City of Golden

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# Council Memorandum

To: The Honorable Mayor and City Council

From: Carly Lorentz, Deputy City Manager and
Steve Glueck, Director of Community and Economic Development

Through: Jason T Slowinski, City Manager

Date: October 30, 2019

Re: 311 10th Street Building Feasibility Study Review

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Purpose of Agenda Item: This item appears before Council as one of the steps leading to the planned community planning process for the potential civic campus within the Clear Creek Corridor. City Council is asked to review the available information and to decide whether it is timely to decide whether the future use of the existing building at 311 10th Street should be included in the various civic campus options to be considered by the community. Council may choose to:

- Decide based upon the information gathered to date, that the reuse and renovation of the building is so unlikely that it should not be considered in the planning process.
- Decide to leave the option of reuse of the building open during the community planning process.

In either case, and as noted in the following item, staff recommends that the community planning process proceed immediately with active community participation beginning in early 2020.

Background: On September 12, 2019, City Council discussed the status of the then pending acquisition of the 7.27-acre group of parcels, and office building, owned by MillerCoors, as well as two early questions about the approach to the community planning process. In the course of that discussion, Council provided the following direction:

- Based upon the due diligence documents prepared during the property inspection, as well as the results of an architectural feasibility study evaluating the costs and feasibility of re-use of the MillerCoors office building for a municipal and civic center, Council agreed to consider an early decision by Council whether the community planning process should assume no re-use of the building, or include the option of building re-use in the scenarios considered in the community

planning process. This discussion and potential Council direction are the main subject of this agenda item.
- Given the potential that the initial arrangement of municipal and civic uses may not focus only on the acquired property, Council agreed that the community planning process should consider the potential to locate municipal and civic uses throughout the entire corridor in a comprehensive fashion.

Following that discussion, staff and legal counsel continued with the acquisition process, and on October 15, 2019 the City completed the purchase transaction. With the completion of the transaction, staff seeks to refine the planning parameters and start the planning project as soon as possible.

Public Outreach/ Decision Making Process: The public outreach, engagement, and decision-making process will perhaps be the most critical part of the community planning process for the Civic Campus. These items are the subject of an upcoming discussion. At issue in this item is whether the inclusion of options to re-use the building (if determined to be infeasible compared to other options based on Council's technical review) would unnecessarily delay or complicate the community discussion and process.

Due Diligence and Feasibility Review: Accompanying this memorandum, is a notebook containing two documents. The first document (located in the back of the notebook) is dated June 5, 2019 and is the final Due Diligence Report prepared by Martin/Martin Engineers as part of the City's inspection process. This report documents an extensive property review that considers six factors or systems:

- Structural
- Building Envelope
- Civil
- Emergency Evacuation
- Mechanical and Plumbing
- Electrical

In evaluating the report, Council will note that some of the listed items can be characterized as maintenance or minor repairs, however, some items are major, and the total estimate for just the needed (or recommended) repairs to utilize the building for office purposes total from $6 million to $6.5 million, exclusive of any desired office-based renovations.

The second document (located in the front of the book) is dated July 8, 2019 and is the architectural feasibility study that identified the opportunities, challenges and preliminary estimate of cost to convert the existing building into a Municipal/Civic Center. This document was prepared by Anderson Hallas Architects (who had completed the City's 2018 space needs study). The report is comprehensive and very complete in its evaluation of the structure and the potential Civic Center uses. Council is encouraged to review the entire report, however a few of the larger conclusions include the following:

- Apart from the repairs identified in the due diligence report, certain office uses could be fairly easily accommodated with a reasonable amount of additional investment for the level of update and renovation assumed for an almost forty-year-old building with some aging and obsolete systems and several Americans with Disabilities Act (ADA) compliance issues. However, the building layout with the multi-story atrium significantly complicates building code compliance and the potential of dividing the building into leasable spaces if a multitenant office building were the desired outcome. While a specific cost estimate for this use was not prepared, it would likely be a significant sum to end up with a very large office building.
- The real feasibility challenge for a conversion to a Municipal/Civic Center involves additional building code considerations and difficulties associated with "changes in use". Some of the more difficult challenges encountered included the unique needs to incorporate the Police Department, City Council Chambers, Municipal Courts functions, and assembly uses like the History Museum, and potential community partners studied such as the Library and other museum/display uses.
- Page 55 of the report includes a preliminary estimate of cost for the type of project depicted in the report, of over $40 million, to be added to the $12.250 million purchase price. The prospect of an over $50 million project to "force fit" a Civic Center into this aging office building triggered the initial conversation that it may make more sense to consider removing the building and planning that when the community is ready to consider a generational investment to realize a true Golden Civic Center, we would be better off with a new building designed specifically for our needs and including state of the art efficiency and sustainability features.
- This conversation was reinforced by the realization that the 7.27 acres itself was actually worth as much as the land and building.

Residential Re-Use Feasibility: In the course of Council's September 12th, 2019 discussion Council inquired whether a re-use of the office building for residential use would be more feasible than renovation into a Municipal/Civic Center. Staff then reached out for information and found a current project in the Denver area. Staff and one of the Anderson Hallas Architects visited about that project and offer the below comments.

Based upon internet research, discussions with developers, Metro West and Jeffco Housing Authorities, and a specific meeting with Unison Housing Partners (formerly Adams County Housing Authority) about a current office to housing conversion, staff's understanding is as follows:

- Conversion of multi-story office structures to housing uses is possible but generally involves urban core areas and higher priced market housing products.
- A rule of thumb is that a developer of affordable or workforce housing must keep their "all in" costs to at or below $250,000 per unit to be financially viable.
- The conversion of a multi-story office building to residential is substantially impacted by the existing floor plan and layout. In the case of the Unison

project (at 7401 Broadway) there are traditional “protected” hallways that are more conducive to the change in use than the multi-story atrium at 311 10th Street. Our architect’s comment in this regard was that the five-story atrium would likely have dramatic implications and trigger substantially more expensive renovations.

- All mechanical and plumbing systems need to be totally gutted and replaced. In many cases the elevator system must also be replaced if the building dates to the 1980’s or earlier.
- The treatment of windows and the topic of balconies becomes a large issue.
- Cost and Budget information from the Unison project indicate the following:
    - The building and property were donated by Adams County. This is a tremendous benefit and the primary reason the building conversion is feasible.
    - The project includes both the renovation of a 46,500 sq. ft building into 44 dwelling units, and new construction of 72 units in a “3 story walk-up” format. The new construction is substantially cheaper on a per square foot basis and helped make the project economically feasible.
    - The pure renovation costs for the existing building, not including any of the overall site work, (some of which applies) totals about $9 million or just under $200 per square foot of building area.
    - The project budget also shows fee waivers and incentives that would otherwise increase the project cost.
    - Our architect indicated concern about any use of the Unison cost estimates as it carried very little design or construction contingency and is a very different project than the 311 10th street building.
- While a direct use of the Unison information may not be exact, it can generally be extrapolated somewhat as follows:
    - It is unlikely that any dwelling units would be considered for the lowest level “walk out” floor of 311 10th Street. This space would most likely be common space but could maybe have some other community function. Without details of any community function that might pay rent, the costs for this level are assigned to the project.
    - For floors 2 thru 5 inclusive, one can estimate a total of about 120,000 square feet, which might (optimistically) yield 100 - 110 apartment units.
    - At $200 (probably more) per square foot renovation costs, the overall building renovation budget would be at least $30,000,000.
    - Based upon acquisition costs, the value of the building and its specific parcel, as well as sufficient parking to serve the proposed uses is probably $9 - $10 million. Staff would expect the plan to include structuring this parking at some time as part of a civic center project on the balance of the land

- At an “all-in” cost of over $40 million for 100 - 110 apartment units, the per unit cost is almost $364,000 to over $400,000 per unit well above the desired budget range for affordable or workforce housing.

Fiscal Impact: Staff believes that the potential fiscal impact of re-use or removal of the existing office building are likely similar, and that the primary issue may better be considered based on the ability to achieve community goals. A true Civic Center project will have a substantial cost as well as substantial long-term community benefits. If such a project does not proceed, the City will be able to dispose of or retain parts of the recently acquired property as desired.

Sustainability Impact: Except for goals to reduce waste, the achievement of the City’s updated sustainability goals would be very difficult to perhaps impossible in a re-use of the building scenario, given the age of the building and systems. Energy goals could be much more appropriately met with new construction. Appropriate recycling and salvage best practices should be utilized if the building is replaced.

Alternatives: As noted above, Council has alternative courses of action going forward with the start of the community planning process:

- Council could decide, based upon the information gathered to date, that the reuse and renovation of the building is so unlikely that it should not be considered in the planning process.
- Alternatively, Council could decide to leave the option of reuse of the building open during the community planning process.
- A third alternative exists if Council wants to further consider the housing option. In this case, the City could immediately solicit statements of interest and qualifications of qualified developers of either affordable/workforce or mixed income housing. In this fashion, the community planning process would be better informed about that potential for the east end of the Clear Creek corridor.

Recommendations: Based on the research done on the building, staff recommends the removal of the building in any of the corridor planning scenarios. If City Council wants to preserve the option to re-use the building, the planning process should seek the development of the most preferred scenarios as quickly as feasible.

Study Weblink: The final version of the study may be accessed by clicking on this weblink: Final Building Feasibility Study

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# *Golden Civic Center: Feasibility Study*

City of Golden, 311 10th Street, Golden, CO 80401

JULY 8TH, 2019

# Contents



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# *Project Team*

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# *Executive Summary*

Anderson Hallas Architects completed a space planning effort for the City of Golden in 2018 with a 20-year planning horizon. One of the findings outlined that the consolidation of City offices would be beneficial to City operations due to multiple buildings currently housing City staff. Further, a long term (20 year) planning horizon indicated that the City would outgrow the current facilities. Separately, the City has developed a master plan, which showed a high degree of interest by residents to utilize the 10th St. creek frontage as open space/ recreational use – where many of the City's buildings are currently located.

In November 2018, the City became aware that Coors intended to sell its North Office Building, located at 311 10th St. This adjacent to downtown location was of interest to City leadership, and it was decided to explore potential use concepts. The City contacted Anderson Hallas regarding reviewing the 2018 space planning work relative to the office building which is approximately 160,000 SF over 5 stories.

With the pending acquisition, the City hired Martin/Martin Consulting Engineers to perform an "Inspection" of the current office building and its systems (structural, electrical, HVAC, and envelope), which solely looked at the building as continued office use only.

A new Vision for the building includes becoming a "Civic Center" for Golden with its proximate location to location and creek frontage, the building and site could be activated to provide collocated cultural amenities along with City of Golden municipal office functions. Separately, but importantly, would be the possibilities of partnerships to potentially ease the financial impact of the building with up-front capital or long-term lease abilities. These conversations are ongoing.

The following Feasibility Study led by Anderson Hallas, and utilizing the same engineers, aims to provide the City with a comprehensive study of the "Civic Center" vision including the upgrades and code changes that will be required with the proposed use changes.

# Vision/Project Goals

The City of Golden is pursuing acquiring and adaptively reusing the existing Coors North Office Building to serve as a consolidated Civic Center. The intent of the acquisition is to provide a consolidated single point of access to City services, which will facilitate efficient operations, as well as provide the opportunity for several new partnerships with cultural and community uses to further activate the site and building.

The existing building, built in 1982, is five stories tall and approximately 160,000 SF. Set into the slope along Clear Creek, the building has a first-floor entrance on the south, Creekside, and the main entrance on the north side of the second (main) floor. The building is organized around a central full height atrium flanked by a bank of four elevators on the north side and restroom stacks on the south side.

The City's long-term vision is to create an active and welcoming community and cultural hub that connects to downtown via the creek frontage. The building will house the following City uses and Departments:

- City Council Chambers
- City Manager's Office
- City Clerk's Office
- Finance Office
- Public Works (not including Shops or Water Treatment Functions)
- Community & Economic Development
- Human Resources
- Parks & Recreation Administration Staff (not including Shops or Golden Community Center Functions)
- Media & Community Relations
- Fire Administration Offices
- Innovation and Technology Department
- Police Department
- Museum (and Museum Storage)

To help complete the City's vision of a cultural and community hub, several spaces are planned for possible partner tenants. While none of these are finalized, some potential partner tenants include a Library, Museum/Gallery, and offices for other Governmental Agencies. Limited additional information regarding the needs of these potential partners was gathered by the Design Team and is summarized below. Refer to the Appendix for more in depth information on the needs and desires of potential partners.

Library:

- Approximately 20-25,000 SF (prefer single level)
- Prefer independent entrance
- Book drop-off (drive-thru preferred)
- Family Restroom within Library Space
- Maker Space
- Adjacency to community rooms
- Dedicated Storytime area +/- 50 SF
- 5-6 dedicated study rooms

Museum/Gallery Spaces:

- Dedicated exterior entrance
- Approximately 20,000 SF - prefer to be on a single floor
- Classrooms
- Maker-space
- Artist studios
- Open exhibit spaces
- Large exhibit storage space
- Exterior sculpture garden

Other Governmental Agencies – yet to be determined:

- Assumed upper level location
- Business/ office occupancy
- Variety of square footage needs
- Potential for limited public access

# Project Methodology

The methodology for the Feasibility Study was as follows:

1. Review of Existing Background Data: the following information was provided to the design team:
    a. Drawings of the building were provided in PDF and Autocad format. The drawings were limited in scope and did not show some of the more recent changes to the building. Due to this, the design team recommended an existing conditions measuring process. Refer to item 2 below.
    b. Later in the schedule a site survey was provided, however it does not provide topographic and utility information.
    c. The design team reviewed the data collected as part of the initial inspection/ due diligence study. Anderson Hallas included the same engineers on the feasibility study to streamline the process.
    d. The design team also re-reviewed the data collected as part of an overall Space Planning Study, conducted by Anderson Hallas in 2018. This included documentation of each department's current FTEs and other users, current spaces needs and wants, desired departmental adjacencies, current and potential shared spaces, and current security and privacy concerns.
    e. The design team was also provided with several other background documents including an extensive accessibility study, an estimate for skylight replacement, existing equipment information, and utility usage information.
2. Review of Existing Conditions & Existing Conditions Revit Model
    a. The design team conducted site visits to help understand the existing building conditions, and how they would potentially impact future uses. This included looking at architectural, structural, mechanical, plumbing and electrical elements; as well as code, ADA and egress requirements. These items were studied with the lens of the new proposed uses desired by the City. Many of these proposed uses have different and more stringent code requirements than the existing office space.
    b. Anderson Hallas developed an existing conditions Revit model, which is a digital three dimensional model of the existing building. This involved several days of on-site measuring of photographs. This digital model will be invaluable when moving forward with construction drawings.
3. Meetings with potential partners: The design team met with the Golden History Museum, Foothills Art Center, and Miner's Alley Playhouse, as well as held a conference call with the Jefferson County Public Library. The design team also toured the existing police station to help understand their unique needs.
4. Conceptual Floor Plan and Site Plan Layouts

a. Utilizing the information gathered, the design team developed three options for conceptual diagram layouts of the building. These layouts were preliminary in nature, and outlined and quantified potential locations for the City uses and possible partner locations. Select spaces that have specific needs were identified on the plans, such as the police department, council chambers and partner assembly spaces. They do not allocate individual spaces such as offices or meeting rooms.
b. After an interim review meeting with City Leadership on 5/14/19, the design team finalized a potential conceptual layout, consisting of conceptual site layout and conceptual floor plan layouts.

5. Conceptual Renderings: Using the conceptual site and floor plan layouts, the design team developed a series of renderings to show potential visual interior and exterior changes to improve appearance, wayfinding, and functionality. The renderings do not show a complete design, but are intended to show potential alterations to increase the building's character and identity as a civic center.
6. Cost Estimate was developed based on narratives from the design team, conceptual layouts and renderings. This is a high level estimate and would be refined with future design phases.
7. Presentation of Findings and Recommendations to City Leadership on July 8th.
8. Consolidate and organize findings into a final report.

# *Conceptual Site Plan*

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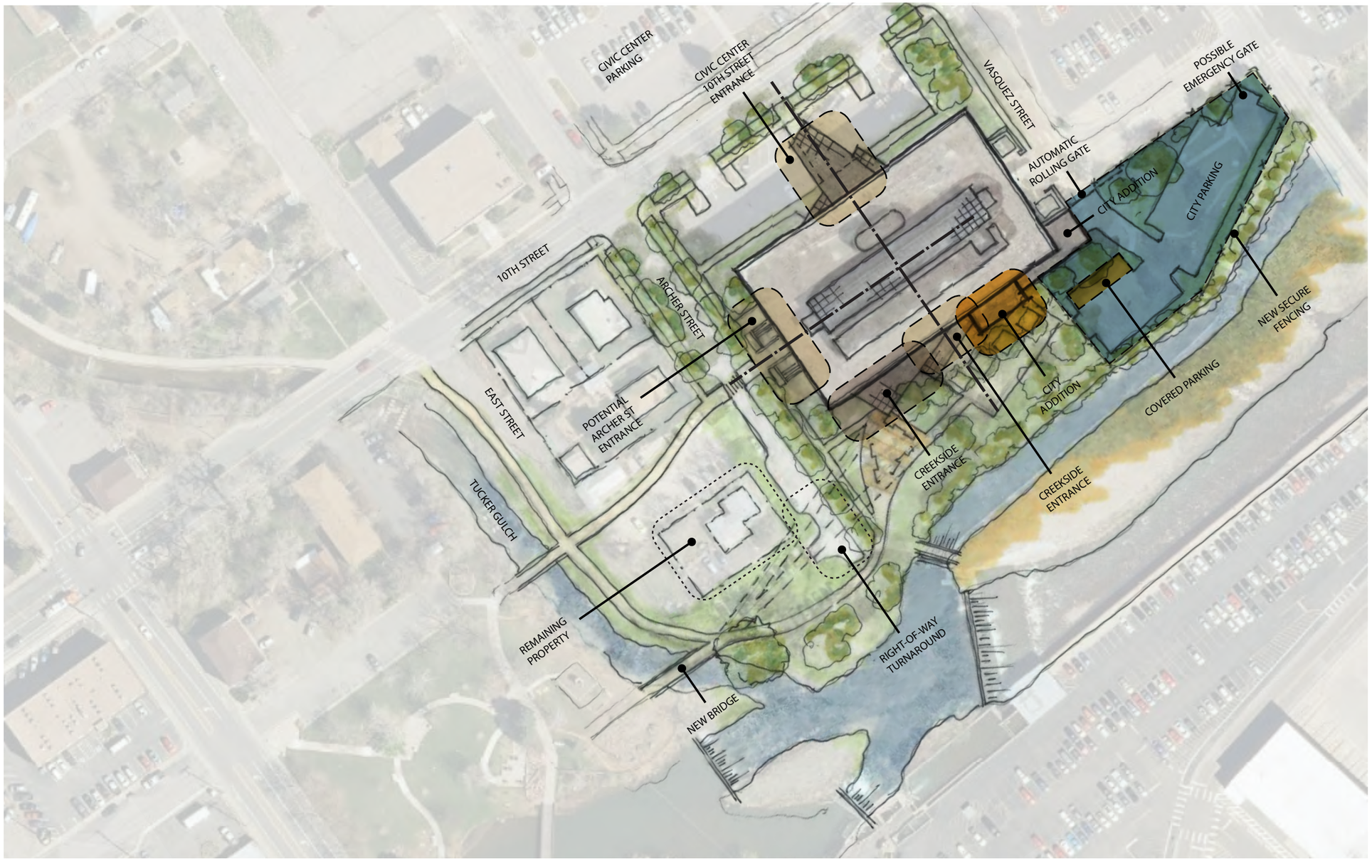


0' 70' 140'

GOLDEN CIVIC CENTER - 311 10TH ST

FEASIBILITY STUDY SITE DIAGRAM - 07.08.2019

CRAFT BALANCE WHIMSY

# *Conceptual Floor Plans*

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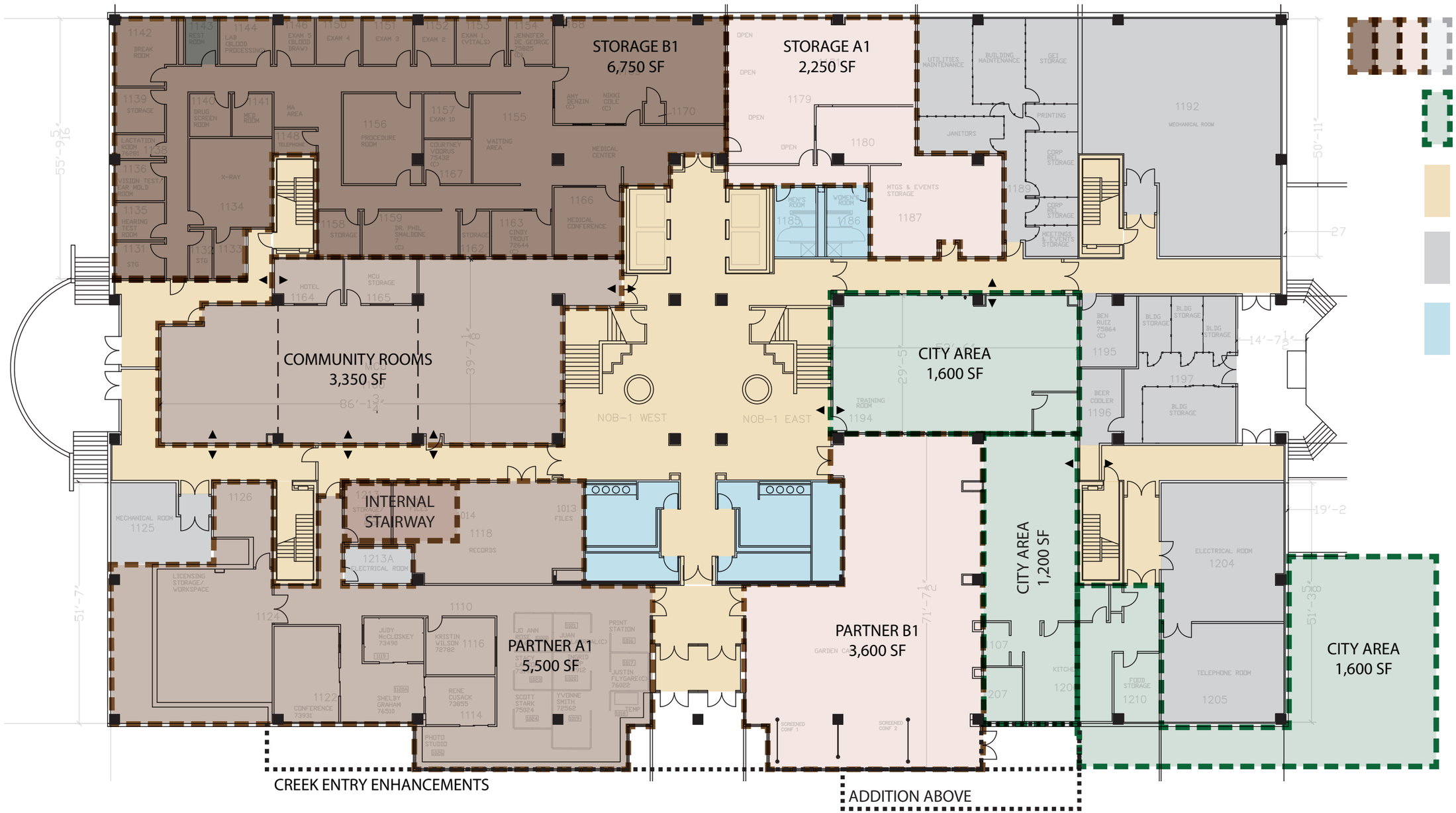


PARTNER SPACES

CITY SPACES

CIRCULATION

MECHANICAL

RESTROOMS

0′ 15′ 30′

CREEKSIDE FLOOR (1ST)

FEASIBILITY STUDY AREA DIAGRAMS - 07.08.2019

CRAFT BALANCE WHIMSY

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PRIMARY ENTRY
ENHANCEMENTS

ASSEMBLY
PARTNER C2
5,450 SF

PARTNER B2
7,800 SF

PUBLIC
ENTRY

PARTNER A2
8,200SF

INTERIOR
STAIRWAY

CITY AREA
5,800 SF

ADDITION

PARTNER SPACES

CITY SPACES

CIRCULATION

MECHANICAL

RESTROOMS

0′ 15′ 30′

MAIN FLOOR (2ND)

FEASIBILITY STUDY AREA DIAGRAMS - 07.08.2019

CRAFT BALANCE WHIMSY

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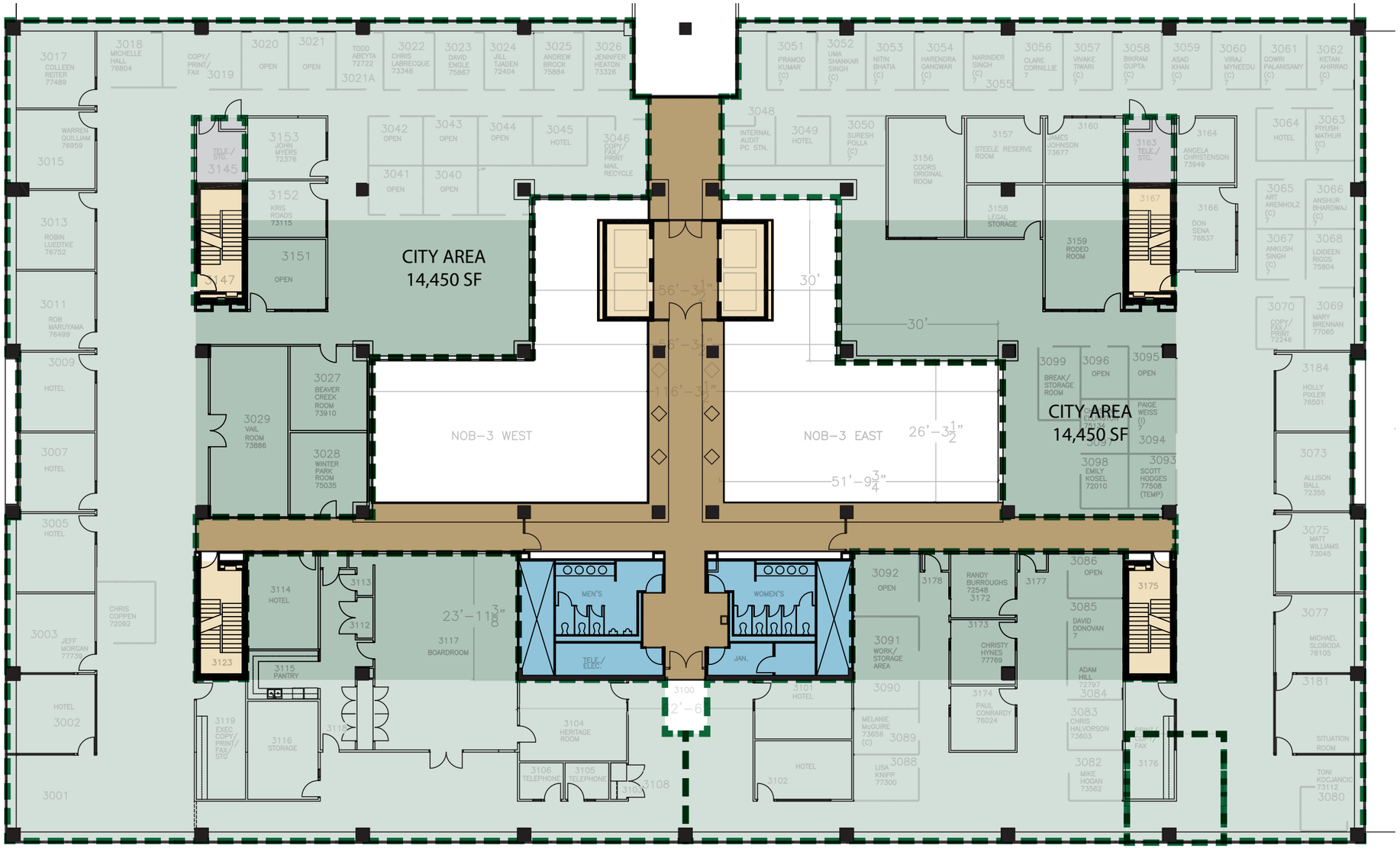


PARTNER SPACES

CITY SPACES

CIRCULATION

MECHANICAL

RESTROOMS

0' 15' 30'

3RD FLOOR

FEASIBILITY STUDY AREA DIAGRAMS - 07.08.2019

CRAFT BALANCE WHIMSY

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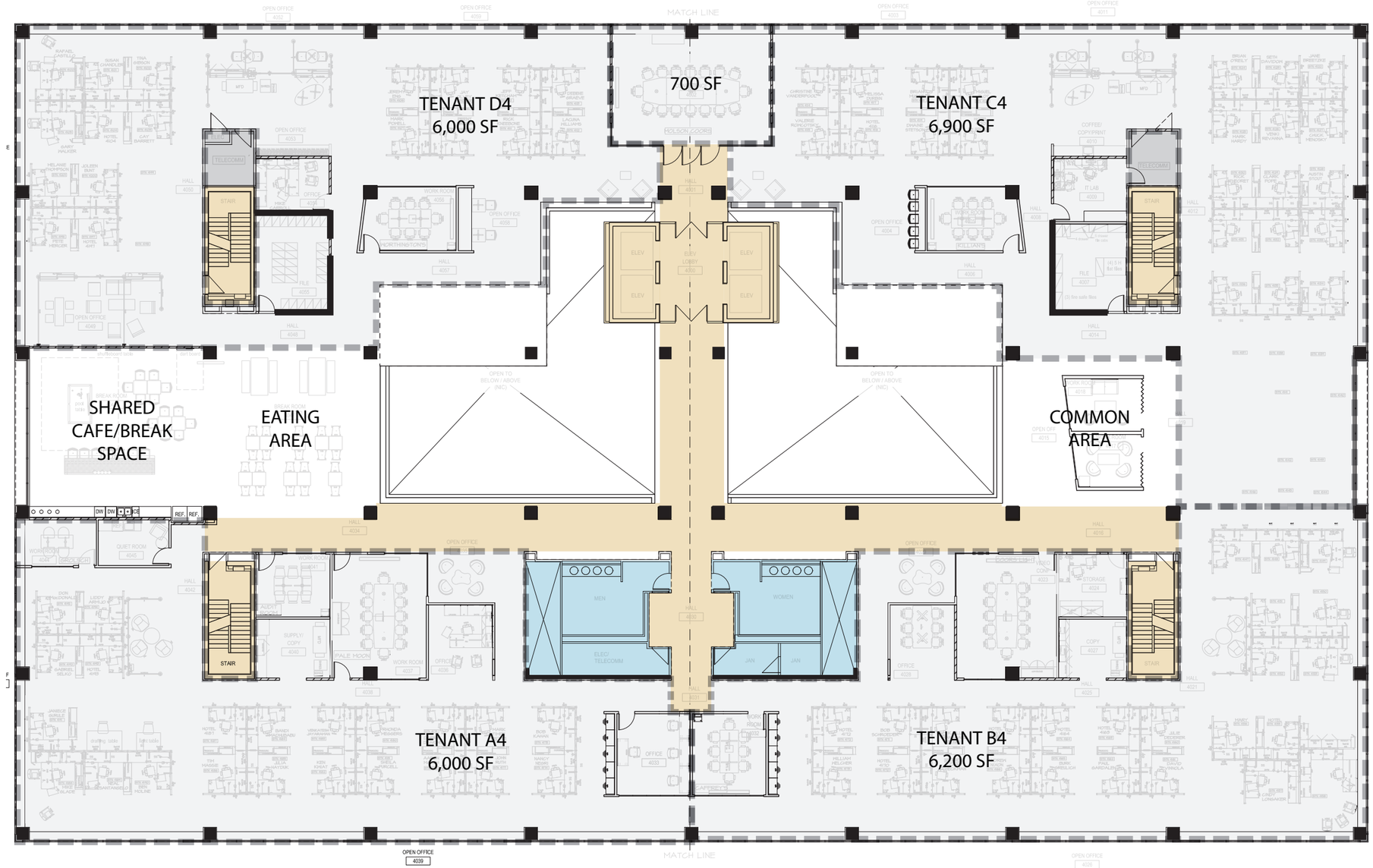


