

Dallas City Hall Facility Condition Assessment

Estimation Methodology & Results Supplemental Information

This memorandum provides additional detail regarding the estimated \$329.4 million investment identified in the Facility Condition Assessment. The intent of this document is to clarify the scope level assumed for each major building system and to describe the factors influencing cost at a system level. The accompanying tables identify anticipated intervention approaches, complexity considerations, and associated risk if deferred. They intend to provide transparency into how individual recommendations from the assessment contribute to the overall projected investment need.

This supplemental information does not revise the total estimated investment. Rather, it provides additional structure and context to support informed decision-making regarding the facility's long-term infrastructure needs.

Background and Prior Discussion

On February 20, 2026, AECOM issued the Facility Condition Assessment report, including the Estimation Methodology and Results outlining the basis for the \$329.4 million planning-level investment. That report documented the pricing framework, estimate classification, exclusions, and technical assumptions supporting the opinion of probable construction cost.

On February 23, 2026, the Economic Development Committee received a presentation summarizing those findings. During that discussion, members requested additional clarification regarding the composition of the estimate, the level of intervention assumed for major systems, and the factors influencing the magnitude of certain cost categories.

This memorandum responds to those requests. It does not revise the previously issued estimate or methodology. Rather, it provides additional transparency into how the scope was structured at a system level, how complexity considerations influence cost, and how the detailed construction classifications align with the overall investment total.

The sections that follow expand upon the scope assumptions and organize the estimate in AECOM's construction-based format to provide clearer visibility into the underlying components of the projected investment.

Estimation Approach Refresher

The estimation framework summarized below was originally outlined in the February 20, 2026 Facility Condition Assessment report and forms the basis of the \$329.4 million planning-level investment. The information provided here is intended as a concise recap to support the supplemental scope and cost detail that follows.

- The estimate was prepared as an AACE Class 4 / Class 5 planning-level opinion of probable construction cost. It was developed at a system level rather than through detailed design documentation and is intended to inform capital planning and budgeting decisions.
- Scope assumptions were informed by ASTM E2018-24 assessment findings, observed physical condition, remaining service life considerations, and industry useful life benchmarks. Where systems were determined to be beyond expected service life, materially deteriorated, or functionally obsolete, replacement or major rehabilitation was assumed at a system level.
- Pricing reflects prevailing wage construction assumptions, regional cost benchmarks, historical data, and professional judgment appropriate to a conceptual estimate. Standard planning-level allowances for contingency, contractor general conditions, overhead and profit, and related delivery costs were incorporated.
- The assessment was non-invasive and limited to observable conditions. Many systems are concealed within structural assemblies, and additional deficiencies may be identified during construction.
- The estimate reflects corrective repair and infrastructure renewal only. It excludes modernization, reconfiguration, technology upgrades, owner-related soft costs, and other non-construction expenditures. Costs are expressed in 2028 dollars consistent with the stated pricing basis.

Clarifications Regarding Assessment Findings, Recommendations, & the Planning Estimate

Following issuance of the Facility Condition Assessment report and subsequent review discussions, additional clarification was requested regarding interpretation of the findings and the associated planning-level cost opinion.

The following section provides context intended to support a consistent understanding of the assessment scope, the assumptions reflected in the estimated investment, and how those findings relate to broader capital planning considerations.

Why Were Projects Not Prioritized?

The Facility Condition Assessment was conducted under ASTM E2018-24, which is a condition-based standard focused on identifying observed deficiencies and estimating the cost of corrective repair. The standard establishes a framework for documenting physical condition and quantifying capital renewal needs; it does not require ranking projects by funding priority or developing a capital improvement schedule.

The estimate reflects the magnitude of identified corrective repair needs at the time of assessment. Determining priority among those needs requires policy decisions regarding risk tolerance, operational impacts, funding availability, and long-term facility strategy. Those considerations extend beyond the scope of a condition assessment and were not part of the assignment.

Accordingly, the report identifies what needs exist and the associated planning-level cost, while prioritization of those needs is appropriately addressed through the City's capital planning process.

Why Was a Phased Implementation Plan Not Developed?

Phasing requires additional analysis beyond condition assessment findings, including operational continuity requirements, funding availability, procurement strategy, construction sequencing constraints, and potential consolidation of work for efficiency. Those considerations are typically addressed during capital planning, program development, or pre-design. The estimate therefore reflects the full scope of identified corrective repair needs independent of timing. The absence of a phased plan in the report does not imply that all work must occur simultaneously; rather, it reflects that implementation strategy is a subsequent planning decision informed by policy, funding, and operational priorities.

Why Did the Estimate Assume Concurrent Completion?

The estimate was developed at a system level and reflects the total cost of addressing identified corrective repair needs. For pricing purposes, it assumes that major system renewals could be executed within a coordinated capital program rather than as a series of isolated, small-scale projects over time.

This approach is particularly relevant given the invasive nature of distribution replacement within the building. Mechanical, plumbing, and electrical systems are extensively embedded within shafts, concrete slabs, walls, and ceiling assemblies typical of the building's 1970s construction. Replacement of these systems requires substantial demolition, access, and restoration across multiple building areas. Performing such work incrementally would likely result in repeated mobilization, repeated demolition and patching, and duplicated restoration of interior assemblies.

Additionally, while some components are beyond expected useful life and others are approaching end of life, many systems are within the 80–90 percent consumption range of their expected service life. In a building where distribution systems are deeply integrated and access is disruptive, replacing only those components that have exceeded 100 percent of expected useful life and deferring those nearing end of life could require reopening the same spaces within a relatively short period. The estimate therefore reflects a coordinated renewal approach intended to avoid repetitive invasive work and cumulative cost escalation.

The concurrent execution assumption establishes a consistent planning baseline that accounts for the interconnected nature of building systems and the practical efficiencies of coordinated renewal. It does not represent a requirement that all work occur simultaneously but rather reflects how system-wide infrastructure replacement is most effectively evaluated at a planning level.

Why Was a Three to Five Year Execution Window Referenced?

During prior presentation, a three-to-five-year execution window was referenced to provide context regarding the scale and complexity of infrastructure renewal in a facility of this size. That timeframe was not intended to prescribe a fixed construction duration, but rather to illustrate the practical realities associated with replacing major building systems that are deeply integrated within the structure.

Mechanical, electrical, plumbing, and life safety distribution systems in the building are embedded within shafts, concrete slabs, walls, and ceiling assemblies typical of 1970s civic construction. Replacement of these systems requires significant demolition, temporary systems, inspections, and restoration across multiple floors and functional areas. Work of this nature is inherently invasive and typically sequenced to manage access, safety, and operational continuity.

The referenced duration also reflects the time required for design development, procurement, phased construction activities, and coordination among interconnected systems. Comprehensive infrastructure renewal programs in facilities of comparable scale are commonly implemented over multiple years.

The timeframe was presented to illustrate implementation considerations associated with system wide renewal at this scale. Schedule and occupancy strategies would be determined during subsequent feasibility and program planning efforts.

What Cost Overlap Exists Between the Corrective Repair Estimate and the Separate Tenant Modernization Estimate

A separate firm presented a tenant modernization concept with an estimated cost (\$1 billion). That estimate addressed comprehensive tenant buildout, including space reconfiguration, programmatic redesign, technology integration, furnishings, and upgraded architectural finishes. It did not duplicate full replacement of the building's core mechanical, electrical, plumbing, structural, or envelope systems.

The \$329.4 million corrective repair estimate addresses infrastructure renewal. It reflects system replacement and major rehabilitation necessary to restore building reliability and extend useful life. It does not include tenant reconfiguration, upgraded finish packages, furnishings, or technology improvements beyond what is required to support corrective existing system replacement.

Accordingly, the two estimates represent different scopes of investment. The corrective repair estimate addresses the building's infrastructure backbone. The tenant modernization estimate addresses programmatic and architectural improvements.

The two investments are not substitutes for one another. Infrastructure renewal would be required regardless of whether a tenant modernization program proceeds. If both were undertaken concurrently, coordinated planning could reduce redundant demolition and restoration, but they remain fundamentally distinct.

Why Was a Comprehensive Garage Rehabilitation Allowance Included Rather Than Limiting the Scope to Targeted Repairs?

During discussion of long-term occupancy of the facility, two conceptual approaches to garage repair were evaluated: a targeted repair scenario and a comprehensive rehabilitation scenario.

The targeted repair approach reflects localized corrective maintenance addressing currently visible deterioration. This would include isolated concrete patching, limited joint seal replacement, and focused leak mitigation efforts. Under ASTM E2018-24, this type of work is generally characterized as corrective repair of observed deficiencies rather than system-level capital renewal.

The comprehensive rehabilitation allowance reflects a different planning assumption: continued multi-decade use of the facility. Under that lens, the garage structure and plaza deck are evaluated as interconnected systems whose durability depends on the performance of structural concrete, waterproofing assemblies, expansion joints, and drainage. Where waterproofing systems are beyond expected useful life and moisture intrusion is systemic, localized patching does not address the underlying cause of deterioration.

