



A R C H I T E C T U R E

G R E E L E Y A R M O R Y
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G r e e l e y , C o l o r a d o 8 0 6 3 1

HISTORIC
STRUCTURE
ASSESSMENT
2009-HA-022

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photo ca. 1974- courtesy of City of Greeley Museums, Hazel E. Johnson Collection

A H A R C H I T E C T U R E
A P R O F E S S I O N A L C O R P O R A T I O N F O R A R C H I T E C T U R E
1615 CALIFORNIA STREET, SUITE 309, DENVER, COLORADO 80202 PHONE:720-932-8604 CELL:720-260-9934



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A H A R C H I T E C T U R E

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1615 CALIFORNIA STREET, SUITE 309 DENVER, COLORADO, 80202 PHONE: 720-932-8604 FAX: 720-932-8605



1.0 INTRODUCTION

1.1 Research and Background/Participants

Purpose of the project:

The Building Owner, Thomas and Tyler, LLC, understands the importance of the built environment and how the Greeley Armory facility plays an integral part in the overall historic fabric of the downtown Greeley core. They acquired the property because they believe that the integrity of the historic structure should be repaired and preserved, and the doors reopened so that future generations can continue to use this stately structure as a community based place. As such they clearly understand their role as stewards of this community treasure and artifact.

In order to once again function as a community gathering place, the existing structure is in need of both immediate and long term care. Some concerns are cosmetic, but there are also others that are life safety oriented and structural in nature.

The purpose of preparing and submitting this Historic Structure Assessment report is best summarized as outlined in the NPS Preservation Brief 43 document as follows:

- A primary planning document for decision-making about preservation, rehabilitation, restoration, or reconstruction treatments
- Documentation to help establish significant dates or periods of construction
- A guide for budget and schedule planning for work on the historic structure
- A basis for design of recommended work
- A compilation of key information on the history, significance, and existing condition of the historic structure
- A summary of information known and conditions observed at the time of the survey
- A readily accessible reference document for owners, managers, staff, committees, and professionals working on or using the historic structure
- A tool for use in interpretation of the structure based on historical and physical evidence
- A bibliography of archival documentation relevant to the structure
- A resource for further research and investigation
- A record of completed work

Process taken to complete the report:

Thomas and Tyler, LLC first contacted AH Architecture in October of 2008 to discuss providing a Historic Structure Assessment Report to the Colorado Historical Society/State Historical Fund to achieve the goals stated above. The Colorado Historical Society approved and authorized AH Architecture to proceed with the Assessment Report on 5-1-09. On 5-5-09 the project team assembled at the project site for a kick off meeting. At that time it was identified that Historic Greeley, Inc. would be administering the contract on behalf of the building Owner. The contracts with AH Architecture were modified accordingly and the work began shortly thereafter on 5-28-09 upon CHS approval of the AH Architecture subcontract with Historic Greeley.



Our study involved collecting information in a variety of ways and we followed the steps outlined in NPS Preservation Brief 43 as follows:

- Preliminary walk through
- Research and review of archival documentation
- Oral histories
- An existing condition survey (including exterior and interior architectural elements, structural systems, mechanical and electrical systems, etc.)
- Measured drawings following the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation
- Record photography
- Evaluation of significance
- Discussion with the owner and users about current and future intended uses for the structure
- Selection and rationale for the most appropriate approach to treatment (preservation, rehabilitation, restoration, or reconstruction)
- Development of specific work recommendations

The first step taken was to assemble all of the parties involved to walk and talk within the existing structure. We took a look at all of the existing conditions and discussed critical items to be addressed in the short term and the long term. The priority and focus of discussion was identified not on the small cosmetic items, of which there are many, but on what is still remaining of the original historic fabric with special attention to the Life Safety Structural issues. In the past, the restaurant bar modifications substantially changed the interiors and the overall perception of the space. The Owner noted their goal is to see a more community oriented use within the original historic framework of the structure. With that in mind we began our assessment towards restoring it as such.

The only documents available for reference were a "found" set of drawings that were the construction drawings of the conversion of the Armory to a restaurant/bar dated 1978. While helpful, AH Architecture then supplemented the information by measuring the entire facility inside and out and preparing AutoCAD formatted plans. This was done very precisely in order to have accurate data to evaluate the building from a code and design standpoint. Accurate background documents are the foundation upon which to build ideas and as such, great care and time was spent preparing those documents. Future access to those documents can be accommodated through Thomas & Tyler and AH Architecture.

In addition to documenting the existing conditions by drawing, the entire facility was photographically documented so that the status of existing conditions could be inserted graphically into this report and used as exhibits to supplement descriptive text.

Various sources were contacted to gather historical and technical data about the structure prior to embarking on the report. Old newspaper articles housed at the City of Greeley Museums Archives were poured through as were other documents on file with City Agencies.



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As the report process began, AH Architecture drafted most of the report while physically in the facility. We believe that it was important to spend more time 'listening to the structure' before formulating ideas, thoughts and opinions about the best course of action. Site visits were completed over the course of 2 months (June and July) and occurred at various times in the day so the quality of daylight and the changing moods of the structure could be experienced over time. Due to the heavy rain season that transpired at this same time in Northern Colorado, water leaks were able to be actively witnessed.

A draft was produced and reviewed by Historic Greeley, Thomas and Tyler, Consultants and the Colorado Historical Society. Comments from all were incorporated into the final document.

This HSA represents the compilation of that process and the recommended plan that is to be put in place.

What's next?..... the next step in the process is to start with the most critical items and submit grants and raise funds so that the actual rehabilitation work can commence.

List of Consultants and Participants Involved in alphabetical order:

- **AH Architecture, PC.** Historic Structure Assessment
Art Hoy III, President
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aharchitecture@qwestoffice.net
- **Ancon, Inc.** Resource for Sections 3.2-3.9 and Cost development studies
Ron Thompson
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970-302-2121
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- **Colorado Historical Society/State Historical Fund**
Anne McCleave- Historic Preservation Specialist
225 East 16th Avenue, Suite 950, Denver, CO 80203
303-866-2825
- **City of Greeley Museums, Archives.** Archival research
Peggy Ford- Research Coordinator
970-350-9219
- **City of Greeley Community Development- Planning Department.** Site analysis, zoning
Rebecca Safrik- Director
970-350-9780
- **City of Greeley Building Department.** Code analysis
970-350-9830
- **Historic Greeley, Inc.** Administer of Grant Contract
Julia Richard- President Linde Thompson- Board Member



GREELEY ARMORY
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PO Box 356, Greeley, CO 80631
970-302-8368

List of Consultants and Participants Involved in alphabetical order: (continued)

- **McCreery & Sun.** History of mechanical work completed in 1982
James McCreedy
3455 F Street, Suite 3, Greeley, CO 80631
970-339-5740
- **The McGlamery Structural Group.** Structural on site evaluation
Sam McGlamery
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- **Spectrum.** Window restoration studies and cost evaluation,
Joel Sydlow- Cost Estimator
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- **Thomas and Tyler, LLC.** Property Owner
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Danny Kennedy- Facilities Manager
970-405-8224
danny@thomasandtyler.com
- **Union Colony Fire Rescue Authority.** Fire Protection System
Dale Lyman- Fire Marshal
970-350-9511
- **Weld County Planning Department.** Site analysis, background data
Thomas Honn- Director
970-353-6100
- **Williams and Sons.** History of roofing work completed in 2007
Terry Williams



Funding Partners:

➤ **Thomas and Tyler, LLC**

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303-866-2825

Colorado Historical Society/State Historical Fund Acknowledgment:

This project was paid for in part by a State Historical Fund Grant from the Colorado Historical Society.



1.0 INTRODUCTION

1.2 Building Location

Address:

614 8th Avenue, Greeley, CO 80631

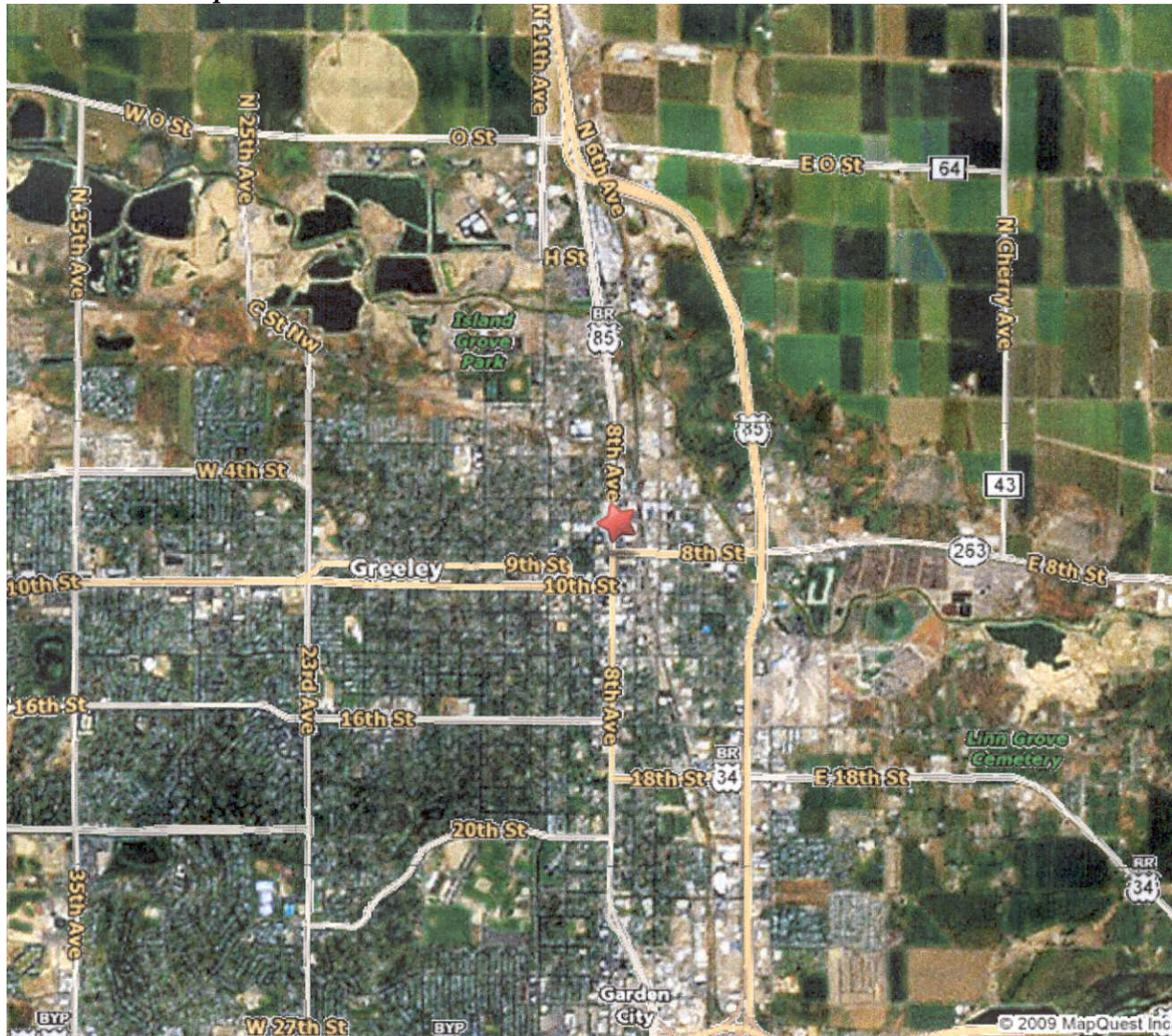
Located on the East side of 8th Avenue, at mid block just North of the alley, with the main front door oriented towards 8th Avenue. The Armory is directly North of the City of Greeley historic urban core and is separated visually from the core by parking and a hotel to the South.

Legal Description:

South 60' of lot 6,7,8 of block 38 also

N 10' of West 150' of vacated alley adjacent to lot 6,7,8

Overall Area Map:





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Vicinity Map:





Site Map:





2.0 HISTORY and USE

2.1 Architectural Significance and Construction History

Brief Historical Timeline:

- **1885**~ First Greeley National Guard is established, Commander Capt. B.D. Harper
- **1888**~ Guard is disbanded, reorganized as 2nd Infantry Regiment Co.D- Spanish Am War
- **1905**~ Armory built at 10th Street and 7th Ave
- **1920**~ National Defense Act reorganizes US Military into Army, National Guard, Reserves
- **1921**~ Headquarters Co. 157th Infantry Co Nat Guard organized
- **1921**~ Co General Assembly appropriates funds to construct Armories
- **1921**~ Huddart finishes standard Armory plans for 12 structures, August 1921
- **1921**~ Frazier modifies Huddart plans in prep for construction
- **1922**~ Original Construction, 7-14-1922 Foundations began on Armory
- **1922**~ Building Dedication Ceremony, Armistice Day 11-11-1922, completed for \$50,000. This was a big community event according to The Weld County News, 11-17-1922, ' Speakers included JMB Petrikin, Judge Fredric C. Clark and Attorney General Victor E. Keyes, after the speaking.... The Blue Ridge Novelty Five offered the syncopation of the evening'
- **1922 to 1930**~ Functioned as a National Guard Training Center
- **1930 to 1940**~ Multiple uses as Training Center, USO Dance Hall, Vaudeville Theater, Traveling shows like Magicians, Harlem Globetrotters, Saturday Night Fights, Pro and Amateur Boxing, Professional Wrestling
- **1955**~ temporary County Morgue, John Gilbert Graham blew up an airliner, 44 dead
- **1961**~ temporary County Morgue, Train hit Greeley school bus, 22 dead
- **1960's**~ Youth Center for Our Lady of Peace Church
- **1970's**~ Greeley Boy's Club
- **1978**~ Bank purchased and sold to the Grand American Fair, conversion to restaurant began
- **1978 to 1992**~ Continued to function as a restaurant and was filled on an ongoing basis with props from 20th Century Fox movie sets, including a B-17 Bomber.
- **1992**~ Grand American Fair sells the property to the then GM Dean Hagemeister for \$240,000
- **1992 to 1997**~ Hagemeister operates as a bar/restaurant, employed 29 people including wife Sarah, Bands performed here including Big Head Todd and the Monsters, Samples and 311.
- **1997**~ Hagemeister puts property up for sale so he can retire to Barnesville and spend time with kids Willy and Stephanie
- **1997**~ Property does not sell and after an extended time the property is removed from active real estate sales effort. The State Armory continues to operate as a bar, restaurant and entertainment venue until it is closed on 12/31/2006.
- **2007**~ Thomas and Tyler purchase the property on 1-16-2007
- **2007**~ After purchase, the property remains vacant, its interior layout, furnishings and fixtures remain intact and it is offered for "Sale or Lease" with the caveat that remodeling and required rehabilitation will be relatively expensive and shared (possibly) with the owner.
- **2009**~ As it becomes clear that that Greeley and the U.S. economy is in recession, a decision is made to more aggressively prepare the building for a future historic rehabilitation project. All of the interior artifacts are removed, including the heavily weighted items straining the roof structure of the building. Historic designation is applied for and active marketing of the building is discontinued. The building is secured and vacant.



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- **2009~** At a meeting on 4/13/09, The Greeley Historic Preservation Commission officially designated the State Armory on the Greeley Historic Register with an effective date of 5/14/09.
- **2009~** Still vacant. Thomas and Tyler put property up for sale.
- **2009~** AH Architecture in conjunction with Historic Greeley provide a Historic Structure Assessment with a grant provided by the Colorado Historical Society/State Historical Fund.
- to be continued



Photo ca. 1974~ courtesy of City of Greeley Museums
Hazel E. Johnson Collection



Today~ ca.2009

Architectural Significance:

The original 1922 structure was built by the Federal Government as a National Guard Armory facility. At that time (early 1900's) the Government was investing in the National Guard to boost it as a reserve force for the Army rather than allowing it to continue as a collection of state militias which at the time was limited to only addressing domestic issues. The National Defense Act of 1920 reorganized the Army of the United States into 3 branches~ Army, National Guard and the Reserves. The National Guard was to consist of enlisted personnel with the numbers for each state in proportion to that state's population. The Federal Government provided the equipment and the supplies and salaries for those in service. Each state of the Union however was responsible for the construction and maintenance of Armory structures for those units stationed within their state. The Greeley Armory is one such structure and as such is linked to the history of Colorado in a very real and meaningful way.

In 1921 the Colorado General Assembly enacted a law appropriating funds for the construction of Armories throughout the state. The Military Department of the State of Colorado hired Denver architect John J. Huddart shortly thereafter to design a standard Armory plan to be used throughout the state. John was born and studied Architecture in England where he began his career. He traveled and worked in South America in Brazil and eventually emigrated to the United States and soon ended up in Denver working under Frank Edbrooke from 1882-1887. In 1887 he set out on his own and focused on public buildings. In fact, he became known as a 'courthouse architect'.



Many of his buildings throughout Colorado and two of his Armories are today on the National Register of Historic Places.

Huddart's standard Armory plans were complete and ready for construction in August of 1921. Those plans included office spaces, training and storage facilities. The key element in his plan was a central 63' x 48' drill hall which was designed to provide indoor training space during inclement weather.

Recreation spaces were also included in his plan. Each Armory had a stage to allow the drill hall with side mezzanines to be used as a theater or ballroom for multipurpose types of events. Support facilities included dressing rooms, a kitchen, and a large second floor reception room.

The basement was originally designed to include a 30' x 18' swimming pool.

The exterior of the Huddart Armories has been previously classified as Mediterranean Revival (or some might label it as Italianate) which was somewhat of a departure from the Gothic Revival style that was being utilized previously for Armory designs throughout the United States. His symmetrical façade with central hall flanked by 2 towers were standard features of Armory design of that period. Some Romanesque features such as the central triple round arched windows with corbelled masonry coursings and the main gable with multiple arched top recesses with corbelled terra cotta cap stones. The towers are silhouetted by stepped and raked parapets which have been said to reflect battlements common on Gothic Revival Armories. Similarly the 4 vertical masonry recesses on 2 sides of each tower resemble rifle ports. The Towers also have slightly battered walls which lean inward about 8" as they rise upwards giving them a Fortress like quality.

In an article in The Weld County News dated 10-6-1922 the following quote describes this fortress like quality to the architecture;

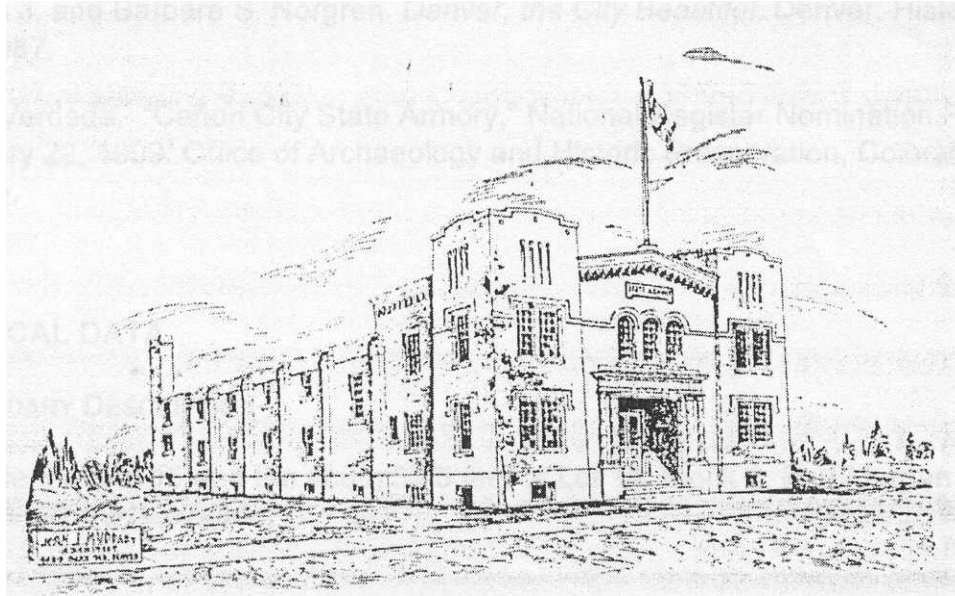
‘with 2 parapets at the front corners, and with its walls leaning in just a little at the top, it presents a war-like appearance, and with the American ensign floating amidships, old times are declaring that it would have served as a fortress in years ago.’

The entryway is a departure in style and is somewhat Classical in its articulation with a pair of terra cotta pilasters flanking both sides of a deep recessed opening with a cornice spanning overhead. This formality is more stately and some have noted it was in response to marking the entry as a Governmental Facility.

Records indicate that there were 12 of these Huddart State Armories built in Colorado in 1922, one of them being the Greeley Armory.

Huddart Standard State Armories, ca. 1922

- Brighton, ca.1922 (Commercial use)
- Brush, ca 1922 (Unknown use)
- Canon City, ca 12-1922 (Armory, National Register)
- Craig, ca 6-1922 (Museum, on the National Register)
- Delta, ca 1922 (Vacant)
- Fort Collins, ca 1922 (Unknown use)
- Fort Morgan, ca 1922 (Recreation Center use)
- Fruita, ca 1922 (Demolished)
- Greeley, ca 1922 (was recently a Restaurant and is now Vacant)
- Lamar, ca 1922 (Demolished)
- Manzanola, ca 1922 (Church use)
- Pueblo, ca 1922 (Demolished)



Huddart original rendering of standard design for the State Armory, ca.1921

Before construction began on the Greeley Armory, local architect Sidney Frazier, who was then 1st Lieutenant for the Greeley National Guard unit provided some design modifications.

Just a brief background on Sidney: At the time, Frazier was also working on Armories in the communities of Loveland and Burlington. Frazier was born in Denver and studied at Regis College and Columbia University. In 1909 he joined the Denver firm of Baeresson Brothers and then worked with William Ellsworth Fisher. During his time with Fisher he also worked with Roeschlaub & Son on the Greeley High School. In 1917 Frazier opened his own office in Casper, Wyoming. Then in 1919 he moved his office to Greeley which remained in operation until 1947. During that period he designed 45 schools in Northern Colorado including the Veterinary Hospital at CSU. He moved to Littleton in 1954 and retired from practice in 1960. Frazier retired from life in 1962.

The design modifications to the Greeley Armory that Frazier instigated appear to all be interior and functional in nature with the exterior envelope remaining per the original Huddart design. The central drill hall remained on the main level as planned but offices for the commanding officer, noncommissioned officer and an orderly were included. The stage included flanking dressing rooms on stage left and right with a kitchen located there as well. The kitchen was included so that suppers could be provided on the stage. The second floor included a ladies room, a recreation room and a radio receiver station. The basement was planned with a 30'x50' athletic court in lieu of the original pool. Men's and Women's showers were also provided at that level.

Historic Designation:

On 8-11-1999 the Greeley Historic Preservation Commission prepared an application for nomination of a historic Property with the City of Greeley. This application was filed on behalf of the building owner at the time, Dean W. and Sarah B. Hagemester

There is a handwritten note in the margin of this application form that states that this application was never submitted. The Greeley Historic Preservation Office has confirmed that indeed it did not get submitted back in 1999. There is no record of why the decision was made not to file the application.



In 2009 the current building owner, Thomas and Tyler, submitted a new application for nomination of a historic property with the City of Greeley. On April 13, 2009 the City of Greeley [Historic Preservation Commission](#) approved this application and officially designated the Armory on the Greeley Historic Register.

At this time the building has not been nominated to the State or National Registers.

2.2 Floor Plans

The following floor plans are based on measured drawings produced by AH Architecture in 2009 for the purposes of illustrating existing conditions and spatial relationships. These documents are the foundation from which to build future proposals and work proposed later within this report.

The diagrams bound into this report are exhibits only and are to 1/16" = 1'-0" scale for purposes of report formatting.

Larger scaled drawings which are easier to read and are measurable at 1/4" = 1'-0" are attached on oversized sheets (24" x 36" format) and under separate cover.

Grid lines have been assigned to the plans and elevations so that reference can be made to specific locations within the building as a way finding technique. Lettered grids run N-S beginning at 'A' on the West end and ending at 'T' on the East end. Numbered grids run E-W beginning with '1' on the South end and ending with '7' on the North end.

The gross square footage (GSF) areas noted are measured to the exterior surface of the perimeter enclosure walls. It does not take into account the ins and outs at windows and pilasters but rather is measured at the outer most point in a straight line fashion.

Similarly the net square footage (NSF) areas are measured to the interior surface of the perimeter enclosure walls and also do not take into account the ins and outs along those walls nor does it subtract for interior walls or mechanical shafts. The large floor openings to below on Level Two are subtracted out of that NSF measurement. Please note these are not net usable square footage numbers but simply a net interior enclosure.

