Skylights drawings produced by the Indiana Department of Natural Resources, Division of Engineering, dated June 30, 1978
 - Plans on sheet 1 show that the roof structure of the original atrium skylight was replaced with an aluminum frame skylight. Sections B, C and D on sheet 2 specify the new skylight to be glazed with 'insulated translucent panels' (Figure 10). A structural steel platform was also constructed and suspended over the art-glass lay lite.
 - Plans on sheet 1 show the six smaller skylights throughout Roof Area 1 were also designated for replacement under an alternate scope of work. Based on the present-day appearance of the smaller skylights, it appears that the alternate scope was implemented for at least one of the smaller skylights.

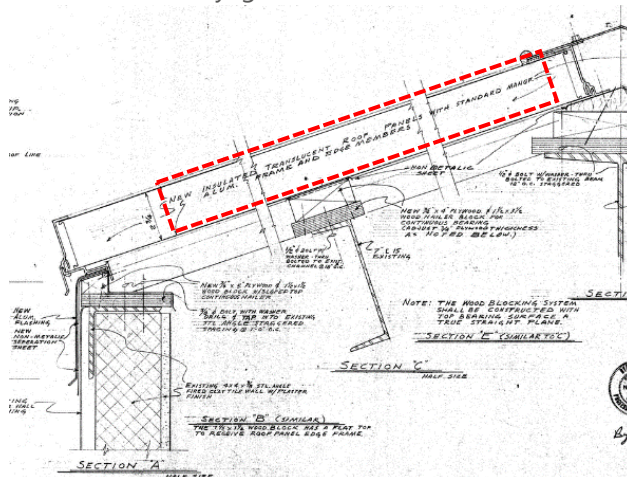


Figure 10. Section through the replacement skylight.

- 2009 Facility Study report produced by Ratio Architects, dated August 10, 2009
 - Figure CA.02 shows that the roofing membrane on Roof Area 1 was a ballasted built-up roofing system at the time of inspection. Multiple deficiencies were noted with this roofing system including patches, and plaster damage along the south wall of the building. Historic aerial imagery suggests that the ballasted roofing system was replaced with the current system at some point between August 2012 and October 2013.
 - Figure CA.06 shows EPDM membrane at Roof Area 3. The report notes that standing water was observed throughout this roof area.
 - Figure CA.07 shows a displaced limestone unit on the west facade. Several additional displaced units were noted in the report.
 - Figures CA.01 and CA.47 show plaster damage at the fourth floor and along the east perimeter of the atrium at the fourth, third, and second floors. Plaster damage was also noted along the south interior wall.
 - The report noted multiple additional facade conditions including open head joints at the cornice, 'half moon' limestone spalls, limestone cracks, damaged and missing bronze door elements, a missing handrail, and broken panes of glass in existing windows.

- 2020 Limited ADA Assessment Report produced by WJE, dated June 22, 2020
 - The handrails along the ramp at the east entrance contain two conditions which do not comply with Americans with Disabilities Act (ADA). First, there is insufficient clearance between the gripping surface of the lower railing and the slab of the adjacent upper ramp surface. Second, the gripping surface of the upper railing does not project far enough from its support to the adjacent railing to provide the necessary clearance.
 - The handrails at the lower flight of the east entrance steps do not comply with ADA requirements which stipulate that handrails extend a minimum distance past the top and bottom risers of the flight of steps.
 - The bottom riser of the lower flight of steps at the east entrance is significantly shorter than other risers, which does not comply with ADA requirements for uniformity in step risers.
- 2020 Roof Water Leakage Repair Proposal produced by C&R Roofing, dated December 28, 2020.
 - Proposes unclogging one drain location.
 - Proposes repair of roof flashing at leak location.

EXISTING CONDITIONS SURVEY RESULTS

WJE visited the site on May 6, 18, 19 and 21, 2021, to make visual observations of the structure and fire and life safety components from accessible areas of the interior and the building enclosure and roof from grade using binoculars, accessible roof areas and unmanned aerial vehicles (UAVs) as necessary. Conditions were documented on building plans and elevations. The following summarizes our observations with discussion.

Facade

Limestone and Masonry

- Observation: Approximately 10 spalls and 12 incipient spalls exist in the limestone cornice units above the third floor of the building (Figure 11). Metal fasteners likely securing the roof membrane edge to the cornice were visible at the spalled limestone areas of the cornice (Figure 12). Based on views of the exposed fasteners from grade with binoculars, the fasteners were likely nail-in wedge type anchors (Figure 13).

Discussion: Spalled and cracked limestone units at the cornices are the result of the installation of inappropriate nail-in type wedge anchors near the edge of the limestone to secure the roofing membrane termination at the edge. This type of spalling was not noted during the 2009 condition survey. The incipient spalls at the cornices present a possible overhead falling material hazard to pedestrians which should be mitigated immediately.

The nail-in type wedge anchors installed in the cornices induce a splitting force into the stone and when aligned and installed close to an edge of limestone can result in cracking of the stone. The splitting force is often exacerbated by corrosion of the anchor over time. Corrosion of steel occurs when unprotected mild steel is exposed to water and oxygen. The by-product of the corrosion process, or corrosion scale, occupies a volume many times larger than the original volume of steel. When confined by adjacent materials, corrosion scale accumulation can result in stresses in the

adjacent materials which are relieved by displacement, cracking, or spalling, particularly in limestone. Presuming the nail-in type wedge anchors were consistently installed along the length of the cornice, additional spalling and cracking of the cornice limestone units is expected to occur unless the anchors are removed.



Figure 11. Incipient Spall at cornice along east facade.



Figure 12. Spalled limestone cornice unit with metal anchors visible at fractured surface (red arrows)



Figure 13. Wedge anchors visible at cornice spall location near northeast corner

- Observation:** Approximately 6 half-moon shaped spalls and 12 incipient half-moon shaped spalls were observed (Figure 14) at other locations throughout the building facade. The locations of the half-moon shaped spalls often occur at the piers of the facade. Metal anchors exposed by these spalls are typically corroded (Figure 15). Additional limestone spalls and previous repairs are present at isolated locations throughout the facade. A high concentration of previous limestone repairs are present above Roof Area 4 (Figure 16).

Discussion: Half-moon shaped spalls in limestone are often caused by the corrosion of mild steel strap anchors securing the limestone units to the backup wall. Similar to the incipient spalls at the cornice,

the incipient half-moon shaped spalls in the limestone also present a possible overhead material falling hazard to pedestrians which should be mitigated immediately.

As stated previously, corrosion of mild steel can cause stresses and result in distress of adjacent confining materials such as limestone. Mild steel strap anchors were commonly utilized at the time the OCH was constructed to anchor stone back to the substrate. When the corrosion of the anchors causes spalls in the limestone on the exterior or interior side of the stone at the anchor, the lateral load carrying capacity of the anchor kerf in the limestone is reduced from its original condition. Mild steel strap anchors likely anchor most of the exterior limestone units on the building back to the substrate. Over time additional spalls could develop from corrosion of the mild steel strap anchors. Further up-close evaluation and monitoring of the limestone facade is necessary to determine if less visually prominent incipient spalls exist.



Figure 14. Two incipient limestone spalls at the west facade.



Figure 15. Spalled limestone at metal anchor showing corrosion on anchor. A crack also extends from this spall (red arrow)



Figure 16. Two previous repairs above Roof Area 4.

- Observation: Approximately 45 limestone units were cracked at various isolated locations throughout the exterior facade. The cracked units include column bases, window jambs, and various other units without an obvious mechanism to cause the cracking (Figure 17).

Discussion: The causes of the various cracked limestone units observed remains unknown and further up-close evaluation and inspection openings would be necessary to determine the causes and appropriate repairs. The causes for cracked limestone units should be determined prior to developing treatment methods to ensure underlying causes are mitigated to prevent future distress. Cracked limestone units could be caused by a number of factors including corrosion of embedded mild steel elements (e.g., strap anchors or structural framing), unaccommodated thermal expansion and contraction, or unaccommodated differential movement of the building.

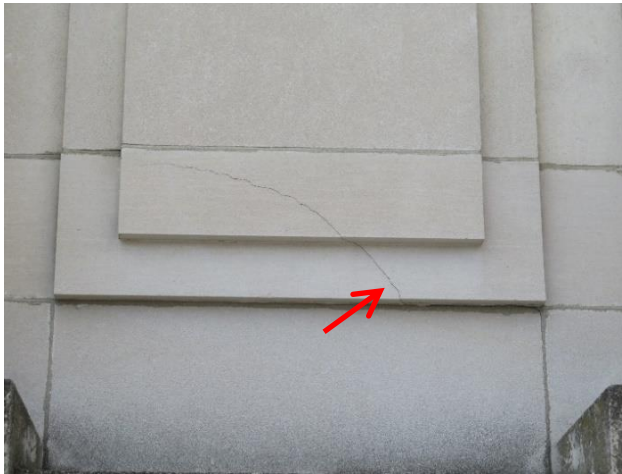


Figure 17. Cracked limestone unit on north facade.

- Observation: Areas of localized exfoliation exist on vertical facing surfaces of limestone at the base of the wall units on the east and south facades (Figure 18). Localized deterioration is present on several limestone units approximately 6 inches above hard-scape surfaces along the east face of the entrance ramp (Figure 19).

Discussion: Exfoliation and deteriorated limestone surfaces are likely the result of cyclic freezing and thawing of water which is held on the surface of the stone. This deterioration may be accelerated by the application of deicing salts on the adjacent hardscape surfaces during winter months. Surface deterioration is primarily an aesthetic concern at this time; however, the condition should be monitored to ensure the deterioration does not continue and compromise the integrity of the stone unit or undermine the support of limestone units above.



Figure 18. Deterioration of horizontal limestone surface on south facade.



Figure 19. Deterioration of limestone units at the entrance ramp.

- **Observation:** An unknown black material is present on most upward facing horizontal limestone surfaces including frieze quoins, architraves, and window sills (Figure 20). This material may have been applied as a bird deterrent.

Discussion: The source of the black material on upward-facing surfaces throughout the facade is unconfirmed at this time. Material testing would be necessary to identify the material and determine an appropriate means to remove it.



Figure 20. Unknown black material on horizontal limestone surfaces at north facade.

- **Observation:** Eroded and missing mortar at joints between limestone is widespread throughout the facade (Figure 21 and Figure 22). Many upward-facing joints are filled with sealant. Sealant in these joints is well adhered at some locations (Figure 23). At other locations, it has failed adhesively and cohesively.

Discussion: Maintaining the mortar and sealant joints on the exterior facade is critical to the management of water through the exterior walls. The exterior walls were designed as mass masonry walls which manage water through shedding bulk water at the surface, and absorption and

evaporation of a limited quantity of moisture. Deteriorated or missing mortar and sealant at exterior limestone joints provide open avenues for water to enter the wall system. Excessive amounts of water entering the mass masonry wall system through mortar joints may exceed the wall's capacity to manage water and result in interior water leakage and damage to underlying elements and interior finishes.



Figure 21. Open head joint at the base of north facade near northwest corner.



Figure 22. Open head joint below cornice along east facade.



Figure 23. Upward facing sealant joints near the north re-entrant corner on the west facade.

- **Observation:** Efflorescence and darkened areas of stone are present below the cornice at all four re-entrant corners on the east and west facades (Figure 24 and Figure 25).

Discussion: Efflorescence is a fine, white, powdery deposit of water-soluble salts which can form on the surface of a porous material like limestone. It is formed when water containing dissolved, water-soluble salts migrates to the surface and evaporates leaving behind the salts. Dark areas of limestone may be the result of water actively saturating the limestone.

