CAPITOL COMPLEX MASTER PLAN

FINDINGS & RECOMMENDATIONS (F & R) NEEDS ASSESSMENT

STATE OFFICE BUILDING, 201 EAST COLFAX AVENUE (DENVER)

NOVEMBER 2014

RNL

FINDINGS & RECOMMENDATIONS (F&R) NEEDS ASSESSMENT

STATE OFFICE BUILDING
201 EAST COLFAX AVENUE (DENVER)

November 2014

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EXECUTIVE SUMMARY

The purpose of this report is to provide a Findings & Recommendations (F&R) Needs Assessment of the State Office Building at 201 East Colfax Avenue in Denver, Colorado. The report includes a description and evaluation of the existing conditions, recommendations, and cost estimates for the recommended work from the following focus areas: architecture (RNL), structural (Martin/Martin Consulting Engineers), civil (Martin/Martin Consulting Engineers), mechanical/electrical/plumbing (RMH Group), voice and data (Shen Milsom Wilke), security (Shen Milsom Wilke), historical (Anderson Hallas Architects), and cost estimating (CBRE, Inc.). The project team, led by RNL, reviewed existing building documentation, drawings, and audit reports provided by the Owner, and conducted a site visit to identify and document the observable existing conditions of the building and its code and life safety issues.

The State Office Building is a contributing building in the Denver Civic Center District which was added to the U.S. Register of National Historic Places on February 27, 1974. The building is a part of the architectural history of both the City of Denver and the State of Colorado. All work on the property should follow the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs. In general the building is in fair condition. A fair condition rating refers to the fact that the State Office Building is usable but in serious need of repairs to address life safety and loss of use/reliability issues.

Although all recommendations presented in this report should be considered for implementation, the following are the top five priorities due to their impact on life safety (LS), loss of use/reliability (LOU), finishes (F), and overall energy efficiency:

1. Replace fire sprinkler piping. This recommendation encompasses life safety issues and is due to the age of the fire sprinkler piping and fire protection code issues.

   High Level Cost Estimate: $782,031

2. Provide fall protection at roof. This recommendation encompasses life safety issues and is due to code issues and the fact that inadequate fall protection is provided at the roof.

   High Level Cost Estimate: $26,857

3. Replace north chiller. This recommendation encompasses loss of use/ reliability and overall energy efficiency issues and is due to the current system's inability to meet the building load.

   High Level Cost Estimate: $613,487

4. Replace windows. This recommendation encompasses loss of use/ reliability issues and overall energy efficiency issues and is due to the age and condition of the windows.

   High Level Cost Estimate: $1,076,998

5. Replace/repair exterior sealant & grout. This recommendation encompasses loss of use/reliability issues and is due to the overall deterioration of the sealant and grout which is creating access points by which water can penetrate the building envelope.

   High Level Cost Estimate: $80,342

If all recommendations in this report are implemented as a single project, including the top 5 priorities, the high level cost estimate is:

$5,476,204

If all recommendations in this report are implemented system by system as multiple projects, including the top 5 priorities (systems), the high level cost estimate is:

$5,724,206

1.0 OVERVIEW

1.0-A ARCHITECTURE OVERVIEW

The State Office Building was constructed between the years of 1919 to 1921 and is located in Denver's North Capitol Hill Neighborhood on the northeast corner of Sherman Street and East Colfax Avenue. The building was designed by William Bowman and constructed by Seerie and Varnum. Inspired by the Roman Corinthian style of architecture, the design of this building is an example of the 20th century Classical Revival style prevalent throughout Denver's Civic Center. Located in the center of downtown Denver, the State Office Building is a contributing part of the Denver Civic Center District which was added to the U.S. Register of National Historic Places on February 27, 1974.

The State Office Building was renovated in November of 1985. The building's current and historic functions are to serve as government office space for the State of Colorado, now housing offices for the Colorado Department of Education. The State Office Building is a square-plan building with a concrete-frame construction clad in a light grey Cotopaxi granite from Fremont County, Colorado. This five-story building grosses 78,115 square feet of space.

The architectural assessment of the State Office Building at 201 East Colfax Avenue included reviews of the existing building documentation, drawings, and audit reports provided by the Owner, and a site visit to survey and document the existing conditions of the building and its code and life safety issues. During the site survey on September 10, 2013, building maintenance personnel provided building history and information on the layout, finishes, maintenance routines, systems, and the dates of repairs and upgrades. In general, the building is in fair condition, considering its age. There are issues related to interior and exterior finish materials, building systems, code compliance, accessibility, and other items that require attention in the near term. One of the main concerns is related to the age and condition of the windows. Another concern is the need to repair or replace the sealant and grout around the exterior of the building. These concerns encompass loss of use/reliability and overall energy efficiency issues. These findings, along with recommendations for repairs, are detailed in the body of this report.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

1.0-B STRUCTURAL OVERVIEW

Martin/Martin conducted a building condition assessment on September 10, 2013 of the State Office building located at 201 Colfax in Denver, Colorado. The purpose of our condition assessment was to identify structural defects, damage and deterioration.

The building was constructed in 1921. The structural framing consists of one-way concrete slabs and concrete beams supported by concrete columns. An addition was constructed on the west side and was framed using concrete slabs on metal deck supported by steel beams and steel columns. The foundation system is unknown and construction drawings were not available.

The structural framing that was readily observable is in good condition with a few minor cracks that are in need of repair to prevent additional deterioration.

Parapets along the roof edge were non-existent. A fall protection system should be provided for access near exposed edges to meet current safety codes.

1.O-C CIVIL EXECUTIVE SUMMARY

The State Office Building site is approximately 1.00 acre. The existing site consists of the building, a parking area to the north and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from Colfax Avenue. The condition of the site surrounding the building is consistent with an estimated age of 50 years.

The site exterior is generally in fair condition. There are numerous locations around the building with broken and cracked concrete in need of repair or replacement. The main concern regarding the State Office site is the separation gaps between the concrete and building foundation, likely caused by settlement. The gaps should be sealed or concrete replaced. The building should be regularly inspected for signs of settlement. While the existing building functions in its current state, improvements can be made to maintain the existing site, prevent future problems, and improve aesthetics.

1.0-D MECHANICAL, ELECTRICAL, AND PLUMBING OVERVIEW

A site survey for the Capitol Department of Administration building at 201 E. Colfax facility was performed to observe the existing electrical and mechanical equipment installation and assess code and building energy efficiency issues. During the site survey, information was provided about the building history and on the electrical and mechanical systems conditions, maintenance routines, and installation dates

The main concerns regarding the Administration Building are related to the fire alarm system, exit signs, chiller, and HVAC controls. The fire alarm system needs to be replaced with the new Notifer system used in the other government buildings. The HVAC controls need to be replaced with Direct Digital Controls.

The fire alarm system is a life safety system and is critical to protecting life and property. The exit signs are a life safety system and are critical to protecting the building occupancies in case of an emergency exit.

Considering the age of the sprinkler piping it must be corroded from inside and it is recommended to replace the sprinkler piping.

Energy Conservation

To conserve energy in this building a lighting control system that provides automatic daylight dimming and occupancy sensor shutoff will provide energy savings. Also, following the most up-to-date energy codes regarding how much light is used (watts per square feet) will reduce the number of fixtures required for each space. Supplemental task lighting can be used on the desk or in the cubicles to ensure occupants are able to perform their work effectively.

Providing automatic occupancy sensor shutoff power strips for desk equipment that does not need to be on constantly, when a person is away from their desk, will help reduce energy usage.

Adding new DDC controls to the HVAC system will ensure that the required amount of outside air is introduced into the system and delivered to spaces. This will save energy in heating and cooling outside air. Also energy savings control features such as static pressure reset, and supply air temperature set back could be implemented to save operating energy costs.

1.0-E VOICE AND DATA OVERVIEW

The Voice and Data IT/Telecommunications Infrastructure assessment and findings report provides recommendations for the design and construction of the IT/Telecommunications Infrastructure required to support Voice/ Data and other technology systems within the State Office building. It has been found that much of the building's existing IT/Telecommunications infrastructure is not compliant with current industry standards and best practice installation methods. As well, the current infrastructure is such that it may not properly support many newer technology IP devices, which are now considered standard in the industry such as VoIP phones and PoE type security cameras. Existing Cat5e cabling has bandwidth limitations as compared to that of more robust, industry standard Cat6/6A cable plant specifications. The complete IT systems infrastructure not only includes the cabling, but the cabling pathways and the spaces (or rooms) that support the network cabling. Technology spaces requiring to be properly outfitted in the building include the Main Distribution Facility (MDF) room, and distributed IDF rooms (minimum of one per floor). Backbone infrastructure shall include proper cabling pathways between MDF/IDF rooms, in order to support installation of both fiber and copper backbone cabling. Singlemode fiber optic cables, laser optimized multimode fiber optic cables, and Category 3 copper backbone cables should be installed from the MDF room to each IDF room to support the technology systems. Category 6 UTP cable shall be installed from the telecom outlets and IP field devices to termination hardware in the IDF rooms using the conduit and cable tray horizontal pathways. A proper grounding and bonding system must be provided in the MDF/IDF rooms. A proper grounding system will provide a uniform ground within the telecommunications rooms, to facilitate a safe and reliable operation of the communications and low-voltage equipment and systems. These recommendations may be used for IT/Telecom Infrastructure program development, space planning, and budgeting of these systems at a conceptual design level. Industry standard and best practice design methods must be applied, including BICSI and TIA/EIA design and construction guidelines. For renovation projects, any applicable State Office of Information Technology (OIT) design criteria documents should be should be followed.

The following list prioritizes voice/data infrastructure upgrades required:

1. Necessary: Retrofit facility with proper MDF/IDF room distribution, which meets industry standard for telecommunication structured cabling system.

2. Necessary: Replace horizontal copper station cabling with Cat 6 network cabling.
3. Necessary: Replace vertical and network backbone cabling with appropriate copper and fiber optic cabling.
4. Necessary: Provide voice/data infrastructure to support wireless access points (WAPs), for wireless network coverage throughout facility.

1.0-F SECURITY SYSTEMS OVERVIEW

The security systems design guidelines outline electronic security systems infrastructure which will enhance security operations and provide a safe and secure environment for persons and assets within the State Office Office Building. The security systems should be planned and designed to allow the security personnel the operational flexibility to provide various levels of security based on the threat level at a given time. Security systems should be designed such that they may be monitored remotely from centralized security monitoring locations. Best practice security design methodology should be applied, including crime prevention through environmental design (CPTED), layered security, integrated design, and concentric circles of protection. Additionally it is recommended that the following document be used a guideline for developing specific security design criteria for renovations: ASIS Facilities Physical Security Measures, IESNA G-1-03 Guideline for Security Lighting, Unified Facilities Criteria UFC 4-010-01.

For renovation projects, applicable State construction standards and design guidelines must be followed. Electronic security systems to be considered for implementation or upgrade include access control, intrusion detection, duress alarm, intercom, video surveillance, and emergency call system. The access control system (ACS) will be an expansion of the existing campus wide system currently installed throughout other State buildings. The ACS shall also serve as the primary security management system for monitoring intrusion alarms. The video surveillance system (VSS) should be comprised of IP digital cameras integrated with the existing VSS. The State's existing wireless duress alarm system infrastructure should be expanded where needed to support new locations of wireless duress buttons.

Existing security systems in State facilities are generally controlled and monitored centrally from Colorado State Patrol's Central Command Center (CCC), located in Denver CO.

Within the building, new head-end security control equipment is to be located in IDF or technology rooms, as coordinated with State IT technical staff. Equipment may include ACS control panels, power supplies, duress alarm panels, network video recorders, and UPS units.

All critical electronic security equipment should be backed-up with emergency power circuits or UPS units. State security personnel and other authorized staff may remotely monitor access control events, system alarms, and security video through network connected client workstations.

For the State Office Building 201 East Colfax Ave renovation work, requirements for security device additions/upgrades and specific security system functionality are to be coordinated with State security personnel during design and construction phases.

The following list prioritizes security system upgrades required:

1. Necessary: Replace/Repair existing Hirsch Access Control card readers.
2. Necessary: Replace analog security cameras with IP PoE minimum 1.2MP cameras.
3. Necessary: Replace existing coaxial CCTV cabling with CAT 6 network cabling, required to support item 1 above.
4. Necessary: Verify functionality of access control devices and perimeter door alarms, replace if defective. Provide door sensor alarm on all perimeter doors.
5. Necessary: Verify functionality of wireless duress alarms. Provide duress alarms for all public interface counters and cash handling areas.
6. Recommended: Install IP security camera within main entrance/lobby.
7. Recommended: Install intercom station at facility main entrance door exterior. Must be intercom-over-IP (IoIP) based PoE intercom stations. Install IP camera to view intercom.

Consideration should be given in regards to the Installation and mounting details for any security related renovations. Due to the uniqueness of the buildings under consideration, design plans must be cognizant of maintaining the historical attributes of the buildings.

2.0 OVERALL BUILDING ASSESSMENT FINDINGS AND RECOMENDATIONS

2.1 ARCHITECTURE

2.1-A EXTERIOR BUILDING ENVELOPE/SITE

General

The State Office Building is a five-story tall building, supported by a concrete structural frame and clad primarily in light gray Cotopaxi granite from Fremont County, Colorado. There are bronze accent panels under the windows on the west and south sides of the building. The building has three entrances; one on the north side, one on the west side, and one on the south side. The main Colfax Avenue Entrance is on the south side of the building and features three sets of recessed, double brass doors with three-part transoms and with moulded stone architraves surrounding each set of doors. Two bronze Colorado mountain lions, by sculptor Robert Garrison, flank either side of the entrance and original bronze lanterns flank the central doorway. The entry terrace and stairs are composed of stone and extend to a concrete sidewalk running adjacent to Colfax Avenue. The West Entrance serves Sherman Street from the First Floor and has one set of double doors. The North Entrance serves the parking lot at the rear of the building from the First Floor. The roof consists of a pitched roof running the length of the perimeter of three sides of the building and clad in terra cotta tiles, a flat ballasted area in the middle, and a pitched skylight within the flat ballasted area. Overall, the building envelope is in fair condition.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

Front/South Elevation of the State Office Building

Side/West Elevation of the State Office Building

Back/North Elevation of the State Office Building

Side/East Elevation of the State Office Building

Cladding

The light gray Cotopaxi granite blocks cladding the building are in fair condition overall. A small number of the granite blocks that were readily observable were noted to have areas of spalling and cracking (see Fig. 2.1.A.1 through Fig. 2.1.A.5).

Fig. 2.1.A.1 Spalling of the granite.

Fig. 2.1.A.2 Spalling of the granite along an exterior ledge.

Fig. 2.1.A.3 Spalling of the granite at the base of the building.

Fig. 2.1.A.4 Spalling of the granite at a corner ledge.

Fig. 2.1.A.5 Spalling of the granite along the base of the building.

The granite blocks are generally soiled, which is to be expected after ninety-plus years. The staining is readily apparent from the ground and is widespread around the exterior of the building (see Fig. 2.1.A.6 through Fig. 2.1.A.10).

Fig. 2.1.A.6 Typical soiled granite blocks cladding the building.

Fig. 2.1.A.7 Typical soiled granite blocks at the base of the building.

Fig. 2.1.A.8 Soiled granite blocks typical under a building ledge.

Fig. 2.1.A.9 Soiled stone architrave surrounds above the East Colfax Entrance doors.

Fig. 2.1.A.10 Typical soiled stone at a window ledge.

The granite along the low landscaping retaining wall is generally cracked and soiled (see Fig. 2.1.A.11). The low granite pedestals under the two bronze mountain lion sculptures on either side of the East Colfax Entrance are soiled (see Fig. 2.1.A.12).

Fig. 2.1.A.11 Cracked and soiled granite along the low landscaping retaining wall.

Fig. 2.1.A.12 Soiled low granite pedestals under the bronze mountain lion sculptures.

The grout between the blocks of granite is generally deteriorated and missing, creating access points by which water can penetrate the building envelope (see Fig. 2.1.A.13 through Fig. 2.1.A.16). The sealant along the base of the building and around the exterior granite stairways is deteriorating, creating access points by which water can penetrate behind or under the granite (see Fig. 2.1.A.17 and Fig. 2.1.A.18).

Fig. 2.1.A.13 Deteriorated grout between granite blocks.

Fig. 2.1.A.14 Deteriorated grout between granite blocks.

Fig. 2.1.A.15 Deteriorated grout between granite blocks.

Fig. 2.1.A.16 Deteriorated grout between granite blocks.

Fig. 2.1.A.17 Deteriorated sealant along the base of the building.

Fig. 2.1.A.18 Deteriorated sealant at the exterior granite stairway.

Pitting of the stone was noted along the top edge of the parapet at the roof (see Fig. 2.1.A.19 and Fig. 2.1.A.20). The coping of the parapet appears to be flat and damage could be due to pooling water that is not properly draining off of the stone.

Fig. 2.1.A.19 Pitting of the granite stone blocks along the top edge of the parapet.

Fig. 2.1.A.20 Evidence of water pooling on the granite stone blocks along the top edge of the parapet.

The masonry wall was readily observed to be deteriorating from the inside of the attic space (see Fig. 2.1.A.21 and Fig. 2.1.A.22).

Fig. 2.1.A.21 Deteriorating masonry wall observed from the inside of the attic space.

Fig. 2.1.A.22 Deteriorating masonry wall observed from the inside of the attic space.

There is an area of brick cladding the exterior of the building on the east side. The condition of the brick and the grout joints was not readily observable from the ground and should be inspected to verify its current condition.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Repair or replace spalling, or otherwise damaged, granite around the exterior of the building and site.
- Clean soiled granite around the exterior of the building and site with an approved cleaning method.

- Tuck point all joints between granite blocks around the exterior of the building and site.
- Remove existing sealant around the exterior of the building and site and replace with new, approved sealant. Sealant, backup materials, and preformed joint fillers shall be nonstaining. Materials impregnated with oil, bitumen or similar materials should not be used.
- Repair or replace the damaged granite blocks and clean the soiled granite blocks along the top of the parapet. Verify the slope of the granite blocks to allow proper drainage and reset as necessary.
- Repair or replace the deteriorating masonry walls observed from the inside of the attic space.
- Verify the condition of the brick and the grout between the brick joints cladding the exterior of the building on the east side. Repair or replace any damaged brick as necessary. Tuck point the brick as necessary.

