Southside Senior Center
La Crosse, Wisconsin

6 September 2012 ARCHITECTURAL AND ENGINEERING ANALYSIS

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INTRODUCTION

Purpose

The City of La Crosse is administering an Architectural and Engineering Analysis program under the Community Development Block Grant Program from the U.S. Department of Housing and Urban Development. The objective of this analysis and report is to evaluate the condition of the existing building and assess its potential for future use.

Project Team

The Historic Abstract was prepared by Eric J. Wheeler, La Crosse, WI. The Structural Analysis was prepared by Alan R. Hiniker, P.E. of Structural Design Group, Inc., Rochester, MN. The Mechanical, Electrical, and Plumbing Analysis was prepared by Chris Olsen, P.E. of Galileo Engineering, La Crosse, WI. This report was completed and compiled by River Architects, Inc., La Crosse, WI.

Methodology

Limited existing building plans were available for this building so field measurements were taken in order to facilitate the drawing of full building plans. The included plans are for graphic representation only and should not be utilized without verification for construction purposes.

The scope of this report does not include observation of or testing for hazardous materials including but not limited to: asbestos, radon, PCBs, mold, lead based paint. Given the age of the building it would be unusual if it did not contain some lead based paint. The Owner is advised that it would be prudent to take necessary precautions when working with or removing existing paint, unless testing shows that it does not contain lead.

The analysis contained in this report is based on visual observation of accessible spaces. There was no observation and investigation of concealed conditions. We were not provided with access to the attic space.

HISTORIC ABSTRACT

The building now known as the Southside Senior Center at 1220 Denton Street was built by the City of La Crosse in 1895 to serve the city fire department as the Eighth Ward Engine House. The building was later renamed Fire Station #5 and served in that capacity until 1967. At that time the former fire station was converted to use as a senior citizen center which is the building's current function.

Fire Department Overview

The threat of destruction and injury or death by fire was a constant in the city of La Crosse in the late 19th century. Soon after the first settlement along the Mississippi River bank in the 1840s, building began in earnest along the newly platted streets east of the steamboat landings. These early buildings were of wood frame construction and at high fire risk. Most of the original buildings in the La Crosse commercial district were damaged or destroyed by four major fires in 1857, 1862, 1864 and 1867. These fires were fought by local citizens using a bucket brigade system, and generated an interest in fire control in the downtown area. In 1857 the first fire zone ordinance was passed by the city council, which required new buildings to be built of brick or stone. The zone was extended again in 1864, and in 1869 the all-masonry construction zone went to Fourth Street on the east.

After incorporation in 1856, fire protection in La Crosse was provided by volunteer fire companies. Pioneer Engine Company #1 was the first company formed in La Crosse in the 1850s. In the following decades many volunteer fire companies were organized to protect various wards in the city. In 1896, a regular paid fire department was established, and in the following year the Police and Fire Commission was created.

In March of 1895 the 1200 block of Denton Street was selected as the location of Engine House #8, to provide fire protection for the 8th and 18th Wards on the south side of the city. The plan for this building was based on the design for Engine House #4 built in 1871 at 508 St Cloud Street (not extant). Engine House #8 (later renamed Fire Station #5) was the last fire station built in La Crosse during the historic period in the late 19th century. Captain D. E. Desmond was the first captain stationed at this location. He was assisted by a lieutenant and six other men, who served in the department. There were two to four horses stabled inside on the ground floor, along with at least two fire wagons with hoses and ladders.

The automobile steadily replaced horses for private, public and commercial transportation in the US in the first two decades of the 20th century. Fire departments across the country made the transition as well. Fire Station #5 was the last fire hall in La Crosse equipped with horse drawn fire wagons

The last "fire call" for the last remaining horse-drawn fire wagon in the city took place on April 18, 1926, and is noted as an important transition in fire control history in La Crosse. A newspaper article recounts the ceremonial replacement of the horses by a new gasoline powered fire truck. On the appointed day in April of 1926, by the deception of a false fire alarm, the team of horses with fireman and fire wagon in tow, dashed out of the hall and returned to find a fire truck had arrived to take their place. Taking part in the ruse, and posing for the camera in a newly refurbished Pierce-Arrow automobile, were Mayor Joseph J Verchota, Fire Chief McGlachlin and two city councilman. Apparently, all were aware of the significance of this event signaling and "end of an era". (see photos #2 and #3) The last three horses assigned to Fire Station #5 were sold at auction in Market Square and the equipment sold off by the end of 1926.

Architectural Description

The historic La Crosse Fire Station #5 displays architectural design elements seen in many institu-

tional and commercial buildings of the 1890s. The gable roofed two story brick-clad rectangular mass has exterior dimensions of approximately 35' by 60' with a 22' single story addition to the south of similar age and construction. Originally the north façade of the first story had two large doorways with accordion style doors designed for quick egress for the fire engines, both horse-drawn and gasoline powered.

The simple brick north façade is accented at the second story by a slightly projecting central bay defined by two corbelled and fluted pilasters terminating in a horizontal projecting cornice. A pair of double-hung windows flank the central bay, which includes a double-hung window on the second story level. At the attic level in the central bay, are a pair of reduced scale fixed-pane windows topped by a recessed blind arch. The north façade extends above the roofline, creating a projecting parapet wall terminated on either side by short, corbelled pilasters. The first level north façade has been greatly altered by the removal of the large accordion doors and their replacement by a standard utility entrance door and three modern, fixed pane windows. The surface of this level is covered with a faux native stone product often referred to as "perma-stone". The new first story façade, windows and doors likely date from the conversion of the fire station to a senior center in the late 1960s.

The west and east facades of the two story section have a plain brick exterior divided into five recessed bays defined by corbelled pilasters, originating at approximately ten feet above grade and extending to a corbelled cornice just below the eaves. On the first level of the west façade are four evenly spaced double-hung windows with brick segmental arch lintels and cut limestone sills. A utility entry door is positioned on the north end of the west façade. The faux stone façade on the north first story wall extends around and about five feet to meet the utility door entry. The second story of the west façade includes five evenly spaced tall, narrow segmental arched windows similar to those on the first story. On the east façade at the northeast corner is a two-story concrete block addition that provides an enclosed elevator for handicapped access to the second floor. The elevator addition was built to serve the senior center in 1977. The balance of the east façade is similar to the west. The first story addition to the rear of the building on the south side is of similar brick construction to the second story section and has windows of reduced scale, but similar design. The date of the rear addition and its original purpose are undetermined.

Summary

Although the front street level façade and the interior of the building have been greatly altered, the architectural character of the exterior is mostly intact. The building has historic significance as the last of the city's fire stations equipped with solely horse drawn fire engines. It is also one of only two historic fire station buildings from the 19th century still standing. The other is located at 829 South 6th Street and has been converted to apartments. In other cities throughout the country, historic fire stations have been adaptively reused for a variety of purposes, both public and private.