Areas of staining roughly correspond to the location of roof drains and drain leaders embedded in the masonry walls. Staining in these areas indicates an issue with some aspect of the water management components above. Possible sources of this water include deficiencies in the roof membrane or roof drains at Roof Area 4 and deficiencies in the drain leaders.

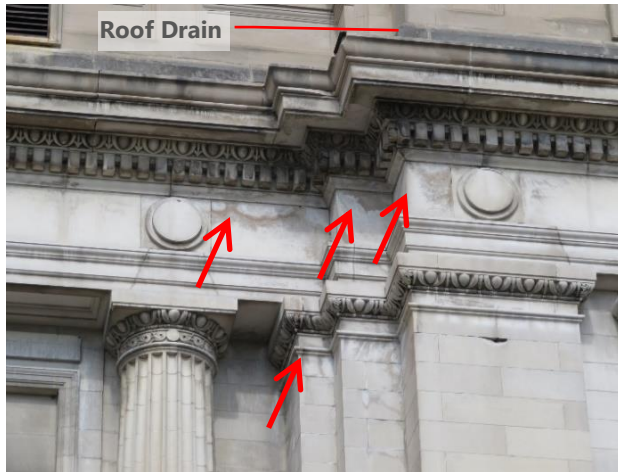


Figure 24. Water staining and efflorescence below cornice at northeast re-entrant corner.

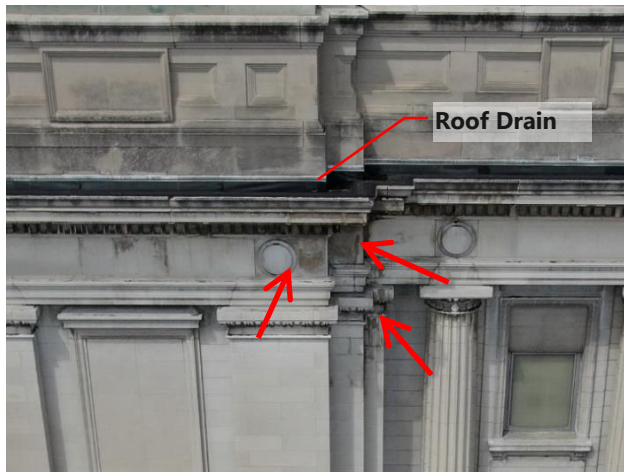


Figure 25. Water staining below the cornice at southeast re-entrant corner.

- **Observation:** Various types of staining are present on limestone throughout the facade including dark black and gray staining, greenish gray staining with some orange deposits (Figure 26 and Figure 27). The staining predominately occurs at upward facing surfaces, base of walls, and decorative detailing.

Discussion: Soiling/staining on limestone from various sources (such as biological growth or airborne pollutants) is largely an aesthetic issue which does not affect the long-term performance of the building. If desired, cleaning should be performed using products and techniques that do not damage the underlying stone.



Figure 26. Atmospheric staining on vertical surface of north facade. Biological growth within stained areas is shown by red dashed ellipses.



Figure 27. Atmospheric staining near base of wall.

- Observation:** Abandoned anchors and fasteners were observed at ten limestone units throughout the facade. At approximately eight locations, spalls in the limestone unit or mortar patches are adjacent to the abandoned anchors and fasteners. At two locations on the southeast and northeast corners of the building, high concentrations of abandoned anchors related to former signage are present and contributing to staining of adjacent limestone (Figure 28 and Figure 29).

Discussion: Abandoned anchors in the limestone units present a possible risk of future distress to the limestone caused by corrosion of the anchors over time as discussed above. The abandoned anchors should either be removed, or the limestone units replaced to mitigate this risk.

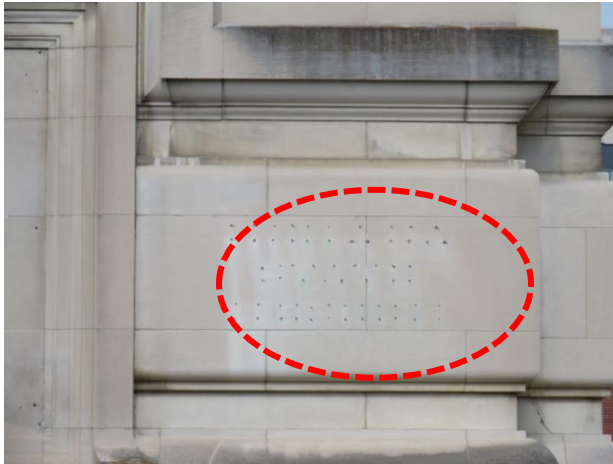


Figure 28. High concentration of abandoned anchors at northeast corner, likely from former signage for Indiana State Museum.



Figure 29. Spall and incipient spall at two abandoned anchors near east entrance doors.

- Observation:** Several displaced limestone units exist throughout the facade (Figure 30 and Figure 31).

Discussion: A close-up inspection of the displaced units should be performed to determine if the units are secure or if replacement or anchorage repairs are required.



Figure 30. Displaced limestone unit at north facade.



Figure 31. Displaced limestone units along south facade

Windows and Doors

- **Observation:** Most windows throughout the building are infilled with limestone and CMU (Figure 32). Original wood window frames exist behind these infill panels at many window locations. Most, but not all, sash and counterweights are not present in the window frame (Figure 33). CMU infill is positioned approximately 1 inch outboard from the front of the jambs of the window frame.

Discussion: The original window openings were infilled with limestone circa 1965 as part of renovations to the building to house the Indiana State Museum. Based on detail 28 on sheet A7 of the 1964 renovation drawings prepared by James Associates, the infill limestone panels were anchored to the jambs and at heads and sills. The exact configuration of this anchorage is not documented. The wood window frame is intact behind many infilled openings. Based on the position of the CMU infill, it is likely that the original wood brickmold was removed from the outside face of the frame to accommodate the masonry infill work. Also, as part of the window infill project, cast iron grills originally present at fourth floor windows were removed.



Figure 32. Infilled window openings on north facade.



Figure 33. original wood window frame behind infilled window opening

- **Observation:** Where windows are present at the third floor along the east elevation. Many contain broken glass panes (Figure 34). Rigid insulating panels were present at the interior face of most third-floor windows with broken glass and were therefore inaccessible. At one window which was accessible from the interior, broken glass was confined to the interior pane of the insulated glazing unit (IGU) only.

Discussion: Based on our exterior and interior assessment, it was typically unclear if the cracked window glass occurs on the exterior or interior pane of the IGU. Similar broken glass panes have been present since 2009 based on findings from the 2009 Condition Survey. Broken glass in the exterior pane presents a possible overhead material falling hazard to pedestrians.



Figure 34. Broken glass at two windows along east facade.

- Observation:** The three entrance doors on the east facade exhibit multiple different types of deterioration (Figure 35). This deterioration includes missing bronze sheet metal elements; corrosion of bronze sheet metal (Figure 36); separation and splitting of the bronze sheet metal (Figure 37); splitting and denting near the door hinges (Figure 38). At the one location of exposed core, the wood contained visible deterioration.

Discussion: Bronze sheet-metal cladding is relatively thin and susceptible to breakage and splitting over time and due to localized impact. Breaches in the bronze cladding may result in water infiltration into the door and deterioration of the wood core. Corrosion of the bronze indicates that original wax or lacquer protective coatings have degraded. Corrosion can be exacerbated by the use of deicing salts. Corrosion of bronze sheet metal can result in pitting, pinholes, or loss of the metal over time.



Figure 35. Overall view of one bronze clad door.

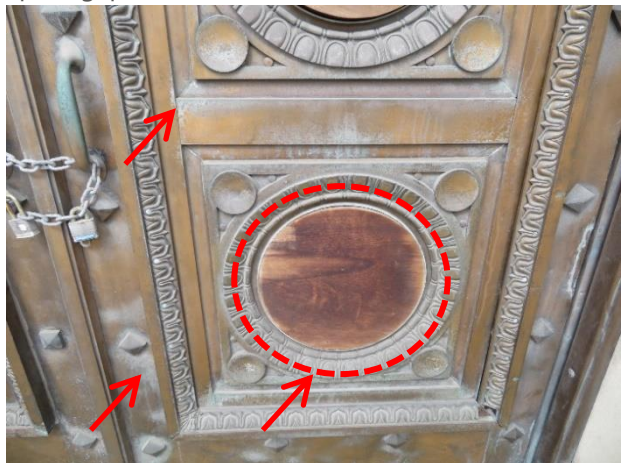


Figure 36. Missing bronze sheet metal at decorative coin (dashed ellipse) and surface corrosion on bronze sheet metal (red arrows)



Figure 37. Open joint in bronze sheet metal with exposed and deteriorated wood core visible behind.



Figure 38. Dented bronze sheet metal near door hinge and surface corrosion.

Roofing

- **Observation:** Water damaged plaster and peeling paint is widespread throughout the ceiling and walls of the fourth floor. Most of this damage is located along the exterior walls and underneath Roof Areas 2 and 3 of the building (Figure 39). Damage is also present at isolated areas on interior walls, most notably near the southeast corner of the atrium (Figure 40)

Discussion: The perimeter walls, where much of the plaster damage was noted, roughly align with the base of Roof Area 2 and Roof Area 3. Similar damage was noted in the 2009 Ratio Facility Study report and thus likely predates the 2012-2013 roof replacement. However, the report does not indicate the extent of damage present in 2009, and the reviewed information does not indicate the scope of the 2012-2013 roof replacement. The Indiana Building Authority reported ongoing leakage has occurred at one location during the winter of 2020. If water leakage is ongoing, further investigation and diagnostic water testing would be necessary to identify the sources of the leakage to develop appropriate repairs to mitigate leakage.



Figure 39. Water damage along the south wall at the fourth floor.



Figure 40. Water damage near the eastern edge of the atrium at the fourth floor.

- Observation:** Roof Area 1 contains good slope throughout the roof to the perimeter without signs of ponding water (Figure 41). The GSMB roof membrane turns down at the perimeter edges and is terminated with a termination bar, which is mechanically fastened at 6 inches on center (Figure 42). Very little granule loss has occurred on the membrane, and no blisters were observed throughout the field of the roof. Detailing of the modified-bitumen roof transitions does not contain any visible deficiencies. Historic Google.com aerial imagery shows a distinct change in the appearance of Roof Area 1 between August 2012 and October 2013 (Figure 43 and Figure 44), indicating the installation of the present roof membrane within that timeframe.

Discussion: Roof Area 1 is generally in good condition and does not contain significant visible deficiencies. Aerial images indicate that Roof Area 1 may have been replaced between 2012 and 2013 and thus is approximately 8 years old. If properly installed and maintained, the typical useful life of GSMB roof systems is 25-30 years.



Figure 41. Overall view of Roof Area 1 showing atrium skylight and two small skylights.



Figure 42. Edge metal termination of the mod-bit roof system.

