Minnesota Capitol Restoration

Why? And Why Now?

The Minnesota State Capitol Building is a treasured state asset. Designed by Minnesota's own nationally acclaimed Cass Gilbert just over 100 years ago, it ranks among the most beautiful and majestic of the nation's capitol buildings. Today, that beauty is only skin deep. Under the surface are antiquated mechanical and electrical systems leading to poor air quality and widely varying temperatures, "dead end" corridors and other life safety code problems, inadequate office and public hearing room spaces, a lack of modern technology and security protection, places that are inaccessible to people with disabilities, and virtually no accommodation for the thousands of people who visit each year. Current tenants have long outgrown a building designed a century ago, leading to compelling need for additional space.

In recent times, the majority of funding provided for the building has been required for quick emergency fixes. The time has come to provide the Capitol with much needed systems updates, enhanced security, code required rest rooms and exiting, building support spaces and overall building repairs, to prepare it for its second hundred years of useful life. The State of Minnesota is at a moment of great opportunity. Across the country, every state is facing, or has faced, a similar task – how to update building systems and accommodate the need for additional building space. This is no venture for the faint-hearted. ***Now is the time to commit to a plan of bold action.***

As Minnesota considers rehabilitating the building, it is imperative that we review how the government functions now, as compared to the day it was first occupied. Today we serve a much larger state population and we have a more participatory governing process, requiring numerous public hearing rooms, legislative offices and larger spaces for public gathering. The building must accommodate a host of visitors, including scores of school age children on educational trips to St. Paul, special interest groups promoting their causes, political demonstrators and out of town visitors here to admire the building. During the Legislative session, the building is a constant buzz of activity, presenting Minnesota government in its moment.

We are presenting design options that will provide more enhanced hearing rooms, additional office space, a visitor center with auditorium and large meeting space, along with the additional rest rooms, exit stairs, life safety systems, energy-efficient mechanical and electrical systems, state-of-the-art technology and overall building maintenance. The design is intended to provide long-term answers and a true legacy solution – like that provided by the original design a century ago. The new design provides numerous opportunities for the State. There is an opportunity to focus the energy of government within the Capitol building itself, to provide visitor accommodations that represent Minnesota pride, heritage and culture – featuring construction materials from across the state and decorated with artwork that represents Minnesota's best. We see the opportunity to improve life safety and accessibility, to provide better opportunities for civic pride and action, and to ensure that this Legacy building will be here for generations to come.

This is not a short-life building project or a quick fix: we have done that with the bonding and improvement projects of the past recent years. We can not afford a facility that will outlive its usefulness in 25 or even 50 years. We must recognize that this building will endure as the heart of government for as long as the State of Minnesota endures as an entity. The historic Capitol was built to symbolize to the United States that Minnesota had arrived on the national scene -- to make the point that this new state was a cultured and civilized place to live and to participate in the act governing. That intent has not changed, and Minnesota continues to lead the nation in its state governance.

Let this project be a gift from our generation to our children and theirs.

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Minnesota State Capitol
Infrastructure Systems Summary

The Minnesota State Capitol, designed by prominent American Architect, Cass Gilbert, is 100 years old. The outdated and obsolete mechanical and portions of the electrical distribution systems no longer meet life safety standards, no longer provide adequate or consistent levels of comfort, no longer are energy efficient, and are no longer provide sufficient reliability expectations. The question is not if the systems will fail but rather when and how they will fail.

Mechanical Systems Condition

Heating Systems:
There is a real potential of a heating failure during the winter months that would be disruptive anytime, but especially when legislature is in session.

- Systems and equipment are old, obsolete and past their useful life.
- Modifications and improvements made to the heating systems have been done incrementally and have not been addressed comprehensively.
- The heating water piping distribution system does not deliver a consistent level of comfort throughout the building. Older piping was designed to deliver steam and condensate (not heating water) and is not suitable for continued use.
- Aging terminal heating devices (unit heaters, radiators, heating coils, etc.) do not meet today's expectations.
- Control of heating systems is inconsistent, unreliable and energy inefficient.
- There is potential risk of flooding and losing heating as a result of pipe or coupling failure due to the aged condition of distribution piping. A heating failure or flooding from pipe failure could cause significant damage to historical building materials.