Sources:

La Crosse Fire Rescue – Legends and Legacies, La Crosse Fire Department publication, 1995, pp. 27, 29, 32, 33, 59; photo p. 70

La Crosse Tribune, July 13, 1986 – "The History of Fire Horses" page 29.

North elevation with original double doors (c.1900)

North elevation with last horse drawn fire engine in the city (4/18/1926)

North elevation with new fire truck and Mayor Verchota (4/18/1926)

Fire Station #5 (c.1960)

Fire Station #5 (c.1960)

BUILDING DOCUMENTATION

Overview

The Southside Senior Center is a 8,800 square foot commercial building with a 117 year history located on the south side of La Crosse. The original 1895 building had three levels of approximately 2,100 square feet each. A two story 750 square foot addition to the south was constructed soon after the original building. The stair and elevator addition was added in 1977 to the northeast corner of the original building. The entire facility is used as a community center with primary emphasis on the senior community.

Site

The building sits just one lot to the east of the intersection of West Avenue and Denton Street in south La Crosse. The 7,600 square foot parcel is bordered by residences with the exception of a funeral home across the alley to the west. The parcel is zoned R1, Residential in the City of La Crosse. The building is not setback from the sidewalk on the north and is separated from the alley to the west by an approximately 3 foot sidewalk on the property. The original building is set 12 feet from the eastern lot line with the 1977 addition placed 3 feet from this line and set back inches from the original building line to the north. A paved parking area fills the section of the property from the building to the alley to the south.

There are two entrances, the main front entrance off of Denton and an entrance off the rear parking area. The front entrance is at grade and at the rear entrance a temporary ramp provides accessibility.

Summary of Past Work

Since the City of La Crosse purchased the building in 1967 they have kept a record of the construction and maintenance work on the project. This list was developed by the Engineering Department and addresses the major items as follows:

- 1967 - Alteration of primary facade (north) with removal of double doors and application of stucco
- 1977 - Construction of exit stair and elevator addition for access to all three levels.
- 2003 - Replacement of the pitched roof on the south end of the building
- 2004 - New windows in north facade at the first floor level and installation of a new fire escape door at the second floor
- 2008 - Renovation of the main floor kitchen including new dishwasher, counter, and plumbing
- 2009 - Backflow preventers installed
- 2010 - Multiple projects including: new roof on the northeast elevator and storage addition; new boiler; replacement of 7 stone sills on

Roof over storage addition (damaged sill in foreground). (2012)

Typical painted brick condition. (2012)

the lower west and south windows; power-washing, repointing and sealing the exterior brick walls to approximately 6'-7' feet above grade

Envelope

The original building was constructed in 1895 with multi-wythe exterior masonry bearing walls. The first floor is supported by a cast-in-place concrete slab, beam, and column structural system and the remaining framework is wood. The main facade of the building was drastically altered in 1967 with the removal of the double doors and the application of a stone patterned stucco coating. The 1977 additions are concrete masonry unit (CMU) walls with a steel structural system. The original building and the addition are functionally connected and not aesthetically coordinated. The Wisconsin Historical Society has recently expressed the opinion that this building could achieve listing on the National Register of Historic Places if the north facade is restored to its original configuration and sensitive maintenance and repairs are considered. This listing may enable the property to utilize historic preservation tax credits which are available to listed properties.

The upper roof on the building is clad with asphalt shingles. According to a roof inspection report prepared by Speciality Associates dated January 6, 2003, the asphalt shingles were in excellent condition and should have 20 years from that date before requiring replacement. The shingles are now half-way through this life span and with continued maintenance should not require replacement for another 7-10 years. There is an access door into the attic space and roof vents have been added in each structural bay. The attic has been insulated with 10" of blown insulation between the ceiling joists.

The lower portion of the main building roof is sloped wood substrate over a wood framework covered with expanded polystyrene insulation. This roof was replaced in 2003 with a single ply rubber membrane roof. It is in fair condition but requires repair to the flashings and anchorage to the brick walls where the connection has deteriorated. This roof is now approximately halfway through its life span and if repaired and maintained will likely last another 7-10 years. The roofs of the 1977 additions were originally all ballasted EPDM roof systems. The lowest of these, over the storage room, has been replaced with an asphalt shingle application. This roof appears to be in fair condition with minimal deficiencies and with continued maintenance should not require replacement for another 15 years. Access was not provided to the roofs of the elevator shaft and the stairway ad-

Condition of brick above south east window. (2012)

Cleaned and re-tuckpointed brick. (2012)

dition, however, they have been replaced within the last 2 years and with proper installation methods and maintenance should be functional for another 15-20 years.

The exterior brick walls of the original building are showing their age and need maintenance. All four sides of the original structure exhibit deterioration of the brick, limestone, and mortar due to weathering, water infiltration, and age. At some point in the history of the building the exterior brick has been painted and this paint is now chipped and peeling. The lower portion of the west wall has had tuckpointing and paint removal work attempted, however, in the process the cleaning has marred the surface of the brick face. Many of the lower level limestone sills have been correctly replaced. Our recommendation is to replace the rest of the excessively deteriorated limestone sills, the spalled and damaged bricks, and be even more careful with the paint removal process to clean and tuckpoint the grout joints on all the affected walls. The lower level of the north facade of the building has an applied stucco ashlar pattern faux stone. This is severely stained, cracking, and starting to fall off of the building. Its removal to return the building to its original appearance should be investigated. The concrete masonry unit walls of the 1977 addition have an applied EFIS coating. This surface is severely cracked and separating from the substructure, and there are no signs of expansion control. It is our recommendation to install movement control joints as required then affix expanded metal lath with anchors back to the CMU substrate and cover with a stucco system with an acrylic topcoat. It was not pos-

New stone sill in painted brick wall. (2012)

Cracked EFIS walls of 1977 addition. (2012)

"Stone" patterned stucco on main facade. (2012)

Brick debris at interior of second story window. (2012)

sible to verify the level of insulation in the walls and roof of the building without employing more destructive investigative methods.

The majority of the lower level windows have been recently replaced with similarly sized double hung windows and are in good condition. The windows in the lower level north facade are older, dating to the re-configuration of the wall, and are inoperable. They are also not compatible with the aesthetic of the historic building. They are however, in fair condition and do not need immediate replacement. The windows on the upper floor are in fair to very poor condition. These should be replaced using similarly sized, insulated glass metal clad wood frame window units for thermal efficiency and maximum natural light penetration.

The main entrance door is in fair condition, as are the stair tower and rear doors. The door to the second floor fire escape is rusted through and requires replacement.