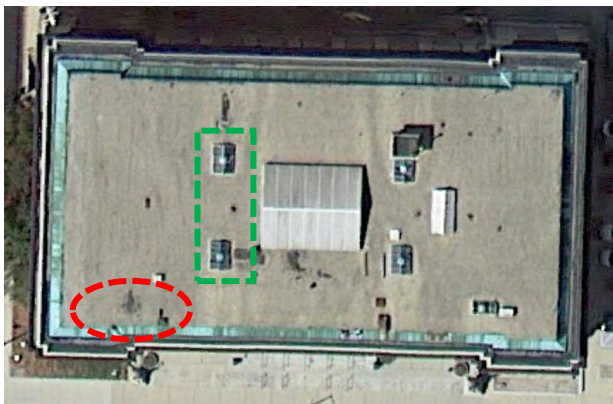


Figure 43. Aerial image taken August 2012. Courtesy of Google.com. Changes in the appearance of several roof elements are shown by dashed ellipses and rectangles.

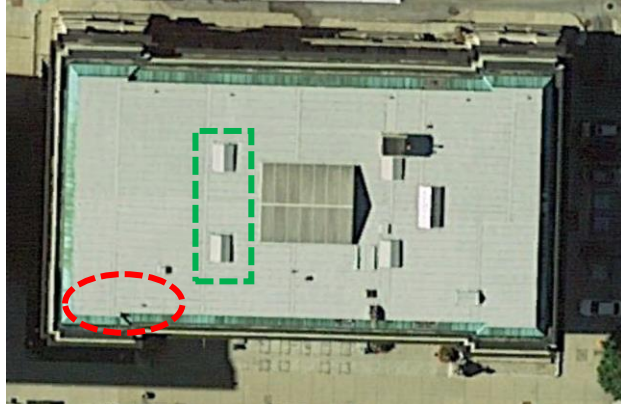


Figure 44. Aerial image taken in October 2013. Courtesy of Google.com. Changes in the appearance of several roof elements are shown by dashed ellipses and rectangles.

- **Observation:** Multiple copper panels are displaced and bowing outwards along the south portion of Roof Area 2 (Figure 45). Copper base flashings are also displaced along a 20-foot length of roofing on the south edge. At this location, the securement of the EPDM membrane on Roof Area 2 is also detached and fasteners have pulled out of the substrate at the base of the copper panels (Figure 46).

Discussion: The existing copper roof assembly is not original, although the date of its installation is not known. Based on available photographs, it appears to predate the 1974 National Register nomination and is therefore likely more than 50 years old. Displaced metal panels indicate that panels are no longer secured to the roof substrate. This failure in attachment may have been caused by wind or thermal expansion and contraction over time. Displaced copper flashings have exposed the leading edge of the EPDM membrane on Roof Area 3 below and may be a source of water infiltration into the roof system and interior of the building at this location. Water damage was noted in the 2009 Ratio Report and during the current assessment below this location.

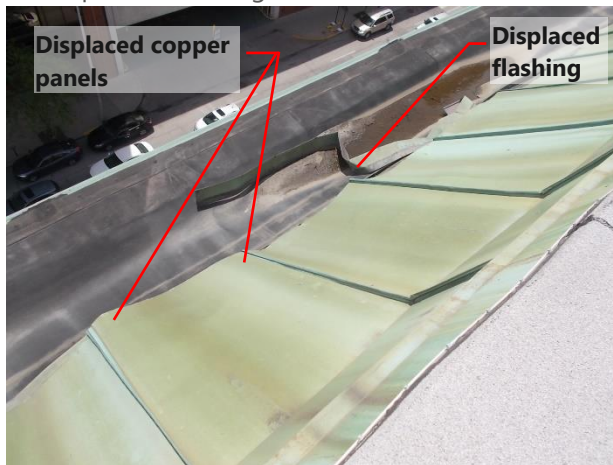


Figure 45. Displacement of detached roof panels and displaced metal base flashing along the south edge of Roof Area 2.

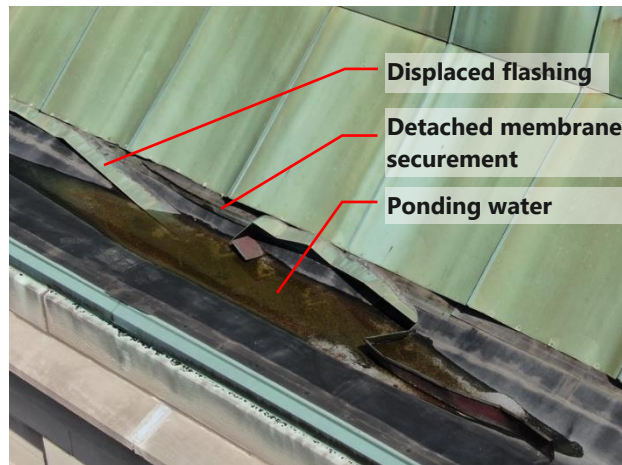


Figure 46. Detached copper flashing and metal roof membrane securement along the south edge of Roof Area 2.

- **Observation:** At Roof Area 3 the EPDM membrane contains many patches. The edges of multiple patches are not well adhered and curled upward. Multiple areas of ponding water and organic debris also exist throughout this roof area. Three of the four drains are missing strainers (Figure 47 and Figure 48).

Discussion: Ponding water is the term used for standing water which remains on a roof surface for at least 48 hours. Water which remains on a roof surface for an extended period can prematurely deteriorate roof membranes. Formation of ice crystals during freezing cycles can degrade the surface of the roof membrane and standing water can harbor biological growth which can further damage the membrane, especially at lap seams in the membrane. The size and depth of areas of standing water on Roof Area 3 are indicative of ponding water from precipitation many days prior to the inspection. This ponding water is most likely caused by inadequate sloping of the roof toward internal drains due to its long geometry and limited number of area drains.

If properly installed and maintained, the typical useful life of an EPDM membrane roof can range from 15 to 20 years. The age of Roof Area 3 is unknown; however, the roof membrane exhibits signs of an

advanced age. WJE was provided with two proposals dated July of 2011 for roof replacement and repairs but no repair documents were provided, and it is unclear if the work specified in the proposals was completed. The poor physical condition suggests this roof area may predate the 2012-2013 project and may be at or approaching its expected service life.



Figure 47. Ponding water along south and west portions of Roof Area 3.



Figure 48. Un-adhered patches and missing strainer near southeast roof drain.

- **Observation:** Ponding water and organic debris are present at many areas of Roof Area 4. (Figure 49). All four roof drains strainers are partially obstructed by this debris (Figure 50).

Discussion: Roof Area 4 was not visually accessible from either the ground, or accessible roof areas. Observations of Roof Area 4 were made via UAV equipment with onboard photographic and video recording capabilities.

Biological growth in standing water on Roof Area 4 indicates that water likely remains on the surface of the roof for extended periods and is therefore considered ponding water. See discussion of the deleterious effects of ponding water above. Similar to Roof Area 3, the EPDM rubber membrane in Roof Area 4 may predate the 2012-2013 roof project and may be at or approaching its expected service life.

As noted in previously in the facade section of this report, active water leakage is apparent near the drain leaders below Roof Area 4. Also noted previously in the facade section of this report, edge fasteners of Roof Area 4 are causing spalling of the limestone cornice below.

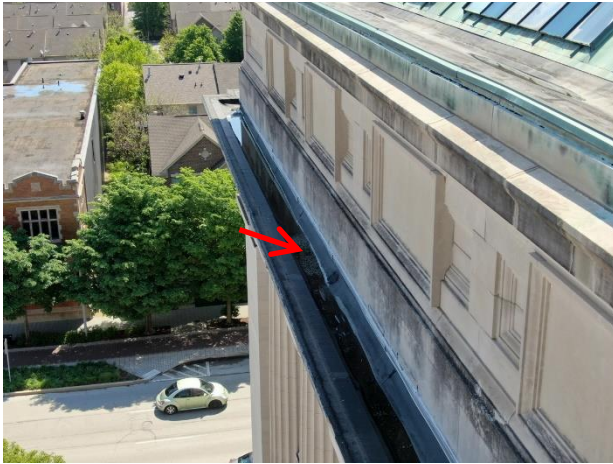


Figure 49. Ponding water along north portion of Roof Area 4.

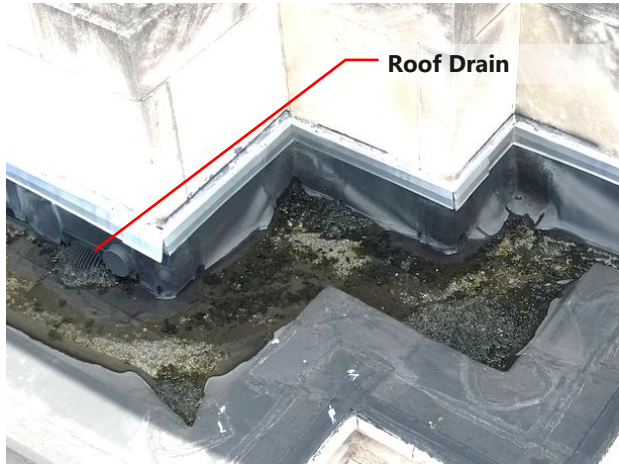


Figure 50. Ponding water and debris near northwest roof drain in Roof Area 4.

- Observation:** The fiber-reinforced polymer panels which cover the main atrium skylight have weathered significantly, and fibers are exposed on all upward facing surfaces (Figure 51). The existing copper flashings and panels on the walls of the atrium skylight are not securely fastened to the vertical surfaces. In addition, many panels contain cracks and previous fluid-applied repairs (Figure 52).

Discussion: The fiber-reinforced polymer panels on the atrium skylight were installed in or near 1978 and thus are approximately 43-years old. The date of installation of the existing copper flashings is not known, but they are older than the skylight. The 1970s polymer panels have degraded, likely from UV exposure, which makes future maintenance options, such as application of sealants, unlikely to be successful. Based on its vintage, the skylight system likely does not incorporate thermal breaks, which may lead to excessive condensation on the bottom side of the skylight panels.

Because OCH is not currently occupied, the extent of active water infiltration or condensation issues at the atrium skylight is uncertain. However, maintenance personnel did not report known water leaks in this area.



Figure 51. Atrium skylight with weathered fiberglass panels.

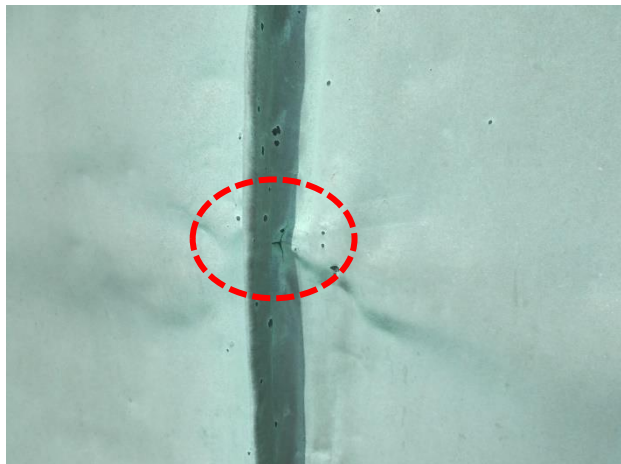


Figure 52. Crack in copper panel at atrium Skylight.

- **Observation:** Five of the six small skylights on Roof Area 1 are covered with GSMB membrane, and many of the copper flashings on the vertical walls of these skylights remain in place (Figure 53). The copper flashings contain multiple liquid-applied surface repairs (Figure 54). When viewed from below, it appears that the skylight glazing has been removed, and OSB sheathing has been installed on top of the skylight framing to support the roofing membrane. The one uncovered small skylight contains fiber-reinforced polymer panels similar to the atrium skylight.

Discussion: The installation of GSMB membrane over OSB on top of skylight framing is not a conventional use for the roofing material. The discontinuity in the roof membrane at the transition between copper wall panels and skylights may be a source of possible water infiltration into the roof system. Additionally, the copper flashings which remain exposed contain multiple repairs, cracks and tears which may be paths for additional water infiltration.