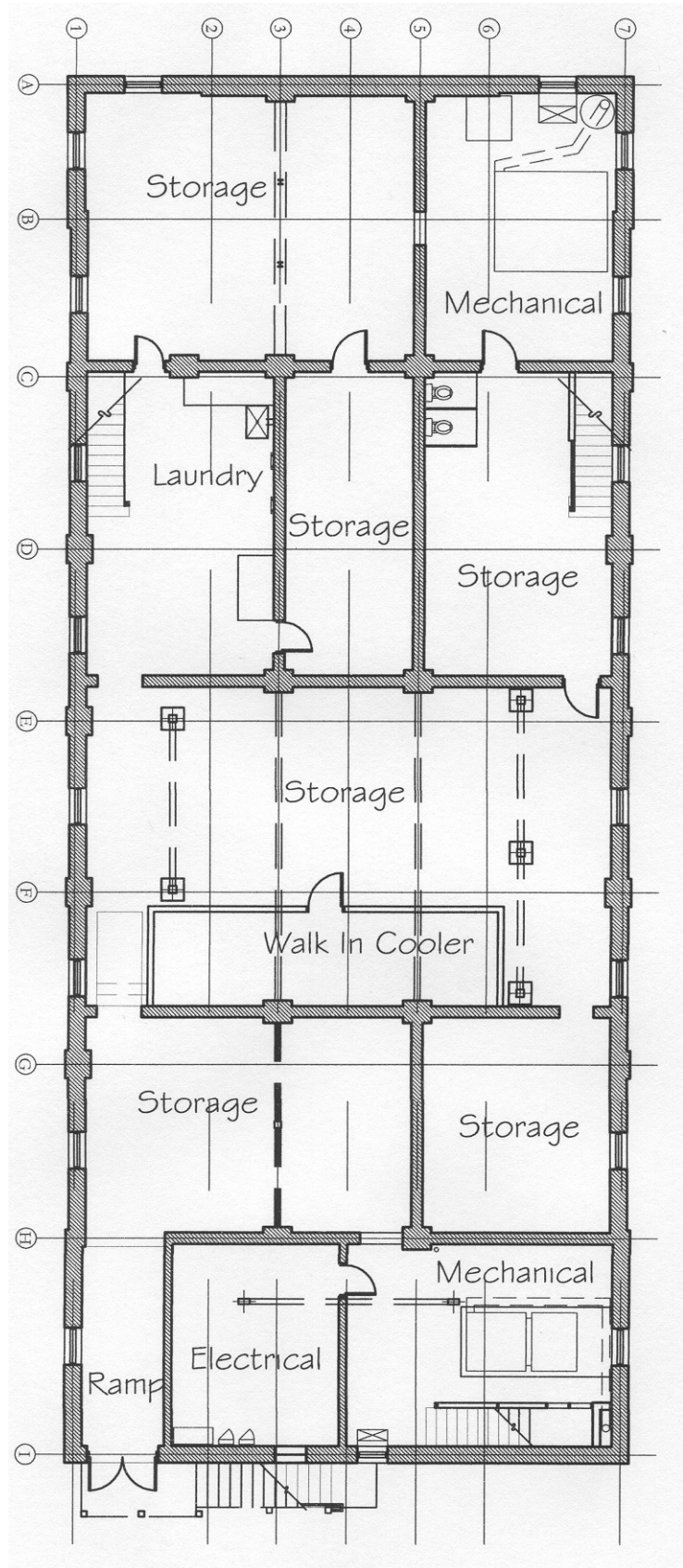


Basement Level

6,250 GSF

5,734 NSF

Original walls are delineated in
cross-hatch poche



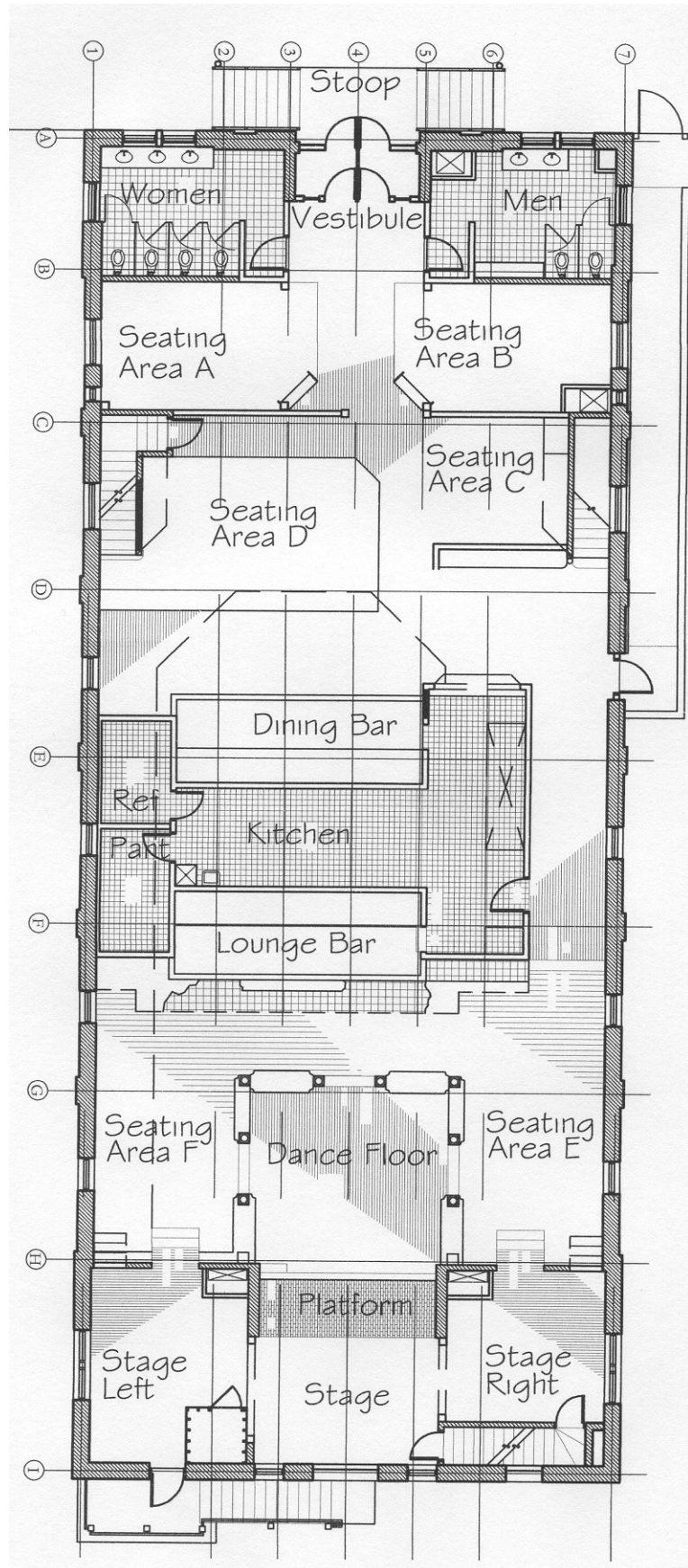


Main Level

6,250 GSF

5,734 NSF

Original walls are delineated in
cross-hatch poche



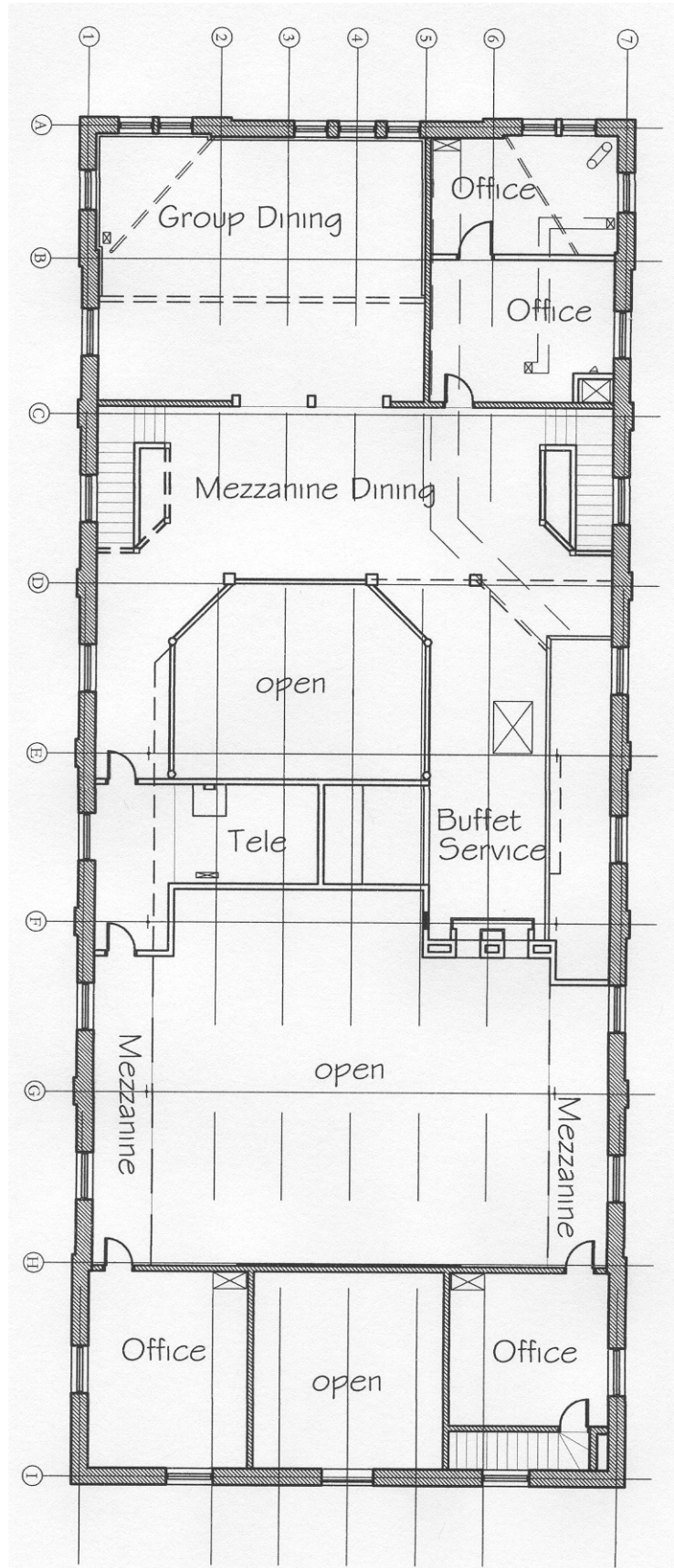


Second Level

6,250 GSF

4,178 NSF usable

Original walls are delineated in
cross-hatch poche





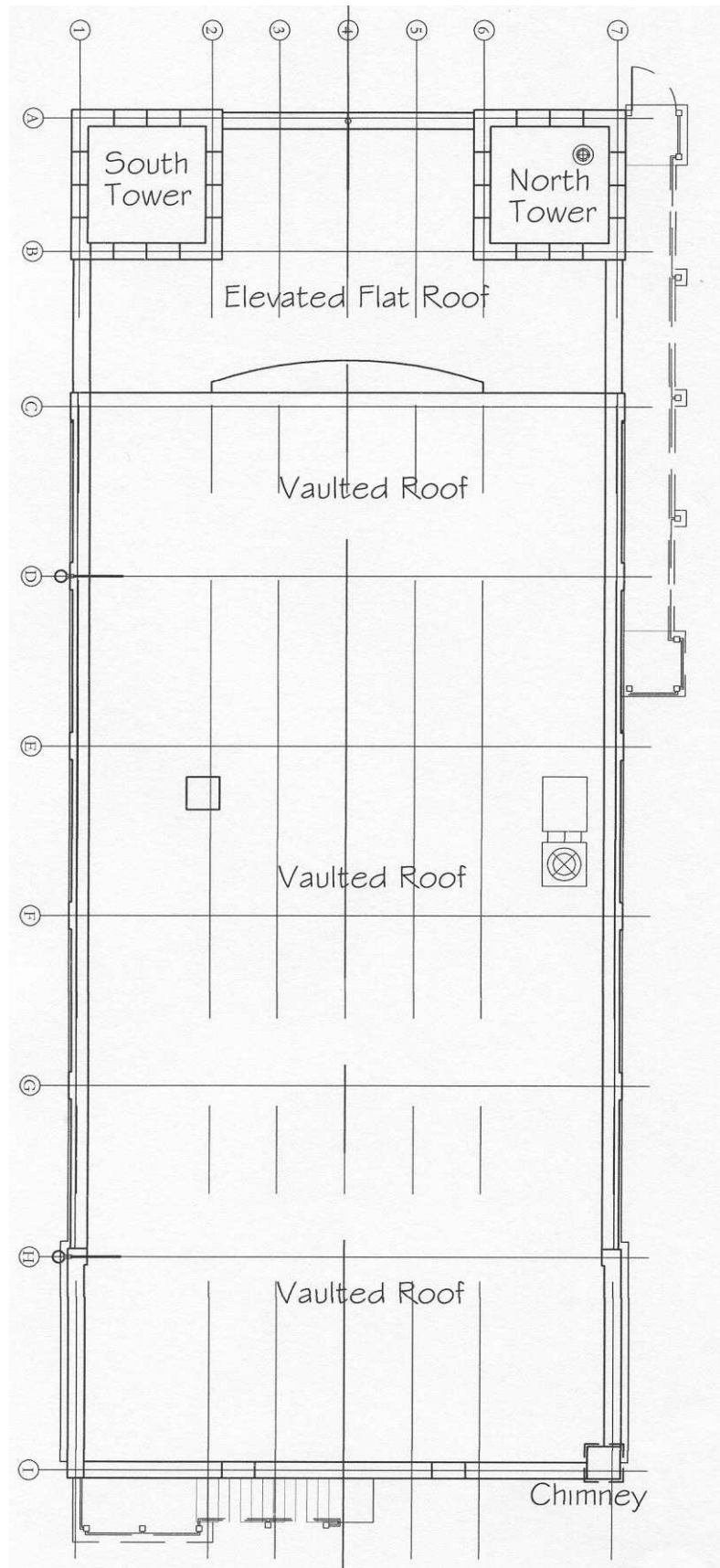
Roof Level

4,555 SF vaulted roof

836 SF flat roof

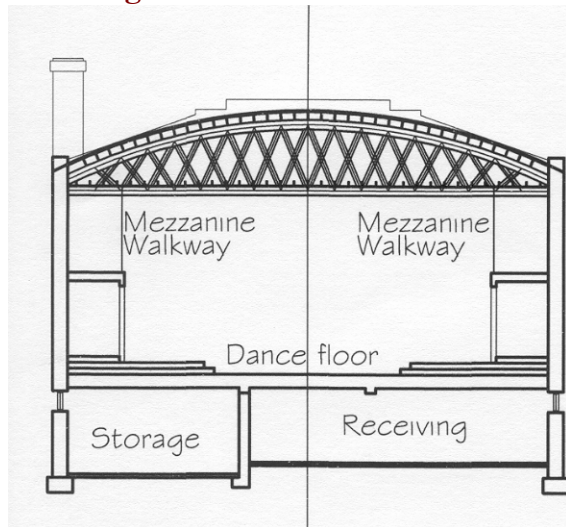
114 SF South Tower roof

114 SF North Tower roof

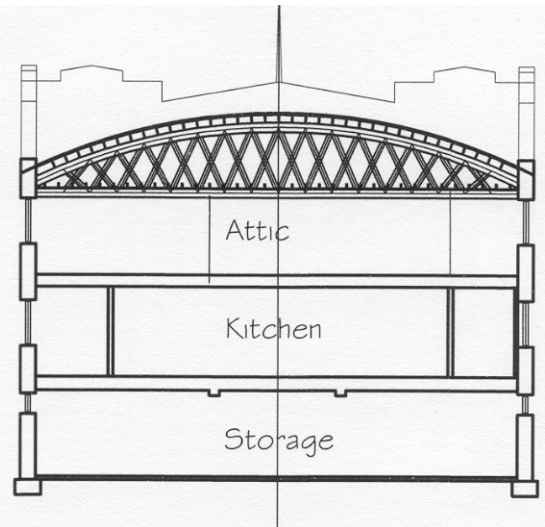




Building Sections

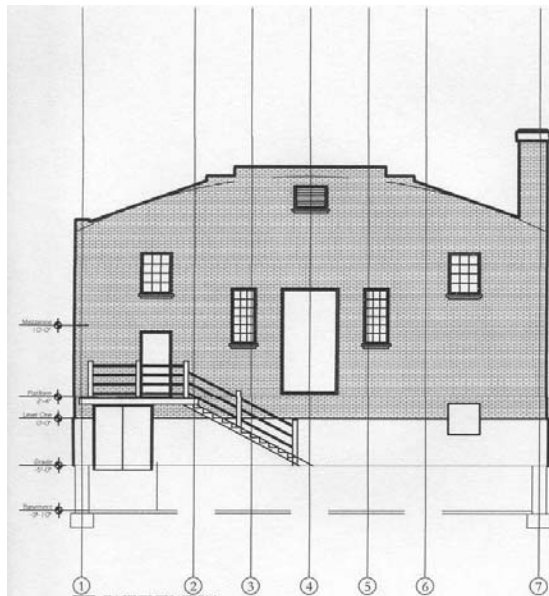


Transverse Section at back looking East

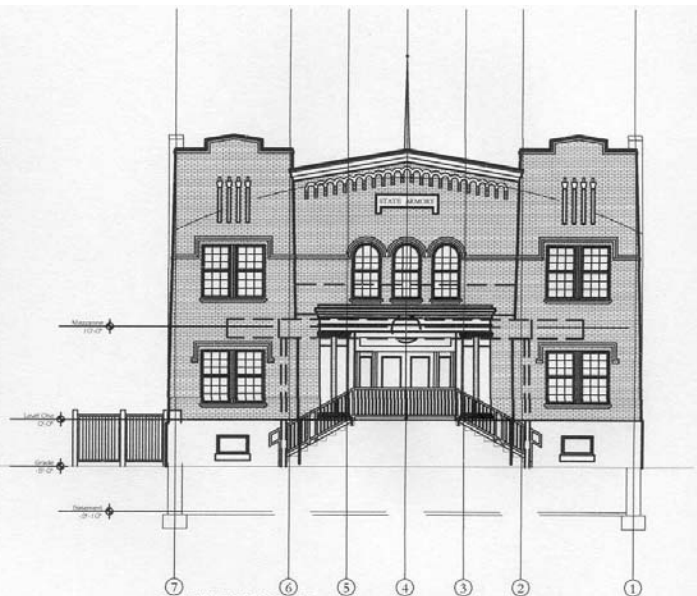


Transverse Section in middle looking West

East and West Elevations



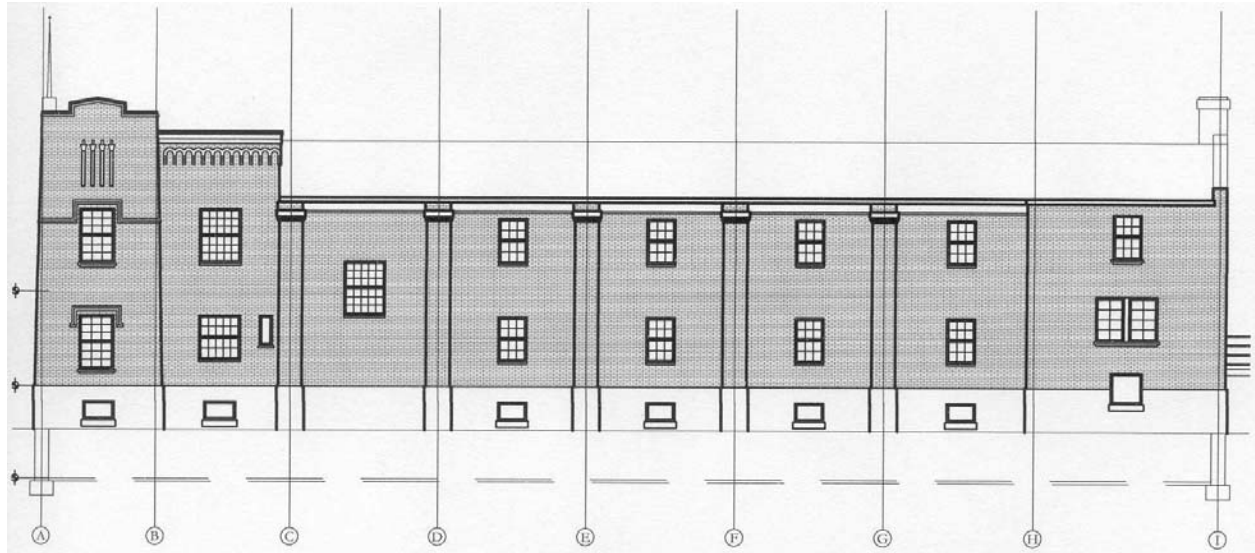
View from East Alley



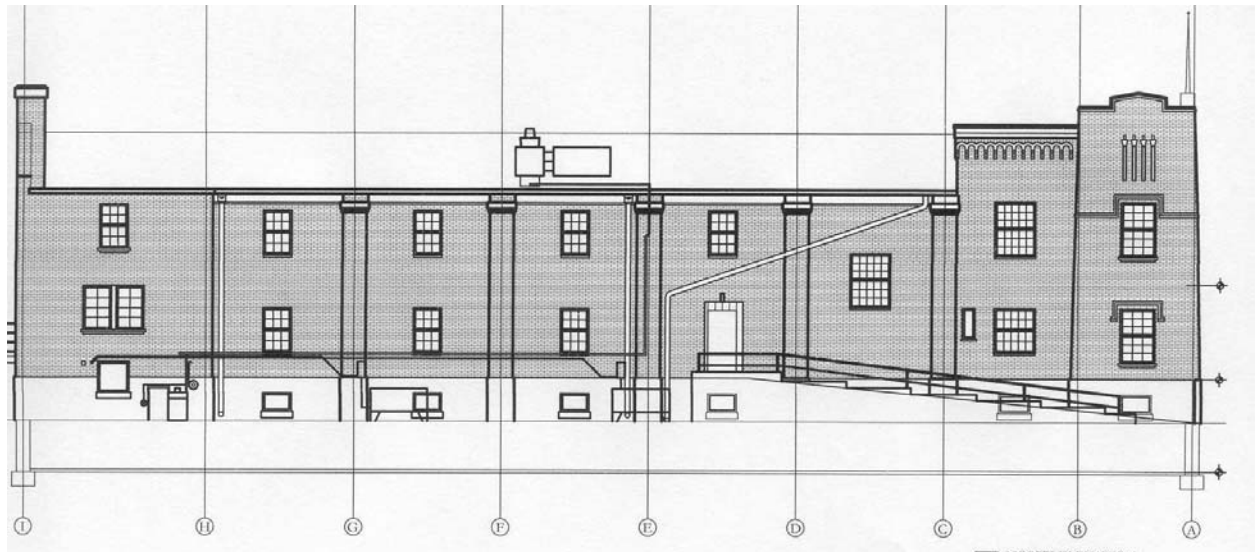
View from 8th Avenue



South Elevation



North Elevation





2.3 Proposed Uses

Intended Uses:

Since the original construction in 1922 (87 years now) the structure has been occupied for a variety of diverse purposes:

- Armory, National Guard Training Center
- USO Dance Hall
- Vaudeville Theater
- Venue for a variety of traveling shows
- County Morgue
- Youth Center
- Greeley Boy's Club
- Restaurant/Bar/Night Club

What comes next is unknown at this time. However, the current building owner, Thomas and Tyler, has noted they would like to see the property redeveloped as a community oriented center. Functions such as a theater, restaurant, bar, live music or other entertainment venues seem ideally suited for the building's historic configuration.

Having stated that, the Building could also accommodate an adaptive re-use while maintaining its historic integrity. Functions such as single or multiple tenant office space or a residential occupancy could be adapted to fit efficiently within this structure.

However, it should be noted that any use other than an 'Armory' is an 'adaptive use'; including all of those listed above that have transpired over time. Standard one of the Secretary of the Interior's Standards for Rehabilitation (Standards) states:

'A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships'

Some uses such as office space or residential would pose more challenges to the building's rehabilitation and responding appropriately to this Standard.



3.0 STRUCTURE CONDITION ASSESSMENT

3.0 Evaluation Criteria

On the following pages and sections 3.1 to 3.9 we will, in narrative form, describe, evaluate, and make recommendations for the elements, features and spaces of the building. Things that are ‘right’ with the building will simply state that we examined them and found them to be acceptable. Things that are ‘wrong’ will be analyzed in greater detail. We will insert photographs to assist in describing and defining the problems at hand throughout the sections as appropriate.

Evaluation Criteria Scale:

We will be using the criteria scale as put forth in the Colorado Historical Society/State Historical Fund ‘Historic Structure Annotated Assessment Scope of Work’. That scale is repeated here so all reviewing this document understand the definition of the terms used.

Good Condition:

- It is intact, structurally sound, and performing its intended purpose
- There are few or no cosmetic imperfections
- It needs no repair and only minor or routine maintenance

Fair Condition:

- There are early signs of wear, failure, or deterioration, although the feature or element is generally sound and performing its intended purpose.
- There is failure of a sub-component of the feature or element
- Replacement of up to 25 percent of the feature or element is required
- Replacement of a defective sub-component of the feature or element is required

Poor Condition:

- It is no longer performing its intended purpose
- It is missing
- It shows signs of imminent failure or breakdown
- Deterioration or damage affects more than 25 percent of the feature or element and cannot be adjusted or repaired
- It requires major repair or replacement

Recommended Treatments:

On the following pages and sections 3.1 to 3.9 we will be recommending treatments for each element, feature or space based on our evaluation of the existing conditions and the significance or importance of the building and its associated features and elements.

- We will clearly explain and substantiate recommended treatments within the context of the selected treatment approach
- We will provide sufficient information and analysis to aid in the future preparation of construction documents.
- Of note, we have not used destructive investigations to reveal hidden conditions.
- The NPS Preservation Briefs and Tech Notes have been consulted on the various issues and those Briefs are referenced in their applicable categories.
- We have considered the welfare of the building, as well as the practicality of maintenance in preparing our recommendations.
- We have not presented the quickest, easiest or most economical solution as the only recommendation.



3.0 STRUCTURE CONDITION ASSESSMENT

3.1 Site

Associated landscape Features:

Poor Condition

As a zero lot line structure the building comes down to the ground on hard paved surfaces along all 4 facades. This was not always the case.

The main façade fronts onto 8th Avenue with a set of cascading stairs providing the connection from the sidewalk up to the front entry vestibule. There was originally a stairway that projected straight out of the building to a detached sidewalk which allowed for flanking side planters to soften the streetscape and to create a more ‘formal’, axial entry approach.



Original entry stair, detached sidewalk and planter beds; ca.1974
Photo courtesy of City of Greeley Museums, Hazel E. Johnson Collection

This was lost in 1982 when the entry was replaced by flanking stairs that ascend parallel to the main 8th Avenue façade to an elevated stoop at the front door. The planter beds are replaced by concrete sidewalk and stairs and the flanking pilasters setting on plinths are all but lost visually.

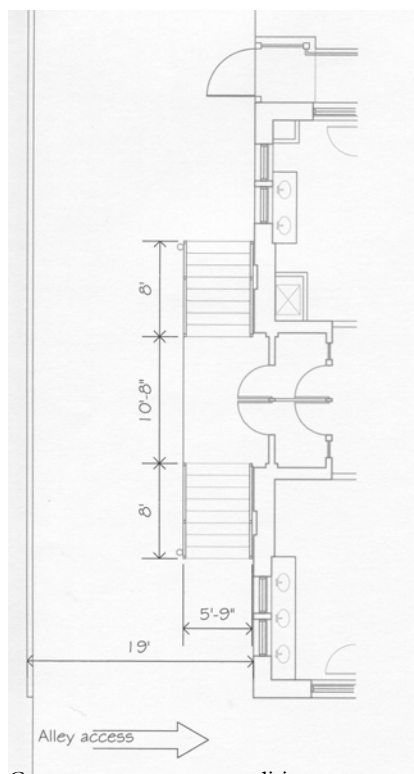


Entry sidewalk, ascending stairway and street landscape condition today ca. 2009

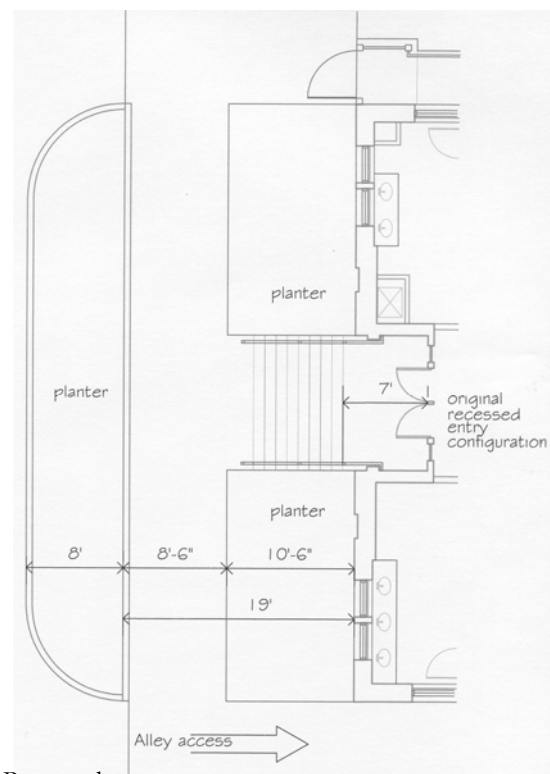


Recommended Treatment:

- Removing and rebuilding the entry stair in its original configuration is not technically feasible at this time as it would discharge people directly out towards the street traffic without any barrier which would create a life safety hazard. As such the original flanking planters can not simply be brought back without some other public way improvements. However, this could be done if the City agreed to provide a continuous planter at the curb line that would be the depth of a parallel parking space. This would not intrude on 8th Avenue traffic flow as there is already parallel parking to the South side of the alley and the street is sized to accommodate that width. It is unknown why there is no parallel parking in front of the Armory building. This new curb line planter would provide a pedestrian buffer that would allow for a stair similar to the original with flanking landscape planters and a detached sidewalk to be brought back.
- We are speaking about this issue up front in the report under Landscape and not under Appendages later in section 3.4 because it is this simple landscape/site planning gesture that completely changes one's perception of the entry and the feeling of a sense of arrival. We believe this issue is very critical to restoring the historic integrity of the façade.
- Over time the sidewalk grade and the flow line of the curb at 8th Avenue have been lowered by about 16". It is not technically feasible to once again raise those grade levels. As a result, the new stair would be taller than the original stair by about 3 risers. In addition, today's codes require a minimum of 4' in front of out swinging doors which would thus render a 7' deep recessed stoop in lieu of the original 5' recess. And finally, today's codes will require side hand/guardrails on both sides of the stairway. Technically a center handrail would also be required as the stair is wider than 60", however, we would request a variance to that issue.



Current streetscape condition



Proposed streetscape concept



- Those 3 issues combine to make it technically unfeasible to have the bottom 3 risers flare out and engage the pilaster bases as they once did. The proposed stair and landscaping concept would be similar but recognizably new.
- This is our recommendation IF the City of Greeley Transportation Department would allow for the street curb line planter modification.
- In as much as 8th Avenue is also U.S. Highway 85 it is possible that encroachment with a permanent planter may not be allowed by CDOT. However, every effort should be undertaken to allow the reestablishment of this important visual attribute.

Parking:

Good Condition:

Although there are currently **zero (0) spaces** provided on site there is an adjacent lot to the South which is a separate parcel also privately owned by Thomas & Tyler and by agreement with the City of Greeley satisfies all of the required public 'Off Street' parking spaces. That lot provides approximately **85 spaces**. In addition to the lot there are **7 parallel spaces** on 8th Avenue in front of the parking lot. Parking is not allowed on street immediately in front of the Armory building. There are **92 total spaces immediately adjacent** to the site (i.e. sharing one of the property lines).

The Armory was built as a zero lot line structure so this has been an existing condition since the Armory was originally constructed.

The City of Greeley's zoning requirement for off street parking is based on land use with a combined total parking count for buildings with multiple functions. The requirement for a Restaurant use (last known use of the building) located in Zone District C-H (Commercial High Intensity) per Zoning Section 18.42 is 1 space per 4 seats for a restaurant. Since there are no longer any tables and booths set up within the facility, we can not count chairs for this purpose. As such we will use the criteria for a Bar/Lounge which is 1 space per 100 SF for the restaurant areas.

For Offices the criteria would be reduced to 1 space per 300 sf. Since that is considerably less restrictive than the criteria for a Bar/Lounge, we will use the more restrictive requirements for purposes of this evaluation.

Basement level	=	5,734 NSF
Main level	=	4,321NSF(5,734 -1,013 Kitchen-200 Mens-200 Womens)
Second level	=	2,792NSF(4,178 - 226Tele- 1,160 Catwalks/back of house)
Total NSF	=	12,847 NSF

Since the basement is unoccupied Storage space we will delete that area from the calculation.

Without Basement	=	7,113 NSF
------------------	---	-----------

$7,113/100 = 71.13$ parking spaces

Total 'Off Street Parking' required = **72**

In section 4.3 Zoning, we will further analyze this requirement for other functions



Recommended Treatment:

- 100% of the parking requirement is being met by 'On Street' or via the adjacent parking lot to the South.
- This condition is one that we propose to remain as is because there is no feasible land area with this property that could be used for parking.

Archaeology:

Good Condition

We understand that Archaeological monitoring is required by State and Federal regulations when any ground disturbance results from preservation activities.

At this time we have not contacted an Archaeological consultant to obtain a general cost estimate and scope of work as we anticipate that there will be minimal ground disturbance limited to landscape grading along the North façade only and maybe some shallow site wall footings for a new ADA ramp.

Recommended Treatment:

- If in the future there is excavation required that is more extensive, then a consultant will be engaged to provide Archaeological monitoring.
- The Office of Archaeology and Historic Preservation (OAHP) is a resource which can be contacted should this need arise.
 - OAHP
 - 1300 Broadway, Denver, CO 80203
 - 303.866.3395
 - 303.866.2711 fax
 - oahp@chs.state.co.us
- OAHP has a list of approved providers, Archaeologists, on their web site available at...
<http://www.coloradohistory-oahp.org/programareas/osa/permitholders.htm>.
- Below are 2 that are local with the University of Northern Colorado and would be potential contacts for the Owner.

UNIVERSITY OF NORTHERN COLORADO Robert H. Brunswig	Statewide Survey & Testing Permit
UNIVERSITY OF NORTHERN COLORADO Frederic Sellet	Statewide Survey & Testing Permit

- Note that these are for reference only and not recommendations from the State Historical Fund.



3.0 STRUCTURE CONDITION ASSESSMENT

3.2 Foundation

Foundation Systems:

Good Condition:

The foundation walls are 12" thick un-reinforced concrete as was observable in the basement level at an interior wall knock out located at grid 5B.



Interior foundation wall at grid 5B



Exposed exterior foundation wall- grid 3A exhibiting some slight cosmetic cracking

The exterior walls are approximately 18" thick based on the wall thickness above at level one. They are assumed to also be un-reinforced like what was observed at the interior foundations. Common practice would have been to make them all the same.

The exterior foundation walls are observable for their full height on the interior and for about 5' on the exterior. This observation revealed nothing problematic with no signs of stress fractures on the interior and only a few minor locations on the exterior at windows.



Exterior foundation wall crack at grid 1B (typical of 6 locations, all at window corners)

The cause of the foundation crack shown above at grid 3A appears to be from construction damage caused when the entry stair was modified and installed at this location.

The cracks at the window corners shown at left are currently in-active. Recommend monitoring these locations once they have been repaired.



The foundation walls are in Good condition as they are in tact, structurally sound and performing their intended purpose. It was observed that there are only a few cosmetic imperfections and that only minor repairs are required.

Recommended Treatment:

- Patch and repair the exterior exposed cracks in the concrete base to eliminate concerns over future moisture penetration.
- Finish texture to match existing surfaces.
- Monitor all crack locations in the future and re-apply treatment if necessary

Perimeter Foundation Drainage:

Fair Condition:

We did not excavate the perimeter to actually observe if there is a perimeter foundation drain system in place but there would not have been one in place during the 1922 original construction and it is highly unlikely that one was added in 1982 when the restaurant modifications took place. There is no indication that the exterior work extended beyond adding the accessible ramp and the new entry stairway.

There also is no record of a perimeter foundation drain being observed at any point in time when new water lines may have been added or worked on.

In addition, an exterior membrane board is not applied to the exposed concrete foundation walls nor is there a liquid applied water proofing system at the below grade portions of those walls as observed by removing some of the dirt fill adjacent to the foundations along the North side.

The basement spaces indicate no sign of water migration along any of the perimeter foundations.

The real foundation drainage issue comes from the introduction of surface water which has been modified by extending the downspouts out and away from the building face or as is the case on the South façade, directly into City storm drainage system. Reference Section 3.5

Recommended Treatment:

- No mitigation recommended at this time.



3.0 STRUCTURE CONDITION ASSESSMENT

3.3 Structural Systems

General Structural System Description:

This building is a two story structure over a full basement space with a high open central hall space with flanking mezzanines at the perimeter.

The structural system consists of concrete spread footers (assumed, not visible beneath the slab) and un-reinforced concrete foundation walls extending vertically to about 5' above grade forming a basement that is really a garden level with natural daylight around the perimeter.

