

PERSHING ROAD BUILDING
1869 W Pershing Ave, Chicago, IL 60609
Facility Evaluation Report 07/30/2021

HARDING MODE JOINT VENTURE

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EXECUTIVE SUMMARY:

1869 W Pershing Avenue is a six-story storage facility that is a portion of a multi-building campus maintained operated by the Department of Assets, Information & Services (AIS) in the McKinley Park neighborhood. The campus consists of three identical 6-story buildings connected with underground tunnels at the basement level and bridge connections between the second and sixth floors. At the south side of the property there is an asphalt parking lot, with two additional one-story structures utilized by other Chicago City agencies. The structure was originally constructed in approximately 1920 and was originally utilized by the US Army. During the 1970's the campus was occupied by the Board of Education and the upper floor levels were built out at all buildings for their use. The City of Chicago currently owns and maintains all buildings on the campus, and primarily uses the facilities for warehousing and maintenance operations. (fig 0.1 & fig 0.2)

The building at 1869 W Pershing is fully utilized at this time, with the Board of Elections utilizing the second and third floors and storage uses by AIS, OEMC, Department of Health, Cultural Affairs, Police Department and Fire Department in various locations on other floors. All floors have received renovation for storage usage, although systems upgrades have not been completed at the sixth floor which has not yet received any buildout. The assessment report will describe the existing conditions of the facility as assessed on site, focused primarily on interior conditions with some description of envelope and site conditions. Minimum code compliance requirements will be indicated with recommendations for bringing the facility into full code compliance. Recommendations for additional work exceeding code minimums will be identified where appropriate. Future programming studies will inform scope work at the sixth floor. The intent for the 1869 Pershing facility is to bring the building into compliance with minimum building code requirements, as well as to address existing and future uses within the facility.

The primary document for assessing compliance for the facility is Title 14X – 2019 Chicago Minimum Requirements for Existing Building. Title 14X applies to all existing structures, whether any new construction or alterations are being performed. Title 14X focusses on structural safety, weather tightness and life safety compliance, as well as minimum standards for occupant use. All new work will be regulated by Title 14B Chicago Building Code and Title 14R Building Rehabilitation Code, while Title 14X dictates the minimum requirements at 1819 W Pershing where only corrections of existing non-compliant conditions are present.

- 14X-3-303 – Exterior Structure: Exterior Envelope must be maintained in structurally sound and weather tight condition. Includes structural members, masonry and cornices and trim, roof, windows and skylights and doors. Section 303.7 – Roofs must be sound tight and adequate to prevent dampness or deterioration to interior structure.
- 14X-3-304 – Interior Structure – The interior including wall and walking surfaces must be maintained in sound and sanitary conditions.
- 14X-3-306 – Handrails and Guardrails: Section 306.1 Requires a handrail between 30 and 42 inches all stairs (one side). Section 306.2 requires Guards at open side of railing of 30" and minimum 36" where open side is 12' or more above surface below. Guards required to be 36" high must have balusters with minimum 6" passthrough below 34" aff, except 21" passthrough at type S occupancy.
- 14X-3-307 – Rubbish and Garbage shall be removed from interiors



EXECUTIVE SUMMARY (cont.):

