CAPITOL COMPLEX MASTER PLAN

FINDINGS & RECOMMENDATIONS (F & R) NEEDS ASSESSMENT

LEGISLATIVE SERVICES BUILDING, 200 EAST 14TH AVENUE (DENVER)

NOVEMBER 2014

RNL

FINDINGS & RECOMMENDATIONS (F&R) NEEDS ASSESSMENT

LEGISLATIVE SERVICES BUILDING
200 EAST 14TH AVENUE (DENVER)

November 2014

TABLE OF CONTENTS

This page left intentionally blank.

TABLE OF CONTENTS (CONTINUED)

This page left intentionally blank.

TABLE OF CONTENTS (CONTINUED)

This page left intentionally blank.

EXECUTIVE SUMMARY

The purpose of this report is to provide a Findings & Recommendations (F&R) Needs Assessment of the Legislative Services Building at 200 East 14th 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 Legislative Services 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 poor condition. A poor condition rating refers to the fact that the Legislative Services Building is in urgent 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. Add panic devices on alley gates to allow exit to public way. This recommendation encompasses life safety issues and is due to egress issues from the building.

   High Level Cost Estimate: $51,056

2. Upgrade fire alarm. This recommendation encompasses life safety issues and is due to the age of the system and fire protection code issues.

   High Level Cost Estimate: $33,881

3. Floor 3, Hearing Room: need fire rated wall and change door swing. This recommendation encompasses life safety issues and is due to fire protection code issues related to assembly occupancies.

   High Level Cost Estimate: $98,727

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

   High Level Cost Estimate: $332,038

5. Replace electric panel boards. This recommendation encompasses loss of use/reliability issues and overall energy efficiency issues and is due to the age of the panel boards.

   High Level Cost Estimate: $602,620

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

$4,528,638

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:

$4,609,638

1.0 OVERVIEW

1.0-A ARCHITECTURE OVERVIEW

The Legislative Services Building was constructed as the Colorado State Museum in 1915 and is located in Denver's Capitol Hill Neighborhood on the southeast corner of Sherman Street and East 14th Avenue, facing the Colorado State Capitol. The building was designed by Frank E. Edbrooke, the former Supervising Architect for the Colorado State Capitol. The Legislative Services Building is a Greek Revival building with "Colorado State Museum" inscribed on the marble frieze over the front (north) entrance portico supported by four fluted Ionic marble columns. 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 Legislative Services 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 building was renovated and rededicated on November 21, 1986. The building's historic function was to serve as the home of the Colorado State Museum. Following the museum's move to 1300 Broadway in 1977, it has been used by the State of Colorado for government office space. The Legislative Services Building is a square-plan concrete and steel construction with a rusticated grey Cotopaxi granite foundation and polished white Colorado Yule marble walls. This three-story building, with an additional ground floor and basement, grosses 59,301 square feet of space.

The architectural assessment of the Legislative Services Building at 200 East 14th 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 17, 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 poor condition. 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 fire code issues at the south alley gates and at the Third Floor Hearing Room. Other concerns include the age and condition of the windows and the exterior doors. These concerns encompass life safety, 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 Legislative Services 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 17, 2013 of the Legislative Services building located at 200 East 14th Street in Denver, Colorado. The purpose of our condition assessment was to identify structural defects, damage and deterioration.

The Legislative Services building was constructed in 1914. The structural framing above grade consists of concrete slabs supported by steel trusses, beams, and columns. Below grade, the structural framing consists of concrete slabs and beams supported by concrete columns, walls, and mortared rubble and stone walls. The foundation system is unknown and construction drawings were not available for our review.

The readily observable structural framing is in good condition. Minor to moderate cracks and spalls were observed in the concrete walls and floors in the basement level.

The concrete and mortar spalls on the walls in the basement should be patched or otherwise repaired to protect any reinforcing and prevent further deterioration of the mortared rubble.

Parapets along the roof edge were found to be of inadequate height. A fall protection system should be provided for access near exposed edges to meet current safety codes.

1.0-C CIVIL OVERVIEW

The Legislative Services Building site is approximately one-half acre and is located at 200 East 14th Avenue. The existing site consists of the building and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from East 14th Avenue. The condition of the site surrounding the building is consistent with an estimated age of 100 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. Broken concrete in walking paths is a tripping hazard and a high safety concern. The main concern regarding the site is the drainage away from the building on the west Sherman Street side. The landscaped area is flat and appears to slope back towards the building. Ponding was observed at the flow line of Sherman Street adjacent to the building at this location. Potential flooding at this location could cause damage to the structure and lead to loss of use. Landscape should be modified to provide positive drainage away from the building and the street should be repaved to provide positive drainage to the storm sewer inlet. While the existing building functions in its current state, improvements can be made to improve drainage, comply with regulations and enhance aesthetics.

1.0-D MECHANICAL, ELECTRICAL, AND PLUMBING OVERVIEW

A site survey for the Legislative Services building at 200 E. 14th Ave 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 Legislative Services building are related to the fire alarm system, emergency generator, and the age of the electrical panelboards. The electrical equipment that is past its useful life is unreliable and it is very difficult to get replacement parts as they break. This could result in an extended outage of hours or days. The fire alarm system needs to be replaced with the new Notifer system used in the other government buildings.

The fire alarm system is a life safety system. It is critical for protecting life and property. An emergency generator would be part of the life safety systems in the building. This would add the necessary power to backup the critical systems to get people to safety or keep the fire suppression systems working during a fire.

Some of the mechanical equipment like return air fan do not have enough clearance/space for maintenance. Investigate the possibility of relocating the fan to other location with maintenance clearance around it. This will help in maintaining the equipment and prevent any accidents.

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.

Investigating the existing supply duct work for leakages and fixing them will help in preventing wastage of conditioned air thereby saving heating and cooling 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 Legislative Services 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 to be 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 and laser optimized multimode fiber optic cables, along with 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 provisioned for, and will provide a uniform ground within the telecommunications rooms, to ensure 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 Legislative Services 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 Legislative Services 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 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 Legislative Services Building is a three-story tall building supported by a concrete and steel structural frame. The building has a rusticated grey Cotopaxi granite foundation, polished white Colorado Yule marble walls, and a shallow hipped clay tile roof. The building has symmetrical facades with projecting center porticos and four fluted Ionic columns on the front (north) and west sides of the building. The main building entrance serves East 14th Avenue from the First Floor and faces the State Capitol Building. The main entrance features a wide flight of granite stairs that extends to the public sidewalk and is flanked by stepped sidewalls with original five-globe lights on metal lampposts with state seals on the base. There is an accessible entrance at the Ground Floor located under the main entrance on the north side of the building. Additional doors from the building exist from the two exit stairways on the south side. There is a set of double doors that exit the building from the Ground Floor at the north end of the west side. However, these doors are currently inoperable as they are blocked by shelving units. There is also a set of double doors on the south end of the east side that serves the building's freight elevator from the street level.

It was reported that there is currently no insulation in the exterior walls and that this was not addressed during the renovation of the building in 1986. It was further noted that the lack of insulation has made it difficult to maintain the temperature within the building. It was reported that the tunnels formerly used to transport coal have had numerous waterproofing issues with a few known leaks into the basement of the building. It was further reported that there is known damage to the tunnels leading to Colfax and the tunnels on the west side of the building were fixed last year but it is believed they

were not originally built to support the weight of the traffic that now exists overhead.

The building envelope is in fair condition overall. Various elements are showing the effects of deferred maintenance, others are simply damaged or worn out.

Note: As an historic property, the Legislative Services 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/North Elevation of the Legislative Services Building

Side/East Elevation of the Legislative Services Building

Back/South Elevation of the Legislative Services Building

Side/West Elevation of the Legislative Services Building

Cladding

The marble veneer panels cladding the majority of the building are in fair condition overall. The granite veneer panels cladding the raised foundation are also in fair condition overall. The veneer panels are generally soiled, which is to be expected after close to one hundred years. The soiling is readily apparent from the ground (see Fig. 2.1.A.1, Fig. 2.1.A.2, and Fig. 2.1.A.3). There is also general soiling of the marble veneer at the roof level (see Fig. 2.1.A.4). An area of damaged marble was observed on the south side of the building (see Fig. 2.1.A.5) and an area of cracked granite was observed on the east end of the north side of the building (see Fig. 2.1.A.6).

The material between the joints is generally deteriorated and creating access points by which water can penetrate the building envelope (see Fig. 2.1.A.7 and Fig. 2.1.A.8). There are areas where sealant, which looks newer, is peeling off and also leaving the building envelope exposed to water penetration (see Fig. 2.1.A.9). The condition of the building system behind the panels is unknown but deterioration is likely.

It was reported that caulking and tuck-pointing of the building's exterior is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Fig. 2.1.A.1 Generally soiled marble cladding around the building's exterior.

Fig. 2.1.A.2 Typical instance of soiled marble around the windows.

Fig. 2.1.A.3 Generally soiled granite veneer panels.

Fig. 2.1.A.4 Soiled marble veneer panels observed at the roof level.

Fig. 2.1.A.5 Damaged marble observed on the south side of the building.

Fig. 2.1.A.6 Cracked granite observed on the east end of the north side of the building.

Fig. 2.1.A.7 Typical instance of deteriorated and missing sealant observed around the building.

Fig. 2.1.A.8 Typical instance of deteriorated and missing mortar observed at the roof level.

Fig. 2.1.A.9 Newer-looking sealant observed to be peeling away from 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 Legislative Services Building.
- Clean soiled/stained marble and granite panels around the exterior of the building, including at the roof level, using an approved cleaning method.
- Repair or replace cracked or spalling marble and granite panels around the building exterior, including at the roof level.
- Examine marble and granite panels for any deterioration behind the stone due to potential water penetration from missing and deteriorated material between the joints.
- Remove existing material around marble and granite panels and around windows and replace with new material. Any new sealant, backup materials, and preformed joint fillers should be nonstaining. Petroleum-based organic adhesives should be avoided as they may stain the stone.
- Insulate the exterior walls of the building to provide temperature control and energy savings.
- Repair damage to tunnels underground. Verify structural capacity and provide reinforcement to support the weight of traffic overhead, if required, to prevent further possible damage. Provide waterproofing where necessary.

Glazing Systems and Doors

The windows have wood frames and appear to be original to the building. It was reported that there are a lot of complaints from the building occupants about the windows. It was reported that the windows and storm windows have not been touched since the 1980's and need to be replaced (see Fig. 2.1.A.10). It appears that areas of water damage and general deterioration of the wood frames and stone sills were not repaired prior to the installation of the storm windows (see Fig. 2.1.A.11, Fig. 2.1.A.12, and Fig. 2.1.A.13). Debris was observed in a few of the window wells of the Ground Floor during the site survey visit (see Fig. 2.1.A.14).

It was reported that restoration of the windows is on the Capitol Complex list of controlled maintenance projects that need to be addressed and that there is a scheduled restoration of the windows planned for the summer of 2014.

Fig. 2.1.A.10 Storm windows placed over the existing windows around the exterior of the building.

Fig. 2.1.A.11 Deterioration noted at a window sill and wear-and tear of a window frame.

Fig. 2.1.A.12 Deteriorating original window observed during the site survey visit.

Fig. 2.1.A.13 Water damage and deterioration of the existing windows does not appear to have been addressed as part of the storm window installation project.

Fig. 2.1.A.14 Debris observed in window wells of the Ground Floor windows during the site survey visit.

The pair of double doors to the main East 14th Avenue Entrance appear original to the building. The doors appear to be constructed of brass with some possible copper components and have knob-style door handles with the State seal (see Fig. 2.1.A.15). The bottom half of the doors have become tarnished with use over the years (see Fig. 2.1.A.16). Overall, the doors appear to be in fair condition. The other doors around the building appear to be in fair condition as well. The pair of double doors on the north end of the west side of the building appears original. The door handle is missing from one of the doors and there appears to be graffiti spray-painted on to the surface of one of the doors (see Fig. 2.1.A.17). It was noted that the pair of double doors to the freight elevator on the south end of the east side of the building have a corroding metal sill plate (see Fig. 2.1.A.18).

It was reported that replacement of the exterior doors is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Fig. 2.1.A.15 Knob-style door handles with the State seal on the main East 14th Avenue Entrance doors.

Fig. 2.1.A.16 The bottom half of the main East 14th Avenue Entrance doors have become tarnished over the years.

Fig. 2.1.A.17 Pair of doors on the north end of the west side of the building missing a door handle and spray-painted with graffiti.

Fig. 2.1.A.18 Corroding metal sill plate noted at the pair of double doors leading to the freight elevator at the south end of the east 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 Legislative Services Building.
- Continue with the plan to restore the windows around the exterior of the building. Restoration should include repairing any damage or deterioration of the windows, window frames, or surrounding stone around the exterior of the building.

- Remove the debris from any window wells around the exterior of the building and develop a maintenance schedule to periodically check for and remove any new accumulations of debris.
- Clean the East 14th Avenue Entrance doors to restore the historic appearance and finish of the brass.
- Replace the missing door handle on the pair of doors located on the north end of the west side of the building and remove the spray-painted graffiti from the surface of the doors.
- Monitor the condition of the corroding metal sill plate noted at the pair of double doors to the freight elevator at the south end of the east side of the building and repair or replace as necessary.