Accordingly, the comprehensive allowance assumes system-level intervention rather than recurring patch repair. This includes rehabilitation of deteriorated structural sections, reconstruction of expansion joint assemblies, replacement of failed waterproofing where systemic degradation is present, corrosion mitigation measures, and drainage corrections intended to reduce continued moisture exposure.

The inclusion of this allowance does not reflect observed global structural instability. Rather, it reflects a capital renewal approach appropriate for extended service life, where addressing root causes of deterioration is more cost-effective over the long term than repeated localized remediation.

What Is the Expected Accuracy Range of This Type of Estimate?

The estimate is classified as an AACE International Class 4 / Class 5 planning-level cost opinion. At this level of definition, scope is conceptual and developed at a system level rather than through detailed design documentation and quantity take-offs.

Under AACE guidance, Class 4 and Class 5 estimates typically carry an expected accuracy range that may vary depending on project complexity and definition. For building infrastructure renewal projects of this type, a typical planning-level accuracy range may fall within approximately minus 20 percent to minus 30 percent on the low side and plus 30 percent to plus 50 percent on the high side.

This range reflects the level of design development at the time of estimate preparation and the potential for variation in market conditions, procurement strategy, and concealed conditions. It does not imply that costs will necessarily trend upward; rather, it reflects the degree of uncertainty inherent in conceptual-level estimates for complex facilities.

As scope advances through detailed design, further investigation of concealed systems, constructability review, and competitive procurement, the estimate would be refined and the expected accuracy range narrowed accordingly.

Why Does the Estimate Reflect Comprehensive System Renewal Rather Than Replacement of End Equipment Only?

A question was raised as to whether the investment could be reduced by replacing only major pieces of end equipment, such as air handling units, chillers, panels, or other discrete components, rather than undertaking broader system renewal.

While selective equipment replacement can address immediate operational failures, the assessment identified that many deficiencies extend beyond terminal equipment to include distribution infrastructure, controls, and supporting systems. In this facility, mechanical, electrical, and plumbing systems are extensively interconnected and embedded within structural assemblies. Distribution piping, ductwork, electrical feeders, and life-safety infrastructure are integral components of system performance and reliability.

Replacing end equipment without addressing aging distribution networks may not resolve underlying reliability risks. In many cases, new equipment connected to deteriorated or undersized distribution infrastructure can result in reduced performance, continued maintenance challenges, or premature reinvestment.

Additionally, several systems are beyond or approaching expected useful life at a systemic level. Addressing only the most visibly failed components reflects a reactive maintenance approach. The estimate instead reflects a capital renewal approach appropriate for long-term occupancy, where system integrity, reliability, and remaining service life are evaluated holistically.

Accordingly, the investment reflects comprehensive infrastructure renewal rather than isolated equipment replacement. While targeted replacement may address short-term failures, it does not eliminate the broader renewal needs identified in the assessment.

What Are the Contingencies, Markups, Escalation, and Soft Costs Included in the Estimate?

In addition to direct construction costs, the total project cost includes:

- **Design Contingency (20%)**
An allowance applied to direct construction cost at a planning level to account for scope refinement as design progresses.
- **General Conditions / General Requirements (20%)**
Contractor project management and field-related costs during construction.
- **Insurance and Bonds (1.25%)**
Required bonding and insurance associated with public construction.
- **Contractor Overhead and Profit (8%)**
Contractor corporate overhead and profit under competitive bidding conditions.
- **Escalation to 2028 Dollars (10%)**
An adjustment to reflect anticipated cost growth prior to implementation.
- **Design Fees (15%)**
Architectural and engineering services for project development and delivery.
- **Supervision, Inspection, and Overhead (8%)**
Owner-side project management and oversight costs.

These components are standard elements of a full project cost and are applied after the direct construction estimate is developed.

System-Level Scope and Cost Alignment Overview

The following sections present expanded system-level scope assumptions for both the City Hall building and the Parking Garage. These tables provide additional clarity regarding the corrective repair scope that was documented in the Facility Condition Assessment report and used to develop the Rough Order of Magnitude estimate.

The information presented here does not introduce new findings or additional scope. Rather, it offers a more detailed view into the system-level assumptions that were already embedded in the report and reflected in the cost build-out. The intent is to provide greater transparency into how observed conditions translated into the planning-level investment previously presented.

Each system entry within the table is structured to convey four key components that collectively inform the investment:

- **Observed condition and age context** - A brief description of the system and current condition, providing context for why corrective action is warranted.
- **Corresponding estimated scope of work** - Describes the level of intervention assumed in the estimate, whether targeted rehabilitation, component replacement, or full system renewal, including integration with related building systems.
- **Complexity considerations affecting implementation** - Identifies factors that influence cost and constructability, such as embedded distribution, structural integration, hazardous material coordination, access constraints, or multi-discipline sequencing.
- **Risk implications if corrective action is deferred** - Articulates the operational, structural, regulatory, or financial consequences associated with continued deferral of renewal.

Together, these elements explain not only what is included in the estimate, but why that scope level was assumed under an ASTM E2018-24 condition-based framework.

The sections that follow address the City Hall building systems and the Parking Garage systems separately, each aligned to the cost build-out reflected in the ROM estimate.

City Hall Building Summary of Key Scope Drivers within the Estimate

The City Hall system-level table reflects the primary building components that form the basis of the main building portion of the Rough Order of Magnitude estimate. While the table details individual systems and subsystems, several major categories drive the majority of the projected investment.

- First, building envelope renewal represents a significant component of the estimate. The roofing systems have exceeded typical expected useful life and exhibit systemic membrane deterioration. Original glazing systems and aluminium-framed window assemblies are well beyond industry service life benchmarks and demonstrate declining thermal performance and water infiltration. Exterior concrete interfaces and expansion joints exhibit deterioration consistent with long-term moisture exposure. These envelope conditions collectively support full system replacement rather than localized repair.
- Second, mechanical infrastructure renewal represents one of the largest cost drivers. Major cooling equipment is approaching or beyond expected service life, refrigerants are subject to federal phaseout, and supplemental cooling systems are significantly aged. Most critically, chilled water and condenser water distribution piping embedded within structural systems shows corrosion and wall loss consistent with end-of-life condition. Air handling units and pneumatic controls are largely original to the building and no longer provide reliable or efficient operation. Replacement assumptions reflect system-level renewal due to the interconnected nature of the distribution network.
- Third, electrical distribution and emergency power systems form another substantial portion of the estimate. Primary switchgear, panelboards, and transformers are original or obsolete, including Federal Pacific equipment no longer supported by manufacturers. Embedded branch circuit distribution limits flexibility and has resulted in overload conditions in high-demand areas. Emergency generators and transfer infrastructure are beyond expected useful life and reflect a legacy configuration requiring comprehensive replacement.
- Fourth, plumbing and sanitary systems contribute meaningfully to the investment due to age and embedded distribution. Domestic water and sanitary piping systems are approaching or beyond typical service life, requiring replacement of risers and horizontal distribution integrated within slabs and walls. Restroom infrastructure and grease interceptor systems require modernization to restore functionality and align with accessibility requirements.
- Finally, life safety, vertical transportation, and interior restoration elements are included where system age, deterioration, or infrastructure integration warrant intervention. These include modernization of freight elevators, integration of elevator power and emergency recall systems, replacement of clean agent fire suppression systems, sprinkler distribution upgrades, lighting conversion, and communications backbone improvements.

Across these categories, a recurring implementation factor is the embedded and interconnected nature of the building's infrastructure. Mechanical, electrical, and plumbing systems are routed through structural slabs, shafts, and walls, requiring invasive access and coordinated sequencing. This condition supports the system-level renewal assumptions reflected in the estimate rather than isolated equipment replacement.



Collectively, these elements form the technical basis for the City Hall portion of the ROM estimate and reflect infrastructure renewal necessary to restore long-term building reliability and performance.