- 14X-5-502.3.3 – Fire Wall, barriers and partitions are required to be maintained including doors and dampers and all penetrations in accordance with NFPA 80
- 14X-5-502.4 – Opening Protectives must be maintained – Fire doors cannot be blocked or held open (unless by approved hold open devices) and must have operable closers and latches
- 14X-5-502.7.3 – Vertical enclosures required to be 1 hour at all enclosures exceeding 5 stories
- 14X-5-504.2.9 – High Rise Buildings are required to have automatic fire sprinkler systems throughout. Section 14X-5-504.4.4 require a standpipe system for high rises.
- 14X-5-504.4 – Existing High Rise buildings must be equipped with standpipes.
- 14X-5-504.5 – Portable Fire Extinguishers must comply with 14B-906 requirements for fire extinguishers which requires one fire extinguisher per every 11,250sf of floor area and maximum 75' of travel distance
- 14X-5-504.6 – A fire alarm system must be provided
- 14X-5-504.7 – Voice Communication systems are required in High Rise Building consisting of both one way and two way communication systems.
- 14X-5-504.9.3 – Carbon Monoxide detectors are required at all areas with fuel burning appliances.
- 14X-5-504.10 – Fire protection systems may not be disabled in occupied buildings.
- 14X-5-505 – Means of Egress must comply with minimum requirements of 14B including occupant load and exiting capacity, and minimum number of exits from all spaces and areas.
- 14X-5-505.6 – Means of Egress Illumination – a minimum of 1 foot candle of illumination required at the walking surface, with emergency illumination provided in accordance with Article 700 of Chicago Electric Code.
- 14X-5-505.8 – Doors must have a minimum 28" clear width (26" where capacity is below 20 persons)
- 14X-5-505.9.7 – Existing stairways must have identification signage indicating stair and floor identifier and reentry information at every floor.
- 14X-5-505.9.9 – Doors in exit stairways connecting more than 4 levels must either not be locked from stairway side at any time or be equipped with a fail-safe electronic system to release manually and automatically in connection to an automatic fire alarm/protection system, including a 2-way communication system at every 5th floor. If high rise, any locked stairway doors must be automatically unlocked upon a signal from the fire alarm center.
- 14X-5-505.13 – Exit Signage must comply with section 1013 of Title 14B – internally illuminated with backup power source. Tactile signage is required at stairs.
- 14X-5-506 – Life Safety Compliance Plan is a document that applies to all high rise buildings. This document details building conformance or non-conformance to life safety requirements, and is utilized to assess whether a sprinkler system is required for a high-rise facility. Since the 1869 Facility has an operation sprinkler system the Compliance Plan is not applicable to this building.
- 14X-6 Light and Ventilation. Means of egress lighting required, mechanical or natural ventilation required. Process ventilation required at area producing fumes or gasses, locally ventilated.
- 14X-7-702.4 – Electrical Hazards. Components (wiring, lighting, etc.) exposed to water must be replaced. Section 703.3 – Abandoned electrical equipment where reachable must be demolished. Section 705.1 – Known Electrical Hazards must be abated.
- 14X-9-903.2.2 – Employee toilets must be located within 500' and 1 level of all work areas.
- 14X-10 – Elevators must comply with Chicago Conveyance Device Code. In buildings with passenger elevators a minimum of 1 passenger elevator must be maintained in operation at all times.

The building has received life safety modifications as a portion of renovations to the facility, and most floors are compliant with code requirements. Areas of concern are the lack of door re-entry from stairwells, and means of egress non-conformance at the sixth floor level, as well as fire enclosure deficiencies at the basement and fifth floors. In addition, structural concerns at the access tunnel at the south side of the building present immediate build integrity and life safety concerns.

EXISTING CONDITIONS OVERVIEW

The total floor area is approximately 524,000sf, with a floorplate 324'-8" (N/S) by 276'-8" (E/W) with a total building height of 80'-6", which qualifies the structure as a High-Rise per Chicago Building Code. At the basement level a utility tunnel south of the building connects to buildings to the east, and near the center of the building a pedestrian tunnel connects to the east. Bridges at levels at 2nd-6th floors connect from building to the east. The utility tunnel was observed to have significant structural concerns, which are addressed in detail in the structural report in the appendix. The separation between the buildings and bridge length is approximately 46'-8". The structure is concrete, with columns and flat slab structure. The exterior envelope is brick with terracotta trim and cornices, and the roof a modified bitumen roof. There are six stair towers within the building, five of which connect all levels from basement to 6th floor, and the sixth extending from the sixth to second floor then exiting directly to grade without access from first floor or basement levels. There are two existing passenger elevators and three remaining freight elevators, with one freight elevator not currently in operation. Loading docks are located at the east and south sides of the building.

The facility was occupied by the Board of Education from 1980 through the 1990s, and some renovation areas remain at upper floor levels. The basement through third floor levels were extensively renovated in 2006 for the current usage, and included significant life safety improvements at that time. Renovations were performed at the fourth floor in 2010. The fifth floor has been built out, however there is no documentation for when this work performed, and some areas are not in code compliance. Detailed interior descriptions by floor are included in the detailed conditions assessment.