PARTNER SPACES

CITY SPACES

CIRCULATION

MECHANICAL

RESTROOMS

0′ 15′ 30′

4TH FLOOR

FEASIBILITY STUDY AREA DIAGRAMS - 07.08.2019

CRAFT BALANCE WHIMSY

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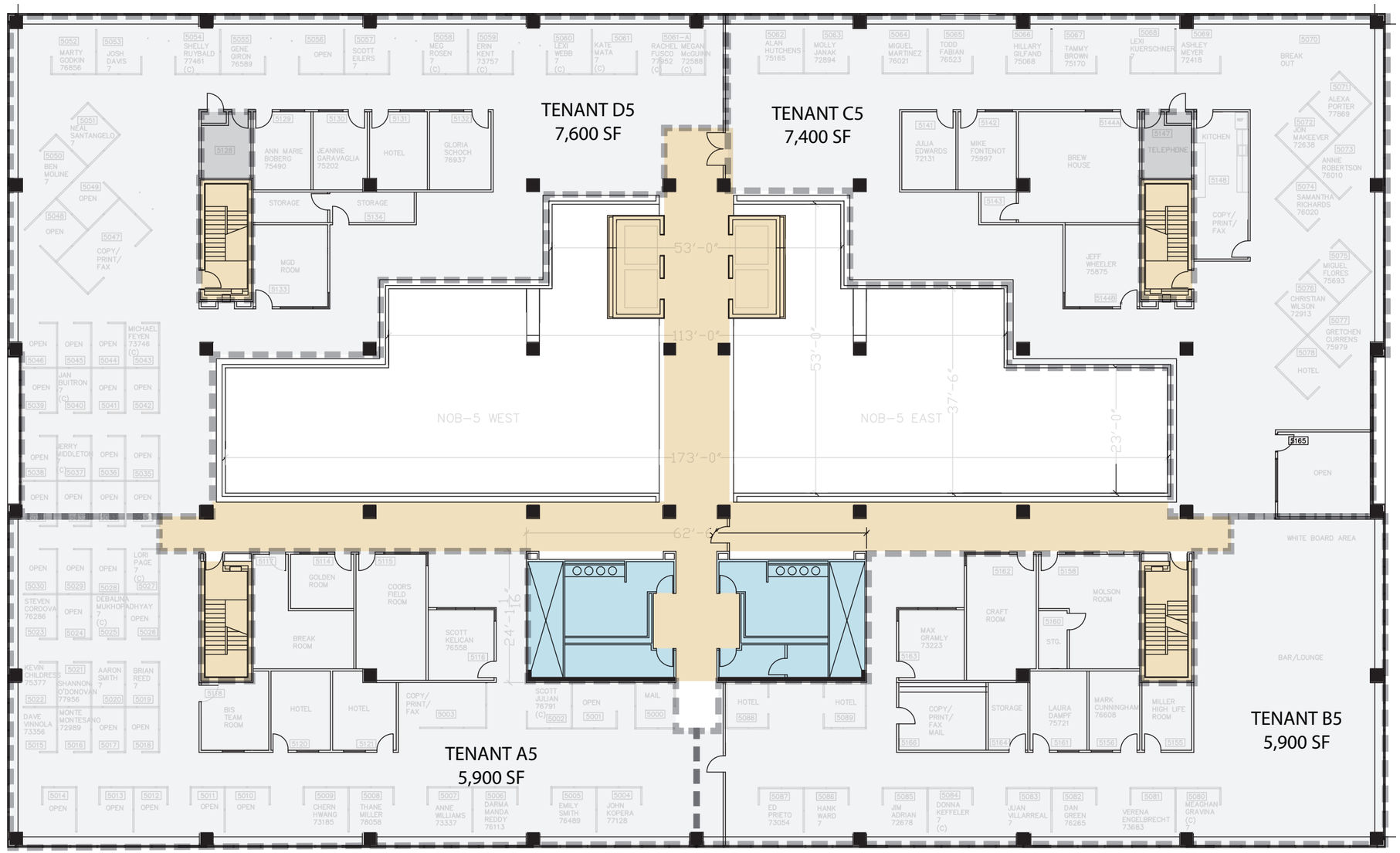


PARTNER SPACES

CITY SPACES

CIRCULATION

MECHANICAL

RESTROOMS

0' 15' 30'

5TH FLOOR

FEASIBILITY STUDY AREA DIAGRAMS - 07.08.2019

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# *Conceptual Rendering:*

10th Street entrance

# *Conceptual Rendering:*

Archer Street Entrance

# *Conceptual Rendering:*

Atrium

# *Architectural Narrative*

## Existing Conditions, Recommendations & Requirements: Site

Below is a summary of recommended site improvements to create a welcoming Civic Center, and also provide for the needs of City and Partner Tenants (See Conceptual Site Plan Layout).

1. A new secure Police Parking Lot to include the following:
    a. Removal of existing landscaping and several mature trees on the southeast corner of the site in the area of the new secure parking lot.
    b. Construction of a two-bay sally port structure with two overhead garage doors.
    c. A hallway addition will provide a connection from the sally port to new dedicated Police vertical circulation at the southeast corner of the building.
    d. New carport structure over 4 parking spaces in the parking lot.
    e. Construction of a new asphalt parking lot including all drive aisles, concrete curb, access aprons, striping, and parking for 49 cars.
    f. Secure fencing around police parking lot: 6′ high, decorative aluminum fence, with automated rolling security gate at entry, and a secondary manual security gate at an emergency entry/exit point.
    g. Emergency drive aisle/fire lane using recessed grass pavers extending from the new parking lot at the southeast, across the plaza at the south side of the building to intersect with Archer street.
2. Remove existing parking lots at the southwest corner of the site to allow new park uses and pedestrian access.
3. Reconfigure Archer Street to reduce the road width, provide new curb and gutter, pedestrian bulb-out at west entrance to the building, vehicular hammer-head turnaround, and provide two on street parking spaces in front of the existing house.
4. New secure fencing along length of Clear Creek, 6′ high, decorative aluminum fence, 580 LF with one 5′ wide lockable swing gate for access to head gate infrastructure for Coors.
5. New plaza, benches and planters at south (Creekside) entry to Civic Center.
6. Decorative concrete paving across the existing parking lot from north entry to sidewalk along the south side of 10th street.
7. Install new pedestrian bridge over Tucker Gulch to provide a more direct connection to the Civic Center from Vanover Park and other creek side amenities to the west.
8. Sidewalk/trail connection from existing creekside path to new plaza at south side of Civic Center (assume 10′ concrete cross section).
9. Accessible parking upgrades to north parking lot: signage, restriping, new curb ramps (assume 4 spaces).

10. Monument Signage – five signs: one primary, two building-mounted signs, and two secondary signs.
11. Stormwater improvements (allowance)

## Existing Conditions, Recommendations & Requirements: Building

(See Conceptual Floor Plan Layouts and Conceptual Renderings)

The building is currently a business occupancy, with a few assembly spaces and cafeteria on the first floor. The following is a summary of the proposed renovations to accommodate the new uses of the City and the Partner Tenants, address code deficiencies, and establish a new Civic Center:

**Overall Building/Envelope**

1. Replace interior finishes throughout: carpet in business and assembly spaces, ceramic tile in lobbies, atrium, restrooms and break rooms; paint and acoustic ceiling tile throughout
2. New ADA signage package for all City offices and tenants, and new directional signage at main entrances and at atrium
3. Egress/Life Safety upgrades
    a. At 4 existing stairwells – replace handrails and guardrails
    b. Relabel or replace UL fire rated doors where painted over (assume 10)
    c. Provide new recessed fire extinguisher cabinets
4. Remove existing dated, curved planters at all floor levels in the atrium. Provide more contemporary wood and metal, code-compliant guardrails.
5. Upgrade existing restroom finishes, fixtures and accessories – 12 gang restrooms, 2 single users.
6. Accessibility Upgrades
    a. Provide new door hardware and access control throughout
    b. Provide new ADA door operators at all public entries (3)
    c. Replace recessed drinking fountains throughout with new ADA fixtures (assume 15)
7. Replace existing barrel-vaulted skylight system with new insulated tranlucent panels. This will provide a more even quality light, eliminate glare, and improve thermal values. This includes removing existing frames and glazing, reuse existing structure.
8. Exterior Facade:
    a. Repair reported exterior wall leaks on north façade – replace flashing and sealants around windows and panel joints.
    b. Install new exterior metal paneling over existing precast panels.
    c. Exterior mounted sun shading attachments at exterior elevation on south and west sides.

**First Floor (Creekside)**

This floor is proposed to include a library or exhibit/ gallery space – potential coffee cart or "grab and go" deli (no commercial kitchen), community rooms, police training room and support spaces, police sally port addition, secure elevator and stair core for Police, existing storage rooms, mechanical and electrical rooms, and the existing loading dock.

9. New sally port addition to include:
    a. Two-bay conditioned CMU garage building
    b. Two overhead garage doors
    c. Secure corridor addition leading to new dedicated elevator and stair core within the existing building footprint to 3rd floor.
10. Upgrade Police training room to include new finishes and acoustic insulation
11. Reconfigure main Creekside entry: remove existing curved glass canopy. Install new glazed entry canopy with storefront glazing on south and west sides. Iinclude new full lite doors and remove side walls to create a more open and inviting entry.
12. Atrium
    a. Remove planters and artificial trees. Provide new planters and seating areas.
    b. Relocate fountain pump infrastructure from stair to new adjacent mech room
    c. Install new fire rated, full-lite, double doors from Atrium into Community Room
    d. Open up visibility with new railings in place of existing half walls
    e. All new partitions bordering atrium to be 1 hour rated.
13. At Community Rooms – provide two new ceiling hung moveable acoustic partitions to provide the flexibility to divide the spaces into 3 usable meeting rooms.
14. Remove existing commercial kitchen – due to dated finishes, equipment, and several non-compliant code conditions.
15. Repair spalled concrete landing and stairs at Loading Dock, install new prefinished metal handrails/ guardrails
16. Install new exterior egress door from mechanical room
17. Repair spalled concrete landing and stairs at west side exit, install new prefinished metal handrails.
18. Library
    a. Provide new full-lite, double door entry to the building
    b. Provide new internal wood and metal stair with decorative guardrails
    c. Refer to appendix for additional needs/ wants for a Library space.
19. New Restrooms:
    a. Provide new Single user ADA restroom adjacent to existing gang restrooms
    b. Reconfigure existing men's and women's restrooms adjacent to the elevators to provide new women's restroom with 5 additional water closets and 4 lavatories.
    c. Provide new men's restroom with 3 water closets, 1 urinal, and 4 lavatories.

**Second Floor (Main Level)**

The second floor is proposed to house a library or gallery/ exhibit spaces, Council Chambers/ Courtroom, council support spaces, new secure elevator and stair core for Police at the SE area.

20. Replace existing arched main entry canopy with new steel & glass canopy (allowance) as an identifying feature for the City Civic Center uses (refer to Renderings on previous pages).
21. Lobby
    a. Replace revolving door and two single doors at front entry with two double full-lite doors. Provide ADA operator and panic hardware on each set of doors.
    b. Remove select walls to open up entry lobby to the atrium.
22. Atrium
    a. Remove half wall at open stair to first floor – install new wood and metal guardrails and handrails to increase visibility to south
    b. Remove semicircular floor landing at top of open stair to open up the atrium area on the first floor.
23. Museum/ Exhibit Spaces
    a. Provide acoustic insulation, new finishes throughout, internal window shades
    b. Reconfigure partition walls to provide layout to accommodate gallery/ exhibit uses.
    c. Refer to appendix for additional needs/wants for the gallery/ exhibit space.
24. Council Chambers Addition
    a. New full-height glazing, exterior metal panels, EPDM roofing
    b. New dais millwork
    c. Refer to structural narrative for additional information.
25. New Restrooms:
    a. Single user ADA restroom adjacent to existing gang restrooms
    b. New Women's Restroom adjacent to atrium with 4 water closets and 3 lavatories.
    c. New Men's Restroom adjacent to atrium with 2 water closets, 1 urinal and 2 lavatories.
26. Library
    a. Provide new full-lite, double door entry on exterior
    b. Construct new pedestrian "bridge" over semi-circular egress court from the first floor. Provide new entry canopy. Connect to existing sidewalk.

**Third Floor**

The third floor is proposed to house the new Police Station and City Offices.

27. Police Station (East Side)
    a. Provide new rated walls at currently unenclosed perimeter of atrium.

b. Provide new Men's and Women's Locker Rooms with restrooms and shower facilities (approx. 80 double size lockers).
c. New elevator and stair core from the first floor to the third floor
d. 5 Holding cells (CMU wall construction)

28. New single user ADA restroom adjacent to existing gang restrooms.
29. Retain west side walls/layout as is for City office functions

**Fourth & Fifth Floors**

The fourth and fifth floors are proposed to house City Offices or other office-use tenants, but generally remain intact.

30. At the 4th floor - Infill floors at northeast and northwest corners of the atrium where there is currently are open beams. This is to prevent unwanted access from the 4th floor down to the Police and City offices on the third floor. Provide new finishes and guardrails.
31. New single user ADA restroom adjacent to existing gang restrooms on each floor (2).

# *Preliminary Code Study*

Note: The following Code Study is based on the initial use diagrams. Refinement of the code items below will be needed as future design phases progress.

Governing Codes: 2015 IBC/IEBC and associated IPC, IMC, IECC , IFGC,

Existing building Re-use

Construction date: 1982 (approx.)

Type of Const: Originally a UBC Type I-FR building which is equal to Type IA construction today.

Allowable area/ Actual: Unlimited per 2015 IBC Table 506.2/161,000

Allowable Height in Stories/Feet: Unlimited Table 504.3 & 504.4

Building has an existing atrium connecting all floors. Atrium was typical of many older buildings in that there is limited separations from the atrium to areas on each floor. The building is equipped with a smoke control system for the atrium. We are proposing no change to the existing atrium systems and protection but any new construction affecting the atrium will be done in accordance with Chapter 4 of the IBC. This was discussed in a meeting between Bill Clayton and Scott Greer, City of Golden CBO and the proposed approach to this issue was approved.

Partial change of Occupancy changing some assembly areas to B occupancy and some B occupancy to assembly. Using IEBC Prescriptive path for compliance method with IEBC.

Occupancy Groups: B/A-3 with possible small A-2 (to be determined). Police station will have holding cells but Less than 5 detainees thus still B occupancy rather than I-3.

The new use will include a change in designation under table 1604.5 of the IBC that will push it into category IV as an "Essential Facility" due to the inclusion of the police station. That change does trigger some structural requirements under the IEBC. Section 506.4 of the IEBC states that a change to a higher risk category and category IV requires the live loads to be assessed for the new use, in the areas of the change of occupancy.  Snow and wind loads must also be evaluated due to the assignment to a higher risk category from category II to IV. If the area of the new occupancy is less than 10% of the building area, then the snow and wind loads are not required to be evaluated. (to be confirmed by architect and design team)

Section 506.4.3 requires the building to be evaluated for seismic loads due to the assignment to a higher risk category. There are three exceptions that will need to be evaluated once the final version of the floor plan is presented.

**Exiting:**

There are 4 enclosed interior exits in the existing building. The handrails are not up to current code however, the IEBC does not require these to be brought up to current code unless you replace them.

| Floor | Occupant load | Req'd stair width | Req'd other exit width | Actual stair width | Actual other exit width |
|---|---|---|---|---|---|
| 1st floor | 750 | 225" | 150" | 320 | ? |
| 2nd floor | 879 | 264" | 176" | 320 | ? |
| 3rd floor | 215 | 65" | 43" | 176 | 144 |
| 4th floor | 678 | 203" | 136" | 176 | 144 |
| 5th floor | 364 | 109" | 73" | 176 | 144 |

All business areas are calculated at the factor of 150 Sf/occupant based on non-concentrated business use. The library is calculated at 100 SF/occ and the museum is calculated at 30 SF/ occupant. All other assembly areas are calculated at 15 SF/occupant. The police area is calculated at factors of 150 SF/ occ for office area and 15 SF/occ for training and 1 person per holding cell to keep the occupant load of detainees at 5 or less so it remains a B occupancy.

As it exits, the 4th floor does not have adequate stair width provided for the proposed occupant loads. The shared eating and cafeteria space incur a larger occupant load causing the higher stair width requirement. If this area can be reduced it will help in exit capacity and could have a positive effect on the plumbing fixture count. If the occupant load can be reduced by 90 persons, then the stair width at the 4th floor works. As currently shown, the shared eating area and café has an occupant load of 142. You also have several conference areas with a total occupant load of 362. If these areas can be reduced or some of them eliminated, then you will lower the occupant load and lessen the required stair width.

**Initial plumbing fixture calcs for project:**

Using the building layouts provided, the plumbing fixture count is not adequate as exists. There may be some bathrooms that are not showing on the printed plan set I have and that could affect these calculations.

The 1st and 2nd floor have large assembly areas along with the conference rooms and shared eating and café on the 4th floor which are driving up the plumbing fixture counts. The total number of required plumbing fixtures for the building is:

**Men:**

34 water closets are required of which 67% can be urinals in assembly occupancies and 50% in other occupancies. in accordance with IPC section 424.2 2. Twenty-Seven (27) men's water closets are provided in the building of which 10 are urinals. This complies with the urinal replacement; however, we are short on total required number of water closets by 7.

Twenty-Three (23) Men's lav sinks are required and approximately 22 are provided.

**Women:**

Thirty-seven (37) Women's water closets are required, of which only 27 are provided. The women's water closets are short 10.

Twenty-three women's lav sinks are also required and approximately 20 are provided.

Additionally, the holding cells each require one water closet/sink. Inmate water closets and sinks are required to be separate from staff fixtures.

The assembly occupant load on the 1st and 2nd floor require more than 6 water closets and as such IBC section 1109.2.1 requires a family or assisted use restroom be provided whenever the required assembly plumbing fixtures is 6 or more.
The first and second floor have a required number of assembly fixtures of 10 thus needing to add the family or assisted use fixtures. These must be single user facilities, fully accessible and located within one floor of the separate sex fixtures. I suggest adding three such restrooms on the 1st, 2nd and 3rd floor. This will provide 9 additional restrooms that are fully accessible where none are now. This will still leave you short one water closet for the women's fixtures which you can make up anywhere you want. The existing restrooms could be left as is in terms of accessible stalls since you are adding accessible family or assisted use restrooms. The IPC previously stated that single user stalls could only be counted toward men or women's fixtures but not both, however, that language is no longer in the code.
One drinking fountains, will be required on multiple floors so the travel distance is not more than 500 feet to get to a drinking fountain. Each fountain must be a hi-lo fountain in compliance with the IBC section 1109.5.1.

One mop or service sink is required for the building. There is no restriction on the location or travel distance

# *Structural Narrative - Martin/Martin*

Martin/Martin, Inc. performed a structural feasibility study of the MillerCoors North Office Building (NOB) located at 311 10th Street in Golden, Colorado. The purpose of the feasibility study was to evaluate the proposed repurposing of the building as requested by the City of Golden. Our review was based on the Preliminary Zoning Diagrams by Anderson Hallas Architects dated May 14, 2019. The diagrams indicate several changes of occupancy including areas designated to house a police station, museum, library, and other assembly areas. Additionally, among other structural modifications, there are plans to add a new stair at the library, a new secure elevator and stair at the police area, and to add a bump-out for the council chambers that will extend over the southern entrance.

Based on our previous Due Diligence evaluation, the building is structurally adequate if the use remains as an office building. However, changing the use of the structure from an office building to a building with a police station and assembly areas increases the Risk Category of the building from Category II to Category IV (IBC 2018). This change of category triggers requirements that the building must meet the current building code and increases the design loads for snow, wind, and seismic analysis.

We have performed a proof-of-concept level analysis of the building structure to determine if the building can support the loads required for a Category IV building. Where the structure was determined inadequate to support the new loads, we developed conceptual level strengthening strategies to upgrade the building for compliance with current building codes.

Our conclusions primarily include recommendations for further evaluation and testing, because a majority of the building's structural systems consist of precast concrete members, for which we were not able to obtain structural drawings. Testing of existing framing will reveal critical information about the reinforcement layout and material properties of the framing, which will greatly improve the quality of the evaluation and potential strengthening designs.

## Existing Condition

Our evaluation is based on structural drawings by KKBNA, dated February 26, 1982. Where possible, the structural systems shown on the drawings were verified at a site visit on April 23, 2019.

The foundation system consists of 36" diameter concrete drilled piers drilled to bedrock, with 8" to 10" wide grade beams at the perimeter of the building. The

floor framing at the first floor is 4″ concrete slab-on-grade with 6″ gravel fill below. 24″ by 24″ concrete columns extend from the tops of the drilled piers to the roof level.
Floor framing at the second floor through the roof consists of precast concrete double-tees supported by precast concrete inverted-tee beams. There is also a 2 ½″ (minimum) thickness concrete topping slab at all floors and the roof. Information about steel reinforcing in the precast members is not available; however, the drawings include loads that precast members were designed for and general geometric information about the precast members.

We contacted the two local precast concrete contractors, Stresscon and Wells Concrete (formerly Rocky Mountain Prestress,) to ask if they had provided the precast elements for the building. Both contractors responded that they did not design the building. A third precast contractor was formerly operating in the Denver area, called Stanley Structures, and for a number of years, their records were kept on file by an engineer who formerly worked there. We were able to confirm that the building was constructed by Stanley Structures, but that their old records were destroyed.

There is a large skylight at the roof level that runs almost the entire length of the building. The framing of the skylight consists of hot-rolled steel angles and cold-formed metal studs. The penthouse adjacent to the skylight is framed with hot-rolled steel columns and beams.

Lateral loads are resisted by precast concrete core walls that extend the entire height of the building. The core walls are well distributed throughout the building in plan. The precast concrete façade is attached to the primary building structure with embedded plate connections at the columns. There are also reinforced masonry walls throughout the building.

A large majority of the structural system consists of the precast concrete members, for which we do not have adequate structural drawings. Consequently, destructive and nondestructive testing will be required to thoroughly evaluate the capacity of existing framing and design suitable strengthening schemes where needed.

In addition to possible structural retrofits due to change of occupancy and other live load increases, we have identified several locations where site structures such as stairs and guardrails have deteriorated and require repair. Refer to our Preliminary Due Diligence Report in the Appendix, dated April 30, 2019, for more information regarding repairs.

## Structural Impact of Change of Occupancy

### General

The City of Golden will be adopting the 2018 International Building Code (IBC) and the 2015 International Existing Building Code (IEBC). Per these codes, when the Risk Category of the building increases, the structure is required to meet the

current building code requirements for the higher Risk Category. The building's previous use as an office building makes the structure a Risk Category II building. Adding a police station in the building classifies the building as an Essential Facility and elevates the Risk Category to IV. This change in Risk Category increases the snow, wind and seismic loading on the structure. This section of the report will focus on the effects that the increased loads have on the structure. It should be noted that if the police station was eliminated from the proposed plan, the Risk Category of the building will still be increased, to Risk Category III, due to the new assembly areas such as the museum and community library areas. With a Risk Category III, the seismic upgrade is not required per an exception in the IEBC. Refer to Table 1 for a comparison of the importance factors for all three Risk Categories for new buildings.

**Table 1: Importance Factor Comparison**

| Load | Risk Category | Risk Category III | Risk Category IV |
|---|---|---|---|
| Wind* | 1.0 | 1.0 | 1.0 |
| Snow | 1.0 | 1.1 | 1.2 |
| Seismic | 1.0 | 1.25 | 1.5 |

*The City of Golden defines the nominal wind speed as 116 mph for all risk categories. This results in the same wind pressure for all three risk categories.

### Snow

Per the structural drawings, the building's roof structure was originally designed for 30 psf snow load. The City of Golden currently requires a minimum snow load of 30 psf like the original design; however, the minimum snow load must be multiplied by a 1.2 importance factor for Risk Category IV buildings. Factoring in the importance factor increases the snow load to 36 psf. Additionally, the current code requires that the building's roof structure be designed for snow drift loads in certain areas which are much larger than the 36 psf uniform snow load. The increase in flat roof snow load and snow drift loading results in an over 5% increase on the demand of the roof framing, which means that the roof framing will require further testing or analysis to determine the capacity of structural elements and potential strengthening to meet the current code.

### Seismic

The seismic loading is dependent on the location of the structure, soil characteristics below the structure, weight of the structure, the lateral force resisting system of the structure, and the Seismic Importance Factor which is based on the Risk Category. The structural drawings indicate that the building was considered to be in Seismic Zone 1. This is likely referring to the Uniform Building Code (UBC) when it was originally designed. The current building code locates the building in Seismic Design Category B. We do not have a current geotechnical report for this property, so the code default "soil site class" D was used. The lateral load resisting system of the building is ordinary precast

concrete shear walls for which we do not have reinforcement information; however, the lateral design loads for the precast walls are shown on the structural drawings. The most significant change to the seismic loading is caused by the increase in the Seismic Importance Factor from 1.0 to 1.5. This change results in more than a 10% increase in demand on the lateral force resisting system, which means that further analysis and potential retrofit of the precast concrete walls will be required to comply with the current building code. We have not computed what the seismic base shear under the original building code would have been, but the current code base shear can be assumed to be at least 50% higher.

**Wind**

The lateral system of the building was originally designed for a uniform wind pressure of 30 psf (Allowable Stress Design, ASD), per the General Notes on the structural drawings. This is consistent with the prescriptive wind load requirements of the Denver Building Code in that time period. Current code wind loads for Risk Category IV result in a maximum wind pressure of 63.3 psf (Load Resistance Factor Design, LRFD) with an importance factor of 1.0. This is equivalent to a 38 psf ASD wind pressure. The increase in wind load results in a greater than 10% increase in demand on the lateral force resisting system of the building, which means further analysis will be required to demonstrate that the lateral system meets current code requirements. For comparison, the wind base shear under the original design is 550 kips; whereas the new IBC base shear is 630 kips. This corresponds to an approximately 16% increase in base shear. For this building, the seismic loading will be larger than the wind loading. Consequently, upgrading the lateral force resisting system for code-required seismic loads will comply with wind loading requirements by inspection.

## Structural Impact of Proposed Renovations

**Live Load Increase**

The Preliminary Zoning Diagrams include approximately 34,000 sq.ft. of floor space designated as assembly area, 9000 sq.ft. of floor space for museum storage, and 13,700 sq.ft. of library. Per the current IBC, the minimum live load for assembly areas, museum storage, and libraries is 100 psf, 125 psf and 150 psf, respectively. Per the structural drawings, the floor framing was designed for 50 psf live load plus 20 psf for partitions.

At areas in the building that will remain office space, the original loads that the building was designed for are adequate. At assembly, storage and library areas, the increase in live loads results in a more than 5% increase in demand on floor framing including corbels, inverted tees beams, and double tee beams. With consideration of the actual dead loads versus the original design loads, the existing structure can support an additional 50% live load on top of the 50 psf design live load. For comparison, the increase in live loads at assembly areas, museum storage, and libraries is 100%, 150% and 200%, respectively. Further

evaluation is required to demonstrate that the floor framing can support the added loads. The demand increase on columns is less than 5%, which means that columns do not have to comply with the current IBC.

### Library Stair Addition

The proposed stair between the first and second floor in the library space should be oriented north-south, parallel to the direction of existing double tee beams, to improve constructibility. To form the opening for the stair, one or more double tee beams will be removed, and the opening will be supported by steel beams and infilled concrete slab on metal deck.

### Council Courtroom Addition

The proposed Council Chamber Enhancements may include removal of two columns at the second-floor Council Courtroom and extension of the courtroom to possibly cantilever over the southern entrance. Removal of the columns doubles the span of the floor framing above the removed column, which means that the existing framing will need to be strengthened or replaced with new framing to support the new spans. The new framing will require a large transfer girder to carry the load from the columns above. The transfer girder will likely have to be a story-high steel truss or a heavy steel beam. In addition, the foundations supporting the adjacent columns that remain will have to be evaluated for much higher loads.

The extension of the courtroom will require new steel framing to cantilever over the southern entrance. The steel beams will likely be deep W-shapes with moment connections and back-span beams into the existing building footprint. If deep beams are not architecturally desirable at this location or do not meet deflection criteria, the courtroom extension will need to be supported by two new columns at the southern corners of the extension.

### 4th Floor Slab Infill Above Police Space

At the fourth-floor atrium, there is a portion of the eastern tenant office space where a person can potentially jump from the fourth floor into the police station down below on the third floor. For security reasons, the fourth floor should be closed off at the atrium area. New steel framing and infill concrete slab on metal deck will be provided to close off the slab opening. The columns that support this area must be evaluated for additional load from the new framing, but we anticipate that strengthening will not be required.

### Secure Police Elevator and Stair

The police will require a new secure elevator and stair from the sally port at the ground floor to their office space on the third floor. The framing for the new elevator will include 8" reinforced CMU walls around the elevator and steel hoist

beams where required. To create the opening for the elevator and stair, one or more double-tee beams will have to be removed, and steel framing will be required to support the remaining floor framing at the removed beam/s.

## Structural Retrofit Options

**Lateral Load Resisting System**

The lateral force resisting system will require further evaluation to determine if the existing precast walls satisfy the requirements of the current IBC. Non-destructive testing can be used to determine the existing reinforcing layout in the walls; however, it is unlikely that the walls and their connections have the capacity needed to resist the higher lateral loads.

We propose new concrete shear walls be added as extensions to the existing precast shear walls. Refer to Figure 1 for a concept level layout of proposed shear wall locations. New concrete will be formed around the existing core walls which will extend out from the cores.  Adding the new walls close to existing walls will allow connection of the new walls to the existing foundations and reduce the amount of new foundation elements that will be needed. At the ends of new shear walls that do not extend to the next column, new foundations will be needed which will likely be micropiles with a pile cap. New grade beams may also be used along the wall lines to connect to adjacent drilled piers.

**Gravity Load Resisting System**

The floor framing at all locations where floor loads will be increasing, notably assembly areas, storage areas and the roof, require further analysis to understand the capacity of exiting framing and to determine if strengthening is required. The three primary elements of the floor framing – corbels, inverted tee beams, and double tee beams – elicit three different approaches for analysis and potential retrofit.

The corbels will require non-destructive testing such as x-raying or GPR to determine the reinforcement within the concrete. Based on historic information, corbels in the 1980s tended to be designed unconservatively. For this reason, the corbels should not be destructively tested or load tested. If the corbels are determined inadequate to support the new loads, steel plates can be added to the sides of the corbels to improve performance. Additional concrete may be required under the existing corbels to increase capacity.

The inverted tee beams will also require non-destructive testing. Additionally, there is less risk associated with destructive testing on inverted tees, which means that coupons of the concrete and steel reinforcement can be sampled and tested. It is expected that the strength of the concrete and steel determined through testing will be higher than the minimum strength on the structural drawings. Consequently, if material strengths are higher, the existing inverted tee beams may be sufficient to resist higher live loads. Otherwise, the beams will need to be reinforced with steel plates or added concrete.

Double tee beams are historically known to have reserve capacity over the minimum design loads. For this reason, we recommend load testing the double tee beams to determine the existing capacity and comparing it to the new loads. Alternatively, the capacity of the double tee beams can be determined using the same method described for inverted tee beams.

## Conclusion and Next Steps

The next step in the structural evaluation of the building is to better understand the existing capacity of the framing through destructive and non-destructive testing. Once existing reinforcement layout and material strengths are documented, the capacity of the framing systems can be calculated and compared to new load requirements.

A recent geotechnical report from a neighboring site would assist with the determination of the "Seismic Soil Site Class" which may reduce the seismic design forces. In addition, prior to design for construction documents, a geotechnical engineer will need to be retained by the Owner to provide design criteria, including site class and micropile design criteria.