Roof

The roof at the top of the Legislative Services Building is a shallow hipped clay tile roof with a flat area in the middle. The parapets are lower than required by code and it was noted that fall protection does not exist (see Fig. 2.1.A.19). It was reported that the roof was last replaced in 1986. The roof is generally in fair to poor condition overall. The areas covered with what appears to be a painted asphalt material is bubbling and cracked in numerous areas (see Fig. 2.1.A.20, Fig. 2.1.A.21, and Fig. 2.1.A.22). The roofing membrane covering the flat portion at the middle of the roof shows evidence of aging and deterioration (see Fig. 2.1.A.23). The clay tiles covering the shallow hipped sections of the roof are showing signs of aging as well. The clay tiles are generally soiled (see Fig. 2.1.A.24). A number of clay tiles were observed to be broken and loose and sliding down the side of the roof (see Fig. 2.1.A.25). The mortar sealing the clay tiles at the corners of the roof was noted to be generally deteriorating and creating points by which water could penetrate the roofing membrane (see Fig. 2.1.A.26). Widespread corrosion of the flashing was observed around the roof overall (see Fig. 2.1.A.27 and Fig. 2.1.A.28). There were areas of ponding water noted around the roof in the areas adjacent to the parapets (see Fig. 2.1.A.29) along with the accumulation of dirt and debris (see Fig. 2.1.A.30). The roof drain covers were missing from spots throughout these areas of the roof as well (see Fig. 2.1.A.31).

It was reported that there is a scheduled replacement of the roof planned for the summer of 2014.

Fig. 2.1.A.19 Parapets surrounding the perimeter of the roof are lower than required by code.

Fig. 2.1.A.20 Deterioration of the painted roofing membrane noted along the outer edge of the parapet.

Fig. 2.1.A.21 Generally deteriorated painted roofing membrane is bubbling and cracking.

Fig. 2.1.A.22 Cracking of the painted roofing membrane.

Fig. 2.1.A.23 General deterioration of the roofing materials at the flat central portion of the roof.

Fig. 2.1.A.24 Typical soiling noted of the clay tiles covering the shallow hipped sections of the roof.

Fig. 2.1.A.25 Broken and loose clay tiles sliding down the side of the roof.

Fig. 2.1.A.26 Deterioration of the masonry along the corners of the roof is providing points by which water can penetrate the roofing membrane.

Fig. 2.1.A.27 Widespread corrosion of the flashing was observed around the roof.

Fig. 2.1.A.28 Widespread corrosion of the flashing was observed around the roof.

Fig. 2.1.A.29 Ponding water in the areas of the roof adjacent to the parapets.

Fig. 2.1.A.30 Dirt and debris accumulating in the areas of the roof adjacent to the parapets.

Fig. 2.1.A.31 Missing roof drain covers noted in spots around the perimeter of the roof.

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 Legislative Services Building.
- Continue with the plan to replace the existing roof with a new roofing system, including a new membrane, roof drains, and flashing around the perimeter of the Penthouse and the parapet.
- According to the historic assessment of the building, the roof is considered a character defining element of the building. A comprehensive historic assessment of the roof is recommended to determine ways to preserve and repair the historic clay tile portions of the roof.

Site Elements

The exterior granite stairs leading up to the main East 14th Avenue Entrance have areas of cracking and spalling that have been repaired previously (see Fig. 2.1.A.32). The stairs are generally soiled, which is to be expected considering the age of the building (see Fig. 2.1.A.33). The two metal railings serving the staircase are showing signs of corrosion (see Fig. 2.1.A.34).

Fig. 2.1.A.32 Previously repaired damage to the granite staircase at the main East 14th Avenue Entrance.

Fig. 2.1.A.33 Soiling of the granite staircase at the main East 14th Avenue Entrance.

Fig. 2.1.A.34 Corroding metal railings at the East 14th Avenue exterior 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 Legislative Services Building.
- Clean soiled/stained East 14th Avenue granite stairway, using an approved cleaning method.
- Clean the corroded metal railings at the East 14th Avenue stairway, using an approved cleaning method, to restore the railings to their historic appearance.

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 3 stories tall and has a total floor area of 59,301 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 Legislative Services 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 Legislative Services 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 without an approved sprinkler system in a B-type occupancy is 75 feet with an occupant load greater than 30. According to the floor plans supplied by the Owner, each floor has an occupant load greater than 30 people. The length of the common path of egress travel would increase to 100 feet for an occupant load greater than 30 if the building were equipped with an approved automatic sprinkler system. The longest common path of egress travel on the Ground Floor through the Third Floor appears to be approximately 84 feet according to the floor plans provided by the Owner and is not in compliance with the 75 feet allowed. The floor plans for the Basement Floor were not provided. The Basement Floor was observed to have a sprinkler system throughout the woodshop area during the site survey visit. The greatest common path of egress travel and the greatest distance of travel that exists from the most remote point of the Basement Floor should be verified. 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 without a sprinkler system is 200 feet. The two interior exit stairways located on the south side of the building are equipped with a sprinkler system. Assuming the interior exit stairways meet fire code requirements, the greatest distance of travel would only be measured to the interior exit stairway instead of to the public way. The approximate greatest distance of travel that exists from the most remote point on the Ground Floor through the Third Floor of the Legislative Services Building to an interior exit stairway or exit discharge is 126 feet according to the plans provided by the Owner, which is well within the 200 feet allowed. 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 Legislative Services Building has 5 stories including the Ground Floor and Basement Floor 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.

According to Section 1007.1 of the IBC (2012), accessible means of egress are not required in alterations to existing buildings. No marked areas of refuge were observed during the site visit for building occupants requiring assistance when exiting the building during an emergency.

There are three means of egress from the building at the First Floor and the Ground Floor. There are two means of protected egress from the Second, Third, and Basement Floors via the two interior exit stairways that exit directly to the alley on the south side of the building. The distance between the two interior exit stairways, measured in a straight line between the stairway doorways, is approximately 44’-9”. According to Section 1015.2.1

of the IBC (2012), where two exits or exit access doorways are required from any portion of the exit access, the exits or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exits or exit access doorways. The approximate maximum overall diagonal dimension of the Legislative Services Building is 133'-6" and one-half of that length is 66'-9". Therefore the distance of 44'-9" between the two interior exit stairways does not comply with the current code requiring a 66'-9" minimum separation at the Second, Third, and Basement Floors. If the building were equipped throughout with an approved automatic sprinkler system, the separation distance of the exit doors or exit access doorways would be not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served. Therefore, with the sprinkler system, the approximate distance required between the two interior exit stairways would decrease to 44'-6" and the existing locations of the two interior exit stairways would comply with current code requirements.

According to the floor plans provided by the Owner, the hearing room, located in the northeast corner of the First Floor, grosses approximately 1,478 square feet of space and the meeting room, located near the northeast corner of the Third Floor, grosses approximately 1,083 square feet of space. These two areas are therefore classified as Assembly Occupancies, instead of as Business Occupancies, according to Section 303 of the IBC (2012). According to Table 508.4 of the IBC (2012), the required fire separation between an Assembly Occupancy and a Business Occupancy is 2 hours for buildings not equipped throughout with an approved automatic sprinkler system. Further, according to Section 903.2.1.3 of the IBC (2012), an automatic sprinkler system shall be provided in the Third Floor meeting room since the room is located on a floor other than a level of exit discharge.

The seating throughout the First Floor hearing room appears to be fixed and the occupancy load appears to be greater than 100. According to Table 1015.1 of the IBC (2012), the occupant load exceeds the maximum occupant load of 49 for an Assembly Occupancy with one exit and therefore two exit access doorways are required from the space. There are two pairs of exit access doorways located on the west side of the room with an approximate separation of 5'-6" between the doorways. If the building undergoes extensive renovation, Section 1015.2.1 (see above) of the IBC (2012) will apply to the location of the two exit access doorways for this room. Per the plans provided by the Owner, the maximum overall diagonal

dimension of the room is approximately 60 feet and one-half of that length is 30 feet. Therefore, the current distance of 5'-6" between the two exit access doors is not in compliance with current code requirements. If the building were equipped throughout with an approved automatic sprinkler system, the separation distance of the exit doors or exit access doorways would be not less than one-third of the length of the maximum overall diagonal dimension of the building or area to be served, or in this case, not less than twenty feet apart. The distance of the doors would still not be in compliance with current code requirements and would need to be addressed per any future renovation plans.

The seating throughout the Third Floor meeting room does not appear to be fixed. According to Table 1004.1.2 of the IBC (2012), assembly areas without fixed seating are subject to an occupant load factor of 7 net square feet of floor area per occupant in concentrated areas (defined as having chairs only-not fixed) and 15 net square feet of floor area per occupant in unconcentrated areas (defined as having tables and chairs). It appears that approximately 722 square feet of the room consists of a concentrated area with only chairs (not fixed) and approximately 361 square feet of the room consists of an unconcentrated area with tables and chairs. Dividing the floor area of the concentrated and unconcentrated portions of the room by the respective occupant load factors therefore results in an approximate total occupant load of 127 people for the room. According to Table 1015.1 of the IBC (2012), the occupant load exceeds 49 for an Assembly Occupancy with one exit and therefore two exits or exit access doorways are required from the space. The second exit access doorway exists on the north side of the west wall in the room. This door currently swings into the room which does not comply with Section 1008.1.2 of the IBC (2012) which states that doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons.

Posted occupant loads were not observed outside of the First Floor hearing room or the Third Floor meeting room during the site survey visit. According to Section 1004.3 of the IBC (2012), every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

The two interior exit stairways exit to the south of the building directly to the alley located between the Legislative Services Building and the Harcourt Arms Apartment Building. The alley is currently used to store extra stone for

repairs to the Legislative Services Building and the space is enclosed along the east and west sides with metal fences. The fence gates did not appear to be operable from the inside without a key. According to Section 1027.5 of the IBC (2012), the exit discharge shall provide a direct and unobstructed access to a public way. According to Section 1008.1.9 of the IBC (2012), egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. Since the gates are part of the means of egress system from the building, they should be equipped with panic hardware to allow the gates to swing in the direction of egress travel. According to Section 1008.1.1.10.1 of the IBC (2012), where panic hardware is installed it shall be listed in accordance with UL 305, the actuating portion of the releasing device shall extend at least one-half of the door leaf width, and the maximum unlatching force shall not exceed 15 pounds. Further, according to Section 1008.1.9.5 of the IBC (2012), the unlatching of any door or leaf shall not require more than one operation.

There did not appear to be stairway identification signs at each landing within the interior exit stairways in compliance with code requirements. According to Section 1022.9 of the IBC (2012), a sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom on the interior exit stairway and ramp and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the fire department. The sign shall be located 5 feet above the floor landing in a position that is readily visible when the doors are in the open and closed positions. In addition to the stairway identification sign, a floor-level sign in raised characters and Braille complying with ICC/ANSI A117.1 (2003) shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor to identify floor level.

The corridor leading to the Women's Restroom and the door to the southwest interior exit stairway on the Grade Floor is not adequately illuminated and is currently blocked with boxes and furniture (see Fig. 2.1.B.1). According to Section 1006.1 of the IBC (2012), the means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied. According to Section 1006.2 of the IBC (2012), the means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface. The illumination issues and items currently blocking this corridor should be addressed immediately and regardless of any future renovation plans.

Fig. 2.1.B.1 Exit access corridor at the southwest corner of the building on the Grade Floor with inadequate illumination and with items blocking the corridor space.

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 Legislative Services Building.
- Verify the fire-resistance ratings of the existing interior exit stairways and doors and upgrade as necessary.
- Verify the fire-resistance ratings of the First Floor hearing room and the Third Floor meeting room classified as Assembly Occupancies.
- Install an approved automatic sprinkler system in the Third Floor meeting room per code requirements for an Assembly Occupancy.
- Change the swing of the second exit access doorway in the Third Floor meeting room on the north side of the west wall per code requirements that an exit access door swing in the direction of egress.
- Post the occupant loads of the First Floor hearing room and the Third Floor meeting room per code requirements.
- Install panic hardware at the fence gates located on the east and west sides of the alley located on the south side of the building as necessary per code requirements.
- Install approved stairway identification signage at the doorways to

the two interior exit stairways and at each stairway landing per code requirements.

- Remove all boxes and furniture blocking the exit access corridor at the southwest corner of the building on the Grade Floor per code requirements.
- Provide adequate illumination at the exit access corridor at the southwest corner of the building on the Grade Floor per code requirements.

Fire Suppression Systems

There is a sprinkler system throughout the two interior exit stairways located on the south side of the building and in the woodshop on the Basement Floor. The rest of the building is not equipped with an automatic sprinkler system.

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 Legislative Services Building.
- Install a fully automatic sprinkler system throughout the building per the International Building Code (2012) and the National Fire Protection Association Standards requirements.

Stairs and Ramps

In general, the exit stairs appear to comply with the code requirements for stairs, with the exception of the interior exit stairway railing systems. The current railing systems exceed guardrail opening limitations, easily allowing passage of a sphere 4 inches in diameter (see Fig. 2.1.B.2). 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.