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Structural Systems	Structural Expansion Joints at Building Interfaces	Cracking and distress observed at structural interfaces between main building elements. Sealants and joint materials deteriorated and allow moisture infiltration.	<ul style="list-style-type: none"> • Removal of deteriorated joint materials • Installation of new structural expansion joint assemblies • Integration with waterproofing systems and façade repairs 	<ul style="list-style-type: none"> • Joints located at structural transitions • Coordination with roof and exterior envelope replacement • Interface with garage connection areas 	Continued water infiltration; accelerated concrete deterioration; potential long-term joint distress
Structural Systems	Roof Parapets and Exterior Concrete Wall Systems	Cracking observed at roof parapet walls and select exterior concrete surfaces. Deterioration consistent with age and long-term moisture exposure.	<ul style="list-style-type: none"> • Crack repair and sealing • Localized concrete surface restoration • Integration with roof membrane replacement and flashing reconstruction 	<ul style="list-style-type: none"> • Work performed at roof perimeter elevations • Coordination with new roofing system • Restoration of façade sealant interfaces 	Continued moisture penetration; freeze-thaw deterioration; progressive façade cracking
Building Exterior	Built-Up Roofing and Modified Bitumen Roof Systems	Roof systems installed approximately 1997-99; approximately 28 years in service. Typical expected useful life for these systems is 20–25 years. Widespread membrane deterioration observed, including blistering, open seams, base flashing failures, and asphalt migration into drainage components. Conditions are systemic across roof areas.	<ul style="list-style-type: none"> • Complete removal of existing roofing assemblies to structural deck • Replacement of insulation, vapor barrier, and membrane systems • Replacement of all flashings, expansion joints, and penetration details • Reconstruction or replacement of roof drains and overflow systems where required • Integration with rooftop mechanical equipment supports and curbs 	<ul style="list-style-type: none"> • Large total roof area relative to building footprint • Coordination with removal and replacement of rooftop mechanical systems • Inspection and potential localized repair of structural deck following membrane removal • Potential presence of hazardous materials in legacy roofing components • Historical preservation • Integration of drainage improvements within original structural geometry 	Continued active water intrusion; accelerated deterioration of structural deck; damage to interior finishes and mechanical systems; increasing maintenance frequency and cost

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Building Exterior	Aluminium-Framed Ribbon Windows, Clerestory Glazing, and Storefront Assemblies	Original systems installed during initial construction (1977); approximately 49 years in service. Typical expected useful life for aluminium-framed glazing systems is 30–40 years. Observed deterioration includes failed seals, oxidation, declining thermal performance, and evidence of water infiltration.	<ul style="list-style-type: none"> • Removal of existing glazing assemblies and framing systems • Installation of new thermally broken aluminium framing systems with insulated glazing units • Replacement of perimeter sealants and flashing systems • Reconstruction of interface conditions between glazing systems and cast-in-place concrete façade • Interior perimeter finish restoration 	<ul style="list-style-type: none"> • Cast-in-place concrete façade limits flexibility for anchorage modification • Sloped north façade geometry requires specialized exterior access systems • Integration with perimeter heating elements and interior finishes • Risk of concealed deterioration at sill and anchorage conditions • Significant total square footage of glazing across elevations • Historical preservation 	Ongoing air and water infiltration; reduced energy performance; condensation and moisture migration; continued degradation of interior finishes and façade interfaces
Building Exterior	Public Entrances, Revolving Doors, Service Doors, and Garage Access Doors	Original and aged door assemblies; corrosion at frames and hardware; declining weather seal performance; beyond typical expected service life.	<ul style="list-style-type: none"> • Removal and replacement of door leaves, frames, thresholds, and hardware • Replacement of automatic operators and revolving door mechanisms • Upgrade of weather seals and thermal transitions • Integration with new glazing systems where applicable 	<ul style="list-style-type: none"> • Integration with adjacent glazing replacement • Concrete modification at frames and thresholds may be required • Security system integration and hardware coordination • Alignment with current accessibility requirements 	Progressive hardware failure; envelope leakage; security vulnerability; increased maintenance burden
Core Building Systems - Architectural Interior	Interior Ceilings, Wall Finishes, and Associated Architectural Elements	Water-stained ceiling systems observed in multiple areas. Interior deterioration linked to chronic roof and plaza-level water intrusion. Many ceiling systems original or aged beyond typical service life.	<ul style="list-style-type: none"> • Removal and replacement of water-damaged ceiling systems • Replacement of deteriorated gypsum board and wall finishes • Restoration of interior surfaces affected by moisture intrusion • Integration with roof and waterproofing replacement scope 	<ul style="list-style-type: none"> • Ceiling systems conceal mechanical, electrical, plumbing, and fire protection infrastructure • Demolition required to access embedded systems for concurrent replacement • Potential hazardous materials in legacy ceiling systems • Fire-rated ceiling reconstruction required in select areas 	Continued interior deterioration; mold risk; concealment of infrastructure deficiencies; increasing maintenance cost

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Architectural Interior	Carpet and Resilient Flooring (Documented Areas)	Select areas, noted within the report, exhibit visible wear, staining, and deterioration consistent with age.	<ul style="list-style-type: none"> Removal and replacement of deteriorated carpet and resilient flooring in documented areas Preparation of existing concrete substrate Integration with plumbing and mechanical work where floor access is required 	<ul style="list-style-type: none"> Flooring removal required for access to embedded conduit and piping systems in areas of infrastructure replacement Potential hazardous material abatement in legacy adhesives Coordination with restroom and distribution upgrades 	Continued deterioration; trip hazard risk; reduced functional service life of finishes
Core Building Systems - Architectural Interior	Raised Access Flooring in Data Center Areas	Raised access flooring systems aging and exposed to risk from water intrusion. System supports critical mechanical and electrical distribution beneath floor panels.	<ul style="list-style-type: none"> Replacement of deteriorated panels and structural pedestals where required Reconfiguration as necessary to support mechanical and electrical upgrades Integration with clean agent fire suppression and cooling system upgrades 	<ul style="list-style-type: none"> Raised floor integrates with chilled water, electrical, and data distribution systems Water intrusion exposure increases risk of concealed deterioration Coordination with fire suppression and cooling plant modernization Replacement or repair must be evaluated in conjunction with broader data center modernization and resiliency objectives 	Compromised structural support for critical equipment; risk of water damage to below-floor systems; operational disruption in mission-critical areas
Core Building Systems - Architectural Interior	Interior Concrete Surfaces and Architectural Interfaces	Exposed structural concrete interior surfaces exhibit localized cracking and surface wear consistent with age. Interface conditions between structural and architectural elements affected by water intrusion in select areas.	<ul style="list-style-type: none"> Localized repair of cracked and deteriorated interior concrete surfaces Reconstruction of architectural interface conditions where moisture damage occurred Integration with structural repair scope 	<ul style="list-style-type: none"> Repairs occur within reinforced concrete structural system Coordination with mechanical, plumbing, and electrical penetrations Firestopping reconstruction required at penetrations 	Continued moisture migration; aesthetic degradation; potential long-term structural surface deterioration
Core Building Systems - Architectural Interior	Interior Door Assemblies and Hardware	Many interior doors original to construction. Observed wear, hardware deterioration, and inconsistent accessibility compliance.	<ul style="list-style-type: none"> Replacement of deteriorated door leaves and hardware Upgrade of hardware to meet current accessibility requirements Integration with security and access control upgrades 	<ul style="list-style-type: none"> Integration with security system replacement Wall reconstruction required in select areas Fire-rated door assembly compliance coordination 	Reduced functionality; accessibility risk; increased maintenance burden

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Vertical Transportation	Passenger Elevator Systems (Hydraulic and Traction)	Passenger elevators were modernized in 2021 and are generally operational. However, recurring operational issues persist, including door-related failures and nuisance trips. Limited cab interiors were included (mirrors & wood panelling) in modernization and exhibit cosmetic deterioration. Core hoistway infrastructure reflects original building construction (1977).	<ul style="list-style-type: none"> Targeted modernization of door operators, door tracks, sensors, and associated hardware Upgrade or recalibration of control interfaces where recurring faults occur Replacement or refurbishment of cab interiors where deteriorated Integration with updated electrical distribution systems 	<ul style="list-style-type: none"> Equipment rooms integrated within reinforced concrete structure Embedded electrical feeders serving elevator machinery Coordination with panelboard and emergency power replacement Limited flexibility within original shaft geometry 	Continued service disruptions; door failures affecting accessibility; increasing maintenance cost; diminished reliability in high-traffic civic facility
Core Building Systems - Vertical Transportation	Freight Elevator System	Freight elevator installed approximately 2001; has not been modernized. Controls, mechanical drive components, and cab elements at or beyond typical expected useful life of approximately 20–25 years. System exhibits age-related deterioration.	<ul style="list-style-type: none"> Full replacement of freight elevator system Replacement of control systems, drive machinery, and associated mechanical components Replacement of cab finishes and door systems Upgrade of electrical supply and integration with new distribution infrastructure 	<ul style="list-style-type: none"> Machine room and shaft embedded within structural concrete core Electrical feeder upgrades required Integration with emergency power system Potential structural anchorage modification for new drive equipment 	Loss of reliable service elevator function; operational disruption for material handling; increasing probability of mechanical failure
Core Building Systems - Vertical Transportation	Elevator Power Supply and Emergency Recall Integration	Elevator systems integrated with original electrical distribution backbone and emergency power infrastructure. Distribution systems beyond expected useful life.	<ul style="list-style-type: none"> Replacement of elevator feeders as part of switchgear and panelboard upgrades Integration with new emergency power and automatic transfer systems Verification of fire alarm recall functionality 	<ul style="list-style-type: none"> Feeders embedded within structural shafts Multi-discipline coordination between electrical, fire alarm, and elevator systems Limited routing flexibility within concrete core 	Incomplete integration with emergency systems; increased likelihood of service interruption during power events