Figure 53. Skylight which has been covered with GSMB membrane.



Figure 54. Liquid-applied repairs to copper flashings at small skylight on Roof Area 1.

- **Observation:** Water damage to interior finishes is prominent around the six skylights set into Roof Area 2 (Figure 55). The skylights contain multiple vintages of glass lights, of which many are cracked. Some glass panes are covered with additional translucent panels. The window glazing is deteriorated or displaced at several of the skylights (Figure 56).

Discussion: The skylights at Roof Area 2 likely date to the original construction. Severe deterioration and evidence water infiltration around the skylights indicate that skylights have been a source of water infiltration at some point in the past, but the extent of active water infiltration at these skylights is unknown because OCH is not currently occupied.

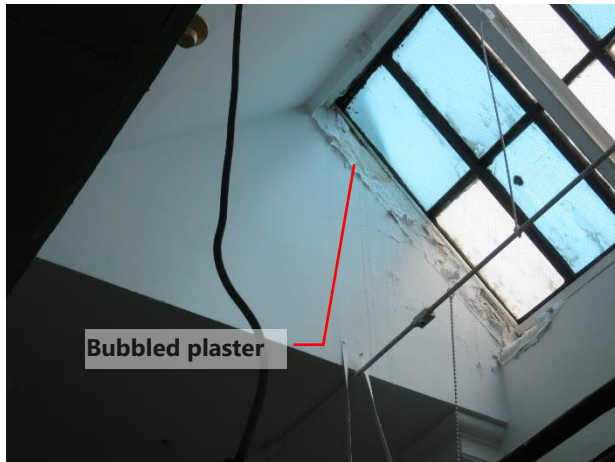


Figure 55. Bubbling plaster around mansard skylight on east edge of Roof Area 2.



Figure 56. Deteriorated glazing at skylight along west edge of Roof Area 2.

Structure

- **Observation:** Steel roof trusses comprise riveted, built-up sections. Surface corrosion exists at isolated locations on roof framing, but no water was observed on the surface of the steel trusses at the time of our site visit (Figure 57).

Discussion: Corrosion is an electrochemical reaction when unprotected mild steel is exposed to water and oxygen. While surface corrosion of mild steel is often expected on steel surfaces of historic buildings similar to OCH, if the unprotected mild steel is consistently exposed to water, overtime corrosion can lead to section loss of the steel elements.

Surface corrosion on the steel trusses is likely the result of water infiltration through the roof assembly. It is unknown if the water infiltration has been addressed or is ongoing. The corrosion was superficial and does not appear to have compromised the structural integrity of the steel truss, but if water infiltration is ongoing, corrosion and section loss will occur. Significant section loss of steel elements reduces the carrying capacity of steel elements and when severe can result in structural issues.



Figure 57. Surface corrosion on the top chord and diagonal bracing of roof truss.

- **Observation:** Water infiltration is ongoing under the vaulted sidewalk below the landing in front of the east entrance doors (Figure 58). Surface corrosion exists on steel framing which supports the entrance landing (Figure 59).

Discussion: The reviewed documents do not indicate the age of steel framing below the vaulted sidewalk, or the waterproofing installed at the vaulted sidewalk if any. Steel shapes are contemporary hot-rolled sections and are likely not original to the building. However, the 1964 renovation drawings do not indicate installation of steel at this location.

The various instances of water infiltration into the space below the vaulted sidewalk indicates any waterproofing system which may exist at the sidewalk level is deficient at multiple locations. Corrosion of the supporting steel elements will likely continue until this water infiltration is addressed.



Figure 58. Water infiltration at northeast corner of vaulted sidewalk



Figure 59. Surface corrosion on supplemental steel framing below vaulted sidewalk.

- **Observation:** Multiple penetrations are present through the flat-tile arch floor system. Many are small penetrations made to anchor suspended ceiling systems. At some locations, however, entire clay tiles are missing, or entire bays of flat-tile arches have been removed and replaced with a new floor system, of which only metal deck is visible (Figure 60 and Figure 61). In some instances, it appears the original interior partition wall was partially demolished and unsupported clay tiles remain.

Discussion: Most of the visible flat tile arch floor systems of OCH are in overall serviceable condition with limited visible indications of distress. However, further assessment of the flat tile arch systems is warranted prior to re-occupying the building. Flat tile arch flooring systems were commonly utilized in the early twentieth century as a fire resistive floor system. Flat tile arch floors develop capacity to carry demands through true masonry arch action of the individual clay tiles between structural framing members. While it is possible to modify and install penetrations through flat tile arch floors, it should be completed only under the direction of a structural engineer with relevant experience in the design and repair of flat tile arch floor systems. Modification or penetration of the flat tile arch floor systems if not properly designed can pose a significant risk of failure due to the reliance of the system on arch action and compression to resolve demands.

WJE did observe localized modifications to the flat-tile arches in many locations which should be further evaluated to ensure the flat tile arch floor system has not been structural compromised.



Figure 60. Missing floor tile at the corner of one flat-tile arch.



Figure 61. Metal deck visible at area of removed flat-tile arch sub-floor (red arrow). Also note unsupported clay tiles (blue arrow). These appear to be remnants of an original interior partition wall, subsequently partially demolished.

- **Observation:** The brick masonry on the loading dock at the west side of the building is cracked and missing. Moisture infiltration is evident throughout the wall as well (Figure 62).

Discussion: Deteriorated masonry at the loading dock is likely related to poor water management in the wall and differential movement between the masonry and surrounding concrete. Details from the 1964 construction of the loading dock indicate that this exterior wall structurally supports the loading dock; however, it is not part of the building enclosure.



Figure 62. Cracked and missing bricks along loading dock facade.

Site Conditions

- Observation: One handrail at the east entrance steps is missing (Figure 63). Ramp handrail posts are embedded into the concrete slab of the ramp and surrounded by cementitious material. Concrete at the base of many handrail posts is cracked or spalled (Figure 64). Some of these cracks have been previously sealed but have continued to propagate in length and width.

Discussion: During our limited ADA assessment in 2020, WJE noted that the existing stair handrails at the exterior entrance stairs contained insufficient extension lengths at the top and bottom of the bottom flight of steps. The existing handrails are non-historic elements.

Cracking and spalling of concrete at handrail posts may be caused by corrosion of the embedded handrail posts. As described above, corrosion results in accumulation of corrosion scale which in concrete can cause spalling and cracking. Spalling could also be the result of expansion of the cementitious material installed to anchor the handrail posts if an expansive and improper material was used. Spalled concrete can cause uneven surfaces and tripping hazards along the ramp and may decrease the capacity of the handrails to resist lateral load demands. If the lateral load carrying capacities of the handrails are reduced due to spalling and corrosion, this would constitute a hazard to users. Additionally, WJE noted multiple non-compliant conditions during our limited ADA assessment in 2020, which should be addressed. Refer to our report dated June 22, 2020, for details.

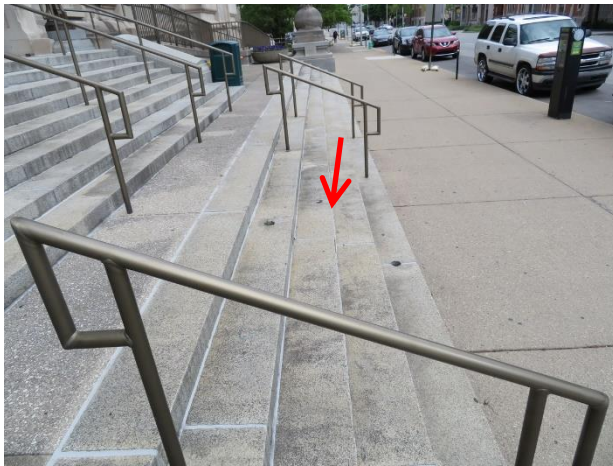


Figure 63. Missing handrail at east entrance steps.



Figure 64. Cracked concrete at base of ramp handrail.

- Observation: Joint sealants in the exterior granite entrance steps and throughout the on-grade pavements near the east entrance were failed in cohesion and adhesion (Figure 65 and Figure 66).

Discussion: Sealant is typically installed at the interface between adjacent materials to keep the assembly watertight. Joint sealants in pavement applications have a limited service life of approximately 3 to 5 years. The observed failure of sealants included both adhesive and cohesive failures. Cohesive failures are indicative of exposure and age of the sealant reaching the end of its service life. Adhesive failures could also be the result of sealant reaching the end of its service life or unanticipated or excessive movement between adjacent materials, inadequate or improper surface preparation, or material incompatibility. The debonded sealant can create an uneven walking surface

and allow water to infiltrate below the walking surfaces potentially compromising the underlying subbase or concealed elements.



Figure 65. Deteriorated sealant at east entrance steps.

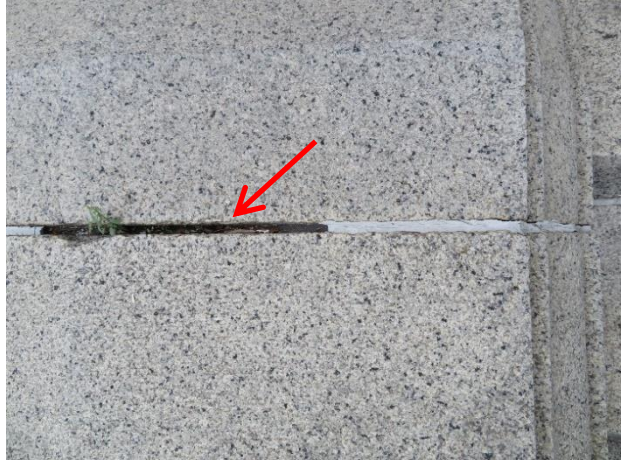


Figure 66. Missing and failed sealant at granite paver.

- **Observation:** Several granite steps at the east entrance are cracked (Figure 67). One step is cracked through the geometry while several others are cracked at the corner of the step near previous or existing handrail embedments (Figure 68).

Discussion: Cracks which extend through the geometry may be caused by differential settlement of the support below the step. Cracking at the corner of steps near handrails is likely caused by corrosion of the handrail post embedment or expansion of the cementitious anchorage material as described above. Where these handrail posts are embedded near the end of the step units, the expansive forces resulting from accumulation of corrosion scale or expansion of the anchorage material likely exceeded the tensile capacity of the stone resulting in diagonal cracks through the end of the unit.

Cracked and displaced granite pieces may be a tripping hazard at the entrance of the building and should be mitigated.



Figure 67. Cracked granite step near east entrance.



Figure 68. Corner crack at granite step near handrail post.

Fire/Life Safety

Building/Fire Department Violations

- **Observation:** The building is no longer occupied, and exits are chain locked from the outside for additional security. Routine maintenance, inspection and test reports for standpipe system and fire alarm systems were not available.

Discussion: The existing fire protection systems should be properly tested and maintained, as there may be minimum upkeep requirements in addition to the local jurisdictional requirements such as insurance requirements.

Construction Type and Fire Separations

- **Observation:** The building is comprised of non-combustible construction, including clay tile arch floor ceiling assemblies. See earlier report sections for additional description of the building construction.

Discussion: Based on the building height, the building is generally of construction that would meet the requirements of fire-resistive, non-combustible construction as defined by the Indiana Building Code. In addition to the identification of the load bearing exterior walls the building is minimally Type III-A construction but could be Type I-B.