There were issues noted with the stair dimensions and details, within the interior exit stairways, during the site visit. The stair riser heights appear to comply with code requirements. The stair treads are approximately 10 inches in depth (see Fig. 2.1.B.3). According to Section 1009.7.2 of the IBC

(2012) and to Section 504.2 of the ICC/ANSI A117.1-2003, stair treads shall be 11 inches minimum in depth. However, the dimensions of the interior exit stairways may be exempt due to the building's historic status.

The top of the guardrails of the central open stairway on the south side of the building are approximately 36 inches above the walking surface (see Fig. 2.1.B.4). 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.2 The distance between the guardrail openings exceeds 4 inches in diameter.

Fig. 2.1.B.3 Existing stair tread depths in the interior exit stairways.

Fig. 2.1.B.4 The height to the top of the guardrails of the open central staircase on the south 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 Legislative Services Building.
- Replace the existing interior exit stairway railing systems with new railing systems that comply with the code requirements.
- Replace or rework the existing guardrail at the central open stairway on the south side of the building to comply with the code requirements for the minimum guardrail height, if allowed per historic designation guidelines.

Doors

The majority of the interior doors throughout the building are equipped with knob-style door handles including at the doors to the interior exit stairways (see Fig. 2.1.B.5 and Fig. 2.1.B.6). Pull-style handles appeared to be typical at the Second and Third Floor doors between the lobby and office spaces (see Fig. 2.1.B.7). A few lever-style door handles were noted during the site survey visit. 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.5 Typical historic knob-style door handle found throughout the building.

Fig. 2.1.B.6 Typical knob-style door handle found on the doors to the interior exit stairways and to other spaces throughout the building.

Fig. 2.1.B.7 Pull-style door handles between the lobby and office spaces found at the Second and Third Floors.

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 Legislative Services 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 restrooms, basement, and interior exit stairways are exempt and could receive accessible door handle upgrades.

Security

The East 14th Avenue Entrances at the First and Grade Floors are the means of public access to the building and are both equipped with a key-code entry. A key-code entry was also noted at the door from the interior exit stairway on the west end of the south side of the building. The other exterior doors around the building appear to be locked at all times. There is a reception desk located in the First Floor lobby (see Fig. 2.1.B.8). At the time of the site survey visit there did not appear to be anyone stationed at the desk. Security cameras were noted in some areas of the building (see Fig. 2.1.B.9 and Fig. 2.1.B.10).

Fig. 2.1.B.8 Reception desk located in the First Floor lobby.

Fig. 2.1.B.9 Typical security cameras noted during the site survey visit.

Fig. 2.1.B.10 Typical security camera noted in some of the corridors and office spaces.

2.1-C GENERAL ACCESSIBILITY ISSUES

The restrooms throughout the building have signage indicating wheelchair accessibility and provide automatic door openers. However, the restrooms are generally not wheelchair accessible throughout. The restrooms throughout provide one ambulatory accessible toilet compartment per restroom and do not provide a wheelchair accessible toilet compartment (see Fig. 2.1.C.1). The urinals do not meet accessibility guidelines. The approximate height of the urinal rims above the floor appears to be greater than 20 inches (see Fig. 2.1.C.2). According to Section 605.2 of ICC/ANSI A117.1-2003, urinals shall be of the stall type or shall be of the wall hung type with the rim at 17-inches maximum above the floor. Of the two urinals generally provided in each of the men's restrooms, at least one urinal is required to be accessible according to Section 1109.2 of the IBC (2012). The heights of the lavatory rims above the floor, throughout the restrooms, were approximately 35 inches or greater, which do not comply with accessibility requirements (see Fig. 2.1.C.3). According to Section 606.3 of ICC/ANSI A117.1-2003, the front of lavatories and sinks shall be 34 inches maximum above the floor, measured to the higher of the rim or counter surface. There was at least one lavatory per restroom that otherwise appeared to comply with accessibility requirements with lever-style faucet controls and pipes wrapped with insulation.

It was noted that the thresholds at the restrooms (see Fig. 2.1.C.4 and Fig. 2.1.C.5) and between the lobby spaces and the office spaces (see Fig. 2.1.C.6 and Fig. 2.1.C.7) throughout do not generally comply with accessibility requirements for changes in level of floor surfaces. According to Section 303.2 of ICC/ANSI A117.1-2003, changes in level of 1/4 inch maximum in height shall be permitted to be vertical. According to Section 303.3 of ICC/ANSI A117.1-2003, changes in level greater than 1/4 inch in height and not more than 1/2 inch maximum in height shall be beveled with a slope not steeper than 1:2. Finally, according to Section 303.4 of ICC/ANSI A117.1-2003, changes in level greater than 1/2 inch in height shall be ramped and shall comply with Section 405 or 406.

Note: As an historic property, the Legislative Services 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 Typical ambulatory toilet compartment.

Fig. 2.1.C.2 Urinals mounted higher on the wall than allowed per accessibility requirements.

Fig. 2.1.C.3 The heights of the lavatory rims above the floor are greater than the maximum 34 inches allowed per code.

Fig. 2.1.C.4 Thresholds at the restrooms create a change in level of floor surfaces of greater than 1/2 inch high and do not comply with code requirements.

Fig. 2.1.C.5 Thresholds at the restrooms create a change in level of floor surfaces of greater than 1/2 inch high and do not comply with code requirements.

Fig. 2.1.C.6 Thresholds between the lobby spaces and surrounding spaces create a change in level of floor surfaces of greater than 1/2 inch high and do not comply with code requirements.

Fig. 2.1.C.7 Thresholds between the lobby spaces and surrounding spaces create a change in level of floor surfaces of greater than 1/2 inch high and do not comply with code requirements.

The drinking fountains throughout the building appear to generally comply with accessibility requirements. The front-mounted push button controls are located under and behind the front edge of the front rim of the fountains which may not comply with the requirement that controls be located near the front edge (see Fig. 2.1.C.8). However, the drinking fountains may be exempt due to the building's historic status. There is a door that appears to swing into the clear floor space of the drinking fountains on the Second Floor (see Fig. 2.1.C.9). According to Section 305.3 of the ICC/ANSI A117.1-2003, the clear floor space shall be 48 inches minimum in length and 30 inches minimum in width.

The sinks in the Break Rooms throughout the building are typically non-accessible (see Fig. 2.1.C.10).

Fig. 2.1.C.8 Typical drinking fountain with front-mounted push button control located under and behind the front edge of the of the front rim.

Fig. 2.1.C.9 A door appears to swing into the clear floor space of the drinking fountains on the Second Floor.

Fig. 2.1.C.10 Typical non-accessible sink found in the Break Rooms throughout.

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 Legislative Services Building.
- Reconfigure restrooms to include required wheelchair maneuvering clearances and a minimum of one wheelchair accessible toilet stall per restroom where possible.
- Remove at least one urinal per men's restroom throughout and reinstall at a height in compliance with code requirements.

- Remove the counters and lavatories in the restrooms throughout and reinstall at a height in compliance with code requirements.
- Reconfigure or install new thresholds throughout in compliance with code requirements for changes in level of floor surfaces.
- Install accessible sinks in the Break Rooms throughout where possible.

2.1-D ELEVATORS

It was reported that the elevators were last upgraded in 1986. The elevators appear to be due for an upgrade of the cabs and equipment. It was further reported that critical life safety elevator upgrades are on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Note: As an historic property, the Legislative Services 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 Legislative Services Building.
- Update the elevator cabs, electrical, and mechanical equipment.

2.1-E ENVIRONMENTAL

It was reported that the carpet was replaced a few years ago and the asbestos related to the carpet flooring was abated at that time.

Based on the construction date of the building, it is possible that surfaces are painted with paint containing lead.

Recommendations:

- Determine whether asbestos is present in any other areas of the property, other than the presently known locations.
- Based on the construction date of the building, sampling for lead paint must be completed if any painted surfaces will be sanded.

2.1-F PLANNED AND ON-GOING PROJECTS

It was reported that there is a scheduled restoration of the windows planned for the summer of 2014. It was also reported that there is a scheduled replacement of the roof planned for the summer of 2014.

2.2 STRUCTURAL

2.2-A EXTERIOR BUILDING ENVELOPE

The building's exterior appears to be in relatively good condition with the exception of a few areas. A small recessed concrete stair at grade on the building's western face shows evidence of possible settlement (Fig. 2.2.A.1 and Fig. 2.2.A.2). Existing sealant joints at the interface of the recessed stair with the building have begun to separate and should be monitored for additional movement.

Fig. 2.2.A.1

Fig. 2.2.A.2

Sealants and mortar at the exterior granite course at the first floor level are failing (Fig. 2.2.A.3). While not an immediate structural concern, failed sealant and mortar joints can lead to water penetration into the building structure and envelope and should be replaced.


Fig. 2.2.A.3

Some cracking of exterior marble panels was observed (Fig. 2.2.A.4).


Fig. 2.2.A.4

Some clay tiles on the roof have begun to crack and slide down the roof (Fig. 2.2.A.4).


Fig. 2.2.A.5

The intersection of the southern dormer window's ridge tile and flat roof is currently open to water penetration (Fig. 2.2.A.6). The introduction of a cricket on the flat roof with flashing and sealant will divert water away from this entry point and prevent structural deterioration.

Fig. 2.2.A.6

Sealants at reentrant corners on the exterior side of the parapet have failed and should be replaced (Fig. 2.2.A.7).

Fig. 2.2.A.7

Roof drain covers are occasionally missing at the upper roof (Fig. 2.2.A.8).

Fig. 2.2.A.8

The roofing below the tiled roof has failed in multiple locations (cracking and bubbling, see Fig. 2.2.A.9).

Fig. 2.2.A.9

Recommendations:

- The exterior stair at grade should be monitored for additional movement and adjacent failed sealants should be replaced.
- Remove and replace all exterior sealants, as the observable portions appear to have exceeded their useful live.
- Check cracked stone veneer panels for loose portions, removing or repairing the stones as necessary.
- Reset and fasten existing roof tiles that have become dislodged.
- The hot-applied roofing below the tiled roof should be removed and replaced.

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

2.2-B BUILDING INTERIOR

The overall condition of the readily observable structural framing was good. Minimal structure was observable in the upper floors of the building. There was no immediately observable evidence of structural problems in finishes.

Water penetration and possible corrosion staining was observable at the southern vault ceiling (Fig. 2.2.B.1). It is our understanding the stairs have been replaced recently, so the observed staining may not be of immediate concern.

Fig. 2.2.B.1

The cementitious coating over the perimeter foundation walls is cracked and spalling in several locations (Fig. 2.2.B.2). Some of this damage could be attributed to collisions with building occupants, as there was little evidence of environmental damage.

Fig. 2.2.B.2

Recommendations:

- Monitor the vault ceiling for evidence of new water penetration.
- Repair the spalled coatings at the basement walls, and consider installing “bump guards” at heavily trafficked areas to avoid future damage.

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

No parapets were provided along the upper roof (Fig. 2.2.C.1). A fall from this area would be down a sloped clay tile roof, terminating approximately 5 to 6 feet to the roof below. The roof below has an approximately 18” tall parapet, which does not meet current safety codes. A fall from the roof below would result in an approximately 35 to 40 foot drop to grade.

A fall protection system should be provided for access near exposed edges to meet current safety codes.

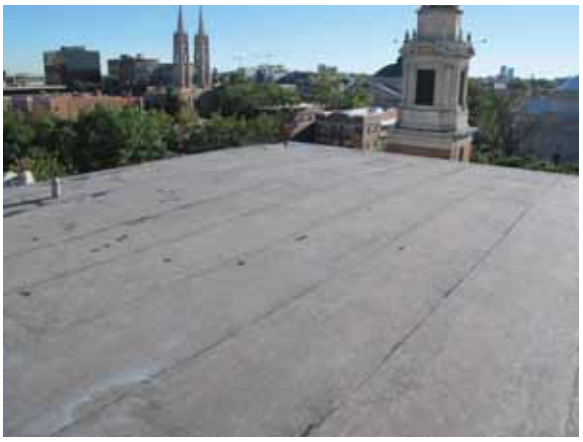


Fig. 2.2.C.1

Fig. 2.2.C.2

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 Legislative Services Building is located across from the State Capitol on the southeast corner of East 14th Avenue and Sherman Street with an address of 200 East 14th Avenue in Denver, Colorado. The building is bordered by the State Capitol to the north, the Capitol Annex to the west, an apartment complex to the south and a church to the east. The Legislative Services Building site is approximately one-half acre. The existing site consists of the building 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 East 14th Avenue (Fig. 2.3.A.1). The site surrounding the building is consistent with a building approximately 100 years old.

NOTE: Descriptions of existing infrastructure contained herein are based on public utility information provided by the City and County of Denver. Unless noted otherwise, no detailed survey information was reviewed as part of this site analysis. Estimates of drainage patterns, site grades, and slopes are based upon visual observation or information provided by others, i.e. Google Earth, Denver GIS, etc.

Figure 2.3.A.1 – Legislative Services Building E. 14th Ave. Entrance

Grading and Drainage

The site slopes generally from southeast to northwest at grades ranging from 1-10%. The high point of the site is on the southeast side, in the alleyway at corner of the building. The site slopes north towards East 14th Avenue at approximately 1% and west towards Sherman Street at approximately 1%. Existing runoff is generally conveyed overland from the building towards the streets. Runoff is collected by a street inlet at the southeast corner of E. 14th and Sherman (Fig. 2.3.A.2) and conveyed by storm sewer west within E. 14th Avenue. Runoff within the alleyway to the west is collected by area drains.