Glazing Systems and Doors

The single-pane, operable windows appear original to the building. The frames were generally noted to have areas of aging paint and minor corrosion (see Fig. 2.1.A.23, Fig. 2.1.A.24, and Fig. 2.1.A.25). The window grilles at the First Floor windows are showing signs of corrosion (see Fig. 2.1.A.26). The sealant around the windows is generally deteriorated (see Fig. 2.1.A.27). There were areas on the inside of the State Office Building where building occupants have added duct tape around the windows in an attempt to reduce the draftiness and air leakage from the windows near their work spaces (see Fig. 2.1.A.28 and Fig. 2.1.A.29).

Fig. 2.1.A.23 Corroding metal window frame.

Fig. 2.1.A.24 Corroding metal window frame.

Fig. 2.1.A.25 Corroding metal window frame at the Penthouse.

Fig. 2.1.A.26 Corroding window grilles outside of the First Floor windows.

Fig. 2.1.A.27 Deteriorating sealant surrounding window frames.

Fig. 2.1.A.28 Duct tape placed around the interior-side of the windows to prevent air leakage.

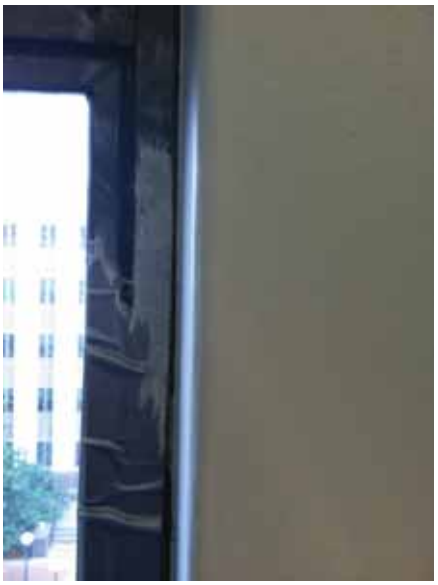


Fig. 2.1.A.29 Duct tape placed around the interior-side of the windows to prevent air leakage.

The historic bronze entrance doors located at the East Colfax Avenue Entrance and the Sherman Street Entrance appear to be original to the building (see Fig. 2.1.A.30). Air gaps exist between the door slabs and around the perimeter of the door slabs and the door frame, generally due to deteriorating weather stripping, allowing air leakage from the building (see Fig. 2.1.A.31).

Fig. 2.1.A.30 Bronze double doors typical to the East Colfax Avenue Entrance and the Sherman Street Entrance.

Fib. 2.1.A.31 Gaps at the exterior doors allowing air leakage.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Replace existing windows with new energy efficient windows and frames.
- Remove loose paint from window security grilles at the grade-level windows on the north and east sides of the building and repaint with an exterior-grade paint.
- Repair or replace deteriorating, or missing, weather stripping at all exterior doors and their frames, including at the Penthouse, to prevent air leakage.

Roof

It was reported that the exact age of the roof is unknown and that there are no known issues with leaking. Overall the roof appears to be in average condition. The overall roof plan includes a pitched roof along three sides of the building, consisting of a rubber membrane covered with terra cotta tiles, a flat roof in the middle of the overall roof plan, consisting of ballasted EPDM, and a glass, pitched-roof skylight located on the interior side of the flat roof area. The ballast is thin in spots and is accumulating dirt (see Fig. 2.1.A.32). The roof membrane is beginning to tear in spots (see Fig. 2.1.A.33).

Fig. 2.1.A.32 Typical area of thin ballast and accumulation of dirt.

Fig. 2.1.A.33 Area where the membrane is beginning to tear.

Issues with ponding were observed in a number of locations (see Fig. 2.1.A.34, Fig. 2.1.A.35, and Fig. 2.1.A.36). Sharp debris is collecting on the roof membrane, including broken pieces of terra cotta tile and nails, and could puncture the membrane (see Fig. 2.1.A.37 through Fig. 2.1.A.40).

Fig. 2.1.A.34 Issues with ponding on the roof.

Fig. 2.1.A.35 Issues with ponding on the roof.

Fig. 2.1.A.36 Issues with ponding on the roof.

Fig. 2.1.A.37 Sharp debris collecting on the roof membrane.

Fig. 2.1.A.38 Sharp debris collecting on the roof membrane.

Fig. 2.1.A.39 Sharp debris collecting on the roof membrane.

Fig. 2.1.A.40 Sharp debris collecting on the roof membrane. All loose nails should be discarded.

From the areas of the roof that were readily observable during the site visit, it was noted that there are cracked terra cotta tiles (see Fig. 2.1.A.41 and Fig. 2.1.A.42), missing terra cotta tiles (see Fig. 2.1.A.43), and areas where the grout sealing the openings between the tiles was deteriorating or missing completely (see Fig. 2.1.A.44 and Fig. 2.1.A.45). These issues are exposing the roof to water penetration and potential damage to the roofing system.

Fig. 2.1.A.41 Cracked terra cotta tiles.

Fig. 2.1.A.42 Cracked terra cotta tiles.

Fig. 2.1.A.43 Missing terra cotta tiles.

Fig. 2.1.A.44 Missing grout at openings between terra cotta tiles.

Fig. 2.1.A.45 Missing grout at openings between terra cotta tiles.

Some of the drain covers and exhaust pipes are in good condition and some are showing signs of corrosion (see Fig. 2.1.A.46 and Fig. 2.1.A.47).

Fig. 2.1.A.46 Drain cover with signs of corrosion.

Fig. 2.1.A.47 Exhaust pipe with signs of corrosion.

The sealant along the joints of the glass, pitched-roof skylight is deteriorating and leaving areas exposed to water penetration (see Fig. 2.1.A.48, Fig. 2.1.A.49, and Fig. 2.1.A.50). The joints of the roof membrane covering the areas sloping away from the skylight also have deteriorated sealant (see Fig. 2.1.A.51 and Fig. 2.1.A.52).

Fig. 2.1.A.48 Deteriorated sealant at the skylight.

Fig. 2.1.A.49 Deteriorated sealant at the skylight.

Fig. 2.1.A.50 Deteriorated sealant at the skylight.

Fig. 2.1.A.51 Deteriorated sealant at membrane surrounding base of skylight.

Fig. 2.1.A.52 Deteriorated sealant at membrane surrounding base of skylight.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Add ballast to areas of the roof where the membrane is exposed or loose.

- Repair or replace any damaged or torn areas of the roof membrane.
- Remove the sharp debris from the areas of the roof membrane and develop a maintenance schedule to periodically check for and remove any new accumulations of debris to avoid potential damage.
- Verify the cause of areas of ponding around the roof and repair or replace as necessary.
- Repair or replace damaged, or missing, terra cotta tiles.
- Repair or replace deteriorated or missing grout sealing the openings between the tiles.
- Monitor the condition of the roof drain covers and exhaust pipes and repair or replace as necessary.
- Remove existing sealant at the skylight and at the roof membrane covering the areas sloping away from the base of the skylight. Replace with new, approved sealant.
- The age of the roof is unknown. The roof appears to be in average condition and should be replaced in the next several years.

Site Elements

There is a broken slab of concrete at the north side of the building which has created an access point for water to penetrate under the slab and potentially reach the building's foundation (see Fig. 2.1.A.53).

It was reported that water is infiltrating the building at the inlets on the north side of the building to the HVAC systems and on the south side of the building to the tunnel.

Fig. 2.1.A.53 Broken slab of concrete at the north side of the building.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Repair or replace the broken slab of concrete at the north side of the building.
- Investigate any potential damage to the building's foundation and repair or replace as necessary.
- Investigate the water infiltration problems, at the inlets on the north side of the building to the HVAC systems and on the south side of the building to the tunnel, and repair or replace as necessary.

2.1-B CODE ISSUES

Applicable Codes

The following approved building codes and standards adopted by State Buildings Programs (SBP) and other state agencies are identified as the minimum requirements to be applied to all state-owned buildings and physical facilities including capitol construction and controlled maintenance construction projects, as revised 7/2013.

The 2012 edition of the International Building Code (IBC)

(as adopted by the Colorado State Buildings Program as follows: Chapter 1

as amended, Chapters 2-35 and Appendices C and I)

The 2012 edition of the International Energy Conservation Code (IECC)

(as adopted by the Colorado State Buildings Program)

The National Fire Protection Association Standards (NFPA)

(as adopted by the Department of Public Safety/Division of Fire Safety as follows with editions shown in parentheses: NFPA-1 (2006), 11 (2005), 12 (2005), 12A (2004), 13 (2002), 13D (2002), 13R (2002), 14 (2003), 15 (2001), 16 (2003), 17 (2002), 17A (2002), 20 (2003), 22 (2003), 24 (2002), 25 (2002), 72 (2002), 409 (2004), 423 (2004), 750 (2003), and 2001 (2004))

The 2007 edition of ASME A17.1 Safety Code for Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A17.3 Safety Code for Existing Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2003 edition of ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities

(as adopted by the Colorado General Assembly as follows: CRS 9-5-101, as amended, for accessible housing)

Note: It is anticipated that compliance with the federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Colorado Revised Statutes Section 9-5-101 will be met by compliance with the 2012 International Building Code and ICC/ANSI A117.1. However, each project may have unique aspects that may require individual attention to these legislated mandates.

Building Construction Type

The building is 5 stories tall, has a basement, and has a total floor area of 78,115 square feet. If this building was built today, it would be classified as Occupancy Group B (primary use as a Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts) according to IBC's Table 503 and the building would be classified as Construction Type IB, which allows for 11 stories and 160 feet in height, and unlimited floor area. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet and the maximum number of stories is increased by one.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

Egress Issues

Alterations, repairs, additions, and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the current provisions for alterations, repairs, additions and changes of occupancy or relocation. As an existing building, the State Office Building is exempt from current code requirements for new construction as long as minimal renovation is done. If the building undergoes extensive renovation, the following issues may need to be addressed per current code requirements, unless historic designation guidelines take precedence.

According to Table 1014.3 of the IBC (2012), the common path of egress travel for a building with an approved sprinkler system in a B-type occupancy is 100 feet with an occupant load greater than 30. The plans provided by the Owner appear to indicate that the common paths of egress travel throughout the building, as it currently exists, comply with this code requirement. The length of the longest common path of egress travel and the occupancy loads of each floor should be verified as part of any future renovation plan.

According to Table 1016.2 of the IBC (2012), the exit access travel distance in a B-type occupancy with a sprinkler system is 300 feet. The approximate greatest distance of travel that exists from the most remote point on any of the State Office Building's floor plans to an exit stairway is 126 feet

according to the plans provided by the Owner, which is well within the 300 feet allowed. Depending on the fire-resistance ratings of the interior exit stairways, the distance of travel through the stairways to a public way may be included in the greatest distance of travel calculation. If this is the case, then the approximate greatest distance of travel that exists from the southeast corner of the Fifth Floor to an exit discharge to a public way (traveling down through the southwest stairwell to the First Floor and out through the East Colfax Avenue exit) is 267 feet. The length of the greatest distance of travel and the occupancy loads of each floor should be verified as part of any future renovation plan.

The fire rating of the doors to the interior exit stairways is unknown. According to Section 1022.2 of the IBC (2012), enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707. The interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Interior exit stairways and ramps shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. The State Office Building has 5 stories including a basement and must therefore provide a fire-resistance rating of not less than 2 hours at the interior exit stairways. Further, according to Table 716.5 of the IBC (2012), where fire walls and fire barriers have a required fire-resistance rating of 2 hours, the minimum fire door and fire shutter assembly rating is 1-1/2 hours. We assume that the interior exit stairways meet the code requirements but were unable to confirm the fire-resistance ratings.

The door to the southwest stairway from the Basement Floor is not labeled as an exit stairway (see Fig. 2.1.B.1). The corridor leading to the southwest stairway exit is currently blocked with furniture (see Fig. 2.1.B.2) and has an area of uneven flooring (see (Fig. 2.1.B.3), creating a tripping hazard. The door to the northeast stairway from the Basement Floor is also not labeled as an exit stairway (see Fig. 2.1.B.4). The corridor leading to the northeast stairway has areas of the floor marked for furniture storage. These areas are overflowing with furniture intruding into the exit corridor (see Fig. 2.1.B.5). It is assumed that the Basement Floor has an occupancy of less than 50 and therefore, according to Table 1018.2 of the IBC (2012), has a required minimum corridor width of 36 inches. These issues in the basement should be addressed immediately and regardless of any future renovation plans.

Fig. 2.1.B.1 Unlabeled exit stairway door to the southwest stair from the Basement Floor.

Fig. 2.1.B.2 Furniture blocking the corridor leading to the southwest exit stairway at the Basement Floor.

Fig. 2.1.B.3 Uneven corridor floor creates a tripping hazard leading to the southwest exit stairway at the Basement Floor.

Fig. 2.1.B.4 Unmarked exit stairway door to the northeast stair from the Basement Floor.

Fig. 2.1.B.5 Furniture intruding into the exit corridor, beyond the marked storage areas, leading to the northeast stair at the Basement Floor.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Verify the fire-resistance ratings of the existing interior exit stairways and doors and upgrade as necessary per future renovation plans.

- Add approved signage at the northeast and southwest exit stairway doors at the Basement Floor indicating the location of the stairways.
- Remove all furniture being stored in the corridor leading to the southwest exit stairway to provide a minimum corridor width of 36 inches.
- Remove all furniture intruding into the exit access corridor, beyond the marked storage areas, leading to the northeast exit stairway.

Fire Suppression Systems

There is a fully automatic sprinkler system throughout the building. It was reported that replacement of the fire sprinkler system piping is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Recommendations:

- Upgrade the fire sprinkler system piping as necessary to comply with code requirements.

Stairs and Ramps

There were issues noted with the stair dimensions and details, within the interior exit stairways, during the site visit. The stair riser heights are roughly 7-3/4 inches (see Fig. 2.1.B.6). According to Section 1009.7.2 of the IBC (2012), stair riser heights shall be 7 inches maximum and 4 inches minimum.

The top of the railings are too low in height. The top of the handrail above the stair nosing is approximately 32 inches (see Fig. 2.1.B.7). According to Section 1012.2 of the IBC (2012) and Section 505.4 of ICC/ANSI A117.1 (2003), handrail height, measured above stair tread nosing, or finish surface of ramp slope, shall be uniform, not less than 34 inches and not more than 38 inches.

The current handrail system exceeds guardrail opening limitations, easily allowing passage of a sphere 4 inches in diameter (see Fig. 2.1.B.8). According to Section 1013.4 of the IBC (2012), required guardrails shall not have openings which allow passage of a sphere 4 inches in diameter.

The top of the guardrails within the interior exit stairways are approximately 35-1/4 inches above the stair landing (see Fig. 2.1.B.9). The top of the horizontal guardrail located along the edge of the Second Floor walking surface, and overlooking the First Floor vaulted atrium, is approximately 34-

1/4 inches above finished floor (see Fig. 2.1.B.10). The top of the horizontal guardrail located along the edge of the unenclosed northwest stairway, providing access between the First Floor and Second Floor and between the Fourth Floor and Fifth Floor, is approximately 33-1/2 inches above finished floor (see Fig. 2.1.B.11). According to Section 1013.3 of the IBC (2012), required guards located along the open-side of walking surfaces shall not be less than 42 inches high, measured vertically from the adjacent walking surfaces and from the line connecting the leading edges of the tread nosings on stairs. However, this guardrail may be exempt due to the building's historic status.

Fig. 2.1.B.6 Existing stair riser heights.

Fig. 2.1.B.7 The height to the top of the handrail measured above the stair tread nosing.

Fig. 2.1.B.8 The distance between the guardrail openings exceeds 4 inches in diameter.

Fig. 2.1.B.9 The height to the top of the guardrails within the interior exit stairways.

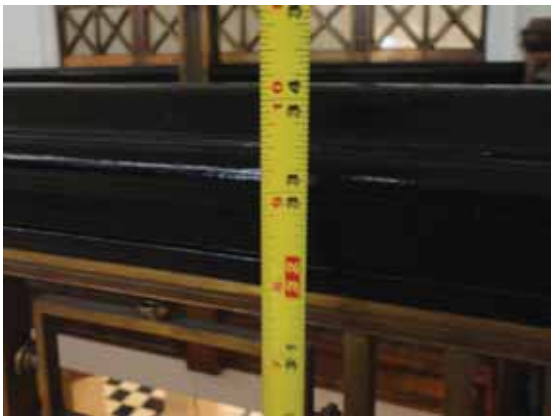


Fig. 2.1.B.10 The height to the top of the guardrail along the edge of the Second Floor and overlooking the First Floor vaulted atrium.

Fig. 2.1.B.11 The height to the top of the guardrail along the edge of the unenclosed northwest stairway.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Replace the existing stairway railing system within the interior exit stairways with a new system that complies with the code requirements.
- Replace or rework the existing guardrail along the edge of the Second Floor, and overlooking the First Floor vaulted atrium, to comply with the code requirements for the minimum guardrail height, if allowed per historic designation guidelines.

Doors

The interior doors throughout the building are equipped with knob-style door handles (see Fig. 2.1.B.12) with the exception of one observed key code access system with an integrated lever-style door handle (see Fig. 2.1.B.13). There was also a key code access system noted with a knob-style door handle (see Fig. 2.1.B.14). According to Section 309.4 of the 2003 edition of ICC/ANSI A117.1, the knob-style handles do not meet the requirement

that: operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Section 309.4 further states that the force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum. However, these knob-style handles may be exempt due to the building's historic status. Possible non-historic areas of the building, such as the basement and exit stairways, should be reviewed and considered for new lever-style door handles.

Fig. 2.1.B.12 Typical knob-style door handle found throughout the building.

Fig. 2.1.B.13 Key code access system with an integrated lever-style door handle.

Fig. 2.1.B.14 Key code access system with an integrated knob-style door handle.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Replace all knob-style handles on the interior doors with lever-style handles if allowed per historic designation guidelines.
- If historic designation guidelines prevent the replacement of knob-style handles on the interior doors with lever-style handles, determine if any areas such as the basement and interior exit stairways are exempt and could receive accessible door handle upgrades.
- Replace the existing key code access system with an integrated knob-style door handle on the door to Room 503 with a new key code access system with an integrated lever-style door handle, to match existing.

Security

There is no reception desk or check-in area in the building. The East Colfax Avenue Entrance on the south side of the building is the means of public access to the building. The north entrance off of the parking lot and the Sherman Street Entrance on the west side of the building both require key-code access to enter the building.