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Domestic Water Distribution	Domestic Water Distribution Piping and Vertical Risers	Portions of domestic water piping original to 1977. Building staff report inadequate water pressure on upper floors. Distribution configuration reflects original design. Typical expected useful life for copper domestic water systems is approximately 40–50 years; system approaching end-of-life condition in portions.	<ul style="list-style-type: none"> Evaluation of existing domestic water distribution capacity Installation of domestic water booster system to provide adequate pressure at upper levels Replacement of aging domestic water mains and risers where beyond expected useful life Replacement of associated valves, insulation, and supports Integration with restroom renovation and fixture replacement 	<ul style="list-style-type: none"> Vertical risers embedded within structural shafts Wall and ceiling demolition required for access Firestopping reconstruction at penetrations Integration with restroom renovation scope 	Continued inadequate water pressure; fixture performance issues; increased probability of pipe failure as system ages
Core Building Systems - Domestic Water Distribution	Domestic Water Heating Equipment and Distribution	Water heaters replaced in select areas in recent years; however, installation deficiencies observed, including lack of permanent equipment supports and uninsulated hot water piping.	<ul style="list-style-type: none"> Provide permanent code-compliant equipment bases Insulate hot water distribution piping Integrate heating systems with upgraded domestic water distribution 	<ul style="list-style-type: none"> Mechanical room spatial constraints Integration with booster system and distribution upgrades 	Reduced energy efficiency; long-term maintenance concerns; potential equipment instability
Core Building Systems - Sanitary and Specialty Plumbing Systems	Sanitary and Vent Piping Systems	Portions original to 1977. Typical expected useful life for cast iron sanitary piping approximately 40–50 years. System approaching end-of-life condition in numerous portions.	<ul style="list-style-type: none"> Replacement of aging vertical stacks and horizontal branch piping Replacement of associated cleanouts and supports Integration with restroom renovation 	<ul style="list-style-type: none"> Piping embedded within slabs and wall systems Ceiling and wall demolition required Coordination with asbestos-containing materials Structural penetrations and reconstruction 	Increased probability of leaks; concealed pipe failure; interior damage; service interruption
Core Building Systems - Sanitary and Specialty Plumbing Systems	Cafeteria Grease Interceptor and Sanitary Connections	Existing grease interceptor undersized and constrains cafeteria operation. System does not meet current operational demand.	<ul style="list-style-type: none"> Removal of undersized interceptor Installation of properly sized grease interceptor Rerouting of sanitary piping to new interceptor location Structural penetrations through slabs as required 	<ul style="list-style-type: none"> Core drilling through reinforced concrete slabs Coordination with structural engineering Firestopping and waterproofing reconstruction at penetrations 	Continued operational limitation of cafeteria; increased maintenance and clogging risk



Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Restroom Infrastructure	Public and Staff Restrooms (Fixtures, Partitions, Rough-In)	Majority original construction with selective repairs over time. Fixtures, partitions, finishes, and plumbing components beyond typical expected useful life. Layouts may not align with current accessibility standards.	<ul style="list-style-type: none"> Comprehensive restroom renovation Replacement of plumbing fixtures, partitions, and accessories Replacement or modification of rough-in piping as required Integration with domestic and sanitary piping replacement 	<ul style="list-style-type: none"> Rough-in piping embedded within slabs and walls Asbestos-containing materials coordination Integration with domestic water and sanitary stack replacement Structural penetrations may be required 	Continued deterioration; accessibility risk; increasing maintenance cost; plumbing system failures
Core Building Systems - Mechanical / HVAC	Central Chiller Plant Equipment	Primary cooling equipment installed in the early 2000s and approaching the upper end of its typical expected useful life of approximately 20–25 years. Equipment utilizes refrigerant subject to federal phaseout regulations. Systems operational but nearing end-of-life condition.	<ul style="list-style-type: none"> Removal of existing central chiller equipment Installation of new high-efficiency chiller systems utilizing compliant refrigerants Integration with upgraded controls and distribution infrastructure Modification of associated isolation valves and connections 	<ul style="list-style-type: none"> Removal of large mechanical equipment from central plant spaces Electrical feeder and service upgrades required Structural loading verification Integration with condenser water and chilled water distribution replacement 	Increased probability of major cooling failure; regulatory exposure related to refrigerant phaseout; reduced long-term reliability
Core Building Systems - Mechanical / HVAC	Supplemental Cooling Equipment Serving Critical Areas	Installed in the late 1980s; significantly beyond typical expected useful life of approximately 25 years. Equipment in poor condition and beyond service life.	<ul style="list-style-type: none"> Removal and replacement of supplemental cooling equipment Reconfiguration to provide functional redundancy and improved reliability Integration with plant controls and emergency power systems 	<ul style="list-style-type: none"> Mechanical room space constraints Coordination with emergency power infrastructure Electrical service modifications required Integration with condenser water and chilled water replacement 	Loss of cooling redundancy for critical operations; increased risk of mission-critical cooling interruption
Core Building Systems - Mechanical / HVAC	Roof-Mounted Heat Rejection Equipment	Installed in the early 2000s; beyond typical expected useful life of 15–20 years. Generally operational but aged.	<ul style="list-style-type: none"> Removal and replacement of heat rejection equipment Replacement of associated condenser water connections and supports Integration with new central cooling plant controls 	<ul style="list-style-type: none"> Roof-level heavy equipment removal Structural anchorage review Coordination with roof system replacement Integration with condenser water distribution upgrades 	Decreasing reliability; increased maintenance demand; potential cooling plant shutdown due to equipment failure

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Mechanical / HVAC	Chilled Water and Condenser Water Pumping Systems	Original and aged pumps observed; deterioration consistent with advanced age. Beyond typical expected useful life in several cases.	<ul style="list-style-type: none"> • Replacement of primary and secondary pumping systems • Replacement of motors and variable frequency drives • Upgrade of pump controls and appurtenances 	<ul style="list-style-type: none"> • Integration with full plant replacement • Electrical service upgrades • Mechanical room spatial constraints • Rebalancing of system following replacement 	Reduced system circulation capacity; elevated failure risk; inability to maintain building cooling and heat rejection performance
Core Building Systems - Mechanical / HVAC	Chilled Water Mains, Risers, and Horizontal Distribution	Portions original to 1977; ultrasonic testing indicates significant corrosion and loss of wall thickness. Typical expected useful life approximately 30–40 years; piping beyond service life in many areas.	<ul style="list-style-type: none"> • Removal and replacement of original chilled water mains and risers • Replacement of horizontal branch piping and valves • Replacement of insulation and supports • Integration with new air handling equipment 	<ul style="list-style-type: none"> • Piping embedded within structural slabs and shafts • Extensive ceiling and wall demolition required • Firestopping reconstruction at penetrations • Hazardous material coordination • Structural penetrations through reinforced concrete systems 	Significant pipe rupture; flooding; prolonged cooling outage; interior damage escalation
Core Building Systems - Mechanical / HVAC	Condenser Water Mains and Vertical Distribution	Severe corrosion observed; original distribution components beyond typical expected useful life.	<ul style="list-style-type: none"> • Removal and replacement of condenser water risers and horizontal distribution piping • Replacement of valves and supports • Integration with cooling tower and plant replacement 	<ul style="list-style-type: none"> • Roof-to-plant vertical integration • Penetrations through structural slabs • Coordination with roof replacement • Limited shaft access 	Reduced heat rejection capacity; cooling plant shutdown risk
Core Building Systems - Mechanical / HVAC	Air Handling Units and Pneumatic Control Systems	Majority of air handling equipment original to 1977; beyond typical expected useful life of 20–30 years. Pneumatic control systems obsolete and provide limited zoning capability.	<ul style="list-style-type: none"> • Removal and replacement of air handling equipment • Replacement of pneumatic control systems with modern digital control systems • Replacement of associated coils, dampers, and actuators • Evaluation and modification of duct distribution where required 	<ul style="list-style-type: none"> • Equipment located in mechanical penthouse and distributed rooms • Ductwork integrated within structural floor systems • Ceiling demolition and reconstruction required • Integration with chilled water distribution replacement 	Continued thermal comfort deficiencies; inefficient operation; inability to properly regulate temperature; increasing maintenance burden



Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Fire Protection & Life Safety	Clean Agent Fire Suppression Systems Serving Critical Areas	Multiple systems at or beyond expected useful life. Certain systems non-operational. Some utilize obsolete agents no longer supported or environmentally restricted.	<ul style="list-style-type: none"> Removal of existing clean agent systems Installation of modern code-compliant clean agent systems Replacement of detection, release panels, piping, and discharge components Integration with updated fire alarm system 	<ul style="list-style-type: none"> Hazardous agent removal and disposal Coordination with electrical and data center upgrades Ceiling and wall access required for piping replacement Integration with building fire alarm infrastructure 	Critical areas without reliable fire suppression; regulatory exposure; increased operational risk
Core Building Systems - Fire Protection & Life Safety	Sprinkler and Standpipe Distribution Piping (Interior Systems)	Portions original to construction. Aging piping with reliability concerns reported in associated areas.	<ul style="list-style-type: none"> Replacement of deteriorated piping and fittings Replacement of valves and supports Integration with clean agent system replacement 	<ul style="list-style-type: none"> Piping routed within ceilings and shafts Ceiling demolition and firestopping reconstruction Integration with structural and waterproofing work 	Increased risk of system failure; nuisance alarms; reduced fire protection reliability
Core Building Systems - Electrical Distribution	Primary Electrical Switchgear and Substation Equipment	Original equipment dating to initial construction (1977). Beyond typical expected useful life of 30–40 years. Federal Pacific equipment no longer manufactured and not supported by original manufacturer.	<ul style="list-style-type: none"> Removal and replacement of primary switchgear assemblies Replacement of associated bus systems and protective devices Upgrade of grounding and bonding systems Integration with modern protective relaying and monitoring systems 	<ul style="list-style-type: none"> Electrical rooms integrated within structural concrete construction Replacement requires full feeder reconnection Embedded conduit systems limit flexibility Structural modification may be required to accommodate modern equipment footprint Integration with emergency power replacement 	Elevated risk of equipment failure; limited availability of replacement parts; potential life safety hazard; inability to maintain or expand system capacity
Core Building Systems - Electrical Distribution	Distribution Panelboards and Branch Circuit Equipment	Significant portion of panelboards original to construction; Federal Pacific equipment associated with known reliability concerns. Beyond expected useful life.	<ul style="list-style-type: none"> Removal and replacement of panelboards and associated breakers Reconnection of branch circuits Upgrade of grounding, labelling, and distribution documentation 	<ul style="list-style-type: none"> Branch circuits routed through slab-embedded conduit systems Wall and ceiling demolition required for access Coordination with mechanical and plumbing system replacements Firestopping reconstruction at penetrations 	Increased risk of breaker malfunction; nuisance tripping; potential fire hazard; inability to safely maintain system

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Electrical Distribution	Oil-Filled Distribution Transformers	Multiple transformers confirmed to contain polychlorinated biphenyl-containing oil. Original or aged equipment beyond typical expected useful life.	<ul style="list-style-type: none"> Removal and replacement of transformers Hazardous material abatement and compliant disposal Installation of modern dry-type or environmentally compliant transformers Upgrade of associated feeder and secondary connections 	<ul style="list-style-type: none"> Environmental and regulatory compliance requirements Specialized contractor handling for hazardous materials Integration with full switchgear replacement Limited electrical room space 	Regulatory exposure; environmental liability; potential failure of aging transformers; increased maintenance burden
Core Building Systems - Electrical Distribution	Branch Circuit Distribution and Embedded Conduit Systems	Branch circuits serving high-demand areas such as Council Chambers experience overload and nuisance tripping. Original branch circuit distribution from 1977 is embedded within reinforced concrete floor slabs and structural elements, limiting flexibility for expansion or reconfiguration. The observed condition reflects broader limitations of the original distribution design.	<ul style="list-style-type: none"> Comprehensive evaluation of branch circuit distribution capacity throughout the facility Replacement or augmentation of embedded feeders and branch circuits where capacity or condition is inadequate Installation of new distribution pathways to support modern load requirements Integration with panelboard and switchgear replacement Reconstruction of slab and fire-rated penetrations where conduit replacement is required 	<ul style="list-style-type: none"> Conduits embedded within reinforced concrete slabs and structural framing Concrete demolition and reconstruction required for circuit replacement Coordination with mechanical, plumbing, and architectural system replacement Limited flexibility within original structural geometry 	Continued overload conditions; nuisance tripping; inability to accommodate current and future electrical loads; operational disruption in critical spaces
Core Building Systems - Emergency Power and Transfer Systems	Diesel Emergency Generators	Multiple units installed between 1974 and early 1990s. Several units inoperable. All units beyond typical expected useful life of approximately 25–30 years. System configuration reflects legacy design.	<ul style="list-style-type: none"> Removal of existing generator units Installation of new generator systems sized for current critical load demand Replacement of exhaust systems, fuel systems, and cooling systems Structural modifications to generator rooms where required Integration with new paralleling gear and transfer equipment 	<ul style="list-style-type: none"> Generator rooms integrated within structural concrete envelope Exhaust routing and ventilation upgrades required to meet current codes Fuel oil storage and distribution modifications Integration with primary distribution replacement 	Loss of backup power for life safety and mission-critical systems; inability to meet current performance expectations; increasing likelihood of failure



Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Emergency Power and Transfer Systems	Automatic Transfer Switches and Emergency Distribution Infrastructure	Legacy configuration linked to previously planned but unimplemented upgrade project. Portions replaced; overall system configuration remains constrained by aging infrastructure.	<ul style="list-style-type: none"> Replacement of automatic transfer switches Installation of new paralleling gear Upgrade of emergency distribution feeders Integration of generator monitoring and control systems 	<ul style="list-style-type: none"> Embedded emergency feeders Coordination with full electrical distribution replacement Integration with fire alarm and life safety systems 	Reduced reliability of emergency transfer; incomplete redundancy; increased risk during power outage events
Core Building Systems - Emergency Power and Transfer Systems	Emergency Electrical Distribution Backbone	System configuration reflects legacy design and incremental modifications over time. Integrated with obsolete primary switchgear and aged feeders.	<ul style="list-style-type: none"> Replacement of emergency feeders and panels Reconfiguration of emergency distribution backbone Integration with new generator and switchgear systems 	<ul style="list-style-type: none"> Feeder pathways embedded within structural systems Multi-discipline coordination required Fire-resistance rating reconstruction at penetrations 	Inability to reliably support life safety and critical systems during outage; cascading failure risk
Core Building Systems - Lighting	Interior Lighting Fixtures and Associated Controls	Lighting systems consist largely of original or aged fluorescent fixture types. Selective lamp replacements have occurred over time; however, overall system configuration reflects legacy design. Lighting controls primarily manual and pre-date current energy code expectations.	<ul style="list-style-type: none"> Removal and replacement of interior lighting fixtures Conversion to light-emitting diode fixtures designed for long-term maintainability Replacement or upgrade of lighting control systems Integration with panelboard and distribution replacement Replacement of associated branch circuitry where required 	<ul style="list-style-type: none"> Fixtures mounted to exposed structural waffle slab ceilings in many areas Conduit systems embedded in slabs and structural framing Integration with full electrical distribution replacement Ceiling and wall access required in finished areas 	Increasing maintenance burden; declining lighting performance; continued reliance on reactive lamp replacement; inability to align with current energy performance expectations
Core Building Systems - Communications & Security	Public Address and Mass Notification Infrastructure	Facility lacks comprehensive building-wide public address and mass notification capability. Audible communication largely limited to fire alarm annunciation.	<ul style="list-style-type: none"> Installation of distributed speaker systems throughout occupied areas Installation of amplification, control panels, and monitoring systems Integration with fire alarm and security systems Installation of associated low-voltage distribution pathways 	<ul style="list-style-type: none"> Routing of low-voltage cabling through structural concrete floors and shafts Ceiling and wall access required Integration with electrical and fire alarm upgrades Coordination with life safety code requirements 	Limited ability to provide coordinated emergency communication beyond fire alarm functions; operational communication constraints



Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Core Building Systems - Communications & Security	Access Control, Video Surveillance, and Security Control Infrastructure	Security systems partially modernized; however, legacy components remain and overall configuration reflects incremental upgrades over time. Certain system elements lag current best practices for a high-occupancy civic facility.	<ul style="list-style-type: none"> • Replacement or consolidation of security control panels • Replacement of legacy access control hardware • Replacement of aging surveillance cameras and cabling • Integration with updated electrical distribution • Upgrade of network backbone where required 	<ul style="list-style-type: none"> • Low-voltage cabling embedded within structural systems • Integration with glazing and door replacement • Electrical power supply coordination • Ceiling and wall access for cabling replacement 	Reduced reliability of access control and surveillance; increased maintenance burden; diminished system integration capability
Core Building Systems - Communications & Security	Physical Network Cabling Pathways and Support Infrastructure	Network systems upgraded in select areas; however, cabling pathways and supporting infrastructure reflect legacy construction and incremental additions over time.	<ul style="list-style-type: none"> • Replacement of aging cable pathways and support infrastructure • Consolidation of low-voltage routing systems • Integration with security and public address upgrades • Coordination with electrical distribution replacement 	<ul style="list-style-type: none"> • Conduits embedded within concrete slabs and structural walls • Ceiling demolition required in finished areas • Multi-system coordination (security, lighting, fire alarm) 	Increased system complexity; limited flexibility for future upgrades; maintenance difficulty



Parking Garage and Plaza Summary of Key Scope Drivers within the Estimate

The Parking Garage and Plaza systems were evaluated through two complementary lenses: near-term structural stabilization and longer-term system reconstruction appropriate for extended service life.