Ventilation and Air Conditioning Systems:
Air handling systems are not capable of meeting even minimum standards for maintaining building comfort or indoor air quality.

- Air handling systems and equipment are well beyond their expected lives.
- Ventilation and air conditioning systems cannot adequately provide for the modern needs and uses.
- Systems and equipment have a high potential for failure and are energy inefficient
- There is inadequate duct capacity to properly cool many areas of the building.
- Current outside air intake louvers are susceptible to sabotage and do not provide the minimum level of security recommended by Homeland Security Agencies.
- Outside air ventilation does not meet minimum indoor air quality standards.
- Cooling coils have insufficient capacity to control interior space humidity – the major contributor to the production of mold spores.
- Air handling systems do not have the capability to provide the controlled means of smoke evacuation required to meet modern minimum codes.
- Building controls are outdated and do not provide the functionality needed for a modern office building.

Plumbing Systems Condition

Storm Water Collection System:
All existing components have far exceeded their life expectancies.

- Upper level roof leaks and lower level flooding occurs when there is a substantial rainfall causing ongoing degradation of and damage to the structure, ceilings, walls and floors.
- There is potential risk of flooding as a result of pipe or coupling failure due to their aged condition.

Domestic Water, Waste and Vent Systems:
The system piping components are old. Sizes and types of materials contribute to a scenario where piping failures are imminent

- Sections of the plumbing systems have been replaced as areas have been remodeled; the points of connection to older systems have a potential for failure due to age and inadequate size.
- Women's restroom facilities were minimal at the time of original construction and continue to be inadequate for the changing demographics in the Capitol.
- The integrity and adequacy of the current water and waste systems is suspect.

Fire Protection Systems:
The building does not have a comprehensive automatic fire sprinkler system. Existing standpipe system is not in compliance with modern codes and does not provide means for the Fire Department to adequately or safely fight a major fire within the building.

Electrical Systems Condition

Power Distribution Systems:
The power distribution system has been in the process of being upgraded over the past several years and is close to completion.

- The capacity of the secondary distribution system is not capable of supporting the expansion and renovation of the Capitol Building.
- The existing 208Y/120 volt system will not support new Air Handling equipment being provided at 480Y/277 volts.
- The existing 208Y/120 volt system will not support the expanded requirements of the renovated spaces.
- The current basic power systems are located in areas that are best utilized for building activities.

Emergency Power Distribution:
The emergency power distribution system has been upgraded with new distribution panel boards but has not been distributed throughout the facility.

- New branch power distribution is required to support the building renovation and the building expansion.
- The present system may not support the addition of a smoke control system which is required to meet modern minimum code requirements.

Lighting Systems:
The present lighting and lighting control system do not meet the state guidelines for energy conservation, lighting quality or minimum light levels.

- These systems must be upgraded to comply with energy conservation standards.

Fire/Smoke Alarm Systems:
The fire/smoke alarm system in the building is being upgraded by Honeywell. The present system is capable of expanding to meet the growing requirements of the building.

- There are multiple fire alarm detection systems serving the building that need to be consolidated into one comprehensive system.
- The expansion of the system is required to accommodate areas of the building that are presently not covered and to meet the building expansion parameters.
- The central rotunda is not presently monitored and will require additional components to meet the Fire Code requirements.

Telephone/Data Systems:
The existing telephone and data systems are not configured in a way that supports today's operational requirements and are prone to faults and failures.

- Critical equipment is located in non-secure spaces.
- Antiquated equipment is being utilized for certain system services.
- Network operations and configurations do not conform to today's standards.
- System components are susceptible to damage and sabotage.

Security System:
The security systems parameters are well below today's design standards and do not function as required for a facility of this type.

- Secure access must be upgraded.
- Security monitoring must be upgraded to accomplish the required Zones of Protection.
- Camera coverage of various types must be added to meet the security requirements of the facility.