2.1-C GENERAL ACCESSIBILITY ISSUES

The restrooms throughout the building appear to have been retrofitted in an attempt to comply with accessibility standards. It was noted that the generally accessible restrooms throughout provide one ambulatory accessible toilet compartment per restroom. None of the restrooms in the building provide a wheelchair accessible toilet compartment. There were no restrooms observed in the areas visited throughout the Basement Floor.

Non-accessible issues were noted during the site survey visit in a number of the restrooms. The accessible lavatory in the Women's Restroom on the First Floor does not have insulation wrapped around the lavatory pipes (see Fig. 2.1.C.1). The non-accessible lavatory with knob-style faucet controls in the Women's Restroom on the Third Floor has insulation wrapped around the lavatory pipes while the pipes of the accessible lavatory with code-compliant lever-style faucet controls are not insulated (see Fig. 2.1.C.2). According to Section 606.6 of ICC/ANSI A117.1-2003, water supply and drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. The accessible lavatory in the Men's Restroom on the Fourth Floor has knob-style faucet controls which do not comply with code requirements (see Fig. 2.1.C.3). According to Section 309.4 of ICC/ANSI A117.1-2003, operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist and the force required to activate operable parts shall be 5.0 pounds maximum. The accessible urinal alcove in the Men's Restroom on the Fifth Floor is approximately 30 inches in width and the depth of the alcove exceeds 24 inches (see Fig. 2.1.C.4). According to Section 305.7.2 of ICC/ANSI A117.1-2003, where the clear floor space is positioned for a forward approach, the alcove shall be 36 inches minimum in width where the depth exceeds 24 inches.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

Fig. 2.1.C.1 Insulation missing from around the lavatory pipes in the Women's Restroom on the First Floor.

Fig. 2.1.C.2 Insulation is wrapped around the pipes of the non-accessible lavatory with knob-style faucet controls in the Women's Restroom on the Third Floor.

Fig. 2.1.C.3 Non-accessible knob-style faucet controls on the accessible lavatory in the Men's Restroom on the Fourth Floor.

Fig. 2.1.C.4 Fifth Floor urinal alcove is too narrow per accessibility standards.

The drinking fountains throughout the building do not comply with general accessibility requirements (see Fig. 2.1.C.5).

Fig. 2.1.C.5 Typical non-accessible drinking fountain.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.

- Reconfigure restrooms to provide a minimum of one wheelchair accessible toilet compartment per restroom.
- Install insulation around accessible lavatory pipes where not provided.
- Replace any existing knob-style faucets on accessible lavatories with lever-style faucets.
- Reconfigure the accessible urinal alcove in the Men's Restroom on the Fifth Floor to provide the required minimum width for a forward approach, if possible.
- Replace all non-accessible drinking fountains with accessible drinking fountains throughout if allowed per historic designation guidelines.

2.1-D ELEVATORS

The age of the elevator cabs and equipment is unknown. It was reported that rehabilitation of the elevators is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Verify the age and condition of the elevator cabs, electrical, and mechanical equipment to determine if any warranty is still in effect and to develop a timeline for upgrading the system.

2.1-E ENVIRONMENTAL

It is our understanding that there are currently no known environmental issues with the State Office Building. However, based on the construction date of the building, it is possible that surfaces are painted with paint containing lead.

Recommendations:

- Sampling for lead paint must be completed if any painted surfaces will be sanded.

2.1-F PLANNED AND ON-GOING PROJECTS

There are no known planned and on-going architectural projects for the building currently.

2.2 STRUCTURAL

2.2-A EXTERIOR BUILDING ENVELOPE

A crack was observed in the west side retaining wall (Fig. 2.2.A.1). The crack allows water to enter and cause additional deterioration.

Fig. 2.2.A.1

Recommendations:

- Rout and seal the crack in the west retaining wall to prevent water intrusion and further deterioration.

Items noted above do not pose any structural loading issues based on the current use. Repairs are to maintain performance and reduce further deterioration.

2.2-B BUILDING INTERIOR

The overall condition of the structural framing that was readily observable was good. Minor cracking was in the floor and drywall.

A crack was observed on the forth level at the joint between the original construction and addition just outside the elevators (Fig. 2.2.B.1). The

crack is likely due to poor detailing for the connection between the two structures. It is not a structural concern at this time.


Fig. 2.2.B.1

Recommendations:

- Monitor cracks for additional movement on a yearly basis.

Items noted above do not pose any structural loading issues based on the current use. Repairs are to maintain performance and reduce further deterioration.

2.2-C FALL PROTECTION

Parapets were non-existent along the edges of the roof and no anchors were provided for fall protection. Parapets should be at least 42 inches tall or fall protection provided for access near the exposed edges to meet current safety codes.

Recommendations:

- Design and install fall protection systems for safe access near exposed edges.

2.2-D PLANNED AND ON-GOING PROJECTS

N/A

2.3 CIVIL

2.3-A EXTERIOR BUILDING ENVELOPE/SITE

General

The State Office Building is located across from the State Capitol on the northeast corner of East Colfax Avenue and Sherman Street with an address of 201 East Colfax Avenue in Denver, Colorado. The building is bordered by a parking lot to the north, a state office building to the west, the Capitol Building to the south and a retail and restaurant building to the east. The State Office building site is approximately 1.0 acre. The existing site consists of the building, a parking lot, and street right-of-way including sidewalk and landscaping. There is an alleyway located to the east of the building separating the building from the retail and restaurant building. The main building entrance is accessed from Colfax Avenue (Fig. 2.3.A.1). The site surrounding the building is consistent with a building approximately 50+ years old. NOTE: Description of existing infrastructure is based on public utility information provided by the City and County of Denver.

Figure 2.3.A.1 – State Office Building Colfax Avenue Entrance

Grading and Drainage

The site slopes from generally from east to west at grades ranging from 1-10%. The high point of the site is on the east side, in the alleyway behind the northeast corner of the building. The site slopes south towards Colfax Avenue at approximately 1% and west towards Sherman Street at approximately 4%. Existing runoff is conveyed overland away from the building towards the streets. Runoff is collected by street inlets (Fig.

2.3.A.2) and conveyed by storm sewer west within Colfax Avenue. Runoff within the alleyway to the west is collected by area drains.

The Colfax Avenue entrance is accessed via steps on the west or a concrete walkway on the east (Fig. 2.3.A.3). The building is set back from the public sidewalk and treelawn (Fig. 2.3.A.4). Landscaped areas are generally flat containing grass, established trees and bushes. The southwest corner of the building features landscaped areas contained within small concrete walls.

The foundation of the building appears to have experienced settlement overtime. It is doubtful that the foundation has moved in recent time and the adverse effects noted do not appear to be of great concern. Large separation gaps were observed along the exterior perimeter especially on the north and west sides, in locations where sidewalk meets the building (Figs. 2.3.A.5 and 2.3.A.6). These gaps create an opportunity for water to seep into the foundation and should be regularly sealed.

Figure 2.3.A.2 – Street Inlet

Figure 2.3.A.3 – Colfax Avenue Entrance Concrete Walkway

Figure 2.3.A.4 – Public Sidewalk and Treelawn on West side of Building, Looking North

Figure 2.3.A.5 – Separation Gaps

Figure 2.3.A.6 – Gap Size

The site is located in the Denver Storm Drainage Master Plan Basin 4600-01 (Central Business District). This basin consists of 2.67 square miles and conveys the 2, 5, and 100 year storm event via both storm sewer and roadway conveyance. Runoff from the major basin is conveyed westerly to Cherry Creek, ultimately discharging to the South Platte River. Within this basin, storm sewer facilities typically are designed to convey the 5-year rainfall event at a minimum and it is assumed the same for this area of the City.

The effective Flood Insurance Rate Map (FIRM Map Number 0800460201G, effective date November 17, 2005) shows the property lies within Zone X, areas designated as outside of the 500-year floodplain. To our knowledge, there are no known existing flood control problems or drainage issues.

Recommendations:

- Seal all separation gaps in building foundation regularly.

Utility Services

The building utility demands are unknown at this time. There are multiple utility lines located nearby within the public streets. There are two parallel water lines within Colfax Avenue. The north line is a 10" water line and the south line is a 12" water line. The building service line appears to connect to an 8" line within Sherman Street which is connected to the 10" Colfax Avenue line. There is a fire hydrant located in front of the building at the southwest corner. There are no known water pressure problems at this time.

The building is served by a sanitary sewer service line connecting to a 9" sanitary sewer main within the alleyway to the east. Sanitary sewer is routed northerly at a 0.6% slope. The 9" line within the alleyway is tributary to a larger 12" line within 16th Avenue which flows westerly at a slope of 4%. There are no known sanitary sewer capacity problems at this time.

The existing storm sewer within Colfax Avenue is quite small at 12" in diameter. This line collects the site runoff from the inlet located at the southwest corner of the building at the Sherman Street and Colfax Avenue intersection. This storm sewer is part of the West Colfax Avenue line that is planned to be upsized per the City and County of Denver Master Plan dated June 2009. The upsizing will provide 5-year capacity in the storm sewer. The line adjacent to the building is planned to be upsized to 18" but it is

unknown when these improvements will be constructed. There is no storm sewer within Sherman Street.

Existing dry and regulated utilities (electric and telecommunications) are assumed to be located in Colfax Avenue (Fig. 2.3.A.7).

Figure 2.3.A.7 – Dry Utilities

Site Paving

Numerous locations of broken concrete and concrete cracking was observed. Repair or replace broken or cracked concrete.

Figure 2.3.A.8 – Site Concrete Crack

Figure 2.3.A.9 – Broken Curb, Recommended for Replacement

Figure 2.3.A.10 – Broken Site Concrete, Recommended for Replacement

Figure 2.3.A.11 – Broken Concrete Slab, Recommended for Replacement

Recommendations:

- Cracks approximately 1/8" wide or smaller showing no differential movement can be sealed using an approved joint sealant. Cracks should be routed and cleaned per an approved industry method prior to sealing.
- Concrete panels showing numerous excessive cracking and/or differential movement should be replaced.
- Replacement shall be completed in full stone segments, i.e. to the nearest joint location. Repair the subgrade materials and place new curb & gutter or sidewalk. Replace backfill materials and repair/ replace any landscaping/paving disturbed during repair operations.

2.3-B CODE ISSUES

The site exterior was analyzed for general conformance with ADA; however a complete accessibility audit is not included in the scope of services. The site appears to comply with current standards.

Site slopes were analyzed by visual inspection and topography provided by the City and County of Denver for drainage and ingress and egress. The landscaped areas surrounding the building are generally flat. Current geotechnical recommendations and standard practice for slopes away from the building are 10:1 for 10 feet and 2% in hardscape areas. The building does not appear to have these slopes but no severe impacts were noted. If new problems are observed, landscaped areas should be re-graded to provide slope away from the building and area drains should be installed. The roadway curb surrounding the site is generally in poor condition and should be replaced with any building improvements. All improvements within the public right-of-way should comply with and be coordinated with the City and County of Denver.

Recommendations:

- Re-grade landscaped areas for current geotechnical recommendations for slopes away from the building.
- Replace roadway curb surrounding the site.

2.3-C PLANNED AND ON-GOING PROJECTS

There are no known site planned and on-going projects at this time.

2.4 MECHANICAL, ELECTRICAL, AND PLUMBING

2.4-A OVERVIEW OF EXISTING SYSTEMS

ELECTRICAL SYSTEMS

The Capitol Department of Administration building was built in 1920 and a major renovation was completed in 1985. Most of the electrical gear in the main electrical room is from 1985. The 13.2kV feeders come into the medium voltage switchgear and then feed a 1500kVA transformer. The 1500 kVA transformer then feeds a 480/277V switchgear that feeds the rest of the building. The transformer is less than two years old. The main switchgear is rated for 2500amps, 480/277V. Each floor has panelboards in various locations. The exterior generator feeds the emergency loads in the building; including lighting, fire alarm, and other life safety loads.

Recommendations:

- Replace the 480/277V and 208/120V distribution system including incoming feeder that is 30+ years old.
- All panelboards past their useful life should be replaced.

Lighting

Lighting in the Capitol Department of Administration building matches the historic character of the building in the main lobby and the upstairs hallways (see Fig 2.4.A.1 and Fig 2.4.A.2). Most of the bulbs used in the light fixtures are incandescent. Many of the incandescent light bulbs were burned out.

Fig 2.4.A.1 – Historic fixtures

Fig 2.4.A.2 – Historic fixtures

In the office, basement, and other areas the lighting is provided by direct or indirect florescent T8 light fixtures (see Fig 2.4.A.1.3 and Fig 2.4.A.1.4). Most of these light fixtures are in good shape; however, in the basement stairwells some of the lenses are cracked.

Fig 2.4.A.3 – Indirect office lighting

Fig 2.4.A.4 – Indirect lighting

The exit signs appear to be 15+ years old and dim (see Fig 2.4.A.5). Emergency lighting is provided by a combination of frog eyes, generator, and battery ballast in the fixtures. Some of the frog eyes vary significantly in age.

Fig 2.4.A.5 – Frog eye

Exterior lighting is provided by metal halide light fixtures (see Fig 2.4.A.6). They appear to be 15+ years old and need to be replaced.

Fig 2.4.A.6 – Exterior fixture

Recommendations:

- The historic light fixtures could have new LED retro fit light bulbs installed. This would cut down on maintenance and energy. It is important to note that the LED bulbs need to be of the highest quality to ensure the color temperature will match the incandescent.

- All the exit signs need to be replaced. Any emergency light fixtures that are past their useful life need to be replaced. Most of the florescent lighting is newer; however, occupancy sensors and daylight sensing could make this lighting more efficient.
- The non-historic exterior light fixtures could be replaced with new LED light fixtures.

Fire Alarm

Most of the fire alarm system appears to be from 1985 and has full detection in the building with elevator recall (see Fig 2.4.A.7 and Fig 2.4.A.8). There is a new fire alarm system for the server room on the 5th floor. The new fire alarm system appears to be up to code.

Fig 2.4.A.7 – Fire alarm control panel

Fig 2.4.A.8 – Old duct smoke detector

Recommendations:

- The fire alarm system needs to be upgraded.

General Power

Receptacles appear to be in good shape and have historical cover plates in the office and lobby areas.

Emergency Power

The emergency generator is located in the back of the building (see Fig 2.4.A.12). Its condition is unknown; however, it appears to be over 15 years old. It is serving the main electrical room in the basement of the building via a 150A Automatic Transfer Switch (ATS). The equipment in this electrical room appears to be less than five years old. The emergency generator appears to provide power to the fire smoke dampers, fire alarm system, fire pump, emergency lighting, and other life safety equipment.

Fig 2.4.A.9 - Generator

MECHANICAL SYSTEMS

Major renovations to the building systems were completed in 1985. The HVAC system consists of one 350 ton chiller (see Fig 2.4.A.11). The building also has chilled water supply from the central chiller plant located in the other building. The chiller is not able to meet the building load and hence it is mostly used in the swing seasons. During the summer peak, chilled water from the central plant is used to condition the building. The cooling tower

for the chiller is located in another building. The heating hot water to the building is supplied from the boiler plant located in the other building. The building chilled water distribution pumps have been abandoned in place. The original steam to hot water heat exchangers have been abandoned in place, but are in working condition. The hot water pumps are used to distribute hot water within the building.

The air distribution system in the building consists of one “Semco” make Air Handling Unit (AHU) located in the basement. The AHU has hot water heating and chilled water cooling coils. The unit appears to be in good working condition. An outside air fan is located in the attic which supplies outside air to the main AHU. The lobby area is served by another AHU located in the basement. The air distribution in the spaces is via fan powered boxes. Floors one through five have perimeter ceiling heating panels which are interlocked with VAV boxes. There is a two story atrium in the building which is served by the main AHU. Two rooms on the fourth floor connecting the atrium have recently been renovated and are served by dedicated DX Units. The server room on the fifth floor is served by dedicated DX CRAC unit with free cooling option. The elevator machine rooms are served by dedicated DX units.

The building has a 6” main fire entry and fire pump located in the basement. Domestic cold water is supplied from another building. Domestic hot water is generated from steam to hot water heat exchanger. The sprinkler piping is original to the building and considering the age of the pipe it must corroded from inside.

The controls in the building are “Siemens” pneumatic controls. Some of the thermostat for the terminal units are located within the cubicle cabinet (see Fig 2.4.A.13). Most of the building’s motors have VFD’s, which help with energy efficiency.

Fig 2.4.A.10 - Thermostat within cubicle cabinet

Fig 2.4.A.11 - Building Chiller

Recommendations:

- Replace pneumatic controls with Direct Digital Controls. This will improve the operation of the units and improve occupant comfort.
- Verify location of terminal unit thermostats in the building and relocate those that are behind the cubicle partition walls and within the cubicle cabinet. Presently these thermostats are not sensing the space temperature and hence the condition in the space is not satisfied.
- Remove existing chiller and use only central chilled water. Increase delta T on the AHU coils to get maximum cooling. This will also improve the efficiency of the central chiller plant.
- Provide new sprinkler piping.

2.4-B CODE ISSUES

ELECTRICAL CODE ISSUES

There is not enough clearance to access the elevator motor for the freight elevator (see Fig 2.4.B.1). The NEC states that “motors shall be located so that adequate ventilation is provided and so that maintenance can be readily accomplished.”

Fig 2.4.B.1 - 3' x 3' opening for elevator motor

As piping has been installed throughout the years, the penetrations through the walls have not been properly sealed (see Fig 2.4.B.2). This violates the fire code because in the instance of a fire, the penetrations will allow it to travel through the building.

Fig 2.4.B.2 – Penetrations not sealed

Recommendations:

- Provide the proper access for the freight elevator motor. The room will need to be adjusted and some of the structure may need to be relocated or supported to provide a full size opening. Also, the elevator cab for the freight and the two passenger elevators are due for an upgrade.
- All penetrations due to piping installation need to be properly sealed.

MECHANICAL CODE ISSUES

It is our understanding that all fire/smoke protection systems have been inspected by Denver fire department and building fire protection system is acceptable to AHJ.

Verify air flow distribution in the building and ensure code required minimum airflow is provided in each space.

There is no dedicated ac unit for the elevator machine rooms. It was observed that one elevator machine room located in the atrium had openings in the wall for room cooling. Also, there are other openings on the walls.

Fig 2.4.B.3 - Elevator machine room wall

All mechanical equipment on the roof must be properly connected to the roof structure for wind loads. Currently, the equipment on the roof is not properly connected to the structure, presenting a hazard. During a high wind event, the equipment could fly off the roof and cause damage to people and property.