The first floor is light 2x wood floor joists with short spans to intermittent foundation walls located within the basement level.

The second floor is also light 2x wood floor joists with the same short spans to load bearing partitions stacked on top of those load bearing foundation walls below. About 1/2 of this level is actually a Mezzanine which is open to level one below. The mezzanines are light 2x wood framing joists and beams that are suspended from the roof trusses by steel rods.

The roofing system is predominately wood bow spring trusses spanning the entire width in the North South direction. These wood trusses are built up out of multiple layers of light 2x wood framing members. The elevated roof at the West end (towers end) is a cripple wall stacked on load bearing walls below with light 2x wood framing joists to render a flat roofed section at that end.

Overall Level One Floor System:

Good Condition:

The first floor framing is visible in several locations from the basement level. The floor joists are 2x12's at 12" o.c. and they have short spans in the N-S direction between the load bearing walls~ spanning grids 1 to 3 (18'), 3 to 5 (12'-4") and 5 to 7 (18').

The floor sheathing is diagonal 1x's which are not Tongue and Grooved.

This system was evaluated for an Assembly Occupancy type which needs to accommodate a minimum live load of 100 PSF. The evaluation indicated that this existing system would calculate out to be acceptable. This is a general evaluation only and it should be noted that any new work in the future should be reanalyzed structurally before proceeding.

Recommended Treatment:

No mitigation recommended at this time.

Level One Floor Beams and Columns below Kitchen:

Poor Condition:

In 1982 some support framing was added beneath the Kitchen in the basement. It appears this was done in order to support the concrete topping used to provide an elevated floor that is sloped to drain in the Kitchen.

(5) separate 8x8 wood posts on elevated 2'x2' concrete footing pads are used for support in 'I' beams along grids 3 and 5 that are 10.5" deep x 6.25" wide x 0.7" thick. The long spans



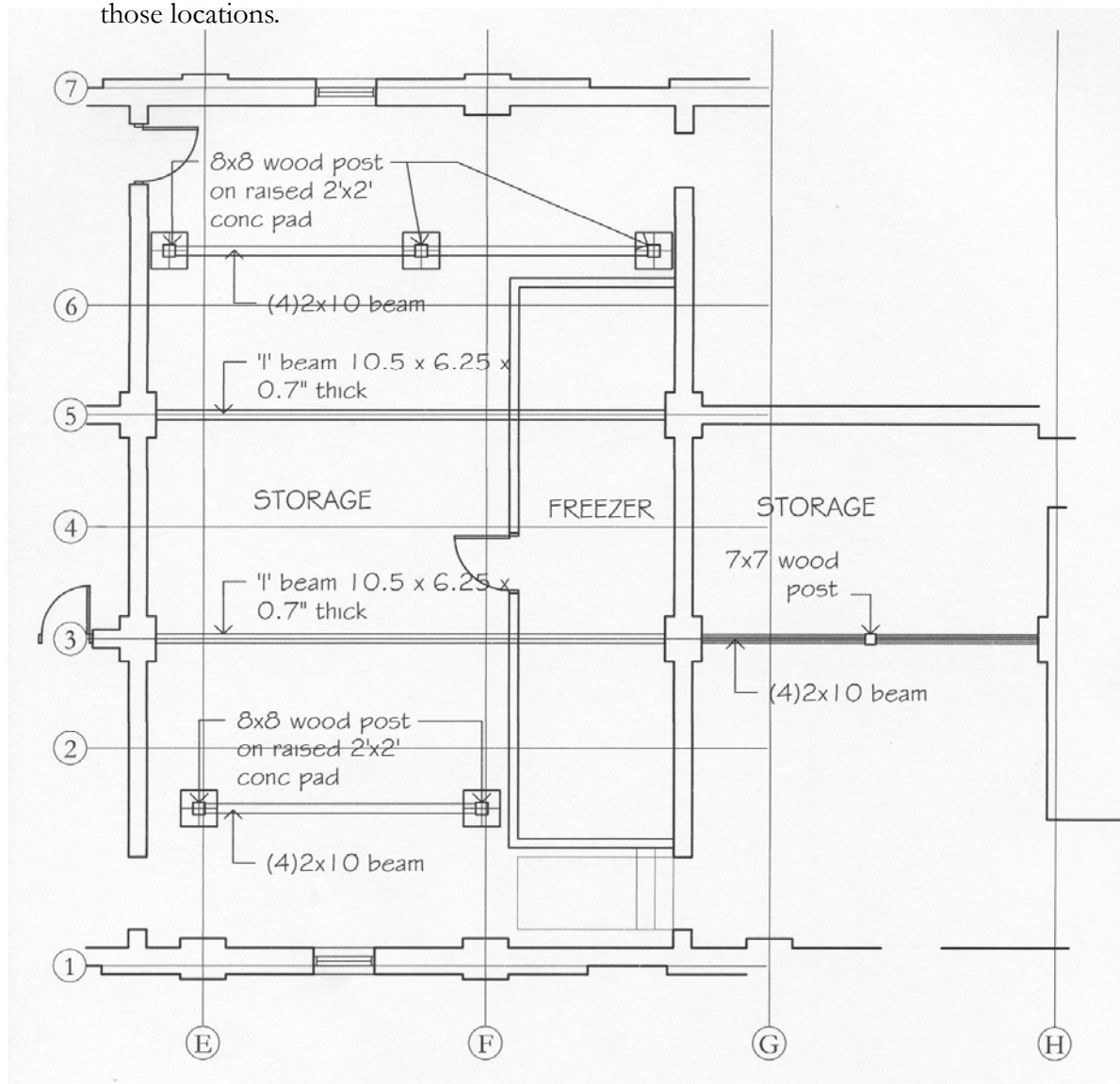
at grids 3 and 5 are 28' in length. Calculations for those 'T' beams for a 28' span indicate that they are undersized for the loads.

There are also (4) locations where (4)2x10's are used for floor beams in lieu of the 'T' beams. The loads for those beams also indicate that they are undersized for their spans.

Although neither the 'T' beams or the (4)2x10 beams are showing signs of 'imminent failure' we are giving them a 'Poor Condition' rating as they do not satisfy current life safety structural code requirements. This is true even if the concrete topping slab in the Kitchen above is removed.

Recommended Treatment:

- Either replace the beams with some that are sized adequately or add columns at the mid span of each beam location.
- The added columns would be the least costly, the simplest to construct and our recommendation; however, future use of the spaces may preclude added columns at those locations.





Level One Stage Right floor joists/Mechanical Room ceiling joists

Fair Condition:

The ceiling joists at the Mechanical Room/Stage Right floor joists are 2x12's at 12" o.c. spanning E-W to a header beam at the stair opening. The connection at this header beam are simply end nailed connections at each floor joist. There is sagging of the floor noticeable from above



Stage Right wall showing signs of sagging at floor joist connections

We offer this location a Fair condition rating as it requires replacement of a defective sub-component or element (the floor joist connections), it shows signs of wear and failure, although it is generally sound and performing its intended use.

Recommended Treatment:

- Add structural Simpson type hangers at each floor joist to strengthen the connections to the beam.
- At this location the original wood flooring is in place so we therefore recommend that the flooring remain in place and the hangers simply added from below where access can be gained from the Mechanical Room.

Roof Framing Systems:

Poor Condition:

The roof is comprised of wood bow spring trusses spanning the entire width of the structure from grid 1 to 7 (N-S).

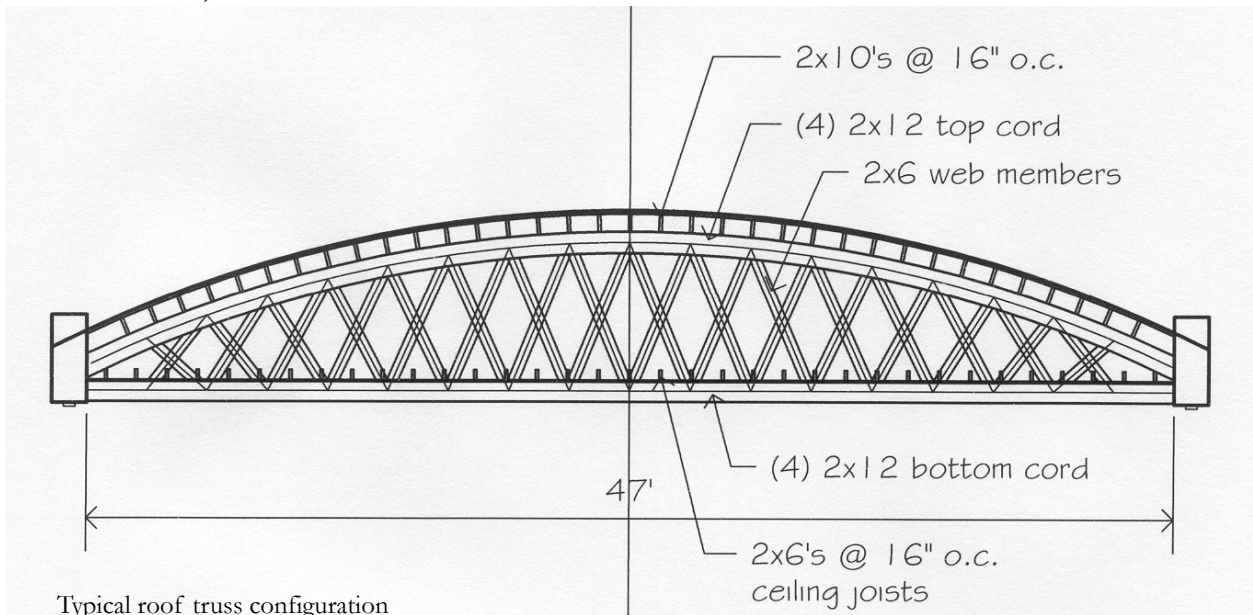
The truss is divided up into 17 panel points (8 each side of the centerline panel point). The top cord is comprised of (4) 2x12's with 2 on either side of the web members. The top curve is ripped to shape and the bottom remains square. The web members are 2x6's arranged in an 'X' braced fashion. A 1/2" diameter bolt is used to connect each panel point top and bottom. Where the web members cross they are bolted together also, although this



is not a requirement structurally, it was done none the less. The bottom cord is comprised of (4) 2x12's and like the top cord they are sandwiched on both sides of the web members.

The Roof joists are 2x10's at 16" o.c. and are framed over the top of the top cords and span from grid to grid ~ 15'-6" spans.

The ceiling joists are 2x6's @ 16" o.c. and are sitting on top of the bottom cords and span from grid to grid ~ 15'-6" spans. There is a lath and plaster ceiling attached to the bottom of these joists which means there would also be plaster drops at each truss location to conceal the bottom cords sticking down below the plaster, (although that condition was not visible or observed)



Typical truss configuration and web member layout



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The roof truss along grid G is visibly sagging as viewed from the open room at Level 1 below. Inspection from within the attic space, although not exhaustive in nature, revealed that this truss has a busted top cord along with 4 web members close to the exterior wall along grid 1.



Grid line G sagging truss



Grid G truss with visible broken structural members

This appears to be the truss line that the B-17 airplane was suspended from during the 1978 restaurant bar modifications.

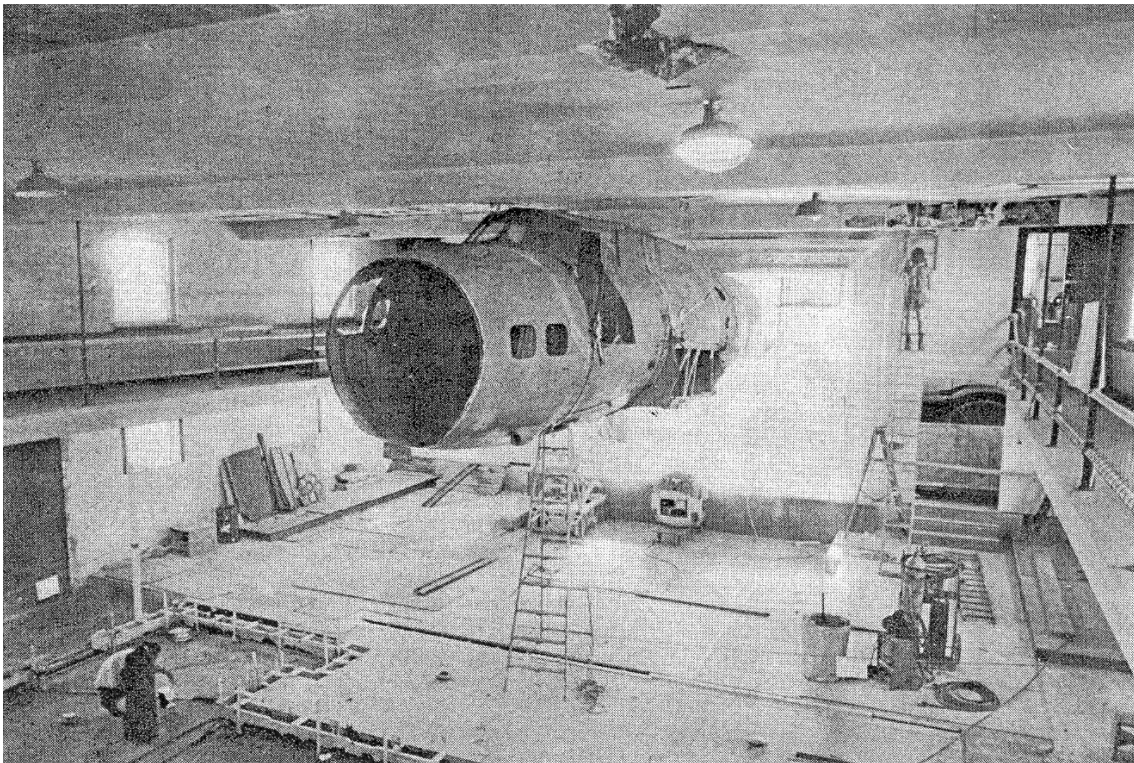


Photo ca.1978 showing installation of B-17 plane suspended from truss G line



The amount of fall in the truss is highly visible from the roof and appears to be substantial~8", something like that. There is noticeable deflection in the roof that can be seen both from the roof and also from the ground level.



Deflection in roof at grid G as viewed from South parking lot
Scribe a straight line along the apex of the roof curve and you will see daylight along grid G
(just left of the utility power pole in this picture)

This truss deflection is also causing the Mezzanine which is suspended from this truss to noticeably sag.

Overall this truss condition was evaluated and deemed unsafe structurally.

The truss along grid D is also sagging as evidenced by the suspended Mezzanine flooring sagging along this grid line. The amount of slope is visibly noticeable as viewed from floor level while ascending the stairway. Irrefutable evidence was observed as a nearby roof leak at grid C7 created a flow of water and a small pond at the low spot. Although there were no visibly broken truss members as viewed from within the attic, the deflection is enough to cause concern.



Sloping Mezzanine floor along grid D~ water in low spot visible



Recommended Treatment:

Truss G~ broken location:

- Remove roof and ceiling along this truss line for further structural evaluation.
- Upon removal of the multiple layers of roofing felt and tar and ceiling below, a structural engineer should be retained to evaluate the deflection of the existing roof joists, the connection at the perimeter wall and the suspended Mezzanine floor connections to further determine final criteria for strengthening.
- Solutions may be to replace broken members, or add plywood sheathing to both sides of the truss to strengthen and act as a patch.
- The truss may need to be jacked back up vertically to its original elevation or perhaps it can remain as is and the dip in the roof may be able to be eliminated by adding new ripped roof joists over the top cord.
- As the ceiling is also visibly sagging, the truss will need to be exposed, fully evaluated and most likely jacked back up into place. This will require some partial ceiling demo as well as roof demo to accomplish.
- The plaster ceiling should be restored so that it is flat and all structural means necessary to accomplish this should be taken.

Truss D~ sagging Mezzanine floor location:

- Further structurally evaluate grid D truss and its associated Mezzanine suspension connections is also required to determine if the sagging and loading conditions are problematic and require mitigation. Some destructive means will be necessary at the ceiling in order adequately evaluate these conditions.
- It is anticipated at this location that the recommendation will be to provide support for the Mezzanine from below and disconnect the suspension rods in order to reduce the weight on the truss.

Mezzanine:

- Disassemble the Mezzanine floor enclosure at grid G. Check the framing members and suspension connections. Re-supporting the Mezzanine will be required as a part of the truss mitigation.
- The best structural solution would be to add small pipe columns below the Mezzanine walks to align with the suspension locations. This would reduce the structural loading on the truss dramatically and eliminate future live load concerns. The illusion of the suspended walk should be maintained with the suspension rods left in place but disconnected up in the attic.



3.0 STRUCTURE CONDITION ASSESSMENT

3.4 Envelope- Exterior walls

Exterior wall construction:

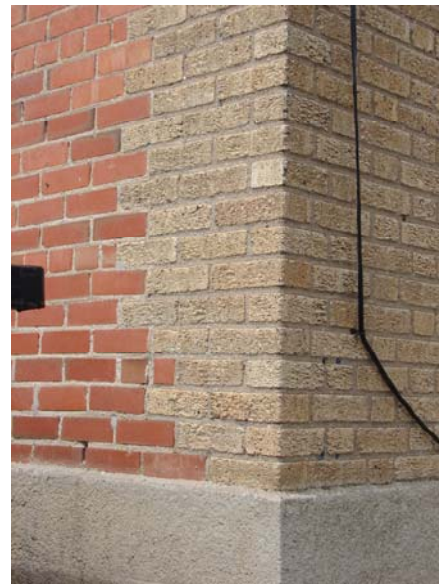
Fair Condition:

The exterior walls are all set up on a 5' high stucco concrete base, which is the extension of the basement foundation walls. The stucco texture on those walls is fairly rough and monolithic in nature. The condition of the base is in fair condition with about 6 locations where there are movement cracks aligning with window corners. These cracks are not of structural concern, but need to be filled to avoid migration of water into the wall. It is believed that the building is no longer in flux and that maybe the stresses developed at the same time truss D was broken. The location of the cracks also coincides with where the first floor joists are bearing on the wall. With light frame wood joist framing there is probably some deflection and bounce going on. This too could be the cause of the cracks.

At some point, presumably during the 1978 restaurant renovation, the concrete stucco was painted a bright red color on the South, West and Partial North facades. The red, white and blue paint scheme applied to the building was apparently developed to conjure up images of 'Old Glory' or a sense of patriotism. This is not characteristic of the historic building. The paint is heavily weathered and flaking off on the West façade and parts of the North façade, but remains well adhered on the South façade. Where paint is peeling, the original unfinished stucco is visible beneath. The original unpainted stucco can be seen along the North façade beyond the accessible ramp and continuing around the West façade to the limits of the basement loading doorway beneath the elevated dock.



Typical concrete base



East façade masonry transition

Above the concrete base the façade is all brick. The brick is blonde in color throughout except for some contrasting red brick belt courses, window surrounds, recesses, and the back (East) loading dock façade which is finger jointed at the outside corners to make the



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transition from blonde to red. The mortar throughout the structure appears to be a soft lime type and has some integral ground brick materials for color.



View on North and East facades showing masonry transition as well as the original unpainted concrete base

The red brick masonry accents are predominantly located along the main 8th Avenue façade and they turn the corner at the towers and the adjoining stepped parapet bay. Arched top windows are highlighted by a double row of corbelled red brick which extends horizontally and steps up and over the rectangular window heads. The corner towers are marked by 4 vertical red brick recesses reminiscent of gun turrets. The main gabled parapet is accentuated by a series of 19 corbelled vaults which support and project the terra cotta capped parapet out over the entry way in a very formal manner.





Arched window surrounds and corbelled arches recess slots at Towers Corbelled accent bands



Parapet at Towers

This main entry detail is continued on both the North and South façade parapets as the towers step down giving way to the long horizontal façade of the vaulted portion of the structure. The cap stones are in need of tuck pointing and cleaning throughout these parapet locations.





Water damage at grid 7C

The longer E-W façades are broken up with 5 vertical pilasters arranged in a collanade fashion. Vertical drainage downspouts at each of these pilasters has leaked over the years causing the grout to wash out of many of these joints.



Water damage at grid 7D



Cracks at window corners- typ. of 6
Grids E-H on both North and South Facades

Water damage at grid 7H



Un-matching mortar



Water damage and un-matching mortar at grid 1C

There have been many attempts over the years to mitigate this by changing downspout locations and tuck pointing. However, the tuck pointing materials used do not match



There is substantial masonry damage at truss 1G movement where structural movement described in Section 3.3 most likely caused the bottom of the truss to kick out and displace the masonry at the top of the pilaster.



Damage at grid 1G-East side of pilaster



Damage at grid 1G- West side of pilaster

Recommended Treatments:

- A Mortar Analysis should be done first so the mortar can be matched. This should be done for the brick and terra cotta portions with mortar identified to match those individual conditions.
- Tuck Pointing throughout the façade including the capstones to fill in all gaps~ The mason will need to follow guidelines of NPS Preservation Brief 2. A mason should be selected based on their experience and familiarity with the NPS guidelines.
- Remove areas where prior tuck pointing and or caulking was used that does not match mortar. Re- tuck point with mortar to match
- Yearly assessment and monitoring of the façade. If new gaps appear, analyze why, take means to correct, tuck point.
- Fill all cracks in concrete base, finish to match existing texture. Remove red paint using the gentlest means possible per NPS Preservation Brief 6.

*'There are alternative means of **removing dirt, stains and paint** from historic building surfaces that can be recommended as more efficient and less destructive than abrasive techniques. The "gentlest means possible" of removing dirt from a building surface can be achieved by using a low-pressure water wash, scrubbing areas of more persistent grime with a natural bristle (never metal) brush. Steam cleaning can also be used effectively to clean some historic building fabric. Low-pressure water or steam will soften the dirt and cause the deposits to rise to the surface, where they can be washed away'.*

- NPS Preservation Brief 6 excerpt

- Remove brick at grid 1G and rebuild top of pilaster once truss has been structurally mitigated. Remove existing mortar and Re-use the existing brick.



Exterior finishes, Exterior Masonry:

Good Condition:

The surface condition of the masonry throughout is good although stained from water damage at parapets and vertical surfaces where water has run over the years.

Recommended Treatment:

- Clean the brick and terra cotta surfaces that are stained and discolored following the requirements set forth in NPS Preservation Brief 6 using the 'gentlest means possible' as outlined above. For the most part abrasive cleaning methods are destructive to the historic building materials and as such should be avoided.
- If the low pressure water wash and scrubbing technique is not effective then some commercial chemical agents may be used.

'These cleaning agents may be used in combination with water or steam, followed by a clear water wash to remove the residue of dirt and the chemical cleaners from the masonry. A natural bristle brush may also facilitate this type of chemically assisted cleaning, particularly in areas of heavy dirt deposits or stains, and a wooden scraper can be useful in removing thick encrustations of soot. A lime wash or absorbent talc, whitening or clay poultice with a solvent can be used effectively to draw out salts or stains from the surface of the selected areas of a building façade'.

- NPS Preservation Brief 6 excerpt

- If chemical cleaning agents are contemplated then the proposed chemicals and method of application will need to be submitted to the Colorado Historical Society for review and approval prior to proceeding.
- Small areas on the alley facade should be tested first prior to proceeding on a larger scale on the more publicly visible portions of the building.
- The masonry cleaning contractor will need to follow guidelines of NPS Preservation Brief 6. A contractor should be selected based on their experience and familiarity with the NPS guidelines.



Exterior Appendages:

There are 6 different elements on the exterior which we classify as appendages or added features to the exterior envelope.

- Entry steps (ref. discussion in section 3.1)
- Entry sign
- Flag pole
- Rear loading dock
- Chimney stack
- ADA access ramp (ref. section 4.5)

Exterior Appendages~ **Entry Steps:**

Poor Condition:

The current entry steps are not the original configuration but were added in 1978 when the restaurant filled in the recessed entry with an interior double entry vestibule predicated the need to push the entry stoop out towards the public way making side stairs necessary. In addition to the adverse effect this design has on the overall composition and historic integrity of the building, the physical condition of the concrete is deteriorating and spalling.



Current flanking entry step configuration



Steps cascading towards the South



Steps as viewed from entry stoop

Recommended Treatment:

- Recommend complete removal and replace with new concrete stairs similar to the original stair configuration. This requires also restoring the recessed entrance. Reference section 3.1 discussion.

Exterior Appendages~ Entry Sign:

Good Condition:

Although this sign is in good condition physically, it is an addition from 1978 that adversely affects the historic integrity of the building.



Sign ca.1978~ view from 8th Avenue



Sign canopy over historic entry surround



Recommended Treatment:

- Recommend removal of this sign and supporting posts in their entirety.
- Damaged masonry at points of connection should be patched and repaired.



Sign connection at wall



Center sign band obstructing historic windows



Current sign in context/disharmony with historic facade



Exterior Appendages~ **Flag pole:**

Fair Condition:

The original wood flag pole which is centered over the main entry is still intact and whole but in need of paint and working components and ropes. Old Glory has not flown here for many decades and as a critical component to the history of this place we believe it should be flown once again.



Flag pole as viewed from alley



Flag pole roof top connection



Old Glory, ca. 1974

Recommended Treatment:

- Prep and paint white
- Install new lanyards, ropes, pulleys and cleats
- Re-flash the support base
- An American flag should be provided similar in scale to the one that original flew here. This may require a little trial and error to get the scale correct, but by referencing the historic photographs it appears the flag was approximately 6'x12' (or roughly the overall size of the 3 arched windows just below it)
- Provide roof top lights to illuminate the flag. Mount fixtures tight to the back side of the raised parapet so they are not visible from the public way. Note, if lights are not installed then the flag will need to be taken down at night. Since the roof top access is not convenient or even that safe, we recommend the flag be flown continuously and replaced annually so that its condition is not allowed to become tattered, worn or faded.
- If it is desirable to raise and lower the flag on a more consistent basis then a new roof hatch should be added at grid 5A (from current Office location). This would provide a safer means of accessing the flat roof directly and that location the hatch would not be visible from the public way.



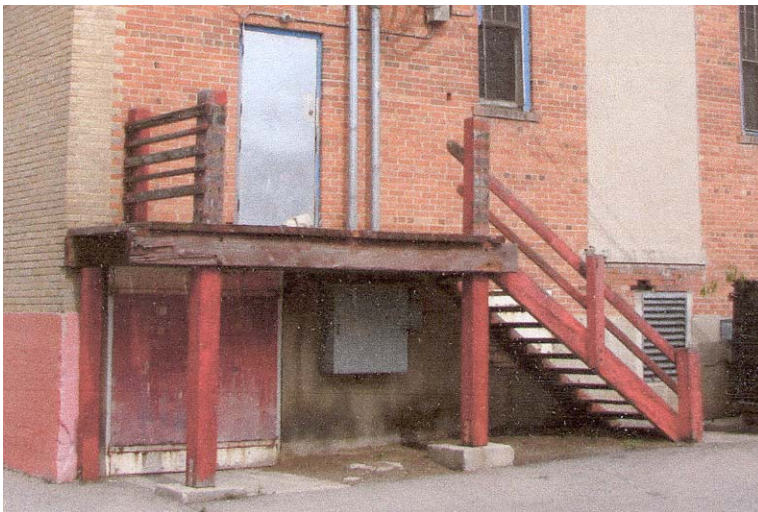
Exterior Appendages~ **Rear loading dock:**

Poor Condition:

The original loading dock was removed in 1978 and replaced by a heavy timber framed wood dock which allowed for direct access into the back of Stage Left (grid 1I). The original loading dock appears to have been lower and at the height of the concrete base. The memory of that dock still exists as its ghost is cast into the concrete. The condition of the 1978 dock is in complete disarray with deteriorated wood members and missing guardrail components. Although the current dock is located in the 'back', East Alley side, it is still highly visible from the primary approaching access from 8th Avenue and the parking lot to the South.



Original loading dock location



Current loading dock, ca. 1978 renovation



Recommended Treatment:

- Complete removal of this dock and replace it with a lighter framed, and visually lighter steel grate flooring system, steel posts and metal guardrail system. The guardrail should have lift out sections to make loading more convenient.



Exterior Appendages~ **Chimney:**

Fair Condition:

The original coal fired furnace flue is in the form of a vertical masonry chimney located on the North East corner at grid 7I. This chimney rises 54 courses (12") above the gutter roof line where a red brick corbel and plastered cap top it off. The masonry of the entire chimney is in good condition but the plaster portion of the cap is cracked, missing some sections and in general falling apart. A close inspection of historic photographs show that the chimney enclosure originally had this plaster cap and that it was not added at a later date.

This chimney is currently being used by Air Handler No.2 as a conduit for its flue to penetrate from the basement to the sky and as such a modern flue pipe is protruding out of the top about a foot. Inspection from inside did not indicate the presence of a liner in the shaft.

We were not able to safely access the top of this chimney for a closer investigation of the deteriorated cap at this time.



View of Chimney from East Alley



View of deteriorated cap

Recommended Treatment:

- Plaster patch and repair to solidify the top enclosure to mitigate any further damage and deterioration.
- By a safe means (lift) access the top of the chimney for further inspection. Further recommendations may be forthcoming as a result of that inspection.
- Line the chimney shaft to mitigate deterioration of masonry by flue gasses.



Exterior Appendages~ **Accessible ramp:**

Poor Condition:

In 1978 an accessible ramp was added along the North façade extending from grid 7A to 7E (about 43'). This was done to provide an accessible means to enter the restaurant. By today's definition and standards for accessibility, this ramp is not technically 'accessible'. As such it is in poor condition as it is no longer performing its intended purpose~ it is not meeting today's regulatory standards for accessibility. Reference section 4.5 for further discussion about that issue.

We give it a 'poor condition' rating due to that situation but in addition, it's physical state is in 'fair condition' at best. The concrete block walls and concrete slab are showing early signs of wear and deterioration.

The unsightly quality to this ramp is partially mitigated as it is on the North façade and not overly visible from the public way. It is visible from the 8th Avenue sidewalk just not overly offensive at this time.



Ramp viewed from North Alley



Ramp viewed from 8th Avenue sidewalk
Avenue



View from top of ramp looking towards 8th



Ramp at 8th Avenue sidewalk connection

Recommended Treatment:

- Complete removal and re-build to code. Reference section 4.5 for in depth discussion about requirements to meet today's standards and further recommendations about the replacement ramp.



3.0 STRUCTURE CONDITION ASSESSMENT

3.5 Envelope- Roofing and Waterproofing

Roofing Systems~ vaulted roof:

Poor Condition:

The existing roofing system at the vaulted roof is a system of felt strips which were laid up and over the curve with strips at the apex of the curve over the top in the long direction laid up in a shingle style. A layer of tar was then applied over the top of the felt. The outer color of the roofing material is white and it appears to be integral with the top coating of tar. The roof was patched in 2007 with a new fluid applied coating by Williams and Son.

The roof is in disrepair at this time. Extensive buckling and cracking is evident across the surface. The entire surface contains seamed patches on top of seamed patches.