- **Observation:** There is large central floor opening (atrium) in the center of the building (Figure 69 and Figure 70) connecting the first level to the fourth level. There are no fire rated corridors as the building is designed and configured as an open office plan. This floor opening is arranged as an atrium without smoke control.

Discussion: The floor opening and open plan for a majority of the floors is an existing condition and for the current condition of the building does not require any changes.



Figure 69. Central atrium space



Figure 70. First floor central atrium space (looking east)

- Observation: There are two stairway enclosures in the building. The stairway enclosures consist primarily of clay-tile construction and plaster finishes and appear to provide a 2-hour fire resistance rating.
 - Stairway doors are provided with glazing that does not provide a fire-resistance rating.
 - Penetrations and holes were observed in stairway enclosing walls requiring a fire-resistance rating. There is approximately one penetration every floor level per stairway (Figure 71).

Discussion: The enclosed exit stairways are not provided with fire resistive doors that self-close and latch. As an existing condition no changes are necessary for the current building status (vacant) and occupancy (business). The historic nature of the building and potential adaptive reuse is discussed further in this report below.



Figure 71. Penetration in stairway enclosure.

- Observation: The Elevator shaft is constructed of non-combustible construction and appears capable of providing a 2-hour fire-resistance rating. Elevator lobbies are not provided. The freight elevator doors on the fourth floor do not have a label indicating the fire-resistance rating.

Discussion: Elevator lobbies are not provided and are generally not required when the elevators are within an atrium space like that of OCH in its current configuration. However, if the elevators are separated from the atrium space, elevator lobbies are required when the elevator shafts connect more than three stories and are located in non-sprinkler protected buildings (Section 713.14.1).
- Observation: The electrical, data, and mechanical rooms, and the storage rooms generally appear to be enclosed in non-combustible construction (Section 509) (Figure 72). The fan rooms and other mechanical rooms have wood doors, without self-closers and latches. Unsealed penetrations occur at the walls and floors of these electrical and mechanical rooms (Figure 73).

Discussion: If changes occur to these rooms during renovation, including the use of these rooms or the equipment is changed, the enclosure requirements for these rooms will require a fire resistance rating depending on the equipment installed within.



Figure 72. Typical electrical room



Figure 73. Floor penetration

- **Observation:** Areas of the clay tile arch, floor ceiling assembly, and associated plaster and the structure fireproofing (clay tile) are damaged in select locations. Structural steel is exposed for attachment of hanging equipment in the basement data room in the southwest corner of the building (Figure 74). The arch assembly and steel fire proofing is damaged or removed on the first floor in the room adjacent to and east of the freight elevator (Figure 75). The clay tile arch and structural fire proofing is damaged in the northwest corner of the second floor.

Discussion: The building code requires that the structural elements (ie. floors, beams, columns) have a fire resistance rating for fire resistive construction. The strength of steel is reduced at elevated temperatures like those created during a fire. Clay tile and fire proofing are installed to steel framing to provide protection in the event of a fire. Missing clay tile and damaged fireproofing can lower the fire resistance rating of the structural steel framing in these areas.

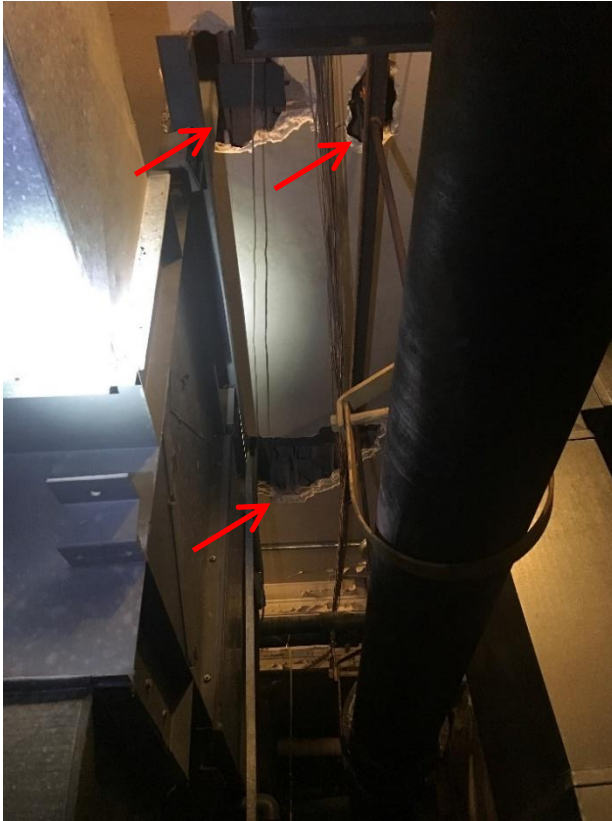


Figure 74. Basement mechanical room showing damage to structural fireproofing at the ceiling level.



Figure 75. Damaged structural fireproofing near the freight elevator on the first floor.

Exits and Exit Access

A detailed egress analysis was not performed as part of this assessment. The Building has two enclosed stairways serving the basement through the fourth floor. The enclosed exit stairways discharge on the first floor interior to the building. An additional central open stair serves the basement through the fourth floor, discharging between the first floor and basement level outside of the building. Major deficiencies with respect to means of egress, such as dead-end corridors, were not observed except as noted below:

- Observation: The enclosed exit stairways were obstructed (Figure 76) and contained storage. The main exits on the first floor are chained and locked from the outside for added security (Figure 77).
- Discussion: The current enclosed exit stairways are obstructed on the second floor. In the current vacant condition of the building, no work is required. However, if the building is to be occupied, these stairs will need to be repaired and made usable.

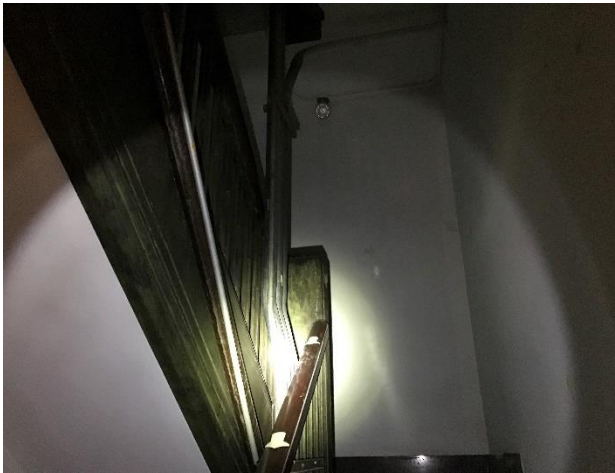


Figure 76. Wall constructed in stairway obstructing egress path of enclosed stairway

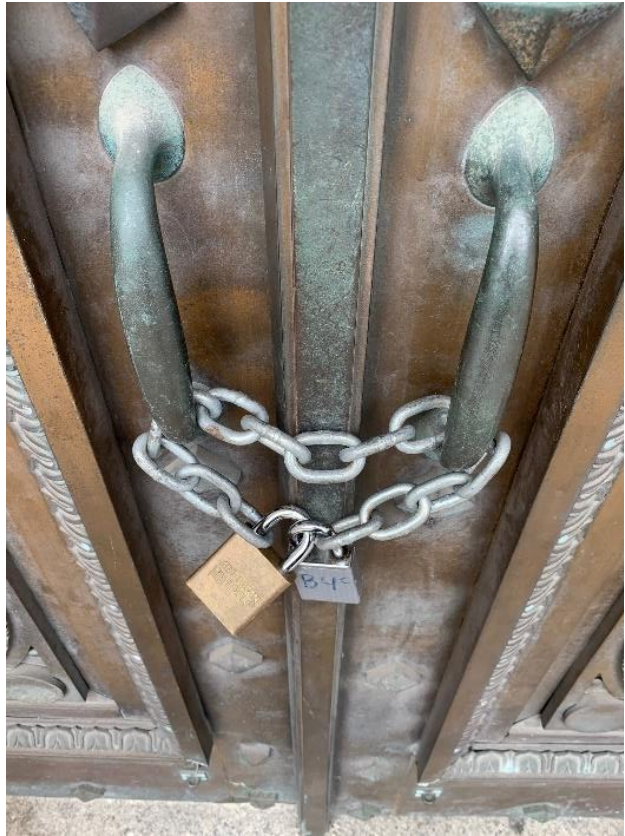


Figure 77. Chain lock on the outside of the main entrance doors creating an obstructed egress condition.

- **Observation:** The enclosed exit stairways are nominally 28 inches wide with doors having leaves that are 31 inches wide and clear widths of 29 inches. The doors swing in the enclosed exit stairways in the opposite direction of travel.

Discussion: The door swing of the doors serving the enclosed stairways is an existing condition but if an occupancy change occurs an egress study typically part of the design process should occur. For new construction the minimum exit width of stairways is typically 44 inches wide (Section 1009.4).

- **Observation:** The first floor is the primary level of exit discharge with three sets of double doors opening on the east. The basement is served by the two enclosed stairways, the open stairway, and an additional exit to the southwest that discharges to the exterior.

Exit Signs

- **Observation:** Exit signage is located within the building but many are damaged (Figure 78) or burned out (Figure 79).

Discussion: The exit signage placement and condition is generally part of a new design and renovation and will likely change based on the final building layout.



Figure 78. Damage exit sign and emergency light



Figure 79. Burnt out exit signage in main atrium space

Emergency Lighting

- **Observation:** Emergency lighting is provided in the building via emergency lights with battery back up power.

Elevators

- **Observation:** There are three elevators in the building, two passenger elevators, and one freight elevator. The elevators were out of service and access to the elevator machine rooms were not available during the survey.

Discussion: A review of the elevators by a vertical transportation consultant is suggested to better understand the condition of the elevators and if they need to be replaced and have elevator recall updated if the building is to be occupied.

Fire Alarm

- **Observation:** The building has a fire alarm system (EST IRC-3) with a Honeywell DACT fire alarm communicator. The main panel is located in the basement (Figure 80). Manual pull stations are located at the intermediate levels of the main open stairway. Smoke detection is located within the building. Beam detection for security is installed across the atrium floor opening. Occupant notification (strobe and horn) is located within the atrium space on every level (Figure 81). The fire alarm panel indicated a trouble alarm in area 02.

Discussion: The expected useful life for a fire alarm control panel is approximately 20 years with proper maintenance as detailed in NFPA 72 but may be extended with continued maintenance per the manufacturer's requirements. It is unknown when the fire alarm control panel was installed or last upgraded, the devices are of various vintages and the identified panel is obsolete and no longer produced by the manufacturer. As a result, parts may get progressively more difficult to obtain and new devices that might be added in the field may not be compatible with the existing hardware.



Figure 80. Fire alarm control panel in basement boiler room indicating a trouble alarm.



Figure 81. Strobe and alarm bell in the main atrium space

Fire Suppression Systems

- **Observation:** The building does not have an automatic fire sprinkler system. There are two fire department connections with 1-1/2 inch hose lines on each floor on either side of the atrium (Figure 82 and Figure 83).



Figure 82. Fire hose cabinet with fire department connection



Figure 83. Fire hose cabinet with hose removed and fire extinguisher located in the cabinet.

Smoke Control Systems

- **Observation:** The building does not have an atrium smoke control system.

Manual Fire Extinguishers

- **Observation:** Manual fire extinguishers are installed around the building but have not been inspected (See Figure 83 above).

Discussion: Periodic inspection of fire extinguishers is not required for vacant buildings but if the building is to be occupied, the fire extinguishers will require inspection and tags affixed to confirming

they are operational. Additional fire extinguishers may be required based on the final layout of the building.

