



Memorandum

To: Honorable Mayor and Members of the City Council
From: Lara Biggs, Capital Planning & Engineering Bureau Chief
CC: Audrey Thompson - Parks and Recreation Director; Edgar Cano - Public Works Agency Director; Sean Ciolek - Fleet and Facilities Manager; Cara Pratt - Sustainability and Resiliency Coordinator
Subject: Evanston Ecology Center Options for Repairs and Renovation
Date: June 26, 2023

Recommended Action:

Staff seeks direction from City Council regarding options for repairs and renovation of the Evanston Ecology Center.

Council Action:

For Discussion

Summary:

The Ecology Center building was originally built in 1974 and contained a lecture room, a laboratory, storage, and public restrooms. In 2001, a major addition and renovation was completed, which added a multi-purpose room, corridor, and vestibule to the building. Additionally, the laboratory was converted to a classroom, and the lecture room was converted to offices. An extension to the new classroom was completed in 2015, along with some improvements to the classroom floor. The building is now 6,200 square feet.

The building is primarily masonry and wood construction with load-bearing masonry walls and a structural wood roof and floor. It has a crawl space throughout the building, and building utilities are routed through this crawl space. The original building has a 1 ½ to 2 feet clear space with a dirt floor. The 2001 addition has a 4' clear crawl space and gravel floor. The 2015 classroom extension has a slab-on-grade floor construction.

The building has a number of challenges. The original building crawl space does not have a finished floor and is not insulated. The dirt floor occasionally has groundwater puddles and is a known habitat for rodents. The space does not have adequate access or clearance for appropriate maintenance of the building systems therein. The main water service comes in through the crawl space and has a history of freezing, which shuts down the Ecology Center until water service can be restored. A Reduced Pressure Zone (RPZ) backflow prevention

device is located in the crawlspace, but the restricted access makes the required annual testing for this device very challenging. The restrooms are worn and in need of renovation.

The office space also has issues that need to be addressed. Typically, 3-4 staff can be in the office at a time, but the acoustics are so poor that there can be only one conversation happening or one person on the phone at a time, which is not conducive to productivity. The kitchen area is experiencing deterioration, and there is not enough storage for program materials, which is especially challenging with rodent issues. The offices are configured such that there is no customer service desk, and people in the office cannot easily see the front door to monitor people entering and leaving the building. This creates a safety issue for staff but also is challenging when children's programming, such as summer camp, is being held.

A project to address the freezing of the water service and create an easier-to-access space above grade for the RPZ was scheduled to be designed by the Bureau of Capital Planning staff and to begin construction late in 2022. A \$450,000 budget was included in the 2022 Capital Improvement Program for this purpose. The scope of this project also included improving the restrooms, renovating the office space to improve functionality, and creating a new customer service desk to improve customer interactions and create a more secure environment.

Subfloor System Structural Failure:

In March 2022, staff became aware of the severe deterioration in the mechanical room floor. Moisture had caused rotting of the floor joists and structural sub-floor system, with the worst areas being located directly under two furnaces. Further investigation identified more deterioration in the floor in the electrical room, offices, and classroom. Facilities Management staff stabilized the worst areas but indicated this stabilization was only temporarily adequate and that a permanent solution to replace the deteriorated elements of the floor and sub-floor support system needed to move forward quickly.

Failure Investigation:

On September 27, 2022, City Council approved a contract with HPZS, an architectural firm with a background in testing and analysis of building material failure and conservation issues (such as net zero greenhouse gas emissions design) as well as more typical architectural services. HPZS performed a complete inspection of the crawl space and an evaluation of the building's functionality. The investigation revealed the following concerns:

Crawlspace and Foundation Concerns -

- Significant moisture intrusion and humidity in the crawl space, primarily from groundwater
- Insufficient crawl space clearance for maintenance access
- Corrosion and deterioration of utilities located within the crawl space, most likely from excessive moisture
- Deterioration of structural support elements located within the crawl space, most likely from excessive moisture
- Cracked and failing bricks in the southeast corner of the exterior office wall

HVAC, Electrical, and Plumbing Concerns -

- Aged HVAC equipment, insufficient to meet modern design loads for heating and cooling
- Lack of outside air supply to existing HVAC equipment needed to meet modern building codes
- Air conditioning compressors utilizing refrigerant that is either discontinued or to be phased out by 2025 due to environmental impact concerns
- Outdated electrical panel located too close to water sources in the mechanical room
- Water service entering the building is not insulated or protected against freezing
- Existing RPZ located in crawl space in a configuration difficult to access for annual testing and maintenance

Operational Concerns -

- Lack of acoustic controls in the office space
- Insufficient customer service access
- Insufficient public seating options in the lobby
- Few "welcoming" features in the lobby

Options for Renovations - Base Repairs:

Based on the design of the crawlspace under the original section of the building and the condition of ductwork and piping in the crawlspace, HPZS identified multiple options for waterproofing the crawlspace and making repairs. Staff recommends pursuing the option most likely to permanently resolve the moisture issues, although this option requires a significant implementation effort. This includes the following actions:

- Removal of dirt and debris to provide additional clearance in the crawl space
- Installation of drain tile around the interior perimeter of the building foundation
- Installation of the vapor barrier in the floor of the crawl space as well as waterproofing and insulation on the foundation walls to control groundwater intrusion
- Addition of a sump and pumping system to remove water from the crawl space
- Replacement of corroded ductwork and piping failing due to excess crawl space moisture levels
- Repair to the structural floor system, including the support joists and sub-floor

In order to complete this work, substantial sections of the flooring will need to be removed in the original portion of the building, including the offices, classroom, and bathrooms, so that the crawlspace and structural failures can be mitigated. This will cause significant disruption to the building but also provides an opportunity to move forward with the originally intended scope of work for the project as well as to incorporate Climate Action and Resilience Plan (CARP) goals. Therefore, staff also recommends the following work be completed:

- Relocation of RPZ to a cabinet above-ground
- Renovation of the restrooms (including the upgrade of plumbing fixtures to low-flow, energy-efficient models)
- Conversion of the building appliances to eliminate natural gas use and installing all-electric replacements to meet CARP goals, including an electric panel modernization to support the additional needed capacity
- Renovation of the office space, including acoustic improvements

- Modernization of interior lighting to LED
- Exterior masonry repairs related to the cracked brick in the southeast corner of the offices
- ADA improvements (examples include improvements to employee kitchenette, restroom doors, drinking fountain, interior doors, and existing customer service access)

The estimated cost for the base renovation is \$2,262,500.

Alternate 1 - Additional Sustainability-Related Improvements:

Although the base solution includes substantially complying with the City's CARP goals, the project team also investigated the cost of meeting two other sustainability goals: LEED certification and compliance with bird-friendly building codes. Neither of these is required for this project, and both would add cost.

LEED-BD&C Certification -

Because of the specific scope of this renovation, there is an opportunity to pursue LEED Certification for Building Design and Construction (LEED-BD&C). Because this is the Evanston Ecology Center, staff believes there is a benefit to being LEED certified, although the certification comes with an additional cost. The additional scope that would need to be incorporated into this project includes the following:

- Energy modeling
- Commissioning
- EV vehicle charging
- Exterior lighting replacement
- Additional HVAC Upgrades
- Additional electric use metering
- HVAC flush out
- Interior photometric analysis
- Air quality monitoring
- Building commissioning
- Registration fee with the U.S. Green Building Certification

The estimated cost of LEED-BD&C certification is \$160,000.

Bird-Friendly Glass Treatment -

There is also a separate option to treat all of the building glass to upgrade it to be bird-friendly by applying a patterned film to the glass. The estimated cost of this bird-friendly glass treatment is \$40,000.

Alternate 2 - Security-Related Improvements:

Additional work for security improvements would include the reconfiguration of the lobby and the addition of a customer service desk with a line-of-sight view of the main entrance. This would allow the staff to provide control and monitoring of people entering and leaving the building, which is considered a minimum standard of safety in public facilities, especially when children are attending programs there. This upgrade would also allow line-

of-sight monitoring of the classroom and multi-purpose room. The additional cost of this option is estimated to be \$40,000.

Cost Analysis:

The HPZS consultant team included a contractor, Bulley, and Andrews, to provide construction cost estimates. The Cost Estimate developed is as follows:

Item	Estimated Cost
Base Renovation Cost	\$1,315,000
Escalation (5%)	\$65,750
Design & Estimate Contingency (7%)	\$92,050
Construction Contingency (7%)	\$92,050
Insurance, Fees and Bonds (8.3%)	\$109,150
Subtotal	\$1,674,000
Consulting Fees	\$278,500
FF&E	\$300,000
Construction Material Testing	\$5,000
Signage	\$5,000
Subtotal	\$2,262,500
Additional Construction Escalation (15%) ¹	\$339,400
Moving/Temporary Operations Costs	\$150,000
Owner Contingency (20%) ²	\$452,500
Total Cost - Base Renovation	\$3,204,400
Alternate 1 - Additional Sustainability	\$200,000
Alternate 2 - Additional Security Improvements	\$40,000
Total Project Cost with Alternates	\$3,444,400

Notes:

1. While the consultant cost estimate included 5% for construction escalation, staff recommends including an additional inflation factor based on bids received in 2023.
2. Owner Contingency is expected to include:
 - Unforeseen conditions (often higher in a renovation project than in new construction), including supply chain management challenges
 - IT Equipment & video surveillance

This project was budgeted at \$1,500,000 in FY 2023. Because a structural sub-floor failure is unusual, staff did not have a reliable comparative cost to use for budgeting purposes and provided a budget number as a placeholder in the capital improvement program,

anticipating that the project cost might be substantially different. Additional funding will need to be allocated to move forward with construction in FY 2023 as is currently proposed.

Next Steps:

1. Staff requests guidance from City Council on the scope of work moving forward and whether either of the alternates should be included in the final project scope.
2. Once City Council confirms the scope of work, staff will finalize the consultant's cost proposal for design and construction services and will return to City Council with a recommendation for an award at a future City Council meeting.
3. This project is currently expected to start construction in Winter 2023 and to take 4-6 months to complete, barring any delays related to supply chain challenges.