## Figures

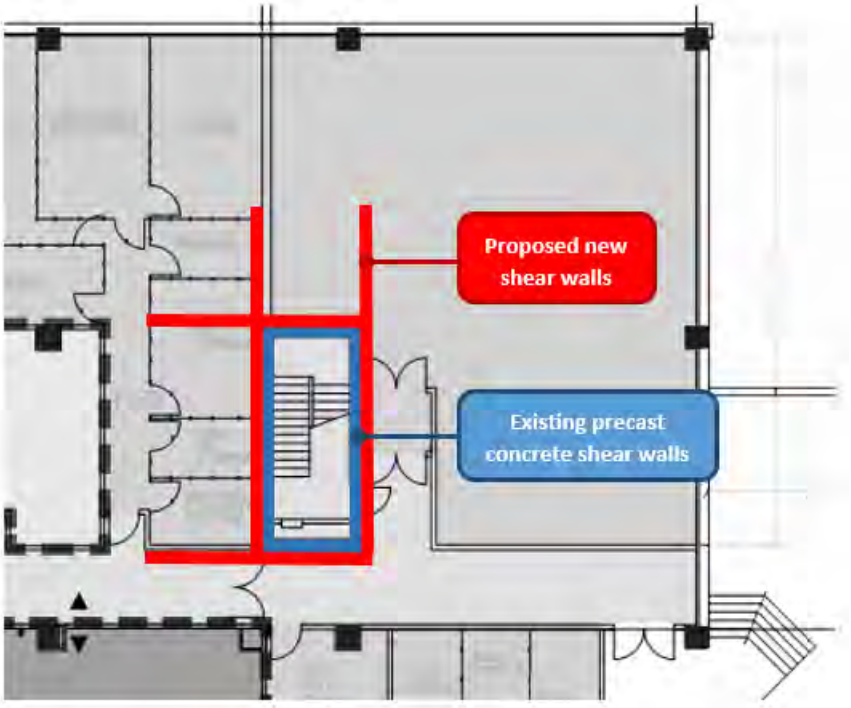


Figure 1: Proposed layout of new shear walls at each stair tower

# *Mechanical, Plumbing, & Fire Protection Narrative - 360*

## General

The purpose of this report is to define the major mechanical and plumbing modifications that will be necessary for the proposed uses of North Office Building based on the Preliminary Zoning Diagrams Draft provided by Anderson Hallas dated 5/14/19. This report will reference the previously submitted Due Diligence Report, which provided mechanical and plumbing infrastructure recommendations based on maintaining the space's current uses, which is mostly office space. This Due Diligence Report is included in the Appendix.

## Mechanical

The current mechanical system is mostly centralized, and units are divided up by exterior exposures and interior areas. This type of system works well when the building occupancy schedule is consistent throughout, but based on the proposed uses, it is anticipated that different spaces will be occupied at different times throughout the day and week. The whole building system can operate anytime one space is occupied; however, that is inefficient from an energy standpoint, and is not recommended.

A lot of the proposed uses have higher occupant densities than the building's current use as an office space. This will increase the internal loads in those spaces, as well as increase the ventilation requirements. This may require increasing the overall heating and cooling capacity of the building's central plant. Preliminary calculations have been performed and the recommendations below are based on those; however, exact sizing will be completed in later design phases. The recommendations below are a balance of reusing existing infrastructure, adding a new unit for the Police Department, and re-zoning the mechanical systems to reduce the wasted energy of fully conditioning unoccupied spaces during certain times.

**Heating Infrastructure:**

It has been reported that the building has experienced leaking Victaulic heating water pipes when the heating pumps are turned off or modulated to lower speeds. Currently, the heating pumps are run at or near full speed at all times. This solution is inefficient in the long term, both in energy usage and pump life expectancy. It is recommended that all heating pipe mains (4" and larger) be replaced with a construction that will mitigate leaks at all times, even when the system is operating at partial load conditions or not operating at all. During design, the size of the pipes to be replaced should be examined with new flows in

mind. Based on preliminary calculations, it is believed that the existing boilers are sufficient to handle the increased ventilation loads Refer to Fig. M-6 through M-9 for HWS/HWR mains routing and proposed new duct routing.

Fig. M-1 – Heating Water Secondary Pumps

Fig. M-2 Bucket Below Heating Water Piping

**Cooling:**

There are a total of three chillers in the main mechanical room; however, the smallest one is abandoned. Of the two larger Carrier units, only the largest and newest unit was operational during site visits. The second chiller is said to be a backup unit, but it is estimated to be past its equipment life expectancy. Heat rejection is managed by a two-cell cooling towner on the east side of the building. Each cell appears to be paired with a VFD condenser water pump. These pumps were operating at 100% during site visits. Given the full load operation of the condenser water pumps, and the single operable chiller, it is recommended that the older Carrier chiller unit be replaced, and the two chillers to operate lead/lag, distributing run-time between them. It is also recommended that the abandoned chiller be removed at this time. The new Police Department

on the third floor will also receive chilled water from this system. During design, the new chiller will be sized to account for the additional ventilation requirements. Additionally, it is recommended that the existing cooling tower be replaced by a new tower with an estimated 800 ton cooling capacity, to match existing cooling tower size, and that the existing condenser pumps be replaced. It is believed the existing chilled water pipe riser will not be sufficient for the increased capacity. Instead of replacing and upsizing the existing riser, it is recommended that a new supplemental riser be installed in the existing pipe chase to serve the new penthouse DOAS unit and Rooftop Unit.

Fig. M-3 – Small Abandoned Chiller

Fig. M-4 Two-cell Cooling Tower

**First Floor:**

The first floor is currently a mixture of fan coil units serving the perimeter and VAV boxes serving the interior, with some spaces being served by local air handling units. Ventilation is mostly being provided by the five penthouse air handling units, with some supplement by the local air handling units. Due to the

increase of occupant density on this floor along with the proposed Sally Port addition, this ventilation is insufficient. Additionally, it is anticipated that spaces on the floors will have different occupancy schedules.

It is recommended that all VAV boxes on this floor be replaced with fan coil units. This will allow the VAV box supply air to be diverted to other floors where it is needed, as well as accommodate different occupancy schedules. Based on the preliminary zoning diagrams, it is estimated that twenty five 3-ton fan coil units will meet the demand of the interior spaces.

There is currently an air handling unit in the west mechanical room on the first floor that serves the recording studio. It is recommended that this unit be replaced with a Dedicated Outside Air System (DOAS) unit that will provide ventilation to the Library on the first floor and second floor as well as the first floor Community Rooms. This DOAS unit must provide 3750CFM of outside are based on initial calculations. A new air handling unit should be provided to serve the first floor police spaces, including the Sally Port addition. Ventilation for this unit will enter through the existing wall penetration currently used for kitchen exhaust, supplying roughly 1700CFM of outside air to four fan coil units in the police spaces. Ventilation air for the rest of the first floor should be provided by a new 11,200CFM DOAS unit that will replace the existing dual deck penthouse air handling unit. The new DOAS unit will reuse the existing ductwork and will provide ventilation to the second floor.

New exhaust fans and ductwork will be necessary to exhaust the air supplied to the police Training Room and Police Support areas. One exhaust fan of an estimated 1250CFM will remove the air of these areas through a new louver over the east side dock area. A separate exhaust fan of an estimated 300CFM can serve the new Sally Port area.

Finally, there is an air handling unit with chilled water and hot water coils located in the electrical room on the west side of the building. It is recommended that this be removed, as it appears to have no source of outside air.

**Second Floor:**

The second floor is currently similar to the first floor, being served by fan coil units on the perimeter and VAV boxes on the interior. Like the second floor, it is recommended that all VAV boxes be replaced with fan coil units. This will require an estimated twenty-eight 3-ton fan coil units. As stated above, ventilation for the Library will be provided by new first floor DOAS unit in the west mechanical room. The rest of the floor will be ventilated by the new penthouse DOAS unit.

**Third Floor:**

The west side of this floor is similar to the Fourth and Fifth floors discussed below, being primarily office space. It is recommended that this area remain mostly "as is" mechanically, using the extra supply air diverted from the lower two floors VAVs to take care of any added load. Redistribution of airflow

and the addition of new VAV may be necessary to accommodate new office configurations. An estimated six new VAV units with coils should be accounted for on this side of the floor.

The new Police Department is expected to have a different occupancy schedule from all other building spaces. For this reason, a new Rooftop Unit is proposed to be installed on the north east section of the roof. This RTU will serve an estimated 15,000CFM at 20% outside air to VAV units in the Police Department. The RTU unit will have a heating coil served by the existing hot water system and a cooling coil served by the chilled water system. The new load from this unit be will accounted for in the sizing of the new chiller referenced above. A new chase will be created adjacent to the north east stairwell and a roughly 40"x30" duct will route down through the fifth and fourth floors to supply the Police Department. A corresponding 40"x36" duct will return air to the RTU. The necessary fire and smoke dampers will be installed with the new duct. The nineteen existing VAV units in this area will remain. An additional six new VAV units with heating coils will be estimated.

Fig. M-5 – Proposed New Rooftop Unit Location (image by Google Earth)

**Fourth and Fifth Floors**:

These floors are similar, currently served by induction units on the perimeter and VAV boxes on the interior. It is recommended that these floors remain mostly "as is" mechanically, using the extra supply air diverted from the lower two floors VAVs to take care of any added load. An additional six VAV units with heating coils should be estimated per floor.

**Common to All Floors:**

As spaces are divided up for different uses and schedules; modifications to existing ducts will be necessary for any new fire barrier and to maintain return air paths. Supply duct routing will need to be modified on each floor, as well, to redistribute air from the units in the penthouse and on the roof. Most VAV boxes throughout the building operate with pneumatic controls. It is recommended at this time that all pneumatic controls in the building be replaced with DDC controls.

## Plumbing

The Due Diligence Report recommended that all core restrooms be renovated, and fixtures be replaced with appropriate accessories. Additionally, an anticipated seventeen water closets will be added throughout the building with an estimated fourteen lavatories. It is anticipated that new breakroom sinks will be added throughout the building, each with a new small electric water heater. The largest anticipated plumbing change will be the addition of two locker rooms for the Police Department on the third floor. This will require an additional or upsized domestic water heat exchanger for the hot water load from the showers. Based on preliminary calculations, the domestic water supply and waste piping will not need to be upsized to meet the increased demand. However, it was recommended in the Due Diligence report that the sanitary line be scoped with a camera and the grease trap be cleaned.

Currently, the insulation on hot water and hot water recirculation piping throughout the building is in poor condition. It is recommended that most of the piping insulation in the building will need to be replaced.

Fig. P-1 – Typical Wall Mounted Water Closet

Fig. P-1 – Typical Undercounter at Lavatories

## Fire Protection

There is currently a Halon system present on the First Floor. It appears to be out of date and it is recommended that the system be fully removed. A new dry pipe system will need to be installed on the First Floor. Additionally, given the new zoning of the Second Floor, it is recommended that the North entrance dry pipe system be revised to accommodate any changes present. Existing sprinkler infrastructure should be modified based on the new space uses, as well as based on the relocation and addition of any walls.

## Major Cost Items

Below are the major cost items that are necessary for the proposed uses laid out in the Preliminary Zoning Diagrams. This is not a complete list of the Mechanical and Plumbing scope of work for the building, but outlines the largest anticipated updates necessary.

**Mechanical**

- Replacement of existing 300 ton backup chiller with 350 ton chiller to increase building cooling resiliency
- Replacement of existing 800 ton cooling tower and associated condenser pumps
- Replacement of all existing heating water piping mains (4" and up) due to reported and observed leaks at Victaulic connections
- All new DDC control system for all mechanical equipment
- Replacement of existing Hot Deck/Cold Deck with 11,200CFM DOAS Unit
- Replacement of 1st Floor unit with 3,750CFM DOAS Unit
- New 15,000CFM RTU with heating and cooling coils to serve Police Department with associated ductwork changes

- Replacement of existing VAVs with FCUs on 1st and 2nd Floors. Total estimate of 53 new units.
- New chilled water piping main for mechanical equipment

**Plumbing**

- Renovate/remodel existing lavatories in core restrooms on all floors and additional restrooms on first floor with showers (does not include arch finishes)
- New locker rooms in Police Department
- Insulated hot water and hot water circulation piping in mechanical room and accessible chases
- Scope/video tape sanitary line and clean our grease interceptor

**Fire Protection**

- Removal of Halon System and replacement with new dry pipe system
- Revising of North entrance of building dry pipe system
- Existing sprinkler system modification from relocation or addition of walls

# *Electrical Narrative - AE Design*

## City of Golden - Coors Building Electrical Feasibility Study

The following narrative provides the feasibility considerations for the existing electrical, lighting, low voltage, and fire alarm systems of 311 10th Street, Golden, CO Office Building based on the Preliminary Zoning Diagrams Draft created by Anderson Hallas dated 5/14/2019. Recommendations provided in this document are based on the Phase 2 Due Diligence Narrative generated for this same building, dated 6/3/2019. The Due Diligence Report is included in the Appendix.

**Change of Use Overview/Building Electrical Capacity**

The building currently consists of mostly office space with the 1st floor providing the majority of other space type uses (refer to table below for summary). The current usable space compared to overall building electrical capacity is lower than would be anticipated at about 8 watts/SF. As noted below in the table, the 4th and 5th floors will mostly maintain their current uses as office space and can be assumed that their current capacities could be maintained. Additionally, while the 1st through 3rd floors have areas with new use types that will sometimes increase or decrease the estimated watts/SF usage, the inclusion of a police station and operation facility will likely increase the overall power requirements. As a conservative assumption, the overall building existing electrical capacity of 1,600A at 277/480V, 3-phase, 4 wire should be increased to allow for 20 watts/SF. Basing off of new calculations of non-circulation/atrium and core spaces, this should be applied to 150,000 square feet, allowing for 3,000 kVA or approximately 3,600 amps with a 277/480V, 3-phase system. It would be suggested that an additional 2,000 amp service be supplied to the building with the attempt to maintain as much of the existing system as possible and provide additional capacity for new space uses.

The following new service and distribution system is suggested:

- 2,000A, 277/480V, 3-phase, 4 wire main distribution center (1st floor) (existing 1,600A service to remain in addition to this new service)
- 400A, 277/480V, 3-phase, 4 wire 1st floor panel
    - 75kVA transformer feeding 250A, 120/208V, 3-phase, 4 wire 1st floor panel
- 600A, 277/480V, 3-phase, 4 wire 2nd floor panel
    - 75kVA transformer feeding 250A, 120/208V, 3-phase, 4 wire 2nd floor panel
- 600A, 277/480V, 3-phase, 4 wire 3rd floor panel
    - 112.5kVA transformer feeding 400A, 120/208V, 3-phase, 4 wire 3rd floor panel

- 200A, 277/480V, 3-phase, 4 wire 4th floor panel
    - 75kVA transformer feeding 250A, 120/208V, 3-phase, 4 wire 4th floor panel
- 200A, 277/480V, 3-phase, 4 wire 5th floor panel
    - 75kVA transformer feeding 250A, 120/208V, 3-phase, 4 wire 5th floor panel

| Floor | Existing Use | Proposed Use (change in watts/SF) |
|---|---|---|
| 1st | Mechanical/Electrical space<br>Medical Office<br>Kitchen<br>Recording Studio<br>Office Space | Maintained:<br>•Mechanical/Electrical space<br>•Core/circulation<br><br>Changed:<br>•Museum Storage (decrease)<br>•Police Sally Port (increase)<br>•Police Support (increase)<br>•Police Training Room (increase)<br>•Library (decrease)<br>•Museum Storage (decrease) |
| 2nd | Mechanical/Electrical space<br>Core/circulation<br>Office Space | Maintained:<br>•Mechanical/Electrical space<br>•Core/circulation<br><br>Changed:<br>•Library (decrease)<br>•Council Chambers (increase)<br>•Museum (similar)<br>•Assembly (similar) |
| 3rd | Mechanical/Electrical space<br>Core/circulation<br>Office Space | Maintained:<br>•Mechanical/Electrical space<br>•Core/circulation<br>•Office Space<br><br>Changed:<br>•Police Operations (increase) |
| 4th | Mechanical/Electrical space<br>Core/circulation<br>Office Space | Maintained:<br>•Mechanical/Electrical space<br>•Core/circulation<br>•Office Space |
| 5th | Mechanical/Electrical space<br>Core/circulation<br>Office Space | Maintained:<br>•Mechanical/Electrical space<br>•Core/circulation<br>•Office Space |

### New Electrical Utility

Coors Brewing Facility has notified the team that it will no longer provide power to facility if it is sold.  Discussions have begun with Xcel Energy to determine if the existing electrical infrastructure from their system is sufficient and available for the increased service load as mentioned above.  It is anticipated that the existing underground electrical feed to the building may be used, but that a new

1,500KVA transformer and associated pad would need to be installed as part of this scope. The underground electrical from Xcel approaches the building from the northwest, but would need to be coordinated for final new transformer location with the proposed sally port addition. The City of Golden and Xcel Energy are determining arrangements for this potential service upgrade.

**Emergency Power System**

As mentioned as part of the new facility use, the current power feed from the Coors Brewing Facility would be changed to Xcel Utility power. The current configuration for the emergency power to the building to be provided by another utility source would be lost, requiring a new legally required emergency power system to be provided to supply the emergency lighting and emergency mechanical systems. As noted in the Due Diligence report, it is possible that all lighting currently powered by this emergency branch could be replaced as part of the lighting upgrade to include integral battery backup within each light. This would reduce the required size for the suggested backup generator. For the purposes of this report, it is assumed that the emergency capacity for the building would nearly match the existing, requiring the feed to a 400A, 277/480V, 3-phase, 4 wire feed. Assuming a power factor of 0.9, this load could be served by a 300 kW, diesel, sub-base tank generator. For the purposes of this report, it is assumed that the systems being supported by the generator are Class 2, Type 10, Level 1. It is assumed that the existing automatic transfer switch and supported distribution system (disconnects, motor control centers, panels, etc.) may still be utilized.

**Optional Standby Power**

The addition of a Police Station to the building initiates considerations for optional standby power to help maintain continuous power in case of a utility power loss to areas such as in custody holding, security systems, armories, evidence storage, and office support spaces. Based on the 18,900 square foot of planned area for the police station, taken at 30 watts/SF, it is assumed that only 50% of the space would need to be provided with optional standby power (approximately 285 kVA). It would be assumed that a 400A, 277/480V, 3-phase, 4 wire electrical distribution system, split between the Police Station areas on the 1st and 3rd floors would be sufficient. This system would be supported by an additional 300 kW, diesel, sub-base tank generator, with an assumed 48-hour run time. A separate automatic transfer switch would need to be provided. The addition of the second service to the building would allow for this new optional standby distribution to be newly installed and located in a secure area of the building as part of this scope.

In the case of an Emergency Operation Center (EOC) being included in the building, or at the determination of the AHJ with the functions of the police station, a Critical Operation Power System (COPS) may need to supply back up power to the portion of the building per NEC Article 708. It is assumed that the same distribution system listed above would be used, but the following

characteristics would need to be provided in addition to the items listed above: at least 72-hour operation duration, means for connecting a portable or vehicle-mounted generator as additional back up.

### Lighting System Replacement

To accommodate the new space changes proposed as part of this work and to meet current energy compliance requirements, it is recommended that all existing lighting and associated lighting controls be replaced. In addition to the existing lighting being mostly older technology, enough space use changes are proposed as part of this work that new lighting should be provided throughout. All enclosed areas shall be provided with energy code compliant vacancy type sensors with dimming as determined by space use type. The existing lighting area controls may be re-used, but to ensure that all code requirements are met in addition to new zoning based on space type use, it is recommended that a new system be installed, allowing for time-based control and daylight responsive control in daylight zones. It is recommended that at least $12 per square foot for both lighting material and installation cost be carried for this upgrade.

### Low Voltage System Updates

As noted in the Due Diligence report, the building is fairly well-equipped with a low voltage infrastructure with the main demarcation room/MDF on the 1st floor multiple IDF's on each floor. While the locations may be maintained, additional work will be required to update to the new space types and uses that are proposed on each floor at the device level. It is likely that the existing IT racks will also need to be upgraded per requirements of the new spaces. For cost estimating purposes, it should be assumed that $2.50/SF would be required for necessary upgrades, including cabling, terminations, and testing only.

### Fire Alarm System Updates

The existing fire alarm system appears to have been updated within the last 5 years. With voice evacuation and updated alarming devices, it is assumed that no major changes to the fire alarm system would be required. It should be anticipated that devices will need to be added/relocated as necessary for the new space layouts, but will be able to tie into the existing main building system. For cost estimating purposes, it should be assumed that $1/SF would be required for necessary upgrades to rework device layouts within the existing system.

### Lightning Protection System Updates

No lightning protection system was observed at time of visit. A line item shall be included in the cost estimate to provide a lightning protection system as part of the update to the overall building.

**Bi-Directional Amplification Survey**

As part of the re-use of the building, it is recommended that a survey of the current radio and wireless performance of the building be conducted. The findings should be evaluated for both emergency personnel communication systems as well as public wireless systems. Based on the findings, it may be necessary to provide a bi-directional radio amplification for emergency service personnel. The City of Golden may make a determination of whether or not to include a public bi-directional amplification system to increase wireless signals based on the findings and level of acceptance.

# *Estimate of Costs*

| | |
|---|---|
| Site Development<br>*Includes secure parking lot, landscape upgrades, utilities | $1,716,500 |
| Architectural Upgrades<br>*Includes ADA upgrades, egress upgrades, reconfigurations for City & Partner spaces | $10,787,500 |
| Structural Upgrades<br>* Includes seismic retrofitting, accommodations for City & Partner spaces | $2,900,500 |
| Mechanical Upgrades<br>*Includes Fire Sprinkler, Plumbing & HVAC upgrades to accommodate new uses | $4,770,000 |
| Electrical Upgrades<br>* Includes lighting, power, security & fire alarm upgrades to accommodate new uses | $4,365,000 |
| Subtotal Construction Costs ca. 2020 | $24,539,000 |
| Design Contingency (20%)*<br>*Due to preliminary nature of this Feasibility Study, there are many items not yet known so therefore a Design Contingency is required. | $4,907,900 |
| Escalation (6%)**<br>**Anticipates one calendar year of inflation costs | $1,472,370 |
| Total Construction Costs***<br>***These numbers are based on very preliminary concepts, and is intended for planning purposes. The construction market is in constant fluctuation, and estimates should be revised with more detailed information as the project moves forward. | $30,919,770 |
| Additional Overall Project Costs (30%) | $9,275,931 |
| Total Estimated Project Costs****<br>****Project costs can vary depending on location, site conditions etc. 30% is a rule of thumb intended to cover surveys, testing, permitting, design fees, fixtures, furnishings and equipment, etc. | $40,195,701 |

# Next Steps

- Determination of acquisition by the City
- Establish Proforma/Partnership participation financial goals for the City
- Preliminary 'Memo of Understanding' with potential partners
- Establish budget parameters for the project.
- Project phasing analysis, if needed.
- Subdivision/ entitlement processes
- Programming/Space Planning – an in-depth study with each department and potentially with partner tenants to determine actual users, locations and space needs within the identified "zones" from the Feasibility Study.
- Determine Construction Methodology: CMGC or Design/Bid/Build.
- Commence Traditional Design Phases:
    - Schematic Design
    - Design Development
    - Construction Documentation
- Permitting
- Construction

# *Appendix*

1. Due Diligence Assessment, dated 6/5/19
2. Notes from Potential Partner Meetings: Library, Foothills Art Center/Golden History Museum, Miners Alley Playhouse
3. Project Meeting Minutes
4. Preliminary Feasibility Considerations, dated 11/13/2018

MARTIN/MARTIN
CONSULTING ENGINEERS

# MillerCoors North Office Building Due Diligence Assessment - 311 10th Street

Martin/Martin, Inc. Project No.: 19.0384.S.01

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Final Due Diligence Report

June 5, 2019


**MARTIN/MARTIN, INC.**
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# INDEX OF FINAL DUE DILIGENCE REPORTS

MARTIN/MARTIN
CONSULTING ENGINEERS

June 5, 2019

Steve Glueck
City of Golden
1000 10th Street
Golden, Colorado 80401

Re: MillerCoors North Office Building Due Diligence Assessment - 311 10th Street
Martin/Martin, Inc. Project No.: 19.0384.S.01

Mr. Glueck:

Martin/Martin, Inc. has completed its due diligence assessment of the 170,000 square-foot office building located at 311 10th Street in Golden, Colorado, known as the MillerCoors North Office Building (NOB). The purpose of our assessment was to perform an on-site investigation and a due diligence condition assessment to identify any critical issues that may affect the future performance of the building. The results of our assessment are summarized in the attached reports. The systems in the assessment include structural, building envelope, mechanical and plumbing, electrical, civil, and emergency evacuation.

This report is based on the understanding that the building is currently occupied as an office building and is potentially being sold and purchased as an office building. If the use and occupancy is changed (e.g., to a library, theatre, or other place of assembly), further evaluation is required to determine how these changes shall comply with the International Existing Building Code (IEBC). The feasibility study to evaluate the potential change in occupancy is being orchestrated by Anderson Hallas Architects simultaneously with this report.

We appreciate this opportunity to be of service. Please call me if you have any questions regarding this report or if we may be of further assistance.

Sincerely,

David P. Hall, PE, SE
Senior Project Engineer

Attachments

G:\PROJECTS\19.0384.S.01-Coors Building (311 Tenth St) Due Diligence\Word Processing\Phase 2\19_0384S01_June_05_2019_R0_Ltr.docx

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# STRUCTURAL EVALUATION

Martin/Martin, Inc. performed a structural due diligence investigation of the MillerCoors North Office Building (NOB) located at 311 10th Street in Golden, Colorado. The purpose of our investigation was to evaluate the general condition of the building structure, to document items potentially affecting the safety, durability, maintenance, or performance of the structure, and to provide general recommendations for repairs, as necessary.

Our work consisted of a brief, visual examination of the building conducted on May 7, 2019, and a brief review of the original structural design drawings. During our site visit, we visually observed the exterior wall at the foundation, the interior walls at periodic locations, the structural framing at periodic locations, and the roof. We did not perform a structural analysis of the building, the foundations, or structural framing.

This report is based on the understanding that the building is currently occupied as an office building and is potentially being sold and purchased as an office building. If the use and occupancy is changed (e.g., to a library, theatre, or other place of assembly), further evaluation is required to determine if the building is structurally sufficient to resist new, larger loads as defined in the International Existing Building Code (IEBC).

## BACKGROUND

The property is a five-story building with approximately 170,000 square feet of office space designed in 1982 (Photo 1). The foundation system consists of 36” diameter concrete drilled piers drilled to bedrock, with 8” to 10” wide grade beams at the perimeter of the building. 24”-by-24” concrete columns extend from the tops of the drilled piers to the roof level. The floor framing at the first floor is 4” concrete slab-on-grade with 6” gravel fill below. Floor framing at the second floor through the roof consists of precast concrete double-tees supported by precast inverted-tee beams. There is also a 2 ½” (minimum) thick concrete topping slab at the floors and the penthouse floor; most of the roof does not have concrete topping. There is a large skylight at roof level that runs almost the entire length of the building. The framing of the skylight consists of hot-rolled steel angles and cold-formed metal studs. The penthouse adjacent to the skylight is framed with hot-rolled steel columns and beams. Lateral loads are resisted by cast-in-place concrete and precast concrete core walls that extend the entire height of the building.

## DRAWING REVIEW

During our investigation, we reviewed the original structural drawings of the building designed by KKBNA, dated February 26, 1982. The brief review was performed to understand the structural system, evaluate areas of potential issues, and determine if the structure is capable of supporting code-specified loads. Based on our evaluation, we have determined that the floor structure was designed for the following floor loads in pounds per square foot (PSF):

- 1st floor slab slab-on-grade = 100 PSF live load (non-reducible)
- 2nd through 5th floors = 50 PSF live load (reducible) with a 20 PSF partition load
- Corridors and bridge = 100 PSF live load (non-reducible)
- Penthouse floor = 100 PSF live load (non-reducible)
- Roof = 30 PSF snow load (non-reducible)

The structural loading indicated above meets the current building code requirements for an office occupancy. We did not find any abnormalities or deficiencies during our review of the original structural drawings. A lateral (wind/seismic) analysis was not performed on the structure.

## OBSERVATIONS

Overall, the building appears to be structurally sound with no evidence of structural movement or deterioration. However, during our investigation we observed the following maintenance items:

1. The roof is not equipped with a fall protection system and the roof parapets are not tall enough to be classified as guardrails per OSHA (Photo 2). As a result, fall protection is required on the roof when a worker is closer than 15-feet of a dangerous edge.
2. The roof is not equipped with a façade access system (roof anchors or davit bases) for window washing (Photo 3). As a result, window cleaning is performed via lifts.
3. The penthouse high roof does not have fall protection.
4. Several areas of standing water were observed on the roof (Photo 4).
5. The connection of one cold-formed non-structural metal stud was broken in the mechanical penthouse (Photo 5).
6. The concrete precast spandrels were spalled and deteriorated throughout the building where precipitation accumulates on top of the spandrel (Photo 6). This was generally observed at the 2nd floor spandrels where the windows are inset and in the center of the east and west faces of the buildings where the windows are inset (Photo 7).
7. Drywall cracking was observed at the 2nd floor wall framing starting at the top of a window and extending up to one side of the column corbel supporting the 3rd floor precast inverted tee beams (Photo 8). The drywall cracking is a non-structural, cosmetic concern caused by small structural movement of the precast spandrels and/or precast columns. Drywall cracking was not observed on the other floors.
8. The atrium guardrails do not have the current code-required opening limitations. IBC 1015.4 specifies that the required guard rails “shall not have openings that allow passage of a sphere 4 inches in diameter from the walking surface to the required height” (Photo 9).
9. A few precast spandrels were rusted in isolated areas (Photo 10). This is likely caused by an embedded steel element located too close to the concrete surface that has rusted.
10. At the east dock, spalled, scaled, and cracked concrete, corroded handrails, corroded bollards, corroded rebar, corroded steel edge angles, a loose bumper, and a corroded door frame were observed (Photos 11, 12, 13, and 14).
11. At the west, exterior stairs, spalled, scaled and cracked concrete, corroded handrails, corroded rebar, and concrete patches that have failed were observed (Photos 15 and 16).
12. At the exterior west stairs, the southern portion of the concrete retaining wall is missing a guardrail (Photo 17). As a result, there is a fall hazard at this location.
13. Several exterior, steel columns are corroded at the north and south entrances (Photo 18).

14. Inadequate drainage was observed where the ground abuts against the building along the north, west, and south sides of the building (Photo 19).
15. The sidewalks throughout the property are damaged and are tripping hazards (Photo 20).
16. Throughout the property, some sidewalk handrails are corroded and some of the base connections are damaged (Photo 21).

## RECOMMENDATIONS

We recommend the following repairs to address the items outlined above:

1. Design and install OSHA, ANSI, IWCA, and ASME compliant fall protection and façade access systems throughout the building. The systems should be designed by a qualified fall protection engineer.
2. Adjust roof slope to properly drain during the next reroofing project.
3. Repair the broken cold-formed metal stud connection in the mechanical penthouse.
4. Perform vertical and horizontal concrete repairs at the spalled and deteriorated precast spandrels.
5. Repair the 2nd floor drywall cracks. The repairs should be designed to accommodate small structural movements so that the cracks do not reform.
6. Extend the guardrails in the stairwells to a height of 42 inches.
7. At the east dock, perform concrete repairs, remove corrosion from rusted steel and paint, repair the loose bumper, and replace the rusted door.
8. At the west, exterior stairs, remove and replace the concrete stairs, salvage, repaint, and reuse the existing handrails, extend the handrail at the southern portion of the retaining wall, and perform vertical and horizontal concrete repairs at the retaining walls.
9. At the steel columns at the north and south entrance, remove the corrosions and repaint the steel.
10. At locations of inadequate drainage where the ground abuts against the building, establish a minimum slope of 1 inch per foot for a minimum of 10 feet away from the foundation.
11. Remove and replace damaged sidewalks.
12. Repaint sidewalk handrails and repair the damaged base connections.