The 1869 Facility would be considered Moderate Hazard Storage, Group S-1 based on the existing usage of the facility, with any office areas considered as accessory uses. Based on review of the existing building structure the construction complies with Type IA construction, which allows for the highest permissive use of construction. Per Title 14B, Type IA construction allows unlimited building area and number of floors regardless of whether a building is sprinkled or unsprinkled, however buildings exceeding 80' in height are only allowable if fully sprinkled.

The facility at 1869 W Pershing has a dedicated electrical service located in the basement providing power for the building, with an emergency generator located in the drive between 1869 and 1819 and an additional generator at the southwest corner of the building. There are multiple boilers in the basement of the 1869 building serving the facility, as well feed heat to the 1819 facility and the fire department building and carpenter shops to the south of the building. There are air handlers at all levels through the fourth floor, with a cooling tower located on the roof and chillers in the basement, however the top two floors appear to be serviced by radiant heating only. A fire pump in the basement supplies the building wide sprinkler and standpipe systems. Complete facility description, including site, exterior, interior and MEP systems, and remediation recommendations for minimum code compliance for vacant buildings is provided in the detailed existing conditions assessment. Abatement for asbestos and lead are not addressed as a portion of this assessment as material testing has not been performed. The descriptions and detailed assessments contained herein are not intended to be exhaustive or to identify all potential deficiencies, but rather to identify minimum code compliance requirements and recommendations for remedial action.

DETAILED EXISTING CONDITIONS ASSESSMENTS AND CORRECTIVE ACTION RECOMMENDATIONS

1. Site
2. Exterior
3. Interior
 - Floor By Floor Conditions
 - Stairs Elevators and Vertical Enclosures
 - Accessibility
 - High Rise Requirements
 - Code Deficiencies and Recommendations
4. Mechanical
5. Electrical
6. Plumbing
7. Fire Protection

1. SITE

The subject property is located on the south side of Pershing Road, and was constructed as a portion of warehousing and manufacturing facilities for the US Army dating to approximately 1920. The property is bound by a CDOT parking lot to the east, a materials yard and rail yard to the south, additional warehouse buildings to the west and Pershing Road to the north. The subject building is located as the westernmost of three identical warehouse buildings owned by the City of Chicago. Between the 1869 building and 1819 building to the east, an asphalt paved drive provides access to the asphalt parking lot at the south side of the property and loading docks for both the 1819 and 1869 buildings. At the west side of the property is a brick and asphalt drive that provides access to the parking area south of the carpenter shop building. The parking lot extends from the east edge of 1769 to the west face of 1819 where a one-story Chicago Fire Department structure is located to the south of 1869 Pershing, with additional parking and loading between the CFD building and one-story carpenter shop building. (fig 1.1)

At the south face of the building there is an asphalt drive that separates the 1869 and CFD structures. The two structures are approximately 20' apart. Aligned with the west side of 1869 is a carpenter shop with an above grade connection to 1869, with a remote condenser at the east side of the connection and generator at the west side. Both the east and west sides of the building face directly onto the brick paver and asphalt access drives from Pershing, and the north face of the building is directly on the sidewalk at the property line. At the west side of the building vegetation partially obstructs some exits. At the northwest corner of the building a sidewalk ramp extends into the public way to create an accessible entrance for the facility.

The main parking lot area is approximately 150' x 600'. The parking lot is fully asphalt paved at the west portion of the lot and generally in good condition, however the east side of the lot is primarily an unpaved gravel lot and some areas are in poor condition. The west portion of the parking lot has visible striping, however the east side of the lot is not striped.