Fig 2.4.B.4 – Unit not bolted to structure

Fig 2.4.B.5 - Condenser unit on the roof not bolted

Recommendations:

- Seal all openings around pipes and duct work in the fire walls.
- Verify air distribution in the spaces and ensure adequate outside air is provided to all spaces as required by code.
- Verify CRAC unit condensing unit installation on the roof. Ensure that installation meets Denver wind load requirements.
- All mechanical equipment on the roof must be properly connected to the roof structure for wind loads.

2.4-C PLANNED AND ON-GOING PROJECTS

It was reported the chiller and the fire sprinkler piping have been identified as requiring replacement. No date has been established for this work at present.

2.5 VOICE AND DATA

2.5-A OVERVIEW OF EXISTING SYSTEMS

Findings

Note SMW was not scoped for this task, for this building or the remaining building assessments. SMW provided voice/data survey and assessment scope for the Capitol Annex Building (1375 Sherman Street) and the Centennial Building (1313 Sherman Street) only.

Recommendations:

The recommendations and guidelines within this section shall establish the Basis of Design for the IT Infrastructure portion of the renovation of the State Office building.

The building should be provisioned with the following pathways, spaces and cable media.

Telecommunications Rooms (i.e. Spaces)

1. Main Equipment Room (MDF) / Entrance Facility Room (EF)

- One consolidated Main Equipment Room (MDF) / Entrance Facility Room (EF) shall be installed within the building.
- This main MDF room will include both the Building Entrance Facility for supporting outside plant cabling and raceways and will be the main equipment room for installation of the low voltage and communications systems' (also referred to as the Technology systems) head end equipment.
- The MDF room shall be a minimum of 12' x 16' in size, capable of supporting the installation of one row of racks, with approximately six (6) equipment racks / cabinets.
- The MDF room shall be installed on the first floor of the building. Avoid the basement due to potential flooding.

2. Telecommunications Rooms (IDFs)

- A minimum of one (1) telecommunications room (i.e. IDF rooms) will need to be installed on each floor and should be vertically stacked, floor-to-floor. Buildings with larger floor plates may require a 2nd IDF room on each floor, vertically stacked as a 2nd riser within the building.
- The IDF rooms shall be a minimum of 10' x 12' in size, capable of supporting the installation of one row of four (4) equipment racks.

3. Telecommunications Room Locations

- The TIA Standards requires one IDF room per floor and it shall be located as close as possible to the center of the area being served, preferably in the core area.
- Additional IDF rooms are required per floor when the floor area served exceeds 10,000 square feet or the horizontal distribution distance to the field device or telecom outlet exceeds 295 feet (or 90 meters).
- Telecommunications rooms should not share a common wall with an electrical room due to potential electromagnetic interference (EMI) issues. If it is imperative due to constraints to place both of these rooms adjacent, then a double wall with a 1 foot internal separation should be considered or the layout of the electrical room should preclude mounting of equipment on the common wall.

Telecommunications Pathways (i.e. Conduit/Raceways)

1. Backbone Pathways

- Telecommunications pathways will need to be installed from the MDF room to each IDF room within the building.
- Provide a minimum of three (3) 4 inch conduits from the MDF room to each IDF riser within the building.
- Provide a minimum of three (3) 4 inch conduit sleeves vertically between stacked IDF rooms.
- Provide a telecommunications pathway up to the roof of the building to support future satellite antennas.

2. Horizontal Pathways

- Telecommunications pathways will need to be installed from telecom outlets and IP field devices to the IDF room serving the floor.
- Provide cable tray on each floor within the accessible ceiling spaces of the main corridors as the primary pathways from IDF rooms to telecommunications outlets and field devices.
- Cable tray shall be ladder type aluminum tray with a 9" rung spacing and a width of 18 inches in main corridors and 12 inches in secondary cable tray segments. Cable trays shall be 4 inches in depth.
- For facilities designated as historic buildings, alternate cable routing may require the use of surface mounted conduit and wireways, to comply with historic preservation codes. In these cases, the cable installation design must be coordinated with the State prior to construction.
- At the telecom outlet locations, provide 4" square back boxes that are 2-1/8" deep with a 1" conduit installed within the wall to the nearest accessible ceiling space, for routing cabling to cable tray.
- If outlets need to be surface mounted then provide 1" surface mounted raceway from the back box to the main telecom distribution pathways.

Telecommunications Cabling

1. Telecommunications Backbone Cables

- Furnish and install a 24-strand singlemode fiber cable and a 24-strand multimode fiber cable from the MDF room to each IDF room in the building. The multimode fiber cable will be OM4 50 micron laser optimized optical fiber.
- Install fiber optic cable in a 1-1/4" innerduct end to end.
- Furnish and install a 50-pair or 100-pair copper backbone cable from the MDF room to each IDF room in the building.

2. Telecommunications Horizontal Cabling

- Furnish and install a Category 6 unshielded, twisted pair (UTP) horizontal cable from telecom outlets and IP field devices to termination hardware in the IDF rooms.

3. Cabling within Single Occupancy Offices

- Provide a minimum of two telecommunications outlets, located on opposite walls, each with two data jacks. Install two Category 6 horizontal cables to each outlet from the IDF room serving the area.

4. Wireless Access Points (WAPs)

- For ceiling mounted WAPs, install two Category 6 horizontal cables to each WAP from the IDF room serving the area.
- Provide WAPs at 200 foot centers on each floor, mounted in accessible ceilings.

2.5-B CODE ISSUES

Findings

It is our understanding there are currently no code issues in the building related to the existing voice/data IT/Telecommunications Infrastructure.

Recommendations:

For new renovation work, codes which would be applicable would include but may not be limited to:

- International Code Council (ICC)
- National Electrical Code (NEC)
- Telecommunications Industry Association (TIA)
- Electronic Industries Alliance (EIA)
- Institute of Electrical and Electronics Engineers (IEEE)
- American National Standards Institute (ANSI)
- Underwriters Laboratories (UL)
- State/Local Governing Authorities Having Jurisdiction

2.5-C PLANNED AND ON-GOING PROJECTS

It is our understanding there are no known planned and/or on-going IT/ Telecommunications Infrastructure projects for the State Office building currently.

2.6 SECURITY SYSTEMS

2.6-A OVERVIEW OF EXISTING SYSTEMS

Findings

Note: SMW not scoped for this task, did not provide survey work for Security.

It was reported that Hirsch access control card readers need to be upgraded.

For general security findings, see 2.1-B Code Issues: Security.

Recommendations:

The security systems design guidelines outline electronic security systems infrastructure which would enhance security operations and provide a safe and secure environment for persons and assets within the State Office building. The purpose of this recommendations report is to provide a description of electronic security system parameters which would provide a safe and secure environment for all those persons and assets within the facilities. It is intended to provide valuable information to both technical and non-technical readers for ongoing coordination with security program requirements.

The security systems should be planned and designed to allow the security personnel the operational flexibility to provide various levels of security based on the threat level at a given time. The systems must further provide capability to deliver the highest quality technology today and in the future for system expansion and change. Security system design shall employ various security technologies. Integrated security systems must be capable to function independently if required, as well as be monitored and controlled from CSP Central Command Center.

Recommended electronic security systems to be considered for implementation and/or upgrade include access control, intrusion detection, duress alarm, intercom, video surveillance, and emergency call system. These applications make it possible for security personnel to view activity both inside and outside the facilities from a central monitoring location or a network-connected security workstation at another location, so they can provide an appropriate response. Care shall be taken to ensure that

interior and exterior common circulation areas accessible to both staff and public will be properly monitored. Electronic security control and monitoring applications shall be implemented as appropriate to provide a safe and secure environment to the facility as a whole. This report is not designed as a specification, but rather as an outline to provide information on recommended security systems technology and design criteria.

The following security design methodologies, criteria and guidelines should be considered and used in development of the security program and physical/electronic security design for the building:

- Industry Standard / Best Practice Design
- Crime Prevention through Environmental Design (CPTED)
- Layered Security / Concentric Circles of Protection
- Integrated Design – Physical/Electronic/Operational
- ASIS Facilities Physical Security Measures
- IESNA G-1-03 Guideline for Security Lighting
- Unified Facilities Criteria UFC 4-010-01
- State of Colorado Design Standards, as applicable

The access control system (ACS) will be an expansion of the existing campus wide system currently installed throughout other State buildings, and utilize similar ACS door controllers and peripheral equipment. New proximity type card readers shall operate with the existing proximity card credentials. Door devices are to wire through a consolidation junction box above door, and be routed to nearest IDF room where door controllers and power supplies are located. ACS door controllers installed in telecommunications IDF rooms will connect to the buildings LAN for communication with the ACS server. New security equipment to be located within IDF rooms must be coordinated with State IT technical staff. Each access controlled door should be equipped with card reader, electrified lock, door position switch, and request to-exit-motion device (or hardware integral request-to-exit switch). All doors described as a card reader controlled access door will be outfitted with the standard equipment listed, unless specifically defined elsewhere to vary from this configuration. It is recommended that for new controlled doors, magnetic locks and electronic strikes not be used. Electrified lever sets and panic hardware should be equipped with request-to-exit switch in exit hardware. Specific

door hardware requirements for each controlled door location are to be coordinated with the State. The ACS shall also serve as the primary security management system for monitoring intrusion alarms. Intrusion alarms such as door status and motion detection alarms are to be integrated with and monitored through the access control security management system. Alarm device additions and modifications shall be coordinated with State during the design phase. Security personnel shall be able to monitor security system alarm notification devices through network connected client workstations, where authorized.

The video surveillance system (VSS) will implement IP digital HD type cameras integrated with the existing VSS. Where analog head-end equipment is located, IP camera digital signals are to be decoded to analog video signal. This will allow for future migration from any older analog equipment to an IP based network video solution. IP security video shall be managed by the existing server/recorders, and new network video recorders are to be installed where required to support the addition of new cameras. It is recommended for renovation work that older technology analog camera be replaced with IP digital security camera, connected to the VSS via building LAN. Security cameras may be made up of both fixed field of view and pan-tilt-zoom (PTZ) type, and should be IP, minimum HD quality, and be Power-over-Ethernet (PoE) devices. Camera network cabling shall pull to nearest IDF room, providing connectivity to the building LAN. IP camera network cabling shall terminate to building PoE network switches. Security personnel shall be able to monitor the security video surveillance system through network connected client workstations, where authorized.

The State's existing wireless duress alarm system infrastructure should be expanded where needed to support new locations of wireless duress buttons. CSP Central Command Center monitors a wide network of wireless duress buttons at multiple, local State facilities in Denver. This is accomplished using wireless mesh coverage by use of repeaters located on the State facilities. Fixed point wireless duress buttons may be located at designated points within the building, for staff use in emergency situations. The duress system will utilize wireless duress buttons, which transmit RF signals to an infrastructure of wireless RF receivers and repeaters. System repeaters will be provided where necessary to boost the strength of the wireless signals. Duress alarms in the building are to incorporate this technology, and duress alarms within the complex will be monitored by the existing CSP head-end system.

An Intercom Communication System (ICS) should be implemented to enhance security operations in the facility, for security personnel, staff

and visitors. It is strongly recommended that an Intercom over IP (IoIP) Communications solution be used for this application. And IoIP system would provide superior audio quality utilizing the latest digital technology, and provide much greater flexibility for locating both master and sub-stations anywhere on the local area network via IP communications. Security personnel in CSP CCC would be provided with two-way audio communications to any remote building IP intercom sub-station.

Within the building, new head-end security control equipment is to be located in IDF or technology rooms, as coordinated with State IT technical staff. Equipment may include ACS control panels, power supplies, duress alarm panels, network video recorders, and UPS units. All critical electronic security equipment must be backed-up with emergency power circuits or UPS units. State security personnel and other authorized staff may remotely monitor access control events, system alarms, and security video through network connected client workstations. For building renovation work, requirements for security device additions/upgrades and specific security system functionality are to be coordinated with State security personnel during design and construction phases.

The security systems described above are generally controlled and monitored centrally, primarily from Colorado State Patrol's Central Command Center (CCC), located in Denver CO. The above listed security applications must be evaluated during renovation project schematic design phases to confirm applicability to the most current State electronic security systems standards. For any renovation work, security contractors should be pre-qualified prior to bidding, and will be required to work very closely with State security personnel during installation, commissioning and testing phases. All security installation work, construction standards, and operation requirements are to be closely coordinated with the State by the electronic security integrator.

Electronic security systems provided for the State Office building shall be an extension of existing State facility security system infrastructure, as described earlier in the report. It is generally recommended that the building be provided with electronic security applications and equipment as listed below:

Access controlled doors:

- Main entry
- Suite entries on each floor
- IDF rooms, recommended
- Sensitive spaces

Intrusion alarms:

- Access controlled doors
- Emergency egress only doors
- Perimeter doors

Intercom stations:

- Main entry, recommended
- Receiving dock door, recommended

Wireless duress alarms:

- Public interface counters
- Cash handling locations
- Loading docks

Video surveillance cameras:

- Perimeter entry/exit doors
- Entry lobby/reception
- Elevator lobbies
- Emergency exit doors
- Loading docks
- Building exteriors

Security system cabling should generally share cable routes with that of the building structured network cabling system. The network cabling paths and riser locations generally provides the most direct route through a facility, and typically contain sufficient space for security cabling requirements. For facilities designated as historic buildings, alternate cable routing may require the use of surface mounted conduit and wireways, to comply with historic preservation codes. In these cases, the cable installation design must be coordinated with the State prior to construction. Data cabling

required for IP security cameras should be provided and installed by the Telecommunications Contractor. This is the recommended design and construction method for provisioning of the IP camera network cabling to support the VSS cabling infrastructure. State IT construction standards for network and security cabling types and jacket color must be adhered to. Security cabling should never be exposed and should be contained in protective conduit wherever cable is accessible to vandalism, accidental damage, or where it traverses any unsecured space. Security cabling shall be plenum rated where required by codes.

The security conduit pathway system should be coordinated with the electrical distribution system in order to maintain separation from motors or transformers, separation between parallel runs of telecommunications and electrical cabling, and separation from fluorescent lights.

Basic Security Conduit requirements:

- All security cabling located in in-accessible spaces shall be installed in conduit.
- All exposed security system cabling and shall be installed in conduit.
- All security system conduits shall be minimum ¾" unless otherwise required.
- All penetrations of rated walls shall be fire-stopped in an approved manner to prevent the passage of flame, smoke, and gas.

Head-end security control equipment shall generally be located in Intermediate Distribution Frame (IDF) rooms, or other technology rooms. Security equipment locations within IDF rooms must be coordinated with State IT technical staff during design phase. This equipment may include access control panels, wireless duress equipment, power supplies, network video recorders, and UPS units. Specific requirements and locations within the rooms will be determined during the design phase. Security cabling within IDF rooms shall be piped to wire gutters and or security equipment panels. Within IDF rooms, it is anticipated a 4'x8' section of wall space shall be reserved for security equipment, and supplied with fire treated plywood backboard. All security equipment in the room should be located away from potential sources of electro-mechanical interference (EMI) and water infiltration. Rack mounted security equipment may share space in telecommunication equipment racks, where appropriate, and as coordinated State IT personnel. One dedicated 120VAC 20A power circuit shall generally be required at each security wall board location and at each

security equipment rack. In the event of loss of building power, all mission critical electronic security equipment requiring continuous 120VAC power shall be provided with back-up UPS units. All UPS units shall be stand-alone units dedicated for security, and shall be sized accordingly based on required run time.

2.6-B CODE ISSUES

Findings

It is our understanding there are currently no code issues in the building related to existing electronic security systems.

Recommendations:

For new renovation work, codes which would be applicable would include but may not be limited to:

- International Code Council (ICC)
- Americans with Disabilities Act (ADA)
- National Fire Alarm and Signaling Code (NFPA 72)
- National Fire Protection Association Life Safety Code (NFPA 101)
- National Electrical Code (NEC)
- Telecommunications Industry Association (TIA)
- Electronic Industries Alliance (EIA)
- American National Standards Institute (ANSI)
- Underwriters Laboratories (UL)
- City of Denver Access Control Code
- State/Local Governing Authorities Having Jurisdiction

2.6-C PLANNED AND ON-GOING PROJECTS

It is our understanding there are no known planned and/or on-going Security System projects for the State Office building currently.

3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS AND RECOMENDATIONS

3.0-A HISTORIC OVERVIEW

Introduction

The State Capitol Complex State Office Building, located at 201 East Colfax, is listed as a contributing resource in the Civic Center National Historic Landmark District (#5DV161, NHL 10/17/2012). The building was constructed in 1919 and renovated in 1985. Due to the historic value and importance of this resource, the following narrative provides a process for maintaining the historic character of the building, while allowing for an upgrade to the building as a whole and a framework for how to utilize valuable space within the building.

This narrative is broken into two basic sections:

- Character defining elements – those aspects of the building that make up the overall historic "impression" of the building.
- Treatment Zones – areas of the building that should be rehabilitated to their historic appearances.

The purpose of the narrative is to provide a guide for how to approach the redevelopment of the building at a master planning level.

Character Defining Elements

The character defining elements on the exterior of the State Office Building are height, size, materials, fenestration pattern and massing. These elements all contribute to the overall impression of the building. Materials play an important role in defining the character of the building and the important material on the exterior is the Colorado Cotopaxi granite used to create massing that complements the classical detailing on the State Capitol across the street. The bronze and glass doors at the entrances are also character defining elements of the building. The original windows contribute significantly to the overall composition of the elevations. The granite at the base of the building and around the entries also contributes to the character of the building.

Interior spaces that are important to the character of the building are the entry lobbies and vestibules, the original corridors on the first through fifth floors and the central atrium (now enclosed) on the fourth and fifth floors. Original materials that remain and are important to the character of the interior of the building include the Colorado and Tennessee marble flooring, base and wainscot in the corridors, marble wall panels in the main lobby, plaster ceilings with detailing and the original light fixtures in the lobbies. The original window frames, sills and trim also contribute to the historic character of the building.

Treatment Zone 1 – Exterior Facade

Description:

The five-story State Office Building faces south onto Colfax Avenue with a secondary entrance opening west onto Sherman Street. At Colfax Avenue, the structure is set back from the public sidewalk and has grass and shrubbery growing adjacent to the building. The main entrance has a plaza defined by a metal baluster that runs parallel to Colfax and is bounded on the east and west by stone cheek walls that extend out from the building with bronze mountain lion sculptures on top of them. Where the sidewalk slopes down toward the west side of the site, a low concrete retaining walls allows the grass area to remain level along the south elevation. This low wall wraps around the southwest corner of the site. A series of concrete steps, flanked by concrete planters, leads up the west entry door. Decorative copper light fixtures capped by white glass globes are mounted on the stone adjacent to the top landing at the west entry.