Interior

Basement

The basement of the Southside Senior Center is in generally good condition. It is used regularly and is well maintained. The finishes are dated but functional. There is some deterioration of the paint along the west wall at the ceiling. This was likely due to previous water issues that have been remedied with completed exterior drainage work. The interior of the closets lining the north end of the main room are not completely finished with untaped/mudded/painted gypsum wall board (GWB) and exposed insulation.

General view of basement toward northwest. (2012)

Mechanical room located under central egress stair. (2012)

Closet on north wall and entrance to mechanical room. (2012)

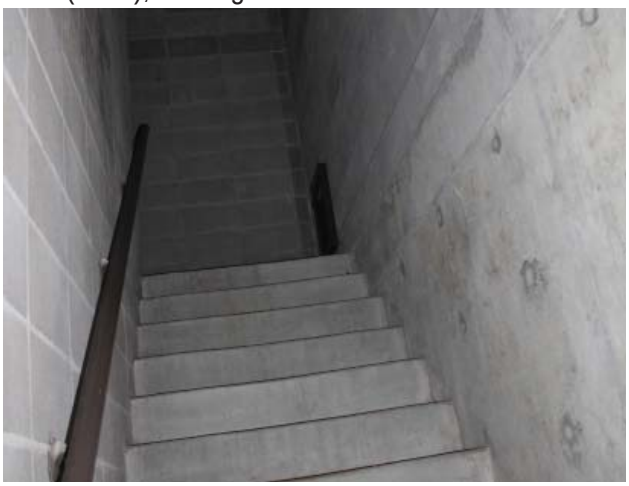
South west storage room, exterior window. (2012)

This minor repair should be completed. There is also unenclosed pipework and valves within this space. Exposed ductwork, piping, and conduits throughout this level should be considered for enclosure as they are run along the open ceiling structure.
Infilled windows in this space are not visible but presumably the original window fenestration has been removed.

Under the central stair a mechanical room is located. This space should be separated from the stair and adjoining spaces by a minimum one hour fire resistant barrier, including a rated door, as it contains electrical panels, a water heater, and a dust collection system terminus. The walls of this room are comprised of three different systems; concrete masonry units (CMU), the original stone exterior foundation wall, and a gypsum board wall. Penetrations through these walls are also unprotected. The frame on the door to this room is split at the head and should be repaired.

The mechanical room in the north-east corner of the basement level has exposed exterior and interior original stone walls that appear in fair condition.

The storage room in the south-west corner of the basement still has one of the exterior windows intact along the west wall. This opening has been infilled to the exterior and the window glazing should be removed. The door frame trim is almost completely missing in this room.



1977 Stair tower addition. (2012)

Central egress stair from basement. (2012)

General view of main floor toward the north. (2012)

Inaccessible drinking fountain. (2012)

The 1977 stair and elevator addition are in fair condition and provides the most compliant means of egress from this space. The stair under current code requirements should have handrails on both sides of the stairs and at present only has one. As an existing building this is not required to be updated unless other work in the building is being done. The elevator mechanical room is in good condition. The original stair is in fair condition, this stair enclosure should have a one-hour fire-resistance-rating to separate it from the remainder of the building however.

First Floor

The main gathering space of the building is the first floor multi-purpose room. It is in good condition and does not require anything more than general maintenance to be continued. The drinking fountain for the building is located in this room and is not positioned to be accessible.

The restrooms on this level are very outdated and not accessible. If the restrooms were updated to meet barrier-free accessibility requirements they would need to have only a single watercloset in each restroom to achieve the necessary clearances. Each restroom would then become a single occupant use with a privacy lock on each door. They are however functional as they are and unless work is done on the building are not required to be renovated.

The corridor to the south exit is in fair condition generally. The exception to this is the temporary ramp that has been constructed to get through this required exit door. This ramp should be constructed

Out-dated and inaccessible first floor restrooms. (2012)

"Temporary" ramp at rear exit. (2012)

Sink area of first floor kitchen. (2012)

Original staircase to second floor in main space. (2012)

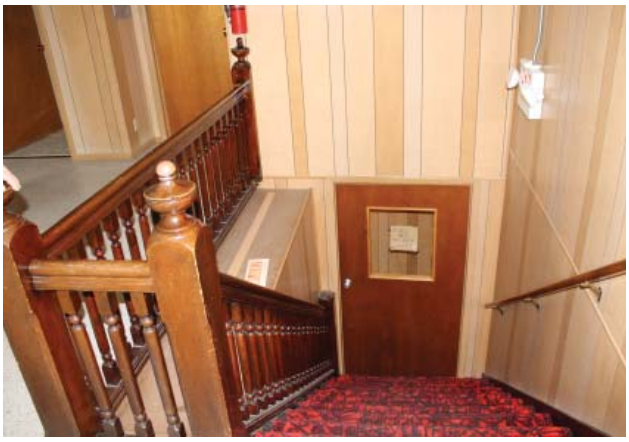
as a permanent part of the building meeting code requirements for such a ramp.

The storage room in the south-east corner of the first floor is in good condition. The storage room along the east wall of the building, part of the 1977 addition, is in generally good condition, with some past water infiltration evidenced along the north wall where the roof adjoins the taller wall of the elevator shaft.

The kitchen is separated from the main room by a thickened wall with two pass-throughs and a door. The kitchen itself is in good condition. The appliances are older but functional. The layout of the sinks is not conducive to efficient work within the space. Also each of the sinks has a different style of faucet adding to the inconsistent appearance of the room. The cabinetry is in fair condition but would benefit from a new coat of paint.

Second Floor

The original stair to the second floor is in good condition from the first floor to the first landing and overall has retained its historic integrity to this point. However, from this landing upward code violations and infill construction have altered this stairway. This stair is currently designated as the second means of egress from the second floor. The stair if not a required exit does not need to be enclosed. The enclosure that has been constructed violates code requirements for landings at stairs in the location of the door and is not a rated enclosure.



Added enclosure to central stair from second floor. (2012)

Fire escape stair at south end of building. (2012)

South end meeting room. (2012)

Typical window condition on second floor. (2012)

The meeting room at the south end of the second floor is not an accessible space. It is through this room that another means of egress is achieved from the second floor via an exterior stair. The room's finishes consist of plywood paneling on the walls, an gypsum board ceiling, and a combination of wall-to-wall carpet and vinyl flooring. These finishes are generally in fair condition. The carpet is stained and the vinyl flooring is ripped and stained. The replacement of these finishes should be considered.

The fire escape (exterior stair) is in fair to poor condition. The handrail requires replacement or repair. The bottom tread is not evenly spaced with the others posing a possible tripping hazard. The treads are all showing rust at the stringers. The exterior door at the top of these stairs is in need of repair/replacement as well. The bottom of the door has rusted through and prevents proper closure posing a security issue as well.