- The stabilization category addresses visually observed deterioration requiring intervention within an approximate two-to-five-year window. This includes localized concrete spalling repairs, crack stabilization, joint restoration, and targeted slab surface repairs where moisture intrusion has led to reinforcement exposure. While no global structural instability was observed during the assessment, localized deterioration consistent with long-term moisture and chloride exposure warrants corrective action to prevent progressive section loss and expanded rehabilitation scope.
- The system reconstruction category reflects a broader durability-focused rehabilitation approach. This lens recognizes that the garage roof slab, plaza deck waterproofing, expansion joints, and drainage systems function as an interconnected assembly. Chronic water intrusion, failed waterproofing membranes, deteriorated expansion joints, and drainage deficiencies indicate systemic failure of original assemblies installed in the 1970s. Under a long-term occupancy assumption, replacement of waterproofing systems, reconstruction of the plaza deck assembly, corrosion mitigation measures, drainage corrections, and joint replacement were included to address root causes rather than continue periodic leak response.

Collectively, these elements form the technical basis for the Parking Garage and Plaza allocation reflected in the ROM estimate. The inclusion of both stabilization and system-level reconstruction assumptions aligns with a capital renewal approach appropriate for multi-decade continued occupancy, while acknowledging that targeted short-term repairs alone would not resolve underlying durability concerns.

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Structure Stabilization / Interim Repairs (2–5 Year Window - Addressing visually observed deterioration)					
Structural Systems	Reinforced Concrete Beams, Columns, Slab Edges, and Ramps (Parking Garage)	Localized spalling observed with exposed reinforcing steel at select beams, columns, slab edges, ramp sections, and planter interfaces. Structure constructed in the 1970s. Deterioration consistent with long-term moisture exposure and chloride infiltration. No evidence of global structural instability observed at time of assessment.	<ul style="list-style-type: none"> • Removal of unsound concrete at deteriorated locations • Cleaning and treatment of exposed reinforcing steel • Replacement of section loss where required • Patch repair using compatible structural repair materials • Restoration of concrete cover 	<ul style="list-style-type: none"> • Repairs occur within active structural load paths • Overhead repairs require access and protection systems • Reinforcing steel corrosion may extend beyond visible surface damage • Integration with waterproofing and drainage corrections 	Continued corrosion of reinforcement; expansion-related cracking; progressive section loss; increased long-term rehabilitation scope
Structural Systems	Garage Slabs, Basement Walls,	Cracking observed in garage slabs and basement walls. Cracks	<ul style="list-style-type: none"> • Evaluation of crack type and extent • Epoxy injection or 	<ul style="list-style-type: none"> • Crack repair requires access to both interior and exterior 	Continued moisture migration; reinforcement

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
	and Exterior Structural Walls	consistent with age, environmental exposure, and moisture intrusion. No evidence of widespread instability.	routing and sealing of structural cracks where appropriate • Surface sealing of non-structural cracks to limit moisture migration • Integration with drainage and waterproofing upgrades	faces in select areas • Repairs must be coordinated with waterproofing system replacement • Potential concealed reinforcement corrosion at crack interfaces	corrosion; accelerated slab deterioration
Structural Systems	Structural Interfaces Between Parking Garage and Main Building	Cracking and distress observed at expansion joints and structural transition areas between the garage and the main building. Moisture infiltration present at interface conditions.	• Removal of deteriorated joint materials • Installation of new structural expansion joint assemblies • Restoration of concrete interface surfaces • Integration with plaza deck and waterproofing repairs	• Interface between two structural systems • Joint replacement integrated with large-scale waterproofing work • Reinforcement corrosion may extend beneath joint assemblies	Continued moisture intrusion; joint deterioration; accelerated corrosion at structural transition areas
Structural Systems	Garage Slab Surfaces, Drainage Components, and Water Diversion Areas	Ongoing leakage observed at expansion joints, wall-to-slab interfaces, and building-to-garage transitions. Temporary gutter systems installed to manage active water infiltration. Conditions reflect systemic waterproofing and drainage deficiencies rather than isolated defects.	• Removal of temporary water diversion systems • Repair of slab surfaces damaged by chronic moisture exposure • Integration with expansion joint replacement • Coordination with plaza deck waterproofing reconstruction	• Chronic moisture exposure increases likelihood of concealed reinforcement corrosion • Drainage deficiencies integrated into original structural geometry • Work must align with plaza deck system reconstruction	Progressive structural deterioration; corrosion of reinforcing steel; increasing long-term rehabilitation cost

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Structure System Reconstruction Full Repair (Addressing systemic failure and useful life exhaustion)					
Structural Systems	Plaza Deck Structural Slab, Topping Slab, and Waterproofing Assembly	Chronic water intrusion documented at plaza deck level. Failed expansion joints, deteriorated waterproofing membranes, and drainage deficiencies observed. Temporary diversion systems installed below to manage leakage. Original construction dates to 1970s. Waterproofing systems have exceeded typical expected service life and exhibit systemic failure.	<ul style="list-style-type: none"> Removal of plaza deck surface finishes and topping slab Removal and replacement of waterproofing membrane system Inspection and localized repair of structural slab where deterioration is identified Reconstruction of drainage components and slope corrections Replacement of expansion joint assemblies integrated within deck system 	<ul style="list-style-type: none"> Large-area demolition over structural roof slab of garage Structural slab condition may only be fully visible after membrane removal Drainage geometry embedded within original structural design Multi-discipline coordination (structural, waterproofing, joint systems) Historical preservation consideration 	Continued active water intrusion; reinforcement corrosion within garage roof slab; progressive concrete deterioration; increasing scope of structural repair; continued reliance on temporary diversion systems
Structural Systems	Expansion Joint Assemblies – Garage and Plaza Interfaces	Joint materials deteriorated and beyond expected useful life. Evidence of moisture migration at joint transitions between structural systems. Joint distress contributes to leakage into garage and building interfaces.	<ul style="list-style-type: none"> Full removal and replacement of expansion joint assemblies Installation of new structural joint systems designed for long-term movement accommodation Integration with new waterproofing systems and slab repairs 	<ul style="list-style-type: none"> Joints span structural movement zones Replacement integrated with waterproofing reconstruction Reinforcement corrosion may extend beneath joint assemblies Interface between independent structural systems 	Ongoing leakage at structural transitions; accelerated corrosion at joint interfaces; continued concrete cracking and distress
Structural Systems	Reinforcing Steel Corrosion Mitigation and Durability Restoration	Exposed reinforcing steel observed at multiple locations. Deterioration consistent with long-term moisture and chloride exposure. Structural elements approaching 50 years in service. While global instability not observed, durability has been compromised in affected areas.	<ul style="list-style-type: none"> Cleaning and passivation of exposed reinforcing steel Localized replacement of reinforcing steel where section loss is identified Restoration of concrete cover consistent with current repair standards Application of protective measures to limit future moisture intrusion where feasible 	<ul style="list-style-type: none"> Corrosion may extend beyond visibly deteriorated areas Embedded reinforcement limits direct access Coordination required with slab and waterproofing reconstruction Repairs occur within active load paths 	Progressive reinforcement corrosion; expanding spalls; increasing section loss; higher long-term rehabilitation cost if deterioration accelerates



Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Structural Systems	Drainage Improvements and Surface Water Management	Observed drainage deficiencies contribute to chronic moisture exposure at slab surfaces and structural interfaces. Water diversion measures currently installed indicate systemic drainage inadequacy.	<ul style="list-style-type: none"> • Correction of drainage patterns contributing to standing water • Reconstruction or replacement of integrated drainage components • Integration with plaza deck waterproofing replacement • Removal of temporary diversion systems 	<ul style="list-style-type: none"> • Drainage slopes integrated into original structural geometry • Requires coordination with slab reconstruction and joint replacement • Embedded drainage components may require selective demolition 	Continued moisture accumulation; accelerated corrosion; ongoing dependence on temporary mitigation; expanding repair scope
Structural Systems	Below-Grade Walls and Structural Interface Repairs	Cracking observed in basement walls and at below-grade interfaces. Moisture migration documented. Systems approaching end-of-service life for original waterproofing assemblies.	<ul style="list-style-type: none"> • Crack repair and sealing • Restoration or replacement of below-grade waterproofing assemblies where deteriorated • Integration with expansion joint reconstruction • Localized structural surface repair 	<ul style="list-style-type: none"> • Limited access at below-grade interfaces • Excavation may be required in select areas • Coordination with drainage and waterproofing upgrades 	Continued moisture infiltration; concealed reinforcement corrosion; interior water intrusion; increasing rehabilitation scope