The E. 14th Avenue entrance is accessed via approximately 17 steps on the north (Fig. 2.3.A.3). There is an accessible entrance on the west side which enters the building at a lower level (Fig. 2.3.A.4). The building is set back from the public sidewalk and treelawn (Fig. 2.3.A.5). Landscaped areas are generally flat containing grass, established trees and bushes.

The foundation of the building appears to be stable. Building settlement was not observed. A large gap along the site entrance wall to the concrete at the location of the accessible entrance was observed and may be ponding water (Fig. 2.3.A.6). This area should be sealed to prevent further concrete settlement.

Figure 2.3.A.2 – Street Inlet

Figure 2.3.A.3 – E. 14th Avenue Main Entrance via Stairs

Figure 2.3.A.4 – Accessible Entrance to the West of the Main Entrance

Figure 2.3.A.5 Sherman Street ROW including Sidewalk and Treelawn, looking South

Figure 2.3.A.6 Gap Along Entrance Wall

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 gap along site entrance wall.

Utility Services

The building utility demands are unknown at this time. There are multiple utility lines located nearby within the public streets. There is a water main within E. 14th Avenue that is 8" in size. The building service line appears to connect to a 6" line within Sherman Street which is connected to the 8" E. 14th Avenue line. There is a fire hydrant located across the street in front of the Capitol Annex building. There are no known water pressure problems at this time.

The building is served by multiple sanitary sewer service lines connecting to a 9" sanitary sewer main in Sherman Street or a 12" sanitary sewer main in E. 14th Avenue. Sanitary sewer within Sherman Street is routed northerly at a 0.79% slope. The 9" Sherman Street line is tributary to the 12" E. 14th Avenue line which flows westerly at a slope of 5.9%. There are no known sanitary sewer capacity problems at this time.

The existing storm sewer within E. 14th Avenue is quite small at 12" in diameter. The line begins in the alleyway, collecting runoff from the local drains. The line then turns west within E. 14th Avenue and collects the site runoff from the inlet located at the northwest corner of the building at the Sherman Street and E. 14th Avenue intersection. This storm sewer is part

of the West 14th Ave Extension 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 E. 14th Avenue (Fig. 2.3.A.7).

Site Paving

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

Figure 2.3.A.7 Broken Site Concrete, Recommended for Replacement

Figure 2.3.A.8 Site Concrete Crack along the Building, Recommended for Repair or Replacement

Figure 2.3.A.9 Broken Site Concrete, Recommended for Replacement

Figure 2.3.A.10 Broken Site Concrete, 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. Along the west side of the building, the landscaped area appears to drain back towards the building and area wells. 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. Ponding along the east flow line of Sherman Street was observed. The road should be re-paved to provide positive drainage to the street inlet. The roadway curb and site concrete 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:

- Correct drainage in areas of standing water by installing drains or re-grading and replacing pavement.
- Re-grade landscaped areas to current geotechnical recommendations for slopes away from the building.
- Install area drains where proper slopes away from the building cannot be met.
- Replace roadway curb and concrete bordering 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 Legislative Services building appears to have been built in 1904 and completely renovated in 1986. The medium voltage switch is located in the sub-basement electrical room across from the 480V panelboard. Feeding the building is a 25+ year old 1200A, 480/277V main panelboard located in the sub-basement electrical room. On floors, basement through the fourth, there is one 480/277V panelboard and one 208/120V panelboard (see Fig. 2.4.A.1) . In the sub-basement there are many panelboards and transformers feeding the maintenance offices and shops (see Fig. 2.4.A.2).

Fig. 2.4.A.1 - Panelboards

Fig. 2.4.A.2 – Panelboards in sub-basement

Recommendations:

- The main electrical switchgear sections that are 25+ years old should be tested to see if they are working properly. If not then it will need to be replaced.
- All panelboards past their useful life should be replaced including the wire feeding the panelboard for the main source.

Lighting

The lighting fixtures are a mixture of linear T8 fluorescent and historic fixtures in the lobbies and office areas (see Fig. 2.4.A.3). The hearing rooms have spot lights that appear to be incandescent (see Fig. 2.4.A.4 and Fig. 2.4.A.5).

Fig. 2.4.A.3 – Indirect lights

Fig. 2.4.A.4– Historic fixture

Fig. 2.4.A.5 – Spot lights

The buildings management system controls the time the lights are on in the open office spaces. There is an override button located by the entryway of every space (see Fig. 2.4.A.6).

Fig. 2.4.A.6 – Lighting override button

Most of the emergency lighting appears to be emergency ballast in the fixtures and exit signs are located throughout the building.

The exterior lighting is in poor condition (see Fig. 2.4.A.7). The lens is fated and cracked preventing the fixture from providing the proper amount of light to the area.

Fig. 2.4.A.7 – Exterior light

Recommendations:

- Upgrade all lighting to new LED light fixtures with more local switching, occupancy sensors, and daylight sensing. This can be done as one big project or as spaces are remodeled. For the historical fixtures, LED replacement bulbs could be installed. This will reduce maintenance cost and save on energy.

Fire Alarm

The fire alarm system appears to be 20+ years old and has full detection in the building with elevator recall(see Fig. 2.4.A.6) . It was reported the fire alarm system is due for an upgrade.

Fig. 2.4.A.8 – Fire panel in sub-basement

Recommendations:

- Completely updated fire alarm system is recommended.

General Power

Receptacles in the office spaces appear to be in good condition but could be replaced in a major remodel since they appear to be +15 years old (see Fig. 2.4.A.8). The receptacles in the sub-basement spaces are in poor condition. The receptacles in the mechanical penthouse are in good condition. There are a lot of in-floor receptacles that are in good shape but could be replaced in a major remodel since they appear to be +15 years old (see Fig. 2.4.A.10). Since they are in the floor debris can accumulate inside of them and cause a short circuit.

Fig. 2.4.A.9 - Receptacle

Fig. 2.4.A.10 – In-floor receptacle

Recommendations:

- Replace all of the 25+ year old receptacles and wire from associated panelboards. This can be done over time as the spaces are renovated.
- Install GFI receptacles in all break room areas. Install GFI receptacles within three feet of all sinks and other open water sources.

Electrical for Mechanical System

Both elevators appear due for a cab upgrade and a controls upgrade (see Fig. 2.4.A.11).

Fig. 2.4.A.11 – Elevator controls

Emergency Power

An emergency generator has not been installed at this building. All life safety equipment appears to be backed up by battery.

Recommendations:

- Provide an emergency generator to match the conditional at the other state buildings. The generator would be able to run critical systems during an extended outage or life safety situation.

MECHANICAL SYSTEMS

HVAC

The building mechanical systems have been renovated in 1986. The chilled water to the building is supplied from a power plant and the heating hot water to the building is supplied from another building. The HVAC system consists of one central Air Handling Unit (AHU) located in the attic and two return air fans located in the basement wood shop ceiling space.

Presently, the AHU only has chilled water cooling. There is no air heating provided at the central air handling unit. The unit has air side economizer for free cooling during swing seasons. The air side distribution is a variable air volume system. The chilled water supply from the central plant is at 44 deg. F and the heating water supply is at 160 deg. F. The building's original chilled water pumps are abandoned in place. No building pumps are used for chilled water distribution in the building.

The state facilities staff indicated that the exterior walls of the building have no insulation and it is difficult to maintain heat in the building during the winter. The heating in the spaces is provided by convectors and baseboard units installed along the exterior walls. These units are controlled either by wall mounted or unit mounted thermostats. The air distribution in the spaces is via cooling only VAV boxes. The heating water circulation in the building is via two hot water pumps located in the basement. One ceiling mounted unit serves the basement area and it has steam heating coil and chilled water cooling coil. Some of the conference rooms (Joint Budget Committee) on the third floor have ceiling mounted booster Fan Coil Units (FCUs) which are connected to the main AHU supply ductwork. These FCUs have a hot water heating coil for air heating during winter operation. It was noted that these rooms don't have any heating problems in the winter. The supply air ductwork above the ceiling has air leaking from the joints at several places (see Fig. 2.4.A.12). The main return air fan located in the ceiling space above the wood shop doesn't have proper access/clearance to do maintenance work (see Fig. 2.4.A.13). The return shaft connects to the storage room where combustible materials are stored (see Fig. 2.4.A.14).

The wood shop in the basement has a dust collection system which is operational. The atrium space is provided with a smoke extraction system consisting of an exhaust fan located on the roof and a supply fan located at the basement level.

The elevator machine room in the attic is provided with a dedicated DX unit for cooling.

The HVAC controls in the building are Siemens Direct Digital Controls. Most motors have VFD's which help with energy efficiency.

Plumbing Fire Protection

The domestic cold water to the building is fed from the Capitol building. The building has a main fire entry, a fire pump and stand pipes. The building stairwells are provided with sprinklers. Domestic hot water is generated by steam in a heat exchanger.

Fig. 2.4.A.12 – Air leakage from duct joint

Fig. 2.4.A.13 – Return air fans

Fig. 2.4.A.14 – Return air opening

Recommendations:

- Install heating coil at the central air handling unit in the attic. This will help in maintaining the heat in the spaces during winter.
- Investigate supply air duct work above ceiling for leaks.
- Verify heating loads of the building and provide additional heat in spaces if required. Currently, some spaces are cold during the winter and need more heat.
- Investigate building envelope and provide insulation to meet current code requirements. This will reduce building energy costs and improve indoor comfort.
- Investigate supply air and return air path for Audit Hearing Room. It appears there is no return air path from the room back to the unit.
- Provide proper access to return air fans. There is not proper access to do maintenance work on the return air fans in the ceiling space of the wood shop.
- Return air shaft connects to storage rooms which are used as the return air plenum. Ensure that the return air opening is not blocked and combustible material is not stored in these spaces. Verify air distribution in the spaces and ensure adequate outside air is delivered to all spaces.

2.4-B CODE ISSUES

ELECTRICAL CODE ISSUES

There appears to be water leaking on some of the electrical gear in the sub-basement electrical room (see Fig. 2.4.B.1). The source of the water needs to be corrected to prevent the water infiltration or the gear needs to be NEMA 3R rated or have drip pans installed over the top of them.

Fig. 2.4.B.1 – Plastic to control water

There are some electrical boxes on the exterior of the building that are not properly enclosed (see Fig. 2.4.B.2). These need to be removed or covered with a weatherproof cover.

Fig. 2.4.B.2 – Exterior box open

There is damage to the sheetrock where some of the light fixtures are mounted to the ceiling (see Fig. 2.4.B.3). These fixtures need to be supported from structure to prevent this from happening.

Fig. 2.4.B.3 – Cracked sheetrock around light fixture base

On the fourth floor the panelboards are not easily accessible with boxes stored in front of them (see Fig. 2.4.B.4). The National Electrical Code requires dedicated working space of 42 inches in front of a panelboard in this condition.

Fig. 2.4.B.4 – Boxes in front of panels

In all the break room areas in the building, no GFI protection was observed for receptacles located near sinks (see Fig. 2.4.B.5 and Fig. 2.4.B.6). This is required per the National Electrical Code.

Fig. 2.4.B.5 – No GFI protection by sink

Fig. 2.4.B.6 – No GFI protection by sink

In the mechanical penthouse a junction box with live wires is not properly connected (see Fig. 2.4.B.7). This needs to be connected to prevent someone from shocking themselves.

Fig. 2.4.B.7 – Conduit not connected

Recommendations:

- Seal the leaks in the walls and ceilings that are causing the water damage.
- Cover or fill all exterior junction boxes that could allow water to enter the building.
- Support fixtures form structure and repair sheet rock around the light fixtures where damage has occurred.
- Remove boxes in front of the panelboards on the fourth floor so proper access is maintained.
- Repair all conduits that are not properly connected in the roof penthouse.

MECHANICAL CODE ISSUES

It appears that the amount of outside air delivered to each space may not be per code.

Fire dampers and sealing of openings in the rated walls.

Recommendations:

- Verify code required minimum outside air is provided to each space.
- Verify fire dampers are provided at each duct penetration through rated walls and all openings in the rated walls are sealed as required by code.
- Verify operation of atrium smoke exhaust system.

2.4-C PLANNED AND ON-GOING PROJECTS

It was reported that a design project to install a heating coil at the central AHU is in progress. Once the design is complete, a contract shall be awarded to install the heating coil at the central AHU. 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 provided voice/data survey and assessment scope for this building on March 14, 2014.

- The data center is on a basement level. The room is shared with other departments and house cleaning for other shared space within the walls of the data center. Some walls do not go all the way to the ceilings thus someone could crawl over them to gain access to the data equipment.
- Requested improvements would be: a more secured room with card reader access on all doors, water leak protection, raised floors for better control of cooling equipment and wire management.
- Data center room cooling equipment are two split DX systems with the condensing units on grade outside. One unit has a noisy fan in it and needs repair.
- There is a local power panel with surge protection to serve the equipment locally.
- There are a few CCTV cameras in the data center.
- The room is large enough that it could be split to create a more secured data center in the south portion of the room. The existing cooling/heating vent is used for a chase for phone lines into the basement.
- This facility has four cabinets for the servers, fiber and copper connections.
- The ceiling for the data center is Plexiglas, which allows the building existing light to illuminate the space and then separate the heating system from the cooling needs of the data center. There is no overhead cable tray.
- The working space on the backside of the server cabinets is very limited and do not meet current standards.