Vaulted roof looking East along apex of curve

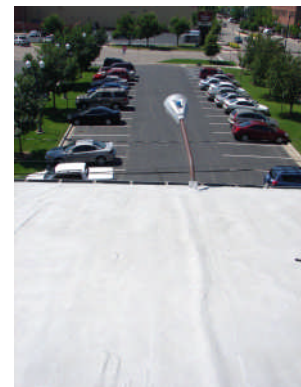
There is an active leak in the roof at grid 7C where the vaulted roof meets the cripple wall at the flat roof transition. This leak was recently patched in a temporary fashion by applying tar to fill the gaps. As there was active water in the stair well of the building at this location at the time of this analysis it is unknown if the patching is holding and water tight.



Location of leak where fresh tar has been applied at the vertical transition



Patching and buckling of roofing felts



Buckling at grid D



Parapet condition along East transition at vault

Recommended Treatment:

- Remove existing felt and tar roofing system down to the wood decking. Per IBC Section 1510.3 'New roof coverings shall not be installed without first removing all existing layers of roof coverings where any of the following conditions occur'.....The condition that applies in this situation is that 'the existing roof has deteriorated to the point that it is not adequate as a base for additional roofing.'
- Level out roof decking along truss lines D and G~ reference Section 3.3
- Verify existing roof sheathing is in compliance with manufacturer's recommendations. Note that the existing decking are planks that are butt jointed and as such there are some slight gaps visible. Provide a top protection board if deemed necessary by manufacturer's product installation and warranty requirements.
- Install a Single Ply fully adhered membrane system like Johns Manville Ultra Guard V-2 60 (60 mils), white in color.... Or equal
- Run membrane up the back side of the parapet walls and extend the membrane to top of wall and terminate with a termination bar that is set back far enough not to be visible from the ground. Parge coat the top of the parapet not covered with membrane. Flash and counter flash with membrane.

Roofing Systems~ flat roof portion at West end and Towers:

Poor Condition:

The flat roof portion was re-done in 2007 by Williams and Son as a 3 ply built up roof. It appears to be holding out the water at this time. It does not appear that the transition of the flat roof membrane to the parapet vertical walls was appropriately addressed in 2007 during the re-roofing. The parapets are covered by layers of asphalt in a very random patchwork type of fashion in lieu of continuous membrane that is flashed and counter flashed with lapping membrane material.



North Tower interior parapet walls



South Tower exterior parapet walls



Typical Tower flat roof and scupper inlet

Recommended Treatment:

- Remove existing roofing materials down to roof sheathing.
- Re-roof with new fully adhered single ply membrane system as previously noted
- Greater slopes and positive drainage to all scuppers should be achieved. Since the attic is fully insulated the tapers and crickets can be framed with plywood in lieu of insulation boards. Either option would be acceptable.



- Run membrane up the back side of the parapet walls and terminate below the cast concrete caps with a termination bar. At masonry parapets extend membrane to top of wall and terminate with a termination bar that is set back far enough not to be visible from the ground. At interior tower walls, run membrane up and over wall continuously. Flash and counter flash with membrane.



Terra Cotta cap stones at entry parapet

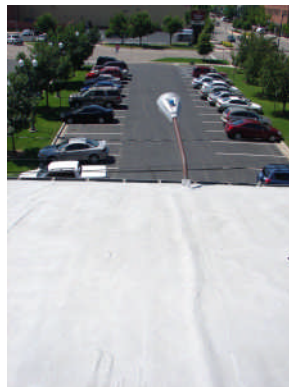


Mechanical flue penetration

- Boot flash all pipe penetrations
- Boot flash mechanical flue penetration and reset so pipe is vertical. Re-support below or provide stabilizer guy wires as necessary.
- Remove pole mounted light fixtures on roof. Replace with wall mounted lights below if additional illumination of alleyway is required.



Roof light at grid 1D, similar at grid 1H



Sheet Metal Flashings:

Poor Condition:

Sheet metal flashings are damaged and corroded throughout.

Recommended Treatment:

- Remove and replace with new metal flashings throughout as part of the re-roofing scope of work noted above.



Drainage System, Gutters, Downspouts:

Fair Condition:

The drainage system is handled by gutter and downspouts along the North and South sides of the roof. The gutter and downspout system exhibits advanced corrosion at seams and joints. The angled and articulated downspout arrangement on the North façade (see below) is very susceptible to ice blocking and there is evidence of leaking at the joints. There is clear evidence of mortar erosion in the masonry behind and below this downspout and it is unknown to what extent the erosion predates the current downspout arrangement. Only one original scupper and downspout remains at grid 7E. The paint color on those elements is deteriorating but white paint is still visible. The original soldered joints of the old scupper and downspout have failed and are leaking.



Gutter along North facade~ grid 7



Downspout connection to storm~ grid 1H



Gutter/Downspout connection at grid7C



Downspout at grid 7D



North façade downspouts and gutter system



Collector head and downspout~ grid 7E



Gutter profile

Recommended Treatment:

- Replace corroded gutter system with new seamless gutters at time of reroofing. White (white to match original which is the historic color) pre-finished products are preferable versus field painted.
- Replace scuppers and downspouts with components similar to the original pieces still in place at grid 7E.
- Refurbish collector head and downspout at grid 7E and paint white.
- Replace downspout at grid 7C/7D with a collector head and vertical drain which extends into a through culvert under ramp below. Reference section 4.5 for potential ramp modifications which make this more feasible to accomplish.
- Freeze protect the entire gutter and downspout system with heat tape continuous through gutters and down into downspouts to point of discharge to prevent ice damming.



3.0 STRUCTURE CONDITION ASSESSMENT

3.6 Windows

Windows:

For this section we are going to break with the report format a bit and organize the information more like a window schedule.

In lieu of a lot of lengthy descriptions of each opening, we will have a photograph of each along with brief descriptive data about the window and our recommendations about treatments.

This should be the clearest way to relay the information and enable contractors to quickly get a grasp of what needs to be done and provide accurate pricing for that scope of work.

We recommend that each opening be re-verified in the field at the time the work progresses as existing conditions are likely to change on an ongoing basis.

There are a total of 64 glazed openings on 3 levels and 5 louvered openings for mechanical that will be addressed on a floor by floor basis. We will start with a diagram of the floor to orient you to the numbering system and then follow that up with the window schedule.

In general all of the windows throughout are in **Poor Condition** and are in a state of advanced deterioration.

You will notice that many of the bottom sashes have the true divided light mullions missing. By best deduction it appears that the operable bottom sash most likely experienced broken glass panes throughout the years and at some point the decision was made to replace the entire bottom sash with one piece of glass in lieu of multiple smaller pieces. We recommend that those bottom sashes be re-built so the original mullion pattern can be restored.

All of the windows were originally operable and at this time none of them are functioning as they were intended. We recommend that their original function be restored regardless of future building occupancy or use. If at some point in the future the operable windows become a liability issue, a simple fixed stop could be applied to limit the amount the windows could be opened. This is something that is surface mounted and easily reversible.

On level one windows 1, 2, 3, 4, 5 and 25 are all located in public bathrooms.

The best solution and our recommendation is to relocate the bathrooms away from the prime entry façade so that the façade can be opened up and address the street as originally intended.

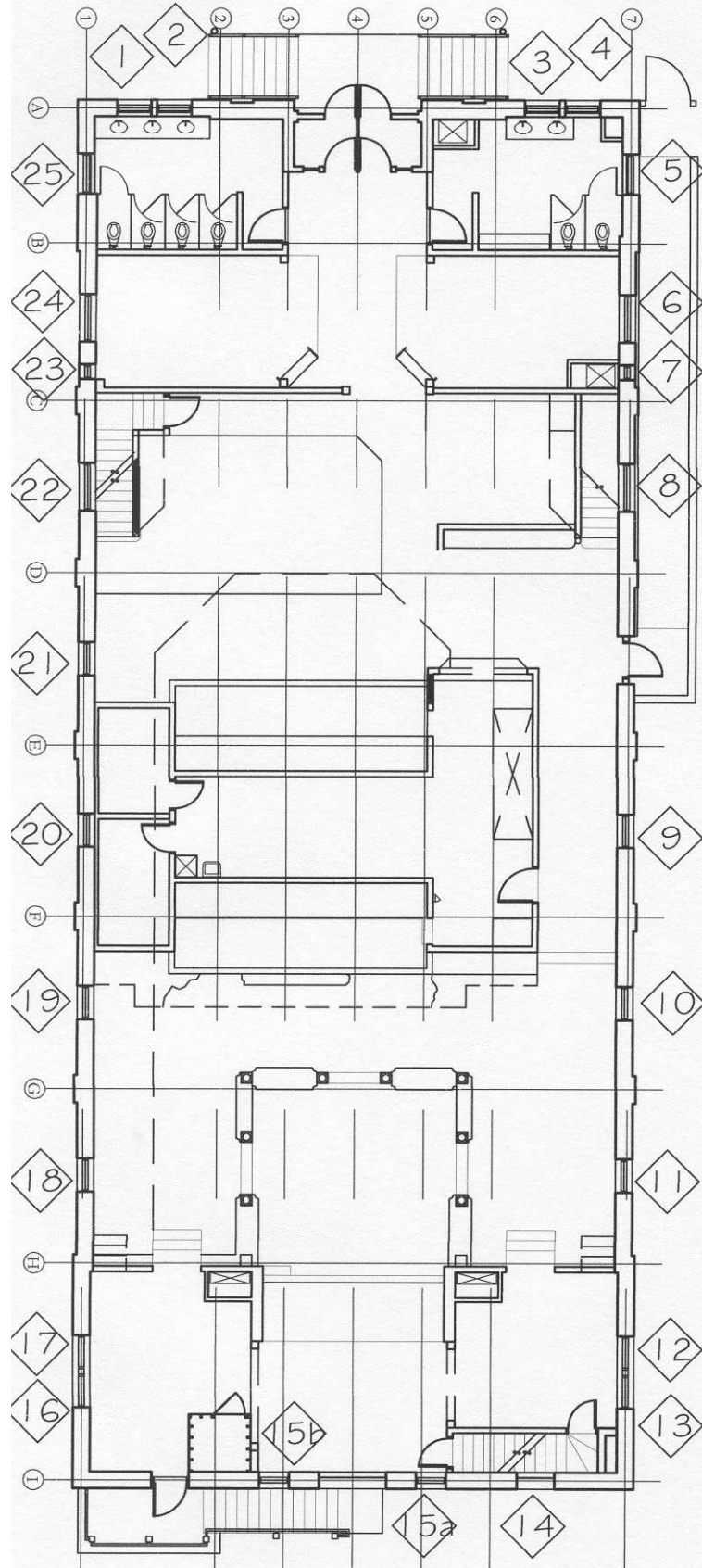
We mention this issue here because the current window modifications and plywood panels facing the street are a result of this poor allocation of space within the building. This issue should be solved functionally and not decoratively with the windows. We only recommend that obscure glass be used in those openings as a short term solution until such time that the bathrooms can be relocated to a more appropriate location in the building.

Note, the installation of obscure glass as a short term solution is just that, a short term solution and not in compliance with the Standards.

It should also be noted that all windows were originally operable back in 1922 and some of them have screens which appear to be original, it could be deducted that all did at one time. If found to be appropriate, add compatible exterior storms on all windows.



Level One Windows:





Windows #1 and #2

Date: 1922

Size: 6'-9.5" overall x 5'-9" overall (2'-11" glass above exposed)

Description: 2 separate wood double hung windows with true divided lights (18 panels each window; 3 wide x 6 high). Center wood mullion within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: None

Casing: None, plaster returns

Finish: Painted

Miscellaneous: Bottom sash of both windows has been covered up by plywood on the exterior and millwork on the interior. This window is in a bathroom along a lavatory wall.

Recommendations: Remove lavs, countertop and backsplash and replace with pedestal sinks instead to eliminate conflicts with windows. Remove the plywood panels and replace all of the glass with obscure glass instead (if room remains a public toilet). Remove all messy caulk joints. Caulk and Repaint all frames and mullions white -interior and exterior.~ restore windows



Windows #3 and #4

Date: 1922

Size: 6'-9.5" overall x 5'-9" overall (2'-11" glass above exposed)

Description: 2 separate wood double hung windows with true divided lights (18 panels each window; 3 wide x 6 high). Center wood mullion within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: None

Casing: None, plaster returns

Finish: Painted

Miscellaneous: Bottom sash of both windows has been covered up by plywood on the exterior and millwork on the interior. This window is in a bathroom along a lavatory wall.

Recommendations: Remove lavs, countertop and backsplash and replace with pedestal sinks instead to eliminate conflicts with windows. Remove the plywood panels and replace all of the glass with obscure glass instead (if room remains a public toilet). Remove all messy caulk joints. Caulk and Repaint all frames and mullions white- interior and exterior~ restore windows



Window #5

Date: 1922

Size: 3'-7.5" x 5'-10" (2'-11" glass above exposed)

Description: Wood double hung windows with true divided lights (18 panels; 3 wide x 6 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: center catch lock

Casing: plaster returns, wood sill

Finish: Painted

Miscellaneous: Bottom sash of both windows has been covered up by plywood on the interior side, apparently for visual privacy. Divided lights are missing from bottom sash. Top sash missing one mullion

Recommendations: Remove the plywood panel. Restore lower sash. Replace all of the glass with obscure glass (if room remains a public toilet). Reconstruct missing mullion Remove all messy caulk joints. Repaint all frames and mullions white on both interior and exterior.~ restore window.



Window #6

Date: 1922

Size: 4'-3.5" x 4'-10.5"

Description: Wood double hung windows with true divided lights (5 panels; in upper sash)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: center catch lock, 2 pull handles

Casing: Plaster returns, wood sill

Finish: Painted

Miscellaneous: From the original Huddart rendering p.12 it appears the intent was that this window had the same mullion spacing as the other windows. Because of the different size in all likelihood this one would have been 2x4 or 8 panels top and bottom sash for 16 total panels.

Recommendations: Reconstruct missing mullions similar to window #24. Remove all messy caulk joints. Repaint all frames and mullions white on both interior and exterior.. Make operable and Replace hardware~ restore window.



Window #7

Date: 1922

Size: 1'-4" x 3'-2.5"

Description: Wood fixed window

Operation type: none

Frame: Wood

Casing: none visible

Glass type: Missing

Hardware: center catch lock, 2 pull handles

Finish: Painted

Miscellaneous: This glass has been removed and replaced by plywood as there is currently a mechanical return air shaft located directly behind this opening. An exterior speaker is installed in the center of the opening apparently to provide music to the accessible ramp area.

Recommendations: Remove the speaker and wiring. Caulk and repaint all frames and plywood white. If the mechanical duct and shaft are relocated away from this opening, then we recommend complete restoration of this window and the reinstallation of glass.



Window #8

Date: 1922

Size: 4'-4" x 6'-10.5"

Description: Wood double hung windows with true divided lights (24 panels; 4 wide x 3 high in both sashes)

Operation type: double hung

Glass type: Clear

Frame: Wood

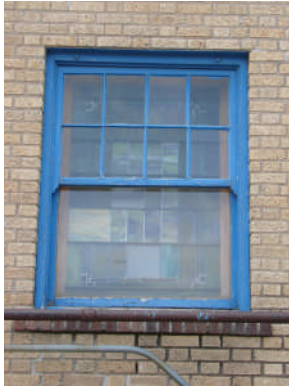
Hardware: center catch lock, 2 pull handles

Casing: plaster returns, wood sill

Finish: Painted

Miscellaneous: This window has a fixed exterior screen with one center horizontal mullion aligning with the double hung window. Bottom screen frame stop is partially missing. Screen is in poor condition

Recommendations: Remove all messy caulk joints and paint from glass. Repaint all frames and mullions white on both interior and exterior.. Make operable and Replace hardware. Replace screen material with new and rebuild screen stops~ restore window.



Window #9

Date: 1922

Size: 3'-6" x 4'-7.5"

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear with leaded polycarbonate on interior

Frame: Wood

Hardware: none visible due to the interior obscure panel

Casing: not visible, concealed by rope decors

Finish: Painted

Miscellaneous: A fixed pane of leaded polycarbonate was added on the interior, most likely during the 1978 restaurant modifications

Recommendations: Remove interior leaded polycarbonate panel and frame. Make operable and Replace hardware. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window.



Window #10

Date: 1922

Size: 3'-6.5" x 4'-7.5" (2'-3.5" top sash)

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

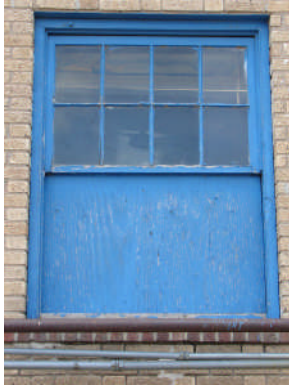
Hardware: none

Casing: wood picture framed

Finish: stained interior, painted exterior

Miscellaneous: Bottom sash has been in-filled with plywood as this window was located at an elevated platform used for booth seating

Recommendations: Open up wall to size of exterior rough opening. Remove the plywood panel and rebuild the bottom sash with true divided lights, (4x2 panels) Make operable and provide new hardware~ restore window. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior..



Window #11

Date: 1922

Size: 3'-6.5" x 4'-7.5" (2'-3.5" top sash)

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: none

Casing: wood picture framed

Finish: stained interior, painted exterior

Miscellaneous: Bottom sash has been in-filled with plywood as this window was located at an elevated platform used for booth seating

Recommendations: Open up wall to size of exterior rough opening. Remove the plywood panel and rebuild the bottom sash with true divided lights, (4x2 panels) Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Case the interior to match original profiles



Windows #12-13

Date: 1922

Size: 5'-9.5" overall x 4'-6.5" overall

Description: 2 separate wood double hung windows with true divided lights (6 panels each window; 3 wide x 2 high). Center wood mullion mulling them together within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

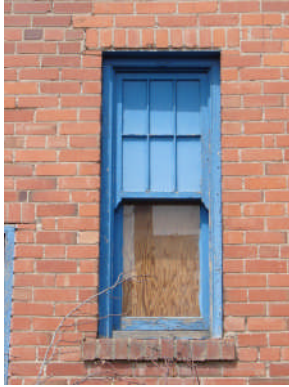
Hardware: None

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Each window has a fixed exterior screen with one center horizontal mullion aligning with the double hung window. Screen is in poor condition. Bottom sash of both windows is missing mullions.

Recommendations: Make operable and provide new hardware. Re-glaze bottom sashes and provide mullions. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. Replace screen material with new and rebuild screen stops as necessary~ restore window. Case the interior to match original profiles



Window #14

Date: 1922

Size: 2'-4" x 4'-6.5"

Description: wood double hung with true divided lights (6 panels; 3 wide x 2 high at top sash only)

Operation type: Double hung

Glass type: Clear but covered in paint

Frame: Wood

Hardware: only catch lock visible

Casing: wood, wood sill

Finish: Painted

Miscellaneous: There is a plywood infill at the bottom sash. Divided light mullions are missing

Recommendations: Re-build the bottom sash with divided light mullions (3x2). Re-glaze both top and bottom sash. Make operable and provide new hardware. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #15a

Date: 1922

Size: 2'-4" x 6'-6.5"

Description: wood double hung with true divided lights (12 panels; 3 wide x 4 high at top sash only)

Operation type: Double hung

Glass type: Clear

Frame: Wood

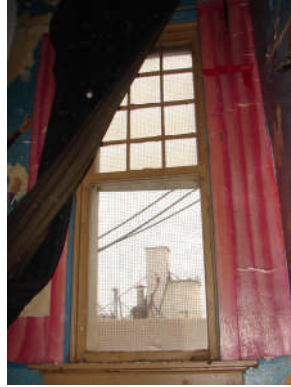
Hardware: catch lock, pull handle missing

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Fixed exterior screen with one center horizontal mullion aligning with the double hung window. Screen is in poor condition. Divided light mullions are missing from the bottom sash.

Recommendations: Re-build and re-glaze the bottom sash with divided light mullions (3x4). Make operable and provide new hardware. Replace screen material with new and rebuild screen stops as necessary. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #15b

Date: 1922

Size: 2'-4" x 6'-6.5"

Description: wood double hung with true divided lights (12 panels; 3 wide x 4 high at top sash only)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: catch lock, pull handle missing

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Fixed exterior screen is in poor condition and is partially missing the screen wood stops. Divided light mullions are missing from the bottom sash.

Recommendations: Re-build and re-glaze the bottom sash with divided light mullions (3x4). Make operable and provide new hardware. Replace screen material with new and rebuild screen stops as necessary. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window.



Windows #16-17

Date: 1922

Size: 5'-9.5" overall x 4'-6.5" overall

Description: 2 separate wood double hung windows with true divided lights (6 panels each window; 3 wide x 2 high at top sash only). Center wood mullion mulling them together within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles each window

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Bottom sash of both windows are missing mullions.

Recommendations: Make operable and provide new hardware. Re-glaze bottom sashes and provide mullions. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window.



Window #18

Date: 1922

Size: 3'-6.5" x 4'-7.5" (2'-3.5" top sash)

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: none

Casing: wood picture framed

Finish: stained interior, painted exterior

Miscellaneous: Bottom sash has been in-filled with plywood as this window was located at an elevated platform used for booth seating. Bottom sash frame is broken. One pane of glass is broken in top sash

Recommendations: Open up wall to size of exterior rough opening. Remove the plywood panel and rebuild and re-glaze the bottom sash with true divided lights, (4x2 panels) Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Replace broken pane in top sash. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Case the interior to match original profiles



Window #19

Date: 1922

Size: 3'-6.5" x 4'-7.5" (2'-3.5" top sash)

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: none

Casing: wood picture framed (partially missing)

Finish: stained interior, painted exterior

Miscellaneous: Bottom sash is in place but covered up on interior by millwork as this window was located at an elevated platform used for booth seating.

Recommendations: Open up wall to size of exterior rough opening. Re-build and re-glaze the bottom sash with true divided lights, (4x2 panels) Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Case the interior to match original profiles



Window #20

Date: 1922

Size: 3'-6" x 4'-7.5"

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: none visible

Casing: not visible

Finish: Painted

Miscellaneous: This window is concealed and covered up on the interior by the Kitchen Pantry enclosure. Bottom sash has been in-filled with plywood and the divided light mullions are missing.

Recommendations: Remove interior pantry wall which is covering up this window. Make operable and Replace hardware. Re-build and re-glaze the bottom sash with true divided lights, (4x2 panels). Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #21

Date: 1922

Size: 4'-3.5" x 4'-10.5"

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high in top sash only)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: catch lock, one pull handle (left one missing)

Casing: Wood, wood sill

Finish: Painted

Miscellaneous: Exterior screen has been replaced by plexiglass material which is broken. Bottom sash is missing the divided light mullions.

Recommendations: Remove outer plexiglass. Make operable and Replace hardware. Re-build and re-glaze the bottom sash with true divided lights, (4x2 panels). Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #22

Date: 1922

Size: 4'-3.5" x 6'-10"

Description: Wood double hung window with true divided lights (24 panels; 4 wide x 3 high in top and bottom sash)

Operation type: double hung

Glass type: Clear

Frame: Wood

Hardware: catch lock, 2 pull handles

Casing: Wood, wood sill

Finish: Painted

Miscellaneous:

Recommendations: Replace handrail at stair so it projects out from the wall with wall brackets in lieu of running into the window casing. Make operable and Replace hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #23

Date: 1922

Size: 1'-8.5" x 3'-2.5"

Description: in swinging casement window with true divided lights (4 panels; 2 wide x 2 high)

Operation type: casement

Glass type: Clear

Frame: Wood

Hardware: missing

Casing: Wood picture framed

Finish: Painted

Miscellaneous: The screen material on the exterior has been replaced by plexiglass

Recommendations: Remove plexiglass and replace with screen material. Make operable and Replace hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #24

Date: 1922

Size: 4'-3.5" x 4'-10.5"

Description: Wood double hung windows with true divided lights (8 panels; 4x2 in upper sash)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: center catch lock, 1 pull handle (right missing)

Casing: Wood, wood sill

Finish: Painted

Miscellaneous: Bottom sash is missing the divided light mullions

Recommendations: Make operable and Replace hardware. Re-build and re-glaze the bottom sash with true divided lights, (4x2 panels). Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Window #25

Date: 1922

Size: 3'-7.5" x 5'-11"

Description: Wood double hung window with true divided lights (9 panels; 3 wide x 3 high top sash only)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: catch lock, 2 pull handles

Casing: plaster returns, wood sill

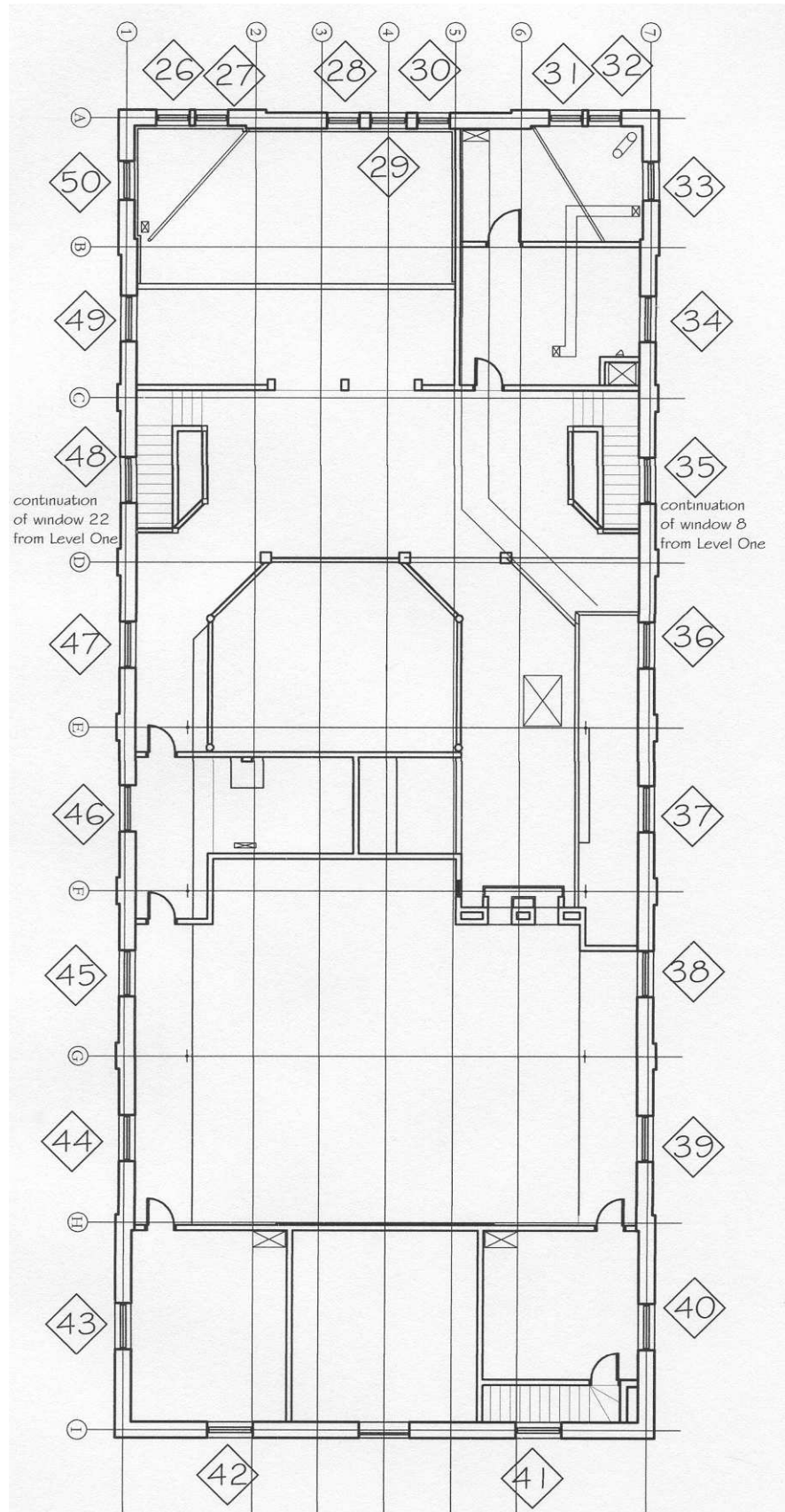
Finish: Painted

Miscellaneous: This window is located in a bathroom and visual privacy is provided by curtains only. Divided lights are missing from bottom sash. Top sash missing one mullion

Recommendations: Make operable and Replace hardware. Re-build and re-glaze the bottom sash with true divided lights, (3x3 panels). Replace all of the glass with obscure glass (if room remains a public toilet). Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window.



Level Two Windows:





Windows #26 and 27

Date: 1922

Size: 6'-9" overall x 5'-8.5" overall (each window is 3'-1.5" x 5'-8.5" with a 6" center mullion)

Description: 2 separate wood double hung windows with true divided lights (18 panels each window; 3 wide x 6 high). Center wood mullion mulling them together within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Interior wood sill is integral with wood wall wainscot

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window. Reconstruct new screen and stops to match originals.



Windows #28, 29 and 30

Date: 1922

Size: 3'-3" x 5'-8.5" each window

Description: 3 separate wood double hung windows with true divided lights (6 panels each window; 3 wide x 2 high at top sash only). Arched heads 1'-7.5" true half round radius

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks- missing on window 29

Casing: wood, wood sill

Finish: Painted

Miscellaneous: On the interior the windows are cased with a rectilinear head and the arched head cased within that in a picture frame fashion. Interior wood sill is integral with wood wall wainscot. Window 28 has applied decals to 2 panes.

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Remove decals. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window.



Windows #31 and 32

Date: 1922

Size: 6'-10.5" overall x 5'-10.5" overall (each window is 3'-2" x 5'-10.5" with a 6.5" center mullion)

Description: 2 separate wood double hung windows with true divided lights (18 panels each window; 3 wide x 6 high). Center wood mullion mulling them together within one masonry opening.

Operation type: Double hung

Glass type: Clear

Frame: Wood

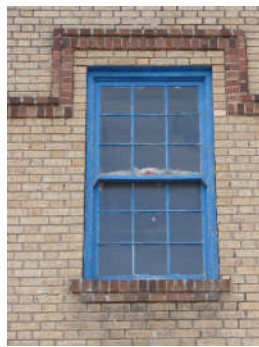
Hardware: Catch locks, 2 pull handles per window

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Electrical wire mold raceway mounted on the face of the interior wood sill stool. Telephone jack boxes surface mounted to the center mullion. Window 31 has partial blind mounted to the head casing and an aluminum framed storm type window mounted on the interior side.

Recommendations: Remove blind and storm panel from window 31. Remove telephone jack boxes and electrical wire mold raceway. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore. Reconstruct new screen and stops to match originals.



Window #33

Date: 1922

Size: 3'-8" x 5'-10.5"

Description: Wood double hung windows with true divided lights (18 panels; 3 wide x 6)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: none

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Apparently this window leaked bad enough that someone felt that stuffing a towel between the top and bottom sash would be a good idea to stop air infiltration. Electrical wire mold raceway mounted on the face of the interior wood sill stool.