The symmetrically designed, concrete frame, State Office Building is characterized by rustication at the first floor, above which the building has smooth finished granite cladding capped by a heavy cornice above the fourth floor and a secondary smaller cornice above the fifth floor.

The south, main, elevation has smooth granite cladding up to the water table at the first floor window sills. Above the water table, the first floor is clad with rusticated granite up to a belt course at the second floor level. Above this belt course, the building is clad with smooth finished granite up to the heavy fourth floor cornice. The cornice at the fourth floor has modillions, dentils and an ornamental frieze below it. Geometric and floral designs run across

the frieze, except at the center of the elevation where the words “State Office Building” are inscribed in it. The fifth floor has smooth granite cladding capped by a smaller cornice with floral decorations on the frieze. Bronze full lite doors with granite pediments over them provide entrance to the building. Historic wall mounted copper light fixtures with white glazing are located between these doors. The center seven bays of the south elevation are characterized by stone pilasters that span from the belt course up to the fourth floor entablature. Metal windows separated by metal spandrel panels are located between the pilasters. The second story windows at the end bays have stone architraves with pediments above them.

The west elevation has the same rhythm as the south – smooth granite cladding everywhere except at the first floor where it is rusticated, alternating pilasters and bands of windows at the second through fourth floors in the seven central bays, a heavy cornice at the fourth floor and a smaller cornice at the fifth floor. The second story windows in the end bays have stone architraves with pediments above them. A bronze door capped by a stone entablature is located in the center bay.

The north elevation is a secondary elevation and has similar detailing as the south and west elevations. The outer two bays on the east and west ends of the elevation have smooth granite cladding up to the water table where it transitions to rusticated granite which continues to the belt course. Above the belt course, these bays have smooth granite cladding broken only by the heavy fourth floor cornice and capped by the fifth floor cornice. The seven central bays on this elevation are stepped back from the end bays and do not have a water table or rustication, just smooth granite cladding from grade up to the belt course. Above the belt course these bays have smooth granite cladding with window openings punched in it. There is no detailing around the modern door on this facade, the only variation is a modern wallpack light fixture mounted above the door.

The east elevation has the same rhythm as the south elevation, with a change in rhythm at the middle three bays from the second floor to the roof. This break occurs where a light court originally existed in the building but was infilled in 1985 (with the exception of a small atrium that remains at the fourth and fifth floors) and is used as tenant space. The infilled area on the east elevation has tan brick cladding with windows punched in it in, whose spacing and size match the alignment of the original windows. The remainder of the elevation has smooth granite cladding up to the water table where it transitions to rusticated granite up to the belt course and then it

transitions back to smooth granite cladding broken only by the fourth floor cornice and capped by the fifth floor cornice.

The building has the original metal windows. The majority of the windows are rectangular with rectangular transoms above them, except at the windows at the end bays of the south and west elevations which have arched transoms.

The building is capped by a red clay tile roof set back from the top of the wall creating an integral gutter.

The building retains the original form, massing and detailing of the 1919 design with very little change to the exterior façade with the exception of the infilled light court although that change is not readily visible due to the proximity of the neighboring building. The stone veneer, although dirty, is in excellent condition with very little damage to the stone itself.

Recommendations:

- The exterior facade remains in its original historic condition, has been relatively well-maintained over the years and is the most publicly viewed and recognizable portion of the building. The facade consists of historic fabric and the exterior character of the building has been maintained. Therefore, the exterior should be restored.
- In general the exterior facade is in good condition though dirt has accumulated on all of the elevations. The building should be cleaned with a cleaner that is appropriate for granite, marble and brick. Some of the mortar is failing or has been improperly pointed in places and should be repointed with an appropriate mortar that matches the composition of the original. Stone that is eroded or spalling should be repaired or patched.
- All of the windows are in good condition. If storm windows are desired, removable storm windows should be installed on the interior of the openings with gaskets throughout and attached to the walls, not the windows frame.
- The doors are in good condition. The existing weather stripping is worn or missing and should be replaced in kind.
- All work should be done in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and NPS Preservation Briefs.

Zone 1 Exterior Facade: South and east elevations

Zone 1 Exterior Facade: South entry

Zone 1 Exterior Facade: Cat at the east end of the south entry patio

Zone 1 Exterior Facade:
West elevation

Zone 1 Exterior Facade:
West entry

Zone 1 Exterior Facade:
Typical first floor window
on the south facade

Treatment Zone 2 – Interior Hallways and Circulation

Description:

Original vestibules at the south and west entrances lead to a large two story lobby with decorative finishes. The original building corridors on floors one through five retain many of the historic finishes.

The south vestibule walls have a tan marble tile wall finish that is capped with a marble cornice. Black and white square marble tile flooring is bordered by bands of black and white marble. The vestibule has an arched, stepped plaster ceiling with decorative borders and a border of recessed panels at the ceiling edges. The center panels and the outer panel have plaster floral motif borders. Original ceiling mounted, bronze light fixtures with translucent glazing illuminate the room. A display niche, located on the north wall, currently contains information about the history and design of the building. The niche is two sided and has additional building information on the lobby side as well. Original full light bronze doors provide entrance into the vestibules from the exterior and adjacent interior spaces. The wood doors into the office spaces have textured glazing while the remaining doors have clear glazing. Doors on the east and west walls have marble architraves. A corridor separates the vestibule from the main lobby. The south wall of this corridor is clad with marble tiles capped by a marble cornice. The opposite side of the niche occupies the center of this wall. A historic bronze mail collection box is mounted to the south wall. The north wall of the corridor is a series of marble clad columns and arched openings into the lobby. Black and white marble tile flooring with a black and white marble border runs the length of the corridor. Historic brass pendant light fixtures are hung from the center of the panels on the plaster ceiling.

The west vestibule has the same flooring as the south - black and white marble tiles with a black and white marble border. The walls have a tan marble wall base and a white marble tile wall finish that extends up to the cornice. A painted plaster decorative border runs around the edges of the room and connects from the corners to the medallion in the center of the plaster ceiling. A decorative brass pendant light fixture is located in the center of the room. Bronze doors lead from the exterior into the vestibule and from the vestibule into a corridor leading to the main lobby. The corridor has white and black marble tile flooring with a black and white marble border, tan marble base and white marble tile wall finish with a decorative plaster cornice. Doors to offices off the corridor have marble architraves with marble consoles. The corridor has an arched, stepped plaster ceiling with a brass pendant fixture in the center of the space. An arched opening, clad with marble at the east end of the corridor leads to

the elevator lobby. The elevator lobby has a tan marble tile wall finish and arched openings on the east and west walls. The elevator doors have marble architraves and bronze doors. Black and white marble tile flooring continues from the corridor into this lobby. The ceiling is an arched plaster ceiling with a painted decorative floral plaster border that connects to a decorative rectangular panel in the center of the ceiling from which a brass pendent light fixture hangs.

The main lobby is two stories high with arched openings spaced along it at the first and second floors. Columns or pilasters are located on either side of the arched openings. At the second floor, decorative brass guardrails infill the lower portion of the arched openings overlooking the lobby. A door on the east wall has a marble architrave and pediment. The lobby has black and white marble tile flooring with a black and white marble border. Tan marble tiles cover the walls from the marble base up to the marble cornice at the second floor. Plaques listing key players in the design and construction of the building are mounted on the east and west walls in decorative marble surrounds. An arched plaster ceiling springs from the marble cornice. Decorative plaster bands, with a series of medallions, extend across the ceiling connecting the pilasters on the east and west sides of the room. A rectangular stained glass skylight (which has been covered over on the floor above) with a floral motif is located in the center of the ceiling. Two historic pendant hung decorative light fixtures with green glass hang from medallions on either side of the stained glass skylight. Historic wall mounted bronze sconces are mounted on the pilasters at the first floor.

The north public corridor on the first floor has the same finishes at the lobby – marble tile wall finish extending up from a marble base, black and white marble tile flooring and a plaster ceiling. Historic bronze pendant hung fixtures illuminate the corridor. Marble architraves surround the door openings into the offices.

An open stair with marble risers and treads and decorative brass railings leads from the main lobby up to the second floor corridor. The lower treads on the stair are curved while the upper treads are rectangular. A second open stair with a decorative railing in a similar pattern to the lower stair leads from the fourth floor corridor to the fifth. This stair has terrazzo treads and painted metal risers, stringers and railing.

The second through fourth floor corridors have grey marble tile flooring and a grey marble base and wainscot. Above the wainscot, the walls

are painted plaster. The ceilings are also painted plaster and some have dropped beams running perpendicular to the corridor. Ceiling mounted light fixtures with white glass globes illuminate the space. Half lite, paneled doors with sidelites and transoms are spaced along the corridors. The doors and trim are all painted metal. Interior windows are located along the corridors in some locations. The elevator doors are brass at the second floor and have marble surrounds. Elevator doors on floors three through five are painted and have painted metal surrounds. A mail drop slot runs along the south wall of the south corridor on all the floors.

Recommendations:

- These spaces have been restored to their original layout and the historic materials are generally intact and in good condition. There are a few areas of minor damaged to the marble which should be epoxy repaired. Historic materials should be retained. Paint sampling should be initiated in order to establish what original colors were used in these areas. From this sampling, an appropriate color scheme can be developed and should be implemented throughout.
- Future work should respect the historic character of the space. All work should be done in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and NPS Preservation Briefs.

Zone 2 Interior Corridors & Circulation: South entry vestibule

Zone 2 Interior Corridors & Circulation: Corridor connecting the west vestibule to the lobby

Zone 2 Interior Corridors & Circulation: Main lobby

Zone 2 Interior Corridors & Circulation: Open stair leading from the lobby to the second floor

Zone 2 Interior Corridors & Circulation: Open stair leading from the fourth floor to the fifth

Zone 2 Interior Corridors & Circulation: Second floor corridor overlooking the lobby

Zone 2 Interior Corridors & Circulation: Fourth floor corridor

Treatment Zone 3 – Central Atrium

Description:

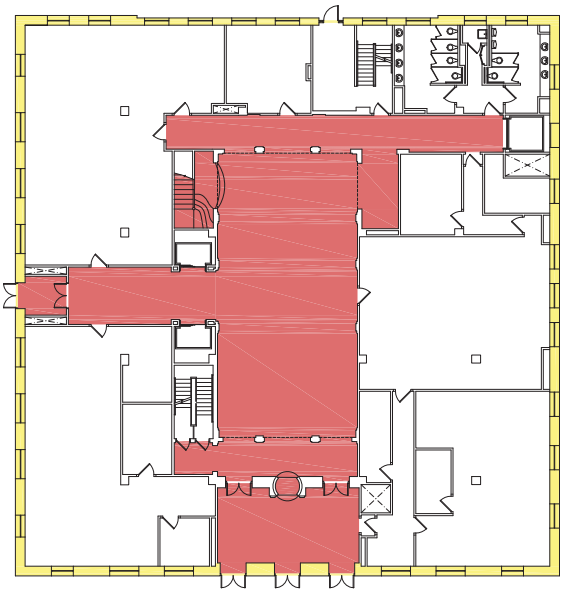
A two story central atrium is located on the fourth floor. Originally, this atrium was part of a large open light court that extended from the second through the fifth floor, all of which was infilled in 1985. The only part of the light court that was retained is this atrium which is enclosed with a pyramidal glass skylight. The atrium has tan brick walls with stone window sills and a stone cornice on the historic north and south walls. The windows are painted the same colors as the doors and trim throughout the interior of the building. The entry into the atrium from the fourth floor corridor has glass block sidelites and transom and painted metal doors with two glazed lites. It has a marble wainscot and the pediment above the doors and a gable roof. Doors into spaces located off the atrium are painted metal doors with transoms. Mosaic tile flooring was installed throughout the atrium. An art installion called "Sky Script" by George Allen Peters was installed below the skylight in 1987. Modern brass uplight sconces are mounted on the brick walls.

Recommendations:

- The majority of the finishes in the atrium are in good condition. Future work should, at minimum, retain the double height massing of the atrium and could possibly enlarge the atrium back toward the original light court size. The skylight does not significantly detract from the character of the space and allows the atrium to be used year round. However, some of the modifications in this room have been done in a manner that compromises the historic integrity of the space. The most notable of these alterations are the entry from the corridor, with its use of glass block, and the mosaic tile flooring. Any future work in the space should limit or even reverse the amount of alteration to the original character of the space.
- All work should be done in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and NPS Preservation Briefs.

Zone 3 Central Atrium: Historic brick wall (right) and modern infill wall (left) in the atrium

Zone 3 Central Atrium: Entrance into the atrium from the fourth floor corridor



N

1 FIRST FLOOR ZONING PLAN
1/32" = 1'-0"

LEGEND

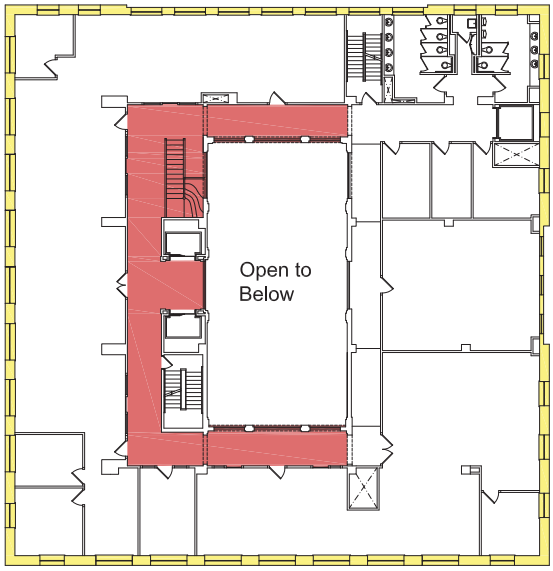
- Exterior Facade
- Interior Corridors & Circulation
- Central Atrium

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
Scale	1/32" = 1'-0"

Capitol Complex Master Plan
State Office Building
1341 Sherman Street, Denver, CO 80203

Anderson Hallas Architects, PC

Sheet No.
A1.1



N

1 SECOND FLOOR ZONING PLAN
1/32" = 1'-0"

LEGEND

- Exterior Facade
- Interior Corridors & Circulation
- Central Atrium

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
Scale	1/32" = 1'-0"

Capitol Complex Master Plan
State Office Building
1341 Sherman Street, Denver, CO 80203

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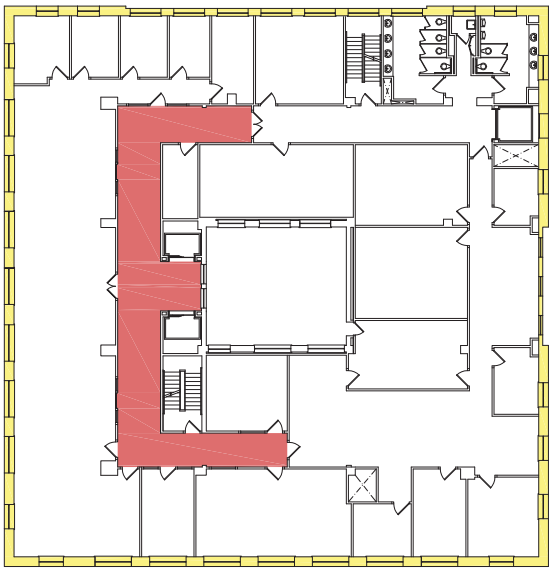
Sheet No.
A1.2



N

1 THIRD FLOOR ZONING PLAN
1/32" = 1'-0"

LEGEND

- Exterior Facade
- Interior Corridors & Circulation
- Central Atrium

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
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Scale	1/32" = 1'-0"

Capitol Complex Master Plan
State Office Building
1341 Sherman Street, Denver, CO 80203

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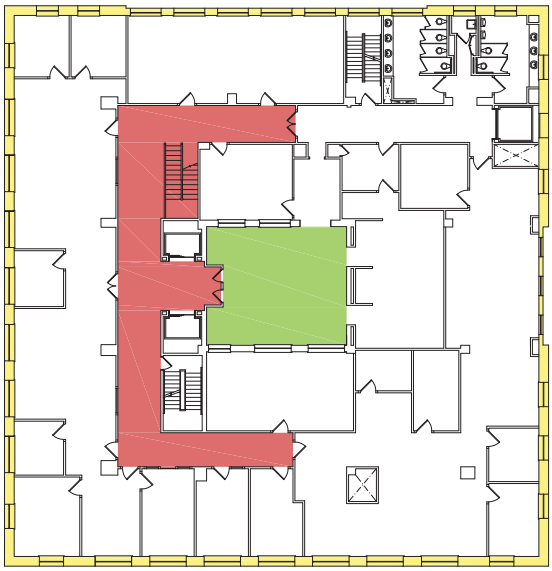
Sheet No.
A1.3



N

1 FOURTH FLOOR ZONING PLAN
1/32" = 1'-0"

LEGEND

- Exterior Facade
- Interior Corridors & Circulation
- Central Atrium

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
Scale	1/32" = 1'-0"

Capitol Complex Master Plan
State Office Building
1341 Sherman Street, Denver, CO 80203

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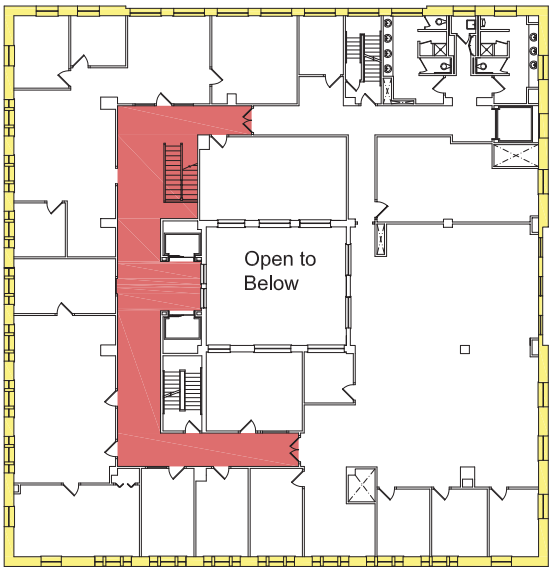
Sheet No. A1.4



N

1 FIFTH FLOOR ZONING PLAN
1/32" = 1'-0"

LEGEND

- Exterior Facade
- Interior Corridors & Circulation
- Central Atrium

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
Scale	1/32" = 1'-0"

Capitol Complex Master Plan
State Office Building
1341 Sherman Street, Denver, CO 80203

Anderson Hallas Architects, PC

Sheet No. A1.5

3.1 FINDINGS AND RECOMMENDATIONS

3.1-A CODE ISSUES

See 2.1-B Code Issues

3.1-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

3.1-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

General Architecture Findings

With the exception of the Basement Level, each floor in the square-plan State Office Building has a C-shaped central corridor serving office space located around the perimeter of the building. The central portion of the First Floor and Second Floor is comprised of an open, two-story, vaulted atrium. The central portion of the Third Floor is just above the stained glass skylight capping the two-story, vaulted atrium space below. The central portion of the Fourth Floor and Fifth Floor is comprised of a two-story atrium capped with a skylight at the roof above. This space is currently used as a break room at the Fourth Floor with conference rooms accessible from the space on the east side. There is a sculpture suspended beneath the skylight. The basement is currently used for storage, the Library Stacks in Room B-13, a mail room, and the Fire Pump Room. It was reported that dirt and debris is entering Room B-13 Library Stacks when the weather outside is windy.