Recommendations:

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

This page left intentionally blank.

3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS AND RECOMMENDATIONS

3.0-A HISTORIC OVERVIEW

Introduction

The Legislative Services Building, located at 200 East 14th Avenue, is listed as a contributing resource in the Civic Center National Historic Landmark District (#5DV161, NHL 10/17/2012). Construction began in 1913 and the building first opened to the public as the State Museum Building in 1915. 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 Legislative Services 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 materials on the exterior are the Colorado Cotopaxi granite and Colorado Yule marble. 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, though the modern exterior storm windows are not contributors. The red clay tile roofing is also a character defining element of the building.

Interior spaces that are important to the character of the building are the entry vestibules and lobbies, the main stair, the original corridors on the

ground through third floors and the second floor original exhibit space. Original materials that remain and are important to the character of the interior of the building include the stone tile flooring, marble base and wainscot in the corridors, vestibules and lobbies, oak door trim, marble steps and brass handrail at the central stair and the historic coffered plaster ceilings. The original window frames, sills and trim also contribute to the historic character of the building.

Treatment Zone 1 – Exterior Facade

Description:

The four-story Legislative Services Building faces north onto 14th Avenue with a main entrance on the first floor that has a grand stair leading up to it and a secondary entrance to the ground floor located under the stair. Along 14th Avenue, the structure is set back from the street by a wide public sidewalk. A wide set of stone steps with stone cheek walls leads from the public sidewalk up to the front door. Two light fixtures are mounted on the top level of the cheek walls. Flanking the stair are two paved seating areas. The one to the right has been altered to provide stairs and a ramp down to the accessible entry. On the west side, the building is separated from the street by a grass area with a public sidewalk running through it. Small shrubs are growing adjacent to the building and mature deciduous trees grow along the west side of the site. An historic entrance located at the ground level on the west elevation has a set of steps that lead down to it but this entrance is no longer in use and the stairs are separated from the public sidewalk by grass. An asphalt paved alley is located adjacent to the east elevation. A concrete area on the south side of the building is bordered by a wrought iron fence on the east and west ends and an adjacent building on the south. This area is currently used to store building materials as wells as providing an employee break area.

The neoclassical Legislative Services Building is characterized by a rough granite base with smooth marble cladding above it, with a heavy marble cornice above the second floor and another, smaller cornice above the third floor.

The north (main) elevation has seven bays with the center four bays

stepped slightly forward of the side bays. Rusticated granite cladding runs up to the water table at the first floor level, above which the cladding is marble. The heavy cornice above the second floor has simple detailing, as does the smaller cornice above the third floor. Four marble columns with Ionic capitols flank the center bays and support a portico with the words "Colorado State Museum" inscribed in the frieze above the second floor. All of the windows have marble frames around them and the first floor windows are capped by marble architraves. The main entry is located in the center bay and provides access to the first floor through historic bronze double doors within a bronze frame. Glazing in both doors is protected by a metal grille on the exterior while the glazing in the transom has the words "Legislative Services Building 400 East Fourteenth Street" painted on it. A modern entry door located on the west side of the main entry stair provides access to the ground floor level and serves as the accessible entry.

The west elevation has seven bays and like the main elevation, the center three bays project forward from the flanking bays. As on the north elevation, rusticated granite clads the ground floor up to the water table where the cladding transitions to smooth marble with a heavy cornice above the second floor and a smaller cornice above the third floor. Marble columns with Ionic column capitols flank the center three bays. Bronze double doors originally provided access to the ground floor level and the doors are intact though this entrance is no longer in use.

The south elevation varies from the rhythm of the north and west elevations, though the cladding is the same. The center three bays are recessed back from the flanking bays and these bays are curved outward on the first through third floors. The ground level is clad is rusticated granite up to the water table above which the elevation has marble cladding. First floor windows have marble architraves as on the other elevations. Two modern exit doors are located at the ground level on the walls that step back to the recessed center bays.

The east elevation is a simplified version of the detailing on the north and west elevations. It has seven aligned bays with pilasters flanking the center three bays. Above the center three bays, the cornices are slightly stepped forward. The overall elevation detailing is the same as the other elevations with rusticated granite cladding below marble cladding. Modern painted double doors provide access to the ground floor level at the southernmost bay on this elevation.

Original painted steel windows are intact with modern aluminum storm windows installed on the exterior with a few exceptions. Storm windows were screwed into the original steel windows, slightly damaging the frame.

Three windows on the south elevation were replaced with stained glass windows in 1990 as part of the Art in Public Places Program. The majority of the windows have the original interior finishes – painted metal window frame, stone window sill and wood stool.

The building is capped by a red clay tile roof set back from the top of the walls creating an integral gutter. The tile roof slopes down on all sides from a flat roof with a rolled roofing.

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 retains its 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 and marble. 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 original windows are in fair condition. The exterior storms should be removed and the holes in the steel windows repaired. Rusted areas on the original steel windows should be repaired and the windows reconditioned. Removable storm windows should be installed on the interior of the openings with gaskets throughout and attached to the walls, not the window's frame.
- The doors are in good to fair condition. The existing weather stripping is worn or missing and should be replaced in kind. The finish on the bronze doors at the north and west entries is weathering and should be restored.
- The roofing membrane on the flat portions of the roof is cracked and deteriorated. This roofing should be replaced with a similar roofing system that does not change the roof profile. Some of the red clay tiles are cracked and broken and should be replaced in kind. If a new roofing membrane under the tiles and a new attachment system for the tiles is determined necessary, all of the clay tiles should be pulled up

and undamaged tiles should be carefully stored for reinstallation. NPS Preservation Brief 30: The Preservation and Repair of Historic Clay Tile Roofs provides additional information about proper procedures for repairing clay roofs.

- 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: North elevation

Zone 1 Exterior Facade: First floor entry on the north elevation

Zone 1 Exterior Facade: West elevation

Zone 1 Exterior Facade: Ground floor entry on the west elevation

Zone 1 Exterior Facade: South elevation

Zone 1 Exterior Facade: East elevation

Zone 1 Exterior Facade: Red clay tile roofing

Treatment Zone 2 – Interior Circulation

Description:

The entry vestibule and lobby at the first floor connects to the main stair that runs from the ground floor through the third floor. Lobbies on all floors are located adjacent to the main stair with corridors leading off them. Directly north of the second floor lobby is a large open room that originally served as exhibit space and is now used as open office space divided by cubicles.

The first floor vestibule has marble tile flooring, a grey marble base and paneled white marble wainscot capped by a grey granite picture rail.

Above the picture rail, murals have been painted on the plaster walls. The vestibule has a plaster ceiling with a decorative plaster cornice and a historic brass pendant hung light fixture. Oak, half lite double doors with a transom and oak frame lead into the first floor lobby.

The first floor lobby has marble tile flooring, a grey marble base and chair rail, and a white marble wainscot. Pilasters, spaced along the walls, have a white marble finish from the grey marble base to the Ionic column capitols. Beams extend from the pilasters across the ceiling, forming deep coffers. The coffers have dentils and moldings painted gold in contrast to the white the rest of the ceiling is painted. Modern pendant hung, indirect light fixtures are suspended within each coffer. Half lite, oak double doors with transoms and oak trim lead into tenant spaces. An information desk with marble trim is built in at the center of the lobby and is not currently in use. An elevator is located in the southwest corner of the lobby and has the original brass grille above modern elevator doors.

The ground floor lobby has similar detailing to the first floor but with less decorative detailing. Stone tile flooring runs throughout. There is a grey marble base and chair rail with a white marble wainscot. Above the wainscot the walls are painted plaster, as is the ceiling. Dropped beams run across the ceiling but the detailing on the beams is simplified from those in the first floor lobby. A pendant hung, indirect light fixture is hung in each ceiling bay. Half lite, oak doors with oak frames lead into the tenant spaces. Half lite, painted double doors lead to the entrance vestibule. The vestibule has concrete flooring and the walls and ceilings are the exposed granite block wall and stair structure. Surface mounted fluorescent strip fixtures provide light in this space.

The second and third floor lobbies match the first floor lobby in materials and detail level. Stone tile flooring runs throughout and the walls have a grey marble base and chair rail with a white marble wainscot. Above the wainscot the walls are painted plaster, except at the pilasters which have white marble panels from the base to the Ionic capitol. Coffered ceilings have deep beams with dentils and moldings painted gold in contrast to the white the rest of the ceiling is painted. Pendant hung, indirect fluorescent light fixtures are mounted within each coffer. Doors into the adjacent tenant spaces are half lite oak doors with clear glazed transoms and oak frames. Modern divider walls, composed mostly of glass, have been installed on the east and west sides of the third floor lobby.

Corridors with historic finishes are located off the lobbies on all floors. The stone tile flooring continues into these corridors, as do the coffered plaster ceilings. Some historic pendant hung fixtures with white glass globes remain in the corridors but modern indirect florescent fixtures have replaced original fixtures in other areas. The marble base, wainscot and chair rail

also continue into some of the corridors while others have oak base and painted plaster walls. Historic doors are paneled oak doors, some of which have glazing in the upper panel, with glazed transoms and oak frames. The historic brass grille is intact above the modern elevator doors.

The central stair runs continuously from the ground floor to the third floor and is three exterior bays wide. The treads and risers are white marble, the stringers are bronze and the landings have stone tile flooring. Walls adjacent to the stair have a white marble wainscot with a grey marble chair rail and modern wood handrails have been bracket mounted to the wainscot. The inside of the stair has bronze newel posts, handrail and decorative guardrail.

The original second floor exhibit space now serves as open office space. The space has a coffered ceiling with deep beams that have moulding along them. Pendant hung, indirect light fixtures have been installed in the room. Walls are painted plaster with a wood base and picture rail.

Recommendations:

- These spaces mostly retain 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 Circulation: First floor lobby

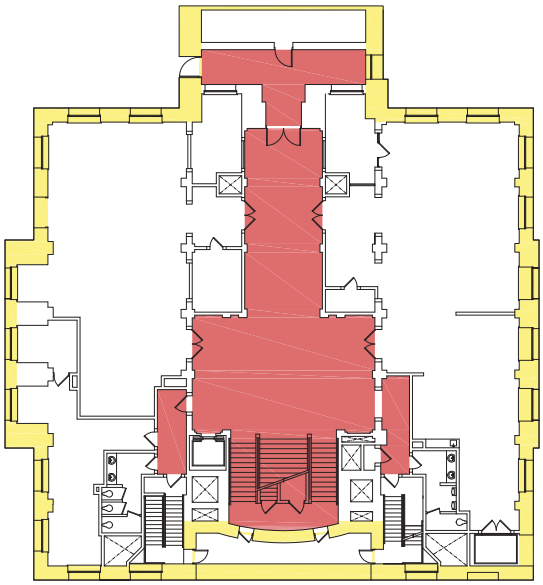
Zone 2 Interior Circulation: First floor vestibule

Zone 2 Interior Circulation: Ground floor lobby

Zone 2 Interior Circulation: Second floor lobby and central stair

Zone 2 Interior Circulation: Third floor lobby

Zone 2 Interior Circulation: An intermediate landing on the central stair



N

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

LEGEND

Exterior Facade

Interior Circulation

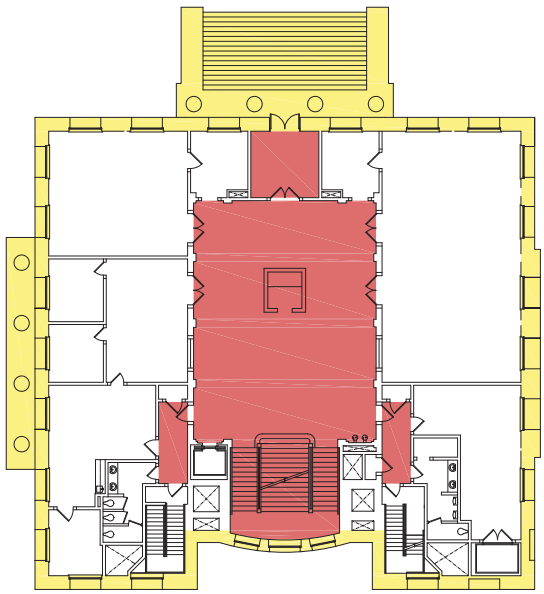
Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
Scale	1/32" = 1'-0"

Capitol Complex Master Plan
Legislative Services Building
1341 Sherman Street, Denver, CO 80203

Anderson Hallas Architects, PC

Sheet No.