Recommendations: Remove electrical raceway wire mold. Removal towel. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window. Reconstruct new screen and stops to match originals.



Window #34

Date: 1922

Size: 4'-3.5" x 5'-10.5"

Description: Wood double hung window with true divided lights (12 panels; 4 wide x 3 high at bottom sash only).

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks

Casing: wood, wood sill

Finish: Painted

Miscellaneous: The top sash is missing the divided light mullions. There is an aluminum frame storm window with broken glass mounted on the Interior side. There is also a curtain and rod surface mounted on the head casing.

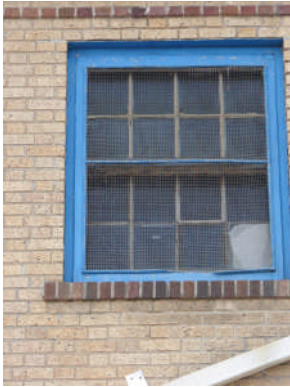
Recommendations: Remove aluminum storm and curtain rod. Make operable and provide new hardware. Re-glaze top sash and provide mullions. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new screen and stops to match originals.



Window #35

Note, this is the same window as #8 from level one~ it is a continuation at stair well and thus is shown graphically on level one and level two plans.

Reference window #8 p.60 for description and recommendations.



Window #36

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

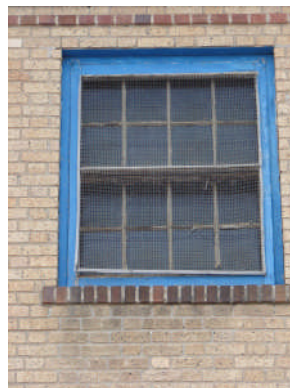
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: This window has a fixed exterior screen with one center horizontal mullion aligning with the double hung window. Bottom screen frame stop is partially missing. Screen is in poor condition

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window. Replace screen material with new and rebuild screen stops.



Window #37

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

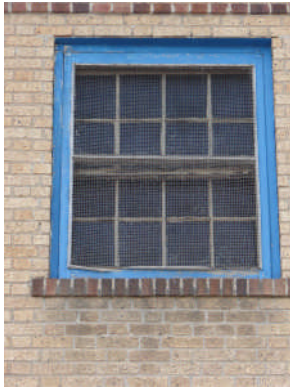
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: This window has a fixed exterior screen with one center horizontal mullion aligning with the double hung window. The screen frame stops are warped and out of plane. Screen is in poor condition

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window. Replace screen material with new and rebuild screen stops.



Window #38

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

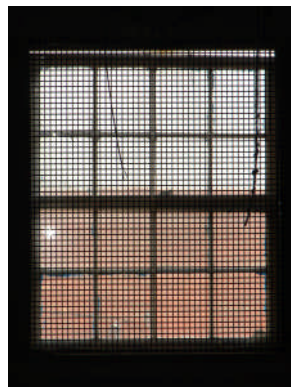
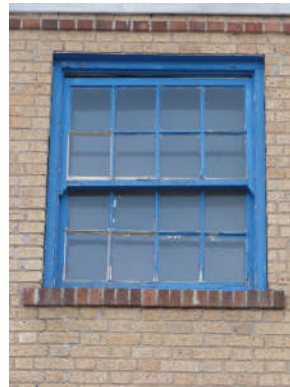
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: This window has a fixed exterior screen with one center horizontal mullion aligning with the double hung window. Bottom screen frame stop is partially missing. Screen is in poor condition. Interior side of the windows has been painted black

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior~ restore window. Replace screen material with new and rebuild screen stops.



Window #39

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: This window has an metal mesh protection panel mounted on the interior side. Top sash is sagging and misaligned.

Recommendations: Remove interior mesh panel. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new exterior screen and stops to match originals.



Window #40

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high- top sash only)

Operation type: Double hung

Glass type: Clear

Frame: Wood

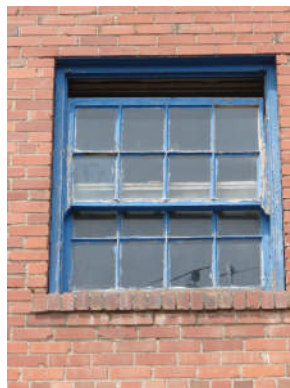
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Bottom sash is missing the divided light mullions and top sash is also missing some of the mullions. Top sash is misaligned and sagging.

Recommendations: Re-glaze bottom and top sashes and provide mullions. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #41

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Top sash is misaligned and sagging and not fully closed/engaged at the head

Recommendations: Reset top sash. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #42

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (8 panels; 4 wide x 2 high- top sash only)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Top sash is misaligned and sagging. Bottom sash missing mullions.

Recommendations: Reset top sash. Re-glaze bottom sash and provide mullions. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #43

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: ...

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #44

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: There is an aluminum frame storm window mounted on the interior side. Top sash is misaligned and sagging.

Recommendations: Remove interior storm panel. Reset top sash. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #45

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

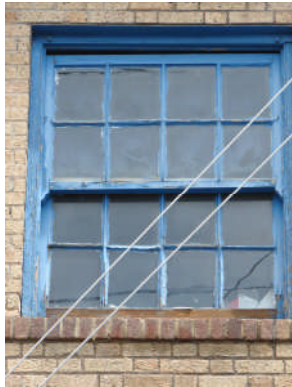
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: There is an aluminum frame storm window mounted on the interior side. Storm glass is broken. Top sash is misaligned and sagging.

Recommendations: Remove interior storm panel. Reset top sash. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior. ~ restore window. Reconstruct new screen and stops to match originals.



Window #46

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

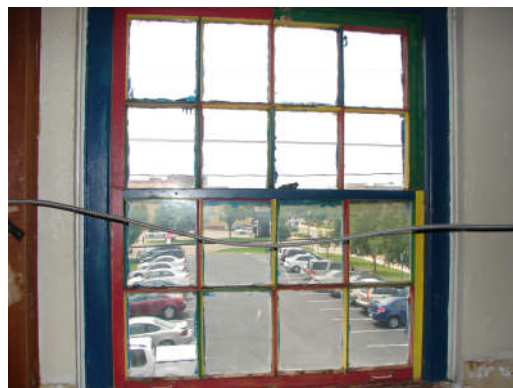
Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Top sash is misaligned and sagging. Interior sill and stool is partially missing at left jamb

Recommendations: Reset top sash. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new screen and stops to match originals.



Window #47

Date: 1922

Size: 4'-3.5" x 4'-6.5"

Description: Wood double hung window with true divided lights (16 panels; 4 wide x 4 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks, 2 pull handles

Casing: wood, wood sill

Finish: Painted

Miscellaneous: Window head, sill, jambs and mullions have been painted multiple colors.

Recommendations: Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new screen and stops to match originals.



Window #48 (continuation of window #22 from Level One)

Note, this is the same window as #22 from level one~ it is a continuation at stair well and thus is shown graphically on level one and level two plans.

Reference window #22 p.67 for description and recommendations.



Window #49

Date: 1922

Size: 4'-3.5" x 5'-10.5"

Description: Wood double hung window with true divided lights (24 panels; 4 wide x 6 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks

Casing: wood, wood sill missing

Finish: Painted

Miscellaneous: the interior wood sill is missing. Top sash is misaligned and sagging. One of the bottom sash mullions is broken

Recommendations: Reset top sash. Repair bottom sash mullion. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new screen and stops to match originals.



Window #50

Date: 1922

Size: 3'-7" x 5'-9"

Description: Wood double hung window with true divided lights (18 panels; 3 wide x 6 high)

Operation type: Double hung

Glass type: Clear

Frame: Wood

Hardware: Catch locks

Casing: wood, wood sill

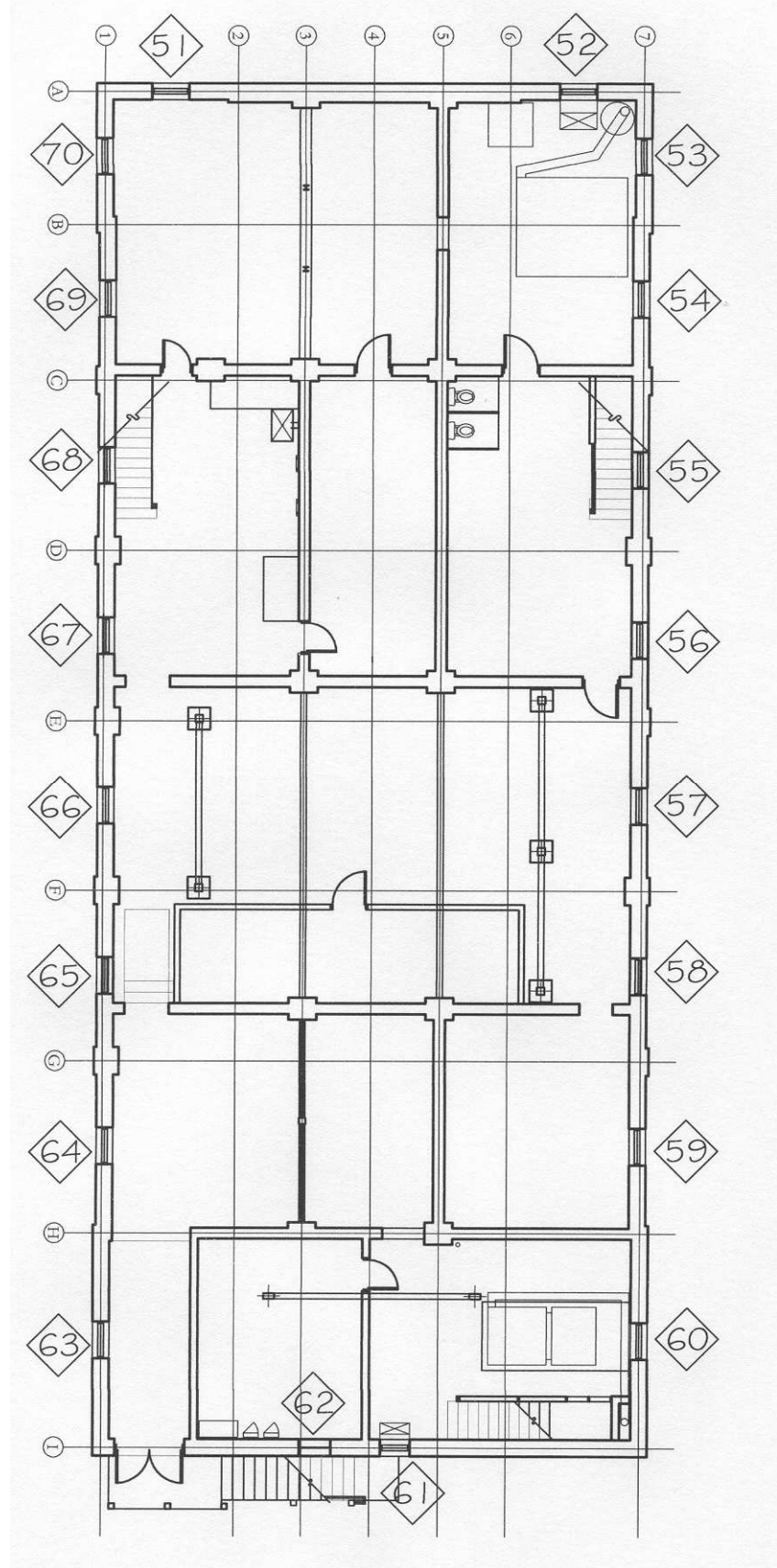
Finish: Painted

Miscellaneous: Interior wood sill is integral with wood wall wainscot. Decal on lower pane. There are 2 new panes of glass in the bottom sash which the glass type does not match.

Recommendations: Remove decal. Reglaze bottom sash so all panes match. Make operable and provide new hardware. Remove all messy caulk joints and paint from glass. Prep, Caulk and repaint frame and mullions white on both interior and exterior.~ restore window. Reconstruct new screen and stops to match originals.



Basement Level Windows:





Window #51

Date: 1922

Size: 3'-2.5" x 2'-4.5"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: wood

Miscellaneous: Exterior has fixed vertical security bars. Far left bar bent. Window is screened implying at one point this window was operable. There is dirt trapped and piled between the screen and the frame.

Recommendations: Remove paint from glass or re-glaze. Remove trapped dirt. Prep, caulk and re-paint frame white. Repaint bars black



Glass type: Clear~ painted white on interior

Hardware: None

Finish: Painted



Window #52

Date: 1922

Size: 3'-2.5" x 2'-4.5"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: concrete returns

Glass type: None

Hardware: None

Finish: Painted

Miscellaneous: This window has been converted to a mechanical louver for combustion air to Air Handler No.1. In addition there is also a fixed screen~ most likely a bird screen for the mechanical louver. Exterior has fixed vertical security bars. Bars have been over painted. Left jamb has a condensate pipe penetrating to the exterior. Right top jamb has an electrical conduit penetration.

Recommendations: Prep, caulk and re-paint frame white. Caulk pipe and conduit penetrations. Repaint bars black. If mechanical is removed then restore original window.



Window #53

Date: 1922

Size: 3'-2.5" x 3'-2"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: concrete returns

Glass type: None

Hardware: None

Finish: Painted

Miscellaneous: This window has been converted to a mechanical louver for fresh air make up to Air Handler No.1. In addition there is also a fixed screen~ most likely a bird screen for the mechanical louver. Exterior has fixed vertical security bars.

Recommendations: Prep, caulk and re-paint frame white. Remove trapped debris. Repaint bars black. If mechanical is removed then restore original window.



Window #54

Date: 1922

Description: Wood

Glass type: None

Hardware: None

Size: 3'-10.5" x 3'-2"

Operation type: Fixed

Frame: Wood

Casing: concrete returns **Finish:** Painted

Miscellaneous: This window has been converted to a mechanical louver for fresh air make up to Air Handler No.1. In addition there is also a fixed screen~ most likely a bird screen for the mechanical louver. Exterior has fixed vertical security bars. This opening is located partially below the accessible ramp and as such a metal grate is used to allow air to flow into the louver. Vegetation is growing beneath the ramp and into the louver at this time.

Recommendations: Remove vegetation and trapped debris. Prep, caulk and re-paint frame white. Repaint bars black. If mechanical is removed then restore original window.



Window#55 (note this window is not visible from the exterior as it is encased below the ramp)

Date: 1922

Size: 3'-2.5" x 3'-2"

Description: Wood with true divided lights (2 panels, with 1 center vertical mullion)

Operation type: Fixed

Glass type: Clear~ painted white on the interior

Frame: Wood

Hardware: None

Casing: Wood

Finish: Painted

Miscellaneous: This window has been completely concealed beneath the exterior ramp and therefore is not visible for observations

Recommendations: If the ramp is removed in the future, then this window should be accessed at that time.



Window#56 (note this window is not visible from the exterior as it is encased below the ramp)

Date: 1922

Size: 3'-2.5" x 3'-2"

Description: Wood with true divided lights (2 panels, with 1 center vertical mullion)

Operation type: Fixed

Glass type: Clear~ painted white on the interior

Frame: Wood

Hardware: None

Casing: Wood

Finish: Painted

Miscellaneous: This window has been completely concealed beneath the exterior ramp and therefore is not visible for observations

Recommendations: If the ramp is removed in the future, then this window should be accessed at that time.



Window #57

Date: 1922

Size: 2'-10.5" x 3'-2"

Operation type: Fixed

Frame: Wood

Casing: concrete returns

Description: Wood

Glass type: None

Hardware: None

Finish: Painted

Miscellaneous: This window has been converted to a mechanical louver. The louver is smaller than the overall opening so it is centered in a plywood panel. A condensate pipe penetrates the plywood panel centered above the louver. The sill is flush with grade.

Recommendations: Re-grade to slope away from sill and remove vegetation. Provide flashing at sill so moisture will not migrate into this opening. Prep, caulk and re-paint frame and plywood panel white. If mechanical is removed then restore original window.



Window #58

Date: 1922

Size: 2'-10.5" x 3'-2"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: concrete returns

Glass type: None

Hardware: None

Finish: Painted

Miscellaneous: The glass has been removed and in-filled with plywood. The sill is flush with grade. Exterior has fixed vertical security bars.

Recommendations: Re-grade to slope away from sill. Remove vegetation. Provide flashing at sill so moisture will not migrate into this opening. Prep, caulk and re-paint frame and plywood panel white. Paint bars black. If mechanical is removed then restore original window.



Window #59

Date: 1922

Size: 3'-10" x 3'-2"

Description: Wood with true divided lights (8 panels, 4 wide x 2 high)

Operation type: Fixed

Glass type: Clear

Frame: Wood

Hardware: None

Casing: concrete returns

Finish: Painted

Miscellaneous: There is an exterior screen implying that this window was once operable. Exterior also has fixed vertical security bars.

Recommendations: Prep, caulk and re-paint frame white. Paint bars black



Window #60

Date: 1922

Size: 3'-10" x 3'-1.5"

Description: Wood

Operation type: Fixed

Glass type: None

Frame: Wood

Hardware: None

Casing: concrete returns

Finish: Unfinished

Miscellaneous: This window has been converted to a mechanical fresh air intake louver for Air Handler No.2. A bird screen material has been added to the exterior of the louver as well.

Recommendations: Caulk and seal all joints around frame



Window #61

Date: 1922

Size: 3'-3" x 3'-9"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: concrete returns

Glass type: None

Hardware: None

Finish: Paint

Miscellaneous: This window has been converted to a mechanical combustion air louver for Air Handler No.2. A bird screen material has been added to the exterior of the louver as well.

Recommendations: Caulk and seal all joints around frame



Window #62

Date: 1922

Size: 3'-4" x 3'-4"

Description: Wood

Operation type: Fixed

Frame: Steel

Casing: Steel

Glass type: None

Hardware: None

Finish: Paint

Miscellaneous: This opening is the original coal chute which has simply been abandoned in place

Recommendations: Caulk and seal all joints around frame



Window #63

Date: 1922

Size: 3'-11" x 3'-1.5"

Description: Wood with true divided lights (8 panels, 4 wide x 2 high)

Operation type: Fixed

Glass type: Clear~ painted white on interior

Frame: Wood

Hardware: None

Casing: wood

Finish: paint

Miscellaneous: Exterior has fixed vertical security bars. Window is screened implying at one point this window was operable.

Recommendations: Remove paint from glass or re-glaze. Prep, caulk and re-paint frame white. Repaint bars black



Window #64

Date: 1922

Size: 3'-10.5" x 3'-2.5"

Description: Wood with true divided lights (8 panels, 4 wide x 2 high)

Operation type: Fixed

Glass type: Clear~ painted white on interior

Frame: Wood

Hardware: None

Casing: concrete returns

Finish: Painted

Miscellaneous: Exterior has fixed vertical security bars which have been over painted. Window is screened implying at one point this window was operable. Window screen is warped and out of plane and open in the bottom left corner

Recommendations: Remove paint from glass or re-glaze. Replace screen material and repair screen stops. Prep, caulk and re-paint frame white. Repaint bars black



Window #65

Date: 1922

Size: 2'-11.5" x 3'-3"

Description: Wood with true divided lights (4 panels, 2 wide x 2 high)

Operation type: Fixed

Glass type: Clear~ painted white on the interior side

Frame: Wood

Hardware: None

Casing: concrete returns

Finish: Painted

Miscellaneous: Exterior has fixed vertical security bars ~ center bar is bent and distorted. Dirt has piled up behind the security bars and completely covers the bottom frame and sill. Bottom right pane broken.

Recommendations: Remove trapped dirt. Re-glaze. Prep, caulk and re-paint frame white. Repaint security bars black



Window #66

Date: 1922

Size: 2'-10.5" x 3'-2"

Description: Wood

Operation type: Fixed

Glass type: None

Frame: Wood

Hardware: None

Casing: Wood

Finish: Painted

Miscellaneous: Glass has been removed and replaced by plywood. Exterior has fixed vertical security bars which have been over painted. Dirt has piled up behind the security bars and completely covers the bottom frame and sill. Window is screened implying at one point this window was operable.

Recommendations: Remove trapped dirt. Re-glaze with 4 panes similar to window #65. Prep, caulk and re-paint frame white. Repaint security bars black



Window #67

Date: 1922

Size: 2'-10.5" x 3'-2"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: Wood

Miscellaneous: Glass has been removed and replaced by plywood. Exterior has fixed vertical security bars which have been over painted.

Recommendations: Re-glaze with 4 panes similar to window #65. Prep, caulk and re-paint frame white. Repaint security bars black

Glass type: None

Hardware: None

Finish: Painted



Window #68

Date: 1922

Size: 2'-10.5" x 2'-2"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: Wood

Miscellaneous: Glass has been removed and replaced by plywood. Exterior has fixed vertical security bars which have been over painted.

Recommendations: Re-glaze with 2 panes similar to window #55. Prep, caulk and re-paint frame white. Repaint security bars black

Glass type: None

Hardware: None

Finish: Painted



Window #69

Date: 1922

Size: 3'-11" x 3'-2"

Description: Wood

Operation type: Fixed

Frame: Wood

Casing: Wood

Miscellaneous: Glass has been removed and replaced by plywood.

Recommendations: Re-glaze with divided light mullions 2 high x 4 wide similar to window #63. Prep, caulk and re-paint frame white.

Glass type: None

Hardware: None

Finish: Painted



Window #70

Date: 1922

Size: 3'-2.5" x 3'-3"

Description: Wood with true divided lights (6 panels, 3 wide x 2 high)

Operation type: Fixed

Frame: Wood

Casing: Wood

Miscellaneous: 2 right hand panes have been painted white on the interior side. Exterior has fixed vertical security bars which have been over painted. Dirt and debris have accumulated behind the security bars and piling up against the bottom frame.

Recommendations: Remove paint from glass. Remove trapped debris. Prep, caulk and re-paint frame white. Paint security bars black.

Glass type: Clear~ painted white on interior

Hardware: None

Finish: Painted



3.0 STRUCTURE CONDITION ASSESSMENT

3.6 Doors

All of the original interior and exterior doors have been removed and replaced (except for the loading dock door) as a part of the dramatic interior transformation that took place in 1978 when the building was converted into a restaurant. As such our assessment on doors is limited to a discussion about reconstruction of the Main Entry doors off of 8th Avenue and the Alley loading dock.



Current Main Entry door way ca.1978 with terra cotta door surround ca.1922

Main Entry doors off of 8th Avenue

Date: 1978

Size: pair of 2'-10" x 7'

Description: Wood doors with true divided lights arranged in a Prairie Craftsman Style. Center wood mullion acts as a hinge post so both doors swing towards each other.

Operation type: Out swinging

Glass type: Clear

Frame: Wood

Hardware: Bronze pulls and keyed deadbolt

Casing: wood

Finish: Stained

Miscellaneous: These doors are not original. They swing out into the public way and are hinged back to back so the net clear width of opening is actually less than one of the door widths of 2'-10". This width does not comply with egress codes nor does the exit hardware.

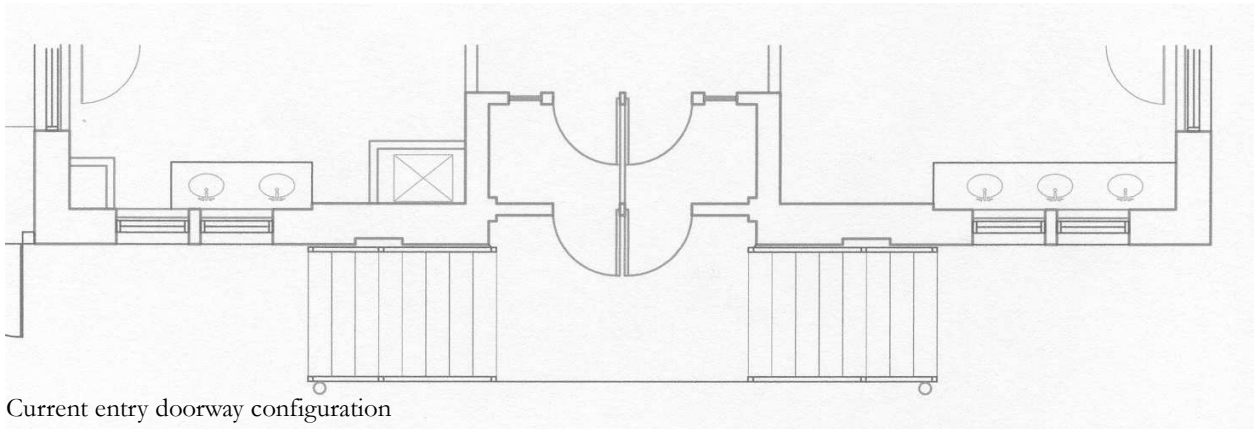
In addition, these doors are placed in tandem with interior doors with a vestibule that is only 4'-3" deep and also non code complying.

Recommendations: Remove doors and side wood panels in their entirety (to the limits of the terra cotta surround which is original). Reconstruct new doors according to historical documentation with square divided light patterns (3wide x 5 high) each door as well as the side panels. Doors to swing out with hinges on opposing jambs with no center post. Location of doors to be recessed as it was originally. Provide code required egress hardware. Paint all doors and trim and side panels white.

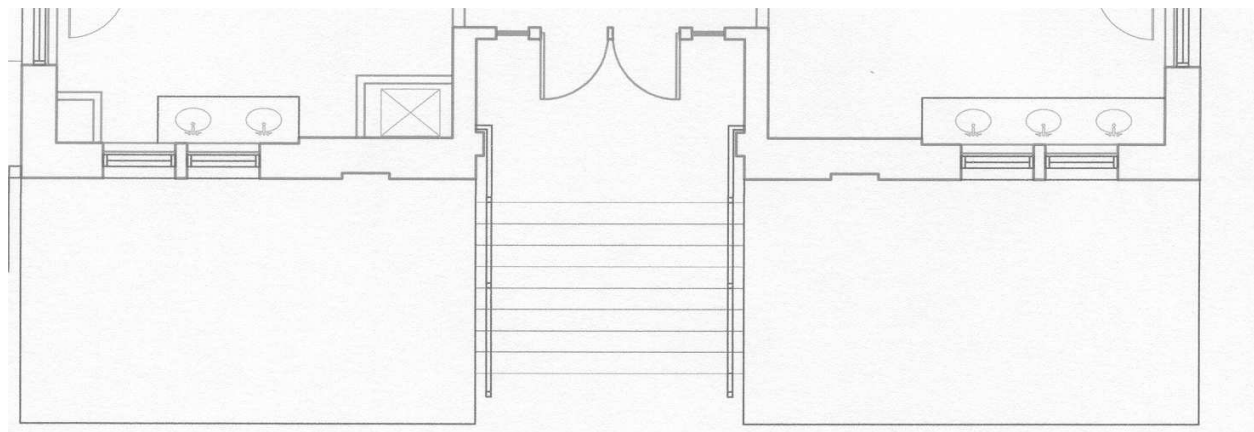
Reference the new entry discussion in Section 3.1- Site for stoop and stair modifications



Original recessed entry, doors and matching side panels, ca.1922



Current entry doorway configuration



Proposed entry doorway re-configuration



East Alley loading dock door

Date: 1922

Size: pair of 3' x 6'-10"

Description: Steel panel industrial doors

Operation type: Out swinging

Frame: Steel

Casing: None

Glass type: None

Hardware: Strap hinges (top and bottom)

Finish: Painted

Miscellaneous: These doors are original. They are located beneath the level one elevated loading dock and provide direct access into the basement level. They are in functioning order at this time although the locking mechanism is a steel bar and therefore not operable from the exterior.. Painted red in color.

Recommendations: Prep, caulk and paint doors and frames white. Provide keyed deadbolt hardware and simple steel pulls on both doors.



Coal chute



Original dock

location



Original dock height

Coal Chute door

Date: 1922

Size: 3'-2" x 3'-2"

Description: Steel panel industrial door

Operation type: Out swinging (welded shut)

Frame: Steel

Casing: None

Glass type: None

Hardware: Strap hinges, strap and padlock hasp

Finish: Painted

Miscellaneous: This is the original coal chute door. The coal room used to be what now is the Electrical Room in the basement. It was located at the original loading dock height. That dock has been removed but the memory of it is etched into the structure forever.

Recommendations: Prep, caulk and paint door and frame white. Leave welded shut.



Stage Access Door

Date: 2009

Size: 6' x 11'-4"

Description: Stucco infill of what was originally a Steel panel industrial door

Operation type: None

Glass type: None

Frame: None

Hardware: None

Casing: None

Finish: Painted

Miscellaneous: This opening was originally a pair of hinged steel panels (according to the 1978 renovation documents) that provided direct access to the back of the stage area for loading of stage sets and other large pieces of equipment. This door was removed and filled in with stucco during the 1978 restaurant modifications. In 2009 the current building owner had to open this hole in the wall in order to get all of the stuff back out again, especially the B-17 bomber. It was re-enclosed in the same manner with a fresh stucco patch.

Short Term Recommendations: Paint stucco patch to match adjoining brick wall so that blends in.

Long Term Recommendations: Open up the wall again and provide new pair of steel doors and steel frame constructed in the spirit of the loading dock doors with strap hinges. Paint doors and frame white. The doors should be paired so the weight of each door panel is reduced.



Stage Left Door

Date: 1978

Size: 3'-0" x 7'-0"

Description: Steel panel industrial door

Operation type: Out swinging

Glass type: None

Frame: Wood

Hardware: Keyed deadbolt- no exterior pull

Casing: Masonry returns

Finish: Un-painted

Recommendations: Provide an exterior pull. Paint door and frame white



Ramp Door

Date: 1978

Size: 3'-0" x 7'-0"

Description: Steel panel industrial door

Operation type: Out swinging

Frame: Wood

Casing: Masonry returns

Glass type: None

Hardware: Keyed deadbolt- no exterior pull

Finish: Un-painted

Recommendations: This is the door at grid 7D that is discussed later in Section 4.5 (pgs. 132-134) related to the recommended new handicap accessible ramp. The recommendation is to remove this door and return it to a window opening similar to the original. Use the removed window from proposed new door location (grid 7F). Infill below the window with brick to match existing. Reference the diagrams on pg. 133 and pg. 134 for new ramp configuration options and related new door locations. Replacement door should be steel panel and steel frame constructed in the spirit of the original loading dock doors with strap hinges



3.0 STRUCTURE CONDITION ASSESSMENT

3.7 Interior Finishes

Wall Finish Materials:

Poor Condition:

Original wall finish throughout is plaster over masonry on the perimeter walls, and plaster on lath on the interior framed walls. It appears that plaster on the perimeter walls is mainly intact and repairable, although it has been covered by a mixture of materials including wallpapers and various types of paneling material (ie even ropes in some conditions). More recent interior partition walls are primarily finished with sheetrock which in turn is covered by a number of materials including paint, wallpaper, glued posters, and wood and metal paneling.