## OPINION OF PROBABLE COST

A preliminary opinion of probable repair cost has been prepared for budgetary purposes only. The costs provided are meant to be general in nature and serve only as a “ballpark” estimate to establish a rough order of the construction costs and do not include any markups for future inflation.

The values listed below were developed based on typical costs obtained during past competitive bidding projects of similar scope. It is not feasible to determine the markups that may be applied to the costs below due to Contractor’s current staffing and schedule commitments.

In addition to the approximate cost estimates listed below, we recommend that the yearly budgets include a construction contingency of 15 – 20% above whatever scope of work is intended to be completed. This contingency will allow for minor changes to the scope of repairs due to deficient items discovered during the implementation of the repairs.

Fall Protection and Façade Access ..... $100,000 to $150,000

Re-slope Roof ..... $15,000 to $20,000

Repair Metal Stud in Penthouse ..... $500 to $1,000

Precast Spandrel Concrete Repair ..... $75,000 to $125,000

Drywall Patches ..... $3,000 to $4,000

Stairwell Guardrails ..... See Emergency Evacuation Report

East Dock Repairs ..... $25,000 to $40,000

West Stair Repairs/Replacement ..... $35,000 to $50,000

Steel Columns at Entrance ..... $1,500 to $3,000

Landscaping ..... $8,000 to $12,000

Sidewalk Replacement ..... See Civil Report

Sidewalk Handrail Repair ..... $3,000 to $4,000

**Repair Subtotal: $266,000 to $409,000**

## LIMITATIONS

Our investigation was limited solely to the visual evaluation of the building structure for the MillerCoors North Office Building (NOB) located at 311 10th Street in Golden, Colorado. This report is based on conditions of the building structure that were readily observable at the time of inspection. No invasive testing or inspections were performed. Martin/Martin, Inc. does not accept responsibility for deficiencies not evident during an inspection of this type. Repair recommendations provided in this report are conceptual in nature and are not intended for construction. Conditions observed on the date of inspection may change if noted deficiencies are not corrected.


*Photo 1*

*Photo 2*

*Photo 3*

*Photo 4*

*Photo 5*

*Photo 6*

*Photo 7*

*Photo 8*

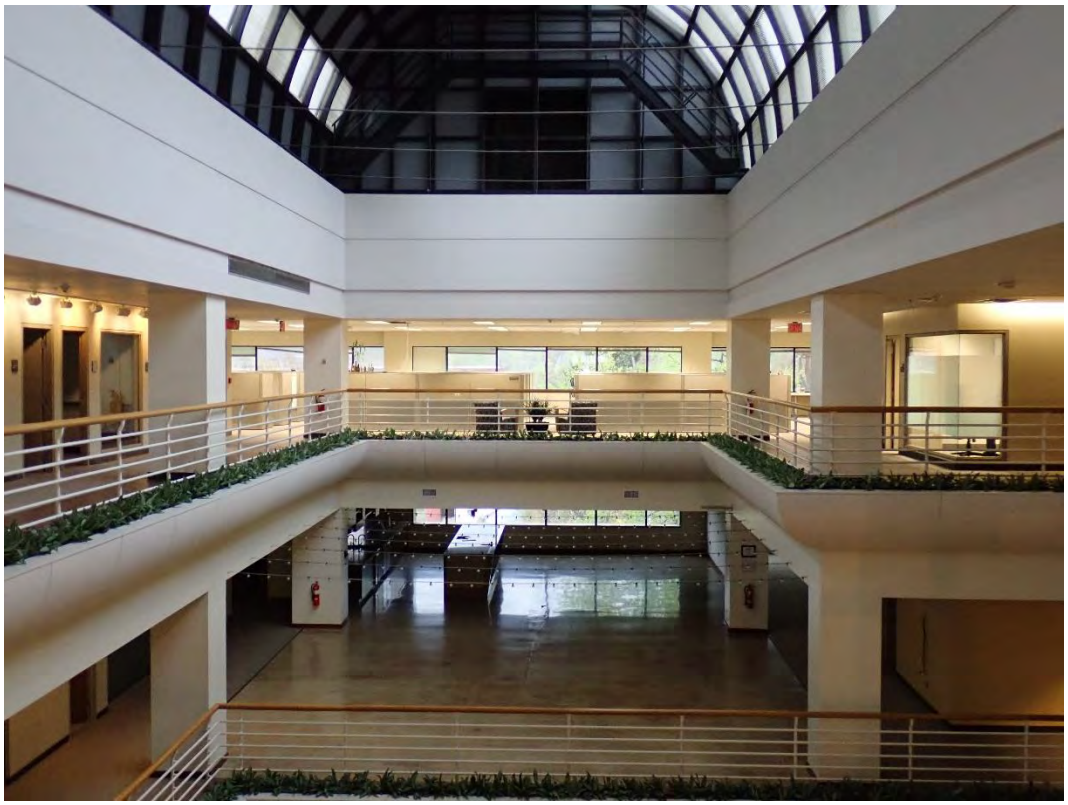

*Photo 9*

*Photo 10*

*Photo 11*

*Photo 12*

*Photo 13*

*Photo 14*

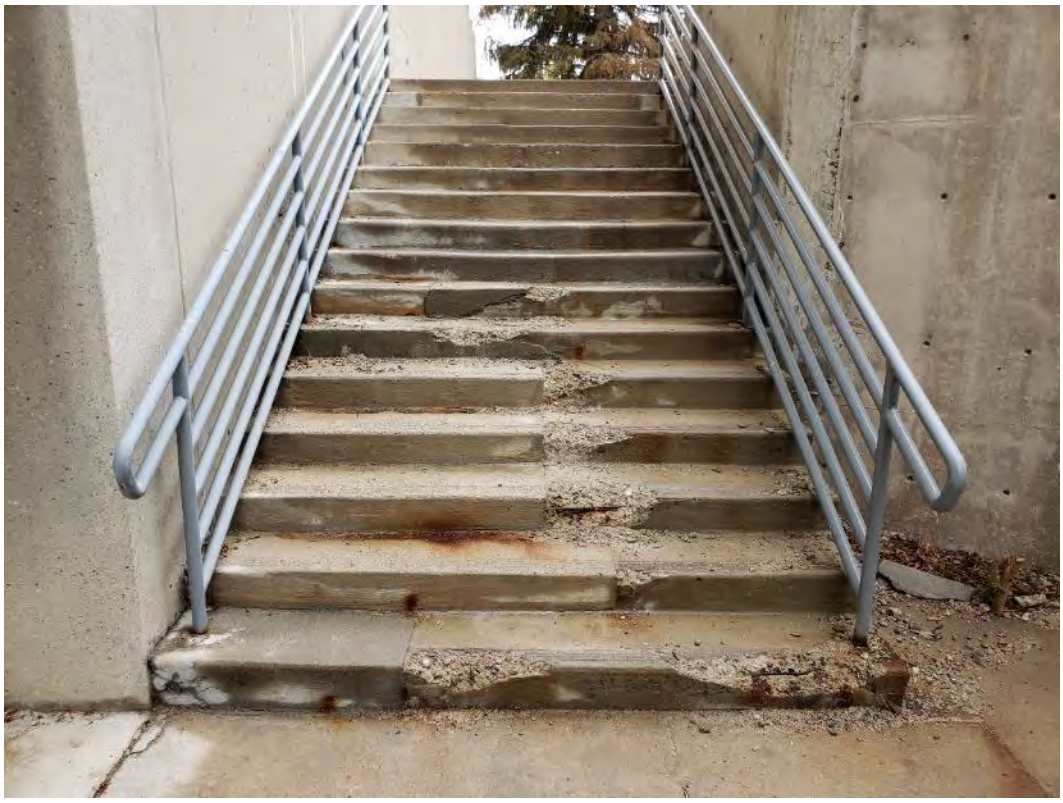

*Photo 15*

*Photo 16*

*Photo 17*

*Photo 18*

*Photo 19*

*Photo 20*

*Photo 21*

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# BUILDING ENVELOPE EVALUATION

We have performed a due diligence observation of the building envelope for the building located at 311 10th Street in Golden, Colorado. The purpose of our investigation was to evaluate the general physical condition of the building, to document items potentially affecting the safety, durability, maintenance, or performance of the façade, and to provide general recommendations for repairs, as necessary.

Our work consisted of a brief visual examination of the building conducted on May 7, 2019. During our site visit, we observed the roof, penthouses, the exterior walls, sealants, glazing, and flashing.

## BACKGROUND

The building is a five-story precast concrete structure with precast spandrel panels and strip windows. The roof is a single ply membrane roof system with two metal-clad penthouses and a central barrel-vaulted atrium skylight.

## DRAWING REVIEW

Prior to our site investigation, we reviewed the existing architectural and structural drawings of the building. The review was performed to develop a preliminary understanding of the building envelope and evaluate areas of potential issues. Based on this evaluation, we have determined that the exterior window system lacked the adequate water proofing details, creating a condition for potential water intrusion.

## OBSERVATIONS

During our investigation, we observed the general condition of the building envelope and noted the following items which could affect the life expectancy or maintenance requirements:

A. Building Envelope – Parapet Wall and Penthouse

1. Sealant installed at the cap flashing splices is deteriorated and failing (Photo A1).
2. Numerous cap flashing fasteners are loose (Photo A2).
3. The roof membrane was not adhered to the sheathing at several locations on the backside of the parapet and is billowing under windy conditions (Photo A3).
4. Two fasteners installed into the back side of the cap flashing through the splice is preventing the cap from expanding properly, at several locations (Photo A4).
5. The fasteners were spaced at 36” – 48” on center at the side lap of the metal panels on the penthouse. Manufacturer’s standards require side lap fasteners to be spaced at 12” – 16” apart (Photo A5).
6. The painted finish of the louvers and doors are deteriorated and failing on the penthouse (Photo A6a and A6b).
7. Metal panel over a door at an existing repaired area was lapped incorrectly with the existing panels (Photo A7).

8. Numerous holes in the penthouse walls were not sealed (Photo A8).
9. Several metal panel screws were loose (Photo A9).

B. Building Envelope – Roof and Atrium Barrel Vaulted Skylight

1. The membrane was cracked and failing around the scuppers (Photo B1).
2. A repair to the roof membrane was cracked and failing at the base of the parapet wall (Photo B2).
3. The granular particles from the roof cap sheets are coming loose and accumulating in the corners of the building parapet walls (Photo B3).
4. Water was ponding on the roof at several locations (Photos B4a and B4b).
5. The flashing at the corner of the skylight was damaged and could allow water to enter the building (Photo B5).
6. Glass seals on the skylight have failed and clouded the glass (Photo B6).
7. Gaskets at the mullion covers are dry rotted (Photo B7).
8. Sealant at counterflashing to the base of Atrium skylight is deteriorated (Photo B8).

C. Building Envelope – Exterior Precast

1. The deteriorated sealant in the precast panel joints are failing (Photo C1).
2. Cove joint sealants are deteriorated at the base of precast wall to the sidewalk (Photo C2).
3. Spalled concrete was observed on the sloping precast sill at Level 5 of the east elevation (Photo C3).
4. Minor concrete damage was observed at some areas of the precast (Photo C4).
5. Staining has occurred on the precast panels below the windows sills, window vertical mullions and at the column panels were observed (Photos C5a and C5b).
6. Numerous penetrations through the precast panels were not sealed or the sealant has deteriorated and cracked (Photo C6).

D. Building Envelope – Solarium on South Side of Building

1. The glass door does not operate correctly on the south side at Level 1 (Photo D1).
2. There is a broken light of glass at the base of the solarium (Photo D2).
3. The top of the eyebrow canopy, along the solarium is flat and prevents water from draining properly (Photo D3).
4. Glazing gaskets are loose at the glass (Photo D4).
5. Glass seals have failed at several locations, fogging up the glass (Photo D5).
6. Gaskets are dry rotted and letting water into the system (Photo D6).
7. The base of the solarium has no weeping system and the sealant around the base of the system has failed (Photo D7).

E. Building Envelope – Strip Windows

1. Numerous water leaks were observed on all elevations and floors.
2. Leaks were more prominent on the North elevation. The Owner indicated that the leaks were worst during wind driven rain events.
3. Water stains were observed at the head of the windows. The water appears to be entering the building at the sealant joint between the precast panels and windows (Photo E3).
4. Stains on the vertical mullions indicate water is overwhelming the window head extrusion and running down the vertical mullion (Photo E4).

5. There were numerous locations of water overwhelming the windowsill and staining the mullion and drywall (Photo E5).
6. The window system has no starter extrusion. There is no means for water that enters the system to weep out to the exterior of the building (Photo E6).
7. Exterior glazing gaskets are dry rotted (Photo E7).

## RECOMMENDATIONS

Overall, the building envelope is in fair to good condition. We did not observe any evidence of significant distress, or damage during our investigation that would impact integrity. There were several items we observed that could affect the long-term performance of the building if not properly maintained or addressed. We recommend the following:

1. Remove existing sealant from parapet cap splices and install Premolded Silicone Seal over all splices.
2. Tighten or replace loose and missing fasteners at the cap flashing and metal siding.
3. At the locations where two fasteners are creating a rigid splice condition, move one of the fasteners from the splice.
4. Adhere the loose roofing membrane to the back of the parapet wall sheathing with roofing adhesive.
5. Monitor the areas where the roof cap sheet is losing the granular particles and repair as required.
6. Add additional fasteners to the metal siding side lap to obtain a spacing of 12” to 16” on center.
7. Seal all penetration through the metal panels with silicone sealant.
8. Replace all sealant installed around doors, louvers, and mechanical openings with silicone sealant.
9. Paint doors and louvers at the penthouses with a rust inhibitive paint.
10. Repair the roof membrane at deteriorated locations.
11. Repair sill corner of the atrium skylight with a new miter sill flashing.
12. Replace the counterflashing sealant at the base of the atrium skylight.
13. The atrium skylight should be replaced. Short of replacing the skylight, seal around all glass lights, replace any failed lights of glass and replace the remainder of sealant on the skylight with silicone sealant.
14. Remove and replace all joint sealants in the precast with silicone sealant.
15. Make repairs to the damaged concrete areas in the precast panels.
16. Clean the water stains from the precast panels.
17. Seal around all penetrations through the precast with silicone sealant.
18. Adjust or reset the door that does not close properly on the south entry.
19. Replace broken and failed glass lights on the solarium.
20. Install silicone sealant around all lights of glass and around the perimeter of the solarium.
21. Replace the existing window system with a strip window that utilizes a started extrusion to provide a weeping system. Short of replacing the window system, install silicone sealant around all lights of glass and around all windows to prevent water intrusion.

## OPINION OF PROBABLE REPAIR COST

A preliminary opinion of probable repair cost has been prepared for budgetary purposes only. The costs provided are meant to be general in nature and serve only as a “ballpark” estimate to establish a rough order of the construction costs and do not include any markups for future inflation.

The values listed below were developed based on typical costs obtained during past competitive bidding projects of similar scope. It is not feasible to determine the markups that may be applied to the costs below due to Contractor's current staffing and schedule commitments.

In addition to the approximate cost estimates listed below, we recommend that the yearly budgets include a construction contingency of 15 – 20% above whatever scope of work is intended to be completed. This contingency will allow for minor changes to the scope of repairs due to deficient items discovered during the implementation of the repairs.

Seal all Atrium Glass, Replace Failed Lights and Seal the Perimeter .....$150,000 to $200,000

Install Premolded Silicone Seal at Cap Flashing Splices .....$5,000 to $8,000

Fasten Loose Parapet Cap Flashing and Penthouse Screws and Seal All Fasteners .....$3,000 to $5,000

Clean and Paint Penthouse Doors and Louvers .....$3,000 to $6,000

Adhere Loose Roof Membrane and Remove the Buildup of Granular Particles .....$1,500 to $2,000

Wet Seal Over Strip Window Glazing Gasket and Around the Windows .....$150,000 to $200,000

Replace Precast Joints with Silicone Sealant .....$50,000 to $75,000

Clean Stains, Seal Penetrations and Repair Minor Damage at Precast .....$10,000 to $20,000

Apply a Penetrating Sealer to all Precast Surfaces .....$50,000 to $65,000

Adjust Door, Replace Broken and Failed Glass in the Solarium.....$1,500 to $2,000

Seal all Solarium Glass and around the Perimeter of the Solarium.....$40,000 to $65,000

**Repair Subtotal: $464,000 to $650,000**

Replace Atrium Skylight: .....$500,000 to $700,000

Replace All Strip Windows: .....$1,000,000 to $1,250,000

**Alternate Replacement Add Subtotal: $1,400,000 to $1,750,000**

## LIMITATIONS

Our investigation was limited solely to the visual evaluation of the building envelope condition of the building, located at 311 10th Street, Golden, Colorado and is based on conditions of the building envelope that were readily observable at the time of inspection. No invasive testing or inspections were performed. Martin/Martin, Inc. does not accept responsibility for deficiencies not evident during an inspection of this type. Repair recommendations provided in this report are conceptual in nature and are not intended for construction. Neither the investigation nor this report is intended to cover mechanical, electrical, architectural, or other nonstructural features beyond those described above. Conditions observed on the date of inspection may change if noted deficiencies are not corrected.

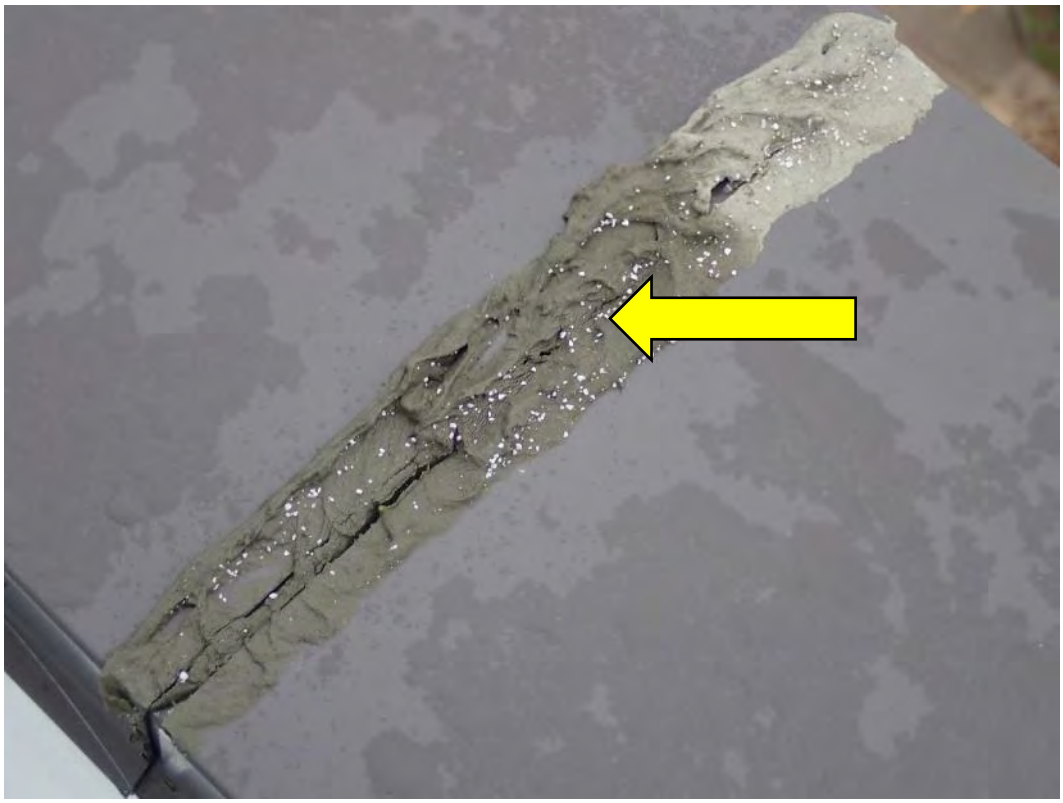

*Photo A1*

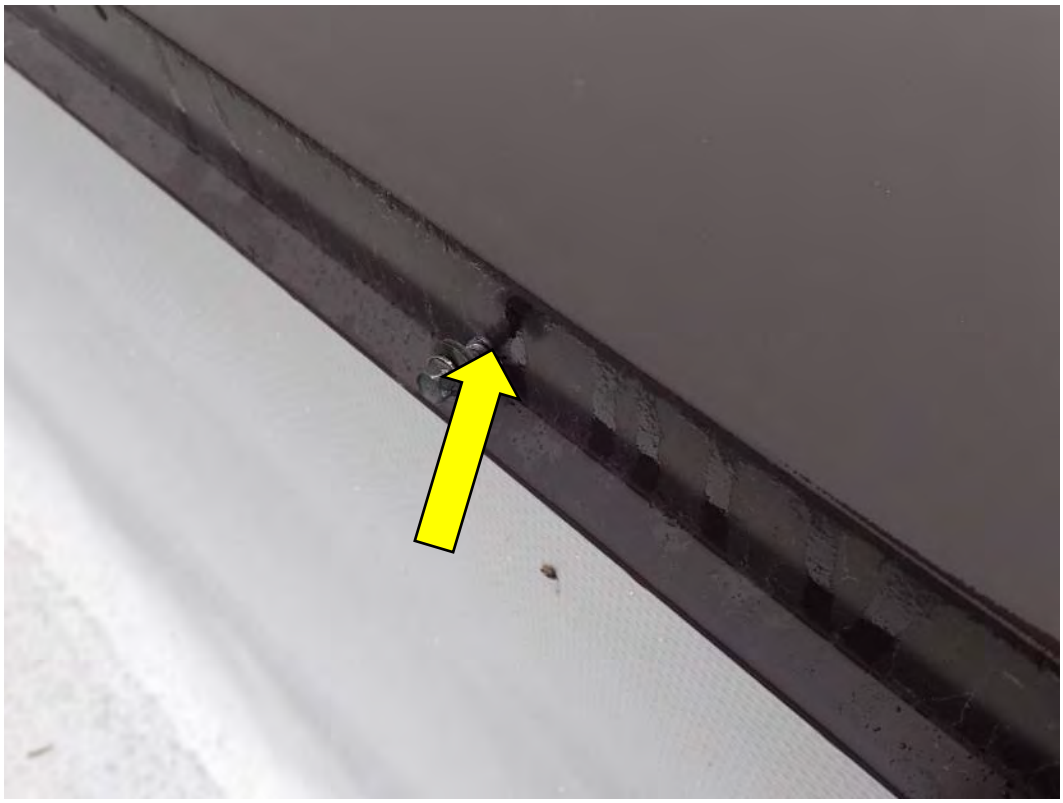

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*Photo A3*

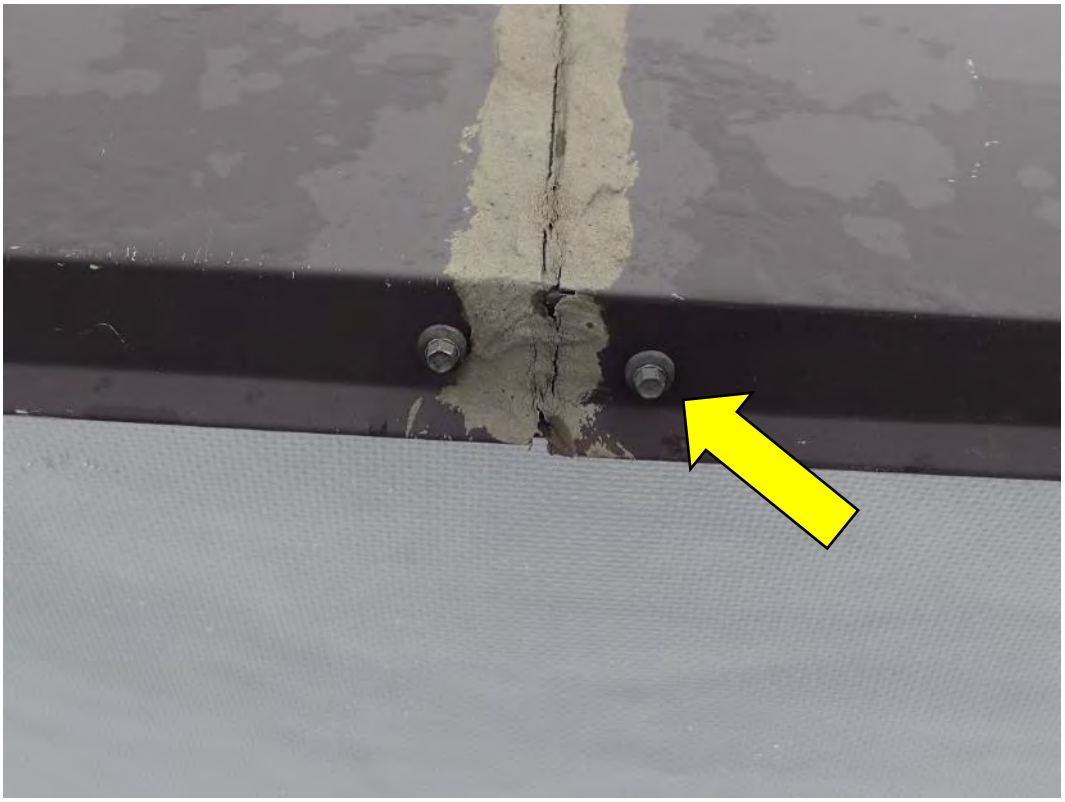

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*Photo A5*

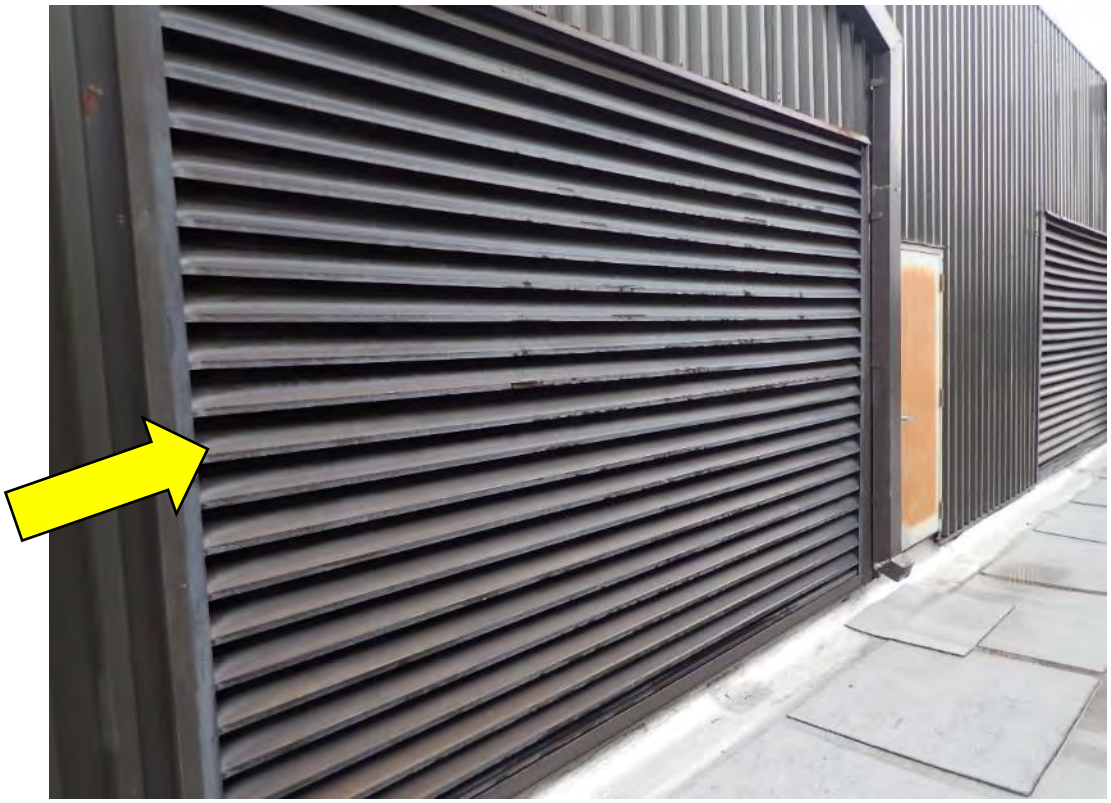
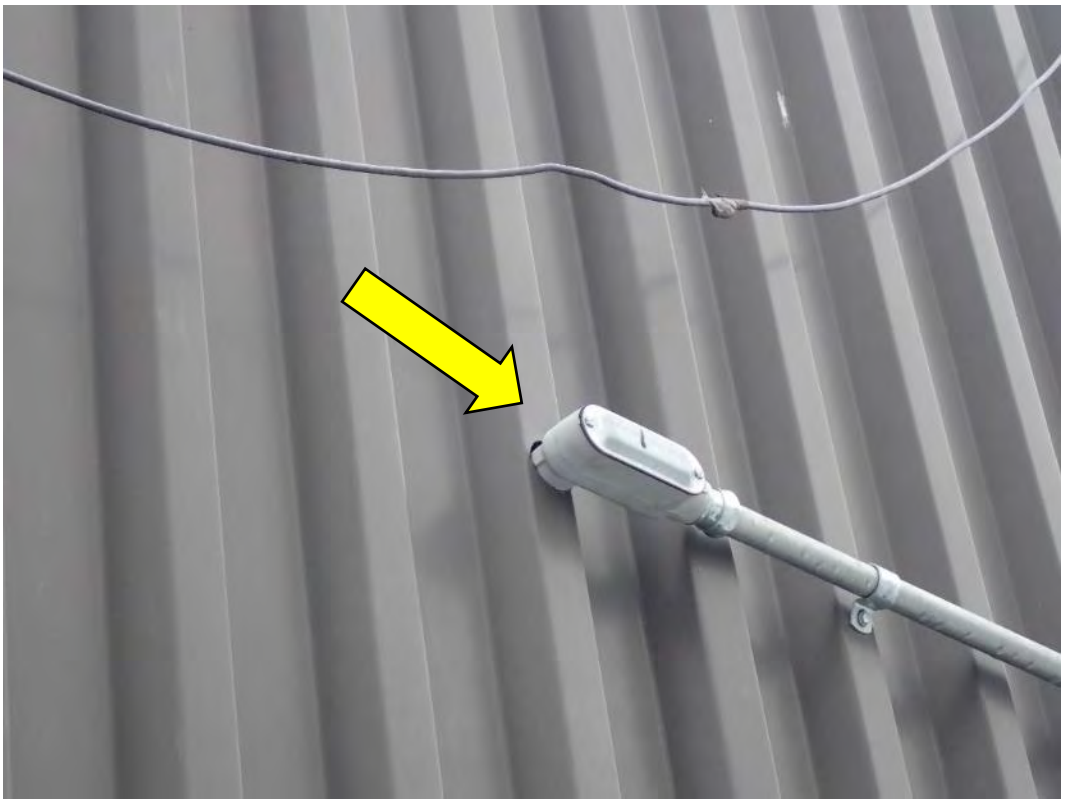