RECOMMENDATIONS (MAINTAIN BUILDING IN EXISTING CONFIGURATION)

The OCH is listed in the National Register of Historic Places. All treatment guidelines and recommendations were developed in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The OCH is currently unoccupied but if basic maintenance is not performed the building components can continue to deteriorate and imminently hazardous conditions may develop. The following recommendations describe the maintenance and repair work to maintain the building in its present unoccupied configuration and mitigate potentially imminently hazardous conditions. Normal inspection, testing, and maintenance required for fire protection and life safety systems should be performed in accordance with inspection and testing schedules established by applicable codes and standards. Documentation for the inspection, testing, and maintenance of the systems should be maintained. The following summarizes our recommendations to address the conditions observed in order to maintain the OCH in its existing unoccupied configuration.

Facade

Spalled and Displaced Limestone. Where incipient spalls present a falling hazard, they should be removed immediately. Distressed limestone units should be removed and replaced with new units to match the existing thickness and profile. Any existing iron strap anchors encountered during the work should be cut out and removed. New limestone should be installed with stainless steel anchors. Where the spall is small relative to the face dimensions of the distressed limestone unit, consideration should be given to removal of the distressed portion of the limestone unit and installation of a dutchman repair to match existing unit thickness and profile. Dutchman units should be installed with stainless steel anchors. Cementitious patching is typically not as durable and can weather differently than the parent stone; therefore, patching damaged limestone is not recommended.

Displaced Limestone Units. The cause of displaced limestone should be further investigated. If displacements are not caused by an underlying attachment issue, the owner may elect to leave the displaced unit. If, however, an underlying attachment issue is found, the unit should be re-anchored in place or removed and securely re-installed.

Cracked Limestone. Further investigation should confirm if the cracked limestone units are secure. If the crack appearance is not objectionable and if the crack does not compromise the structural integrity of the limestone unit, the crack may be filled with a cementitious grout to prevent water infiltration. If the crack appearance is objectionable, where the crack affects the structural integrity of the unit, or where the cause of cracking may lead to the development of additional future distress, then the cracked unit should be removed and replaced with a new limestone unit or a dutchman repair installed to match the existing unit thickness and profile, as described above.

Abandoned Embedments. Abandoned steel anchors should be removed and any gaps in the masonry should be sealed to prevent water infiltration. Abandoned anchors of this type can be removed by core drilling the stone, followed by patching the cored location with a limestone plug.

Mortar Joints. Deteriorated, cracked and missing mortar joints should be repointed. There may be exterior wall locations, particularly at reentrant corners or other changes in plane, where joints that were originally filled with mortar should be raked back to receive backer rod and sealant. Mortar analysis should be performed to study the existing mortar and to select a new mortar that is compatible with the existing exterior wall materials. Mortar with excessively high compressive strength can lead to damage to the surrounding limestone units. Repointing can be limited to areas of identified distress, but based on the condition of the exterior mortar joints and for a uniform appearance and to minimize costs associated with near-term ongoing maintenance, it is recommended that 100 percent of the exterior walls be repointed.

Windows and Doors

Broken Glass. Rigid insulation should be removed from third-floor windows and a close-up assessment of the broken glass should be performed. Any broken glass which occurs in the exterior pane should be removed immediately. If both panes of glass are broken, the window openings should be temporarily weatherproofed.

Bronze-Clad Entrance Doors. The bronze-clad entrance doors should be protected in place, pending future restoration of these historic elements. Temporary painted plywood protection is one option to protect the doors from further weathering until restoration is performed. The plywood could be hinged at one door location to provide access.

Roof

Roof Area 1 Termination Bar Seal. Sealants at the termination bar at the perimeter of the roof and other locations throughout the roof area should periodically inspected and replaced as a regular maintenance item.

Roof Area 2. Copper panels along the south side of Roof Area 2 should be removed and properly reattached to the underlying substrate. Copper trim in this area should also be replaced.

Roof Areas 3 and 4. For long-term service and to pre-empt possible water infiltration and further damage to interior finishes, we recommend complete replacement of Roof Areas 3 and 4. Roof Areas 3 and 4 were historically clad with copper sheet metal. Consideration should be given to installing fully soldered copper sheet metal roofing at these areas, with appropriate provisions for drainage and thermal expansion and contraction. However, for cost estimating purposes, it is assumed these roofs will be replaced in kind with a new EPDM roof membrane. Given the size of the building, consideration should be given to providing additional drain locations to supplement the original four roof drain inlets and special care should be given to installing sufficient slopes to internal drains during the replacement. Expansion-type edge fasteners that are currently used to attach Roof Area 4 should not be used when reinstalling this roof area to prevent further damage of decorative limestone cornice units. Routine roof maintenance should be performed until complete replacement is performed.

Roof Drains. Further investigation of potential water sources, including inspection of the four roof drain lines should be performed to better understand the source of water infiltration into facade. Roof drains and drain lines may need to be replaced in their entirety.

Skylights. Further testing is needed to understand if leakage through skylights is active. If leakage is found to be active, temporary repairs should be performed to limit sources of possible water infiltration and further damage to interior finishes. Repairs may consist of installation of EPDM membrane to cover the skylights and provide weather protection.

Structure

Structural Steel. Supporting steel elements below the vaulted sidewalk should be cleaned and re-coated. This work should only be performed after the water infiltration issues at the vaulted sidewalk have been resolved, see "Vaulted Sidewalk" recommendation below.

Site

Vaulted Sidewalk. Waterproofing membrane should be installed or replaced above the vaulted sidewalk. Prior to performing repairs, further investigation should be performed to understand the configuration of existing waterproofing membranes at the vaulted sidewalk. This investigation would likely involve inspection openings through the stone and concrete pavers.

Fire and Life Safety

Testing and Maintenance. The building is currently vacant however as stated above the maintenance, testing, and inspection of the fire protection and life safety systems should continue. Often insurance carriers also provide recommendations for maintenance of vacant buildings for property protection. As a result, the fire alarm system should be inspected, tested, and maintained in accordance with NFPA 25 and NFPA 72. Additionally, the trouble signal on the fire alarm panel in area 02 should be addressed. The standpipe and hand hose line system should be inspected, tested, and maintained per NFPA 25, NFPA 14.

RECOMMENDATIONS (CHANGE OF USE)

As noted, the OCH is currently unoccupied, but the DMD is considering converting the building to be used as both event and office space. In addition to evaluating the existing building to maintain it in its current unoccupied condition, the assessment was also used to assist in identifying additional items that may need to be addressed should the proposed change of use occur. The following recommendations are in addition to the recommendations made to maintain the building in its existing condition.

Facade

Staining. If elected by the owner, for aesthetic reasons, the facade should be cleaned of soiling. To remove soiling on limestone, the most gentle, effective cleaning method should be used, since gentle techniques are less likely to damage building components, accelerate future damage, or have unintended negative consequences. Improper cleaning can damage facade materials by causing staining or etching, discoloration, or more severe distress, such as corrosion of embedded anchorages. Damage such as surface etching can increase the likelihood and rate of future dirt accumulation, absorption of moisture, and surface deterioration. Special care is required in planning and implementing a cleaning program, especially on a public building where airborne chemicals may harm pedestrians. For all substrates, cleaning trials prior to full scale cleaning projects are often a valuable phase to identify appropriate and effective cleaning products and procedures. Perform cleaning trials at inconspicuous areas of the facade.

Several cleaning systems will likely be necessary based on the staining type. Cleaning of the exterior limestone should be performed after the walls have been repointed.

Windows and Doors

Window Openings. Where window openings are completely infilled, limestone infill units and CMU back-up walls should be removed. Where existing smaller aluminum-frame windows are present, the windows and supplemental infill material should be removed.

Removing the existing limestone infill to replace the window should consider the careful removal of the 1965-vintage stone and anchors without damage to the original jambs. Inspection openings at one infilled window would be advisable to determine the configuration of the non-original anchors and methods for removing the infill masonry without damaging the original stone jambs.

A more detailed survey of the existing original window frames should be conducted to catalogue the remaining elements at each window opening and their condition. Depending on the overall condition of the frames, two window replacement options may be considered.

Option 1: From our preliminary assessment, it may be feasible to repair the existing wood window frames in place and install new solid wood sash to match the historic appearance of the original windows. These new elements would likely consist of wood elements with modern insulating glazing units. The exterior brickmold and interior trim may also require replacement depending on their condition. It is assumed the new sash would be screwed in place, rather than restoring the windows to operable condition.

Option 2: Remove the existing wood window frames and install new windows in the rough openings. These windows would likely consist of aluminum-framed windows with insulating glazing units to match the historic appearance of the original windows. This option would need to be reviewed with the preservation review agencies during design development.

Repair of the original wood frames would likely cost less than full replacement of the window system but may require more frequent maintenance, including painting of exterior wood components every ten years.

Doors. The bronze entrance doors are a significant historic architectural feature of the building that should be restored. Conceptually, this work will include repair or selective replacement of cracked, dented, punctured, or missing pieces of bronze cladding; consolidation or replacement of decayed wood components; cleaning and lubricating of door hardware; and stripping, cleaning, polishing, lacquering, and waxing of all bronze surfaces. Depending upon the functionality of the existing hardware and the use of the building, it may be necessary to provide some new hardware components.

Roof

Roof Area 2. For long-term service and to pre-empt possible water infiltration and further damage to interior finishes, we recommend complete replacement of Roof Area 2. Roof Area 2 was historically copper, but with a more elaborate design including a cornice at the top edge and decorative treatment of ridgelines. The new copper roof should replicate the original design and should be integrated with the membrane roof at Roof Area 1 and the built-in gutter at Roof Area 3. Since Roof Area 1 is relatively new, it is assumed that this membrane will be maintained as part of the work. The top edge detail of Roof Area 2

should allow for ease of integration between the copper and the membrane when Roof Area 1 is replaced in the future.

Skylights. Replace skylights with new thermally broken skylights with insulating glazing, to provide daylight to the interior. The new skylights should be integrated with the new roof systems. Skylights are minimally visible from grade and their replacement should be performed in consultation with the preservation review agencies. It may be possible to eliminate some of the skylights pending approval from the preservation review agencies. The costs provided for this item assume all skylights will be replaced.

Structure

Flat-Arch Floor System. WJE did not observe any immediate life-safety issues related to the flat-tile arch floor system during our assessment, but a more detailed evaluation of the floor system current condition and capacity should be performed if the Owner elects to restore occupancy to OCH. In addition, the stability of remaining portions of the former interior partition walls that were partially demolished should be reviewed.

Site

Sealant Joints. Deteriorated exterior sealant should be removed and replaced with new sealant. The new sealant should be of a similar color and compatible with substrate materials.

Cracked Granite Steps. Granite steps that are cracked should be removed, the setting bed repaired, and new granite steps installed to match the existing. Deteriorated sealant at granite step joints should be removed and replaced.

Spalled Concrete and Handrails. Concrete repairs should be conducted at the base of handrail posts and at other locations of cracked concrete. To prevent further deterioration of concrete at the handrail bases and address ADA non-compliance, the handrails should be removed and replaced with ADA compliant surface mounted handrails. Anchorage of the surface-mounted handrails should be performed using stainless steel anchors.

Loading Dock Wall. If the loading dock is not entirely replaced (as WJE understands the Owner is currently considering as part of the change of use), the masonry wall at the loading dock should be rebuilt to provide appropriate support for the loading dock platform.