The window in this room, as with those throughout the rest of the floor, as discussed in the envelope section, are original and in need of repair or replacement due to lack of maintenance.

The stair from this lowered meeting room floor to the main second floor hall is also not code compliant in its open risers, tread finish, or railings. This stair should be completely reconstructed to meet code

Stair from south meeting room to second floor hall. (2012)

Men's room used for building material storage. (2012)

Partition obscurring restroom window. (2012)

Partitioned western spaces. (2012)

minimums. The entrance to this room from the hall has a low head height and a new door and frame should be installed.

The restrooms on this floor, like those on the first, are outdated and not considered accessible by current standards. In order to achieve barrier-free accessibility each restroom could be converted into a single occupant restroom with a privacy lock. This would allow for the required clearances of an accessible restroom. The mens' room is also being used as storage for extra acoustic ceiling tile stock. These should be stored elsewhere. The window in the women's room is partially obscured by the partition/ wall of the adjacent stall. Removing this partition and changing the glazing in the window to obscured glass would allow greater natural daylight into the space while preventing vision into the space.

The central portion of the second floor is divided by a hall into east and west sections. The west section is subdivided by a partition wall that does not extent to the ceiling. Both of these western spaces have finishes which are dated but in good condition. This space, like that on the east section, has a structural vertical tie rod that supports the floor from the ceiling above. This structural system allows the first floor to be free of columns or other similar structural elements in order to accomodate the original intent of using the space for parking fire vehicles.

Across the hall on the eastern half of the central section of the building is a second kitchen. The paint on this structural element is chipped and should be repainted. The entire length of the north wall of the kitchen has built in storage cabinets constructed of wood frame and paneling. The rest of the room is in good condition with dated fixtures, appliances, and finishes.

A multi-purpose room occupies the front (north) area of the building's second floor. Another two vertical tie rods are within this space for structural support of the floor below. The finishes are in good condition here. Access to the elevator and the 1977 stair tower are from this room. The large original windows provide abundant light in this room.

Access to the attic space is from the south addition roof via a short ladder to a full size hollow metal door and frame that was locked and prevented inspection of the attic space.

The building's interior finishes are dated but are generally in good condition.

Second floor kitchen with vertical tie rod. (2012)

North end multi-purpose space with large windows. (2012)

CODE ANALYSIS

General

As an existing building without any changes to the building or the occupancy type (Assembly A-2 and A-3; food service and general assembly), updates to the building to meet current code standards or accessibility levels are not required. However, it is still suggested that certain existing life-safety and accessibility code issues be considered.

Fire Protection

Although a sprinkler system would be required in a new building of this size and type it is not required to be installed in this building unless other changes are being made. The installation of a sprinkler system would also provide an alternate solution to certain life safety requirements such as areas of rescue assistance and enclosed egress paths. In order to provide a minimum level of protection a fire alarm and detection system should be considered.

Exiting

The basement, given an occupant load of less than 50, requires only one exit. This is achieved by the northeast egress stair. The central, original stair should be separated from the remainder of the floor by a one-hour fire-rated enclosure. This would also allow the stair to be utilized for egress if the occupant load of the basement were to be higher.

The second floor requires two means of egress. The "new" stair tower in the northeast corner of the building provides one of these means. This stair should have lighting as required for a means of egress and an area of rescue assistance incorporated. The original stairs at the center of the building are not code compliant for egress stairs, therefore the second means of egress could be via the fire escape at the south end of the building. Replacement of this fire escape with a code compliant exterior stair should be considered. The path to this egress through the adjacent room would also require work to the interior stair adjoining it to the rest of the building as it is also a non-code compliant stair. The door to the south multi-purpose room would not be allowed to be locked as part of the egress route. The central historic stair, even if not required for egress if the route is through the multi-purpose room, should still meet the code requirements for general stairs. The door at the landing between the first and second floors is not code compliant and, along with its surrounding partition, should be removed.

Doors throughout the building should be a minimum clear width of 32 inches.

Accessibility

The 1977 elevator addition provided barrier free access to the all levels of the building even if the elevator cab is very small. However, the southernmost multi-purpose space is not accessible. Any use of this room should be duplicated in another similar space when accessibility is required.

By current code calculations the building would require 2 toilet fixtures for each sex, and of these a minimum of one fixture in each restroom must be accessible. None of the existing fixtures are considered accessible. However, given the configuration of the existing restrooms each could be altered to be single use accessible toilet rooms and the fixture count requirement would be met.

STRUCTURAL AND SYSTEMS ANALYSIS

Structural Analysis

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May 23, 2012
Revised September, 6, 2012

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RE: Southside Senior Center Condition Survey
1220 Denton, LaCrosse, WI

SDG Project Number 12036

On Thursday May 17, 2012 I visited the above building to survey the existing structural condition of the building. I met with Tracy Donlan and Mr. Val Schute of River Architects on site to gain access. The building is a 2 story structure constructed of a combination of brick exterior bearing walls, cast in place concrete main floor, and presumably wood framing structure for the second floor. In summary, I found the building to be in fair condition for the age of the building. With much needed repair and maintenance of the foundations and exterior masonry.

The following are my observations:

1. The roof structure is wood framing, and accessed by a door on the South gable end wall. The roof is wood decking, on 2x8 wood joist at 24" c/c. Built up wood trusses span the roof East to West and support both roof and second floor. Aside from several small locations of missing roof deck, the roof structure is in good condition. There is 10" of blown insulation on the majority of the ceiling joists.
2. The second floor structure is presumably a wood frame system. No inspection could be made. The second floor structure is supported by 4 main steel bar hangers, which transfer load to the roof structure. The hangers appear to be in good condition.
3. The main floor structure is a cast in place concrete slab, beam, and concrete column structure presumably designed to support prior firefighting vehicles. The concrete structure appears to be in good condition.
4. The foundation walls are limestone masonry construction. The only area where the foundation is visible is in the existing boiler room. The mortar material between the stone

is deteriorated, which is visible by the accumulation of mortar dust pile up around the edge of the foundation.

5. The elevator, exit stair, and storage structure addition on the east side of the building are constructed of masonry bearing walls and cast in place concrete floor structure and steel bar joist roof. These are structurally appearing to be in good condition. The exterior stucco on these areas is in poor condition and requires repair.
6. The exterior walls of the original building are a built up brick bearing wall. The exterior walls are in poor condition with some repairs having been made to the lower west side of the building. The brick has been painted in the past much of which is peeled and chipped. Past work on the brick includes power washing the paint off of the lower 6-8 ft. of brick, damaging some brick surface.
7. The back addition lower roof area was inspected. The lower roof area is a single ply membrane roof. The flashings and anchorage of the rubber roof to the brick walls is deteriorated and requires maintenance.