*Photo A6a*

*Photo A6b*

*Photo A7*



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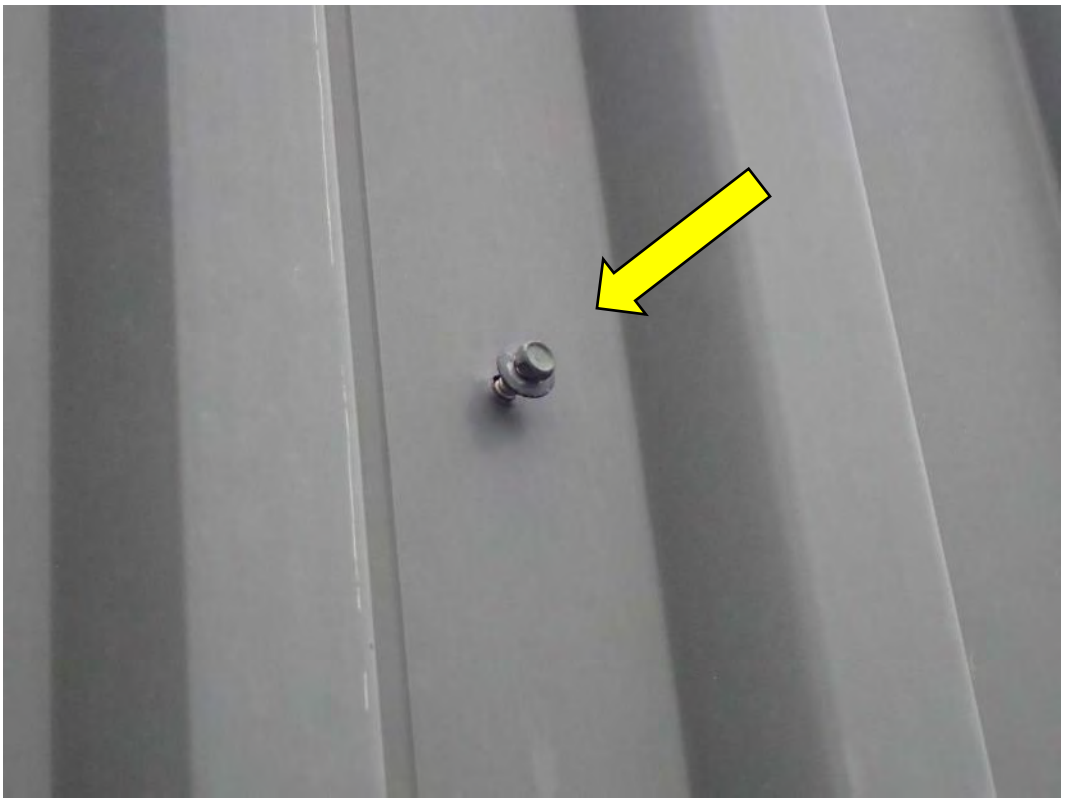

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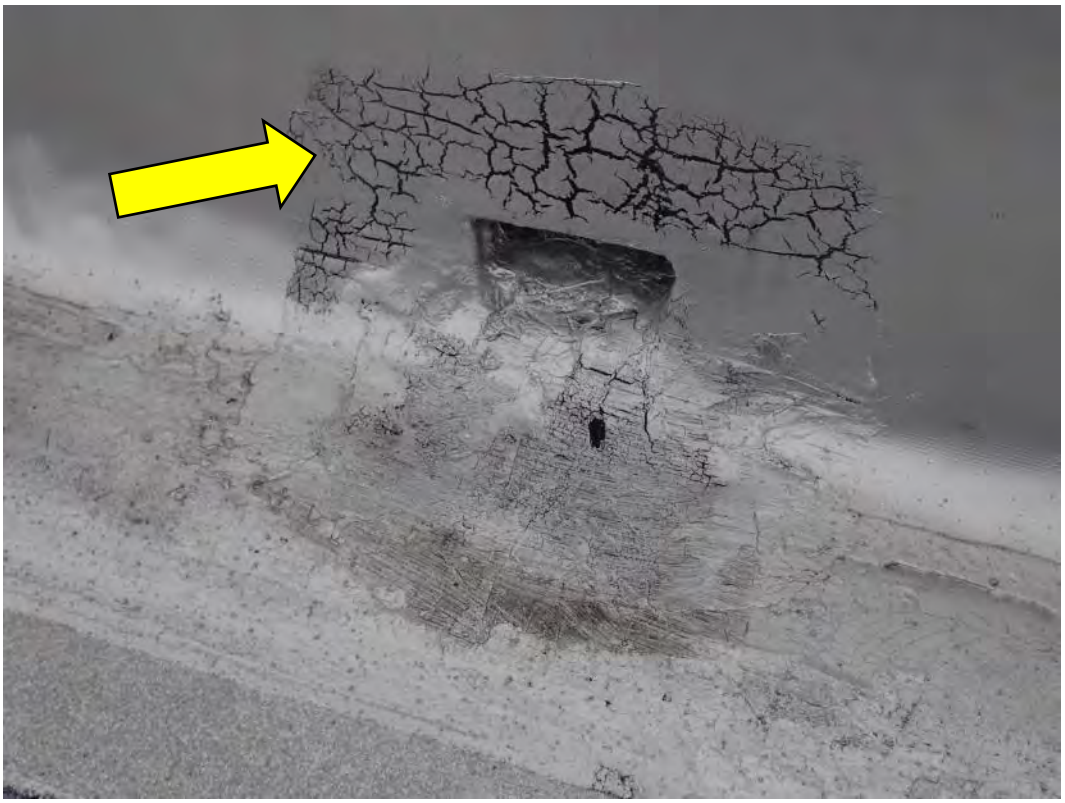

*Photo B1*

*Photo B2*

*Photo B3*

*Photo B4a*

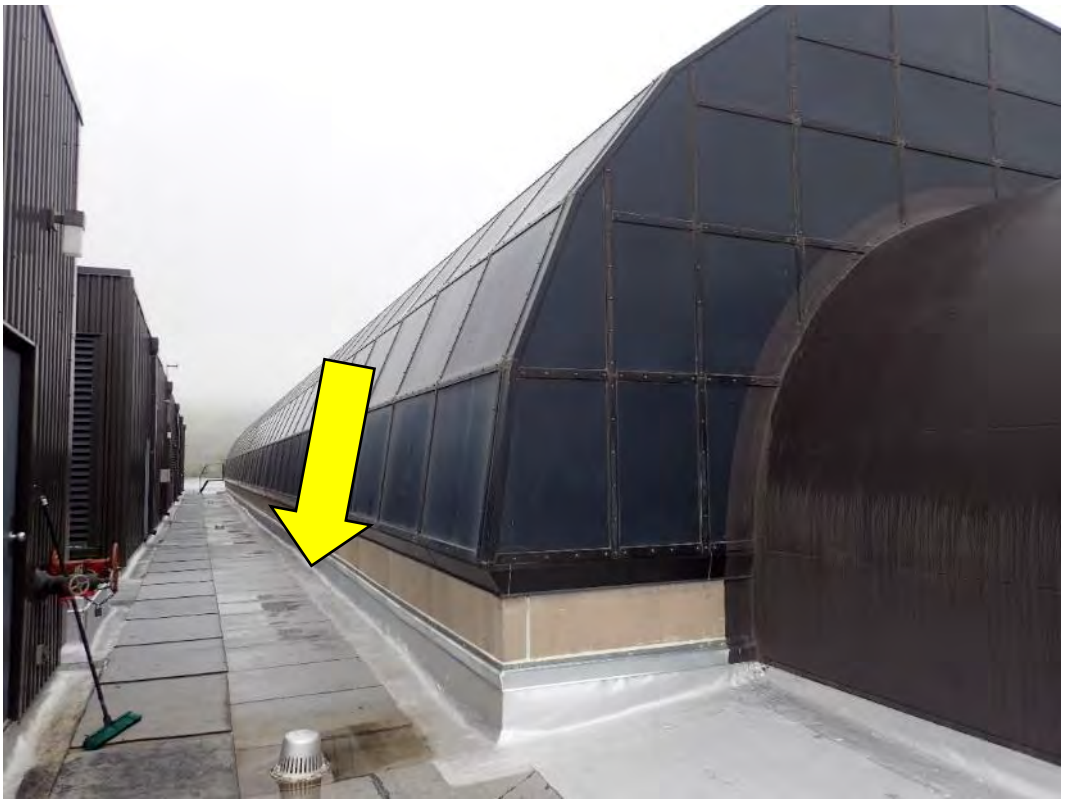

*Photo B4b*

*Photo B5*

*Photo B6*

*Photo B7*

*Photo B8*

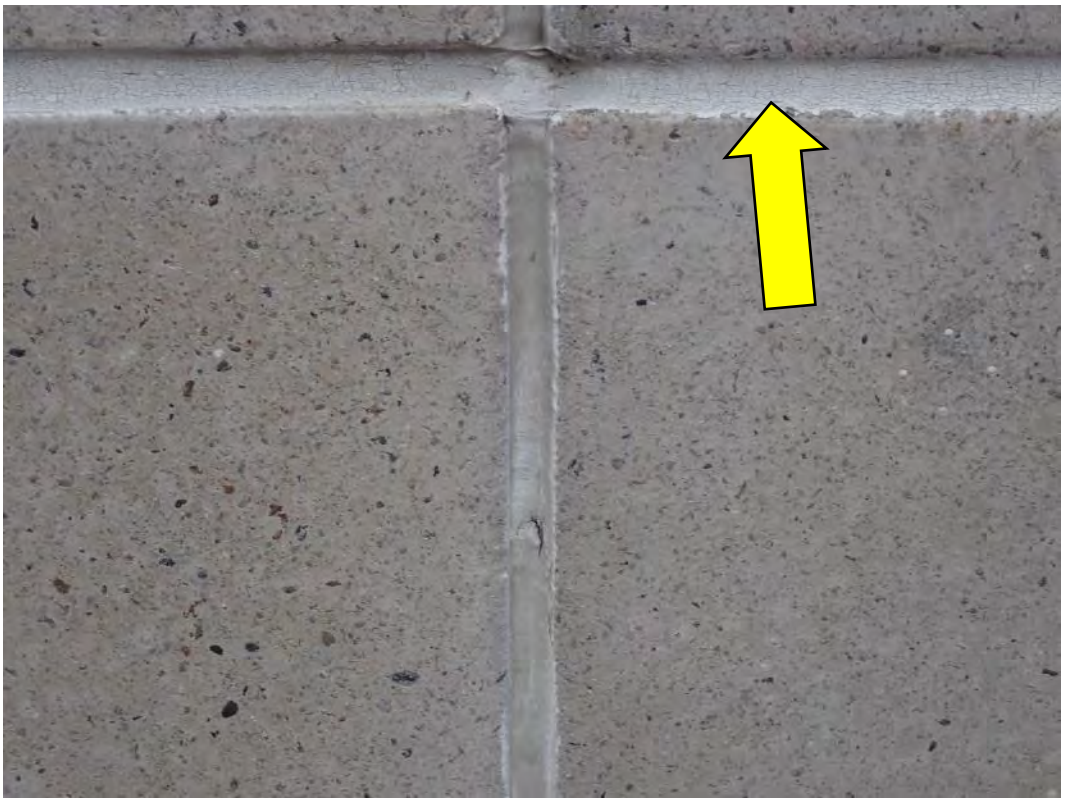

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*Photo C2*

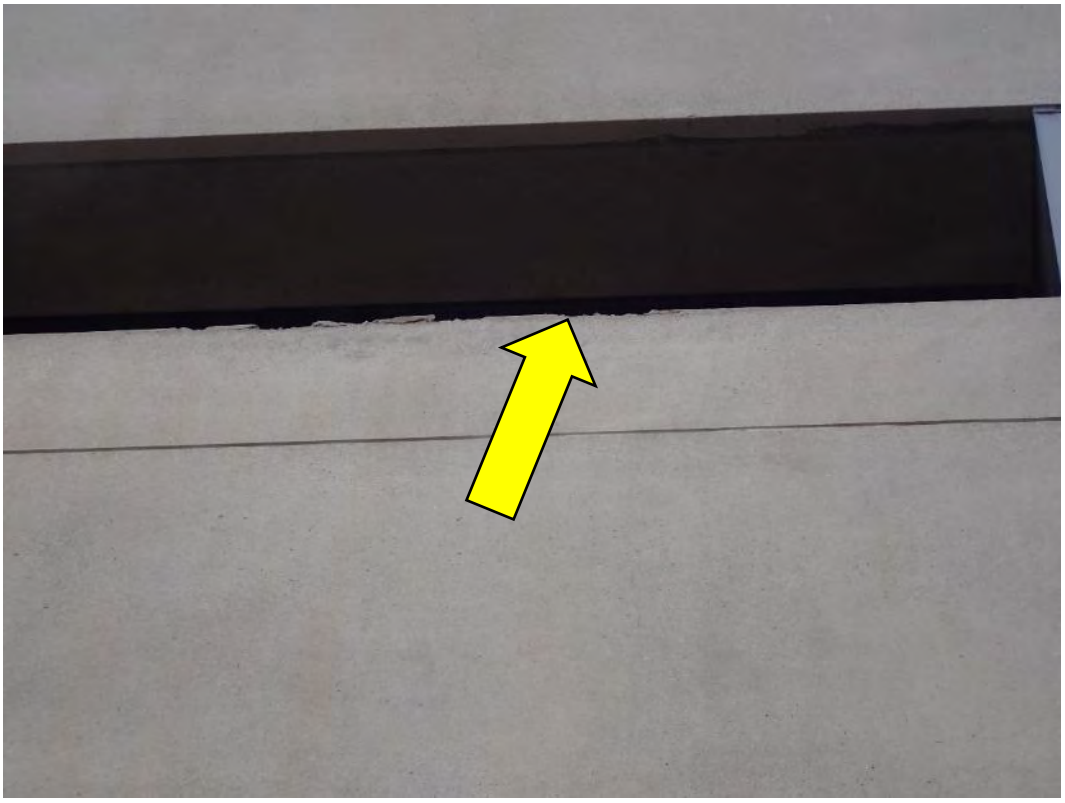

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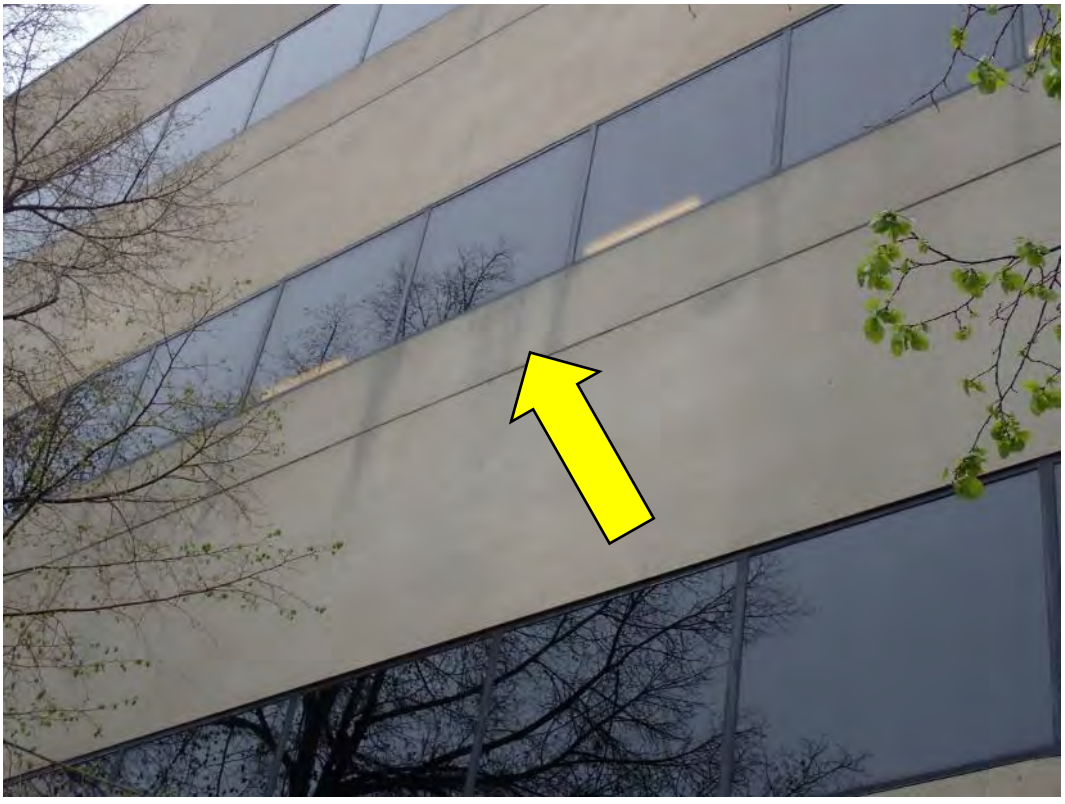
*Photo C4*



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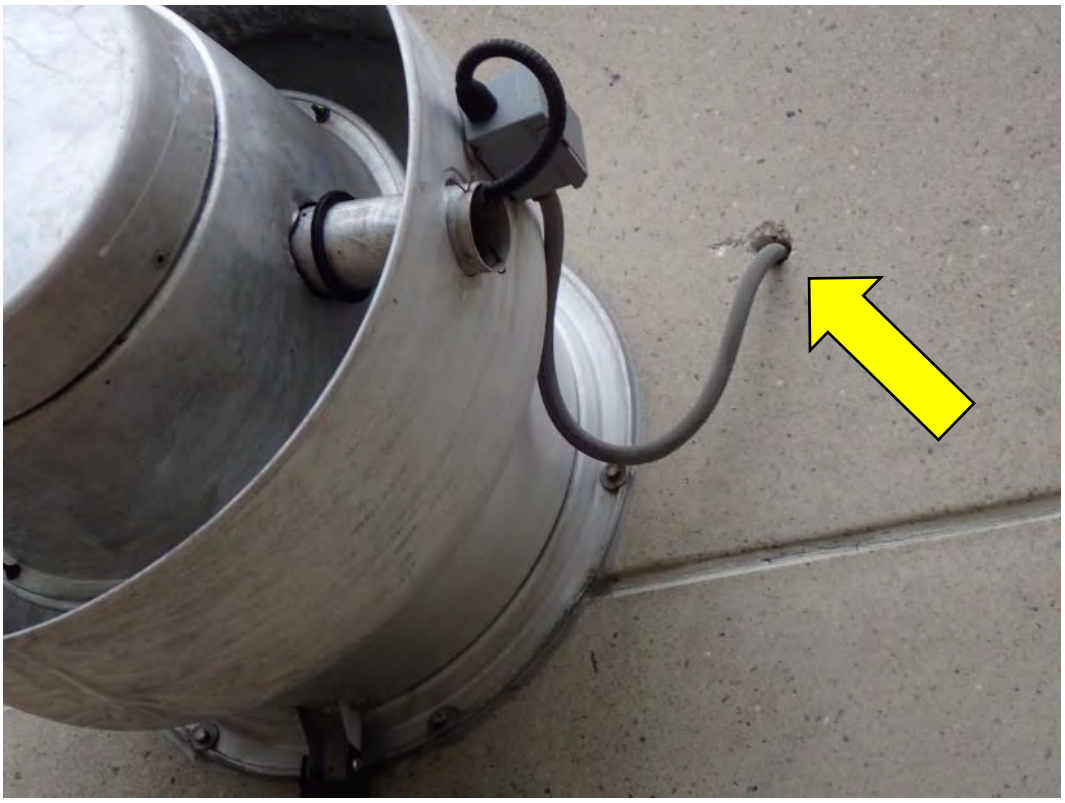
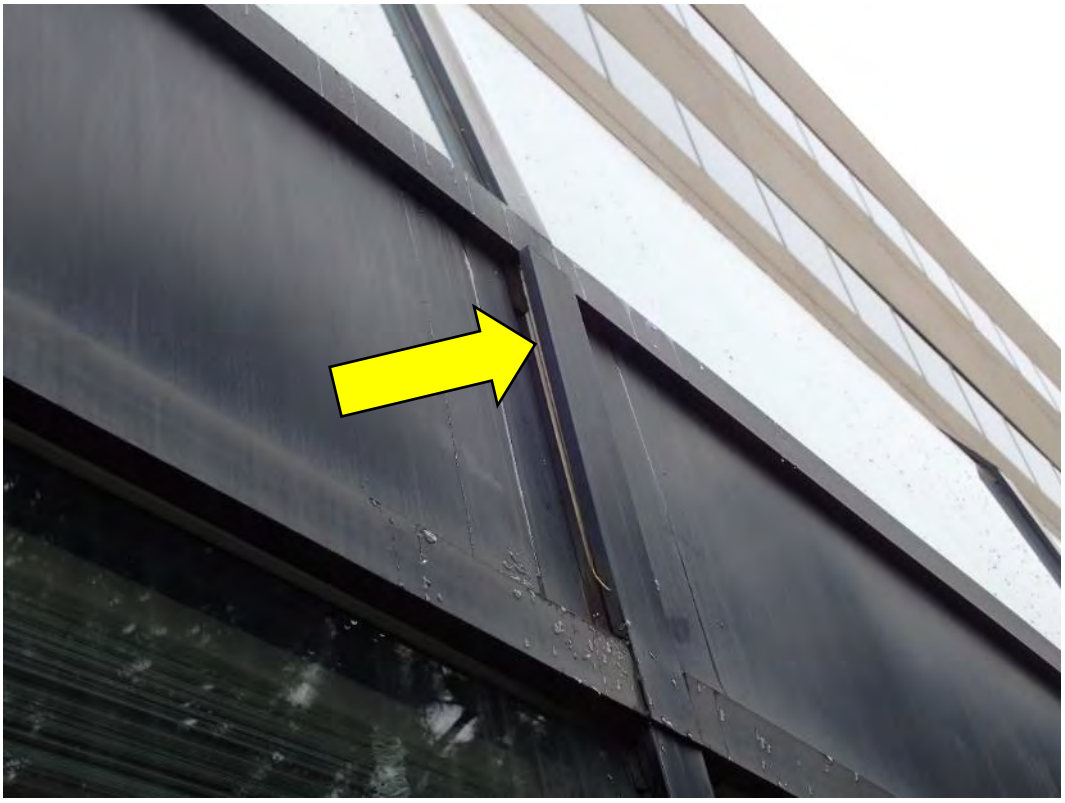


*Photo C6*

*Photo D1*

*Photo D2*


*Photo D3*



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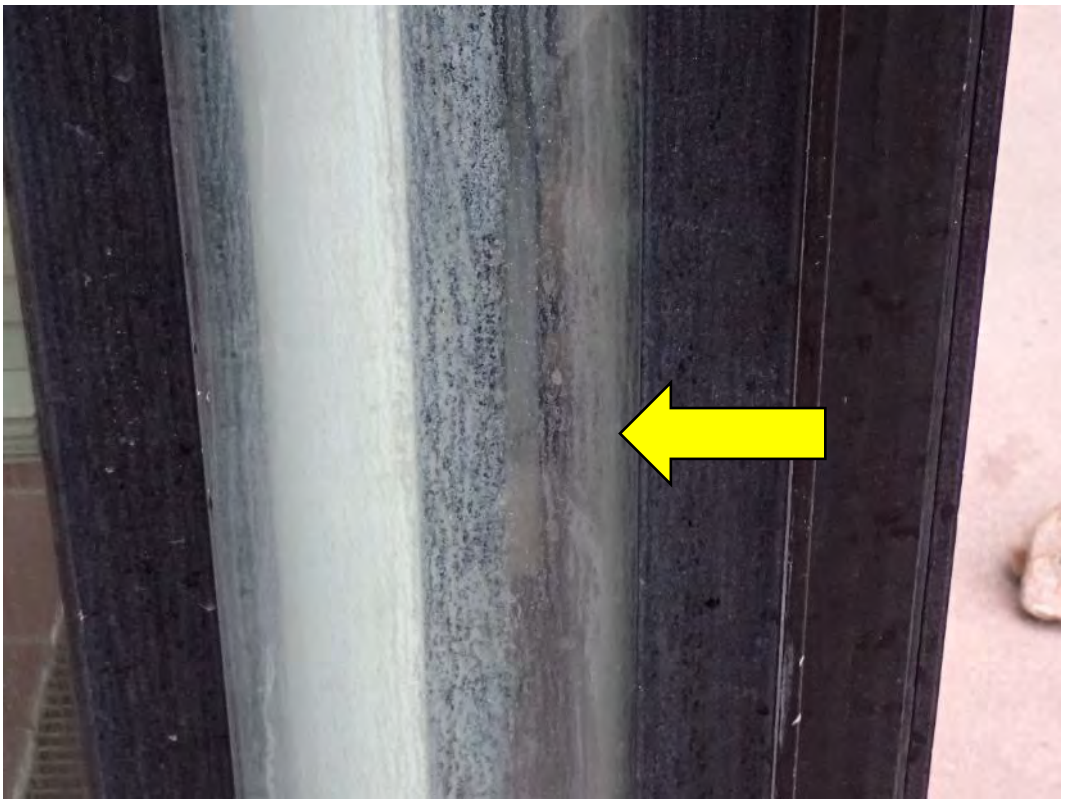

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*Photo D6*

*Photo D7*

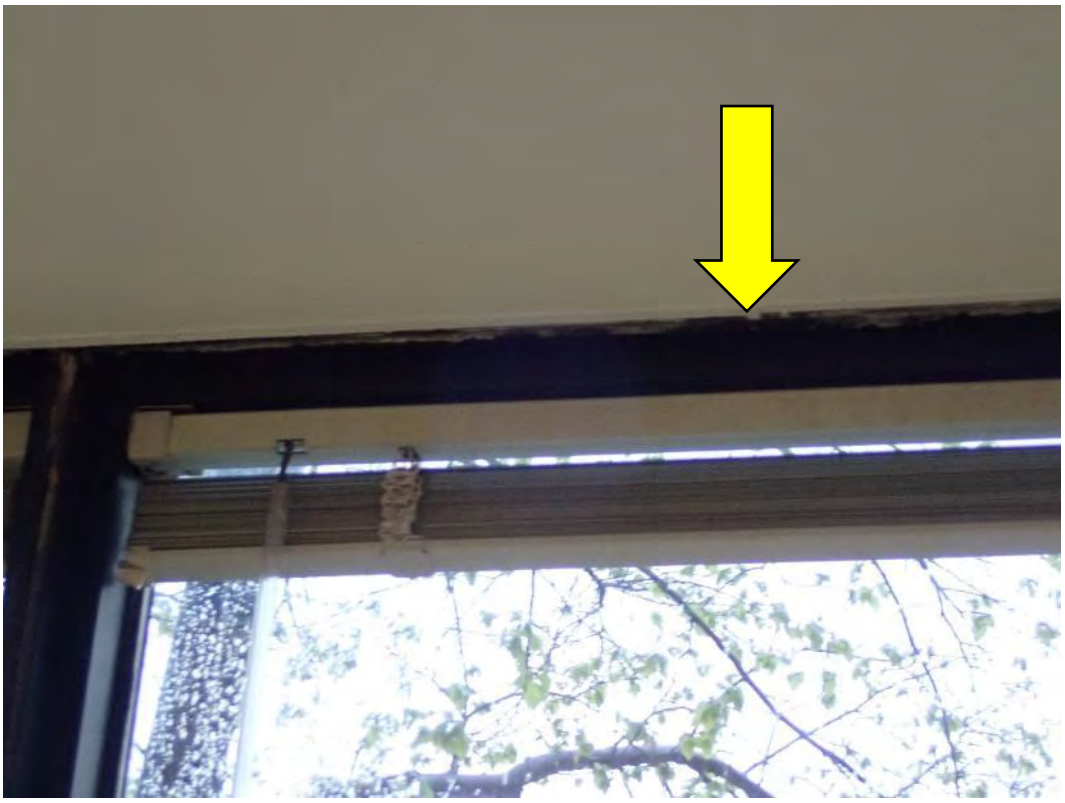
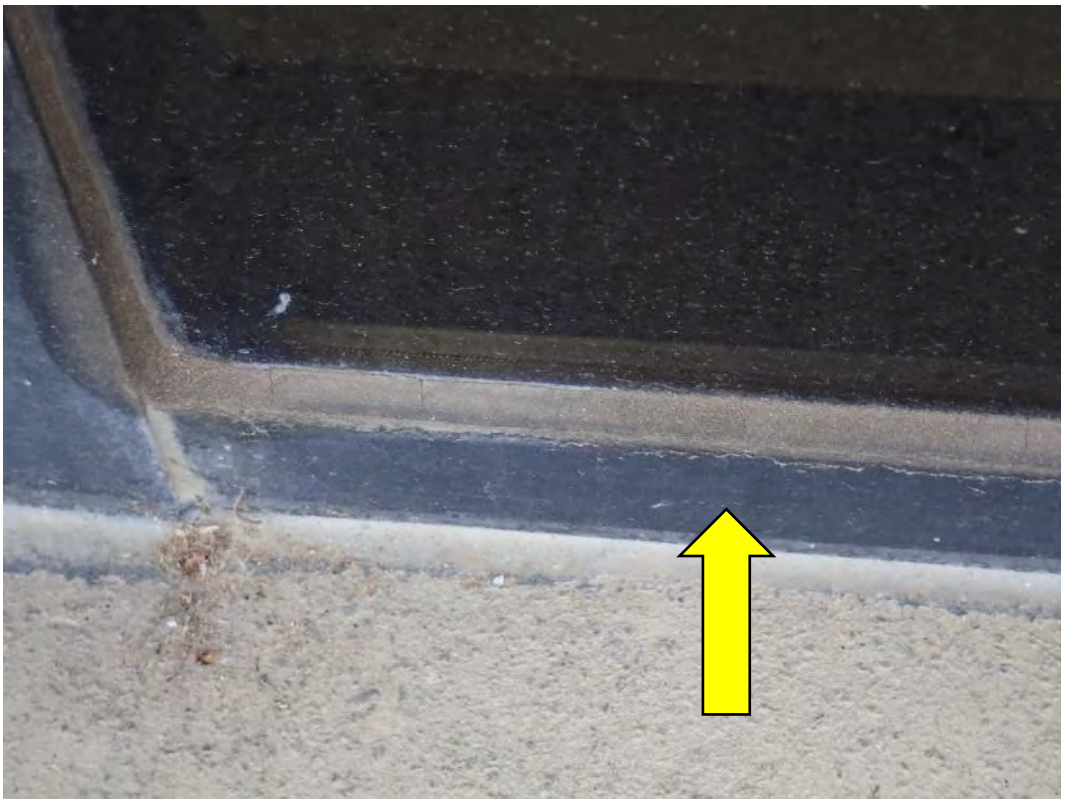


*Photo E3*

*Photo E4*

*Photo E5*



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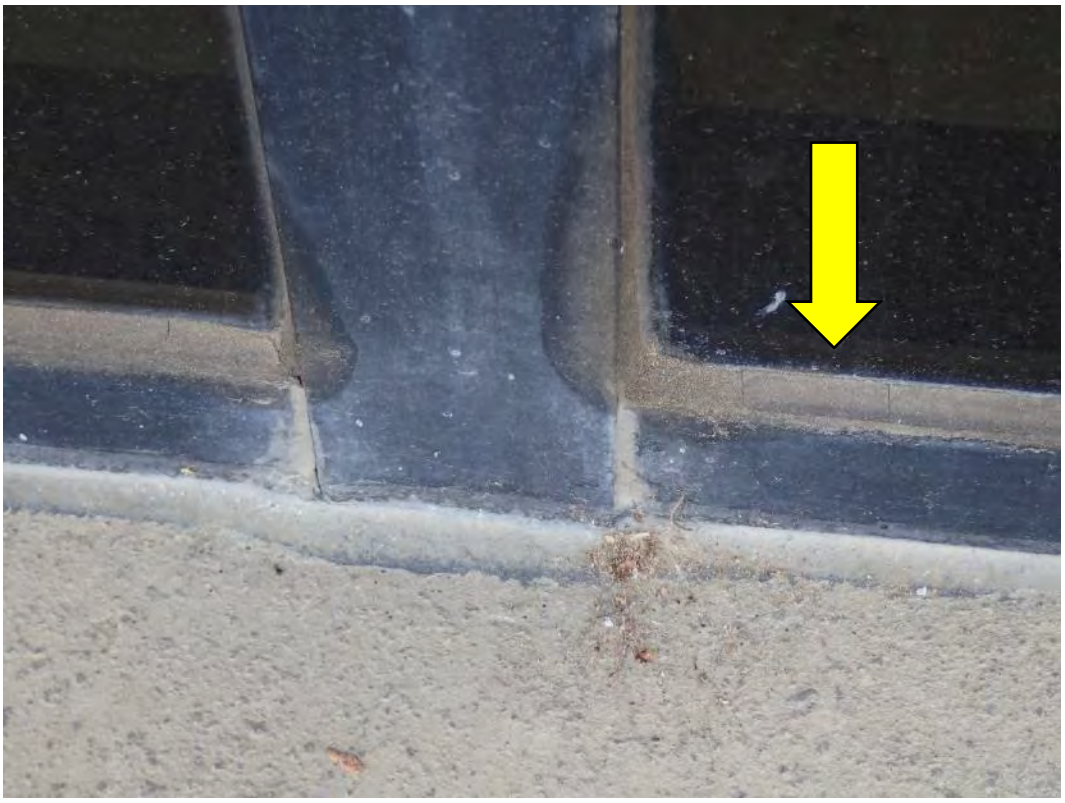

*Photo E7*

MARTIN/MARTIN
CONSULTING ENGINEERS

# EMERGENCY EVACUATION EVALUATION

## BACKGROUND

This part of the Assessment Report contains the evaluation of the existing emergency evacuation, or egress, paths from the Coors Building, 311 10th Street, Golden, Colorado 80401. For the purpose of this report, the terms “egress” and “exit” are interchangeable. The Applicable Code elements are taken from the 2015 International Building Code (IBC), as used by the City of Golden Building Department, with the realization that The City of Golden will adopt the 2018 IBC in the future. Martin/Martin, Inc. has reviewed the original architectural drawings and the Owner’s current tenant plans for reference to egress evaluation. We performed a site visit on May 7, 2019, to document the existing conditions.