The two-story atrium space at the First Floor is constructed of polished stonework along the walls and heavy plaster ornamentation at the vaulted ceiling. The space is lit by two large bronze and stained-glass chandeliers and several bronze wall sconces placed around the perimeter of the room. The center of the vaulted ceiling is capped with a stained-glass skylight. Open balconies surround the second floor with brass railings spanning the spaces between the polished stone-cladding on the columns.

Note: As an historic property, the State Office Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

View of two-story, vaulted atrium space above the First Floor.

View of two-story, atrium space with skylight and suspended sculpture above the Fourth Floor.

View of two-story, atrium space with skylight and suspended sculpture at the Fourth Floor.

Ceiling Finishes

The heavily ornamented vaulted plaster ceiling in the two-story central atrium space above the First Floor appears to be in generally good condition. The plaster ceilings throughout the main corridors appear to be in generally good to fair condition overall. The bathrooms throughout the building generally have plaster ceilings in good to fair condition overall. A soiled access panel was noted in the Women's Restroom on the Fourth Floor (see Fig. 3.1.C.1). There was a crack noted in the plaster of the main corridor ceiling on the Fifth Floor (see Fig. 3.1.C.2). The plaster ceilings and areas of dropped 2x2 acoustic ceiling tiles in the office areas included in the site survey visit appear to be in generally fair condition overall.

The open ceiling in Room B-13 Library Stacks was observed to be in poor condition overall. It was reported that the sprinkler system had previously deployed and caused damage to the ceiling and walls. The ceiling was observed to have large areas of spalling concrete, burn marks, and general damage, including a piece of metal strapping hanging loose (see Fig. 3.1.C.3, Fig. 3.1.C.4, and Fig. 3.1.C.5).

Fig. 3.1.C.1 Soiled access panel observed in the Women's Restroom on the Fourth Floor.

Fig. 3.1.C.2 Crack across the plaster ceiling in the main corridor on the Fifth Floor.

Fig. 3.1.C.3 Damaged ceiling and plastic sheeting covering the storage shelves in Room B-13 Library Stacks.

Fig. 3.1.C.4 Damaged ceiling in Room B-13 Library Stacks.

Fig. 3.1.C.5 Metal strapping hanging from the ceiling in Room B-13 Library Stacks.

Wall Finishes

The polished stone cladding on the walls in the entrance vestibules and the central atrium space on the First Floor is in fair condition overall with some cracking (see Fig. 3.1.C.6) and damage along the corner edges noted (see Fig. 3.1.C.7 and Fig. 3.1.C.8).

The plaster walls in the main corridors, throughout the office areas included in the site survey visit, and in the restrooms appear to be in generally fair condition overall. Areas of damage and general signs of wear-and-tear were noted (see Fig. 3.1.C.9). There was damage noted to the plaster wall in the Women's Restroom on the First Floor at the counter (see Fig. 3.1.C.10) and holes in the plaster under the counter which have not been repaired correctly (see Fig. 3.1.C.11). A large crack in the plaster wall was noted between a column and exit stairway door in the main corridor on the Second Floor (see Fig. 3.1.C.12).

Areas of minor damage were noted throughout to the polished stone wainscoting along the main corridors and elevator lobbies (see Fig. 3.1.C.13). There were a few areas where the grout appeared to be missing from the joints between the stone wainscoting panels on the Third Floor (see Fig. 3.1.C.14).

The one-inch square tile wainscoting in the restrooms is in generally fair condition overall with some areas of discoloration noted (see Fig. 3.1.C.15). There was damage noted to the one-inch square tile wainscoting underneath a urinal in the Men's Restroom on the First Floor (see Fig. 3.1.C.16). Damage to the shower walls was noted in the Women's Restroom on the Fifth Floor (see Fig. 3.1.C.17).

The brick wall along the Second Floor ramped corridor space to the east of the two-story vaulted atrium is in fair condition overall. The brick walls in the two-story atrium space on the Fourth Floor appeared to be in generally fair condition with areas of minor spalling at the corners, deteriorating grout, and minor soiling of the brick and stone window sills noted (see Fig. 3.1.C.18).

The gypsum board walls in the main corridors on the Basement Floor appear to be in generally fair to poor condition overall with areas that were damaged and scuffed (see Fig. 3.1.C.19). There were also areas in the basement noted where the vinyl baseboard is pulling loose from the wall (see Fig. 3.1.C.20). The walls within Room B-13 Library Stacks are generally in poor condition with damage from the previous deployment of the sprinkler

system and damage noted around the windows at the exterior wall. There was spalling and cracking noted at the concrete blocks (see Fig. 3.1.C.21) and damage to the gypsum board lining the concrete block walls (see Fig. 3.1.C.22). There is a hole that was left in the gypsum board wall around a pipe passing through that needs to be properly sealed per fire protection codes (see Fig. 3.1.C.23). The masonry cladding the columns are damaged with general spalling noted throughout the room (see Fig. 3.1.C.24). There was also a length of coiled wire taped to the side of the wall noted during the site visit (see Fig. 3.1.C.25).

Fig. 3.1.C.6 Cracked stone observed in the central atrium space on the First Floor.

Fig. 3.1.C.7 Damaged stone at the base of the northwest stairway on the First Floor.

Fig. 3.1.C.8 Damaged stone observed in the central atrium space on the First Floor.

Fig. 3.1.C.9 General wear-and-tear and minor damage to plaster walls.

Fig. 3.1.C.10 Damaged plaster wall at the counter in the Women's Restroom on the First Floor.

Fig. 3.1.C.11 Holes in the plaster wall under the counter in the Women's Restroom on the First Floor that have not been repaired correctly.

Fig. 3.1.C.12 Large crack in the plaster wall noted in the main corridor area on the Second Floor.

Fig. 3.1.C.13 Typical minor damage to polished stone wainscoting.

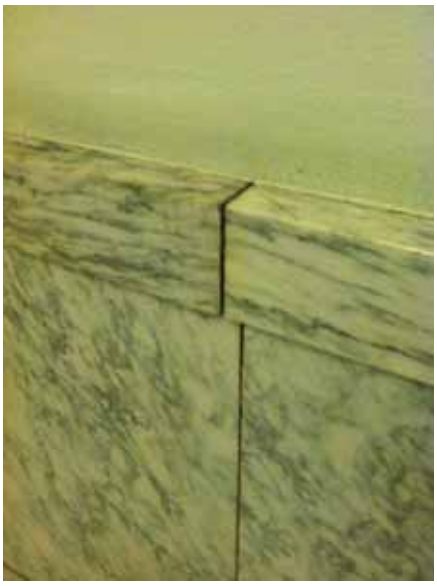


Fig. 3.1.C.14 Areas of grout missing between polished stone wainscoting panels on the Third Floor.

Fig. 3.1.C.15 Areas of discolored one-inch square tile wainscoting noted in the restrooms.

Fig. 3.1.C.16 Damaged one-inch square tile wainscoting under a urinal in the Men's Restroom on the First Floor.

Fig. 3.1.C.17 Damaged shower walls in the Women's Restroom on the Fifth Floor.

Fig. 3.1.C.18 Deteriorating grout and minor soiling of the brick and stone window sills within the Fourth Floor atrium space.

Fig. 3.1.C.19 Damage to gypsum board walls observed in the main corridors throughout the Basement Floor.

Fig. 3.1.C.20 Damage to vinyl baseboard observed in the main corridors throughout the Basement Floor.

Fig. 3.1.C.21 Spalling and cracking around the windows along the exterior wall in Room B-13 Library Stacks.

Fig. 3.1.C.22 Damaged gypsum board lining the concrete block walls in Room B-13 Library Stacks.

Fig. 3.1.C.23 Unsealed opening around a pipe passing through the wall in Room B-13 Library Stacks.

Fig. 3.1.C.24 Typical spalling noted at the columns in Room B-13 Library Stacks.

Fig. 3.1.C.25 Coiled wire taped to the wall and discolored one-foot square linoleum tile flooring in Room B-13 Library Stacks.

Floor Finishes

The light and dark marble flooring in a checkerboard pattern throughout the First Floor vaulted atrium space and entrance vestibules is in generally fair condition overall. A large crack across the marble flooring was noted in the East Colfax Entrance Vestibule (see Fig. 3.1.C.26). The floor vent covers in the First Floor vaulted atrium space are missing paint and showing general signs of wear-and-tear (see Fig. 3.1.C.27).

The stone cladding in the northwest stairway connecting the First and Second Floor is generally soiled (see Fig. 3.1.C.28).

The polished stone flooring throughout the main corridors is in generally fair condition overall with the exception of the Fourth Floor where the polished stone flooring is in generally poor condition. General areas of soiling of the stone flooring were noted throughout (see Fig. 3.1.C.29). Large cracks across the polished stone flooring were noted in the main corridors on the Third, Fourth, and Fifth Floor (see 3.1.C.29). There was an area on the Second Floor where an electrical cord that spans the width of a hallway has been taped to the floor and is creating a potential tripping hazard (see Fig. 3.1.C.30).

The carpet flooring in the areas included in the site survey visit was observed to be fair to poor condition with areas of soiling, general wear-and-tear, and areas pulling loose at the seams (see Fig. 3.1.C.31 and Fig. 3.1.C.32). General wear-and-tear was also noted along areas with thresholds (see Fig. 3.1.C.33). There was an area on the Fifth Floor where an electrical cord that spans the width of a room has been taped to the floor and is creating a potential tripping hazard (see Fig. 3.1.C.34). The carpet in the conference rooms just to the east of the atrium space on the Fourth Floor appears to be newer and in good condition. It was reported that replacement of the carpet is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

The one-inch square tile flooring in the two-story atrium space on the Fourth Floor was observed to be in generally fair condition. The one-inch square tile flooring in the Women's Restrooms is typically damaged at the corner of the wall near the south side of the counter on the First, Second, and Fourth Floors (see Fig. 3.1.C.35). The one-inch square tile flooring in the restrooms throughout was noted to be generally soiled (see Fig. 3.1.C.36).

The one-foot square vinyl tile in the space just to the north of the atrium on the Fourth Floor appears to be newer and in good condition. The one-foot square linoleum tile covering the concrete flooring throughout the

main corridors on the Basement Floor is in generally fair condition overall with an area of spalling noted that is creating a tripping hazard (see Fig. 2.1.B.3). The one-foot square linoleum tile covering the concrete flooring in Room B-13 Library Stacks is in generally fair to poor condition with areas of discoloration and cracking noted (see Fig. 3.1.C.37).

The concrete flooring in the CDE Mailroom in the basement is cracked and spalling (see Fig. 3.1.C.38). The paint on the concrete flooring in the Fire Pump Room in the basement is worn and cracking (see Fig. 3.1.C.39).

Fig. 3.1.C.26 Large crack across the marble flooring in the East Colfax Entrance Vestibule on the First Floor.

Fig. 3.1.C.27 Floor vent cover missing paint and showing general signs of wear-and-tear in the vaulted atrium space on the First Floor.

Fig. 3.1.C.28 Soiled areas of polished stone cladding the northwest stairway connecting the First and Second Floor.

Fig. 3.1.C.29 Typical cracked and soiled stone flooring observed in the main corridors.

Fig. 3.1.C.30 Electrical cord taped to the floor and an area of generally soiled stone flooring on the Second Floor.

Fig. 3.1.C.31 Typical soiled and worn carpet pulling loose and creating a potential tripping hazard.

Fig. 3.1.C.32 Typical worn and soiled carpet observed in areas included in the site survey visit.

Fig. 3.1.C.33 General wear-and-tear and soiling noted at thresholds.

Fig. 3.1.C.34 Electrical cord taped to the floor and creating a potential tripping hazard on the Fifth Floor.

Fig. 3.1.C.35 Typical area of damaged one-inch square tile in the Women's Restroom on the First, Second, and Fourth Floors.

Fig. 3.1.C.36 Generally soiled one-inch square tile flooring in the restrooms.

Fig. 3.1.C.37 Cracked one-foot square linoleum tile flooring in Room B-13 Library Stacks in the basement.

Fig. 3.1.C.38 Cracked and spalling concrete flooring in the CDE Mailroom in the basement.

Fig. 3.1.C.39 Worn and cracked paint on the concrete flooring in the Fire Pump Room in the basement.

Other

The doors were observed to have areas of minor damage and general wear-and-tear throughout (see Fig. 3.1.C.40 and Fig. 3.1.C.41).

A previously repaired section of the countertop was noted in the Women's Restroom on the Fifth Floor (see Fig. 3.1.C.42).

Fig. 3.1.C.40 General wear-and-tear noted at the doors.

Fig. 3.1.C.41 General wear-and-tear noted at the doors.

Fig. 3.1.C.42 Previously repaired section of countertop in the Women's Restroom on the Fifth Floor.

Recommendations:

- See 3.0-A Historic Overview for character defining elements of the building and site. All restoration work involving character defining elements of the building and site should be in keeping with the historic status of the State Office Building.
- Repair or replace any damaged polished stone cladding on the walls and floors throughout.
- Repair or replace any damaged or incorrectly repaired areas of the plaster walls and ceilings throughout and repaint, including the damaged shower walls in the Women's Restroom on the Fifth Floor.
- Repair or replace any damaged one-inch square tile wainscoting and flooring in the restrooms throughout.
- Repair or replace the cracked marble flooring across the width of the East Colfax Entrance Vestibule.
- Clean and refinish the soiled polished stone cladding in the northwest stairway.
- Clean and refinish the polished stone flooring and wainscoting in the main corridors, entrance vestibules, and elevator lobbies throughout.
- Clean and refinish the one-inch square tile wainscoting and flooring in the restrooms throughout.

- Replace all carpet throughout.
- Repair or replace floor vent covers missing paint and showing general signs of wear-and-tear in the vaulted atrium space on the First Floor.
- Repair all interior doors, door frames, and thresholds as necessary and replace all knob-style door handles if allowed per historic designation guidelines.
- Remove any potential tripping hazards such as the electrical cords taped to the floor on the Second and Fifth Floors.
- Tuck point the brick walls in the atrium space on the Fourth Floor.
- Clean the areas of soiled brick and stone sills in the atrium space on the Fourth Floor using an approved cleaning method.
- Verify where outside dirt and debris is entering Room B-13 Library Stacks during windy days and repair as necessary.
- Repair or replace any damaged gypsum board ceilings and walls throughout the Basement Floor and repaint, including the gypsum board lining the concrete block walls in Room B-13 Library Stacks.
- Seal any openings around pipes in the gypsum board walls throughout the Basement Floor per fire protection code requirements.
- Repair or replace spalling or cracked concrete block walls and masonry cladding the columns in Room B-13 Library Stacks.
- Repair or replace any damaged vinyl baseboard throughout the Basement Floor.
- Repair or replace any damaged sections of the concrete ceiling in Room B-13 Library Stacks, including removing any loose pieces of metal strapping.
- Repair or replace any areas of cracked or spalling concrete flooring throughout the Basement Floor, including in the main corridor near the southwest stairway.
- Repaint the concrete flooring in the Fire Pump Room in the basement.
- Repair or replace any areas of cracked or discolored one-foot square linoleum tile flooring throughout the Basement Floor.
- Remove coiled wire taped to the wall in Room B-13 Library Stacks and enclose in an appropriate outlet as necessary.

3.1-D STRUCTURAL

No structural concerns were noted on the First Floor through the Fifth Floor. No structural concerns were noted on the Basement Floor. See section 2.2 for structural observations and recommendations for all floors.

3.1-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.