Recommendations:

1. Develop plan and method to tuck point and repair the exterior building envelope
2. Hand excavate along the exterior of the building to inspect the condition of the limestone foundation exterior side and determine condition if repairs are required.

Based on my observations, it is my opinion that the structure was originally designed for main floor loads significantly higher than original use. This letter is not intended as a guarantee of the building condition. No testing of materials was performed. Testing and or observation of any hazardous materials are not part of the scope of Structural Design Group, Inc services.

Regards,

Alan R Hiniker P.E.
Wisc. No 30006


SOUTH SIDE
Senior Citizen
Center
1220 Denton St. 782-2444

Electrical Systems

1. Electrical Service

A. The electric service is an overhead service located on the south side of the building. The service is rated at 400 amp, and is a three phase service to support the elevator. The service consists of a main disconnect switch on the exterior wall, a second switch on the exterior wall, over-head metering C/T's and a meter and socket.

B. We are concerned about the proximity of the electrical service conductors and service entrance head from the second floor fire escape door. The Electric Code requires 3 feet of clearance between a door or window and this equipment. This installation may be Code-compliant, but the conductors are easily accessible while standing on the fire escape. We would recommend any future electrical service work relocate this equipment further from the fire escape.

2. Major Electrical Distribution

A. Electrical panels are located on each of the three floors. All panels are in good condition and suitable for continued use.

3. Branch Circuit Wiring and Electrical Devices

A. All of the wiring observed within this building is fairly new and appears to be installed in a Code-compliant manner. Nearly all wiring in the lower level is new and installed in EMT conduit. Wiring on the 1st and 2nd floors is installed in surface metal raceway, EMT conduit, or MC cable.

B. GFCI-protected receptacles are missing in many locations currently required by various Electric Codes. In particular, GFCI receptacles are missing in the 1st floor kitchen and 2nd floor kitchenette. A complete survey of the building should be conducted to review all electrical receptacle types and correct any deficiencies based on current Codes.

4. Grounding Systems

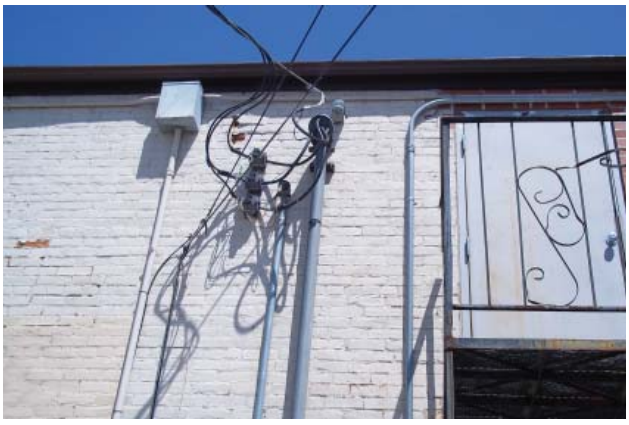
A. Grounding systems visible appear to be present and meet Codes in force during the periods when work was completed.

5. Lighting Fixtures and Equipment

A. Most of the lighting fixtures within this building are old and simple in form and construction. Fluorescent strip lighting using T12 lamps are the dominant lighting.

B. Switching is entirely manual. Switching is simply – typically one switch per room. Switches are showing some age and probably should be replaced as time and budget permit.

Exterior electric service switching. (2012)



Exterior overhead electric service. (2012)

6. Emergency Power Supplies

A. This building is not equipped with any type of emergency power supply, including stationary emergency power generators, provisions for a temporary mobile generator, or large capacity battery-based power supplies.

7. Emergency Egress Lighting

A. Emergency lighting is minimal and inadequate in most areas per current Codes and Standards. Emergency lighting consists of battery-powered lighting units. These units are appropriate for this application, but additional units should be installed.

B. Exit lights are generally existing and operational.

Typical fluorescent strip lighting. (2012)

8. Fire Alarm and other Life Safety Signaling Systems

A. This building has no fire alarm system at present.

B. There are a number of line voltage smoke detectors located in corridors and common spaces. It is unknown if these smoke detectors are electrically connected so that they all alarm if any senses smoke. Presumably that is not the case.

9. Communications and Low Voltage Wiring Systems

A. In general, low voltage wiring systems consist of simple telephone wiring using older station cable.

Heating and Ventilation Systems

1. Primary Heating Plant and Equipment

A. This building is heated with a hot water heating system using a single gas-fired boiler and

New boiler installed in 2010. (2012)

hot water "finned tube radiation" installed on the perimeter walls throughout the building.

B. The boiler is a new Triangle Tube high efficiency boiler reportedly installed in 2010. The boiler is rated at 399 MBH input capacity, which seems more than adequate in size for this building (but not too large to be a concern). This is a high efficiency boiler suitable for relatively low water temperatures. The re-use of the existing finned tube radiation will cause the boiler to operate at higher temperatures, resulting in less than peak efficiency, but certainly more efficient that a conventional boiler.

C. Although the boiler is new, most of the existing piping, valves, and heating specialties were left in place. Many of the isolation valves are old gate valves, which likely do not seal water-tight anymore. A conventional expansion tank, without a gauge glass, was retained. The original water specialties were left in place. It would have been better to update these devices when the boiler was replaced, but they are easy to replace in the future if they fail.

Older piping and valves for heating system. (2012)

D. The hot water heating system is "zoned" per floor with separate piping loops and separate pumps for each loop. This results in better temperature control and the ability to set back temperatures in areas of the building not being used simultaneously. For example, the upper level can be in a setback mode while the First Floor is being used for daytime activities. The pumps all seem to be new and in fine condition.

E. In general, the heating plant is in very good condition, very efficient, and suitable for many more years of operation.

2. Terminal Heating Equipment

A. The terminal heating equipment in this building is primarily hot water, "finned tube radiation" (commonly referred to as baseboard heat). There are, at least, two styles of finned tube radiation, indicating that it was installed, or replaced, at different times. In all cases, the finned tube radiation is heavy duty, in good condition, and virtually maintenance free. Use of hot water finned tube radiation results in a very comfortable interior environment, quiet, and efficient.

3. Piping / Ductwork Condition

A. The piping connecting the boiler plant to the finned tube radiation is a combination of both steel and copper. The older piping is presumably

Finned tube radiation heating equipment. (2012)

steel and the newer material is copper.

B. Although there is ample evidence of past piping leaks, we did not observe any leaks or other deficiencies while on site. Some of the old valves likely do not seal anymore and will eventually require replacement. Most of the piping is accessible and easy to replace when needed.