A1.0



N

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

LEGEND

Exterior Facade

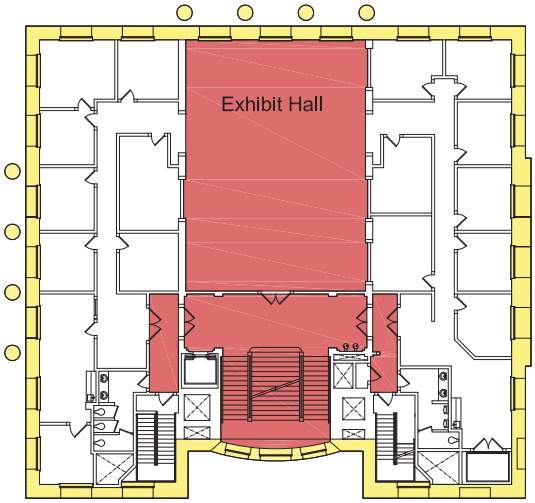
Interior Circulation

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
Legislative Services 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

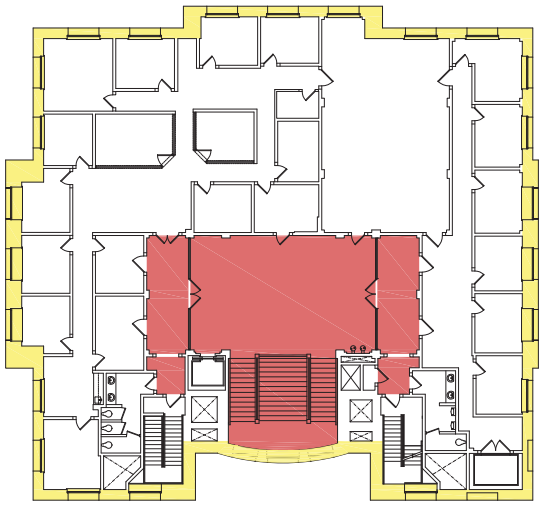
Interior Circulation

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
Legislative Services Building
1341 Sherman Street, Denver, CO 80203

Anderson Hallas Architects, PC

Sheet No.
A1.2



N

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

LEGEND

Exterior Facade

Interior Circulation

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
Legislative Services Building
1341 Sherman Street, Denver, CO 80203

Anderson Hallas Architects, PC

Sheet No.
A1.3

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

Each floor in the Legislative Services Building has a central lobby space off of the central grand stairway on the south side of the building. The central lobby has decorative plaster ceilings, plaster walls with marble wainscoting and golden oak trim, marble clad Ionic columns and pilasters, and marble flooring. The central grand stairway on the south side of the lobby space has marble flooring on the stairs and landings, plaster walls with marble wainscoting, and bronze railings. The stained glass window installation at the central grand stairway landing between the First and Second Floors was commissioned under the State Public Art Program and was created by J. Gorsuch Collins circa 1990. Offices, hearing rooms, and meeting rooms extend along the east and west sides of the building on either side of the lobby at the First and Ground Floors. At the Second and Third Floors, the offices, hearing rooms, and meeting rooms wrap around the east, north, and west sides of the lobby space.

Note: As an historic property, the Legislative Services 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.

First Floor central lobby, looking north from the grand central stairway.

Central lobby space with decorative plaster ceilings, marble, and golden oak finishes.

View of the grand central stairway on the south side of the building.

Stained glass installation by J. Gorsuch Collins at the grand central stairway windows located at the landing between the First and Second Floors.

Ceiling Finishes

The plaster ceilings throughout the lobby spaces and a few of the office and meeting room spaces, that were included in the site survey visit, are in generally good to fair condition overall.

The offices, hearing rooms, and corridors that were included in the site survey visit had a mix of 2x4 acoustic ceiling tiles in generally fair condition, with the exception of the Basement Floor (see Fig. 3.1.C.1) and 1x1 square acoustic ceiling tiles in generally fair to poor condition (see Fig. 3.1.C.2, Fig. 3.1.C.3, and Fig. 3.1.C.4). The 2x4 acoustic ceiling tiles in the interior exit stairway at the attic landing are in generally poor condition with deterioration and signs of water damage (see Fig. 3.1.C.5).

The gypsum board ceilings in the restrooms are in generally fair condition throughout.

The granite cladding on the ceilings and walls in the Ground Floor accessible entrance vestibule on the north side of the building had signs of water damage (see Fig. 3.1.C.6).

It was reported that replacement of the drop ceiling is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Fig. 3.1.C.1 Damaged and soiled 2x4 acoustic ceiling tiles noted throughout the Basement Floor.

Fig. 3.1.C.2 Deteriorating and damaged 1x1 square acoustic ceiling tiles.

Fig. 3.1.C.3 Soiled 1x1 square acoustic ceiling tiles near air diffusers.

Fig. 3.1.C.4 Deteriorating, damaged, and missing 1x1 square acoustic ceiling tiles noted in the Print Shop on the Ground Floor.

Fig. 3.1.C.5 2x4 acoustic ceiling tiles in poor condition within the interior exit stairway at the attic landing.

Fig. 3.1.C.6 Signs of water damage note to the granite cladding on the ceilings and walls in the Ground Floor accessible entrance vestibule on the north side of the building.

Wall Finishes

The plaster walls with marble wainscoting and golden oak trim throughout the lobby spaces are in fair condition overall. The marble wainscoting on the walls and cladding on the Ionic marble columns and pilasters were noted to have areas of soiling (see Fig. 3.1.C.7), areas of damage and cracking (see Fig. 3.1.C.8), and areas of deteriorating or missing grout throughout the building (see Fig. 3.1.C.9). There was also an area of damage and wear-and-tear noted at the marble wainscoting around a metal grill cover at the grand central stairway (see Fig. 3.1.C.10).

The offices, hearing rooms, and corridors that were included in the site survey visit had a mix of plaster and gypsum board in generally fair condition with some minor signs of wear-and-tear noted throughout (see Fig. 3.1.C.11). There was also an area of damage, that appeared to be due to an impact, noted to a wall in a corridor on the Third Floor (see Fig. 3.1.C.12).

The one-inch square tile wainscoting throughout the restrooms is in generally fair condition overall with some soiling noted (see Fig. 3.1.C.13).

The walls throughout the Basement Floor include gypsum board with areas of general wear-and-tear (see Fig. 3.1.C.14) and brick with areas where the protective overcoat was noted to be deteriorating and cracking away from the wall (see Fig. 3.1.C.15). There was also an area noted where a brown substance was leaking down the wall near the old coal tracks (see Fig. 3.1.C.16).

Fig. 3.1.C.7 Areas of soiled marble wainscoting noted throughout the building.

Fig. 3.1.C.8 Areas of damaged marble wainscoting and cladding noted throughout the building.

Fig. 3.1.C.9 Areas of deteriorating or missing grout at the marble wainscoting throughout.

Fig. 3.1.C.10 Damage and wear-and-tear noted to the marble wainscoting around a metal grill at the grand central stairway.

Fig. 3.1.C.11 Minor wear-and-tear noted to the plaster and gypsum board walls throughout the offices, hearing rooms, and corridors included in the site survey visit.

Fig. 3.1.C.12 Area of damaged plaster or gypsum board wall noted in a corridor on the Third Floor.

Fig. 3.1.C.13 Soiling noted to the one-inch square tile wainscoting in the restrooms throughout.

Fig. 3.1.C.14 Wear-and-tear noted to the gypsum board walls in areas of the Basement Floor included in the site survey visit.

Fig. 3.1.C.15 Deterioration and damage noted to the protective brick coating in areas of the Basement Floor included in the site survey visit.

Fig. 3.1.C.16 A brown substance was noted to be dripping down a wall of the Basement Floor near the old coal tracks.

Floor Finishes

The marble flooring throughout the lobby spaces and the grand central stairway is in fair condition overall with some cracking (see Fig. 3.1.C.17 and Fig. 3.1.C.18) and areas of soiling and wear-and-tear, especially at the First and Ground Floors, noted throughout (see Fig. 3.1.C.19).

The offices, hearing rooms, and corridors that were included in the site survey visit had carpet flooring in generally fair to poor condition with areas of soiling, deterioration, and spots where the seams were pulling loose or the carpet was bunching together (see Fig. 3.1.C.20, Fig. 3.1.C.21, and Fig. 3.1.C.22). The hearing room in the northeast corner of the First Floor has potential tripping hazards with areas of tape on the carpet flooring and electrical cords running across the floor from floor outlets (see Fig. 3.1.C.23 and Fig. 3.1.C.24).

The composite rubber flooring in the Print Shop on the Ground Floor is in generally fair condition. There are spots where electrical cords span the aisles in the Print Shop and are creating potential tripping hazards. One of the electrical cords is enclosed within a raceway that does not appear to be secured to the floor and another has been taped down to the floor with duct tape (see Fig. 3.1.C.25). The rubber flooring covering the stairs in the interior exit stairways appears to be in fair condition with signs of general wear-and-tear noted throughout (see Fig. 3.1.C.26).

The one-inch square tile flooring throughout the restrooms is in generally fair condition overall with some soiling noted (see Fig. 3.1.C.27).

The concrete flooring, in the areas of the Basement Floor that were included in the site survey visit, is in fair to poor condition throughout. Areas of spalling were observed and are creating a potential tripping hazard (see Fig. 3.1.C.28). It was also noted that the paint is generally wearing off of the concrete (see Fig. 3.1.C.29).

It was reported that repair and replacement of the flooring is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Fig. 3.1.C.17 Cracking noted to the marble flooring throughout.

Fig. 3.1.C.18 Cracking noted to the marble flooring throughout.

Fig. 3.1.C.19 Soiling and wear-and-tear noted to the marble flooring, especially at the First and Ground Floors.

Fig. 3.1.C.20 Soiled and deteriorating carpet noted in areas throughout the building.

Fig. 3.1.C.21 Carpet flooring pulling loose at the seams and creating a potential tripping hazard.

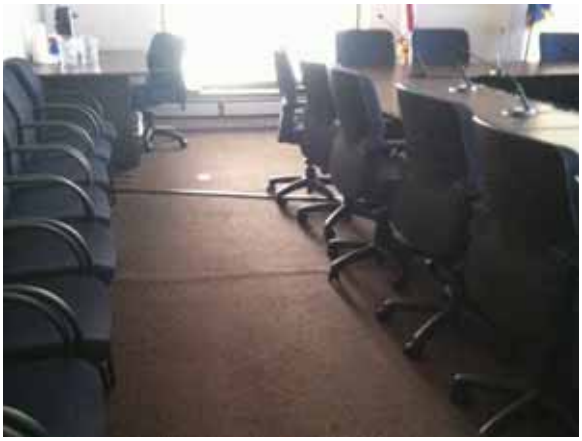


Fig. 3.1.C.22 Carpet flooring pulling loose and bunching together, creating a potential tripping hazard.

Fig. 3.1.C.23 Tape on the carpet flooring creating a potential tripping hazard in the hearing room at the northeast corner of the First Floor.

Fig. 3.1.C.24 Electrical cord creating a potential tripping hazard in the hearing room at the northeast corner of the First Floor.

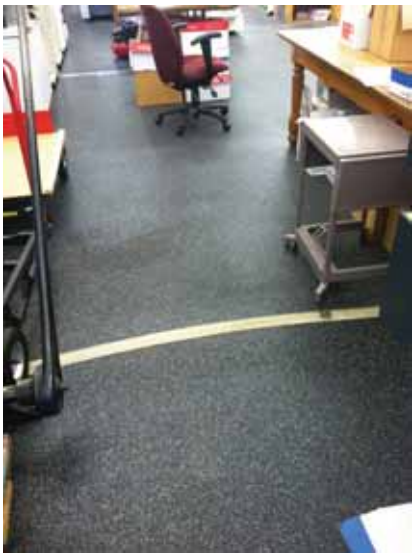


Fig. 3.1.C.25 Electrical cords spanning the Print Shop aisles and creating potential tripping hazards.

Fig. 3.1.C.26 The rubber flooring covering the stairs in the interior exit stairways has signs of general wear-and-tear throughout.

Fig. 3.1.C.27 Soiled one-inch square tile flooring noted in the restrooms throughout.

Fig. 3.1.C.28 Spalling concrete flooring noted in the basement.

Fig. 3.1.C.29 Paint noted to be wearing off of the concrete flooring 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.30 and Fig. 3.1.C.31).

A few of the stone window sills were noted to be damaged throughout (see Fig. 3.1.C.32).

Fig. 3.1.C.30 Cracking door frame at the hinge noted during the site survey visit.

Fig. 3.1.C.31 General wear-and-tear noted at a door during the site survey visit.

Fig. 3.1.C.32 Cracked stone window sill noted during the site survey visit.

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 Legislative Services Building.
- Replace the 1x1 square acoustic ceilings throughout.
- Replace damaged 2x4 acoustic ceiling tiles throughout.
- Clean the granite cladding on the ceilings and walls of the Ground Floor entry vestibule on the north side of the building. Determine the cause of the water damage and repair as necessary.
- Clean and refinish any soiled marble wainscoting and cladding on the walls throughout.
- Repair or replace any damaged marble wainscoting and cladding on the walls throughout.
- Tuck point the marble wainscoting and cladding on the walls throughout.
- Clean, repair, or replace any soiled or damaged plaster or gypsum board walls throughout.
- Clean and refinish one-inch square tile wainscoting in the restrooms throughout.

- Repair areas of damaged and deteriorating protective coating at the brick walls throughout the Basement Floor.
- Clean the brown substance off of the wall noted in the basement. Determine the cause of the leaking brown substance and repair as necessary.
- Clean and refinish any soiled marble flooring throughout.
- Repair or replace any damaged marble flooring throughout.
- Replace all carpet throughout.
- Remove all potential tripping hazards throughout, pay particular attention to the electrical cords running across the floor of the hearing room in the northeast corner of the First Floor and in the Print Shop on the Ground Floor.
- Clean and refinish the one-inch square tile flooring in the restrooms throughout.
- Repair or replace any spalling or otherwise damaged concrete flooring throughout the Basement Floor.
- Repaint the concrete floors where the paint is wearing off throughout the Basement Floor.
- Refurbish any interior doors and door frames where damaged or worn.
- Replace all knob-style door handles if allowed per historic designation guidelines.
- Repair or replace any damaged stone window sills throughout.