3.1-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

4.0 LEVELS OF RENOVATION NEEDED

Building: State Office Building, 201 East Colfax Avenue (Denver)

Priority	Main System	Sub System	Level of Renovation Needed		
			Minimal	Moderate	Extensive
1	Exterior Enclosure	Windows			√
1	Exterior Enclosure	Fall Protection (roof)			√
1	Exterior Enclosure	Sealant / Grout			√
1	Interior	ADA-Drinking Fountains			√
1	Interior	ADA-Door Levers			√
1	Site	Pavement			√
1	Infrastructure	Tele/Com			√
1	Infrastructure	Fire Sprinkler			√
1	Infrastructure	Fire Alarm			√
1	Infrastructure	HVAC		√	
2	Code	Exit Stairways		√	
2	Exterior Enclosure	Roof		√	
2	Exterior Enclosure	Walls		√	
2	Infrastructure	Lighting		√	
2	Infrastructure	Security Access/IDS		√	
2	Infrastructure	Security Video		√	
2	Interior	Finishes - Flooring		√	
2	Interior	ADA-Restrooms		√	
2	Interior	Finishes - Wall		√	
2	Interior	Doors		√	
2	Site	Drainage		√	
2	Site	Lighting		√	
2	Infrastructure	Elevator(s)		√	
3	Code	Exits	√		
3	Exterior Enclosure	Penthouse	√		
3	Exterior Enclosure	Doors	√		
3	Infrastructure	Power	√		
3	Infrastructure	Structural Framing	√		
3	Interior	Finishes Ceiling	√		
	Code	Dead End Corridors			
	Exterior Enclosure	Signage			
	Site	Utilities			

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5.0 COST ESTIMATES

SUMMARY OF SUMMARIES

Item No.	Description	SF	Total	$/SF
1	Construction Cost	78,115	4,823,092	61.74
2	Contingency on Above		w/ Above	
	Base Price Subtotal:	**78,115**	**4,823,092**	**62**
3A	IT \ Teledata (Relocate Exstg Only)	78,115	199,236	2.55
3B	Public Art	78,115	48,231	0.62
4	Contingency on Above		Excluded	
	Equipment \ Art Subtotal:		**247,466**	**3.17**
	Base Price \ Equipment \ Art Subtotal:		**5,070,559**	**65**
5	Escalation - 6.75% per year		Excluded	
6	Contingency on Above		Excluded	
	Escalation Subtotal:		**Excluded**	
	Base Price \ Equipment \ Art Subtotal:		**5,070,559**	**65**
7	Design Fees at 8% per State of CO Direction		405,645	5.19
8	Contingency on Above		Excluded	
	Design Fee Subtotal:		**405,645**	**5.19**
	Base Price \ Equipment \ Art \ Design Fee Subtotal:		**5,476,204**	**70**

PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS	**5,476,204**	**70**

ADD-ALTERNATE				
9	FF&E	42,988	1,074,700	25.00
10	Move Management	78,115	94,572	1.21
11	Escalation - 6.75% per year (to March 2017)		Excluded	
12	Contingency on Above		Excluded	
	Subtotals:		**1,169,272**	
	ADD-ALTERNATE SUBTOTAL:		**1,169,272**	**15**

SYSTEM BY SYSTEM SUMMARY

Item No.	Description	SF	Total	$/SF
1A	Replace Fire Sprinkler Piping	78,115	782,031	10.01
1B	Escalation		Excluded	
System 1 Fire Sprinkler Piping Replacement Subtotal:			**782,031**	**10**
2A	Provide Fall Protection at Roof	78,115	26,857	0.34
2B	Escalation		Excluded	
System 2 Add Fall Protection Subtotal:			**26,857**	**0**
3A	Replace Chiller or Tie into Chilled Water Loop	78,115	613,487	7.85
3B	Escalation		Excluded	
System 3 Replace Condensing Unit Subtotal:			**613,487**	**8**
4A	Replace Windows	78,115	1,076,998	13.79
4B	Escalation		Excluded	
System 4 Replace Windows Subtotal:			**1,076,998**	**14**
5A	Replace / Repair Exterior Sealant & Grout	78,115	80,342	1.03
5B	Escalation		Excluded	
System 5 Replace Exterior Sealant & Grout Subtotal:			**80,342**	**1**
6A	Balance of Project Scope	78,115	2,468,183	31.60
6B	Escalation		Excluded	
System 6 Balance of Scope Subtotal:			**2,468,183**	**32**
System by System Total Project 2014 Dollars Subtotal:			**5,047,898**	**65**
7	IT \ Teledata (Relocate Exstg Only)		186,705	2.39
8	Flex Space		Excluded	
9	Public Art		65,589	0.84
10	Contingency on Above		Excluded	
Equipment \ Art Subtotal:			**252,293**	**3**
Systems \ Equipment \ Art Subtotal:			**5,300,191**	**68**
11	Design Fees at 8% per State of CO Direction		424,015	5.43
12	Contingency on Above		Excluded	
Design Fee Subtotal:			**424,015**	**5**
Base Price \ Equipment & Art \ Design Fee Subtotal:			**5,724,206**	**73**
PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS			**5,724,206**	**73**

ADD ALTERNATE				
13	FF&E (FF&E SF & $25\SF Allowance per Architect)	42,988	1,074,700	25.00
14	Move Management	78,115	94,572	1.21
15	Escalation - 6.75% per year (to March 2017)		Excluded	
16	Contingency on Above		Excluded	
	Move Management Subtotal:		**1,169,272**	
	Add Alternate Subtotal:		**1,169,272**	**14.97**

FF&E DETAILED ESTIMATE - BASE

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
01 50 00	**Temporary Facilities and Controls**					Excluded	
	Flex Space for Multiple Moves and\or Tenant Holdover				Excluded Per Owner		
	General Condtions & General Requirements Subtotal					Excluded	
11 90 00	**Owner Furnished Equipment**					Excluded	
11 99 00	**A\V & IT Equipment**					114,424	
	AV / IT @ Large Conference Rooms	-	EA	5,230.00	Excluded		
	VOIP Telephone System	316	EA	280.00	88,609		
	New PC Computer Workstations	32	EA	810.00	25,815		
	State of CO Servers, Routers, Wireless Access and IT Equipment not w/Above				Excluded		
	Equipment Subtotal					114,424	
12 99 00	**Furnishings**					1,074,700	
	New Employee Workstations	42,988	SF	25.00	1,074,700		
	Minor Repair to Existing Employee Workstations		EA	160.00	Excluded		
	Furnishings @ Large Conference Rooms		EA	4,150.00	Excluded		
	Furnishings @ Medium Conference Rooms		EA	2,905.00	Excluded		
	Furnishings @ Small Conference Rooms		EA	1,260.00	Excluded		
12 99 99	**Art**					48,231	
	Art in Public Places @ 1.0% of Construction Cost	1	LS	48,230.92	48,231		
	Furnishings Subtotal					1,122,931	
13 49 00	**Radiation Protection**					Excluded	
	Special Construction Subtotal					Excluded	
27 10 00	**Structured Cabling**					84,811	
	Teledata Cabling System Conduit & Wire Upgrades				w/Const Cost		
	Teledata Cabling Terminations, Testing & Tone-Out	316	EA	268.00	84,811		
27 41 00	**Audio-Visual Systems**					Excluded	
27 53 00	**Distributed Systems**					Excluded	
	Communications Subtotal					84,811	
34 99 99	**Move Management**					94,572	
	Moving Labor, Material, Equipment & Supervision	312	EA	243.00	75,928		
	Relocate Existing PC Computer Workstations	287	EA	65.00	18,644		
	Transportation Subtotal					94,572	
	Total FF&E, IT, & Move Management					2,833,477	

DETAILED ESTIMATE - SUMMARY

CSI Division	Description		Project GSF	78,115
		$/GSF	Section Totals	Total w/Burdens
02	Existing Conditions	0.08	6,286	
03	Concrete	0.13	10,400	
04	Masonry		49,804	
05	Metals	1.20	93,602	
06	Woods & Plastics	1.17	91,455	
07	Thermal & Moisture	0.68	52,907	
08	Doors & Glazing	10.27	802,487	
09	Finishes	7.83	611,295	
10	Specialties	0.92	72,026	
11	Equipment		2,251	
12	Furnishings	0.16	12,239	
13	Special Construction		Excluded	
14	Conveying Systems	0.32	25,000	
21	Fire Supression		251,530	
22	Plumbing	1.07	83,310	
23	HVAC	5.51	430,368	
26	Electrical	6.15	480,642	
27	Communications	2.88	224,971	
28	Security		w/26000	
31	Earthwork	1.84	144,000	
32	Exterior Improvements	0.40	31,080	
33	Utilities		Excluded	
34	Transportation		Excluded	
SUBTOTAL: CONSTRUCTION COST DETAIL		**44.49**	**3,475,653**	
	General Conditions (GC's Onsite Overhead)	9.80%	340,614	
	Materials Testing	0.10%	3,816	
	Design & Preconstruction Contingency	10.00%	382,008	
	Owner's Construction Contingency (after NTP)	5.00%	210,105	
	Permits	1.90%	83,832	
SUBTOTAL: DIRECT CONSTRUCTION COSTS		**57.56**	**4,496,028**	
	General\Professional Liability Insurance	0.90%	40,464	
	Builder's Risk Insurance	1.50%	68,047	
	Performance & Payment Bond	1.10%	50,650	
	Bid Bond	0.20%	9,310	
	Tap Fees & Other Owner Soft Costs		Excluded	
	GC's Offsite Overhead & Profit (Fee)	3.40%	158,593	
	Escalation\Year (to Mid-Point of Construction)	6.75%	ject Summary	
SUBTOTAL: DIRECT & INDIRECT CONSTRUCTION COSTS		**61.74**	**4,823,092**	