C. The piping seems adequately-sized for the application.

4. Temperature Control Systems

A. Temperature control of the heating system is by residential room thermostats. Typically one thermostat per floor. Some of the thermostats are mercury dial and some are electronic, but none appear to have automatic night setback capabilities.

5. Energy Efficiency Commentary

A. The new boiler is very efficient – probably operating near 90%, even with the high water temperature.

Cooling system vertical fan-coil. (2012)

B. There is a combustion air damper in the boiler room that is blocked open. The boiler collects its combustion air directly from the boiler room, so this was likely done intentionally to provide adequate combustion air for the boiler. Ideally, the combustion air should have been ducted directly outside and the larger combustion air opening permanently sealed. The net result is some loss of efficiency by excessive cold air collecting in the boiler room. There is a remote chance that the make-up water supply in the boiler room could freeze in extremely cold weather.

C. The remainder of this heating plant is quite efficient and results in very comfortable heat for minimal energy usage.

Air Conditioning Systems

1. Primary Cooling Plant and Equipment

A. There are three (3) small, “split system” air conditioning systems that provide mechanical cooling to this building. One system is located on the First Floor and is ducted throughout the First Floor. The remaining systems are located on the Second Floor and are ducted above the ceiling on the Second Floor.

These systems consist of a vertical fan-coil located directly within the occupied space connected to a compressor-condensing unit located

Exterior compressor-condensing unit at grade. (2012)

exterior to the building. One of the compressor-condensing units is located on grade and two are located on the roof. These systems have no outside ventilation air capabilities. The First Floor unit is approximately 5 tons in capacity and the Second Floor units are approximately 2 tons in capacity.

Although all of these fan-coils are fairly old, they are in very good condition and seem to be fully operational. There are minimal maintenance needs to these units and they should continue to operate for many more years.

2. Air Conditioning Delivery Systems

A. The supply air is ducted from each of the fan-coil units. Supply air ductwork is generally located above the suspended ceilings and is fairly minimal in scope. Return air is collected directly at the units from the space. No deficiencies in these duct systems were observed.

3. Temperature Control Systems

A. Each of the fan-coil systems are controlled by a single, “residential-style” room thermostat. Typically these thermostats are manual operation and have no night setback capabilities.

4. Energy Efficiency Commentary

A. The efficiency of these fan-coil systems is mostly a function of the efficiency of the exterior compressor-condensing units. We did not get on the roof to observe the two units there, but we did observe the unit on grade. This unit is “older” and mid-range in efficiency. It is generally not prudent to replace a compressor-condensing unit strictly for greater energy efficiency, but when the need for replacement is necessary, careful consideration should be given to the efficiency of the replacement unit.

Plumbing Systems

1. Water Service and Supply Source

A. The water service is provided from the City Municipal supply and enters the basement above the basement floor from the side alley. The service is in satisfactory condition and the size appears appropriate for this building.

2. Interior Water Distribution Material and Condition

A. Most the water distribution piping is concealed within the structure and not visible for inspection.

B. The original piping appears to be entirely galvanized steel. Of the observed piping, no leaks or major problems were observed.

C. Some new work has been constructed in recent years with copper piping materials.

D. The age of the original galvanized steel piping is always a concern. Without a significant construction project, there is little opportunity to replace piping for pure maintenance reasons.

3. Sanitary Sewer Discharge Source

A. The sanitary sewer discharges to the municipal sewer system above the basement floor.

B. The sewer connection is older cast iron piping, exiting the building about three feet above the basement floor.

4. Interior Sanitary Piping and Equipment

A. Interior drainage piping is mostly older cast iron piping on the larger sizes and galvanized steel on the smaller sizes. No significant deficiencies were observed.

B. Some newer work has been constructed with PVC piping.

5. Storm and Rainwater Discharge Source

A. All rainwater and storm water is conveyed to grade outside of the building. Generally, all storm water spills directly onto grade. Originally, exterior stormwater piping was installed to receive the discharge from the downspouts, but that piping has been capped and abandoned in place.

6. Interior Storm and Rainwater Piping and Equipment

A. All rainwater is conveyed off the roof with exterior downspouts and gutters. There are no interior stormwater piping systems within this building.

7. Plumbing Fixtures and Primary Equipment

A. Plumbing fixtures are showing some age, but generally are in very good condition.

B. In general, water closets (toilets) are floor-mounted tank-type, essentially "residential" in construction. Lavatories are wall-hung with manual faucets.

c. Fixtures are suitable for many more years of service based on the current use of this building.

8. Backflow Prevention

A. The make-up to the boiler/heating system is protected with a Watts Model 9d backflow preventor. This should be adequate protection, assuming the boiler is filled with pure city water and no significant chemicals have been added to the system.

B. There are no other connections between the potable water system and any non-potable water systems.

Fire Protection Systems

1. Fire Sprinkler Systems

A. There is no fire sprinkler system currently installed in this building.

2. Fire Standpipe Systems

A. There are no fire protection standpipes or hose cabinets currently installed in this building.

3. Fire Protection Systems Alarms and Controls

A. Since there are no fire sprinkler systems within this building, there are no related sprinkler flow switches or local alarms.

Toilet fixtures in second floor women's restroom. (2012)

Second floor Women's restroom sink. (2012)

COST ESTIMATE (Deferred Maintenance)

The facility was renovated into a Senior Center in 1967 and is in active use and well maintained by the City of La Crosse. The work that is estimated in this section are items that are end of service life replacement and elective items that may enhance the safety and accessibility of the structure. The elective items are not triggered by code without a significant renovation project or change of use to meet compliance requirements. The cost estimating work is not aligned with a proposed renovation project, but focuses instead on individual work items that may be considered in the future. The work items are individually estimated and includes a listing for the rationale (ie. maintenance, energy conservation, elective) and prioritization.