## OBSERVATIONS AND DISCUSSION

Since the building was built in 1982, building codes and practices have changed, and adjustments must be made to allow the building to pass a current Building Code Review. The building may have changes or additions to the current B Occupancy Category (which is the General Office/Business category), but we will not comment on those potential changes in this report. Instead, we will evaluate the Current Building Exiting Status, which is affected by the updated 2015 IBC Egress Code regulations. Building Occupant Load and Egress conformation are dependent on the existing fire sprinkler system having the capacity to be brought to conformity with the requirements of IBC section 9.03, Automatic Sprinkler Systems.

## DISCUSSION - CURRENT BUILDING EGRESS STATUS

1. Gross Floor Areas:
   Level 5 32,906 + 5,350 Atrium
   Level 4 34,092 + 3,956 Atrium
   Level 3 34,358 + 3,642 Atrium
   Level 2 31,651 + 1,319 Atrium
   Level 1 36,838

2. Total Building Area – 169,845 square feet (approximately); 1,698 occupants.
3. The Exit Path, Exit Stairs, and Exit Discharge are the elements of getting occupants out of a building during an emergency. For Code purposes, the Exit Path is the way to an Exit Stair. The four Exit Stairs are assumed to be in the required 2-hour fire-rated enclosures, from Floors 1 to 5. No evidence of fire dampers or stairwell pressurization. The points of Exit Discharge are currently from the two west stair towers to the Level 1 Floor west court, and from the two east stair towers to the Floor 1 east Loading Dock. Each condition has a stair-to-grade from the Level 1 discharge points.
4. At the time of construction, the building discharge route met the requirements of the Uniform Building Code, probably the 1978 version. Coordination with the International Building Code and the past Uniform Building Code may be a continuing challenge for any occupancy changes.
5. Stairs:
   a. Existing stairs are 44” wide in each of the four towers, meeting the minimum width requirement of an interior stairway for an occupant load of over 50 (IBC 2015 1011.2). The existing four

stairways can serve a capacity of 582 occupants per floor (IBC 1005.3.1, greater than the needs of a general B occupancy.

b. An Accessible Means of Egress is not required in an existing sprinklered building (IBC 1009.1, exception 2).

c. Floor and intermediate landings, door swing clearances, and access into the stair towers meet the outlined requirements of the 2015 IBC. If there would be a future Owner requirement for intermediate floor exiting Stairs 3 and 4 before the discharge floor (Floor 1), as in communicating floors, Stairs 3 and 4 would lack the required 18" latch side clear access width.

6. Two Exit Discharges are provided, meeting the at 2015 IBC Building Code.
7. The Floor Egress Path to point of Discharge (Floor Level 1) is less than the maximum allowed 300.'
8. Building is not considered a high-rise, with the top floor below 55 feet high (UBC 403.1).

## OBSERVATIONS

1. This building does not have Accessible Points of Discharge at the current outside exits, due to the existence of stairs at each location (IBC 1017.2) required to reach exit level (IBC 1009.7). Accessible Points of Discharge may be desired or required by the City of Golden. Additionally, the east Point of Discharge is not separated from the Loading Dock function.
2. Stair risers and treads measure 7 ¼" to 7 ½" high and 10 ½" deep. 2015 Code requirements are for 7" high treads and 11" deep (IBC 1011.5.2).
3. Stair railings are existing only on the open side of the stairs. The existing railings height (+32" high) does not meet code (IBC 1014.9), requiring adjustment or replacement. The 2015 IBC requires handrails on both sides of stairways.
4. Existing buildings, and/or fully sprinklered buildings, while not required to have refuge areas (IBC 1009.1 exception 1 and 1009.3 exception 5) as a required retrofit, Refuge Areas may be desired by the City of Golden.
5. Mechanical (Boiler) Room may require two exits (IBC 1006.2.2.1), to the limits of 390,000 btuh per boiler and 500 square foot room area.
6. The Main Electrical Room may require two exits, depending on size of existing or revised electrical supply. This will be confirmed by the Electrical Engineer.
7. New tenant/office walls at the Atrium walkways must be 1-hour rated walls, or smoke-rated glass with fire sprinklers on both sides.

## RECOMMENDATIONS

1. Points of Discharge:
   a. The east Floor 1 Dock location of current discharge points may have an Area of Assisted Egress, which may require a 1-hour rated separation as an egress path. The existing stairs at each side of the Loading Dock, if kept as an egress path, must be rebuilt due to deterioration. Existing Areas of Refuge should have their fire ratings confirmed as 1-hour enclosures. The two Points of Discharge currently interfere with the Loading Dock functions and must be provided with a 2-hour separation from the Loading Dock.
   b. The Level Floor 1 Atrium space can continue to exit south to the Creekside walk, as can the Cafeteria and other south side Floor 1 office occupancies.

c. The west Floor 1 Level exits to a court, which fulfills the Egress Discharge requirement of the UBC. The existing 22 steps from the court, up to the street sidewalk, meet the current Code for Riser height and tread width.

2. The stairwells' tread and riser variance is 3 ½ % to 6 % higher than the required dimensions, but should be argued as inconsequential to egress activities.
3. The recommended handrail height range is +34" to + 38" in height. Handrails must be added at the outside stairwell walls, with correct extensions at each landing. The open side handrails would require the addition of a new top rail to fit within the recommended height range. All the railings could be replaced throughout to meet the current 2015 IBC requirements, but as a more costly alternative.
4. With change of ownership and major changes or additions in occupancy, an entire building is often required to meet the current Building Code requirements. With the building's intended public functions and high community profile, meeting the current International Building Code would be an admirable goal. Providing Areas of Refuge would enable Accessible Means of Egress to be achieved, also if desired by the City of Golden.
5. The location(s) of full exiting for the Mechanical/Boiler Room will depend on equipment location and revisions directed by the renovation work.
6. The provision of revised exiting for the Electrical Room will depend on equipment location and revisions directed by the renovation work.
7. With functions of the building most likely changing, the determination of the existing wall ratings should be confirmed during the architectural renovation work and with any requirements for the Atrium.

## OPINION OF PROBABLE REPAIR COST

A preliminary opinion of probable repair cost has been prepared for budgetary purposes only. In the items of this assessment, there may be a wide range of design options and therefore, cost implications may vary greatly. The costs provided are meant to be general in nature and serve only as a "ballpark" estimate to establish a rough order of the construction costs and do not include any markups for future inflation.

The values listed below were developed based on typical costs obtained during past competitive bidding projects of similar scope. It is not feasible to determine the markups that may be applied to the costs below due to Contractor's current staffing and schedule commitments.

In addition to the approximate cost estimates listed below, we recommend that the yearly budgets include a construction contingency of 15 – 20% above whatever scope of work is intended to be completed. This contingency will allow for minor changes to the scope of repairs due to deficient items discovered during the implementation of the repairs.

**RECOMMENDATION COST ESTIMATES**

1.a. East Discharge at Loading Dock: .....$15,000 to $20,000

1.b. West Discharge Court -no walk to Creekside:.....$ 2,000 to $5,000

2. No cost: ..... $0

3. Handrail Add: ..... $42,000 to $60,000

4. Refuge Areas – Stairwell adds only: .....$120,0000 to $150,000
5. Mech. Room Exiting (if required): .....$12,000 to $15,000
6. Electrical Room Exiting (if required): .....$12,000 to $15,000
7. See Architectural Feasibility Studies: ..... No estimate possible

**Total Cost Estimate Range: $203,000 to $265,000**

All cost estimates above have electrical and mechanical equipment needs which are unknown now. The architectural feasibility studies and Exiting choices will have more specific future use implications for costs.

## LIMITATIONS

Our investigation was limited solely to the visual evaluation of the building evacuation condition of the building located at 311 10th Street Golden, Colorado. This report is based on conditions of the building structure that were readily observable at the time of inspection. The report assumes the sprinkler system will be made to comply with IBC 9.03. The report is also follows the requirements of the 2015 IBC, realizing that the City of Golden plans to change to the 2018 IBC in the future. No invasive testing or inspections were performed. Martin/Martin, Inc. does not accept responsibility for deficiencies not evident during an inspection of this type. Repair recommendations provided in this report are conceptual in nature and are not intended for construction. Neither the investigation nor this report is intended to cover mechanical, electrical, architectural, or other nonstructural features beyond those described above. Conditions observed on the date of inspection may change if noted deficiencies are not corrected.

# CIVIL EVALUATION

Martin/Martin, Inc. was contracted by the City of Golden to assess the site and provide a due diligence study of the property located at 311 10th Street in Golden, Colorado. We have performed a civil due diligence investigation of the site and associated parking lots for the property and provided estimated costs for the recommended improvements. The purpose of the investigation was to evaluate the existing drainage and grading around the building and site, to observe the existing pavement conditions, and to provide general recommendations for repairs, as necessary.

A visual observation of the site was conducted on May 7, 2019. During our site visit, we visually observed the existing conditions adjacent to the building, within the landscaped area to the south of the building, and multiple parking lots as indicated in Appendix Exhibit A. A topographic survey was not part of the site assessment slope to verify existing slopes or drainage patterns.

## BACKGROUND

For this assessment, the property has been divided into five areas which can be referenced in Appendix Exhibit A. Area 1 consists of an asphalt parking lot located on the northeast corner of East Street and 9th Street. Area 2 consists of an asphalt parking lot located on the southeast corner of East Street and 9th Street. Area 3 consists of an asphalt parking lot, landscaping, and concrete walks. Area 3 is located on the northeast corner of 10th Street and Archer Street and is bounded by residential property on the east side of the site. Area 4 consists of an asphalt parking lot and landscaping located to the north of 10th Street and to the east of the residential property dividing Area 3 and Area 4. Area 5 consists of an existing building, two asphalt parking lots, a concrete parking lot, landscaping, and a concrete plaza area. Area 5 is primarily located to the southwest of Vasquez Street and 10th Street, and two parking lots are located to the west of Archer Street.

## OBSERVATIONS

Area 1

Overall, the existing parking lot located within Area 1 appeared to be in poor condition with evidence of asphalt cracking and deterioration. During our investigation we observed the following:

1. A portion of the asphalt in the parking lot appears to have deteriorated several inches below the original finished grade and is experiencing ponding of stormwater runoff (Photo 1).
2. Several cracks were observed in the asphalt and aggregate was exposed at the surface (Photo 2).
3. Curb and gutter around landscaped islands in the parking lot were observed to be severely damaged and cracked. Vegetation was growing through cracks in the curb and gutter and asphalt (Photo 3).
4. Portions of the parking lot did not appear to properly drain as areas of ponding were observed during the site visit (Photo 4).

Area 2

Overall, the existing parking lot located within Area 2 appeared to be in poor condition with evidence of asphalt cracking and deterioration. During our investigation we observed the following:

1. The parking lot appears to be graded to convey runoff as a concentrated flow, the asphalt was observed to be deteriorating and exposing aggregate at the concentrated flow locations (Photos 5 and 6).
2. Several large cracks were observed throughout the asphalt parking lot (Photo 6).
3. Vegetation was growing through cracks in the curb and gutter and asphalt. Curb and gutter appeared to be damaged or not installed around landscaping in various locations throughout Area 2 (Photo 6).
4. The drive cut at the southeast entry to the parking lot connecting to Archer Street appears to have a steep slope that may impede access (Photo 7).
5. Pedestrian access appears to be limited as there are no sidewalks along the adjacent streets.

Area 3

Overall, the west side of the existing parking lot located within Area 3 appeared to be in fairly good condition. The east side of Area 3, which consists of a parking lot on the northeast corner of 10th Street and Vasquez Street was observed to be in fair to poor condition. During our investigation we noted the following:

1. The pavement in the west asphalt parking lot appears to be in fairly good condition with little evidence of cracking or deterioration at the time of the site visit (Photo 8).
2. The concrete pedestrian walkway through the west parking lot appeared to be in serviceable condition (Photo 9).
3. The west side of Area 3 appeared to be draining to two storm sewer inlets on the south side of the parking lot.
4. Sidewalks and ramps for ADA access are not provided to the north along Archer Street or Vasquez Street.
5. The asphalt on the east side of Area 3 appeared to be in poor condition as cracks were observed in several locations and vegetation appeared to be growing in the cracks (Photos 10 and 11).
6. The asphalt on the east side of Area 3 appears to be deteriorating as exposed aggregate and loose gravel were observed on the surface of the asphalt.
7. The parking lot did not appear to have curb and gutter to separate landscaping and pavement.

Area 4

Overall, the existing parking lot located within Area 4 appeared to be in poor condition with evidence of asphalt cracking and deterioration. During our investigation we observed the following:

1. The asphalt within Area 4 appears to be in poor condition as cracks were observed in several locations and vegetation was growing in the cracks (Photo 12).
2. The parking lot did not have curb and gutter to separate landscaping and pavement (Photo 13).
3. The asphalt within Area 4 appears to be deteriorating as exposed aggregate and loose gravel were observed on the surface of the asphalt (Photo 14).

Area 5

In Area 5, drainage, pavement, and grading issues were observed in the existing parking lots and in the landscaping adjacent to the building. During our investigation we observed the following:

1. The sidewalk located along Vasquez Street to the south of 10th Street appears to have a cross-slope greater than 2% and in some locations had negative drainage directing runoff back to the site (Photo 15.)
2. Curb and gutter appeared to the damaged in locations within the parking lot on the north side of the building (Photo 16).
3. Ponding was observed in areas of the parking lot on the north side of the building due to grading issues and an ineffective drainage pipe used as a culvert (Photos 17 and 18).
4. Cracking was observed in the asphalt parking lot on the north side of the building most notably at areas of concentrated flow (Photo 19).
5. The concrete walkway to the north side of the building appeared to be in good condition (Photo 20).
6. The landscaping adjacent to the north, west, and south sides of the building did not appear to have sufficient slopes to effectively convey runoff away from the building (Photo 21 and 22).
7. The stairs on the west side of the building leading to the lower level of the building appear to be in poor condition (Photo 23).
8. The pavement and curb and gutter in the parking lot on the south side of the building appear to be in poor condition as ponding, cracking, and loose aggregate in the asphalt were observed (Photo 24).
9. The sidewalk and concrete pavement on the south side of the site at the Archer Street dead end was observed to be cracking and ponding (Photos 25 and 26).
10. Exposed electrical conduit was observed at the entrance to the south parking lot (Photo 27).
11. The curb and gutter in the parking lot on the southwest portion of Area 5 was observed to be in poor condition. Sections of curb and gutter were cracked and separated (Photo 28).
12. The asphalt in the parking lot located on the southwest portion of Area 5 appeared to be in fair to poor condition as there was evidence of cracking and aggregate shown at the surface of the asphalt.
13. The concrete parking lot on the west side of the site appears to be in fair condition and drains the majority of the runoff to Archer Street. Minor cracking and vegetation growing through the joints were observed in the parking lot (Photo 29).
14. Portions of the west concrete parking lot appear to have been filled with asphalt in locations of severe cracking. The asphalt appears to be deteriorating in some locations (Photo 30).
15. The concrete plaza on the south side of the building appears to be in good condition and draining away from the building (Photos 31 and 32).
16. Ponding was observed on the concrete patio on the south side of the building (Photo 33).
17. The grading in the landscaping on the south side of the building appeared to have negative drainage and flat slopes (Photo 34).
18. Damaged and cracked sections of curb and gutter and sidewalk were observed on the southeast side of the building (Photo 35).
19. The landscaping and sidewalks at the southeast portions of the site appeared to be in fairly good condition. No ponding was observed in the landscaping area during the site visit. (Photo 36).
20. The pavement at the loading dock appeared to be in good condition. A fairly steep slope was observed at the south end of loading dock connection to Vasquez Street (Photo 37).

21. Sections of curb and gutter appear to be damaged on the south side of the loading dock and along the west side of Vasquez Street (Photo 38).

## RECOMMENDATIONS

We recommend the following repairs to address the items outlined above:

Area 1

1. Remove and replace curb and gutter within the parking lot and around the landscaped islands.
2. Remove and replace the full depth of asphalt in locations of significant deterioration.
3. Rotomill 2 inches and overlay with new asphalt to resurface the existing parking lot.
4. Remove debris and vegetation within the curb and gutter and maintain to improve drainage conditions.

Area 2

1. Remove and replace curb and gutter within the parking lot and around the landscaped islands.
2. Remove and replace the full depth of asphalt in locations of significant deterioration.
3. Rotomill 2 inches and overlay with new asphalt to resurface the existing parking lot.
4. Install a 2-foot concrete pan in locations of concentrated flow across the parking lot.
5. Reconstruct and regrade the south drive cut to reduce the slope at the drive cut.
6. Remove debris and vegetation within the curb and gutter and maintain to improve drainage conditions.

Area 3

1. Remove and replace curb and gutter within the east parking lot and around the landscaped islands.
2. Remove and replace the full depth of asphalt in locations of significant deterioration in the east parking lot.
3. Rotomill 2 inches and overlay with new asphalt to resurface the existing east parking lot.
4. Remove debris and vegetation within the curb and gutter and conduct routine maintenance to improve drainage conditions in both the east and west parking lots.

Area 4

1. Remove and replace curb and gutter within the parking lot and around the landscaped islands.
2. Remove and replace the full depth of asphalt in locations of significant deterioration.
3. Rotomill 2 inches and overlay with new asphalt to resurface the existing parking lot.
4. Install a 2-foot concrete pan in locations of concentrated flow across the parking lot.
5. Remove debris and vegetation within the curb and gutter and conduct routine maintenance to improve drainage conditions.
6. Realign wheelstops which have been rotated.

Area 5fs

1. Reconstruct sidewalk with negative drainage and damaged sections of curb and gutter along the west side of Vasquez Street.
2. Remove and regrade the handicapped parking stalls and areas of the existing asphalt parking lot which were observed to have ponding.
3. Remove and replace damaged curb and gutter in the north parking lot.
4. Rotomill 2 inches and overlay with new asphalt to resurface the existing north parking lot.
5. Install a 2-foot concrete pan in locations of concentrated flow across the north parking lot.
6. Remove debris and vegetation within the curb and gutter and maintain to improve drainage conditions.
7. Regrade landscaping adjacent to the building to provide a minimum of 5% slope away from the building for a minimum of 10 feet.
8. Reconstruct the damaged stairs on the west side of the building.
9. Removed exposed electrical conduit at the entrance to the south parking lot.
10. Regrade the asphalt parking lot on the south side of the building to have positive drainage and avoid ponding.
11. Remove and repair the damaged concrete pavement and sidewalk on the south side of the site at the Archer Street dead end.
12. Install a chase or storm sewer to drain the ponding areas located in the concrete area on the south side of the site.
13. Rotomill 2 inches and overlay with new asphalt to resurface the existing south and southwest parking lots.
14. Remove and replace curb and cutter in the southeast parking lot.
15. Repair patches in the concrete parking lot on the west side of the building.
16. Repair damaged curb and gutter and sidewalk to the southwest of the building and near the loading dock.

In addition to the suggested repairs listed above, we recommend that the Owner adopt and budget for a robust maintenance program that includes at least annual inspections, street sweeping, crack sealing of asphalt and concrete paving, and full depth removal and replacement of failed pavement sections. Routine maintenance will typically extend the life of a parking lot, reduce total cost of ownership, and reduce potential liability caused by potholes and irregular surfaces.

## OPINION OF PROBABLE REPAIR COST

A preliminary opinion of probable repair cost has been prepared for budgetary purposes only. The costs provided are meant to be general in nature and serve only as a “ballpark” estimate to establish a rough order of magnitude of anticipated construction costs and do not include any markups for future inflation or soft costs.

The values listed below were developed based on typical costs obtained during past competitive bidding projects of similar scope. It is not feasible to determine the markups that may be applied to the costs below due to Contractor’s current staffing and schedule commitments.

In addition to the approximate cost estimates listed below, we recommend that the yearly budgets include a construction contingency of 15 – 20% above whatever scope of work is intended to be completed.

This contingency will allow for minor changes to the scope of repairs due to deficient items discovered during the implementation of the repairs.

### Recommendation Cost Estimates

Area 1 ..... $55,000 to $70,000
Area 2 ..... $95,000 to $115,000
Area 3 ..... $90,000 to $110,000
Area 4 ..... $65,000 to $80,000
Area 5 ..... $125,000 to $150,000

**Repair Subtotal: $430,000 to $525,000**

### LIMITATIONS

Our investigation was limited solely to the visual evaluation of the site located at 311 10th Street in Golden, Colorado. This report is based on conditions of the site that were readily observable at the time of inspection. No testing, surveying, inspections, or utility analyses were performed. Martin/Martin, Inc. does not accept responsibility for deficiencies not evident during an inspection of this type. Repair recommendations provided in this report are conceptual in nature and are not intended for construction. Neither the investigation nor this report is intended to cover mechanical, electrical, architectural, or other non-civil related features beyond those described above. Conditions observed on the date of inspection may change if noted deficiencies are not corrected.

*Photo 1-Area 1*

*Photo 2-Area 1*

*Photo 3-Area 1*

*Photo 4-Area 1*

*Photo 5-Area 2*

*Photo 6-Area 2*

*Photo 7-Area 2*

*Photo 8-West Side of Area 3*

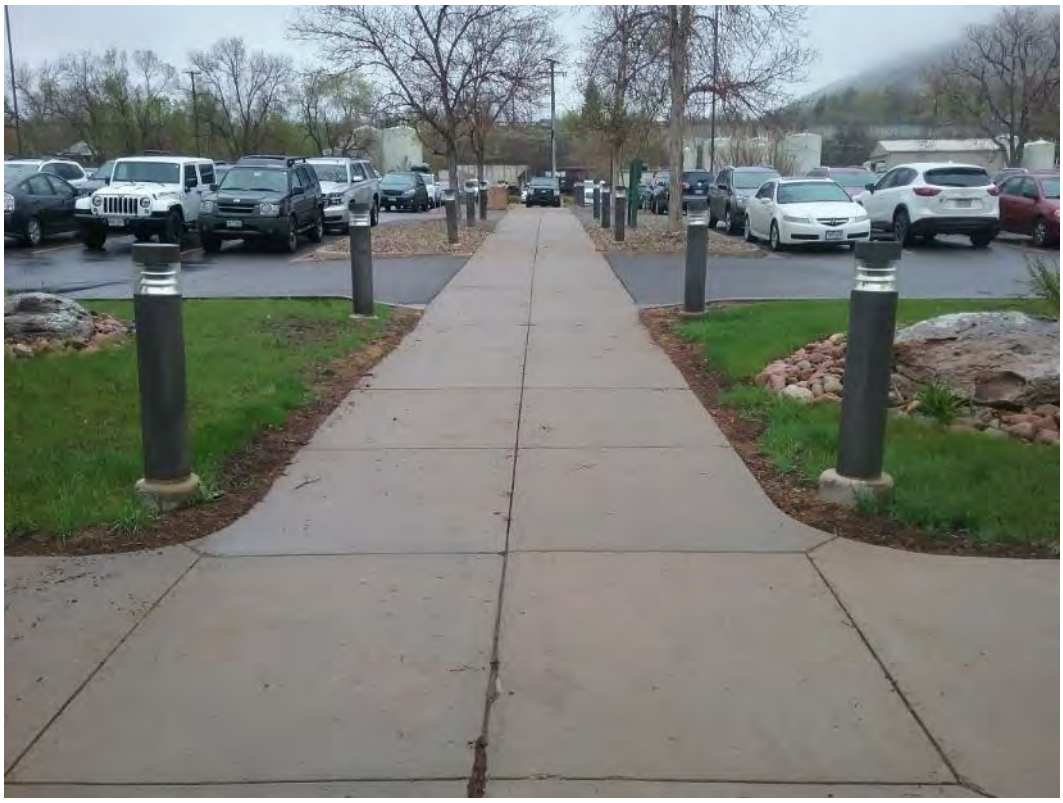

*Photo 9-West Side of Area 3*

*Photo 10-East Side of Area 3*

*Photo 11-East Side of Area 3*

*Photo 12-Area 4*


*Photo 13-Area 4*

*Photo 14-Area 4*


*Photo 15-Area 5*

*Photo 16-Area 5*

*Photo 17-Area 5*

*Photo 18-Area 5*

*Photo 19-Area 5*

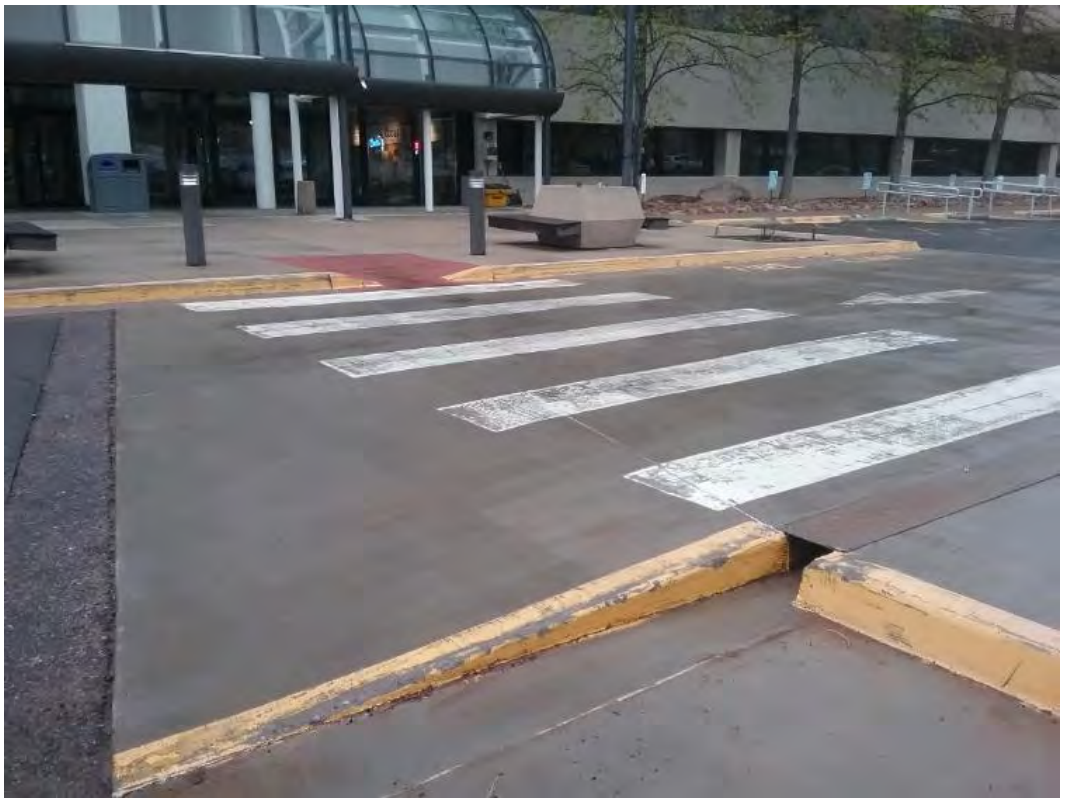

*Photo 20-Area 5*

*Photo 21-Area 5*

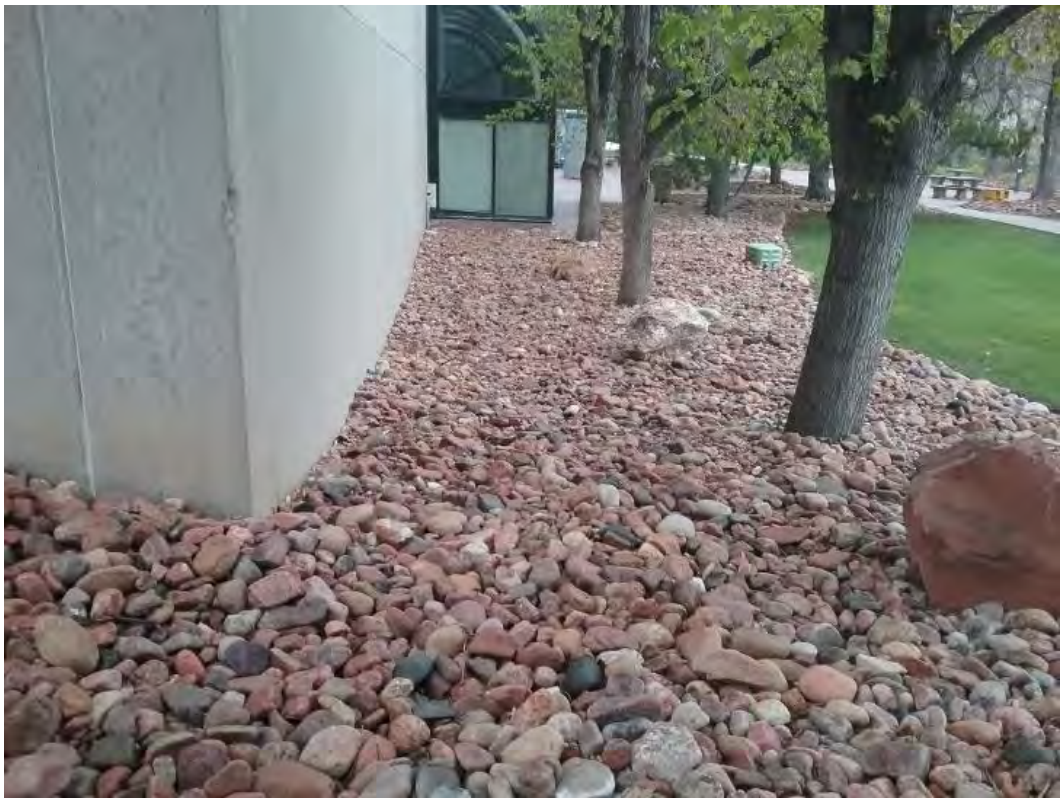

*Photo 22-Area 5*

*Photo 23-Area 5*


*Photo 24-Area 5*

*Photo 25-Area 5*


*Photo 26-Area 5*

*Photo 27-Area 5*

*Photo 28-Area 5*

*Photo 29-Area 5*

*Photo 30-Area 5*

*Photo 31-Area 5*

*Photo 32-Area 5*

*Photo 33-Area 5*

*Photo 34-Area 5*

*Photo 35-Area 5*

*Photo 36-Area 5*

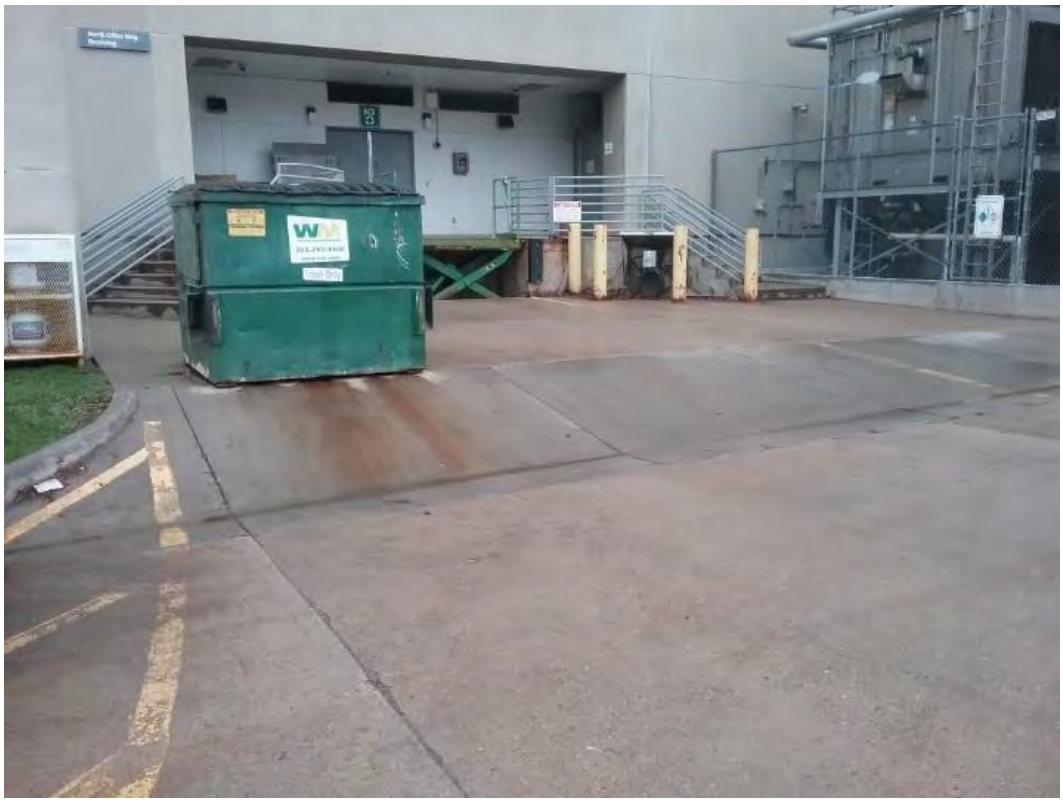

*Photo 37-Area 5*

*Photo 38-Area 5*

North Office Building (NOB)
Due Diligence Report
June 3, 2019

**Client:** City of Golden

## GENERAL

The purpose of this report is to provide a visual review of the existing drawings and existing mechanical and plumbing systems in the building based on three site visits. The first site visit was conducted on Tuesday April 23, 2019 from 1 pm – 3 pm. The weather during this time sunny and +/-60°F. The site was visited by D. Dihle and T. Reese from 360 Engineering and were escorted by John G. with Emcor. The site visit included reviewing the existing mechanical room where the boilers and chillers are located, the penthouse on the roof where the air handling units are located, all the office floors, and the cafeteria area on the 1st floor.