Recommended Treatment:

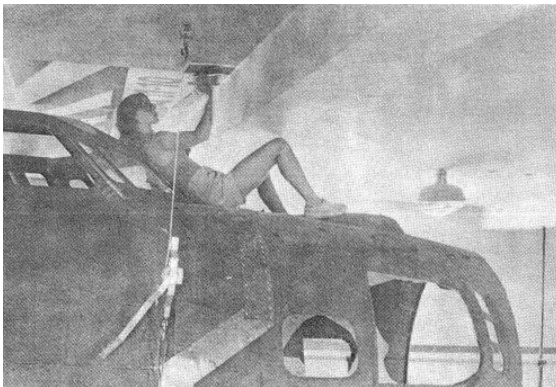
- Most interior partition walls are not original to the building and are likely to be removed for reconfiguration of space for a new use. We recommend their removal, particularly the Kitchen, so that the original large volume central hall space can be restored.
- Perimeter wall plaster finishes should be repaired per the standards established in the National Park Service Preservation Brief No. 21.

Ceiling Finish Materials:

Poor Condition:

Ceilings throughout are plaster on lath and appear to be largely intact and repairable, although all ceiling surfaces have been covered by other materials and are largely not directly observable. Surface coverings include paint, wallpaper, glued posters, and various types of paneling.

There are plaster drops at each grid line to conceal the bottoms of the trusses. This is due to the ceiling joists being framed over the top of the truss bottom cords. Although these locations are currently concealed by other added ceiling elements from 1978, a historic photo clearly shows these plaster drops.



Ceiling work ca. 1978 restaurant modifications at grid G truss/drop beam



Current ceiling chaos

Recommended Treatment:

- Remove all wallpaper, added drop trim pieces and other miscellaneous components that were added below or on the plaster.
- Patch and repair all ceiling plaster finishes per the National Park Service Preservation Brief No. 21 guidelines.

Floor Finish Materials:

Fair Condition:

Original wood flooring is tongue and groove maple strip flooring and is intact throughout the structure although it is hidden beneath several raised portions added in 1978 on Level One.

The original flooring is 2 1/4" wide planks and contains many very long pieces with extensive burling and bird's eye pattern. The presence of this antique maple flooring in this structure is one of the hidden gems in this property.

An elevated floor deck was over framed over this historic wood floor in 1978 around the back bar dance floor area and as such is ca.1978 vintage in 5" plank widths. The newer flooring on the elevated portions is of much lower quality and is in much worse condition than the original maple below.

While the varnished finish of the maple floors is worn and discolored, the wood below is in excellent condition with the exception of minor water damage in small areas.

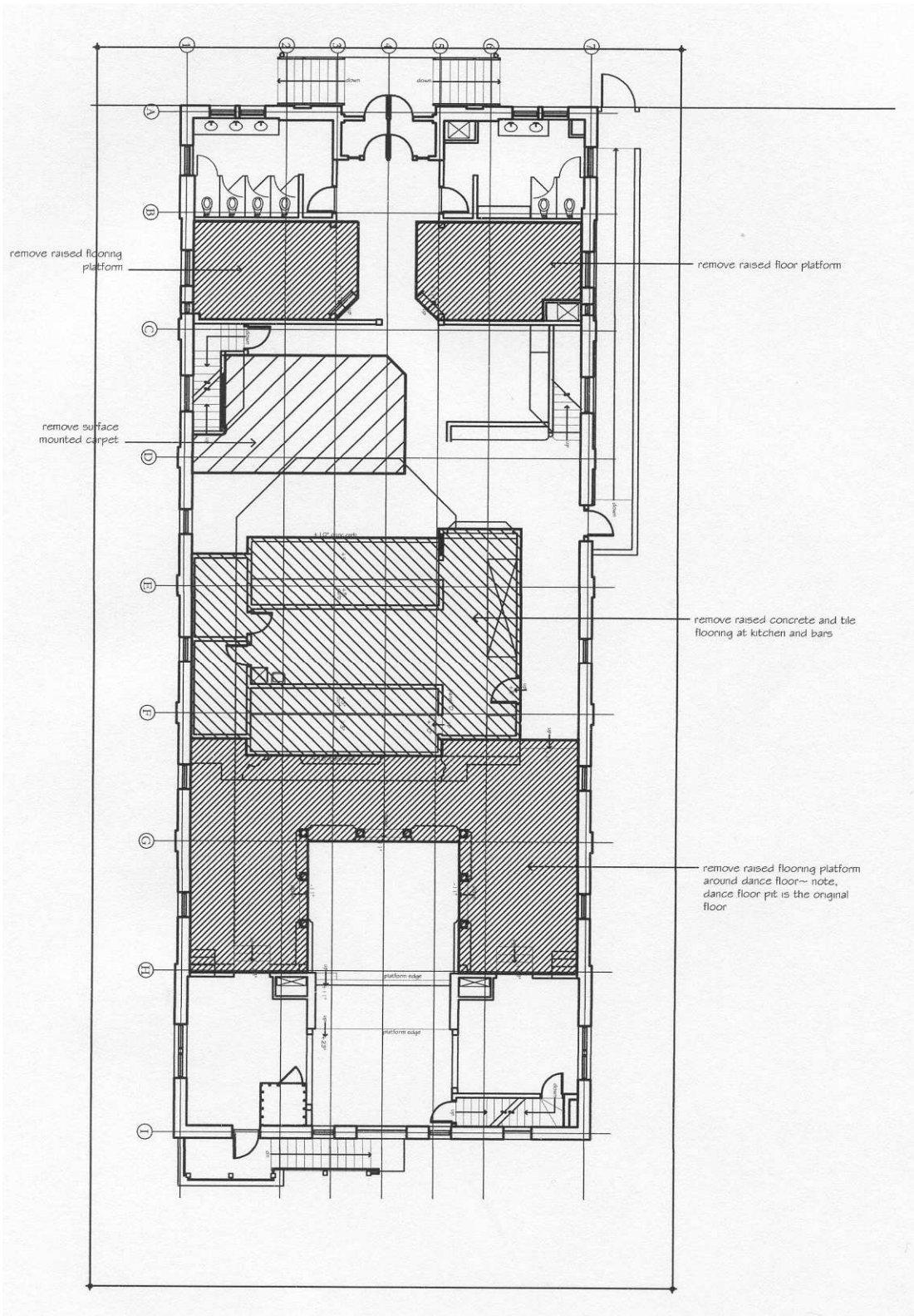


Diagram of Level One areas where original flooring is covered up



Recommended Treatment:

- Elevated floor decks over original floors should be removed to expose the original flooring below. This includes the back bar area~980 SF, The (2) front platforms by the bathrooms~ 440 SF and the raised kitchen tiled area~ 1,012 SF
- Remove carpeted area at the front bar area~ 328 SF
- Original flooring throughout should be repaired and patched as needed using woven patches to preserve the original appearance of the floors.
- Once repaired, the original floors should be sanded to remove all old finishes, sealed with an oil based sealer coat to maintain the developed color of the flooring, and refinished using a high quality commercial grade polyurethane to provide long wearing surface protection.

Trim:

Poor Condition:

Interior trim (which includes door and window casings, sills and baseboards) are exhibiting extensive wear, has been covered in many layers of paint and in some cases, are covered with several layers of glued on materials. It is unknown how much of the existing trim and casings are original. Most of the interior partitions are not original and clearly do not have trim materials of any historical significance. There are obvious locations where original trim materials have been removed such as the railing around the North and South sides of the mezzanine, and around the stage where more recent modifications resulted in removal of trims.

The exception to the above are the presence of original stair railings around the Northeast and Southeast mezzanine staircases. These stair railings are in fairly good condition and are repairable. There is also a wood railing around the East mezzanine, but it is unknown if it is original to the building.

Recommended Treatment:

- Original trim elements should be repaired and refinished where they exist.
- More recent trim materials should be removed and replaced with trim elements similar to original trim that remain.

Built Ins:

Poor Condition:

There are few if any original built-in features remaining with the exception of some railings discussed above. While there are pseudo built-in features present in the bar area, it is apparent that they are not original features and are of no particular style consistent with the original features of the building.

Recommended Treatment:

- Remove and replace all non-original built ins as needed to accommodate new use.



3.0 STRUCTURE CONDITION ASSESSMENT

3.8 Mechanical Systems

Heating and Air Conditioning:

Fair Condition:

The heating and air condition system was originally a Coal fired steam system that was located in what now is the East Mechanical Room. The coal chute was off of the West alley and the Masonry chimney at grid 7I was the flue.

The mechanical system was converted in 1978 when the space was converted to a restaurant. It changed to a gas forced air system with 2 AC compressors located outside at grade along North façade. Distribution piping and steam radiators were removed and are completely gone from the facility at this time.

Two separate units were provided during the 1978 modifications~ One 15 ton unit located in the West Mechanical Room and one 10 ton unit located in the East Mechanical Room. The West unit serves the West ½ of the building and the East unit serves the East ½ of building with the split being at the Kitchen. As such there is very minimal temperature control but with large open spaces the air just all mixes together. With a system design like that the smaller enclosed offices and other miscellaneous rooms were probably too cold or too hot most of the time. The only control within those spaces is to change the volume of air flow at the vents.

It should also be noted that the basement level has no heating provided to it. The distribution ducts from the mechanical rooms exit and go vertical into the upper levels without providing supply air at that level.

Fire smoke dampers were observed as being in place at wall and floor penetrations that appear to be per code requirements for rating separations.

Air Handler No.1~ West Mechanical Room

- Manufacturer: Tjernlund
- 1978 model # BF500THC-50
- 15 ton capacity
- 15 hp compressor
- Rated at 250,000 BTU/Hr
- Fresh air intake is ducted from louvers set into 2 north basement windows and is controlled by an economizer/damper.
- Combustion air is ducted in from a West basement window right at the water service entrance
- Condenser for this unit is a 1978 T.S.I.(Technical Systems, Inc.) model and is located on grade at grid 7E. Power disconnect is located on the wall immediately behind the unit.



Air handler No.1



Air Handler No.2

Air Handler No.2~ East Mechanical Room

- Manufacturer: Tjernlund
- 1978 model #AD500TRH
- 10 ton capacity

Air Handler No.2~ East Mechanical Room (continued)

- 10 hp compressor
- Rated at 187,500 BTU/Hr
- Fresh air intake is ducted from a louver set into 1 north basement window and is controlled by an economizer/damper.
- Combustion air is ducted in from a East basement window
- A fire smoke damper has been opened in the main distribution duct to get some nominal heat into this room
- Condenser is a 1978 T.S.I.(Technical Systems, Inc.) model is located on grade at grid 7G



Condenser for Air Handler No.1



Condenser for Air Handler No.2

McCreery & Sun has provided maintenance on both furnaces since 1982. In 2002 they rebuilt Air Handler No.2. Even given that major overhaul, they believe the units have reached the end of their life cycle and recommend that they both be replaced at this time.

Distribution ducts could be re-used and modified to accommodate a new use and layout but it was noted that it will be very tricky to zone if the new spaces get subdivided. In all likelihood the main branch ducts could remain within the shafts and all distribution from that point downstream be replaced.



It should also be noted that most of the ducts are exposed and littered with graffiti, stickers, posters and photos as a remnant from the movie set décor from the previous restaurant occupant. This also prompts replacing the ducts as we move towards restoring the historic integrity of the spaces.

Recommended Treatment:

- Provide some nominal heat in the building if the facility remains un-occupied during the winter months. This can be accomplished by firing up the boiler and setting the thermostat to keep the interior around 55 degrees Fahrenheit.
- Provide temporary electric heater in the West Mechanical room during the winter so that the water service entrance and fire sprinkler manifold does not freeze up, or add a supply register off of Air Handler No.1 to heat the space.
- Once the building's new use and owner are determined, a mechanical engineer should be retained to design all new systems and equipment to adequately accommodate the new use and current code requirements.
- Note: New equipment should remain in the basement level and not be placed up on the roof as might be common practice with some adaptive re-uses. Condensers should also remain on grade along the North façade as this is the only location not visible from the public way.

Ventilation:

Fair Condition:

Ventilation is a bit of a mystery with this building. It appears that the make up fresh air is controlled by an economizer/damper system at each mechanical room.

Return air is ducted from the open spaces at the main level and in general appear to be adequately sized and positioned.

There are several relief air ducts from the main level ceiling and from the attic which have roof top mounted ventilators. The internal condition and functionality of those vents is unknown at this time. However, they are distributed throughout the roof area and appear adequate.

Each bathroom has a separate exhaust fan with exposed ducts connected to a roof top mounted ventilator directly above those rooms. Those also appear adequate for their function although the exposed ducting is quite un-sightly.

The Kitchen is currently equipped with a compensating hood~ i.e. the exhaust and make up air both come into the hood. The equipment for the hood is mounted up on the roof close to the North edge of the vaulted roof and is highly visible. There is no dedicated HVAC supply or return from the Kitchen other than the compensating hood.

Recommended Treatment:

- Verify attic ventilation is adequate to meet current codes. If roof top ventilators could be removed and the attic power vented in the future that would be desirable from a roofing water proofing standpoint and aesthetically as well.



- Verify functionality of bathroom ventilation fans, replace with new if necessary and conceal the ventilation ducts in small shafts or walls to be integrated into any future work
- Remove Kitchen exhaust hood, fan and all roof top mounted equipment. If another Kitchen function occurs in the future new use, then all new code complying equipment should be installed. Avoid placing any equipment on the vaulted portion of the roof.



Roof top Kitchen exhaust equipment



Equipment visible from public way

Water Service:

Good Condition:

Domestic water service enters through the West basement wall from a 1 ½ inch tap. The service piping and radio-transmitting meter are in good condition. Water is currently disconnected to the interior of the building downstream of the meter housing. The domestic water tap also currently provides supply to the fire sprinkler system.

The current domestic water tap appears to be of adequate size and the service equipment is in excellent condition.

Recommended Treatment:

- Reconfiguration of interior piping and meter equipment will be required in the future at such time as changes are made to re-supply the fire sprinkler system from a separate dedicated tap.

Plumbing, Sewer Utilities:

Fair Condition:

Water piping throughout the building appears to be in good condition with most of the original galvanized piping converted to copper pipe. There is some remaining galvanized piping which appears to still be in service.

There are 4" sewer stacks exiting the building from each of the East and West mechanical rooms. Waste collection lines run throughout the basement to the stacks and are a mix of cast iron and PVC piping.

Currently there are (2) toilets on Level 1, and None on the Basement or Level 2 areas. None of them are deemed accessible by today's ADA standards. The Total fixture count provided is:

- Male: (2) toilets, (1) trough urinal= (2), (2) lavs
- Female: (4) toilets, (3) lavs
- Drinking Fountains: None



By today's International Building Code standards a restaurant (last known use) of this size should be provided with the following fixture count:

- First we need the total NSF by space
 - Basement Storage = 4,253 SF (exclusive of mech, elect rooms)
 - Level One dining = 1,808 SF
 - Level One kitchen = 1,013 SF (including both servery bars)
 - Level One back bar/lounge = 1,281 SF
 - Level One stage = 746 SF (including stage right and left)
 - Level Two dining = 1,981 SF
 - Level Two Office = 850 SF (including offices over stage right & left)
- The total NSF divided up and totaled by function
 - Storage = 4,253 SF
 - Dining = 3,789 SF
 - Kitchen = 1,013 SF
 - Bar/Lounge = 1,281 SF
 - Stage = 746 SF
 - Office = 850 SF
- Next we need the total Occupant Load
 - Storage = $4,253 \text{ SF} / 300 = 14$
 - Dining = $3,789 \text{ SF} / 15 = 253$
 - Kitchen = $1,013 \text{ SF} / 200 = 5$
 - Bar/Lounge = $1,281 \text{ SF} / 5 = 256$
 - Stage = $746 \text{ SF} / 15 = 50$
 - Office = $850 \text{ SF} / 100 = 9$
- Total Occupant Load for the building = 587 people

Let's just use the Dining and the Bar/Lounge uses to calculate plumbing fixture requirements. They each have different requirements so we will calculate those separately and then add them together.

Dining = 253 people

- Assume 50% male and 50% female for purposes of plumbing fixture counts
 - 127 males
 - 127 females
- Required plumbing fixtures for use group A-2 per IBC is as follows:
 - Male toilets: 1 per 75 occupants = (2) toilets or (1) toilet and (1) urinal
 - Female toilets: 1 per 75 occupants = (2) toilets
 - Male Lavs: 1 per 200 occupants = (1) lav
 - Female Lavs: 1 per 200 occupants = (1) lav
 - Drinking fountains: 1 per 500 occupants = (1) drinking fountain



Bar/Lounge = 256 people

- Assume 50% male and 50% female for purposes of plumbing fixture counts
 - 128 males
 - 128 females
- Required plumbing fixtures for use group **A-2** per IBC is as follows:
 - Male toilets: 1 per 40 occupants = (3) toilets or (2) toilets and (1) urinal
 - Female toilets: 1 per 40 occupants = (3) toilets
 - Male Lavs: 1 per 75 occupants = (2) lavs
 - Female Lavs: 1 per 75 occupants = (2) lavs
 - Drinking fountains: 1 per 500 occupants = (1) drinking fountain

Combined total plumbing fixture counts required = for 509 people total

- Male toilets: (5) toilets or (3) toilets and (2) urinals
 - Female toilets: (5) toilets
 - Male Lavs: (3) lavs
 - Female Lavs: (3) lavs
 - Drinking fountains: (2) drinking fountain
- **Deficiencies** with current bathroom count: (note this does not include any back of house facilities for staff)
 - Male: (3) toilets, (1) lavs
 - Female: (1) toilet, (3) lavs
 - Drinking Fountains: (2)

Recommended Treatment:

- Re-calculate when actual new use is known
- However, new owner's/new uses for the building should anticipate having to add more bathrooms if the function remains of a public assembly type. Based on current usage another bathroom core should be added to account for the deficiency in fixture counts.
- We would recommend this be done at level 2 (perhaps at the current Office locations, grids 5-7/A-C) since that level has no bathrooms currently).
- Or they could easily be added at the basement level grid 6C/6E at the base of the North stair where there is currently abandoned toilets. Access into the West Mechanical Room and Adjacent Storage Room could simply be shut and locked.
- A drinking fountain should also be added to each bathroom core to satisfy that requirement.
- All galvanized water supply piping should be removed and replaced with copper throughout.
- Waste collection piping should be reconfigured to provide most efficient drainage to nearest exit stack consistent with requirements of new building uses.



Fire Suppression- Sprinklers:

Fair Condition:

Dry pipe type system with the fire valve entrance coming in off of 8th Avenue into the Mechanical Room about grid 6A..

Fire valve is not sealing correctly and when under pressure is allowing water to leak out into the system distribution pipes.

All spaces have sprinkler heads currently including the Attic.

Currently the fire protection system is tapped off of the domestic water supply line. Independent service will be required when submitting for a new permit. There is currently an existing 4" line with only 1 tap. An existing second tap is capped so maybe there will be some savings since the 2nd tap is in place out in the public way.

The last inspection by Union Colony Fire Rescue Authority noted that the valve should be replaced and the sprinkler heads cleaned or replaced.

In 2007 the pipes were drained and blown out and the system is currently in-active.



Typical suspended fire protection piping and heads

Recommended Treatment:

- Provide new dedicated fire system tap and entrance piping.
- Replace the Fire valve at the entrance
- Provide a source of heat at the fire valve entrance as the current Air Handler No.1 combustion air is putting cold air right on the valve, and or move combustion air intake~ concerns of freezing during the winter months should be addressed in some manner.
- Replace all sprinkler heads with new devices and install to be sensitive to the historic character of the building. Drops will need to be modified in length depending on reuse and ceiling heights. I.e. If the Kitchen is eliminated and the main volume of space restored then there will be major changes necessary to the sprinkler protection layout.
- We recommend a fire protection company be contacted to provide a complete design build proposal for this scope of work to verify code requirements and provide all of the technical engineering required for the system.



3.0 STRUCTURE CONDITION ASSESSMENT

3.9 Electrical Systems

Electrical Service and Panels:

Good Condition:

The entire Power supply system was upgraded in 1978 including a new service entrance, new panels and all new wiring throughout.

There is 600 amp service to the main disconnect switch gear which then feeds six separate sub-panels of varying load sizes. The sub-panels are all controlled by individual disconnect switches on the main switchgear, which are labeled A, B, C, D, E, and F. The individual sub-panels are also labeled, but sub-panel labeling is not completely consistent with the switch labels. Discrepancies are noted below. All sub-panels have breaker schedules on the doors. Caution should be exercised when work is performed on any distribution circuits as it is unknown whether or not the breaker schedules are entirely accurate.

- Sub-panel A is located in the main electrical room beside the main switchgear and is load rated at 100 amps. The breaker schedule indicates this panel serves primarily basement level lighting and receptacles, as well as some stage floor receptacles.
- Sub-panel B is located in the main electrical room beside the main switchgear and is load rated at 400 amps. The breaker schedule indicates this panel serves stage area receptacles, stage lighting, as well as basement refrigeration, the West furnace, and the exterior air conditioning condenser units.
- Sub-panel C is located in the corridor on the North side of the kitchen and is load rated at 225 amps. The breaker schedule indicates this panel serves main level North side lighting, overhead receptacles, bar area receptacles, and some stage receptacles.
- Sub-panel (E or F) is located alongside Sub-panel C in the corridor on the North side of the kitchen and is load rated to 225 amps. This sub-panel is labeled as panel D, but is inconsistent with the sub-panel disconnect switch labeling on the main switchgear. It is unknown whether this panel is actually Sub-panel E or Sub-panel F. The breaker schedule on the panel door indicates this panel serves West end overhead receptacles, entry area lighting, and entry wall heaters.
- Sub-panel D is located in the kitchen and is load rated to 225 amps. The breaker schedule indicates this panel serves kitchen lighting, kitchen receptacles, and bar area receptacles.
- Sub-panel (E or F) is located in the Northwest office area of the upstairs mezzanine level and is load rated to 100 amps. The breaker schedule indicates this panel serves the front office and banquet room lighting, office and banquet room receptacles, and banquet room wall heaters.

Recommended Treatment:

- The main service switchgear and all subpanels should be inspected by a licensed master electrician and assessed for safety and serviceability in consideration of the service requirements of any contemplated new use of the interior space.



Electrical Distribution System:

Good Condition:

The distribution wiring throughout the building was replaced throughout during the 1978 transformation into a restaurant space.

All wiring appears to be functional and handling the capacity and use. There are no symptoms of breakers flipping from overloads.

However, there are numerous conditions throughout the interior spaces which are not code compliant, including unsecured conduit and boxes, extensive overhead receptacle circuits for plug-in lighting or other indeterminate uses, and a lack of any ground fault protection in potentially hazardous areas including the kitchen, bar areas, and restrooms.

Recommended Treatment:

- All interior distribution circuits and possibly most distribution subpanels should be removed and replaced to meet the requirements of any new use, and to provide fully code compliant and safe conditions.

Lighting:

Poor Condition:

The illumination levels throughout the building are mostly non-existent. All lighting in the public restaurant and bar areas has been removed at this time. The kitchen is still illuminated by fluorescents strips but the ballasts are humming badly at this time.

The basement lighting is provided by bare bulbs in each space and is adequate for it's current use as storage space.

I appears at this time that all new lighting switching and circuiting will be required throughout levels one and two as a new future use is identified.

Recommended Treatment:

- Re-evaluate the lighting design once the new use is identified.

Fire Detection System:

Poor Condition:

There is currently no fire detection and alarm system in place in any portion of the building.

Recommended Treatment:

- Addition of a hardwired, monitored smoke detection system is of paramount importance for preservation of the structure in the event of fire. Installation of the monitoring system should be coordinated with upgrades to the fire suppression sprinkler system to provide a fully integrated monitored protection system.



Security Alarm System:

Good Condition:

There is a monitored security alarm system in place and functional.

The system monitors all exterior doors only at this time. There are no glass break detectors installed at windows.

The main control keypad for the system is located in the Level One main entry vestibule

Recommended Treatment:

- No mitigation at this time.



4.0 ANALYSIS AND COMPLIANCE

4.1 Hazardous Materials

Likely Sources:

The original coal fired boiler all radiators and associated piping were removed in 1978 when the Mechanical system was completely converted to gas fired forced air system. As such all mechanical pipe insulation material that would normally be considered suspect for hazardous materials has been removed.

Vinyl Asbestos Tile (VAT) was not observed in any of the spaces. It could be that there may be some that is currently covered up by other flooring materials but not likely.

Lead paint may be found throughout the building within the earlier layers of the paint as the major interior transformation to the building took place in 1978 and lead paint was typically used during those days. NPS Preservation Brief 37 notes the following:

- 'Lead-based paint, a toxic material, was widely used in North America on both the exteriors and interiors of buildings until well into the second half of the twentieth century.'
- 'In its deteriorated form, it produces paint chips and lead-laden dust particles that are a known health hazard to both children and adults.'
- 'Federal and state laws primarily address the hazards of lead and lead-based paint in housing and day-care centers to protect the health of children under six years of age. Rarely are there mandated requirements for the removal of lead-based paint from non-residential buildings.'
- Cutting through a surface that is covered in lead paint creates the dust particles that are considered hazardous. As such new work may require spot abatement and or containment at areas of interface.

Recommended Treatment:

- Retain a certified Industrial Hygienist to test various materials throughout the building so it will be clearly known where and if there are any hazardous materials. This is important to know as future projects may need to budget for abatement if the proposed work could potentially disturb any hazardous materials.
- The following is a company as a contact to initiate that discussion. (this is the company that did the abatement work for the City of Greeley on the historic museum building renovation which is in close proximity to this building location). This information is for reference only and not a recommendation from the State Historical Fund.

Herron Enterprises USA, Inc.:

L.P. (Lennie) Herron – Industrial Hygienist- CEO/Director
7261 West Hampden Avenue, Lakewood, Colorado 80227
303-763-9639
303-763-9686 fax



4.0 ANALYSIS AND COMPLIANCE

4.2 Materials Analysis

Soils test:

A soils test will need to be done if there are any future projects which entail structural foundations. This is necessary so that the soils load bearing capacity can be identified and used as structural design criteria.

The following are Soils Engineers which have done work in the Greeley area and could be used to provide these tests. These Engineers are listed as reference only and not recommendations from the State Historical Fund.

- **Kumar and Associates, Inc.**
William Colpitts: Manager/CMT Supervisor
1708 E. Lincoln Avenue #3, Fort Collins, CO 80524
970-416-9045
970-416-9040 fax
- **Two Rivers Testing, Inc.**
Thomas Cope: President
3310 State Street, Evans, CO 80620
970-339-4092
970-330-1252 fax
- **Northern Colorado Geotech**
Doug Leafgren: President
2956 29th Street, Unit 21, Greeley, CO. 80631
970-506-9244
970-506-9242 fax

Construction testing:

During construction there are tests which need to be done to assure that the quality, strength of materials and workmanship are in accordance with the plans and specifications and regulatory requirements. This is not particularly related to the 'historic' significance of the project but an important step which needs to be budgeted for to assure that any new work is completed with integrity to last for generations to come.

Those tests may include:

- rebar for foundations
- concrete for foundation footings and stem walls
- concrete for flatwork
- structural steel
- compaction of soils

The companies noted above for soils testing can also provide these construction testing services.



Mortar test:

Before any work is done on the masonry a complete mortar analysis should be performed so that the mortar can be matched in order to assure that appropriate materials are used for tuck pointing in accordance with NPS Preservation Brief 2.

Each individual portion of the exterior masonry should have the mortar tested as there may be some slight differences between areas.

- 1922 blonde brick
- 1922 red brick (at alley façade)
- 1922 terra cotta surround at main entry
- 1922 terra cotta cap stones at 8th Avenue facade

Paint test:

We are recommending that a paint analysis be done on the exterior window frames prior to repainting them so that the original color of those components can be restored.

The historic photographs look like these windows are all white in color. Although, they very well could have been a softer cream color which just appears white in the photograph. Restoring this original lighter color would quiet the overall composition and return the windows to be in harmony with the rhythms of the facade. The blue color distracts from the historic character of the building.

The original color of the concrete base is still visible along the North façade so a paint test is not necessary to reveal the original color beneath the red. It appears to have been raw concrete left painted. Like the windows, the painted red base is very loud visually and causes the base to become a bigger statement compositionally than originally intended as a solid base grounding the composition to the earth and giving it visual strength and stability.

The spirit of Old Glory is embodied in this structure~ it just doesn't need to be literally represented in the color scheme of the exterior. A simple paint test can assure that we get the colors corrected and the place restored to its original state.



4.0 ANALYSIS AND COMPLIANCE

4.3 Zoning Code Compliance

Governing Code:

This building is located at 614 8th Avenue in Greeley, Colorado 80631. As such, it falls under the City of Greeley Regulatory Agencies and the 2008 City of Greeley Development Code. The following is a zoning analysis as it relates to the existing structure, its current use and its intended long term use as a community gathering place.

Zone District:

C-H: Commercial High Intensity

Legal Description:

S60' Lots 6-7-8 Block 38 also the N10' of W150' of vacated alley adjacent to Lots 6-7-8

Overlay Districts:

General Improvement District

Uses by Right:

The uses by right within the CH zone district are as follows

- Residential ~ most residential functions only permitted by Special review
- Institutional
- Commercial
- Industrial

A restaurant (last known use) falls within the Commercial classification and is thus a use by right in this zone district.

There are a myriad of Institutional and Commercial functions that are community based which are uses by right in this zone district and would be well suited for this structure. Here are a few;

- Library
- Museum
- Recreation Center
- Church
- Art, Dance, Photography Studios
- Lounge-Bar-Restaurant
- Mixed Use
- Office
- Retail
- Theater

Lot Size:

No minimum lot size required

- Lot approx. 70' x 150' = 10,500 SF; 0.24 acres

Street Width:

37' pavement, 50' right of way required

- 8th Avenue is an existing 75' wide roadways and is in compliance



Open Space:

20% minimum open space required or an 80% lot coverage maximum

- 6,250 SF footprint
- 10,500 SF overall lot
- 41% open space provided (although all of that is in hard surface alley or sidewalks)
- 59% lot coverage provided

Sidewalks:

5' wide attached required

- Sidewalks on 8th Avenue are 19' wide (13' at entry stair) and are in compliance

Parking:

Chapter 18.42 requirements~ the following typical requirements are exempt for this property because it is within the General Improvement District

- Required parking is based on use. We will check the requirement based on the last known use as a restaurant bar and also a few potential adaptive re-uses.
- Gross Floor Area is to be used for purposes of parking calculations

Basement level	=	6,250 GSF
Main level	=	6,250 GSF
Second level	=	4,178 GSF (exclusive of the areas open to below)
Total NSF	=	16,678 GSF

Since the basement is unoccupied Storage space we will delete that area from the calculation.

Without Basement	=	12,500 GSF
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- **Restaurant:** 1 space per 4 seats
 - Since there are no longer any tables and booths set up within the facility, we can not count chairs for this purpose.
 - As such we will use the criteria for a Bar/Lounge which is 1 space per 100 SF for the restaurant areas but use the net usable area of the restaurant to calculate that.