ITEM	RATIONALE	COST	PRIORITY
• Original Building Exterior Wall Repair Work - Limestone Sills - Brick Tuckpointing	Maintenance	$100,000 - 135,000	Medium
• Original Building Window Replacement at Second Floor	Energy Conservation	25,000	Medium
• Original Building Stair (Central) Restoration/Renovation	Code (Elective)	10,000	Low
• 1977 Stair Lighting upgrade with occupancy sensors	Code (Elective)	1,000	High
• Replace south entrance ramp	Code (Elective)	3,200	High
• Replace south fire escape and exterior door assembly	Code (Elective)	10,500	High
• Replace south meeting room stair	Code (Elective)	5,000	High
• ADA Upgrades at Restrooms	Code (Elective)	6,000	Medium
• Relocate electrical service mast a greater distance from fire escape.		5,000	Low
• Provide new GFCI receptacles to meet with current Code and Industry Practice		1,500	Medium
• Update lighting systems. Replaced fluorescent strips with fluorescent trip lighting with high-performance T8 lamps. Replace surface-mounted incandescent fixtures with compact fluorescent or LED fixtures. Modify decorative lighting with compact fluorescent or LED lamps.		15,000	Low
• Bring emergency lighting up to current Codes and standards. Replace any units greater than 10 years old.		2,000	High

ITEM	RATIONALE	COST	PRIORITY
• Install a fire alarm system with remote monitoring.		8,000	Medium
• Install automatic night setback thermostats for all heating and cooling systems.		3,000	Low
• Replacement of air conditioning units with more energy-efficient systems.		25,000	Low
• Replacement of gate valves with new ball-type valves.		1,000	Low

PRIORITY LEVEL	COST
LOW	$59,000
MEDIUM	$140,500-175,500
HIGH	$21,700
TOTAL	$221,200 - 256,200

The “construction cost” for a new building of comparable size (8,800 SF) is in the $1,320,000 - 1,540,000 range, and will ultimately be determined by the type of construction, number of levels, materials/finishes, mechanical/electrical systems, and the complexity of the design. This construction cost figure does not include site acquisition, site development and parking, FF+E (furnishings, fixtures, and equipment), contingency, A/E fees, and direct costs (ie, survey, geotechnical, legal, financing, code review, etc.) that constitute the overall project cost.

APPENDIX: Elevations and Plans

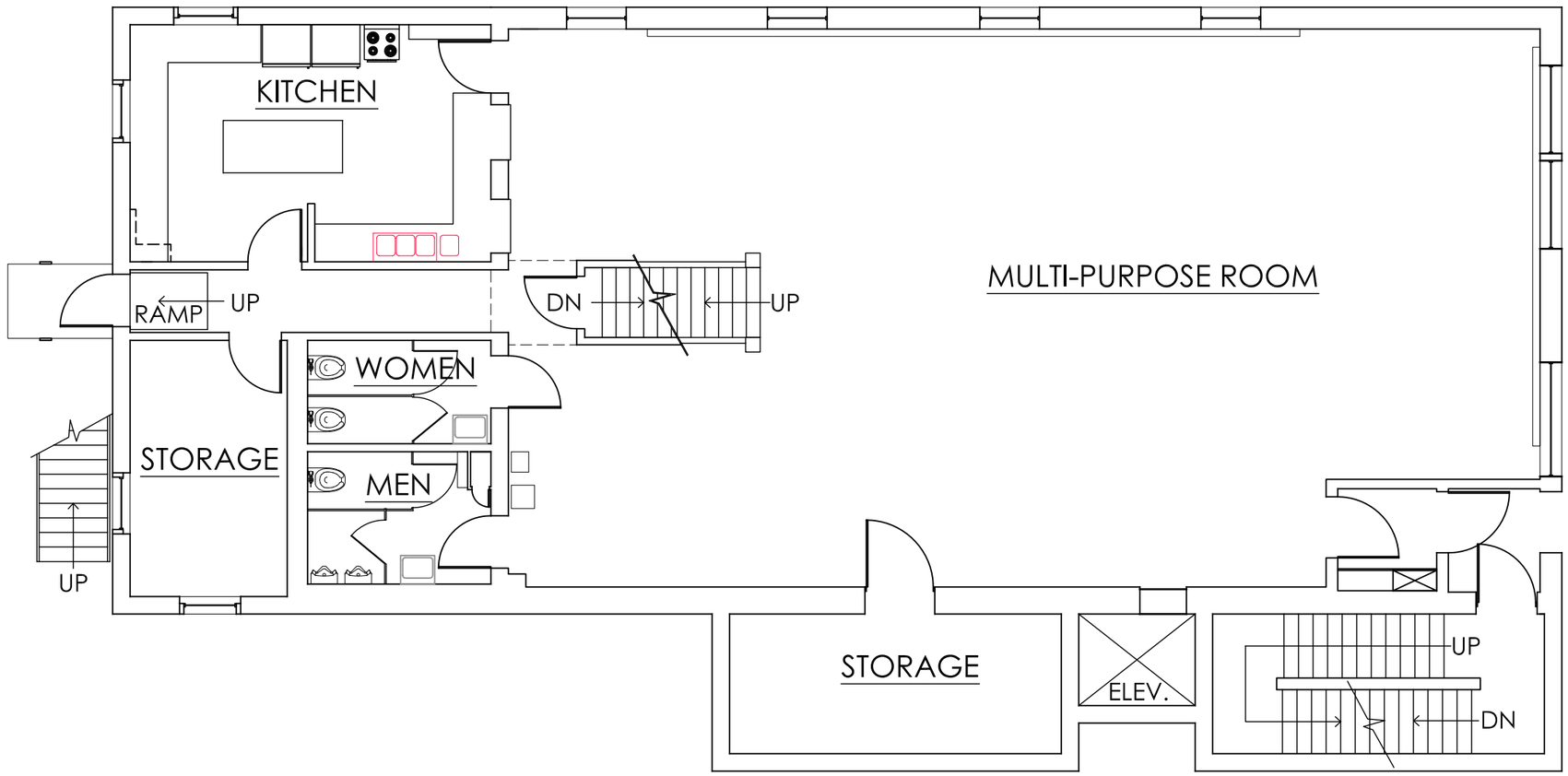
North Elevation (2012)

West Elevation (2012)

South Elevation (2012)

East Elevation (2012)

Aerial Site Plan (2012)



EXISTING FIRST FLOOR PLAN

1/8" = 1'-0"