The second site visit was conducted on Tuesday, May 7th, 2019 from 8 am – 3pm. The weather during this time was cloudy with intermittent rain and +/- 57°F. The site was visited by D. Dihle and T. Reese from 360 Engineering and were escorted by Lawrence with Emcor. The site visit included a more thorough review of the mechanical spaces, restrooms, and above the ceiling spot checks across office spaces. The site visit did not include the cafeteria space and medical clinic.

The third site visit was conducted on Friday, May 10th, 2019 from 7:30a – 9a. The weather during this time was partly sunny and +/- 50°F. The site was visited by D. Dihle from 360 Engineering and was escorted by Lisa with Coors. The site visit included the cafeteria space and medical clinic.

## MECHANICAL

***Heating:***

The existing building contains two 2,500,00 BTUH gas fired boilers. The boilers were installed in 2015 and are in good condition. At the time of the boiler replacement, the heating water pumps were also replaced and VFDs (Variable Frequency Drives) were included for energy efficient operation of the pumps. The building was originally served by steam from the adjacent brewery and when the steam was removed, the boilers were installed. The boilers also provide domestic hot water via a heat exchanger located in the basement. During the second site visit, one boiler was operating and the other one was turned off. The heating water setpoint was displayed at 190°F and with an inlet temperature of 152°F and an outlet temperature of 191°F. The boilers are piped in a primary-secondary configuration.

Fig. M-1 – Boilers shown on left and right of photo.

Fig. M-2 – Boiler operating conditions during second site visit.

The heating water is pumped from the lower level up to the roof to provide heat for the five (5) main air handling units on the roof. The heating water lines are also routed to the perimeter of the 3rd, 4th, and 5th floors to provide heat to the perimeter floor mounted cabinet induction units. In addition to the perimeter induction units on the 3rd, 4th, and 5th floors, the heating water provides heat to VAV (Variable Air Volume) boxes as well as ceiling mounted induction units. On the 2nd floor, the perimeter is heated via fan coil units located in the ceiling that serve three (3) supply diffusers. The 1st floor level is a combination of systems and even includes below floor radiant heat at the south area of the Café. Heating water also serves miscellaneous air handling units in office areas including the 3rd floor board room, 1st floor offices west of the cafeteria, and 1st floor recording studio.

Fig. M-3 – Heating water secondary pumps shown in the lower left of photo and one of the boilers shown on the right side.

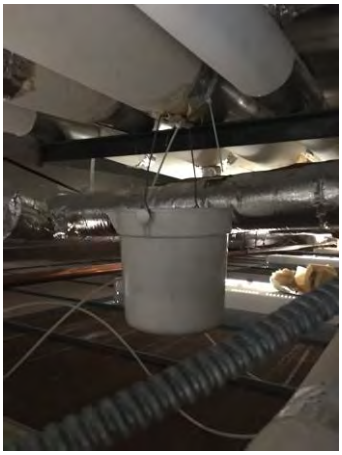

Fig. M-4 – Bucket found hanging below heating water pipe in the southwest corner of the second floor office space. This is evidence of leaking heating water piping.

It has been reported that the building has experienced leaking heating water pipes when heating water pumps are turned off or modulate to lower speeds. The current solution to this issue is to operate the secondary heating pumps at or near full speed all the time regardless of heating demand to maintain pressure in the pipes, which it seems has mostly worked. Not only is this operating method not practical in the long term, as the system will inevitably require a shutdown at some point, it is wasteful from an energy standpoint. It is recommended that all heating pipe mains (4" and larger) be replace with a construction that will mitigate leaks at all times, even when system is operating at partial load conditions or not operating at all.

Fig. M-5 – 2011 Carrier chiller in operation.

Fig. M-6 – Older Carrier chilled described as backup, not in operation.

Fig. M-7 – Small abandoned chiller.

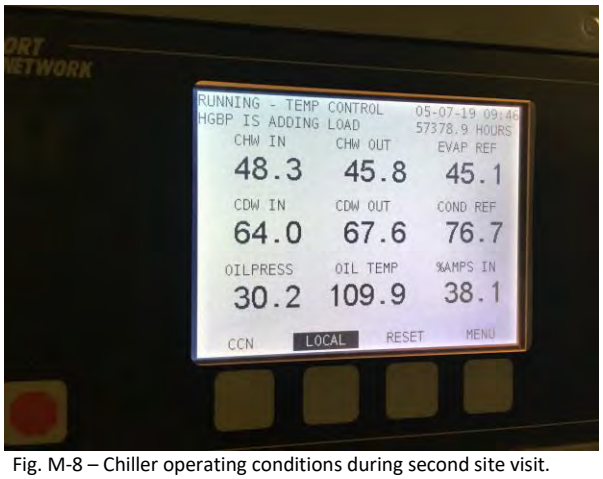


Fig. M-8 – Chiller operating conditions during second site visit.

***Cooling:***

The central cooling plant is made of water-cooled chillers and a cooling tower. There is a total of 3 chillers in the main mechanical room, however the smallest one is abandoned. The largest and newest centrifugal chiller is a Carrier unit manufactured in 2011. There is an older Carrier unit (estimated to be approximately 30-35 years old) that was reported to be a backup, but it was not operational during site visits. The operating chiller appeared to be in good condition and operating normally. Heat rejection for the chillers is provided by a two-cell cooling tower located on the east side of the building. The cooling tower appeared to be in good condition. Each cell of the cooling tower seems to be paired with a condenser water pump circulating the condenser water between the cooling tower and chillers. The condenser water pumps are equipped with VFDs, however the VFD was operating at 100%. The chilled water system is a primary/secondary pumping system with the main chilled water lines routed up through the building to the air handling units in the penthouse. The chilled water lines also provide cooling to the fan coil units in the ceiling on the 2nd floor, the floor mounted induction units on the 3rd, 4th, and 5th floors, and the miscellaneous air handling units previously mentioned. During the second site visit the chilled water was entering the chiller at 48.3°F and leaving at 45.8°F, according to chiller controller display.

Fig. M-9 – Two-cell cooling tower located on the east side of the building.

Fig. M-10 – Secondary chilled water pumps with VFDs.

Although the cooling plant is currently running sufficiently utilizing a single chiller, the backup chiller is estimated to be past it's equipment life expectancy. If the primary chiller has an unexpected failure, and the backup chiller cannot reliably operate, this could leave the building without cooling for possibly an extended period of time while repairs are made. It is therefore recommended that the older Carrier chiller be replaced, and the two chillers operate lead/lag, distributing run-time between them. It might also be prudent to remove the abandoned chiller at this time.

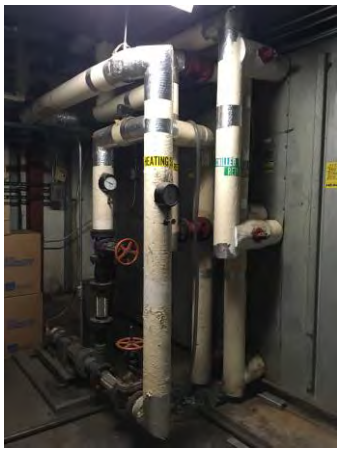

Fig. M-11 – Chilled water and heating water piping for penthouse air handling unit.

Fig. M-12 – Two heating water coil circulation pumps for two large penthouse air handling units.

***Air Distribution/Ventilation:***

There are five (5) main air handling units located in the penthouse. Three (3) units are connected together and serve all floors. The main supply ductwork is routed down in a chase to each of the floors and then out to Variable Air Volume (VAV) boxes and Fan Powered Boxes (FPB's) with heating coils. The units are equipped with full economizer operation, heating coils, and cooling coils. The air handling units are built-up units within the penthouse enclosure and utilize the penthouse as the return air path. The air handling units have VFD's for airflow control however, some of the VFD's are operated in "hand" mode. The two (2) smaller air handling units are located on the west end of the penthouse. These units provide airflow out to the perimeter induction units on the 3rd, 4th, and 5th floors. The air handling units have economizer operation, heating coils, and cooling coils. The air handling units have VFD's for airflow control however, some of the VFD's are operated in "hand" mode. Outside ventilation air is via outside air dampers on the north side of the penthouse and provide outside air to all five (5) air handling units.

Fig. M-13 – Two (2) smaller penthouse air handling units serving perimeter induction units.

Fig. M-14 – Air handling unit serving recording studio.

In addition to the penthouse, three (3) additional air handling units were found in the building. The first air handling unit is in the mechanical room located on the first floor in the southwest corner. This air handling unit has chilled water, heating water, and a mixing box with an outside air duct, utilizing the mechanical room as a return plenum. This unit serves the recording studio and seems to have grossly oversized ductwork and grilles, presumably to reduce velocity and thus any noise. This unit was not operating at the time of site visit, reportedly due to that area of the building not being occupied.

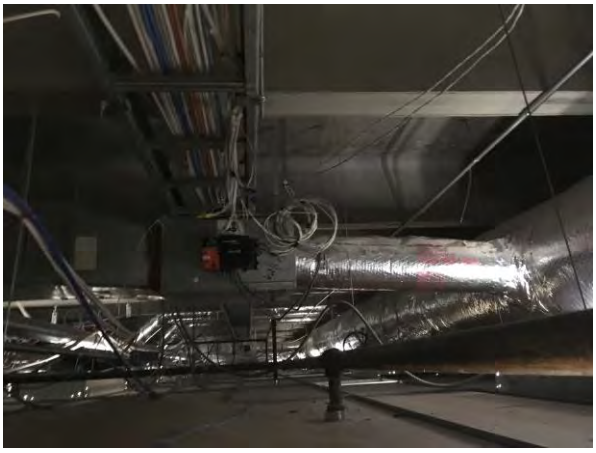

Fig. M-15 – Typical cooling only VAV box above ceiling.

Fig. M-16 – Inside casing of typical perimeter induction unit.

The second air handling unit on the first floor serving the office spaces adjacent east of the recording studio. The unit is located in the electrical room. The unit had chilled water and heating water coils, but did not appear to have a source of outside air. The third air handling unit is located on the third floor and serves the board room. This unit also has chilled water and heating water coils, but no apparent outside air.

It was discovered on the third floor, that some offices along the west exterior had supplemental electric duct heaters installed, reportedly to address comfort issues. Although tile ceilings are typical throughout the building, there is an area on the west side of the fourth floor that was renovated to include an open-to-structure ceiling with exposed mechanical infrastructure.

Fig. M-17 – Electric duct heater serving third floor west perimeter offices

Fig. M-18 – Exposed mechanical infrastructure on fourth floor.

***Temperature Controls:***

When the chiller was upgraded, DDC controls were installed for the operation of the main equipment in the mechanical room. The controls for the operation of the mechanical systems outside of the mechanical room are via pneumatic system. The controls system is fairly inoperable on the pneumatic system and manual operation of the VFD's on the air handling units along with opening/closing valves for the fan coil units on the 2nd floor are common occurrences.

VAV boxes throughout the space were found with a variety of controls including pneumatic, pneumatic-to-electric, and stand-alone DDC. Based on conversation with facilities personnel and observations, it seems that a majority of these controls are not functional.


Fig. M-19 – Example of penthouse air handling unit VFD operating in bypass mode.

Fig. M-20 – Example of pneumatic-to-electric controls on VAV box.

It is recommended that all existing pneumatic controls be replaced with DDC. This would include all VAV boxes, control valves, damper actuators, etc. This would increase comfort, decrease burden on facility staff, and improve energy efficiency.

Fig. M-21 – Pneumatic thermostat alongside DDC zone sensor on wall of first floor conference room.


Fig. M-22 –Carrier control panel for newer chiller.

**PLUMBING**

***Domestic Water:***

A 3" domestic cold water line enters into the northeast corner of the basement into the Mechanical Room. The water line is routed through a water meter and pressure reducing valve (PRV) in the corner. After the PRV, the line is upsized to 4". From here, it is routed along the east side of the mechanical room and to three (3) separate reduced pressure backflow preventors. The reduced pressure backflow preventors are labeled as "Sprinkler System Outside Irrigation" and two are labeled "Building Water Domestic". Each of these reduced pressure backflow preventors is a 2" line.

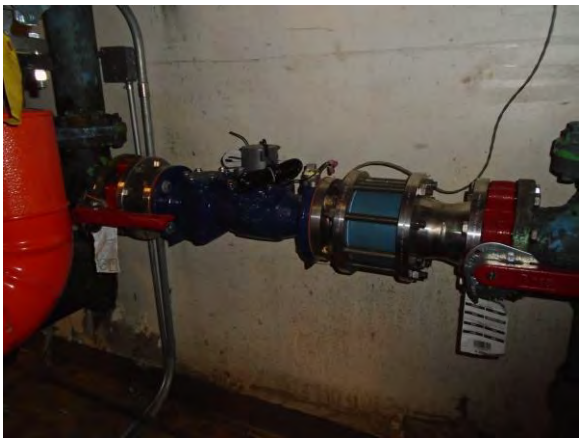

Fig. P-1 – 3" water meter at water entry

Fig. P-2 – Pressure Reducing Valve

Fig. P-3 – (3) reduced pressure backflow preventors off main line

The two (2) building domestic cold water lines are routed through the building and serve all the plumbing fixtures in the building including the kitchen area, health clinic area, core restrooms, and other fixtures located on the floors. Water pressure and operation of the flushing plumbing fixtures on the 5th floor were good.

The domestic hot water is produced through a flat plat heat exchanger with the boilers in the mechanical room providing the source of heat. The heat exchanger is mounted on the floor and piped to a 119 gallon storage tank/booster heater with a 36kw heating element and a storage only tank that is 175 gallons. The heat exchanger and 175 gallon storage tank were installed in 2015 while the 119 gallon storage tank/booster heater was installed in 2005. The heat exchanger, storage tank, storage tank/booster heater, and pumps are in good condition. From the storage tanks, the hot water is routed through the building to provide hot water to the kitchen fixtures, health clinic, and core restrooms. There is also a main hot water recirculation loop that is routed from the 5th floor core restrooms down to the mechanical room. The hot water

recirculation loop also has connections at each floor core restroom. The hot water recirculation loop provides hot water at plumbing fixtures quicker than a system without a loop and is an energy savings measure. The plumbing fixtures that require hot water and not part of the kitchen, health clinic, and core restrooms have small individual water heaters. These water heaters consist of instantaneous tank less water heaters and small tank type water heaters throughout the building. The insulating of the hot water line and hot water recirculation line are in poor condition.

Fig. P-4 – Domestic hot water flat plate heat exchanger


Fig. P-5 – Domestic hot water booster heater and storage tank


Fig. P-6 – Domestic hot water storage tank

The core restrooms are in fair to poor condition. The restrooms are operable, but there are signs that the lavatories in each of the restrooms has issues with waste line draining. Hot water was present at the lavatories tested. The Women's restroom consisted of five (5) water closets and (4) lavatories. The Men's restroom consisted of (3) water closets, (2) urinals, and (4) lavatories. The water closets are wall mounted flush valve style. There are floor drains in each restroom for ease of cleaning. The restrooms were not checked for full ADA compliance however, the lack of insulation under the sink to protect a person from the hot water line and drain line is not present.

Fig. P-7 – Typical lavatories in restrooms

Fig. P-8 – Typical undercounter at lavatories with access doors

Fig. P-9 – Typical Women's Restroom stall configuration

Fig. P-10 – Typical Men's Restroom stall configuration

Fig. P-11 – Typical wall mounted flush valve water closet

Fig. P-12 – Typical wall mounted side-by-side urinals

The first floor also has a Women's and Men's restroom outside the Health Clinic. These restrooms each contain a shower, water closet, and lavatory.

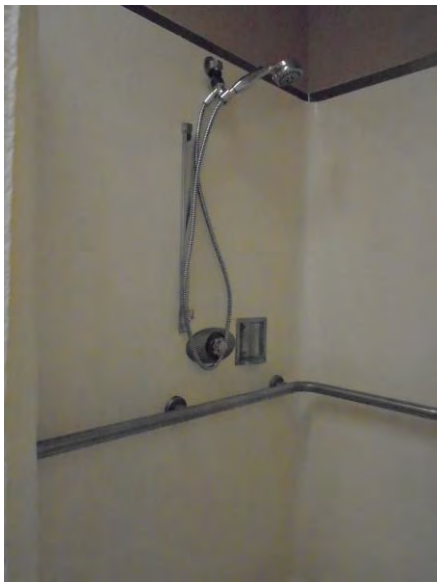

Fig. P-13 – Typical shower on 1st floor

Outside the Women's restroom was an electric water cooler. There were also recessed electric water coolers on the floors. It is assumed that each half of the building had a water cooler and that some of been removed during remodels. There were also stand alone water dispensers located throughout the floors some in break rooms and others in the middle of open office space. It appears that all the drinking water is filtered water.

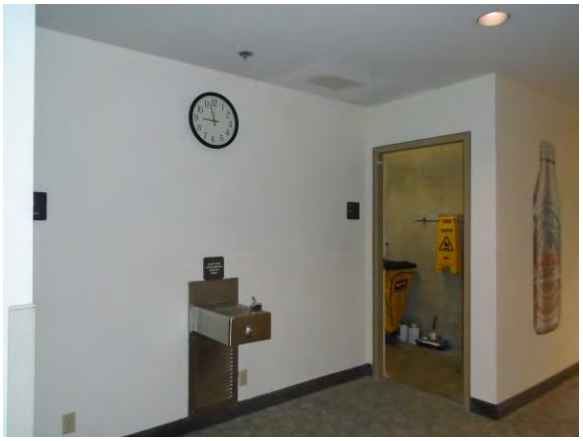

Fig. P-14 – Typical water cooler at Women's restroom


Fig. P-15 – Typical water cooler in office space

Fig. P-16 – Typical stand alone water dispenser

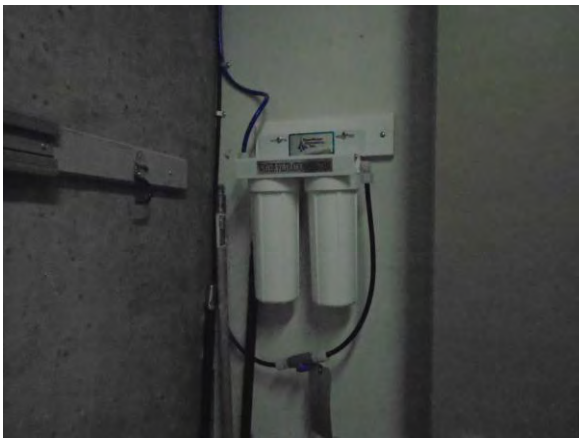

Fig. P-17 – Water filtration

There are break rooms located throughout the building with varying levels of service. Some of the break rooms simply have a water dispenser, coffee maker, and refrigerator. While others are equipped with a sink having a garbage disposal, water dispenser, coffee maker, dishwasher, and refrigerator.

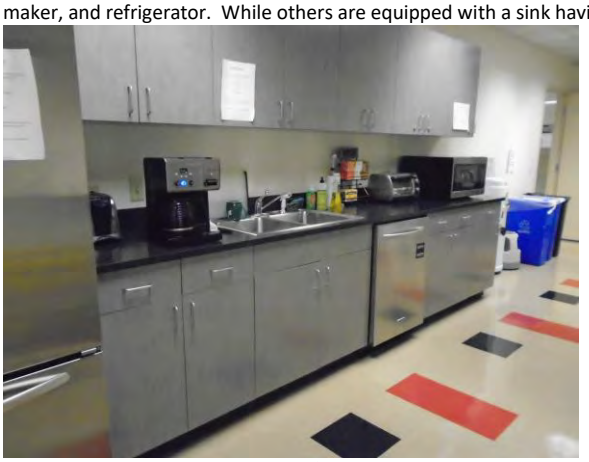

Fig. P-18 – Extensive breakroom – 5th Floor

Fig. P-19 – Under sink equipment – water heater, garbage disposal, and filtered water.

The 4th floor west end has a large breakroom area that could be utilized for larger gatherings. There is a 2-compartment sink with garbage disposal, hook-ups for water in refrigerators, space for a keg (or two) under the island and floor sinks for drains.

Fig. P-20 – 4th Floor breakroom on west end

There is a Janitor's closet on each floor adjacent to the Women's restroom. The Janitor's closet contains a mop sink with an integral soap dispensing system.

Fig. P-20 – Typical floor mop sink

Fig. P-21 – Typical mop sink soap dispenser

On the 1st floor in the northwest corner is a Health Clinic. The Health Clinic contains multiple exam room sinks and a separate restroom.

Fig. P-22 – Typical Health Clinic Sink

Fig. P-23 – Health Clinic Restroom

There is a small commercial kitchen on the 1st floor in the southeast corner. The kitchen does very little commercial cooking as the main cooking is done offsite and then shipped to this location. Therefore, there is no commercial dishwasher within the kitchen. All the washing of dishes, pots, and pans is done by hand. There is a 2-compartent sink with commercial grade garbage disposal and hand sprayer. There is a 3-compartment sink with two faucets.

Fig. P-24 – Commercial kitchen sinks

Fig. P-25 – Commercial garbage disposal

Fig. P-26 – Kitchen hand sink

Off the dock area on the east side, there is a beer cooler and other storage areas for the kitchen. Within this storage area is the soda rack system that provides the soda to the dispenser in the café area. There are also water lines that are located in this area protected with reduced pressure backflow preventors.

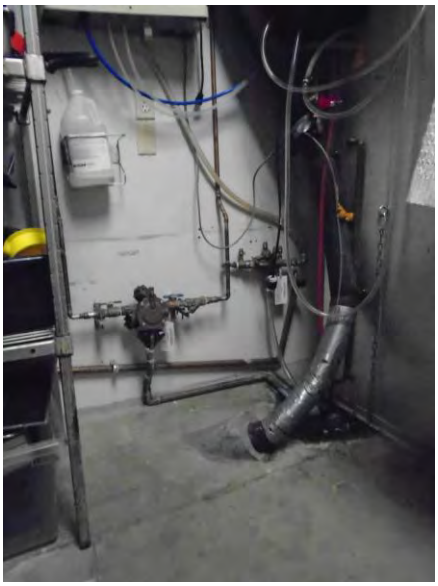

Fig. P-27 – Backflow preventors on 1st floor

In the Mechanical Room on the 1st floor there is an Emergency Shower and Eye Wash station.

Fig. P-28 – Mech Room Emergency Shower and Eye Wash

***Sanitary:***

The main sanitary line exits the building to the south in the middle of the building and according to the original drawings is a 6" sanitary main connection. In the core restrooms at the lavatories, there appears to be issues with the lines. In each of the core restrooms, both Men's and Women's, there were holes and/or access panels under the lavatories indicating that the lines need to be accessed on a regular basis.

Fig. P-28 – Typical access openings under lavatories in restrooms

Fig. P-29 – Another example of access opening under lavatories

The commercial kitchen on the 1st floor has a grease interceptor located directly south of the kitchen area. The grease interceptor has had issues with backing up in the past, but when put on a quarterly cleaning schedule the backups were mitigated.

Fig. P-30 – Manhole cover for grease interceptor

It is recommended that the sanitary line be scoped with a camera to verify if there are any issues with the integrity of the pipe for long term use. Based on site conversations, the main sanitary line is in good condition.

***Natural Gas:***

The building is provided with natural gas and the gas line is routed to the boilers in the mechanical room. The gas entry is located on the northeast side of the building. There is a gas regulator located in the mechanical room that is vented out to the east side of the building.

Fig. P-31 – Natural Gas entry


Fig. P-32 – Gas regulator (in back) in mechanical room

Fig. P-33 – Natural gas vent from regulator in mechanical room

**FIRE PROTECTION**

The building is provided with a wet fire sprinkler system throughout the interior of the building and with two (2) dry pipe systems at the exterior east dock and entry doors on the north side. An 8" fire line enters the building into the mechanical room where it is routed through a code approved 8" double check backflow preventor. The main water line is than routed to the dry pipe valve assemblies. An air compressor provide the air pressure within the dry pipe assemblies.

Fig. F-1 – Fire Entry main 8" shut-off valve

Fig. F-2 – 8" double check backflow preventor on fire line

Fig. F-3 – Dry pipe valve assembly for dock sprinklers Located in mechanical room

Fig. F-4 – Dry pipe sprinkler heads on dock

Fig. F-5 – Dry pipe sprinkler heads at front canopy entry

**ENGINEER'S OPINION OF PROBABLE COST**

The following Engineer's Opinion of Probable Cost are based upon reusing the existing building as an office building. The opinion of probable cost is based on industry cost data as well as recent experiences associated with construction market costs.

*Mechanical*

- Like-for-like replacement of existing 300 ton backup chiller to increase building cooling resiliency: $ 230,000
- Replacement of all existing heating water piping mains (4" and up) due to reported and observed leaks at Victaulic connections: $ 980,000
- All new DDC control system for all mechanical equipment: $1,200,000

*Plumbing*

- Renovate/remodel existing lavatories in core restrooms on all floors and additional restrooms on first floor with showers (does not include arch finishes): $ 160,000
- Insulated hot water and hot water circulation piping in mechanical room and accessible chases: $ 15,000
- Scope/video tape sanitary line: $ 5,000
- Clean out grease interceptor: $ 1,500

*Fire Protection*

- No infrastructure changes noted for fire protection system. As new configurations are completed with new walls and/or

replacement of ceilings, the fire sprinkler system will require head location changes. This should be anticipated in the budget of any interior renovations.

**END OF DUE DILIGENCE REPORT**

AE DESIGN

Integrated Lighting and Electrical Solutions

# CITY OF GOLDEN – COORS BUILDING ELECTRICAL EVALUATION

The following narrative provides an overview of the existing electrical, lighting, low voltage, and fire alarm systems of 311 10th Street, Golden, CO with the intent to identify any conditions that may require consideration before moving forward with future plans. Items have been categorized as Critical, Serious, or Minor.

## Electrical Distribution Overview

The building is equipped with a 1600A, 277/480V, 3-phase service, currently fed from the adjacent Coors Brewing Facility. Power from Coors is provided at 13.2kV and terminated in a primary switch cabinet within the outdoor utility enclosure. The power is stepped down via a customer-owned 1,500KVA transformer. Additionally, a secondary 400A, 277/480V, 3-phase service fed from an Xcel pad-mounted utility transformer via an automatic transfer switch provides emergency power to the emergency distribution (lighting and required mechanical equipment) in case of loss of power from the main service. This main distribution board serves the large building equipment (chillers, motor control centers, elevators) as well as (3) Sub Distribution Panels (SDP), more centrally located in the building near the restroom cores. These SDP's provide power to the general equipment and lighting on each floor, split into (4) quadrants per floor. Dedicated electrical/IT rooms are provided in each quadrant per floor with ample space for additional electrical panels if required. An overview of the distribution equipment available per floor is outlined below:

## 1st FLOOR

1st Floor – Main Electrical Room/IT Room:

- 1600A, 480/277V, 3-phase, 4W, Main Distribution Center (MDC)
  - 4 sections, (1) potential blank area for future use
- 225A, 480/277V, 3-phase, 4W, MLO, 30-space Panel (H1C)
- 30KVA Transformer feeding 225A, 208/120V, 3-phase, 4W, 225A MCB, 42-space Panel (L1E-1)
- 225A, 208/120V, 3-phase, 4W, MLO, 30-space feed through panel from L1E-1 (L1E-2)
- 400A, 480/277V, 3-phase, 4W, Emergency Power Transfer Switch and associated disconnect
- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Emergency Lighting Panel (EH1A)
- 15KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 50A MCB, 24-space Emergency Panel (EL1A)
- 112.5KVA Transformer (refer to kitchen)
- 40A, 2-pole feed to UPS and subsequent 200A, 1-phase, 3W, 50A MCB, 30-space Panel (L1T)

1st Floor – Kitchen:

- (2) 225A, 208/120V, 3-phase, 4W, 225A MCB, 42-space Panels (L1K, L1K2)
  - These panels appear worn due to the kitchen environment and could potentially be replaced. The rough order of magnitude to replace only these two panels while maintaining existing circuits would be $6,000 per panel for ***$12,000 total***.