Basement level	=	5,734 NSF
Main level	=	4,321NSF(5,734 -1,013 Kitchen-200 Mens-200 Womens)
Second level	=	2,792NSF(4,178 - 226Tele- 1,160 Catwalks/back of house)
Total NSF	=	12,847 NSF

Without Basement	=	7,113 NSF
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- Total 'Off Street Parking' required as a restaurant using NSF; = **72**
- **Bar/Lounge:** 1 space per 100 GSF
 - Total 'Off Street Parking' required as a bar; = **125**
- **Office:** 1 space per 300 GSF or 2 spaces per 3 employees, whichever is greater
 - Total 'Off Street Parking' required as an office building; = **42**
- **Rec. Center:** 1 space per 500 GSF
 - Total 'Off Street Parking' required as Rec. Center; = **25**
- **Retail Sales:** 1 space per 250 GSF + 1 space per 300SF of outdoor display
 - Total 'Off Street Parking' required as Retail Store; = **50**



Landscaping:

Chapter 18.44 requirements

- Currently there isn't any landscaping provided on this property. Street trees are not required as this property is in the General Improvement District.
- As either a high intensity or medium intensity commercial use a 'buffer yard' of landscape is not required
- The unscreened mechanical unit on the North sitting up on the roof and highly visible from the public way is in violation and should be screened from public view. Since this is the Kitchen range hood exhaust unit, we recommend it be removed in its entirety and not return to the vaulted roof location should some future use need a new range hood exhaust unit.

Lot Coverage:

80% maximum allowed

- Building footprint = 6,550 SF
- Lot approx. 130' x 120' = 15,600 SF
- 42% lot coverage

Building Setbacks:

Minimum setback at 8th Avenue is 25' minimum

- 10' at 8th Avenue (+- non surveyed to face of entry stair- survey of property lines not available at this time) which is less than 25'. However, the building face does align with other adjoining properties to the North. No immediate structures to the South.
- By Code performance standard this setback can be reduced to 10' if the building is no higher than 20' and main entrance fronts the street with direct pedestrian access.
- Additional front setback required at a rate of 3' of setback for every 1' of building height over 20'
- Since the building is 35'-6" high that would require 15'-6" x 3' = 18'-6" additional setback or a total setback of 10' + 18'-6" = 28'-6". That is > 25' therefore the 25' setback is the controlling requirement.
- **This property is in violation of the setback requirement along 8th Avenue but as an existing structure is to remain as is.**

Minimum setback at interior sides and rear property lines are established by Building Code which stipulates those are governed by the overall building height along those property lines. 1' of setback for every 3' of building height.

Building height is 26'-4" along the South and North Alley. 26'-4"/3' = 8'-9" setback required

- 10' at the South Alley (+- non surveyed) in compliance
- 10' at the North Alley (+- non surveyed) in compliance

Building height is 32' along the East Alley. 32'/3' = 10'-8" setback required

- 15' at the East Alley (+- non surveyed) in compliance

Building Structure Height:

40' maximum

- 35'-6" max at the corner towers (top most point of parapet)
- 35'-6" max at the chimney



4.0 ANALYSIS AND COMPLIANCE

4.4 Building Code Compliance

In order to fully understand the code implications of even the smallest of modifications it is necessary to understand the overall building and how it is classified by today's codes and what the implications are to the historical integrity of the place.

We have started the code analysis on the following pages in order to assist in starting the dialog with the local regulatory agencies.

This will also help identify life safety issues which should take priority in the Preservation Plan in Section 5.0

REGULATORY AGENCIES:

City of Greeley, CO.

GOVERNING CODES:

The City of Greeley Regulatory Agencies has adopted the following model Building Codes and have added some amendments to each code which can be check via their on-line code at <http://www.greeleygov.com/CityClerk/Documents/City%20Code/title16.pdf> for future reference.

- 2006 International Building Code~ IBC
- 2006 International Existing Building Code~ IEBC
- 2006 International Mechanical Code
- 2006 International Property Maintenance Code
- 2006 International Energy Conservation Code
- 2006 International Plumbing Code
- 2006 International Fuel Gas Code
- 2005 National Electric Code
- 2006 International Fire Code

CERTIFICATE OF OCCUPANCY

SEC 110: The occupancy classification of the building is unknown at this time. It is anticipated in the future that there will be a change of use/certificate of occupancy required at that time.

OCCUPANCY GROUPS:

SEC 303: A2 Assembly (restaurant, bar at levels one and two)
This is the current primary occupancy type for this facility

SEC 304: S2 Storage, Low Hazard (basement level)

Note: this is based on the last known use of the spaces. In the future if these change then the following code analysis will need to be adjusted accordingly.



OCCUPANCY SEPARATIONS:

Table 302.3.2: S2/A2 = 2 hours (basement to level one)

- There is no rated separation between the basement storage areas and the main level assembly spaces.
- The floor ceiling assembly is plaster on lath on wood joists with wood sub floor above. This does not constitute 2 hour rating, nor is it a 1 hour rating.
- Exception 302.2 for an Accessory Use does not relieve this rated condition as the Storage area is greater than 10% of the prime assembly occupancy.

Table 302.3.2: A2/A2 = no rating separation required (level one to level two)

- There is no rated separation between the first and second levels as they are completely open to each other.
- This condition is acceptable as is.

Table 302.1.1: Incidental Use Areas

- The basement Mechanical Rooms would be classified as Incidental uses to the Storage occupancy at that level.
- They are not required to have a 1 hour separation because the equipment size is less than 400,000 BTU. Those spaces are also provided with automatic fire-extinguishing systems which is one of the exceptions noted.
- Both Mechanical rooms are open to adjacent storage areas and unrated. A fire protection system is provided which complies with the 1 hour separation exception.
- Although these spaces are in compliance we recommend rated doors be installed at all openings into these 2 mechanical rooms to provide a complete barrier to the adjoining storage spaces.

IEBC Chapter 5-7- Alterations Level 3 classification

The anticipated modifications would fall within a Level 3 IEBC classification as the work area will exceed 50% of the aggregate area of the building. As a Level 3 classification the requirements of Level 1 and Level 2 apply as well.

SEC 504.1 allows for the alterations to be done in a manner that maintains the level of fire protection provided.

Request approval to allow the unrated occupancy separation to remain 'as is'.

- To get to a 2 hour rated system between floors, fire rated material would have to be added to both the ceiling and floors which would dramatically effect the historic integrity of the interior.

ALLOWABLE AREA MIXED USE OCCUPANCIES:

SEC302.3.1 Non separated uses: Each portion of the building shall be individually classified as to use. The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.



BUILDING AREA CALCULATIONS:

Basement Level:	6,250 GSF
Level One:	6,250 GSF
Level Two:	4,384 GSF (exclusive of the open to below spaces)
Total GSF:	16,884 GSF

SEC 503.1.1 Basements need not be included in the total allowable area provided they do not exceed the area permitted for a one-story building.

Total GSF Area without the basement:	10,634 GSF
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ALLOWABLE AREA AND CONSTRUCTION TYPE ANALYSIS:

The existing construction type is classified as a Type III b (exterior walls are non combustible and the interior building elements are wood). As such we will analyze the existing structure based on those requirements set forth in chapter 5 of the IBC.

Construction Type III b for Occupancy Type A2

Table 503 9,500 SF max
 2 stories
 55' max height

SEC 504.2 Automatic Sprinkler system increase~ A sprinkler system is provided, therefore the increase is taken.
 Maximum height is increased by 20' to 75' max
 Number of stories is increased by 1 to 3 stories max

SEC 506.3 Automatic Sprinkler system area increases by 200%

SEC 504.3 The Corner Towers if constructed of non combustible materials are allowed to be unlimited in height. Since the roof and interior walls are constructed of combustible materials they are only allowed to extend 20' or 95' max.

These structures are not allowed to be used for storage or habitation

SEC 505 Although some have used the term 'Mezzanine when referring to the second floor; it is technically not a Mezzanine but rather classified as a separate floor that is open to below with no rated separation.

As such it is not considered contiguous with the Level 1 floor so it is counted as separate floor area and contributes to the number of stories in the building.

SEC 506.1 Area modifications calculations:

$$A_a = A_t + \{A_t * I_f / 100\} + \{A_t * I_s / 100\}$$

- A_a = Allowable area per floor (with increases applied)
- A_t = Tabular floor area per floor per table 503: 9,500 SF
- I_f = Area increase (%) due to frontage per 506.2: zero
- I_s = Area increase (%) due to sprinkler protection-200%

$$A_a = 9,500 + \{9,500 * 0 / 100\} + \{9,500 * 200 / 100\}$$

$$A_a = 9,500 + 0 + 19,000$$

$A_a = 28,500$ allowable area per floor



Construction Type III b for Occupancy Type A2 (continued)

SEC 506.2

Area increase due to frontage:

$$If = 100 \{F/P - 0.25\} W/30$$

- If = Area increase (%) due to frontage
- F = Building perimeter which fronts onto a 20' public way
8th Avenue facade fronts onto a public way that is greater than 20'
West facade = 50' perimeter
- P = Perimeter of the entire building
350' total perimeter
- W = Width of public way
Since the public ways are greater than 30' in this situation, we will use 30 for purposes of calculations.

$$If = 100 \{50/350 - 0.25\} 30/30$$

$$If = 100 \{.11\} 1$$

If = 11% increase

11% < 25% minimum therefore no increase allowed for public way frontage

SEC 506.4

Total Area determination:

Aa x 2 stories = total allowable building area

$$28,500 \times 2 = \mathbf{57,000 \text{ total allowable building area}}$$

Since the total building area (without basement) is 10,634 it is under the maximum allowable.

Also, level 1 is the largest floor at 6,250 SF and it is less than the maximum allowable floor area per floor of 28,500.

All checks out with construction type III b for Occupancy type A2

This same calculation should be done for other occupancy types as potential building uses are considered to verify those also check out....

For Example:

Construction Type III b for Occupancy Type B (Business, Office)

Table 503 19,000 SF max
4 stories
55' max height

Since the starting value of area per floor is also higher than the total area of the building we know this will also check out so we will not provide the calculation at this time.

Something similar should be done each time a use is being considered.



OCCUPANCY LOAD:

Table 1004.1.2	Maximum floor area allowances per occupant				
Basement	West Mech Room	1/300SF	400/300	=	2
	Storage Spaces	1/300 SF	4,253/300	=	15
	East Mech Room	1/300SF	363/300	=	2
	Electrical Room	1/300SF	271/300	=	1
Subtotal Basement Occupants					20
Level 1	Restaurant- tables,chairs	1/15SF	1,808/15	=	121
	Bar/Lounge	1/5SF	1,281/5	=	257
	Platform	1/15 SF	746/15	=	50
	Kitchen	1/200 SF	1,013/200	=	6
Subtotal Level 1 Occupants					434
Level 2	Restaurant- tables, chairs	1/15SF	1,981/15	=	133
	Tele Equipment	1/300SF	226/300	=	1
	Offices	1/100 SF	850/100	=	9
Subtotal Level 2 Occupants					143
Total Occupants for the entire building loaded to capacity					597

EXITING:

Basement

Table 1018.1	Minimum of 2 exits required <ul style="list-style-type: none"> There are 4 ways to exit out of the basement level, none of which comply as rated fire exits. The 2 stairs at the West end (grid 1C and 7C) open up into the restaurant seating space Recommend that a rated door be installed at the South Stair basement at level One access point with panic hardware. The East stair in the Mechanical Room opens up onto Stage Right space The loading access doors at grid 1I are accessed via a ramp but is a shut and bolted type of doorway Recommend that the hardware on the loading doors be changed and panic hardware added so that there will be one exit that goes directly to the exterior public way.
Table 1005.1	Stairways = $0.3 \times \text{number of occupants} = \text{inches of exit width required}$ $0.3 \times 20 = 6''$
SEC 1009.1	Minimum stairway width shall not be less than 36'' since the occupant load on this floor is less than 50 <ul style="list-style-type: none"> Stair at grid 1C measures 3'-4'' wide Stair at grid 7C measures 3'-4'' wide The East stair measures 3'-6'' wide



EXITING:

Basement continued

Table 1005.1	Other egress components (exit passageways, doorways) = $0.2 \times$ number of occupants = inches of width required $0.2 \times 20 = 4''$
SEC 1008.1	Minimum doorway width = 32'' <ul style="list-style-type: none">• Each doorway out of this floor is 36'' wide
SEC 1016.2	The minimum corridor width shall not be less than 36'' <ul style="list-style-type: none">• Reduced from 44'' by exception 2 since the total occupancy load is less than 50.
Table 1015.1	Exit travel distance shall not exceed 400' <ul style="list-style-type: none">• This distance is measured from the furthest part in a space to the exit stair. Following the pathway of travel.• On this level the worst case scenario is 76' and in compliance.
SEC 1013.3	Common path of egress travel shall not exceed 100' <ul style="list-style-type: none">• This is about 50' and in compliance
SEC 1014.2.1	Exit separation shall be $1/3$ the overall diagonal since this level is sprinkled <ul style="list-style-type: none">• The diagonal is 131'• $131'/3 = 43'-8''$ minimum exit separation required• The 2 stairs along grid C are separated 43'• Recommend this exit separation be approved as is
SEC 1006.1	The means of egress, including the exit discharge, shall be illuminated at all times the building space is served by the means of egress is occupied. <ul style="list-style-type: none">• Lighting at the stairwells is switched from the top of the stairway• Recommend that battery powered emergency egress and exit lights be added throughout the facility on all levels.

EXITING:

Level 1

Table 1018.1	Minimum of 2 exits required <ul style="list-style-type: none">• There are 3 ways to exit from this level. Since this level is elevated 5' above grade, all 3 exits include vertical transitions once exiting the building• The main entry at 8th Avenue exits via a double vestibule to an elevated stoop which then transitions down to a public walkway.• An exit at about the midpoint along the North wall(grid 7D) exits to a ramp which transitions to grade at 8th Avenue public way.•
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EXITING:

Level 1 continued

Table 1018.1	Minimum of 2 exits required (continued) <ul style="list-style-type: none">• An exit at grid 1I is accessed via Stage Left and transitions to the public way via a loading dock platform and stairway.
Table 1005.1	Stairways = $0.3 \times \text{number of occupants} = \text{inches of exit width required}$ $0.3 \times 434 = 130''$ or $10'-10''$ required Existing exit stair widths <ul style="list-style-type: none">• 8th Avenue = $5'-4''$• Ramp = $4'-9''$• East loading dock = $4'$ The sum total of all of the stairway widths exceeds this requirement <ul style="list-style-type: none">• $10'-10''$ required• $14'-1''$ provided
Table 1005.1	Other egress components (exit passageways, doorways) = $0.2 \times \text{number of occupants} = \text{inches of width required}$ $0.2 \times 434 = 86.8''$ <ul style="list-style-type: none">• There are a total of 4 exit doors serving this floor.• (2) $36''$ doors and (2) $2'-10''$ doors• The total doorway exit width equates to $11'-2''$ or $134''$ and exceeds the required minimum
SEC 1008.1	Minimum doorway width = $32''$ <ul style="list-style-type: none">• All doors are currently in compliance
Table 1015.1	Exit travel distance shall not exceed $250'$ for an A occupancy, sprinkled <ul style="list-style-type: none">• On this level the worst case scenario is about $50'$ and therefore is in compliance.
SEC 1019.1	Vertical exit enclosures shall be not less than 1 hour fire rated. <ul style="list-style-type: none">• The 2 stairways at grid C are in enclosures from the basement up to Level 1 but they are not 1 hour rated.• Both North and South stairs are completely open with no enclosure from Level 2 to Level 1.• By exception 8 of SEC 1019.1 one exit can be open and unenclosed. Recommend extending the exit from the North Stair at grid 7C so that it exits directly outside at the ramp and enclosing this stair from the basement, Level 1 and Level 2. This will allow the South stair to remain open and exit as it currently does.
SEC 1019.1	Two interconnected floors shall not be open to other floors. <ul style="list-style-type: none">• This means that the basement level or level 2 should be separated by a fire door so that only 2 floors are interconnected.• Recommend adding a rated door at the basement level on both stairs to satisfy this requirement.



EXITING:

Level 2

Table 1018.1	<p>Minimum of 2 exits required</p> <ul style="list-style-type: none"> • 2 exits are provided via the North and South stairs • There is another stairway along the East wall grid 7I which acts as a communicating stair from the Level 2 Office to Stage Right below. This is not an exit stair but does allow occupants of that office to vacate the space without having to walk back towards the West across the catwalk. • The South office at grid 1I does not have this secondary escape route
Table 1005.1	<p>Stairways = $0.3 \times \text{number of occupants} = \text{inches of exit width required}$ $0.3 \times 143 = 42.9''$; divided evenly between the 2 stairs = 21.5'' each</p>
SEC 1009.1	<p>Minimum stairway width shall not be less than 44''</p> <ul style="list-style-type: none"> • The North stair measures 40'' wide at this level • The South stair also measures 40'' wide at this level <p>If you divide the occupant load in $\frac{1}{2}$ assuming $\frac{1}{2}$ go to one exit and $\frac{1}{2}$ go to the other, then you have 72 occupants utilizing each stair. At 51 occupant load the minimum width of 44'' applies.</p> <ul style="list-style-type: none"> • Neither stair complies with the required width. Both stairs wrap around floor openings to below and are thus restricted so they can not be widened. • Request that the stair width remain as is per IEBC 1003.3
SEC 1009.2	<p>Head height: 6'-8''' required; 7' at bottom treads Provided at South Stair basement enclosure therefore in compliance.</p>
SEC 1009.3	<p>Riser heights: 7'' maximum; 7.37'' Provided therefore too tall.</p> <ul style="list-style-type: none"> • We recommend this condition be approved as is because the only way to correct it would be to demolish and rebuild a new stair. • The stairs have historic value therefore we recommend they be maintained even though they are a bit steep. <p>Tread depths: 11'' minimum; 11'' Provided therefore in compliance</p>
SEC 1009.11.1	<p>Handrail heights are required to be 34''-38''; 34-36 Provided</p>
SEC 1009.11.3	<p>Handrail grasping size is required to be 1.25''-2'';</p> <ul style="list-style-type: none"> • 2x6 (1.5"x5.5'') Provided • Somewhat in compliance although the 2x6 is not routed out with a finger grasp recess



EXITING:

Level 2	continued
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- SEC 1009.11.4 The handrails on the open sides are interrupted by newel posts at level one
- Newell posts and starting volutes are only allowable in dwelling units
 - **Request approving these as is, as they are an integral part of the historic fabric of the stairway.**
- SEC1009.11.5 Required to have continuous handrails on both sides. Rails provided on both sides but not continuous. The handrail on the wall side does not extend a minimum of 12" beyond the top riser and one full tread beyond the bottom risers. They also do not return to the wall.
- **Recommend replacing these rails with new code complying rails and brackets.**
- Table 1005.1 Other egress components (exit passageways, doorways) = $0.2 \times \text{number of occupants} = \text{inches of width required}$
 $0.2 \times 143 = 28.6''$
- SEC 1008.1 Minimum doorway width = 32"
- **Currently there are no exit doorways off of this floor as both stairs are open to below.**
- SEC 1012.2 Guardrails are required to be 42" minimum high:
- Existing guardrails at the level 2 openings to below are in compliance at 42.5" high + a steel cap to 55" with 1/2" square tubing pickets on 2 1/2" centers
 - Guardrails at the Catwalks are missing in their entirety. The original rails did not comply with the 4" maximum opening or height requirements.
 - **Recommend providing both locations with metal guardrails similar in character to the original guards but code complying**
- SEC 1016.2 The minimum corridor width shall not be less than 44"
- Currently there are no corridors
- SEC 1016.1 Corridor fire resistive rating exclusive of the occupancy separation requirements noted above is suppose to be 1 hour minimum
- Currently there are no corridors
 - If any are added in the future interconnecting the stairways, then they will need to be rated
- SEC 1016.3 Dead end corridors shall not be greater than 20'
- Currently the South catwalk along grid 1 is a dead end into the office at grid 1I. There is no way to get out of this Office other than the catwalk.



EXITING:

Level 2	continued
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- SEC 1016.3 Dead end corridors shall not be greater than 20' (continued)
- The Office on the North side has a communicating stair down to Stage Right so on that side there is no dead end condition.
 - Current dead end length = 65'
 - **Recommend adding a floor hatch and wall ladder at grid 2I to allow an escape down to Stage Left. Or....**
 - **Abandon access to the space from the catwalk- close it off and just use a floor hatch and ladder to access it as an attic space only.**
- Table 1015.1 Exit travel distance shall not exceed 250'
- On this level the worst case scenario is 80' from the South East Office at grid 1I, but that is to the South stair which is open to Level 1.
 - So extending that travel distance down to the point of exit discharge equates to and additional 88' or a total travel distance of 168'~ and is in compliance
- SEC 1013.3 The common path of travel shall not exceed 75' for the overall floor. Common path is defined as 'paths that merge'. It is that portion of exit access which the occupants are required to traverse before two separate and distinct paths of egress travel to two exits are available.
- With the stairs split on opposing North and South walls the common path is about equal from all parts of the floor.
 - It is about 35' and in compliance.

ACCESSIBILITY

Reference Section 4.5 for further discussion about Accessibility. This is just a code summary of what is required.

- SEC 1103.1 This facility is required to be accessible to people with disabilities
- SEC 1104.4 At least one accessible route shall connect each accessible level, including mezzanines, in multilevel buildings and facilities.
- The basement and level 2 are both non-accessible at this time and can only be reached by Stairway.
 - Level 1 is a ½ level up from grade. A ramp has been built on the north side to gain access through a side door.
 - Ramp is non-complying (see below)
 - **The second level may need to be made accessible via an elevator in the future depending on use**



ACCESSIBILITY (continued)

- SEC 1104.5 Accessible entrance location shall coincide with or be located in the same general area as a general circulation path
- The location of the ramp is not the spirit of this requirement; although it appears the ramp was added in the location least disruptive to the historical façade while still allowing access from the public sidewalk.
- SEC 1105.1 At least 50% of all public entrances shall be accessible
- Currently none are provided
 - The only accessible entrance is off of the ramp and it is not a 'public entrance' at all but simply a side door means to accommodate accessibility.
- SEC 3409.5 Under the 'Historic Building' designation, where compliance with accessibility requirements is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.
- It would not be feasible to add an accessible ramp to the front door as the site limits would not permit it.
 - There is also the issue of maintaining the historic integrity of the elevated front door and configuration of the original stoop
- SEC 3409.6 The accessible route to the primary function area shall include toilet facilities serving the primary function.
- Toilets at level 1 are provided but stalls are not accessible by today's standards.
 - Reference Section 3.8 for further plumbing analysis and recommendations about potential relocation
- SEC 1007 An accessible means of egress is not required in alterations to an existing building by exception 1.
- i.e. an area of refuge will not be required to be added to the stairways
- SEC 1010 Ramps
- Slope = 1:12 maximum; 1.5:12 provided
 - Slope = 8% maximum; 12% provided
 - Cross slope = 2% maximum
 - Vertical rise = 30" maximum; 60" provided w/out landing
 - Width = egress width required; 44" minimum: 54" provided
 - Headroom = 80" minimum: open to the sky
 - Landing width = as wide as widest part of adjoining ramp: top landing complies but not intermediate landing provided
 - Landing length = 60" minimum; 72" provided at top only
 - Landings at change in direction = 60"x60" minimum; NA
 - Handrails = if ramp rise is greater than 6" then handrails are required on both sides. 34"-38" above ramp elevation, 1.25"-2" diameter, 12" extensions top and bottom; handrails only provided on outside side



ACCESSIBILITY (continued)

SEC 1010	Ramps (continued) <ul style="list-style-type: none">• Edge protection required = rail 17"-19" above ramp, a curb with an opening to the railing system less than 4", or a guardrail; <u>not provided</u>• Guardrails are required if the ramp is more than 30" above grade; <u>guardrails are non-complying by height and clear opening widths</u>• Recommend replacing this ramp with one that is code complying for all components. Note, this will require moving the access door further East from it's current location.
SEC 1106	Accessible Parking shall be provided if there is parking provided <ul style="list-style-type: none">• Currently all parking is provided 'off site' and or 'on street'. Nothing is located on this property.
Table 1106.1	125 off street parking spaces are required as a bar/lounge by Zoning (re: Section 3.1) which triggers the IEBC requirement to provide 5 accessible parking spaces.
SEC 1106.5	For every 6 accessible parking spaces or fraction thereof, 1 Van parking space shall be provided. Therefore 1 van space required.
SEC 1106.6	The accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to the accessible entrance.

PLUMBING FIXTURE COUNTS

Reference section 3.8

STRUCTURAL

IEBC 507.2.1	Where replacement of roofing or equipment results in additional dead loads, structural components supporting such re-roofing or equipment shall comply with the vertical load requirements of the IBC.
IEBC 507.2.3	Where roofing materials are removed from more than 50% of the roof diaphragm of a building or section of a building where the roof diaphragm is a part of the main wind force-resisting system the integrity of the roof diaphragm shall be evaluated and if found deficient because of insufficient or deteriorated connections, such connections shall be provided or replaced. <ul style="list-style-type: none">• Recommend Structural engineer provide this analysis prior to re-roofing as discussed in Section 3.5



FIRE PROTECTION SYSTEM

- SEC 903.2.1.2 An automatic sprinkler system shall be provided throughout buildings and portions thereof used as group A occupancies.
- **A dry pipe system is currently provided but in need of a new dedicated service and tap, new entry valve, new sprinkler heads or cleaned and re-tested, modified distribution as required by any plan modifications.**
- SEC 903.3.1.1 An automatic sprinkler system shall be in accordance with NFPA 13
- Table 903.2.13 Addition fire protection required for the stage per SEC 410.6
- SEC 903.4 An automatic sprinkler system shall be monitored and provide signals and audible alarms
- SEC 905.3.1 Standpipe system not required as the highest floor is less than 30' above fire department vehicle access.
- SEC 906 Portable Fire Extinguishers shall be provided throughout in accordance with the IFC.
- **Recommend walking the building with the Fire Marshal and getting their direction on where fire extinguishers should be placed.**
 - **We typically recommend a simple wall hook and extinguisher in lieu of trying to cut in recessed cabinets which would irreplaceably damage some of the historic walls. However, cabinets may be necessary depending on future use.**
- SEC 907.2.1 In group A occupancies a manual Fire Alarm Detection System shall be installed in accordance with NFPA 72 because the occupancy load is greater than 300 and less than 1,000.
- Manual fire alarm pull boxes shall be not more than 5' from the entrance to each exit
 - Travel distance to the next nearest box shall not be more than 200'
- SEC 907.2.18.1 Smoke detectors required as follows
- In any mechanical air ducts serving more than 1 floor
 - Mechanical equipment rooms.
- SEC 907.9.1 Visible alarms (strobes) shall be provided
- SEC 907.9.2 Audible alarms (annunciators) shall be provided
- SEC 909.5.2.1 Ducts and air transfer openings are required to be protected with smoke dampers



FIRE PROTECTION SYSTEM (continued)

- SEC 911 A fire command center is not required but if a sprinkler and alarm system is provided then an annunciator panel will be required.
- **We recommend locating this at the 8th Avenue entrance adjacent to current security alarm pad.**
 - **A knox box should also be provided at this entry on the exterior so the Fire Department can gain access without destroying the entry door. The location of the knox box must be reviewed by the Fire Marshal and approved prior to installation but we recommend it be provide in the new recommended recessed entry alcove discussed in Section 3.1**

ROOFING

Table 1505.1 For construction type IIIB a roof class 'C' is required.



4.0 ANALYSIS AND COMPLIANCE

4.5 Accessibility Compliance

GOVERNING CODES:

The City of Greeley Regulatory Agencies has adopted the following model Building Codes and have added some amendments to each code which can be checked via their on-line code at <http://www.greeleygov.com/CityClerk/Documents/City%20Code/title16.pdf> for future reference.

- 2006 International Building Code~ IBC
- 2006 International Existing Building Code~ IEBC

If this building remains a public facility it is required by the Americans with Disabilities Act (ADA) Accessibility Guidelines issued by the U.S. Department of Justice to be made to be accessible for people with disabilities.

- 2004 ADA Standards version 4.4

ACCESSIBILITY

Reference Section 4.5 for further discussion about Accessibility. This is just a code summary of what is required.

- SEC 1103.1 This facility is required to be accessible to people with disabilities
- SEC 1104.4 At least one accessible route shall connect each accessible level, including mezzanines, in multilevel buildings and facilities.
- The basement and level 2 are both non-accessible at this time and can only be reached by Stairway.
 - Level 1 is a ½ level up from grade. A ramp has been built on the north side to gain access through a side door.
 - Ramp is non-complying (see below)
 - **The second level may need to be made accessible via an elevator in the future depending on use**
- SEC 1104.5 Accessible entrance location shall coincide with or be located in the same general area as a general circulation path
- The location of the ramp is not the spirit of this requirement; although it appears the ramp was added in the location least disruptive to the historical façade while still allowing access from the public sidewalk.
- SEC 1105.1 At least 50% of all public entrances shall be accessible
- Currently none are provided
 - The only accessible entrance is off of the ramp and it is not a 'public entrance' at all but simply a side door means to accommodate accessibility.



ACCESSIBILITY (continued)

- SEC 3409.5 Under the 'Historic Building' designation, where compliance with accessibility requirements is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.
- It would not be feasible to add an accessible ramp to the front door as the site limits would not permit it.
 - There is also the issue of maintaining the historic integrity of the elevated front door and configuration of the original stoop
- SEC 3409.6 The accessible route to the primary function area shall include toilet facilities serving the primary function.
- Toilets at level 1 are provided but stalls are not accessible by today's standards.
 - Reference Section 3.8 for further plumbing analysis and recommendations about potential relocation
- SEC 1007 An accessible means of egress is not required in alterations to an existing building by exception 1.
- i.e. an area of refuge will not be required to be added to the stairways
- SEC 1010 Ramps
- Slope = 1:12 maximum; 1.5:12 provided
 - Slope = 8% maximum; 12% provided
 - Cross slope = 2% maximum
 - Vertical rise = 30" maximum; 60" provided w/out landing
 - Width = egress width required; 44" minimum: 54" provided
 - Headroom = 80" minimum: open to the sky
 - Landing width = as wide as widest part of adjoining ramp: top landing complies but not intermediate landing provided
 - Landing length = 60" minimum; 72" provided at top only
 - Landings at change in direction = 60"x60" minimum; NA
 - Handrails = if ramp rise is greater than 6" then handrails are required on both sides. 34"-38" above ramp elevation, 1.25"-2" diameter, 12" extensions top and bottom; handrails only provided on outside side
 - Edge protection required = rail 17"-19" above ramp, a curb with an opening to the railing system less than 4", or a guardrail; not provided
 - Guardrails are required if the ramp is more than 30" above grade; guardrails are non-complying by height and clear opening widths
 - **Recommend replacing this ramp with one that is code complying for all components. Note, this will require moving the access door further East from it's current location.**



ACCESSIBILITY (continued)

SEC 1106	Accessible Parking shall be provided if there is parking provided <ul style="list-style-type: none"> • Currently all parking is provided 'off site' and or 'on street'. Nothing is located on this property.
Table 1106.1	125 off street parking spaces are required by Zoning as a bar/lounge (re: Section 3.1) which triggers the IEBC requirement to provide 5 accessible parking spaces.
SEC 1106.5	For every 6 accessible parking spaces or fraction thereof, 1 Van parking space shall be provided. Therefore 1 van space required.
SEC 1106.6	The accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to the accessible entrance.