N

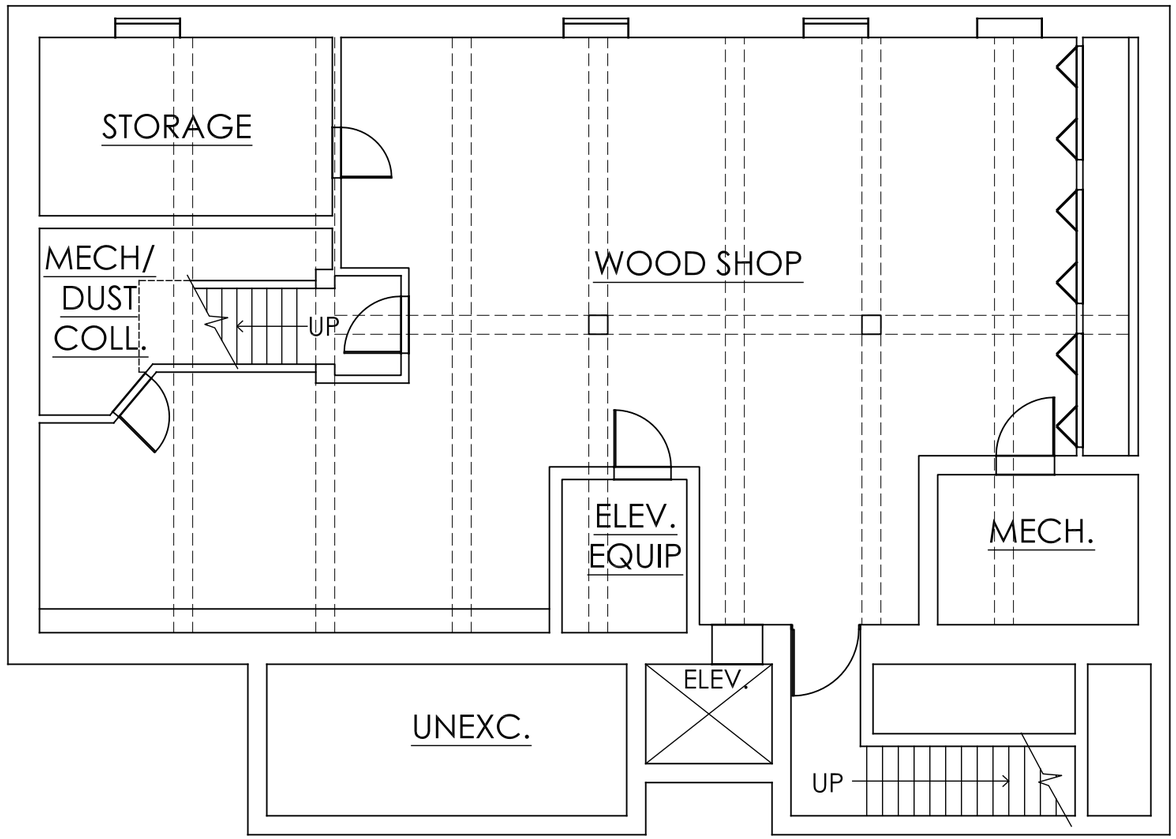
river ARCHITECTS
740 7th Street North La Crosse, WI 54601-3308 Tel 608 785-2217

PROJECT
SOUTH SIDE SENIOR CENTER
1220 DENTON, LA CROSSE, WI

DATE September 6, 2012
DRAWN BY RA
CHECKED BY RA

PROJECT No 1329
DRAWING TITLE EXISTING FIRST FLOOR PLAN

A1



EXISTING BASEMENT FLOOR PLAN

1/8" = 1'-0"

N

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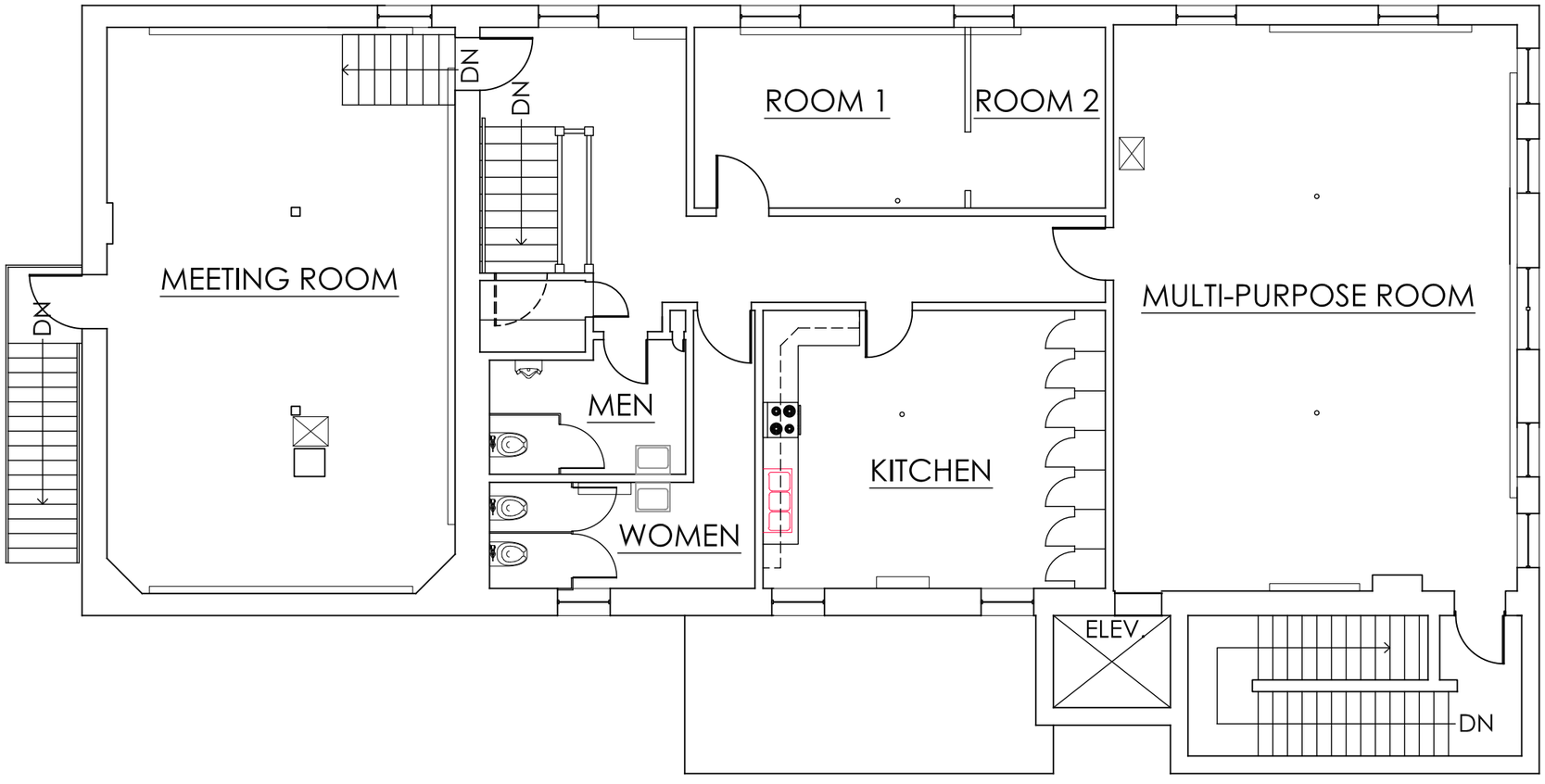
PROJECT No 1329
DRAWING TITLE EXISTING BASEMENT FLOOR PLAN

A2



EXISTING SECOND FLOOR PLAN

1/8" = 1'-0"

N

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PROJECT No 1329
DRAWING TITLE EXISTING SECOND FLOOR PLAN

A3