1st Floor – Mechanical Room:

- 800A, 480/277V, 3-phase, 4W, Motor Control Center with 300A vertical bus (MCC #1)
- 225A, 480/277V, 3-phase, 4W, 225A MCB, 42-space Panel (H1B)
- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L1D)

1st Floor – West ELEC Riser:

- 150KVA Transformer feeding 600A, 208/120V, 3-phase, 4W, Sub Distribution Panel (SDP2)
- 800A, 480/277V, 3-phase, 4W, Sub Distribution Panel (SDP3)
- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Panel (H1A)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L1B)

1st Floor – East ELEC Riser:

- 150KVA Transformer feeding 600A, 208/120V, 3-phase, 4W, Sub Distribution Panel (SDP1)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L1A)

1st Floor – Medical ELEC Room:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L1C)
- 37.5KVA Transformer feeding X-Ray Disconnect

1st Floor – West ELEC Room:

- 45KVA Transformer feeding 225A, 208/120V, 3-phase, 4W, 225A MCB, 42-space Panel (L1S-1)
- 100A, 208/120V, 3-phase, 4W, 100A MCB, 30-space Panel (L1S-2)

## 2ND FLOOR

2nd Floor – East ELEC Riser:

- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L2A)

2nd Floor – West ELEC Riser:

- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Panel (H2A)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L2B)

2nd Floor – Satellite ELEC Room 1:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L2C)

2nd Floor – Satellite ELEC Room 2:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L2D)

## 3RD FLOOR

3RD Floor – East ELEC Riser:

- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L3A)

3RD Floor – West ELEC Riser:

- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Panel (H3A)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L3B)
- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L3F)

3rd Floor – Satellite ELEC Room 1:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L3C)
- 100A, 208/120V, 3-phase, 4W, MLO, 26-space Panel (L3E) [NOT IN SERVICE]

3rd Floor – Satellite ELEC Room 2:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L3D)
- 100A, 208/120V, 3-phase, 4W, 100A MCB, 24-space Panel subfeed from L3D (L3D-2)

## 4TH FLOOR

4th Floor – West ELEC Riser:

- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Panel (H4A)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L4B)
- 225A, 480/277V, 3-phase, 4W, 225A MCB, 42-space Panel (EH4)

4th Floor – East ELEC Riser:

- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L4A)

4th Floor – Satellite ELEC Room 1:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L4C)

4th Floor – Satellite ELEC Room 2:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L4D)

## 5TH FLOOR

5th Floor – West ELEC Riser:

- 400A, 480/277V, 3-phase, 4W, Motor Control Center (MCC #2)
- 250A, 480/277V, 3-phase, 4W, MLO, 42-space Panel (H5A)
- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L5B)
- 225A, 480/277V, 3-phase, 4W, 225A MCB, 42-space Panel (EH4)

5th Floor – East ELEC Riser:

- 225A, 208/120V, 3-phase, 4W, MLO, 42-space Panel (L5A)

5th Floor – Satellite ELEC Room 1:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L5C)

5th Floor – Satellite ELEC Room 2:

- 30KVA Transformer feeding 100A, 208/120V, 3-phase, 4W, 100A MCB, 42-space Panel (L5D)

## Roof/Penthouse:

- 600A, 480/277V, 3-phase, 4W, Emergency Motor Control Center with 300A vertical bus (EMCC #1)
- 5KVA, 1-phase Transformer feeding 100A, 240/120V, 1-phase, 3W, 20A MCB, 12-space Panel (EL2A)

**Critical:**

Power Capacity - At approximately 170,000 square feet for total building area, the existing service only provides close to 8 watts/SF which may be insufficient depending on future building usage. With the amount of physical space available in the existing electrical room, it may be possible to provide more power if required, but this would need to be further explored in future evaluations. To help determine existing usage for reference, the peak demand loading has been requested from the current building tenant but has not yet been obtained at the time of this report. It is assumed that if the existing use of the building is maintained, no additional consideration would be required for the overall building service.

Emergency Power – Currently the building's emergency power is provided by a secondary utility connection to Xcel power. If the building is fully transferred over to Xcel power as part of the future design scope, another power source will need to be identified for any legally required

emergency systems. As one motor control center is on this distribution branch, it is assumed that some HVAC systems are required in loss of normal power. If the building distribution is maintained as described in the "Electrical Distribution Overview", no additional consideration is required for the emergency systems.

**Minor:**
Depending on the future design use of the space, additional panels for circuit breaker space may be required. This evaluation may be better clarified once future design scope is defined.

## Lighting System Overview

Most of the existing lighting in the office spaces appear to be 3-lamp, T8 luminaires and are controlled by a building lighting control relay panel. Additional accent lighting throughout the other spaces in the building are non-LED lamps and either have local control or are also controlled by the building lighting control relay panel. It is anticipated that in order to comply with current energy codes, renovations to the building would require replacement of all fixtures with LED lamp fixtures and local control. The existing lighting control panels for overall building are in good condition and may potentially be reused. The main consideration for reuse would be for whether existing circuiting would be required to be maintained, or if future use determines control characteristics that are outside of the current system capabilities.

**Critical:**
Emergency lighting – The current electrical design provides power to emergency lighting from Xcel. If the building is to be maintained for its current use and continue service from the Coors Brewing Facility, no additional considerations are required. If this secondary power source were removed though, either new battery-operated emergency lighting would be required, or another emergency power source would need to be provided. Again, existing circuiting would need to be considered if a replacement emergency power source were provided. If integral battery-operated emergency lighting were provided, no consideration to the existing circuiting would be required. The estimated cost for this change would be recommended to be included with the item listed below.

**Serious:**
Lighting Fixture Life – While the existing fixtures appear to be operating effectively, it could be recommended to replace all fixtures with LED technology. This would provide greater longevity of the overall lighting system as well as reduce the required maintenance of replacing lamps with the existing fixtures. The estimated rough order of magnitude for this maintenance recommendation would be assumed at $12 per square foot for both lighting material and installation cost, amounting to ***$2,040,000***.

## Low Voltage System Overview

The building has a relatively robust existing low voltage system installed. Both copper and fiber communication service are already supplied to the building, with the main equipment demarcation located in the 1st floor adjacent to the electrical room. This demarcation room is cooled and has some space available for additional equipment if the future design were to require it. Similar to the electrical distribution, each floor is split into quadrants and served by the shared electrical/IT closet. Conduit pathways already exist to these locations and may be available for continued use. Each "ELEC" room listed previously for the 2nd, 3rd, 4th, and 5th floors all are currently equipped with an 2-post IT rack and a telephone backboard system. While the exact system is unlikely to be reused, the infrastructure is in place for a new system to be built on.

A security system is currently in place to provide key card access to certain areas of the building. Additionally, paging devices for access to secure spaces are installed in elevator lobbies. While the

existing system may be sufficient for the current use, changes in floor plans or space use would require reevaluation of the system and updates to device locations.

## Fire Alarm System Overview

The existing fire alarm system appears to have been updated within the last 5 years. With voice evacuation and updated alarming devices, it is assumed that no major changes to the fire alarm system would be required.

## Lightning Protection System Overview

No lightning protection system was observed at time of visit. It should be determined if this is a desired system to be included based on the future building use.


Photo #1: Kitchen Panel potentially requiring replacement.

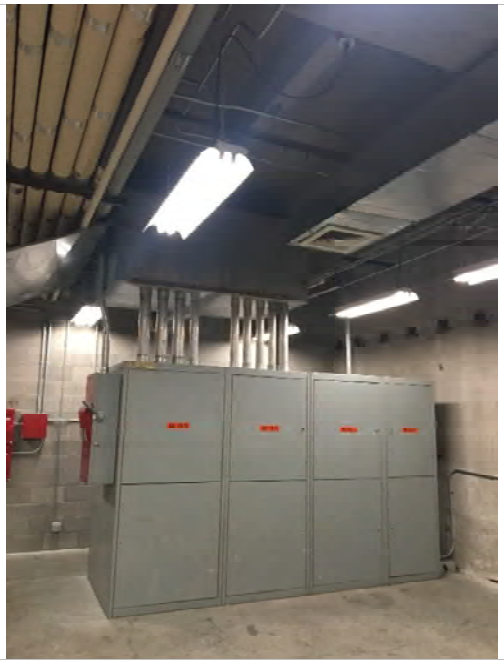

Photo #2: Main Electrical Room and MDC

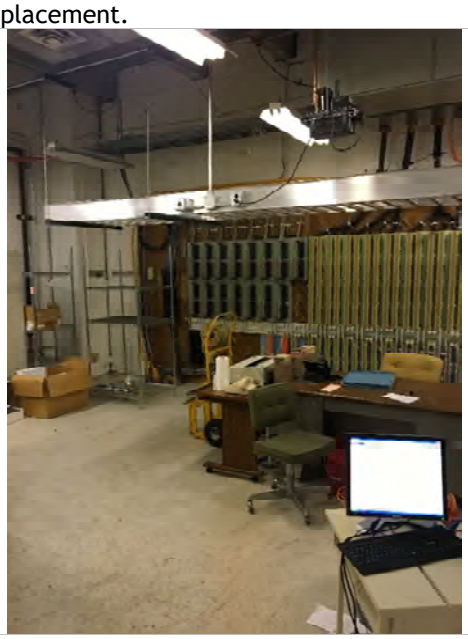

Photo #3: Building Demarc and IT Room

Photo #4: Typical West ELEC Riser room

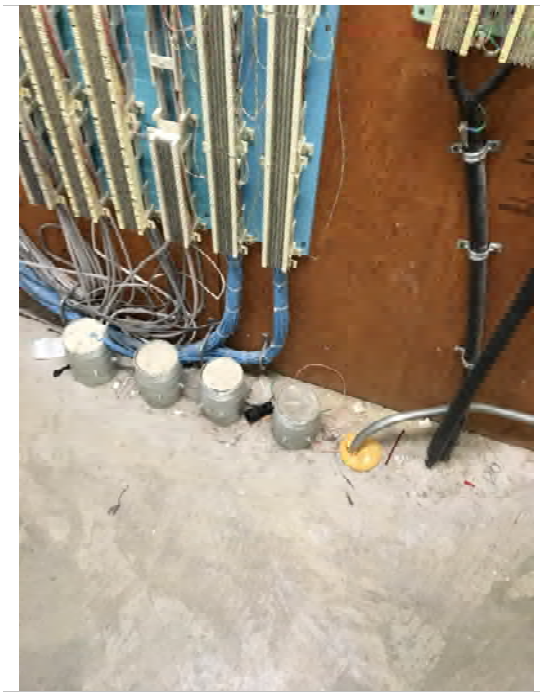

Photo #5: Existing IT Infrastructure

Photo #6: Motor Control Center #1 (MCC #1)

Photo #7: Fire Alarm Control Panel (Lobby)

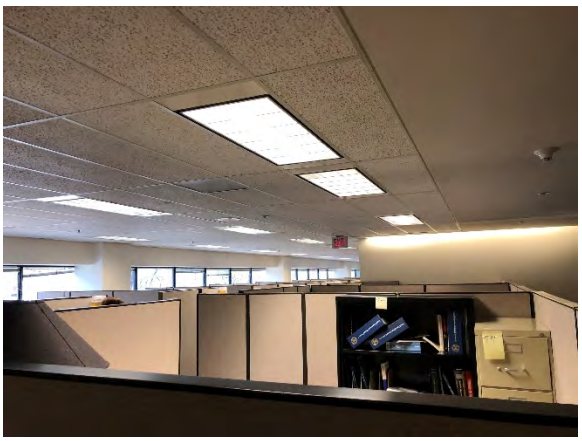

Photo #8: Typical Office Lighting

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# *Meeting Notes*

**Date:** 06.24.19

**Subject:** Golden Civic Center Potential Partners: Library Space Needs (Confidential)

**Attendees:** Donna Walker, Jefferson County Public Library
Lizzie Gall, Jefferson County Public Library
Liz Hallas, Anderson Hallas Architects

The design team met with representatives from the Jefferson County Library to discuss potential space needs in regard to relocation to the new Civic Center. Below is a summary of the potential needs and wants of the organization.

1. Expansion of the Golden branch is on JCPL 10-20-year plan, but they are interested in the conversations about the possible Golden Civic Center.
2. The existing library is +/- 13,500 sf and is too small. It has been determined in previous studies that the collection is too small for this community.
3. A move to the potential Golden Civic Center would need to be compelling because their current location is very successful (albeit too small.)
4. For the project to work for JCPL they would need:
   - 20-25,000 sf
   - One level (vs split on 2) and ideally on the main level (10th street entry level)
   - Dedicated family restroom within the space
   - Dedicated story hour area in the space
   - 5-6 study rooms
   - More collaborative type of spaces
   - A book drop (preferably a drive thru version)
   - A distinct and separate entrance (for various reasons including ability to control/building hours/operation logistics, etc)
5. In general, they are sensitive to any real/perceived loss of customers by this move and/or "barriers to access/use" such as the 2-story space. In their experience – out of sight is out of mind in terms of library services.
6. Using the main restroom bank off the atrium would be workable. As per above a dedicated family restroom would be needed within the library.
7. Floor loading for book storage is a concern – Liz noted the engineers have studied this within the Feasibility Report.
8. A maker space could be shared with other users/entities.
9. Ideally the whole Civic Center would be an activated space (interior and exterior) to retain the high use of residents/users.
10. It is a fluid conversation and JCPL looks forward to learning more before their board can make any decisions.

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# *Meeting Notes*

**Golden Civic Center**
**Miners Alley Interview**
**Tuesday, 6/25/2019**

1. The purpose of this meeting is to understand the range of existing and expected future programmatic wants and needs of the Miners Alley theater for the possible integration of the theater into the proposed Golden Civic Center.

2. Current Area and Capacity:
    a. 3500 SF Total Area currently
    b. Utilizes shared lobby with elevator, restrooms and vertical circulation. The box office fronts onto this lobby.
    c. Community Room/Bar is connected to lobby and theater
    d. Theater and associated support spaces are located adjacent to the community room.

3. Box Office/Front of House
    a. Box Office
    b. Bar (Liquor Licensed)/Community Space
    c. Lobby

4. Theater
    a. 130 Capacity – fixed seating
        i. 200 seat would be a decent average, 60 x 60
        ii. Could grow into a 300 seat theater
    b. Eventual preference would be to pair theater with larger auditorium space.
        i. Small Black Box (80-100),
        ii. Medium Proscenium Auditorium (200-300)

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c. Current clear height – 10′ – stage to ceiling

    i. Would like at least double that, can minimize total ceiling heights with the use of Eisenhower grid versus catwalks.

5. Support Spaces

    a. Offices

        i. No Office/Theater proximity

    b. Restrooms

        i. Currently have 2 water closets in each restroom, would like more.

    c. Dressing Rooms

        i. Currently have 2 marginal dressing rooms

        ii. Would like larger dressing rooms

        iii. Would like green room space

    d. Janitors Closet

    e. Control Room

6. Workshop/Shop

    a. Ideal shop area would be under sage with ability to pass items/props/set pieces up through the floor to the stage.

    b. Currently use a 15 x 20 shop/storage space in the lower level. Uses freight elevator.

    c. If separated on different floors a freight elevator would be preferred

7. Off-site Storage:

    - Two 10 x 20 units
    - One 10 x 10 unit
    - Two 10 x 6 units

8. Electrical:

    - 35 circuits (400 AMP)
    - Ideally 98 dimmers (600 AMP)

9. Education Programs:
    - Current classroom space – 20 students per week
    - Expanded classroom space x 3 - 60 students per week,
    - The typical classroom would be 35′ x 35′ and may want to have a spring floor to allow use for dancing/ballet, etc.

10. Current Budget:
    - $675,000 Budget
    - 550-600 Earned

**NOTE:** After 7/15/2019 these minutes will serve as the official meeting record. Additions/corrections may be sent to Anderson Hallas at brandongossard@andarch.com

CC: Attendees, AE Team

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# *Meeting Notes*

**Date:** 06.26.19

**Subject:** Golden Civic Center Potential Partners: Gallery & Exhibit Space Needs (Confidential)

**Attendees:** Rod Tarullo, City of Golden
Nathan Richie, Golden History Museum
Hassan Najjar, Foothills Art Center
Rebecca Silva, Anderson Hallas Architects
Brandon Gossard, Anderson Hallas Architects

The design team met with Golden History Museum and Foothills Art Center to discuss potential space needs in regard to relocation to the new Civic Center. A potential merger of the two organizations is being considered, however details of staffing, and dedicated versus shared spaces is yet to be determined. Below is a summary of the potential needs and wants of the two organizations.

Shared Needs:

- Dedicated exterior entrance that is inspiring
- Digital signage/ marquee
- Lobby to accommodate school groups
- Space for bus drop off
- Coffee cart, Café or Catering Kitchen
- Gift Shop/ Retail space/ Artist Co-op
- Front desk with PA system
- Coat check/ Stroller check
- Easy access from loading dock for large artwork/ exhibits
- Family/ Wellness Room
- Small/ Medium conference room for 10-15
- Outdoor classroom/ lecture space
- Prefer to be located on a single floor - freight elevator needed if located on two floors
- Table & chair storage for events
- Washer & Dryer
- Shower

Golden History Museum:

- 5,000 SF of exhibit space
- 8,000 SF for Collection storage with receiving office
- Classrooms (3) for 90-100 kids – could be shared
- Relocate or maintain existing Rose Garden

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- Office & support spaces – mail, copy, offices
- Workshop

Foothills Art Center:

- 7500 SF in gallery space
- Classrooms (3) for 30-35, at least 1 should have the ability to be messy, and have cabinets and sinks, 1 or 2 could be shared with the Museum
- Maker Space with capacity for woodworking, welding, 3d printers - could be shared
- 24 hour access to leasable Artist Studios
- Storage for upcoming exhibits
- Exterior sculpture garden – rentable for weddings and events
- Office & support spaces – mail, copy, offices
- Pedestal storage – 1500-2000 SF

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# *Trip Report*

**Date:** 05.13.2019

**Project:** Golden Civic Center

**Job Number:** 2019200

**Attendees:** Jerry Stricker, Deputy Chief / Fire Marshal, City of Golden

Katie Quintana, Deputy Fire Marshal, City of Golden

Scott Greer, Chief Building Official, City of Golden

Brandon Gossard, Project Architect, Anderson Hallas Architects

**Subject:** Fire Marshal Walkthrough of NOB 311 W 10th Street

Anderson Hallas was able to walk along with the Golden Fire Marshal during a walkthrough of the North Office Building (NOB) located at 311 W 10th Street ahead of the potential purchase of the structure by the City of Golden for use as a new civic center.

Anderson Hallas' presence at the walkthrough was exclusively to observe and document elements that would help inform the feasibility planning of the structure for re-use into a civic center that included a variety of different occupancy classes that vary from the original intended use as an office building.

A brief summary of comments follows:

1. Building Systems

    a. Modifications to the building should include the provision of a distributed antenna system to facilitate the use of emergency responder radios throughout.
    b. Emergency lighting in stairwells will need to be upgraded and provided more frequently.
    c. Exit lighting should be replaced and a uniform color/style selected throughout.

2. Fire Protection Systems

    a. The haylon system in the telecom room appears to be more than 10 years old and may need to be decommissioned and replaced.
    b. The beer cooler room on the first floor at the back of the loading dock was

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constructed in a manner that creates un-sprinkled concealed spaces that will need to be addressed.

c. There appear to be a significant amount of redundant and superfluous equipment associated with the fire alarm system. These items should be evaluated in a holistic manner and unnecessary equipment be considered for removal.

3. Building Components

    a. Smoke gaskets should be provided at rated doors
    b. There are a significant number of rated doors in walls that are not rated. A clear design intent should be provided with any alteration that shows what walls are required to be rated.
    c. There is an existing pipe penetration through all floors in the western electrical room behind the restroom core. The bottom of this conduit needs to be sealed to prevent smoke migration through the structure.
    d. Would like to see areas of refuge at stairwells with emergency communication system.

4. Site Components

    a. No fire access around the entire building will be necessary as the building provides standpipes in the stairwells with sprinklers provided throughout.

The listed items above are not an exhaustive list of code deficiencies or discussion on site and are intended to provide a high-level summary of discussions on-site.

CC: File

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# *Meeting Minutes*

**Project Name – Golden Office Feasibility Study**
**Project Update (Confidential)**
**5/14/19**
**3:00-4:00 (MST)**

**Attendees:**

Jason Slowinski, City Manager
Rod Tarullo, Director of Parks & Recreation
Liz Hallas, Anderson Hallas Architects
Rebecca Silva, Anderson Hallas Architects
Brandon Gossard, Anderson Hallas Architects

1. Liz provided a project update:
    a. Team completed the 5/7 Walk thru, but will need access again to complete the existing conditions measuring.
    b. Code Study for the proposed uses is underway
    c. Fire dept walk thru conducted 5/13
2. Outstanding questions:
        i. Site Survey – a draft is expected in a week or two
        ii. Definition of the EOC – clear statement of intent
            1. Not a public refuge, only for City use
            2. Jeffco would be used if multiple agencies are involved
            3. The City is interested in having this, depending on the cost impacts
            4. **AH will discuss with our Code Consultant to see what is the tipping point – cost wise**
        iii. House status – No progress yet. Per Steve, he believes the City will buy it, but it is a matter of time.
3. AH presented two potential site plans showing secure parking on the southeast side, potential public entry points on the north, west and south of the building.
    a. General site layout is feasible whether the house is acquired or not.
    b. Layout acceptable per Jason (with or without acquiring the house).
4. AH presented the potential Building User Allocation/ Interior Zoning Diagrams
    a. Add executive conference room – adjacent to Courtroom/ Council Chambers
    b. Add secondary lobby to courtroom – prefer queueing doesn't mingle with public users in the atrium
    c. Potentially grab & go food service on lower level, or cart in atrium
    **d. Jason to discuss layouts with potential partners – what are their space needs/ wants?**

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i. Direct exterior access, location, two floors, square footage?
ii. Foothills currently has approx. 5,000SF
iii. Art Center & History Museum potentially creating a 501c3 – modelled after the Discovery Center in Fort Collins.

**e. AH to provide un-labeled plans (ie City Space 1,2,3; Partner Space 1,2,3) to help with discussions with potential partners. – Complete 5/15/19**

**f. Jason to have partner discussions concurrent to AH developing space diagrams. Jason to provide any feedback/ deal breakers by 5/22.**

5. Next Steps:
   - **a. AH provide final Zoning Diagrams to our team 5/23**
   - b. 5/23 Council Mtg to approve Feasibility Study contract.
   - **c. AH to provide existing conditions photos to Steve.**
   - **d. Next site visit to complete measurements – AH to coordinate directly with Lisa & Steve.**
   - e. Closing is August 17th

Action items: **In bold**

**NOTE:** After 5/30/2019 these minutes will serve as the official meeting record. Additions/corrections may be sent to Anderson Hallas at Rebeccasilva@andarch.com

CC: Attendees, AE Team

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# *Meeting Minutes*

**Date:** 06.18.19

**Subject:** (Confidential) Golden Civic Center Potential Partners Update – Conference Call

**Attendees:** Jason Slowinski, City of Golden
Rod Tarullo, City of Golden
Liz Hallas, Anderson Hallas Architects
Rebecca Silva, Anderson Hallas Architects
Brandon Gossard, Anderson Hallas Architects

The intent of this meeting was to share new information regarding the potential partner spaces in the Golden Civic Center with the design team.

1. Design Team Update
    - The team has sent the draft Feasibility Study as of 6/17 to the cost estimator
        - July 8th the Feasibility Study and Cost Estimate will be presented to the City
    - The Cost Estimate will be assuming one complete construction phase for the work recommended in the Feasibility Study. A phased construction schedule would increase costs.
2. Partners/tenants have gotten more specific about needs.
    - Jeffco Library:
        - Like overall design
        - Would like to be on one floor, moms with strollers is an issue if split
        - Like the SW corner
        - If on two floors, having a dedicated elevator would be needed.
        - 20-25,000 SF is needed
        - Floor Capacity is a concern
        - A Book Drop is needed.
        - Library Board likely would put funds into tenant build-out if they are to move in.

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- Jefferson County: Open Space
    - Major tenant - 35,000 SF
    - Like the idea of collocating with the Library because of CSU Extension database.
- Miners Alley:
    - It is acknowledged that this might be a challenging use to accommodate
    - Theater space is desired
    - 3-4K SF right now
    - Possibility to share with Council Chambers?
- Museum/Gallery:
    - Golden History Museum and Foothills Art Center are in discussions regarding collaboration/ merger.

3. Council Agenda
    - July 11th City Council update
    - Decision needs to be made in July regarding purchase
4. Next Steps
    - **AH to reach out to partners for additional questions/ meetings.**
    - Rod would be willing to participate in the meetings, but not absolutely necessary
    - Jason to send contact info for potential partners.

Action items: **In bold**

**NOTE:** After 7/3/2019 these minutes will serve as the official meeting record. Additions/corrections may be sent to Anderson Hallas at rebeccasilva@andarch.com.

CC: Attendees, AE Team


FEASIBILITY CONSIDERATIONS

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## SITE CONSIDERATIONS

Opportunities

- 10th St Corridor loc.
- Creek frontage
- Southern exposure
- Adequate parking (Steve)
- Existing building

Constraints

- Dispersed parcels/parking
- Safety of 10th St crossing
- Police - secure parking
- Removed from downtown
- Access to sides of building
- Vehicular circulation

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BUILDING CONSIDERATIONS

- Town Hall “presence”
- Ability to alter (exterior and interior) re: costs
- Change in use (code required upgrades)
- Excess office space – tenants (security/separations)
- Condition of building “systems” (HVAC, sprinklers, electrical, etc.)

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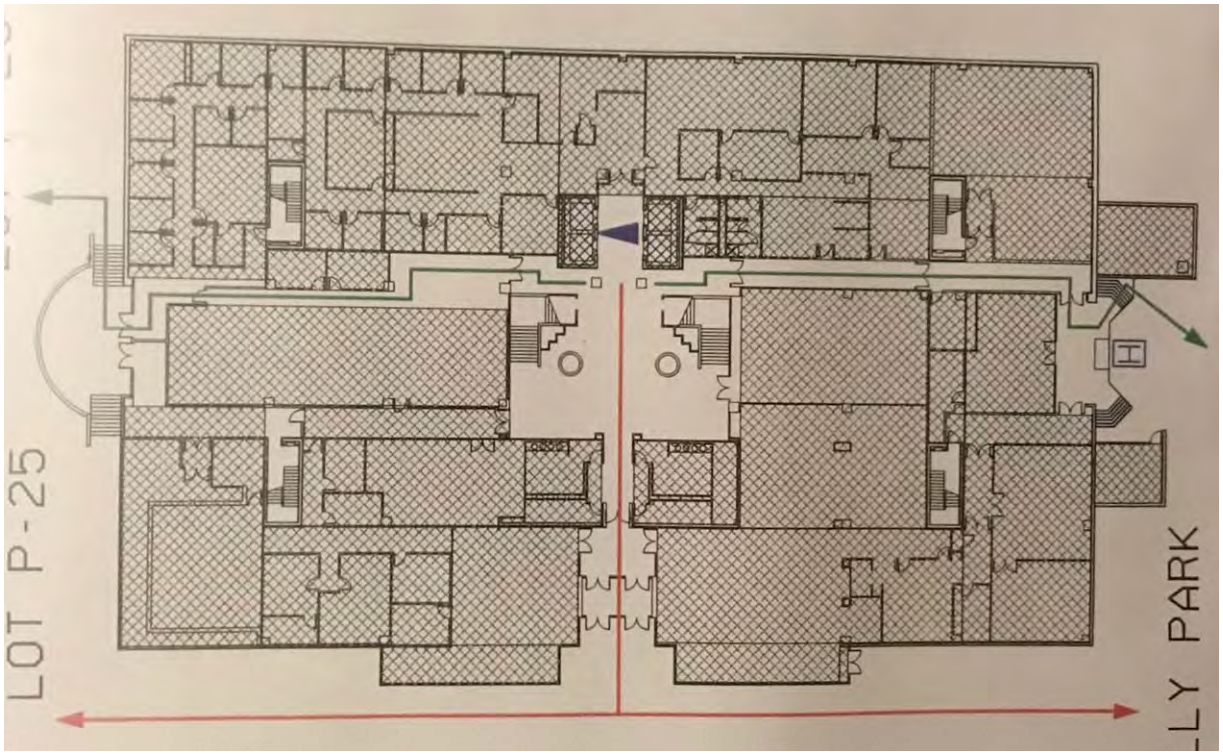


(floor plan footprint 32,000 sf /floor)

## BUILDING CONSIDERATIONS

Opportunities

- Existing sf
- Daylight/views

Constraints

- Circulation (stairs/secure points)
- Structure – library loading
- Change of use – Assembly space
- Entry sequence/ wayfinding to each space

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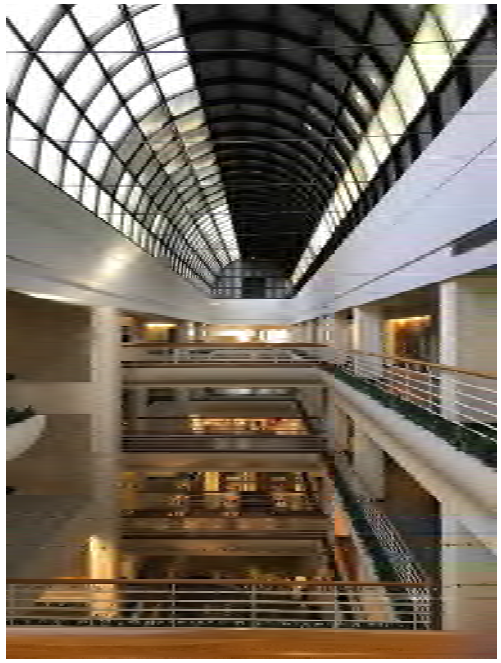
**OBSERVATIONS/NOTES FROM 11/12/2018 WALK THRU**

- Overall good condition/appears to be well taken care of
- Built in 1984 (occupied in 1986) - predated ADA legislation of 1991; generally seems to have proper clearances – but an in depth study would be needed
- 5 story open atrium – fans appear to exist on end walls - verify proper smoke evacuation system is in place (atriums serve as a big chimney in the event of a fire/code has gotten more stringent since 1984 on these)
- Egress routes from 4 stairwells should be tracked down to exit building
- Circulation/security points will need to be considered carefully in re-use (more public in/ front door checkpoint as they have is likely not workable for City needs)
- 4 Stairwells - currently lock between floors – will want to rethink with City use/various departments layout (don't want to use elevator for 1 floor access)
- Atrium - reported alterations to glass panels/sun shield – over the years (May want to consider more modern technology to control long term)
- 5th floor west side – possible roof leak area (Verify how old is roof)
- Double pane ribbon of windows / fan coil units along sill line of exterior



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**POTENTIAL BUILDING USERS (using 20 year Space Needs Assessment)**

**160,000 sf overall**

- Administrative
  - City Manager 1650 sf
  - Clerk 1300 sf
  - Community & Econ Dev 3900 sf
  - Finance (1) 7200 sf
  - Human Resources 1320 sf
  - Innovation & Tech 2700 sf
  - Media & Comm Relations 2800 sf
  - Public Works 3720 sf
  - Parks & Rec Admin 4400 sf
  - Police 19000 sf
- History Center 13,500 sf
- Library 30,000 sf
- Performing Arts Center? tbd___ sf

Notes:

1. Includes Court functions/special security considerations
2. Does NOT include Fire/or Shops sf

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**DECISION MAKING CRITERIA TO CONSIDER**

- Opportunity – cost benefit
- Long term vision – esp of cultural facilities – is this a good fit?
- Consolidation of services
- Wise use of funds
- Alignment with 2018 Space Planning Goals (as defined by Council)
- Alignment with 2017 North Clear Creek Neighborhood Plan
- Quality vs. quantity discussion
- Site/neighbors impact
- And many more……


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**COST APPROXIMATIONS – 2018 Q4**

Move in ready — no changes to carpet/retain existing cubicles/egress etc
move costs only + IT needs for City use

Minor moving of walls – minimal changes to registers/electrical/fire– all office use
$100-$200

Change of use/ Systems changes/ Structural changes (to accommodate library; performing arts space, etc)
$250-350/sf +

New construction
$425/sf +

NOTES:

- Average escalation – 6% per year
- All costs are construction only – project costs are 1.33x above
- Consider "life-cycle" costs (energy & operating costs, lifespan of building systems, etc.)

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**SUGGESTED NEXT STEPS:** (*Possibly pursue DOLA funding for these planning steps?)*

1. **Assessment / Feasibility Study** (Fee Range +/- $60-80,000)
   - Would need 2-3 days of access to the building including conversations with Jacobs maintenance staff, maintenance records as available
   - Architectural – code, ADA, envelope, finishes/materials
   - Structural Systems
   - HVAC/Plumbing/Fire
   - Electrical/Security/IT/Phone/AV
   - Cost estimating (order of magnitude only) for deficiencies found/treatments needed
   - Deliverable – report of existing conditions and anticipated needs/fixes the building would need; if users are defined can begin to anticipate conceptual layout and wall changes/code upgrades

2. **Hazardous Material Survey** (Fee Range +/- $3-10,000)
   - Scalable – could be visual only ($) or include sampling/testing ($$$)

3. **Generate Existing Building Drawings** (Fee Range +/- $15-18,000)
   - Useable electronic format
   - CAD/REVIT 3 D Model
   - Useable for planning/ tenant improvements/ capital O&M

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