ENTRY DISCUSSION

The goal of the ADA standards is to allow All visitors to enter the front door, or if not, then the best available alternative.

The existing building had a ramp added in 1978 along the North façade to accommodate accessibility. Although this current ramp does not comply with code in its physical construction nor does it take visitors to the front door, the location of the ramp seems to be the best solution from an aesthetic standpoint.

In it's current location, it is not visible from the public way and as such is not interrupting the integrity of the historic façade. If one was to place a ramp along the South wall then it would become highly visible as you approach the building as that façade is fully exposed to an open parking lot.

Adding a lift or some ramping system to the main façade would completely destroy the perception of the historic façade therefore we will not even go down that pathway or explore that design option.

To place an accessible entrance off of the back, East alley or even a ramp at that location would just not be a dignified way for anyone to enter this building so we will also throw that thought out and not consider it.

So, really by default, the current North side ramp is the best solution to providing an accessible entrance. You may not be able to enter the 'historic front door' but at least the access point is immediately adjacent to it and off of the public sidewalk along 8th Avenue.

PROPOSED RAMP MODIFICATION:

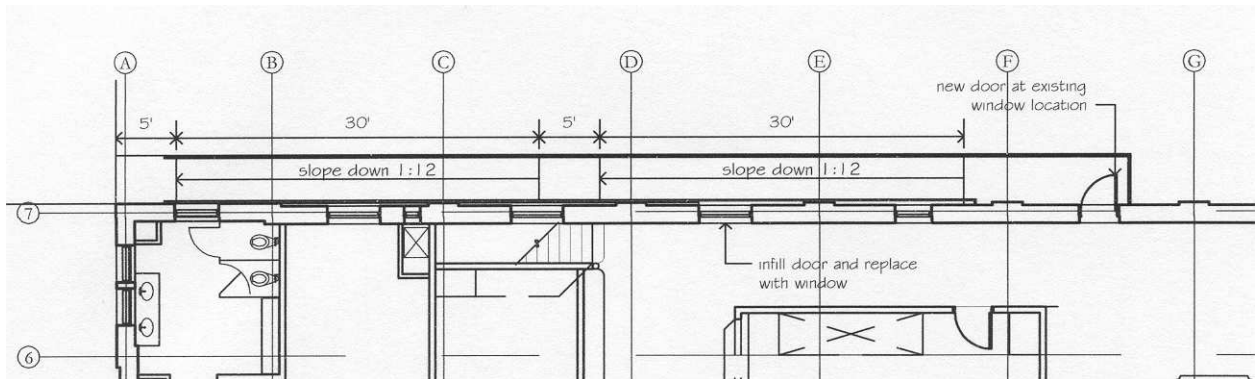
Everything about the existing ramp is non code complying and as such we recommend complete removal of it and a new code complying ramp be built in its place.

In order to accomplish this option the following would be required.

- Complete removal of the ramp, partial height CMU walls and metal railing system and gate at the bottom 8th Avenue sidewalk connection.
- Remove existing diagonal downspout along North wall



- Reconstruct a new metal ramp out of metal bar grating material for the flooring and light steel frame.
- This will allow the downspouts at grids C and E to be returned to their original vertical position as they would now be able to penetrate the flooring grate and transition horizontally under the ramp to discharge.
- This type of ramp system will also allow day lighting to return to basement windows which are currently completely encased beneath the current ramp at grids 7C and 7D.
- Another benefit to the metal grating type flooring is that snow and ice won't build up on it like a solid surface and since this ramp is on the North side of the building this is a real issue to be considered.
- New ramp length needs to be 60' long with an intermediate landing because the rise is greater than 30" high. The current ramp is 42'-6" long without a landing. Landings are required to be 5' long minimum. With a landing at the bottom, intermediate and top. This means the total ramp length will be $60' + 5' + 5' + 5' = 75'$ minimum

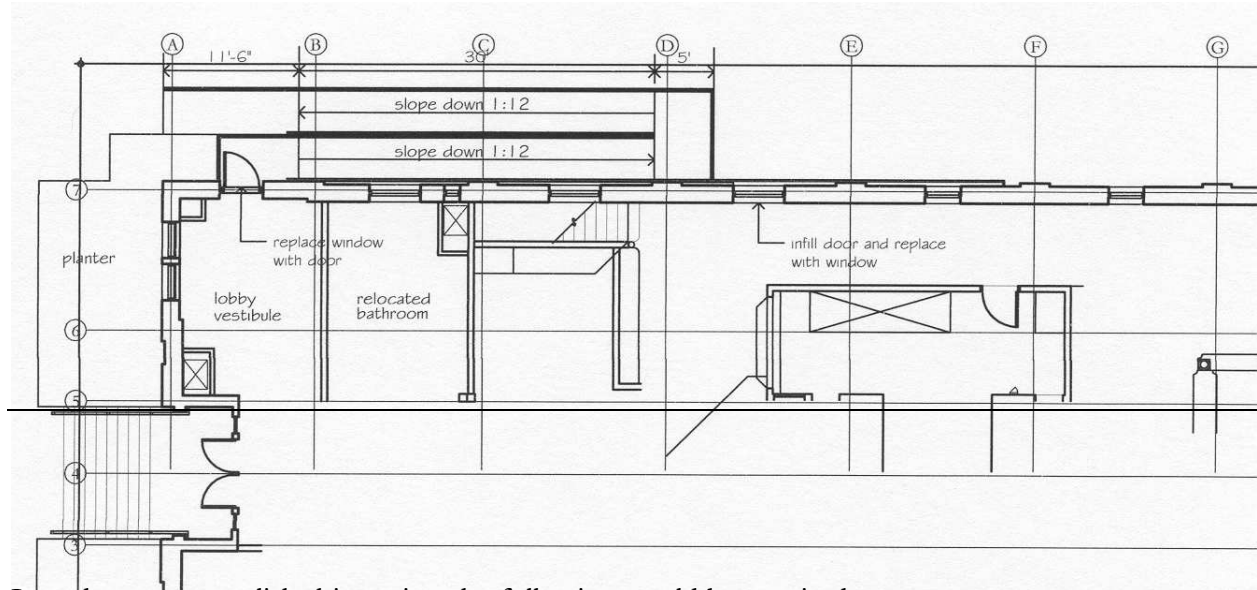


- Condenser locations currently at grid E and G will need to be set on grade further to the East about grid line H and I. Electrical disconnects on the exterior wall will also need to be relocated accordingly.
- Provide a wall mounted handrail and a metal guardrail on the open side
- Space under the ramp should be left open along the outer edges so debris can easily be removed by rake.
- Infill existing door at grid 7D and return it to a window opening similar to the original. Use the removed window from new door location (as noted below).
- Remove window at grid 7F and open up wall for new door. Salvage window for reinstallation at current door location to be in-filled (as noted above).



PROPOSED RAMP MODIFICATION~ ALTERNATIVE THOUGHT:

Knowing that we shouldn't tack a ramp on the front of the building to get access to the main entry we explored a concept shown below which allows for an accessible entry to be side loaded into a front lobby. This gets the accessible entrance to work in tandem with the front door so all can arrive at the same point in the building. As the future uses for this building are developed this scheme would make the building more functional to layout either as a single function or multi tenant occupancy. This is possible because on the North side the actual property line is 10' from the building face which enables a switch back type ramp system to be utilized in lieu of a straight run.



In order to accomplish this option the following would be required.

- Complete removal of the ramp, partial height CMU walls and metal railing system and gate at the bottom 8th Avenue sidewalk connection.
- Reconstruct a new metal ramp out of concrete to the height of the building concrete base. Because this ramp is 8' wide we feel it too wide to leave open and accessible beneath as in the previous steel grate solution.
- Metal guardrail systems should be used with post collars cast into the concrete base
- New ramp length needs to be 2 runs at 30' long with an intermediate switch back type landing because the rise is greater than 30" high.
- Front bathrooms to be relocated (as discussed in Section 3.6) to make way for a public entrance space.
- Convert bathroom to lobby vestibule connected to the front doorway and entry for accessible ramp.
- Open up window 5 and convert to a doorway with power operated opener.
- Modifications to the front entry to restore a recessed entry stoop and cascading stair complete this concept and make the entry experience of entering the building positive for All visitors and in the same proximity. If not At the front door, then the best available alternative per the stated goal in the ADA standards.



MAIN LEVEL- FLOOR HEIGHTS

In addition to getting into the building, there is the issue of access to all of the spaces within.

Currently there are several floor elevation changes on the main level which are not accessible. As these floor changes were made during the 1978 restaurant modifications and built over the top of the historic wood floor, we recommend they be removed to return the floor to one contiguous elevation. This will also allow the entire main level to be accessible.

The stage/platform is an exception to that. This is an original feature of the building and as such should remain at its elevated position of +34" above the original floor level. It should be made accessible and could easily be accommodated by a ramp along the North or South wall in the original location of a transition stair (grid 1 or 7)

BASEMENT AND SECOND LEVEL ACCESS

Currently the basement and second levels are completely in-accessible.

A public function located on either level in the future would trigger the necessity to add an elevator.

The best location for the lift will depend on future layout. However, at this time we would recommend that it be kept away from the perimeter glass and between grids A and C on the West end. We recommend this location because that portion of the roof is flat and beyond the limits of the vaulted roof. That location would also allow for the elevator overrun to be accommodated without being visible from the public way due to the towers and raised parapets. Perhaps the overrun would even fit entirely within the existing attic space and not have to penetrate the roof.

ACCESSIBLE BATHROOMS:

Currently there are no accessible bathrooms provided. We are recommending in section 3.8 that the bathroom core be relocated away from the 8th Avenue historic façade so that the historic façade can engage the public in a more meaningful way.

At that time, the bathrooms should be built to today's ADA standards.

If they remain where they are at, then they will need to be gutted and redone to comply with code.



5.0 PRESERVATION PLAN

5.0 Prioritization Scale

The Preservation Plan in the following Sections 5.1, 5.2 and 5.3 takes the recommended treatments prescribed throughout the report and prioritizes them into a logical order. That order ranks the most urgent work, such as deterioration, structural weaknesses, and/or life safety issues over less urgent repairs.

All of the recommended treatments in this report are included in this Preservation Plan

We acknowledge that first priority has been given to the needs of the historic building/resource and that programmatic needs of the building owner have been represented as secondary priorities.

Prioritization Scale:

We will be using the prioritization scale as put forth in the Colorado Historical Society/State Historical Fund 'Historic Structure Annotated Assessment Scope of Work'. That scale is repeated here so all reviewing this document understand the definition of the terms used. To that scale we have added one other category, 'Other Items'. These are items which are not deficient in terms of their physical integrity and fall somewhere below the CHS scale of Minor Deficiency.

Critical Deficiency:

- Advanced deterioration has resulted in failure of the building feature or element or will result in its failure if not corrected within two years, and/or
- Accelerated deterioration of adjacent or related building materials has occurred as a result of the feature or elements deficiency, and/or
- The feature or element poses a threat to the health and/or safety of the user, and/or
- The feature or element fails to meet a legislative requirement.

A Serious Deficiency:

- Deterioration if not corrected within five years, will result in the failure of the building feature or element, and/or
- The feature or element may pose a threat to the health and/or safety of the user within two to five years if the deterioration is not corrected, and/or
- Deterioration of adjacent or related building materials and/or systems will occur as a result of the deficiency of the feature or element.

Minor Deficiency:

- Standard preventive maintenance practices and building conservation methods have not been followed, and/or
- A reduced life expectancy of affected or related building materials and/or systems will result, and/or
- A condition exists with long-term impact beyond five years.

Other Items:

- Longer term items which do not necessarily have a minor physical deficiency and fall somewhat below that priority scale.



5.0 PRESERVATION PLAN

5.1 Prioritized Work

The following items are prioritized from most critical at the top to least at the bottom. We have added the category of 'Other Items' which are those items that are neither Critical, Serious or Minor. Instead, they are aesthetic items which are subjective in nature or upgrades.

CRITICAL DEFICIENCIES:

- Replace basement beams that are overstressed or add columns
- Add joist hangers at Stage Right flooring
- Repair broken truss at grid G, including further structural engineer evaluation
- Repair masonry pilaster at grid 1G, including further structural engineer evaluation
- Support for mezzanine floor at truss D, including further structural engineer evaluation
- Support for mezzanine catwalks grids 1.5 and 6.5
- Remove and replace accessible ramp with code complying ramp and railing system
- Remove and replace vaulted and flat roof membranes, roof hatch, parapet wall flashings, and all associated roofing work
- Provide all new mechanical HVAC equipment and systems
- New fire sprinkler tap, entry valve, modified distribution and sprinkler heads
- New electrical distribution and sub panels within the building
- New bathrooms at a potential new location, increased fixture counts, ADA accessible
- Unrated first floor to be approved by Reg Agencies or modified accordingly
- Emergency egress lighting and exit signs throughout
- Egress hardware added to basement loading dock doors
- Enclose North stair from basement to level 2 and connect to exterior at level 1
- New handrails at North and South stairs
- New guardrails at all mezzanines open to below
- Floor hatch and ladder exit from Office over Stage Left
- Fire Alarm Detection System per NFPA72, annunciator panel, Knox box
- Lead based paint evaluation, recommendations and potential abatement

SERIOUS DEFICIENCIES:

- Patch, repair, paint existing gutters and downspouts, collector boxes
- Replace diagonal downspout with vertical to match
- Tuck pointing throughout the façade to fill all gaps, missing mortar and cracks
- Removal and re-do of mismatch tuck pointed areas
- Remove red paint from concrete bases, fill all cracks, finish to match original
- Tuck point terra cotta cap stones and entry door surround
- Replace loading dock and associated stairs
- Patch and repair chimney cap
- Window restoration
- Remove Kitchen equipment, coolers, walls and raised flooring in their entirety
- Remove level 1 1978 raised flooring areas
- Restore plaster ceiling at level 2
- Restore plaster walls throughout level 1 and 2
- Fire rated doors added to mechanical rooms



GREELEY ARMORY

HISTORIC STRUCTURE ASSESSMENT

Project # 2009-HA-022

MINOR DEFICIENCIES:

- Clean the brick and terra cotta
- Restore the flagpole and make operational
- Restore wood trim at levels 1 and 2
- Fire extinguishers throughout
- Removal of non-historic walls not covered by Kitchen and Bath removal

OTHER ITEMS:

- Replace 8th Avenue entry stair, recessed entry doors and associated site work
- Remove 8th Avenue signage board and canopy
- Elevator to make level 2 accessible
- Loading Dock doors



5.0 PRESERVATION PLAN

5.2 Phasing Plan

The work will need to be carried out in multiple phases over time.

It is most likely that fund raising will have to occur for each project as the building owners begin to work their way through the various tasks put forth in this document. Phasing may therefore be on an individual task basis.

We have grouped the following scope of work items into some phases as a guideline about how they might be grouped for purposes of fund raising. They are organized starting with those items deemed most critical in the preservation plan.

Phase I:

- Replace basement beams that are overstressed or add columns
- Add joist hangers at Stage Right flooring
- Repair broken truss at grid G, including further structural engineer evaluation
- Repair masonry pilaster at grid 1G, including further structural engineer evaluation
- Support for mezzanine floor at truss D, including further structural engineer evaluation
- Support for mezzanine catwalks grids 1.5 and 6.5
- Remove and replace vaulted and flat roof membranes, roof hatch, parapet wall flashings, and all associated roofing work

Phase II:

- Replace 8th Avenue entry stair, recessed entry doors and associated site work
- Remove 8th Avenue signage board and canopy
- Remove and replace accessible ramp with code complying ramp and railing system
- Provide all new mechanical HVAC equipment and systems
- New fire sprinkler tap, entry valve, modified distribution and sprinkler heads
- New electrical distribution and sub panels within the building
- New bathrooms at a potential new location, increased fixture counts, ADA accessible
- Unrated first floor to be approved by Reg Agencies or modified accordingly
- Emergency egress lighting and exit signs throughout
- Egress hardware added to basement loading dock doors
- Enclose North stair from basement to level 2 and connect to exterior at level 1
- New handrails at North and South stairs
- New guardrails at all mezzanines open to below
- Floor hatch and ladder exit from Office over Stage Left
- Fire Alarm Detection System per NFPA72, annunciator panel, Knox box
- Lead based paint evaluation, recommendations and potential abatement



GREELEY ARMORY

HISTORIC STRUCTURE ASSESSMENT

Project # 2009-HA-022

Phase III:

- Patch, repair, paint existing gutters and downspouts, collector boxes
- Replace diagonal downspout with vertical to match
- Tuck pointing throughout the façade to fill all gaps, missing mortar and cracks
- Removal and re-do of mismatch tuck pointed areas
- Remove red paint from concrete bases, fill all cracks, finish to match original
- Tuck point terra cotta cap stones and entry door surround
- Replace loading dock and associated stairs
- Patch and repair chimney cap
- Window restoration
- Remove Kitchen equipment, coolers, walls and raised flooring in their entirety
- Remove level 1 1978 raised flooring areas
- Restore plaster ceiling at level 2
- Restore plaster walls throughout level 1 and 2
- Fire rated doors added to mechanical rooms
- Removal of non-historic walls not covered by Kitchen and Bath removal

Phase IV:

- Clean the brick and terra cotta
- Restore the flagpole and make operational
- Restore wood trim at level 2
- Fire extinguishers throughout
- Loading dock doors



5.0 PRESERVATION PLAN

5.3 Estimate of Probable Costs

The following are estimates of the probable costs associated with the scope of work items identified and prioritized in this report. These are estimates only and should not be construed as bid figures

These figures were developed with Contractors familiar with the current market in Greeley, CO and include a percentage of increase for yearly cost escalation. There is also a contingency of 10% identified for each phase. Contractor general conditions, over head and profit are included in each line item as though each item were pursued individually in lieu of one large project with multiple tasks ongoing simultaneously as this is most likely how the work will be pursued.

The following is a summary per phase of work in 2009 dollars, including contingency. See the attached spreadsheets for a break down on line item costs within each phase.

- Phase I: \$69,333
- Phase II: \$413,380
- Phase III: \$247,097
- Phase IV: \$32,780
- Total all phases in 2009 dollars = \$762,590

GREELEY ARMORY
HISTORIC STRUCTURE ASSESSMENT COST ESTIMATE
PROJECT 2009-HA-022

Phase I	Item	2009 cost	2010 cost	2011 cost	comments
	• Replace basement beams that are overstressed or add columns	\$ 6,000.00	\$ 6,600.00	\$ 7,260.00	12 Jackpost@\$500/ea
	• Add joist hangers at Stage Right flooring	\$ 1,500.00	\$ 1,650.00	\$ 1,815.00	
	• Repair broken truss at grid G	\$ 10,000.00	\$ 11,000.00	\$ 12,100.00	Support and Reframe- pending Engineered Design
	• Repair masonry pilaster at grid 1G	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	
	• Mortar analysis	\$ 1,000.00	\$ 1,100.00	\$ 1,210.00	
	• Support for mezzanine floor at truss D	\$ 1,000.00	\$ 1,100.00	\$ 1,210.00	2 Jackpost@\$500/ea
	• Support for mezzanine catwalks grids 1.5 and 6.5	\$ 2,000.00	\$ 2,200.00	\$ 2,420.00	4 Jackpost@\$500/ea
	• Remove and replace vaulted and flat roof membranes, roof hatch, parapet wall flashings, and all associated roofing work	\$ 36,530.00	\$ 40,183.00	\$ 44,201.30	\$6.50/SF x 5,620 SF
Subtotal Phase I		\$ 63,030.00	\$ 69,333.00	\$ 76,266.30	
10% contingency		\$ 69,333.00	\$ 76,266.30	\$ 83,892.93	
Anticipated Architect Engineer fees phase I		\$ 8,319.96	\$ 9,151.96	\$ 10,067.15	
Phase II	Item	2009 cost	2010 cost	2011 cost	comments
	• Replace 8 th Avenue entry stair, recessed entry doors and associated site work	\$ 25,000.00	\$ 27,500.00	\$ 30,250.00	
	• Remove 8 th Avenue signage board and canopy	\$ 1,500.00	\$ 1,650.00	\$ 1,815.00	
	• Elevator to make level 2 accessible	\$ 50,000.00	\$ 55,000.00	\$ 60,500.00	3 stop hydronic elevator
	• Remove and replace accessible ramp with code complying ramp and railing system	\$ 7,500.00	\$ 8,250.00	\$ 9,075.00	
	• Archeological monitoring if ground is disturbed	\$ 800.00	\$ 880.00	\$ 968.00	
	• Provide all new mechanical HVAC equipment and systems	\$ 65,000.00	\$ 71,500.00	\$ 78,650.00	assumes little interior reconfig with large open volumes remaining
	• New fire sprinkler tap, entry valve, modified distribution and sprinkler heads	\$ 15,000.00	\$ 16,500.00	\$ 18,150.00	pending reconfig of interior spaces
	• New electrical distribution and sub panels within the building	\$ 156,500.00	\$ 172,150.00	\$ 189,365.00	\$10/SF x 15,650 SF
	• New bathrooms at a potential new location, increased fixture counts, ADA accessible	\$ 20,000.00	\$ 22,000.00	\$ 24,200.00	\$10,000 per new bathroom
	• Unrated first floor to be approved by Reg Agencies or modified accordingly	\$ -	\$ -	\$ -	pending future Reg Agency review
	• Emergency egress lighting and exit signs throughout	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	
	• Egress hardware added to basement loading dock doors	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	
	• Enclose North stair from basement to level 2 and connect to exterior at level 1	\$ 3,500.00	\$ 3,850.00	\$ 4,235.00	pending negotiations with Reg Agencies
	• New handrails at North and South stairs	\$ 3,000.00	\$ 3,300.00	\$ 3,630.00	
	• New guardrails at all mezzanines open to below	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	
	• Floor hatch and ladder exit from Office over Stage Left	\$ 2,500.00	\$ 2,750.00	\$ 3,025.00	
	• Fire Alarm Detection System per NFPA72, annunciator panel, Knox box	\$ 10,000.00	\$ 11,000.00	\$ 12,100.00	wiring for this included in Elect.
	• Lead based paint evaluation, recommendations and potential abatement	\$ 500.00	\$ 550.00	\$ 605.00	for evaluation, abatement cost dependent on findings
Subtotal Phase II		\$ 375,800.00	\$ 413,380.00	\$ 454,718.00	
10% contingency		\$ 413,380.00	\$ 454,718.00	\$ 500,189.80	
Anticipated Architect Engineer fees phase II		\$ 49,605.60	\$ 54,566.16	\$ 60,022.78	

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Phase III	Item	2009 cost	2010 cost	2011 cost	comments
	• Patch, repair, paint existing gutters and downspouts, collector boxes	\$ 3,000.00	\$ 3,300.00	\$ 3,630.00	
	• Replace diagonal downspout with vertical to match	\$ 750.00	\$ 825.00	\$ 907.50	
	• Tuck pointing throughout the façade to fill all gaps, missing mortar and cracks	\$ 3,500.00	\$ 3,850.00	\$ 4,235.00	
	• Mortar analysis	\$ 1,000.00	\$ 1,100.00	\$ 1,210.00	
	• Paint analysis	\$ 500.00	\$ 550.00	\$ 605.00	
	• Removal and re-do of mismatch tuck pointed areas	\$ 1,500.00	\$ 1,650.00	\$ 1,815.00	
	• Remove red paint from concrete bases, fill all cracks, finish to match original	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	
	• Tuck point terra cotta cap stones and entry door surround	\$ 3,000.00	\$ 3,300.00	\$ 3,630.00	
	• Replace loading dock and associated stairs	\$ 7,500.00	\$ 8,250.00	\$ 9,075.00	
	• Patch and repair chimney cap	\$ 1,500.00	\$ 1,650.00	\$ 1,815.00	
	• Window restoration	\$ 143,884.00	\$ 158,272.40	\$ 174,099.64	
	• Remove Kitchen equipment, coolers, walls and raised flooring in their entirety	\$ 3,000.00	\$ 3,300.00	\$ 3,630.00	
	• Remove level 1 1978 raised flooring areas	\$ 3,000.00	\$ 3,300.00	\$ 3,630.00	
	• Restore plaster ceiling at level 2	\$ 30,000.00	\$ 33,000.00	\$ 36,300.00	
	• Restore plaster walls throughout level 1 and 2	\$ 12,500.00	\$ 13,750.00	\$ 15,125.00	
	• Fire rated doors added to mechanical rooms	\$ 5,000.00	\$ 5,500.00	\$ 6,050.00	depend on HVAC reconfig?
		\$ -	\$ -	\$ -	
Subtotal Phase III		\$ 224,634.00	\$ 247,097.40	\$ 271,807.14	
10% contingency		\$ 247,097.40	\$ 271,807.14	\$ 298,987.85	
Anticipated Architect Engineer fees phase III		\$ 29,651.69	\$ 32,616.86	\$ 35,878.54	
Phase IV	Item	2009 cost	2010 cost	2011 cost	comments
	• Clean the brick and terra cotta	\$ 10,000.00	\$ 11,000.00	\$ 12,100.00	
	• Restore the flagpole and make operational	\$ 1,500.00	\$ 1,650.00	\$ 1,815.00	
	• Restore wood trim at level 2	\$ 15,000.00	\$ 16,500.00	\$ 18,150.00	
	• Fire extinguishers throughout	\$ 800.00	\$ 880.00	\$ 968.00	
	• Loading Dock and stage access doors	\$ 2,500.00	\$ 2,750.00	\$ 3,025.00	
		\$ -	\$ -	\$ -	
Subtotal Phase IV		\$ 29,800.00	\$ 32,780.00	\$ 36,058.00	
10% contingency		\$ 32,780.00	\$ 36,058.00	\$ 39,663.80	
Anticipated Architect Engineer fees phase IV		\$ 3,933.60	\$ 4,326.96	\$ 4,759.66	
TOTAL ALL PHASES OF WORK		\$ 693,264.00	\$ 762,590.40	\$ 838,849.44	
10% contingency		\$ 762,590.40	\$ 838,849.44	\$ 922,734.38	
Anticipated Architect Engineer fees		\$ 91,510.85	\$ 100,661.93	\$ 110,728.13	



6.0 PHOTOGRAPHS and ILLUSTRATIONS

6.1 Photographs

The Photographs are placed throughout the document in lieu of putting all of them in this section of the report. We did this to make direct reference to issues discussed in the various sections.

We would like to make a special acknowledgment to the City of Greeley Museums Permanent Collection for their research and providing us with the historical photographs referenced in this report.

6.2 Illustrations

The Illustrations are also dispersed throughout the document in lieu of putting all of them in this section of the report. The following is a listing of those illustrations and the pages which they can be found.

- p6: Overall area map~ greater Greeley area
- p7: Vicinity map~ downtown Greeley area
- p8: Site map
- p12: Huddart original Armory design rendering
- p14: Basement level plan
- p15: Main level plan
- p16: Second level plan
- p17: Roof level plan
- p18: East-West Elevations, Building Sections
- p19: South-North Elevations
- p23: Current streetscape diagram & Proposed streetscape concept
- p29: Basement beam diagram
- p31: Existing truss diagram
- p57: Level 1 window location diagram
- p69: Level 2 window location diagram
- p81: Basement window location diagram
- p99: Concealed original wood flooring diagram
- p133: Accessible ramp diagram
- p134: Alternate ramp diagram



7.0 BIBLIOGRAPHY

7.1 Consulted Services

All of the following consulted services provided pertinent information that was utilized in preparing this historic structure assessment.

Ancon, Inc. Cost development studies, on site resource for sections 3.2-3.9, Ron Thompson

Big Horn Electric. Electrical modifications done in 1978

City of Greeley, Historic Preservation Commission. General Design Review Guidelines

City of Greeley, Historic Preservation Commission. Application Form for Nomination of a Historic Property, 8-11-1999, Inventory by Chris L Dill

This report included oral histories as follows;

3-11-1997, Peggy Ford with Lupe and Julio Mendoza and Caratina Romero

7-29-1999, Capt. Susan Sayres, PR Officer, CO. National Guard, Denver, CO.

7-30-1999, Sgt.1st Class Bartholomay, 157th Field Artillery, Greeley, CO.

8-10-1999, Sherry Davis, CO. National Guard, Denver

8-11-1999, Clyde Newman, CO. National Guard, 'Museum Guy', Parachute, CO.

City of Greeley, Community Development Department. Development Code, 1998

City of Greeley, Planning Department. Zoning Code

City of Greeley Museums, Archives Department. Historic photograph ca.1974 and historic newspaper articles as follows:

7-14-1922: The Weld County News~ 'Foundations Began'

10-6-1922: The Weld County News~ 'Greeley's \$50,000 Armory nears completion; open soon'

11-17-1922: The Weld County News~ 'Greeley's \$50,000 Armory dedicated Armistice Day'

8-17-1977: The Greeley Tribune~ 'Granted Liquor License...'

8-3-1978: The Greeley Tribune~ 'Restaurant transformation...'

Colorado Cultural Resource Survey- Architectural Inventory Form. SHF Grant # 2001-G1-010, 9-1998

'Greeley, Colorado History and Architecture of its Downtown Buildings'. 2003 City of Greeley Museums, PM Betsy Kellums

Herron Enterprises USA, Inc.: L.P. (Lennie) Herron – Industrial Hygienist- CEO/Director

International Code Council. 2006 International Building Code

International Code Council. 2006 International Existing Building Code

McCreery & Sun. History of mechanical work completed in 1982

McGlamery Structural Group. Structural on site evaluation, Sam McGlamery

National Register of Historic Places Registration Form. United States Department of Interior, National Park Service, Nomination Form for the Fort Morgan Armory, 6-16-2003, Lyn Deal, City of Fort Morgan

Thomas and Tyler, LLC. History of past facility related issues and ongoing current issues. Head of maintenance and building services, Danny Kennedy

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Spectrum. Window restoration studies and cost evaluation, Joel Sydlow

Union Colony Fire Rescue Authority. Fire Protection System, Dale Lyman

U.S. Department of the Interior, National Park Service. The Secretary of the Interior's Standards for Treatment of Historic Properties (1992) with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings. Kay D. Weeks and Anne E. Grimmer, 1995

U.S. Department of the Interior, National Park Service. The Secretary of the Interior's Standards for Treatment of Historic Properties Preservation Briefs 2,4,9,13,14,17,21,28,32,33,35,39,43 and 47; 1975-2005

<http://www.nps.gov/history/hps/tps/briefs/presbhom.htm>

U.S. Department of Justice. ADA- Americans with Disabilities Act, version 4.4, Evan Terry Associates, 2007

Weld County Planning Department. Site analysis, background data, Thomas Honn

Williams and Son. History of 2007 roofing work, Terry Williams