MARTIN / MARTIN CONSULTING ENGINEERS

3.1-D STRUCTURAL

No structural concerns were noted on the First Floor through the Third Floor. No structural concerns were noted on the Ground Floor or 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.

This page left intentionally blank.

4.0 LEVELS OF RENOVATION NEEDED

Building: Legislative Services Building, 200 East 14th Avenue (Denver)					
Priority	Main System	Sub System	Level of Renovation Needed		
			Minimal	Moderate	Extensive
1	Exterior Enclosure	Roof			√
1	Exterior Enclosure	Fall Protection (roof)			√
1	Exterior Enclosure	Sealant / Grout			√
1	Exterior Enclosure	Insulation			√
1	Exterior Enclosure	Windows			√
1	Exterior Enclosure	Doors			√
1	Infrastructure	Power			√
1	Infrastructure	Elevator(s)			√
1	Infrastructure	Fire Alarm			√
1	Infrastructure	Fire Sprinkler			√
1	Infrastructure	Tele/Com			√
1	Interior	Finishes - Flooring			√
1	Interior	ADA-Restrooms			√
1	Interior	ADA-Door Levers			√
1	Interior	ADA-Sinks (Break Rooms)			√
1	Code	Exits (Hearing Room/Alley Gates)	√		
2	Code	Exit Stairways		√	
2	Exterior Enclosure	Walls		√	
2	Infrastructure	HVAC		√	
2	Infrastructure	Lighting		√	
2	Infrastructure	Security Access/IDS		√	
2	Infrastructure	Security Video		√	
2	Interior	Finishes Ceiling		√	
2	Site	Drainage		√	
2	Site	Pavement		√	
3	Exterior Enclosure	Signage	√		
3	Infrastructure	Structural Framing	√		
3	Interior	Finishes - Wall	√		
3	Interior	Doors	√		
	Code	Dead End Corridors			
	Environmental	Asbestos	(testing recommended)		
	Exterior Enclosure	Penthouse			
	Interior	ADA-Drinking Fountains			
	Site	Utilities			
	Site	Lighting			

This page left intentionally blank.

5.0 COST ESTIMATES

SUMMARY OF SUMMARIES

Item No.	Description	SF	Total	$/SF
1	Construction Cost	59,301	4,001,935	67.49
2	Contingency on Above		w/ Above	
	Base Price Subtotal:	**59,301**	**4,001,935**	**67**
3A	IT \ Teledata (Relocate Exstg Only)	59,301	151,230	2.55
3B	Public Art	59,301	40,019	0.67
4	Contingency on Above		Excluded	
	Equipment & Art Subtotal:		**191,249**	**3**
	Systems \ Equipment \ Art Subtotal:		**4,193,184**	**71**
5	Escalation - 6.75% per year		Excluded	
6	Contingency on Above		Excluded	
	Escalation Subtotal:		**0**	**0.00**
	Base Price \ Equipment & Art \ EscalationSubtotal:		**4,193,184**	**71**
7	Design Fees at 8% per State of CO Direction		335,455	5.66
8	Contingency on Above		Excluded	
	Design Fee Subtotal:		**335,455**	**5.66**
	Base Price \ Equipment & Art \Design Fee Subtotal:		**4,528,638**	**76**

PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS	**4,528,638**	**76**

ADD ALTERNATE				
9	FF&E (FF&E SF & $25\SF Allowance per Architect)	21,203	530,075	25.00
10	Move Management	59,301	71,795	1.21
11	Escalation - 6.75% per year (to March 2017)		Excluded	
12	Contingency on Above		Excluded	
	Move Management Subtotal:		**601,870**	
	Add Alternate Subtotal:		**601,870**	**10.15**

SYSTEM BY SYSTEM SUMMARY

Item No.	Description	SF	Total	$/SF
1A	Add Panic Devices on Alley Gates	59,301	51,056	0.86
1B	Escalation		Excluded	
	System 1 Add Panic Devices Subtotal:		**51,056**	**1**
2A	Upgrade Fire Alarm	59,301	33,881	0.57
2B	Escalation		Excluded	
	System 2 Upgrade Fire Alarm Subtotal:		**33,881**	**1**
3A	FL 3 Hearing Rm: Fire Rated Wall & Change Door Swing	59,301	98,727	1.66
3B	Escalation		Excluded	
	System 3 Hearing Room Modifications Subtotal:		**98,727**	**2**
4A	Replace Windows & Exterior Doors	59,301	332,038	5.60
4B	Escalation		Excluded	
	System 4 Replace Windows & Exterior Doors Subtotal:		**332,038**	**6**
5A	Replace Electric Panel Boards	59,301	602,620	10.16
5B	Escalation		Excluded	
	System 5 Replace Electrical Panel Boards Subtotal:		**602,620**	**10**
6A	Balance of Project Scope	59,301	2,958,614	49.89
6B	Escalation		Excluded	
	System 6 Balance of Scope Subtotal:		**2,958,614**	**50**
	System by System Total Project 2014 Dollars Subtotal:		**4,076,935**	**69**
7	IT \ Teledata (Relocate Exstg Only)	59,301	151,230	2.55
8	Public Art	59,301	40,019	0.67
9	Contingency on Above		Excluded	
	Equipment \ Art Subtotal:		**191,249**	**3**
	Systems \ Equipment \ Art Subtotal:		**4,268,184**	**72**
10	Design Fees at 8% per State of CO Direction		341,455	5.76
11	Contingency on Above		Excluded	
	Design Fee Subtotal:		**341,455**	**6**
	Base Price \ Equipment & Art \ Design Fee Subtotal:		**4,609,638**	**78**

PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS	**4,609,638**	**78**

ADD ALTERNATE				
12	FF&E (FF&E SF & $25\SF Allowance per Architect)	21,203	530,075	25.00
13	Move Management	59,301	71,795	1.21
14	Flex Space		Excluded	
15	Escalation - 6.75% per year (to March 2017)		Excluded	
16	Contingency on Above		Excluded	
	Move Management Subtotal:		**601,870**	
	Add Alternate Subtotal:		**601,870**	**10.15**

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**					86,855	
	AV / IT @ Large Conference Rooms	-	EA	5,230.00	Excluded		
	VOIP Telephone System	240	EA	280.00	67,257		
	New PC Computer Workstations	24	EA	810.00	19,598		
	State of CO Servers, Routers, Wireless Access and IT Equipment not w/Above				Excluded		
	Equipment Subtotal					86,855	
12 99 00	**Furnishings**					530,075	
	New Employee Workstations	21,203	SF	25.00	530,075		
	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**					40,019	
	Art in Public Places @ 1.0% of Construction Cost	1	LS	40,019.35	40,019		
	Furnishings Subtotal					570,094	
13 49 00	**Radiation Protection**					Excluded	
	Special Construction Subtotal					Excluded	
27 10 00	**Structured Cabling**					64,375	
	Teledata Cabling System Conduit & Wire Upgrades				w/Const Cost		
	Teledata Cabling Terminations, Testing & Tone-Out	240	EA	268.00	64,375		
27 41 00	**Audio-Visual Systems**					Excluded	
27 53 00	**Distributed Systems**					Excluded	
	Communications Subtotal					64,375	
34 99 99	**Move Management**					71,795	
	Moving Labor, Material, Equipment & Supervision	237	EA	243.00	57,641		
	Relocate Existing PC Computer Workstations	218	EA	65.00	14,154		
	Transportation Subtotal					71,795	
	Total FF&E, IT, & Move Management					1,586,237	

DETAILED ESTIMATE - SUMMARY

CSI Division	Description	Project GSF		59,301
		$/GSF	Section Totals	Total w/Burdens
02	Existing Conditions	0.46	27,478	38,131
03	Concrete	0.60	35,529	49,303
04	Masonry	2.34	138,818	192,635
05	Metals	1.35	79,799	110,736
06	Woods & Plastics	1.24	73,270	101,675
07	Thermal & Moisture	3.74	221,825	307,822
08	Doors & Glazing	3.73	221,260	307,038
09	Finishes	7.96	471,766	654,660
10	Specialties	1.05	62,365	86,543
11	Equipment	0.04	2,251	3,124
12	Furnishings	0.05	3,251	4,511
13	Special Construction		Excluded	
14	Conveying Systems	1.77	105,000	145,706
21	Fire Supression	0.32	19,095	26,498
22	Plumbing	1.07	63,245	87,763
23	HVAC	4.95	293,609	407,436
26	Electrical	14.04	832,497	1,155,239
27	Communications	2.88	170,787	236,997
28	Security		w/26000	
31	Earthwork	0.81	48,000	66,609
32	Exterior Improvements	0.24	14,059	19,510
33	Utilities		Excluded	
34	Transportation		Excluded	
SUBTOTAL: CONSTRUCTION COST DETAIL		**48.63**	**2,883,904**	**4,001,934.83**
	General Conditions (GC's Onsite Overhead)	9.80%	282,623	
	Materials Testing	0.10%	3,167	
	Design & Preconstruction Contingency	10.00%	316,969	
	Owner's Construction Contingency (after NTP)	5.00%	174,333	
	Permits	1.90%	69,559	
SUBTOTAL: DIRECT CONSTRUCTION COSTS		**62.91**	**3,730,554**	
	General\Professional Liability Insurance	0.90%	33,575	
	Builder's Risk Insurance	1.50%	56,462	
	Performance & Payment Bond	1.10%	42,027	
	Bid Bond	0.20%	7,725	
	Tap Fees & Other Owner Soft Costs		Excluded	
	GC's Offsite Overhead & Profit (Fee)	3.40%	131,592	
	Escalation\Year (to Mid-Point of Construction)	6.75%	ject Summary	
SUBTOTAL: DIRECT & INDIRECT CONSTRUCTION COSTS		**67.49**	**4,001,935**	

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					26,685	
	Hazardous Material Testing & Removal (Assume 10% Asbestos)	5,930	SF	4.50	26,685		
02 25 00	Building Shoring					w/051200	
	Shoring @ Existing Building during Demolition (if any)				w/Below		
02 41 13	Selective Site Demolition					793	
	Selective Demoliton @ Existing Site (Allowance)	201	SF	3.94	793		
02 41 19	Structure Demolition					w/051200	
	Existing Conditions Subtotal					27,478	
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					35,529	
	Concrete Patching @ Existing Building -Medium Repairs (Allowance)	2,669	SF	13.31	35,529		
03 35 00	Concrete Finishes					Excluded	
	Concrete Subtotal					35,529	
04 20 00	Masonry					Excluded	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Cleaning & Caulking @ Brick Veneer at Exterior Skin	-	SF	0.78	Excluded		
	Repair @ Existing Brick Veneer @ Exterior Skin	-	SF	6.83	Excluded		
	Replace Existing Brick Veneer @ Exterior Skin	-	SF	22.31	Excluded		
04 40 00	**Stone**					12,804	
	Cleaning & Caulking @ Stone Veneer at Exterior Skin	11,746	SF	1.09	12,804		
	Repair @ Existing Stone Veneer @ Exterior Skin	-	SF	18.71	Excluded		
	Replace Existing Stone Veneer @ Exterior Skin	-	SF	22.31	Excluded		
	Masonry Subtotal					138,818	
05 12 00	**Structural Steel**					2,820	
	Structural Upgrades @ Existing Building - Minor Repairs (Allowance)	445	SF	6.34	2,820		
	Structural Upgrades @ Existing Building -Medium Repairs (Allowance)	-	SF	13.31	Excluded		
	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**					76,980	
	Repair Existing Metal Railings	5,782	SF	13.31	76,980		
05 58 50	**Equipment Screens**				-	Excluded	
05 59 00	**Entrance Canopy**				-	Excluded	
05 80 00	**Expansion Control**				-	Excluded	
	Metals Subtotal					79,799	
06 10 00	**Rough Carpentry**					30,244	
	Blocking & Backing at Interior Reno (Allowance)	59,301	SF	0.51	30,244		
06 15 00	**Wood Decking**					Excluded	
06 22 00	**Millwork / Finish Carpentry**					41,619	