Other Garage Investment Recommendations

Parking Garage Systems - Architectural Systems	Parking Garage Interior Stairwell Metal Doors	Steel doors serving garage interior stairwells observed to be severely corroded, damaged, and beyond expected service life. Deterioration consistent with long-term exposure to moisture and vehicular environment.	<ul style="list-style-type: none"> • Removal and replacement of corroded metal door assemblies • Replacement of frames, hardware, and anchorage as required • Restoration of adjacent wall interfaces • Integration with updated security and life safety hardware 	<ul style="list-style-type: none"> • Door frames embedded within reinforced concrete walls • Corrosion may extend to anchorage points • Coordination with fire-rating and egress requirements • Exposure to ongoing moisture conditions if drainage not corrected 	Compromised egress reliability; continued corrosion; potential life safety compliance concerns; increasing maintenance cost
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Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Parking Garage Systems - Architectural Systems	Exterior Concrete Stairwells (Plaza to Level 1 Garage)	Exterior concrete stairwells observed to be dirty with visible debris accumulation. Standing water present at lower landings, indicating drainage deficiencies. Stairs exposed to weather and moisture.	<ul style="list-style-type: none"> • Removal of debris and accumulated materials • Inspection and cleaning of service drains • Repair or replacement of damaged drain components • Correction of minor surface deterioration where identified • Verification of proper drainage function following repair 	<ul style="list-style-type: none"> • Drains integrated within concrete stair assemblies • Drainage deficiencies may be tied to broader plaza waterproofing issues • Exposure to weather accelerates surface deterioration 	Slip hazards due to standing water; accelerated surface wear; continued moisture migration; recurring maintenance burden
Parking Garage Systems - Fire Suppression	Fire Suppression Distribution Piping – Parking Garage	Ongoing nuisance fire alarms reported associated with water movement in the fire suppression distribution system. Deterioration and leakage within piping network observed. Recurring nature suggests systemic degradation rather than isolated defects. Infrastructure reflects aging distribution network exposed to moisture and vehicular environment.	<ul style="list-style-type: none"> • Removal and replacement of fire suppression distribution piping serving the parking garage • Replacement of associated valves, fittings, hangers, and supports • Replacement or recalibration of alarm devices as required • Integration with updated fire alarm infrastructure 	<ul style="list-style-type: none"> • Piping routed along structural slabs and beams • Corrosion likely extends beyond visibly deteriorated segments • Integration with structural repairs and waterproofing improvements • System must remain code-compliant during reconstruction 	Continued nuisance alarms; unreliable fire suppression performance; corrosion progression; potential life safety exposure
Parking Garage Systems - Electrical	Oil-Filled Transformers Containing Polychlorinated Biphenyls	Multiple transformers are confirmed to contain polychlorinated biphenyl-containing oil. Equipment original or aged. Presence introduces environmental, regulatory, and contractor handling risks.	<ul style="list-style-type: none"> • Evaluation and replacement of PCB-containing transformers • Hazardous material handling and abatement • Compliant disposal in accordance with regulatory requirements • Installation of modern, environmentally compliant transformers 	<ul style="list-style-type: none"> • Strict environmental regulatory compliance requirements • Specialized contractor handling and disposal • Integration with electrical distribution upgrades • Electrical service coordination during replacement 	Regulatory liability; environmental exposure risk; increased cost and complexity for future electrical system upgrades

Category	System	Observed Condition & Age	Estimated Scope of Work	Complexity Considerations	Risk if Deferred
Parking Garage Systems - Electrical	Electrical Distribution Equipment Located in Garage and Service Areas	Electrical panels and associated distribution equipment appear to be original 1970s-era installations and have reached or exceeded their expected useful life, exhibiting visible corrosion, rusting enclosures, and deterioration consistent with prolonged moisture exposure. Environmental conditions accelerating equipment degradation.	<ul style="list-style-type: none"> • Replacement of deteriorated electrical distribution equipment • Installation of corrosion-resistant or sealed enclosures • Improved environmental protection measures • Coordination with water intrusion remediation efforts 	<ul style="list-style-type: none"> • Equipment mounted to structural concrete surfaces • Moisture mitigation dependent on plaza and drainage reconstruction • Integration with broader electrical distribution replacement 	Reduced electrical reliability; increased failure risk; safety hazard from deteriorated enclosures; escalating maintenance burden
Parking Garage Systems - Lighting	Parking Garage and Mechanical Area Lighting	Lighting fixtures reflect original construction period design and prolonged environmental exposure. Fixtures subject to moisture, temperature variation, vehicular exhaust, and corrosive conditions. Visible aging and environmental degradation observed.	<ul style="list-style-type: none"> • Removal and replacement of garage and mechanical area lighting fixtures • Installation of moisture-resistant, corrosion-resistant light-emitting diode fixtures • Integration with upgraded electrical distribution and emergency power systems 	<ul style="list-style-type: none"> • Installation within below-grade reinforced concrete structure • Conduit systems exposed to corrosive garage environment • Coordination with structural repair and waterproofing reconstruction • Integration with emergency egress lighting requirements 	Continued fixture deterioration; reduced illumination levels; increased maintenance burden; diminished visibility in vehicular and pedestrian areas

Elemental Estimate Cost Breakdown Planning Level

The corrective repair estimate is presented at a planning level and is organized to clearly communicate the scope and magnitude of infrastructure renewal identified in the Facility Condition Assessment.

The cost information is structured to reflect system-level replacement and rehabilitation assumptions based on observed conditions, remaining useful life, and performance limitations. The estimate is classified as an AACE Class 4 / Class 5 planning-level cost opinion. It is not a detailed quantity take-off or bid-ready construction estimate. Detailed quantities, phasing logistics, temporary conditions, and constructability considerations would be refined during design development.

Costs are organized by building systems rather than discrete project packages. Activities such as selective demolition, access, restoration, and system integration are often embedded within broader system allowances and may span multiple cost categories. Accordingly, individual line items should not be interpreted as standalone projects, and exact one-to-one reconciliation between alternative reporting formats is not expected at this level of development.

Estimate Development Methodology Planning Level (ASTM / AACE Class 4–5)

Consistent with ASTM E2018-24 and AACE Class 4 / Class 5 estimate guidance, this planning-level cost opinion was developed using a system allowance approach rather than detailed quantity take-offs.

Corrective repair needs identified in the Facility Condition Assessment were grouped by major building systems (envelope, structural, mechanical, electrical, plumbing, life safety, vertical transportation, and garage/plaza elements). For each system, observed condition, remaining service life position, and performance limitations were evaluated to determine the appropriate level of intervention, ranging from targeted rehabilitation to full system replacement.

Expected useful life benchmarks consistent with BOMA industry guidance were used to inform remaining useful life considerations and to support system-level replacement assumptions where systems were beyond, or approaching, end of service life (particularly where distribution systems are embedded and replacement is invasive).

System costs were then developed using industry-standard benchmarking and historical cost calibration expressed through system-level cost drivers such as dollars per square foot, percentage-of-system renewal factors, and major-system allowances appropriate for the facility type and complexity. Those allowances were adjusted for integration constraints, access limitations, and renewal complexity typical of the building's construction.

After the direct system allowances were established, standard planning-level allowances were applied, including design contingency, construction-related indirect markups, escalation to 2028 dollars, and owner-related soft costs.

The formula is as follows:

$$\text{TPC} = (\text{DCC} + \text{C}) + \text{M} + \text{E} + \text{O}$$

Where:

TPC = Total Project Cost

DCC = Direct Construction Cost (system-level renewal allowances)

C = Design Contingency

M = Construction Markups

E = Escalation to 2028 Dollars

O = Owner Soft Costs

Cost Development and Allowance Structure

The total projected investment is developed through a structured application of contingencies, construction markups, escalation, and owner-related soft costs. This layered approach is consistent with industry practice for planning-level estimates and reflects the level of definition currently available.

Design Contingency – 20%

A design contingency of 20 percent is applied to the direct construction cost to account for the conceptual level of scope definition associated with a Class 4 / Class 5 estimate. At this stage, detailed engineering, coordination drawings, quantity take-offs, and phasing logistics have not been completed. The contingency provides an allowance for refinement of quantities, scope development, unforeseen field conditions, and coordination impacts that are typical as projects advance into design.

This contingency does not represent owner contingency or discretionary funding. It reflects the normal uncertainty inherent in early-stage cost development.

Indirect Markups

Following application of design contingency, standard construction-related indirect costs are applied:

General Conditions / General Requirements – 20%

This allowance accounts for contractor field supervision, temporary facilities, site logistics, safety compliance, scheduling, quality control, temporary utilities, and project management during construction. For a complex occupied civic facility, general conditions represent a significant component of project cost due to coordination, sequencing, and access constraints.