DETAILED ESTIMATE

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
01 45 00	Quality Control					By Owner	
01 50 00	Temporary Facilities and Controls					w/General Conditions	
01 50 20	Temporary Parking and Staging Yard					w/General Conditions	
01 50 30	Weather Protection and Conditions					w/General Conditions	
01 60 00	Mock-Ups (Physical & Digital)					w/General Conditions	
01 62 00	Crane Service					w/Trades	
01 74 00	Cleaning					w/General Conditions	
	General Condtions & General Requirements Subtotal					**w/Summary**	
02 10 00	Hazardous Material Removal					Excluded	
02 25 00	Building Shoring					w/051200	
	Shoring @ Existing Building during Demolition (if any)				w/Below		
02 41 13	Selective Site Demolition					6,286	
	Selective Demoliton @ Existing Site (Allowance)	2,794	SF	2.25	6,286		
02 41 19	Structure Demolition					w/051200	
	Existing Conditions Subtotal					**6,286**	
03 07 00	Drilled Piers (Caissons)					Excluded	
03 07 10	Helical Pier / Screw Pile					Excluded	
03 20 00	Concrete Reinforcing Steel					Excluded	
	Reinforcing at CIP Concrete				w/03300		
	Reinforcing at CMU Walls				w/04200		
03 30 00	Cast-in-Place Concrete					10,400	
	Concrete Patching @ Existing Building -Medium Repairs (Allowance)	781	SF	13.31	10,400		
03 35 00	Concrete Finishes					Excluded	
	Concrete Subtotal					**10,400**	
04 20 00	Masonry					Excluded	
	Cleaning & Caulking @ Brick Veneer at Exterior Skin	-	SF	0.78	Excluded		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Repair @ Existing Brick Veneer @ Exterior Skin	-	SF	6.83	Excluded		
	Replace Existing Brick Veneer @ Exterior Skin	-	SF	22.31	Excluded		
04 40 00	**Stone**					16,432	
	Cleaning & Caulking @ Stone Veneer at Exterior Skin	15,075	SF	1.09	16,432		
	Repair @ Existing Stone Veneer @ Exterior Skin	-	SF	18.71	Excluded		
	Replace Existing Stone Veneer @ Exterior Skin	-	SF	22.31	Excluded		
	Masonry Subtotal					49,804	
05 12 00	**Structural Steel**					10,400	
	Structural Upgrades @ Existing Building - Minor Repairs (Allowance)	-	SF	6.34	Excluded		
	Structural Upgrades @ Existing Building -Medium Repairs (Allowance)	781	SF	13.31	10,400		
	Structural Upgrades @ Existing Building -Major Repairs (Allowance)	-	SF	25.36	Excluded		
	Steel Joists					w/051200	
	Steel Joists (if any)				w/Above		
05 30 00	**Metal Deck**					w/051200	
	Metal Declk (if any)				w/Above		
05 34 00	**Acoustical Metal Decking**					Excluded	
05 40 00	**Cold-Formed Metal Framing**					Excluded	
05 44 00	**Cold-Formed Metal Trusses**					Excluded	
05 45 23	**Metal Supports - Unistrut**					Excluded	
05 50 00	**Miscellaneous Metal Fabrications**				-	Excluded	
05 52 00	**Metal Railings**					83,202	
	Repair Existing Metal Railings	6,249	SF	13.31	83,202		
05 58 50	**Equipment Screens**				-	Excluded	
05 59 00	**Entrance Canopy**				-	Excluded	
05 80 00	**Expansion Control**				-	Excluded	
	Metals Subtotal					93,602	
06 10 00	**Rough Carpentry**					39,839	
	Blocking & Backing at Interior Reno (Allowance)	78,115	SF	0.51	39,839		
06 15 00	**Wood Decking**					Excluded	
06 22 00	**Millwork / Finish Carpentry**					49,272	
	New Reception Desk (Allowance)	1	LS	10,000.00	10,000		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Millwork at New Large Conf Rooms (Allowance)	-	LF	375.00	Excluded		
	Millwork at New Medium Conf Rooms (Allowance)	10	LF	375.00	3,750		
	Millwork at New Small Conf Rooms (Allowance)				Excluded		
	Millwork at New Large Break Rooms (Allowance)	-	LF	250.00	Excluded		
	Millwork at New Small Break Rooms (Allowance)	12	LF	250.00	3,000		
	Solid Surface Countertops @ New Restrooms	325	SF	55.00	17,875		
	Additional Millwork not w/Above @ Full Reno + 25% of Med Reno (Allowance)	9,764	SF	1.50	14,647		
06 60 00	**FRP Panels**					**2,345**	
	FRP Panels @ New Janitor's Closets	440	SF	5.33	2,345		
	Woods & Plastics Subtotal					**91,455**	
07 11 00	**Dampproofing**					**Excluded**	
07 13 00	**Waterproofing**					**Excluded**	
07 18 00	**Traffic Coatings**					**Excluded**	
07 21 00	**Building Insulation**					**Excluded**	
	2" Rigid Insulation @ Exterior Walls @ New Skin Materials	-	SF	1.96	-		
07 24 00	**EIFS**					**Excluded**	
	Cleaning & Caulking @ 3 Coat Stucco System at Exterior Skin	-	SF	0.41	Excluded		
	Repair @ Existing 3 Coat Stucco System to Match @ Exterior Skin	-	SF	2.78	Excluded		
	Replace Existing 3 Coat Stucco System to Match @ Exterior Skin	-	SF	9.89	Excluded		
07 32 00	**Tile Roof**				-	**Excluded**	
07 41 00	**Metal Wall Panels**					**Excluded**	
07 41 50	**Metal Roof Panels**					**Excluded**	
07 50 00	**Membrane Roofing**					**10,624**	
	Caulking & Minor Roof Repair @ Existing Roof Membrane	15,623	SF	0.68	10,624		
	Patching @ Existing Roof Membrane	-	SF	1.89	Excluded		
	New Roofing Membrane @ Existing Roof to be Replaced	-	SF	9.89	Excluded		
07 60 00	**Flashing and Sheetmetal**					**Excluded**	
	Flashing @ Roofing System				w/074150		
07 72 00	**Roof Accessories**					**7,600**	
	Roof Access Hatch\Ladder				Excluded		
	Fall Protection	8	EA	950.00	7,600		
	Roof Access Ladders				Excluded		
	Roof Curbs @ RTUs				Excluded		
07 76 00	**Roof Pavers**					**Excluded**	
	2'-0"x 2'-0" Roof Access Pavers				Excluded		
	Conc Paver\Pedestal System				Excluded		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
07 81 00	**Spray on Fireproofing**					**Excluded**	
07 81 10	**Intumescent Fireproofing**					**Excluded**	
07 84 00	**Firestopping**					**4,218**	
	Firestopping	78,115	SF	0.05	4,218		
07 90 00	**Joint Sealants**					**30,465**	
	Joint Sealants	78,115	SF	0.39	30,465		
	Thermal & Moisture Subtotal					**52,907**	
08 10 00	**Steel Doors and Frames**					**34,939**	
	HM Doors						
	3'-0"x 7'-0" HM Exterior Door				Excluded		
	3'-0"x 7'-0" HM Interior Door				Excluded		
	PR 3'-0"x 7'-0" HM Interior Doors				Excluded		
	HM Frames						
	3'-0"x 7'-0" HM Door Frame	156	EA	211.33	33,016		
	6'-0"x 7'-0" HM Door Frame	7	EA	274.73	1,923		
	Add for HM Frames @ Masonry Openings				Excluded		
	Add for Sidelites & Transoms				Excluded		
	HM Glazing Frames				Excluded		
08 20 00	**Wood Doors**				-	**57,856**	
	3'-0"x 7'-0" SC WO Wood Door	156	EA	339.87	53,098		
	PR 3'-0"x 7'-0" SC WO Wood Doors	7	EA	679.74	4,758		
	Add for Vision Lites & Transoms				Excluded		
08 31 00	**Access Doors**					**Excluded**	
	Access Doors @ Ceilings & Walls				w/091120		
08 33 00	**Coiling Doors and Grilles**					**Excluded**	
	Fire Shutter @ South Lobby (Allowance)		LF	950.00	Excluded		
08 36 00	**Overhead Doors**					**Excluded**	
	8'-0"x 10'-0" OH Door		EA	2,711.16	Excluded		
	Electric Operator @ Above		EA	700.00	Excluded		
08 43 00	**Entrances & Storefronts**					**573,012**	
	Cleaning & Caulking @ Storefront & Punch Window Glazing at Exterior Skin	-	SF	1.22	Excluded		
	Repair @ Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	-	SF	18.66	Excluded		
	Replace Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	9,900	SF	57.88	573,012		
08 44 00	**Curtain Wall Assemblies**					**Excluded**	
	Cleaning & Caulking @ Storefront & Punch Window Glazing at Exterior Skin	-	SF	1.22	Excluded		
	Repair @ Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	-	SF	31.06	Excluded		
	Replace Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	-	SF	89.11	Excluded		
08 45 00	**Translucent Wall and Roof Assemblies**					**Excluded**	
08 46 00	**Automatic Entrances**					**Excluded**	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
08 62 00	**Unit Skylights**					Excluded	
					Excluded		
08 62 50	**Tubular Daylighting Devices**					Excluded	
08 70 00	**Door Hardware**					126,293	
	Hardware @ Single Leaf Exterior Door				Excluded		
	Hardware @ PR of Exterior Doors				Excluded		
	Hardware @ Single Leaf Interior Door	156	EA	462.71	72,289		
	Hardware @ PR of Interior Doors	7	EA	925.42	6,478		
	Hardware @ Storefront Doors				Excluded		
	Add for Card Key Access Hardware	1	EA	647.88	648		
	Add for ADA Door Operator @ Single Leaf	7	EA	1,341.22	9,389		
	Add for ADA Door Operator @ PR of Doors	2	EA	1,711.56	3,423		
	Add for Panic Hardware @ Single Leaf	11	EA	896.33	9,860		
	Add for Panic Hardware @ Pair of Doors	2		1,792.66	3,585		
	Add for Kickplates, etc. @ Restroom Doors	13	EA	322.47	4,192		
	Add for Closers, etc. @ Single Leafs	23	EA	621.77	14,301		
	Add for Closers, Astral, etc. @ PR of Doors	2	EA	1,064.23	2,128		
08 81 00	**Interior Glass Walls, Partitions & Glazing**					10,387	
	Interior Storefront Glazing						
	Interior Storefront Glazing @ Renovation	146	SF	43.48	6,368		
	PR 3'-0"x 7'-0" Storefront Doors @ Interior		EA	2,411.24	Excluded		
	3'-0"x 7'-0" Storefront Door @ Interior		EA	1,126.11	Excluded		
	Interior Glass						
	0'-6"x 2'-0" Std Vision Lites @ Interior Doors	39	EA	23.56	920		
	0'-6"x 2'-0" Wire Glass Lites @ Fire-rated Doors	23	EA	63.28	1,455		
	2'-0"x 2'-0" Std Vision Lites @ Interior Doors	16	EA	52.72	824		
	2'-0'x 2'-0" Wire Glass Lites @ Fire-rated Doors	8	EA	104.88	819		
	FireLite Glazing				Excluded		
08 90 00	**Louvers and Vents**					w/233000	
	Louvers & Vents @ HVAC				w/Below		
	Doors & Glazing Subtotal					802,487	
09 21 00	**Plaster**					w/072400	
	3 Coat Cementituous Stucco System @ Exterior				w/Above		
09 25 00	**Gypsum Board**					173,696	
	25 GA Mtl Stds w/Gyp BD (2) Sides @ Interior	9,520	SF	6.14	58,454		
	25 GA Mtl Stds w/Gyp BD (2) Sides + STC 60 Batt @ Interior	5,126	SF	7.17	36,756		
	25 GA Furring w/Gyp BD (1) Side + STC 60 Batt	732	SF	5.94	4,350		
	Add for Impact Resistant Gyp Bd	293	SF	0.67	196		
	Add for Water Resistant Gyp Bd @ Restroom Walls	4,231	SF	0.61	2,581		
	Add for Water Resistant Gyp Bd @ Restroom Ceilings	600	SF	0.61	366		
	CH Stud System @ HVAC Duct Chases (Allowance)	360	SF	7.61	2,740		
	Gyp Bd (1) Side @ Int of 18 GA Exterior Wall Framing	30,000	SF	1.26	37,800		
	Suspended Gyp Bd Ceilings (Allowance)	1,381	SF	7.21	9,958		
	Gyp Bd Closure Wall Systems @ Soffits & Ceiling Ht Changes (Allowance)	183	LF	23.16	4,240		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	322	LF	14.33	4,621		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	125	LF	11.33	1,416		
	Gyp Bd Perimeter Beam Wraps & Window\Skylight Reveals	313	LF	6.23	1,947		
	Gyp Bd Detailing not w/Above	1	LS	8,271.25	8,271		
09 31 00	**Ceramic Tile**					**31,663**	
	2"x 2" Ceramic Floor Tile @ Restrooms	600	SF	12.44	7,464		
	24"x 24" Porcelain Floor Tile @ Lobby				Excluded		
	24"x24" Porcelain Floor Tile @ Stair Treads				Excluded		
	18"x 18" Porcelain Floor Tile @ Rest Rooms				Excluded		
	18"x 18" Porcelain Floor Tile @ Toilet Rms				Excluded		
	18"x 18" Porcelain Wall Tile @ Rest Rooms to 5'-0"H	1,763	SF	10.63	18,740		
	Add for Porcelain Wall Tile Above 5'-0"H @ Wet Walls @ Restrooms	309	SF	10.63	3,280		
	Shower Pans & Curbs				Excluded		
	Tile Cove Base @ Rest Rooms	353	LF	6.18	2,179		
09 50 00	**Acoustical Ceilings**					**40,514**	
	New 2'x4' Armstrong Dune Second Look ACT (or Equal)	13,461	SF	2.89	38,901		
	New 2' x 2' Premium ACT (Allowance)	469	SF	3.44	1,612		
09 64 00	**Wood Flooring**					**Excluded**	
	Wood Flooring				Excluded		
09 65 00	**Resilient Flooring**					**3,264**	
	Sheet Vinyl w/Heat Welded Seams				Excluded		
	3MM Linoleum w/Heat Welded Seams @ Breakrooms				Excluded		
	Standard Rubber Base	2,441	LF	1.21	2,954		
	VCT - Simple Random Pattern	100	SF	1.66	166		
	24"x 24" Std Rubber Tile Flooring				Excluded		
	Rubber Tile Flooring @ Integral Tread & Riser				Excluded		
	Resilient Transition Strips	42	LF	3.44	144		
09 65 66	**Rubber Sports Flooring**					**Excluded**	
09 67 00	**Fluid Applied Flooring**					**1,236**	
	Epoxy Sealer @ Conc Flr @ Janitor's Closet & Mech\Elec\IT Rooms	208	SF	5.94	1,236		
09 68 00	**Carpet**					**252,210**	
	28 oz Direct Glue Carpet	77,207	SF	3.11	240,200		
	Add for Waste at Above (Assume 5%)	3,860	SF	3.11	12,010		
	Carpet Tile				Excluded		
	Add for Waste at Above (Assume 5%)				Excluded		
09 84 00	**Acoustical Wall Panels**					**435**	
	Acoustic Panels @ Large Conf Rooms (Allowance)	36	SF	12.08	435		
09 90 00	**Paint & Wallcovering**					**52,721**	
	Paint Existing Stairs, Landings and Railings				Excluded		
	Paint Existing Steel Ladders				Excluded		
	Paint 3'-0"x 7'-0" HM Frame	156	EA	48.33	7,551		
	Paint 6'-0"x 7'-0" HM Frame	7	EA	51.29	359		
	Stain & Seal 3'-0"x 7'-0" SD Wood Door (SC Doors Prefinished)				Excluded		
	Paint Interior CMU Partitions				Excluded		
	Paint Gyp Bd @ Partitions & Exterior Wall	60,385	SF	0.53	32,004		
	Dryerase Paint @ One Wall\Conf Room	240	SF	8.61	2,066		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Paint Exposed Structure @ Janitor's Closet & Mech\Elec\IT Rooms	208	SF	1.21	252		
	Paint Suspended Gyp Bd Ceiling @ Restrooms w/Epoxy	600	SF	2.86	1,716		
	Paint Suspended Gyp Bd Ceiling @ w/Latex	781	SF	0.83	648		
	Paint Gyp Bd Closure Wall System	183	LF	3.44	630		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	322	LF	4.72	1,522		
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	125	LF	3.54	443		
	Gyp Bd Perimeter Beam Wraps & Window\Skylight Reveals	313	LF	2.36	738		
	Paint Breaks @ Accent Walls				w/Above		
	Painting @ Gyp Bd not w/Above (Allowance)	1	LS	4,793	4,793		
09 95 00	**Finishes Protection / Punchlist / Cleanup**					**5,557**	
	Existing Finishes Protection, Punchlist, Tenant MACs & Final Clean (Allowance)	1	LS	5,557	5,557		
09 90 00	**Architectural Theming & Enhancements**					**50,000**	
	Interior Finishes Upgrades not w/Above (Allowance)	1.0	LS	50,000.00	50,000		
	Finishes Subtotal					**611,295**	
10 11 00	**Visual Display Surfaces**					**Excluded**	
	Whiteboards				Excluded		
	Cork\Bulletin Boards				Excluded		
	Magnetic Surfaces				Excluded		
10 12 00	**Display Cases**					**Excluded**	
	Sports Trophy & Award & Other Display Cases				Excluded		
10 14 00	**Signage**					**11,500**	
	Code Required ID Signage	204	EA	56.36	11,500		
	Wayfinding Signage (Allowance)				Excluded		
	Brushed Aluminum Building ID Letters w/Pin Mounts @ Ext & Int (Allowance)				Excluded		
	Logo @ Building ID - Interior & Exterior (Allowance)				Excluded		
10 21 13	**Toilet Compartments**					**28,374**	
	Ceiling Mtd Std Phenolic Std Toilet Partition	18	EA	1,266.33	22,794		
	Ceiling Mtd ADA Phenolic Toilet Partition	2	EA	1,524.89	3,050		
	Phenolic Urinal Partition	7	EA	361.48	2,530		
10 22 13	**Wire Mesh Partitions**					**Excluded**	
	Wire Mesh Partitions @ Storage & Other Locations				Excluded		
10 22 39	**Operable Partitions**					**Excluded**	
	Operable Partitions				Excluded		
10 26 00	**Wall & Corner Guards**					**608**	
	2"x 2'x 4'-0" Vinyl Corner Guard w/Aluminum Retainer	8	EA	61.22	490		
	2"x 2'x 4'-0" Stainless Steel Corner Guards	1	EA	118.16	118		
10 28 00	**Toilet Accessories**				-	**26,140**	
	SS Soap Dispenser	18	EA	77.63	1,397		
	SS Recessed Paper Towel Dispenser\Waste Receptacle	15	EA	192.09	2,881		
	SS Recessed Seat Cover Dispenser	15	EA	86.33	1,295		
	SS Toilet Paper Dispenser - Multiroll	13	EA	85.62	1,113		
	SS Toilet Paper Dispenser - Single Roll		EA	35.18	Excluded		
	SS Sanitary Napkin Dispenser	7	EA	234.23	1,640		
	SS Sanitary Napkin Disposer	12	EA	64.18	770		
	36" Grab Bar - Cncld Mnting w/ Snap Flange @ ADA Units	2	EA	71.90	144		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	42" Grab Bar - Cncld Mnting w/ Snap Flange @ ADA Units	2	EA	98.63	197		
	2'-0"x 4'-0" SS Frame & Mirror @ Toilet Rooms	18	EA	101.77	1,832		
	Electric Hand Dryers	13	EA	664.71	8,641		
	Baby Changing Station	15	EA	415.31	6,230		
10 43 00	**Emergency Aid Specialties**					**4,118**	
	Defibrilator & Cabinet	5	EA	823.64	4,118		
10 44 00	**Fire Extinguishers**					**380**	
	Fully Recessed Fire Extinguisher & Cabinet	1	EA	364.53	380		
10 51 13	**Metal Lockers**					**Excluded**	
	New Metal Lockers				Excluded		
10 51 26	**Phenolic Lockers**					**Excluded**	
	New Phenolic Lockers				Excluded		
10 51 53	**Locker Room Benches**					**Excluded**	
	New Phenolic Locker Room Benches				Excluded		
10 56 00	**Storage Assemblies**					**906**	
	12"D Prefinished Melamine Shelving @ Janitor's Closets (5 EA\LF)	12	LF	27.43	329		
	12"D Prefinished Melamine Storage Closet				Excluded		
	Mop Holder & Shelf @ Janitor's Closets	2	EA	288.61	577		
10 71 13	**Exterior Sun Control Devices**					**Excluded**	
	Prefinished Aluminum Sun Shades @ Exterior Glazing				Excluded		
10 73 43	**Transportation Stop Shelters**					**Excluded**	
					Excluded		
	Specialties Subtotal					**72,026**	
11 14 00	**Pedestrian Control Equipment**					**Excluded**	
11 17 00	**Automatic Banking Systems**					**Excluded**	
11 21 23	**Vending Equipment**					**Excluded**	
11 23 26	**Commercial Washers & Dryers**					**Excluded**	
11 40 00	**Food Service Equipment**					**Excluded**	
11 45 00	**Residential Appliances**					**2,251**	
	Residential Refrigerator\Freezer	1	EA	1,143.24	1,143		
	Residential Microwave w/Direct Vent Hood	-	EA	626.31	Excluded		
	Residential Microwave w/o Vent Hood	1	EA	423.57	424		
	Residential Range\Oven	-	EA	893.44	Excluded		
	Residential Undercounter Oven\Warming Drawer	-	EA	1,619.14	Excluded		
	Residential Dishwasher	1	EA	684.11	684		
11 52 13	**Projection Screens**					**Excluded**	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
					Excluded		
11 52 23	Audio-Visual Equipment Supports					w/066000	
11 53 00	Laboratory Equipment					Excluded	
					Excluded		
11 66 13	Exercise Equipment					Excluded	
					Excluded		
11 66 23	Gymnasium Equipment					Excluded	
11 66 43	Scoreboards					Excluded	
11 70 00	Healthcare Equipment					Excluded	
11 82 00	Solid Waste Handling Equipment					Excluded	
11 90 00	Owner Furnished Equipment					Excluded	
11 99 00	A\V & IT Equipment					w/Summary	
	Equipment Subtotal					2,251	
12 21 00	Window Coverings					12,239	
	Mechoshades @ Exterior Glazing (Electrically Operated)	1,238	SF	9.89	12,239		
12 48 00	Floor Mats					Excluded	
	Recessed Aluminum Entrance Grid		SF	22.13	Excluded		
12 60 00	Multiple Seating					Excluded	
12 99 00	Furnishings					w/Summary	
	Furnishings Subtotal					12,239	
13 49 00	Radiation Protection					Excluded	
	Special Construction Subtotal					Excluded	
14 20 00	Elevators					25,000	
	Elevator Service & Repair (Allowance)	1	LS	25,000.00	25,000		
	Conveying Systems Subtotal					25,000	
21 13 00	Fire Protection					251,530	
	Fire Sprinker System (Minimal Upgrade)	-	SF	0.85	Excluded		
	Fire Sprinker System (Medium Upgrade)	-	SF	1.67	Excluded		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Fire Sprinker System (Replacement)	78,115	SF	3.22	251,530		
	Fire Supression Subtotal					**251,530**	
22 40 00	**Plumbing**					**83,310**	
	Plumbing (Minimal Upgrade)	-	SF	1.78	Excluded		
	Plumbing (Medium Upgrade)	-	SF	3.14	Excluded		
	Plumbing (Replacement)	11,717	SF	7.11	83,310		
	Plumbing Subtotal					**83,310**	
23 30 00	**HVAC**					**430,368**	
	HVAC System (Minimal Upgrade)	78,115	SF	5.25	410,104		
	HVAC System (Medium Upgrade)	-	SF	11.75	Excluded		
	HVAC System (Replacement)	-	SF	29.33	Excluded		
	Connections/Demoltion at Existing HVAC System	15,623	SF	0.89	13,904		
	Systems Commissioning	1	LS	6,360.12	6,360		
	HVAC Subtotal					**430,368**	
26 00 00	**Electrical**					**480,642**	
	Lighting System (Minimal Upgrade)	39,058	SF	1.44	56,243		
	Lighting System (Medium Upgrade)	15,623	SF	2.91	45,463		
	Lighting System (Replacement)	7,812	SF	6.22	48,588		
	One-line\Distribution & Branch Power System (Minimal Upgrade)	39,058	SF	0.85	33,199		
	One-line\Distribution & Branch Power System (Medium Upgrade)	15,623	SF	1.56	24,372		
	One-line\Distribution & Branch Power System (Replacement)	23,435	SF	6.71	157,245		
	Special Systems (Paging, Security, etc.) System (Minimal Upgrade)	39,058	SF	0.26	10,155		
	Special Systems (Paging, Security, etc.) System (Medium Upgrade)	15,623	SF	0.97	15,154		
	Special Systems (Paging, Security, etc.) System (Replacement)	23,435	SF	1.67	39,136		
	Fire Alarm System (Minimal Upgrade)	-	SF	0.26	Excluded		
	Fire Alarm System (Medium Upgrade)	-	SF	0.51	Excluded		
	Fire Alarm System (Replacement)	39,058	SF	1.12	43,744		
	Connections/Demoltion at Existing Electrical Systems	15,623	SF	0.47	7,343		
	Mech Equipment Connections	1	LS	-	-		
26 31 00	**Photovoltaic Collectors**					**Excluded**	
26 41 00	**Lightning Protection**					**Excluded**	
	Electrical Subtotal					**480,642**	
27 10 00	**Structured Cabling**					**224,971**	
	Teledata Cabling System (Minimal Upgrade)	-	SF	0.67	Excluded		
	Teledata Cabling System (Medium Upgrade)	-	SF	1.21	Excluded		
	Teledata Cabling System (Replacement)	78,115	SF	2.88	224,971		
	Teledata Cabling Terminations, Testing & Tone-Out @ Above				w/FF&E		
	New Cable Tray/Raceways at Above Cabling				Excluded		
27 41 00	**Audio-Visual Systems**					**Excluded**	
27 52 00	**Healthcare Communications and Monitoring Systems**					**Excluded**	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
27 53 00	Distributed Systems					Excluded	
	Communications Subtotal					**224,971**	
28 70 00	Security Systems					w/26000	
	Security Subtotal					**w/26000**	
30 04 70	Construction Surveying				w/General Conditions		
31 23 19	Dewatering					Excluded	
31 30 00	Earthwork					144,000	
	Site Earthwork - Blended Crew\Equipment Rate (Allowance)	120	HR	1,200.00	144,000		
	Excavate for Continuous Footings & Stemwalls		CY	4.53	Excluded		
	Backfill @ Footings		CY	7.24	Excluded		
	Export Spoils (Assume 1 Hour Truck RT)		CY	10.14	Excluded		
	Import & Place 4" Structural Fill Under SOG		TN	18.11	Excluded		
	Rock Excavation				Excluded		
31 31 20	Temporary Erosion Control					Excluded	
	Temporary Erosion Control Measures				Excluded		
31 40 00	Shoring System					Excluded	
	Shoring @ Site				Excluded		
31 48 00	Underpinning					Excluded	
	Underpinning @ Existing Building				Excluded		
	Earthwork Subtotal					**144,000**	
32 12 16	Asphaltic Concrete Paving					Excluded	
32 13 00	Rigid Paving					Excluded	
32 14 00	Unit Pavers					Excluded	
32 16 00	Curb & Gutter					Excluded	
32 16 23	Sidewalks					28,580	
	Hardscape at Existing Site (Allowance)	2,794	SF	10.23	28,580		
32 17 00	Lightpole Bases					Excluded	
32 17 23	Pavement Markings					Excluded	
32 31 00	Fences and Gates					Excluded	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
32 31 17	**Site Enclosures**					Excluded	
32 32 13	**CIP Retaining Walls**					Excluded	
32 32 23	**Modular Retaining Walls**					Excluded	
32 32 50	**Stone Retaining Walls**					Excluded	
32 39 00	**Site Furnishings**					2,500	
	New Site Furnishings Allowance	1	LS	2,500.00	2,500		
32 39 13	**Site Signage**					Excluded	
32 90 00	**Landscaping**					Excluded	
	Native Seed (Allowance)	-	SF	0.81	Excluded		
	Softscape & Irrigation (Allowance)	-	SF	4.77	Excluded		
	Exterior Improvements Subtotal					31,080	
33 10 00	**Site Utilities**					Excluded	
	New Wet\Dry Utilities (Allowance)	-	LF	121.00	Excluded		
33 30 00	**Sanitary Sewerage Utilities**					Excluded	
33 40 00	**Storm Drainage Utilities**					Excluded	
33 46 00	**Foundation Drain System**					Excluded	
33 47 00	**Detention Ponds**					Excluded	
	Utilities Subtotal					Excluded	
34 41 00	**Traffic Signals**					Excluded	
	Transportation Subtotal					Excluded	
	SUBTOTAL: DIRECT CONSTRUCTION COST ONLY					3,475,653	
	General Conditions					w/Summary	
	GC's Offiste Overhead & Profit					w/Summary	
	Other GC & Owner Soft Costs					w/Summary	
	CONSTRUCTION TOTAL COST					w/Summary	