Fire Protection

A comprehensive design concept should be performed in accordance with Chapter 34 of the building code for this change in occupancy that addresses the items below. The items identified below are based on a prescriptive approach that identifies specific building code items that will need to be addressed. If a performance-based approach is desired, the concept will likely require special approval from the authority having jurisdiction. A performance approach option includes possibly referencing to the *International Existing Building Code* and NFPA 914, *Code for the Protection of Historic Structures* and may result in not every item below needing to be addressed.

Fire Resistance Rating. Confirmation of the fire resistance rating of the building elements (primary structural frame, bearing walls, floor and roof construction) is suggested to confirm that it may provide at least a 2-hour fire resistance rating to be considered a Type I-B building (Section 601). Classification of a

Type I-B building will permit the height and area for the new occupancy (assembly) without sprinkler protection; whereas a Type III-A building would require an automatic sprinkler system for a four-story building that contains an assembly occupancy (Section 503).

Fireproofing. Areas of the clay tile arch, floor ceiling assembly, and associated plaster and the structure fireproofing (clay tile) are damaged in select locations. Structural steel is exposed for attachment of hanging equipment in the basement data room in the southwest corner. The arch assembly and steel fire proofing is damaged or removed on the first floor in the room east of and adjacent to the freight elevator. The clay tile arch and structural fire proofing is damaged in the northwest corner of the second floor. Replace and repair the structural fire proofing where damaged or missing.

Egress. The existing egress system should be renovated and made usable. Stairways and egress paths should be repaired and maintained free of obstructions. This repair includes removing obstructions within the stairways, including at the second floor, and repairing penetrations and holes in the stairway enclosure. As communicated to WJE the existing enclosed stairways and open stair will likely be reused.

New Exit Stairway. The existing enclosed exit stairways both discharge into the interior of the building. For new assembly occupancy construction, only 50 percent of the number and capacity of the required exits is allowed to discharge inside the building (Section 1027.1). As a result of these two items a new enclosed stairway, discharging directly outside the building may be necessary.

Stairway Doors. Stairway doors are provided with glazing that does not provide a fire resistance rating and swing opposite the direction of travel. Provide 1-1/2 hour fire resistive rated doors that self-close and latch and swing in the direction of egress.

Stairway Width. The existing enclosed stairways are narrower than the required minimum egress width of stairways for new assembly construction (Section 1009.4). Use of these existing enclosed stairways will likely be permitted, however the exit capacity of the upper floors may be further limited due to the reduced capacity.

Stair Handrails. Handrails within the enclosed stairways are not located on both sides and are not continuous (Section 1012). Provide handrails with associated continuity.

Guard. A guard is provided around the atrium floor opening on levels 2 through 4 but the guard is less than the required 42 inches in height (Section 1013.3). A guard extension should be provided to extend the height of the guard 42 inches on Levels 2 through 4.

Elevator Doors. The freight elevator enclosure and associated doors are not provided with fire resistance rated labels. Replace the protective swinging doors to the rear access of the freight elevator on the fourth floor.

Penetrations. Penetrations and holes were observed in stairway enclosing walls requiring a fire-resistance rating. There is approximately one penetration every floor level per stairway and enclosure damage that requires repair. Repair penetrations and damage to provide the required fire-resistance rating.

Smoke Control System. The building currently has a vertical opening (atrium) connecting the first floor to the fourth floor. In new construction a floor opening such as this would be classified as an atrium and require an atrium smoke control system (Section 712.1.6 and 404). However, for an existing historic building, there may be options to eliminate this requirement during a change in occupancy. For the

purposes of cost estimating, it is assumed a smoke control system will be required along with associated interfaces with the mechanical systems and fire alarm system

Fire Alarm System. A fire alarm system with occupant notification system is required to replace the obsolete fire alarm system for the change in occupancy (Section 907.2 and 907.5). Atrium smoke detection will also be necessary. Install a new fire alarm system and atrium smoke detection.

Automatic Sprinkler System. An automatic sprinkler system is required for a new assembly occupancy of the proposed conceptual design provided to WJE (Chapter 34 and Section 903.2.1). A comprehensive program developed in conjunction with the authority having jurisdiction may allow for an exception to an automatic sprinkler system though installation of a sprinkler system may alleviate other requirements. Part of this review should include a cost benefit analysis to the installation of an automatic sprinkler system. For the purposes of cost estimating, it is assumed an automatic sprinkler system will be required.

Standpipe. Repair and expand the existing standpipe system assuming a new stairway will be added.

ESTIMATE OF PROBABLE COSTS

Estimates of probable repair costs and recommended repair timeline to maintain the OCH in its existing unoccupied condition are provided in Appendix A. Estimates of probable costs associated with the propose conceptual design provided to WJE are provided in Appendix B. It should be noted that the costs provided in Appendix B to change the use of OCH are in addition to the costs to maintain the building in its existing condition. The costs associated with the change of use will require a more detailed review and evaluation once the conceptual design is better defined but costs are generally provided based on assumed modifications. The costs associated with conducting the design analysis of the various options mentioned are assumed to be part of the design responsibilities and are not included in this report.

Costs for the recommended repairs are given in present-day dollars local to the project site and are not modified for cost increases in the future. The estimated costs provided should be considered as preliminary order-of-magnitude cost figures based on estimated repair quantities and do not include costs associated with design, construction observation, contractor general conditions, permitting, bonds, overhead, profit or contingency. We recommend budgeting 20 percent for general conditions and an additional 20 percent for contingencies.

Actual costs can vary due to the actual repair method and details selected, contractor means and methods, actual repair quantities, and whether the work takes place intermittently or all at once. Cost estimates were made by either our experience with similar work, or discussions with local contractors. Costs were not obtained from a contractor bidding on a set of repair drawings and specifications and they were not prepared by a professional cost estimator.

LIMITATIONS

As requested by CORE, our observations were limited in extent to visual-only, from grade and accessible roof levels and interior areas. Services such as destructive testing, water testing, environmental testing, material sampling, hazardous material testing, and exploratory openings were not included in this assessment. Please note that the information presented in this report is not intended to be used as a technical repair document, and as such, should not be used to solicit bids from contractors or be used as the sole basis to perform repairs. Each of the repair approaches described above should be designed by a

design professional and installed by a contractor qualified to perform the work. Trial repairs, or mock-ups should be performed to evaluate suitability of each repair. Competitive bids using a set of repair drawings and specifications developed by a licensed architect or engineer experienced with repairing these types of structures should be obtained. Construction observation during implementation of mock-up and/or long-term repairs by a qualified professional is also recommended. Even with the execution of long-term repairs, ongoing and routine maintenance is necessary and should be expected.

The due diligence process used for the fire and life safety analysis is a review and not an investigation, thereby limiting the potential to uncover all ailments of the fire protection and life safety systems. Likewise, WJE must rely on information provided by the owners' representatives regarding past fire protection and life safety issues, past repairs, and recorded documentation and/or testimony. WJE interviewed existing building personnel made available to us to ascertain the history; however, WJE is not responsible for incorrect information provided by the Owners' representatives.



**APPENDIX A. ESTIMATE OF PROBABLE COSTS TO MAINTAIN OLD CITY HALL COMPLEX IN
EXISTING CONFIGURATION**

Old City Hall Assessment¹

Estimate of Probable Costs to Maintain Building in Existing Unoccupied Condition

Component	Quantity	Unit	Unit Cost	Estimated Cost	Immediate Need	2022-2024 Yr. 1-3	2025-2028 Yr. 4-7	2029-2031 Yr. 8-10	Over the Term Totals	Notes
Periodic Inspections	1	EA	\$6,000	\$6,000		\$6,000	\$6,000	\$6,000	\$18,000	Additional investigation includes periodic inspections from the ground and accessible portions of the interior to identify potentially hazardous conditions and water leakage.
Facade										
Remove Incipient Limestone Spall	15	EA	\$300	\$4,500	\$4,500				\$4,500	
Install Dutchman Repair at Spalled Limestone	40	EA	\$850	\$34,000			\$34,000		\$34,000	Assume 2 SF per location. Most are located at water table
Remove and Replace Damaged Limestone Unit	40	EA	\$2,500	\$100,000			\$100,000		\$100,000	Assume 6 SF per location
Reset Displaced Limestone Unit	5	EA	\$1,000	\$5,000	\$5,000				\$5,000	Assume 12 SF per location
Repair Cracked Limestone Unit	80	LF	\$20	\$1,600			\$1,600		\$1,600	Assume 1.5 LF per location
Remove Embedments from Limestone	230	EA	\$200	\$46,000			\$46,000		\$46,000	
Repoint 100% of Deteriorated Mortar Joints	76,000	SF	\$20	\$1,520,000			\$1,520,000		\$1,520,000	100% of facade
Replace Broken Window Pane	5	EA	\$800	\$4,000	\$4,000				\$4,000	
Temporarily Protect Bronze-Clad Entrance Doors	3	EA	\$300	\$900		\$900			\$900	
Roof										
Replace Seal at Terminations of Roof Area 1	500	LF	\$5	\$2,500		\$2,500			\$2,500	
Remove and Replace South Side of Roof Area 2	110	LF	\$100	\$11,000	\$11,000				\$11,000	Remove and replace the partially detached copper panels and base flashings at south end of roof.
Remove and Replace Roof Area 3	1,800	SF	\$60	\$108,000		\$108,000			\$108,000	Remove and replace EPDM membrane and install new wood framing or insulation to provide positive slope to drains.
Remove and Replace Roof Area 4	1,200	LF	\$50	\$60,000	\$60,000				\$60,000	Remove and replace EPDM membrane and install new wood framing or insulation to provide positive slope to drains.
Inspect Roof Drain Lines	4	EA	\$350	\$1,400						
Perform Water Testing at Skylights	1	EA	\$18,000			\$18,000			\$18,000	Temporary repairs may be required based on results of water testing. Cost includes water testing only.
Structure										
Clean and Paint Structural Steel Framing	1	EA	\$15,000	\$15,000		\$15,000			\$15,000	Includes removal and replacement of granite pavers and installation of new waterproofing membrane.
Site										
Install New Waterproofing Membrane at Vaulted Sidewalks	675	SF	\$250	\$168,750		\$168,750			\$168,750	Includes removal and replacement of granite pavers and installation of new waterproofing membrane.
Fire and Life Safety										
Testing	1	YR	\$5,000	\$5,000	\$5,000	\$15,000	\$15,000	\$15,000	\$50,000	Testing should be performed on an annual basis. Unit cost provided is per year.

Total Estimated Costs (Uninflated): \$89,500 \$334,150 \$1,722,600 \$21,000 \$2,167,250

Abbreviations:

- EA - Each
- LF - Linear Feet
- SF - Square Feet
- YR - Year

Notes

1. Estimates are in present-day dollars and do not include design, construction observation, general conditions, permitting, bonds, overhead, profit, or contingencies. WJE recommends budgeting 20% for General Conditions and an additional 20% for contingencies.