Insurance and Bonds – 1.25%

This reflects typical bonding and insurance requirements for public-sector procurement.

Contractor Overhead and Profit – 8%

This represents a reasonable allowance for contractor corporate overhead and profit under competitive public bidding conditions.

These markups reflect typical market-based assumptions for projects of similar size and complexity.

Escalation to 2028 Dollars – 10%

A 10 percent escalation factor is applied to express the projected construction cost in 2028 dollars. The year 2028 was selected to reflect a reasonable implementation horizon, recognizing that projects of this scale require further evaluation, prioritization, design development, procurement planning, and funding coordination before construction could realistically commence.

This adjustment accounts for anticipated labor and material cost growth between the pricing basis date and a probable future execution timeframe. The escalation factor is applied uniformly across the estimate and does not represent contingency for scope expansion or added program elements.

Other Indirect Costs (Owner-Related Soft Costs)

In addition to construction costs, owner-related project delivery costs are included:

Design Fees – 15%

This allowance represents professional architectural and engineering services required to advance the project through design, documentation, bidding, and construction administration.

Supervision, Inspection, and Overhead – 8%

This reflects typical owner-side project management, inspection, testing, and administrative oversight costs associated with implementation.

Capital Investment Summary by System

This table summarizes the corrective repair investment by major facility system categories. It groups the identified renewal needs into high-level components such as building exterior, interior restoration, core building systems, and garage/plaza structural elements.

The values shown represent system-level replacement and rehabilitation assumptions developed in the Facility Condition Assessment, and as articulated within this supplement. This format provides a program-level view of how the total projected investment is distributed across primary building systems.

It is also important to recognize that this estimate structure organizes costs by building system rather than by discrete project packages. As a result, individual line items should not be interpreted as standalone projects.

Category	Summary of Included Elements	FCA
Building Exterior	Comprehensive Roof System Replacement (membrane, insulation, flashings, drainage integration)	\$ 7 MIL
Building Exterior	Exterior Façade, Glazing & Envelope System Replacement (windows, storefronts, entrances/doors, interfaces and sealants)	\$ 36.9 MIL
Interior Spaces	Interior Restoration Associated with Infrastructure Renewal (ceilings/walls impacted by water intrusion and invasive system replacement; documented flooring areas)	\$ 9.6 MIL
Core Building Systems	Central Plant, Air Handling, Distribution & Controls Modernization (equipment and embedded distribution renewal where required)	\$ 39.5 MIL
Core Building Systems	Electrical Infrastructure Replacement (primary switchgear, distribution, panels, transformers, branch circuits, and capacity constraints)	\$ 96.9 MIL
Core Building Systems	Freight Elevator Modernization / Replacement (controls, drive components, doors, and electrical integration)	\$ 2.4 MIL
Core Building Systems	Fire Protection & Clean Agent System Replacement (sprinkler/standpipe distribution renewal and clean agent systems in critical areas)	\$ 21.4 MIL
Core Building Systems	Emergency Power Generation & Transfer System Replacement (generators, transfer/paralleling equipment, emergency distribution integration)	\$ 20 MIL
Core Building Systems	Domestic Water, Sanitary & Specialty Plumbing System Replacement (risers/distribution, booster needs, restrooms, and specialty connections)	\$ 31.5 MIL
Garage & Site Elements	Parking Garage & Plaza Structural Rehabilitation and Waterproofing Reconstruction, including Targeted Fire Suppression, Electrical Distribution, and Lighting Upgrades	\$ 64.2 MIL
Estimate Totals		\$ 329.4 MIL

Elemental Construction Cost Breakdown

The following cost summary presents the estimated corrective repair investment in a construction-based elemental format. This structure organizes the system renewal assumptions documented in the Facility Condition Assessment into industry-standard construction divisions commonly used for budgeting and procurement.

This format is consistent with a planning-level estimate prepared in accordance with AACE Class 4 / Class 5 guidance. It reflects system-level replacement and rehabilitation assumptions derived from observed conditions, remaining useful life considerations, and infrastructure performance limitations. It is not intended to represent a detailed quantity take-off, bid-ready estimate, or guaranteed construction price. Detailed quantities, phasing logistics, temporary conditions, and means-and-methods considerations require design development and engineering documentation that has not yet been undertaken. Accordingly, the estimate is structured at the elemental system level, which is the appropriate level of detail for capital planning and policy-level decision-making.

The summary table previously presented was organized to align with the City's capital planning framework. The elemental table below reflects standard industry construction cost organization. While both presentations are derived from the same corrective repair scope and result in the same total projected investment, individual category groupings differ due to reporting format rather than changes in scope or cost assumptions.



It is also important to recognize that this elemental structure organizes costs by building system rather than by discrete project packages. Corrective repair activities such as selective demolition, access, restoration, and system tie-ins are often embedded within broader system replacement allowances and may span multiple divisions. As a result, individual line items should not be interpreted as standalone projects, and exact one-to-one reconciliation between reporting formats is neither expected nor appropriate at this planning level.

The table separates the Main Building and Parking Garage and expresses costs on both a per-square-foot and total basis. Direct construction costs are presented first, followed by contingencies, indirect markups, escalation to 2028 dollars, and owner-related soft costs. This structure provides transparency in how the total projected investment of approximately \$329.4 million is assembled while maintaining consistency with the planning-level nature of the estimate.

Cost Summary		MAIN BUILDING	GARAGE	
Div	Description	Cost	Cost	Total
A20	Subgrade Enclosure	\$ -	\$ 15,000	\$ 15,000
A40	Slabs-On-Grade	\$ -	\$ 10,000	\$ 10,000
A	Substructure	\$ -	\$ 25,000	\$ 25,000
B10	Superstructure	\$ 155,187	\$ 12,040,000	\$ 12,195,187
B20	Exterior Vertical Enclosure	\$ 16,110,743	\$ 600,000	\$ 16,710,743
B30	Exterior Horizontal Enclosure	\$ 5,576,780	\$ 8,900,000	\$ 14,476,780
B	Shell	\$ 21,842,710	\$ 21,540,000	\$ 43,382,710
C10	Interior Construction	\$ 1,903,834	\$ 300,000	\$ 2,203,834
C30	Interior Finishes	\$ 1,179,360	\$ -	\$ 1,179,360
C	Interiors	\$ 3,083,194	\$ 300,000	\$ 3,383,194
D10	Conveying Systems	\$ 1,397,412	\$ -	\$ 1,397,412
D20	Plumbing Systems	\$ 17,888,676	\$ -	\$ 17,888,676
D30	Heating, Ventilation & Air Conditioning	\$ 23,841,767	\$ -	\$ 23,841,767
D40	Fire Protection	\$ 7,585,685	\$ 3,760,000	\$ 11,345,685
D50	Electrical	\$ 35,375,267	\$ 2,975,000	\$ 38,350,267
D60	Communications	\$ 2,844,632	\$ -	\$ 2,844,632
D70	Electronic Safety & Security	\$ 4,741,053	\$ -	\$ 4,741,053
D80	Integrated Automation	\$ -	\$ -	\$ -
D	Services	\$ 93,674,492	\$ 6,735,000	\$ 100,409,492
E10	Equipment	\$ -	\$ -	\$ -
E20	Furnishings	\$ -	\$ -	\$ -
E	Equipment & Furnishings	\$ -	\$ -	\$ -
F20	Selective Demolition	\$ 5,918,106	\$ -	\$ 5,918,106
F	Special Construction & Demolition	\$ 5,918,106	\$ -	\$ 5,918,106
Total Hard Construction Cost Excl Contingencies, Indirect Markups & Escalation		\$ 124,518,502	\$ 28,600,000	\$ 153,118,502
Contingencies				Total
	Design Contingencies	20.00%		\$ 30,623,700
Sub-Total Contingencies				\$ 30,623,700
Total Hard Construction Cost Excl Indirect Markups & Escalation				\$ 183,742,202
Indirect Markups				Total
	General Conditions / General Requirements	20.00%		\$ 36,748,440
	Insurance and Bonds	1.25%		\$ 2,756,133
	Contractor Overhead and Profit	8.00%		\$ 17,859,742
Sub-Total Indirect Markups				\$ 57,364,316
Total Construction Cost Incl Indirect Markups & Excl Escalation				\$ 241,106,518
	Inflation (Escalated to 2028 Dollars)	10.00%		\$ 24,110,652
Total Hard Construction Cost				\$ 265,217,170
Other Indirect Costs				Total
	Design Fees	15.00%		\$ 39,782,576
	Supervision, Inspection, & Overhead	8.00%		\$ 24,399,980
Sub-Total Other Indirect Costs				\$ 64,182,556
Total Hard Construction Cost Incl Other Indirect Costs				\$ 329,399,726