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	New Reception Desk (Allowance)	1	LS	10,000.00	10,000		
	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	250	SF	55.00	13,750		
	Additional Millwork not w/Above @ Full Reno + 25% of Med Reno (Allowance)	7,413	SF	1.50	11,119		
06 60 00	**FRP Panels**					**1,407**	
	FRP Panels @ New Janitor's Closets	264	SF	5.33	1,407		
	Woods & Plastics Subtotal					**73,270**	
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**					**195,496**	
	Caulking & Minor Roof Repair @ Existing Roof Membrane	-	SF	0.68	Excluded		
	Patching @ Existing Roof Membrane	-	SF	1.89	Excluded		
	New Roofing Membrane @ Existing Roof to be Replaced	19,767	SF	9.89	195,496		
07 60 00	**Flashing and Sheetmetal**					**Excluded**	
	Flashing @ Roofing System				w/074150		
07 72 00	**Roof Accessories**					**Excluded**	
	Roof Access Hatch\Ladder				Excluded		
	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**					**3,202**	
	Firestopping	59,301	SF	0.05	3,202		
07 90 00	**Joint Sealants**					**23,127**	
	Joint Sealants	59,301	SF	0.39	23,127		
	Thermal & Moisture Subtotal					**221,825**	
08 10 00	**Steel Doors and Frames**					**26,438**	
	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	119	EA	211.33	25,064		
	6'-0"x 7'-0" HM Door Frame	5	EA	274.73	1,374		
	Add for HM Frames @ Masonry Openings				Excluded		
	Add for Sidelites & Transoms				Excluded		
	HM Glazing Frames				Excluded		
08 20 00	**Wood Doors**				-	**43,708**	
	3'-0"x 7'-0" SC WO Wood Door	119	EA	339.87	40,309		
	PR 3'-0"x 7'-0" SC WO Wood Doors	5	EA	679.74	3,399		
	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**					**49,072**	
	Cleaning & Caulking @ Storefront & Punch Window Glazing at Exterior Skin	-	SF	1.22	Excluded		
	Repair @ Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	2,630	SF	18.66	49,072		
	Replace Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	-	SF	57.88	Excluded		
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**					94,186	
	Hardware @ Single Leaf Exterior Door				Excluded		
	Hardware @ PR of Exterior Doors				Excluded		
	Hardware @ Single Leaf Interior Door	119	EA	462.71	54,878		
	Hardware @ PR of Interior Doors	5	EA	925.42	4,627		
	Hardware @ Storefront Doors				Excluded		
	Add for Card Key Access Hardware	1	EA	647.88	648		
	Add for ADA Door Operator @ Single Leaf	5	EA	1,341.22	6,706		
	Add for ADA Door Operator @ PR of Doors	1	EA	1,711.56	1,712		
	Add for Panic Hardware @ Single Leaf	8	EA	896.33	7,171		
	Add for Panic Hardware @ Pair of Doors	2		1,792.66	3,585		
	Add for Kickplates, etc. @ Restroom Doors	10	EA	322.47	3,225		
	Add for Closers, etc. @ Single Leafs	17	EA	621.77	10,570		
	Add for Closers, Astral, etc. @ PR of Doors	1	EA	1,064.23	1,064		
08 81 00	**Interior Glass Walls, Partitions & Glazing**					7,856	
	Interior Storefront Glazing						
	Interior Storefront Glazing @ Renovation	111	SF	43.48	4,835		
	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	30	EA	23.56	699		
	0'-6"x 2'-0" Wire Glass Lites @ Fire-rated Doors	17	EA	63.28	1,076		
	2'-0"x 2'-0" Std Vision Lites @ Interior Doors	12	EA	52.72	625		
	2'-0'x 2'-0" Wire Glass Lites @ Fire-rated Doors	6	EA	104.88	622		
	FireLite Glazing				Excluded		
08 90 00	**Louvers and Vents**					w/233000	
	Louvers & Vents @ HVAC				w/Below		
	Doors & Glazing Subtotal					221,260	
09 21 00	**Plaster**					w/072400	
	3 Coat Cementituous Stucco System @ Exterior				w/Above		
09 25 00	**Gypsum Board**					125,386	
	25 GA Mtl Stds w/Gyp BD (2) Sides @ Interior	7,227	SF	6.14	44,376		
	25 GA Mtl Stds w/Gyp BD (2) Sides + STC 60 Batt @ Interior	3,892	SF	7.17	27,903		
	25 GA Furring w/Gyp BD (1) Side + STC 60 Batt	556	SF	5.94	3,302		
	Add for Impact Resistant Gyp Bd	222	SF	0.67	149		
	Add for Water Resistant Gyp Bd @ Restroom Walls	3,699	SF	0.61	2,257		
	Add for Water Resistant Gyp Bd @ Restroom Ceilings	600	SF	0.61	366		
	CH Stud System @ HVAC Duct Chases (Allowance)	216	SF	7.61	1,644		
	Gyp Bd (1) Side @ Int of 18 GA Exterior Wall Framing	17,532	SF	1.26	22,090		
	Suspended Gyp Bd Ceilings (Allowance)	1,193	SF	7.21	8,602		
	Gyp Bd Closure Wall Systems @ Soffits & Ceiling Ht Changes (Allowance)	139	LF	23.16	3,219		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	247	LF	14.33	3,542		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	73	LF	11.33	828		
	Gyp Bd Perimeter Beam Wraps & Window\Skylight Reveals	183	LF	6.23	1,138		
	Gyp Bd Detailing not w/Above	1	LS	5,970.75	5,971		
09 31 00	**Ceramic Tile**					**28,621**	
	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	1,541	SF	10.63	16,385		
	Add for Porcelain Wall Tile Above 5'-0"H @ Wet Walls @ Restrooms	270	SF	10.63	2,867		
	Shower Pans & Curbs				Excluded		
	Tile Cove Base @ Rest Rooms	308	LF	6.18	1,905		
09 50 00	**Acoustical Ceilings**					**30,338**	
	New 2'x4' Armstrong Dune Second Look ACT (or Equal)	10,074	SF	2.89	29,114		
	New 2' x 2' Premium ACT (Allowance)	356	SF	3.44	1,224		
09 64 00	**Wood Flooring**					**Excluded**	
	Wood Flooring				Excluded		
09 65 00	**Resilient Flooring**					**4,290**	
	Sheet Vinyl w/Heat Welded Seams				Excluded		
	3MM Linoleum w/Heat Welded Seams @ Breakrooms				Excluded		
	Standard Rubber Base	3,314	LF	1.21	4,010		
	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	33	LF	3.44	114		
09 65 66	**Rubber Sports Flooring**					**Excluded**	
09 67 00	**Fluid Applied Flooring**					**741**	
	Epoxy Sealer @ Conc Flr @ Janitor's Closet & Mech\Elec\IT Rooms	125	SF	5.94	741		
09 68 00	**Carpet**					**191,022**	
	28 oz Direct Glue Carpet	58,476	SF	3.11	181,926		
	Add for Waste at Above (Assume 5%)	2,924	SF	3.11	9,096		
	Carpet Tile				Excluded		
	Add for Waste at Above (Assume 5%)				Excluded		
09 84 00	**Acoustical Wall Panels**					**290**	
	Acoustic Panels @ Large Conf Rooms (Allowance)	24	SF	12.08	290		
09 90 00	**Paint & Wallcovering**					**36,902**	
	Paint Existing Stairs, Landings and Railings				Excluded		
	Paint Existing Steel Ladders				Excluded		
	Paint 3'-0"x 7'-0" HM Frame	119	EA	48.33	5,732		
	Paint 6'-0"x 7'-0" HM Frame	5	EA	51.29	256		
	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	40,542	SF	0.53	21,487		
	Dryerase Paint @ One Wall\Conf Room	160	SF	8.61	1,378		

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Paint Exposed Structure @ Janitor's Closet & Mech\Elec\IT Rooms	125	SF	1.21	151		
	Paint Suspended Gyp Bd Ceiling @ Restrooms w/Epoxy	600	SF	2.86	1,716		
	Paint Suspended Gyp Bd Ceiling @ w/Latex	593	SF	0.83	492		
	Paint Gyp Bd Closure Wall System	139	LF	3.44	478		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	247	LF	4.72	1,167		
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	73	LF	3.54	259		
	Gyp Bd Perimeter Beam Wraps & Window\Skylight Reveals	183	LF	2.36	431		
	Paint Breaks @ Accent Walls				w/Above		
	Painting @ Gyp Bd not w/Above (Allowance)	1	LS	3,355	3,355		
09 95 00	**Finishes Protection / Punchlist / Cleanup**					**4,176**	
	Existing Finishes Protection, Punchlist, Tenant MACs & Final Clean (Allowance)	1	LS	4,176	4,176		
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					**471,766**	
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**					**8,708**	
	Code Required ID Signage	155	EA	56.36	8,708		
	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**					**485**	
	2"x 2'x 4'-0" Vinyl Corner Guard w/Aluminum Retainer	6	EA	61.22	367		
	2"x 2'x 4'-0" Stainless Steel Corner Guards	1	EA	118.16	118		
10 28 00	**Toilet Accessories**				-	**21,495**	
	SS Soap Dispenser	15	EA	77.63	1,164		
	SS Recessed Paper Towel Dispenser\Waste Receptacle	13	EA	192.09	2,497		
	SS Recessed Seat Cover Dispenser	13	EA	86.33	1,122		
	SS Toilet Paper Dispenser - Multiroll	10	EA	85.62	856		
	SS Toilet Paper Dispenser - Single Roll		EA	35.18	Excluded		
	SS Sanitary Napkin Dispenser	5	EA	234.23	1,171		
	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	15	EA	101.77	1,527		
	Electric Hand Dryers	10	EA	664.71	6,647		
	Baby Changing Station	13	EA	415.31	5,399		
10 43 00	**Emergency Aid Specialties**					**2,471**	
	Defibrilator & Cabinet	3	EA	823.64	2,471		
10 44 00	**Fire Extinguishers**					**288**	
	Fully Recessed Fire Extinguisher & Cabinet	1	EA	364.53	288		
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**					**544**	
	12"D Prefinished Melamine Shelving @ Janitor's Closets (5 EA\LF)	7	LF	27.43	197		
	12"D Prefinished Melamine Storage Closet				Excluded		
	Mop Holder & Shelf @ Janitor's Closets	1	EA	288.61	346		
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					**62,365**	
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					3,251	
	Mechoshades @ Exterior Glazing (Electrically Operated)	329	SF	9.89	3,251		
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					3,251	
13 49 00	Radiation Protection					Excluded	
	Special Construction Subtotal					Excluded	
14 20 00	Elevators					105,000	
	Full Elevator Replacement	3	STP	35,000.00	105,000		
	Conveying Systems Subtotal					105,000	
21 13 00	Fire Protection					19,095	
	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)	5,930	SF	3.22	19,095		
	Fire Supression Subtotal					**19,095**	
22 40 00	**Plumbing**					**63,245**	
	Plumbing (Minimal Upgrade)	-	SF	1.78	Excluded		
	Plumbing (Medium Upgrade)	-	SF	3.14	Excluded		
	Plumbing (Replacement)	8,895	SF	7.11	63,245		
	Plumbing Subtotal					**63,245**	
23 30 00	**HVAC**					**293,609**	
	HVAC System (Minimal Upgrade)	-	SF	5.25	Excluded		
	HVAC System (Medium Upgrade)	23,720	SF	11.75	278,715		
	HVAC System (Replacement)	-	SF	29.33	Excluded		
	Connections/Demoltion at Existing HVAC System	11,860	SF	0.89	10,556		
	Systems Commissioning	1	LS	4,339.05	4,339		
	HVAC Subtotal					**293,609**	
26 00 00	**Electrical**					**832,497**	
	Lighting System (Minimal Upgrade)	-	SF	1.44	Excluded		
	Lighting System (Medium Upgrade)	-	SF	2.91	Excluded		
	Lighting System (Replacement)	59,301	SF	6.22	368,852		
	One-line\Distribution & Branch Power System (Minimal Upgrade)	-	SF	0.85	Excluded		
	One-line\Distribution & Branch Power System (Medium Upgrade)	-	SF	1.56	Excluded		
	One-line\Distribution & Branch Power System (Replacement)	53,371	SF	6.71	358,119		
	Special Systems (Paging, Security, etc.) System (Minimal Upgrade)	-	SF	0.26	Excluded		
	Special Systems (Paging, Security, etc.) System (Medium Upgrade)	-	SF	0.97	Excluded		
	Special Systems (Paging, Security, etc.) System (Replacement)	53,371	SF	1.67	89,129		
	Fire Alarm System (Minimal Upgrade)	-	SF	0.26	Excluded		
	Fire Alarm System (Medium Upgrade)	-	SF	0.51	Excluded		
	Fire Alarm System (Replacement)	5,930	SF	1.12	6,642		
	Connections/Demoltion at Existing Electrical Systems	11,860	SF	0.47	5,574		
	Mech Equipment Connections	1	LS	4,180.72	4,181		
26 31 00	**Photovoltaic Collectors**					**Excluded**	
26 41 00	**Lightning Protection**					**Excluded**	
	Electrical Subtotal					**832,497**	
27 10 00	**Structured Cabling**					**170,787**	
	Teledata Cabling System (Minimal Upgrade)	-	SF	0.67	Excluded		
	Teledata Cabling System (Medium Upgrade)	-	SF	1.21	Excluded		
	Teledata Cabling System (Replacement)	59,301	SF	2.88	170,787		
	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					**170,787**	
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					48,000	
	Site Earthwork - Blended Crew\Equipment Rate (Allowance)	40	HR	1,200.00	48,000		
	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					**48,000**	
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					2,059	
	Hardscape at Existing Site (Allowance)	201	SF	10.23	2,059		
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**					12,000	
	New Site Furnishings Allowance	1	LS	12,000.00	12,000		
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					14,059	
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					2,883,904	
	General Conditions					w/Summary	
	GC's Offiste Overhead & Profit					w/Summary	
	Other GC & Owner Soft Costs					w/Summary	
	CONSTRUCTION TOTAL COST					w/Summary	