APPENDIX B. ESTIMATE OF PROBABLE COSTS FOR PROPOSED CHANGE OF USE

Old City Hall Assessment¹

Estimate of Probable Costs for Proposed Change of Use

Component	Quantity	Unit	Unit Cost	Estimated Cost	Notes
Maintain Old City Hall in Existing Configuration	N/A	N/A	N/A	\$2,167,250	
Additional Investigation	1	EA	\$65,000	\$65,000	Includes up-close assessment of facades and windows, cleaning trials, and investigation openings
Facade					
100% Facade Cleaning to Remove Staining	76,000	SF	\$10	\$760,000	
Windows and Doors					
Inspection Openings at Windows	1	EA	\$15,000	\$15,000	
Remove Infill at Window Openings and Repair Existing Windows or Install New Metal Grates to Match Historic at Original Locations (Option 1)	110	EA	\$30,000	N/A	For budgeting purposes it is assumed Option 2 will be implemented instead of Option 1
Remove Infill at Window Openings and Install New Windows or Metal Grates to Match Historic at Original Locations (Option 2)	110	EA	\$33,000	\$3,630,000	
Restore Bronze-Clad Entrance Doors	3	EA	\$10,000	\$30,000	
Roof					
Remove and Replace Roof Area 2 and Replicate Original Design	600	LF	\$150	\$90,000	
Replace Rotunda Skylight Panels and Copper Wall Panels	1,250	SF	\$360	\$450,000	
Replace Small Skylight Panels to Match Rotunda. Remove and Replace Copper Wall Panels	720	SF	\$350	\$252,000	
Remove and Replace Skylights at Roof Area 2	6	EA	\$3,000	\$18,000	
Structure					
Investigate Flat-Arch Floor System	1	EA	\$15,000	\$15,000	
Site					
Remove and Replace Deteriorated Sealant at Entrance Steps and Ramp	3,000	LF	\$20	\$60,000	100% of area
Replace Cracked Granite Steps	4	EA	\$2,000	\$8,000	
Repair Concrete at Ramp Railing Posts	120	SF	\$200	\$24,000	
Replace Handrails at Entrance Steps with ADA Compliant Handrails	14	EA	\$500	\$7,000	
Replace Handrail at Ramp	150	LF	\$250	\$37,500	
Rebuild Masonry at Loading Dock	1	EA	\$1,000	\$1,000	
Fire and Life Safety					
Analyze Fire Resistance Rating of Building Elements	1	EA	\$20,000	\$20,000	
Repair or Replace Fireproofing Where Damaged or Missing	1	EA	\$100,000	\$100,000	
Install New Exit Stairway	1	EA	\$500,000	\$500,000	Necessity of new stairway to be reviewed and confirmed with authority having jurisdiction
Install New 1-1/2 Hour Fire Resistance Rated Doors at Stairways	17	EA	\$3,000	\$51,000	
Install New Handrails in Enclosed Stairways	1	EA	\$50,000	\$50,000	
Install New Guard Extensions at Atrium Openings on Levels 2-4	3	EA	\$30,000	\$90,000	Unit cost is per atrium opening
Replace Freight Elevator Doors on Level 4	1	EA	\$7,500	\$7,500	
Repair Penetrations in Stair Enclosures	10	EA	\$1,000	\$10,000	
Install Smoke Control System	1	EA	\$1,500,000	\$1,500,000	Necessity of smoke control system to be reviewed and confirmed with authority having jurisdiction
Install New Fire Alarm System	1	EA	\$750,000	\$750,000	
Install Automatic Sprinkler System	1	EA	\$1,100,000	\$1,100,000	Includes new fire pump
Repair and Expand Existing Standpipe System to Accommodate New Stairway	1	EA	\$750,000	\$750,000	

Total Estimated Costs (Uninflated): \$12,558,250

Abbreviations

- EA - Each
LF - Linear Feet
SF - Square Feet

Notes

1. Estimates are in present-day dollars and do not include design, construction observation, general conditions, permitting, bonds, overhead, profit, or contingencies. WJE recommends budgeting 20% for General Conditions and an additional 20% for contingencies.

Attachment F: CMTA observations



Old City Hall¹

Old Indianapolis City Hall

MEP Engineering Assessment and Report

July 15, 2021



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CH1 Existing Conditions Assessment

The old city hall has been renovated numerous times since its original construction in 1916 when the building was heated and ventilated. At this time there was a large air handling unit located under the main entry stair and lobby and large boilers located in the current mechanical room.

In its current condition heating hot water is provided from a steam heat exchanger connected to the Citizens Energy district steam system and is located in the mechanical room. This steam is converted into heating hot water which is circulated throughout the building. Condensate from this system is discharged to the sanitary sewer system.

Cooling is provided from two reciprocating water-cooled chillers which are also located in the basement mechanical room. These chillers are connected to a site mounted cooling tower located north of the building. Pumping for the system is also located in the basement mechanical room (Figure 2).

Conditioning of the building is provided from numerous fan coil units located throughout the building which were generally placed in relation to the State Museum requirements. Chilled water and heating hot water piping is routed through old ventilation shafts or through exterior wall pipe chases previously utilized for the original steam radiator system.

The domestic water entrance for the building is located off Alabama Street and distributed to the restrooms located throughout the building. Domestic water, sanitary sewer and storm piping are a mixture of original and repaired piping.

The electrical entrance for the building is located in the southwest corner of the building and panels are distributed throughout the building.

During site visits the building remains generally cool but high relative humidity which produces a clammy feeling. This is partially due to roof and other water leaks which are adding moisture to the space. And partially due to the state of the mechanical conditioning systems which have limited dehumidification capacity.

CH2 Recommendations for “As Is” Scenario

All of the existing building systems are beyond their useful life. However, to keep the building in its current mothballed state there are a few systems that need to be addressed.

The chilled water system which includes the chillers, cooling towers and pumps should be replaced. Installation of a nominal 75 ton closed loop glycol cooling tower connected to water cooled chiller located in the mechanical room will generally match the configuration of the existing system. The system should be sized to maintain the current minimum building load which is estimated no greater than 75 tons. If implemented another nominal 75 ton cooling tower can be installed to integrate with the proposed water source heat pump system.

The existing steam condensate disposal system does not function properly and is discharging hot water to the sanitary sewer system. This system should be replaced. These modifications can be utilized in the future building state as a heating source will be required and assume the steam heating source will continue to be utilized.

We do not recommend modifications of the existing electrical or plumbing systems to maintain the current mothball state. However, we are not stating the system are acceptable for use in an occupied building.

CH3 Future Scenario

All of the existing building mechanical, plumbing and electrical systems are past their useful life and need to be replaced.

HVAC

A water source heat pump system is proposed to minimize piping routed through the building, and allow for modification with improved energy performance. The existing steam service can be utilized through a heat exchanger located in the basement mechanical room. A cooling tower with an estimated nominal capacity of 125 tons will be located on a roof or structure located over the west alley. Water treatment and circulation pumps will be located in the basement mechanical room providing ease of maintenance. Piping will be routed vertically through the building to best integrate with the final architectural concept.

Distribution of an estimated 15,000 cfm of outside air will utilize the original ventilation shafts where possible. Energy recovery heat pump dedicated outside air units will be located on the fourth floor or roof. This quantity could vary depending on the final architectural solution. Each unit would also connect to the heat pump loop and precondition the outside air to maintain a maximum building dewpoint of 60F as required by ASHRAE Standard 62².

Atrium Smoke Exhaust is anticipated due to the configuration of the main lobby. The original outside air intake located below the east stairs will be returned to service. Ductwork will be routed in this area to the lowest level of the atrium. Smoke exhaust fans are preliminarily located above the fourth floor side lobbies. Their final size and configuration which is critical for proper operation will be determined from atrium smoke calculations.

FIRE PROTECTION

A new fire protection entrance will be provided adjacent to the existing domestic water entrance from Alabama. The line will be provided with the correct backflow prevention. Due to the height of the building a fire pump is anticipated to provide the required pressure to the highest portions of the building. The fire pump will be located in a dedicated rated room located in the basement level. Routing of sprinkler piping will utilize vertical chases created in the project.

PLUMBING

All existing plumbing piping including storm and sanitary will be removed and replaced. The piping will be routed vertically and follow the stacked architectural configuration. Water softeners will be provided in the basement mechanical room and will soften domestic hot and domestic cold water. Heat pump domestic hot water heaters will be provided for the building and will be located in the basement mechanical room. Low flow plumbing fixtures are anticipated for the building. Bottle filling water coolers are anticipated on each floor.

ELECTRICAL

A new electrical service will be provided for the building. The main equipment will be located in the basement electrical room. This room will be separated from the existing basement mechanical room. Main distribution panels for the building and common space panels will be located in this room. Metering of the buildings electrical utilities can occur based on tenant breakdown but advanced metering is recommended to identify usage based on key loads which will assist in building and energy use diagnosis.

Space in the room will be provided for integration of roof mounted photovoltaics. A preliminary calculation is provided in CH5 which is obtained from the PVWatts website³. The information displayed is for the area shown with a capacity of 54 KW. This area may increase depending on the final configuration of the mechanical and roof mounted systems. Using a utility rate of \$0.101 this will generate about \$7,300 saving every year and has an estimated installed cost of \$135,000 for a 19 year simple payback.

Emergency power will be provided from an estimated 200 KW emergency generator which will be located in the basement in a separate emergency power room. The generator will power life safety lighting, fire alarm system, smoke exhaust system, fire pump and limited building equipment. Ventilation for the room will be provided from existing basement light wells. Heat rejection from the generator will be provided from a remote radiator and will be located on the same alley roof utilized by the cooling tower. Generator exhaust will be routed up through the building to the roof. Fuel oil for the generator will be stored in a tank located below the generator.

A new fire alarm system shall be provided for the building which will include mass notification.

A new main distribution room will be provided for the building future IT needs. A dedicated heat pump cooling unit will be provided for the room.

CH4 Photos



Figure 1 Existing Piping Chase – location basement northeast corner



Figure 2 Chilled Water Pumps – location basement mechanical room



Figure 3 Piping Riser – location northwest corner fourth floor



Figure 4 Existing IT Infrastructure – location basement mechanical room



Figure 5 Domestic Water Service – location basement east wall

CH5 Photovoltaics

7/31/2021

PVWatts Calculator



Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at <https://sam.nrel.gov>) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

Disclaimer: The PVWatts® Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

The names DOE/NREL/ALLIANCE shall not be used in any representation, advertising, publicity or other manner whatsoever to endorse or promote any entity that adopts or uses the Model. DOE/NREL/ALLIANCE shall not provide

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The energy output range is based on analysis of 30 years of historical weather data for nearby , and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at the location.



RESULTS

72,565 kWh/Year*

System output may range from 69,452 to 74,430 kWh per year near this location.

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Value (\$)
January	2.87	4,125	416
February	3.68	4,675	471
March	4.82	6,633	669
April	5.36	6,802	686
May	5.97	7,649	771
June	6.49	7,819	788
July	6.26	7,752	781
August	6.12	7,553	761
September	5.55	6,797	685
October	4.21	5,500	554
November	3.07	4,095	413
December	2.26	3,165	319
Annual	4.72	72,565	\$ 7,314

Location and Station Identification

Requested Location	Indianapolis, IN
Weather Data Source	Lat, Lon: 39.77, -86.14 0.9 mi
Latitude	39.77° N
Longitude	86.14° W

PV System Specifications (Commercial)

DC System Size	53.9 kW
Module Type	Standard
Array Type	Fixed (open rack)
Array Tilt	20°
Array Azimuth	180°
System Losses	14.08%
Inverter Efficiency	96%
DC to AC Size Ratio	1.2

Economics

Average Retail Electricity Rate	0.101 \$/kWh
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Performance Metrics

Capacity Factor	15.4%
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1/1

CH6 References

1. Historic Indianapolis.com
2. ASHRAE Standard 62.1-2019 section 5.10 Maximum Indoor Air Dew Point in Mechanically Cooled Buildings
3. PVWatts: www.pvwatts.nrel.gov