Fig 1.1 - CFD Structure at West of 1869

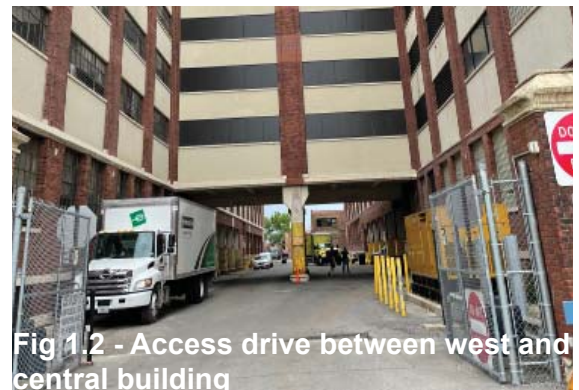


Fig 1.2 - Access drive between west and central building

1. SITE (cont.)

- Code Compliance:
 - Per section 14X-12-1202.3 Outdoor Areas the landscaping at the west side of the building requires maintenance. Remove overgrowth and planting preventing egress from required exits.
- Recommendations:
 - Parking lot area may require some patching and repairs, although paving in the vicinity of 1869 is in good condition. Per CBC stormwater requirements, modifications to an existing parking lot that exceed 7500 of impermeable area require full compliance with stormwater management requirements. Based on existing lot and property area modifications should be limited below this threshold due to budget constraints.

2. EXTERIOR ENVELOPE

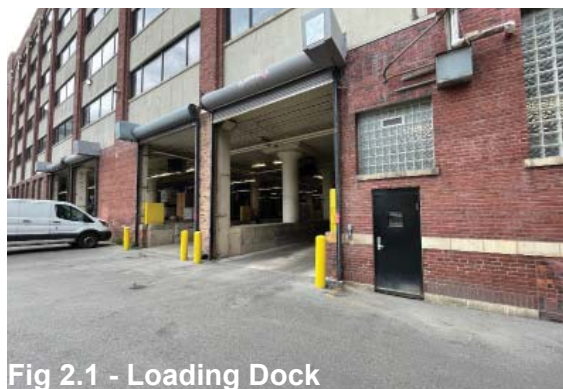
The subject property is a six-story concrete frame structure with masonry infill and veneer with terracotta detailing and coping. There are insulated storefront ribbon windows between brick piers at the exterior, with cement stucco infill panels between floors. A bridge connects the 1869 Pershing structure to the 1819 structure to the east at floors two through six.

At the east side of the building there is a large loading dock recessed into the building with four overhead doors. (fig 2.1) There are additional overhead loading dock doors at the south and east elevations. There are multiple exits at grade around the perimeter of the building, including three exits on the north elevation onto Pershing, one exit to the east from interior stairwells, one exit from ground floor to grade at south elevation and three doors exiting directly from a stairwell on the west side of the building. Doors around the perimeter of the facility are accessible, however at the west side vegetation is obstructing two doors and requires removal. (fig 2.2)

The roof is a modified bitumen roof system with reflective cap sheet and rigid insulation over a sloped concrete structural deck, which extends to the midpoint of the connecting bridge to the east. There are skylights across the entire roof area of the building that have been roofed over in place, and there are elevator penthouses at all original elevator shaft locations. There is direct roof access from the interior through an elevator shaft that has been converted into a mechanical chase. The roof is in good condition.

The all building elevations and the bridge connection to 1819 have recently been tuckpointed and received structural repairs, and there were no observed deficiencies.

- Code Compliance
 - While the exterior envelope is generally beyond the scope of this assessment, the tunnel at the south side of the property connecting 1769, 1819 and 1869 Pershing was observed to have some significant deterioration. The drive aisles from Pershing to the parking areas at the south pass over these tunnels. Per section 14X-3-303.4 the structural members must be maintained, and structural repairs are required for any compromised docks or drive areas over these tunnels. An interior structural assessment report including these tunnels is included in the appendix.



2. EXTERIOR ENVELOPE (cont.)

- Per section 14X-3-303.13-17 exterior windows and doors must be maintained. While original windows have been replaced, at the 5th and 6th floor stairwells there are a limited number of original windows, one of which was observed to have broken lites. Recommend replacement to match remaining windows.
- Recommendations:
 - The existing parking and access drives are not well lit at this time. Recommend adding additional wall or roof mounted or ceiling mounted lighting at the loading dock and bridge areas at access between 1869 and 1819 buildings.
 - The exterior doors on the west side of the building appear not to be generally used and should be serviced to ensure proper operation in case of emergency exiting.

3. INTERIOR FLOOR CONDITIONS

The building interior for 1869 W Pershing Road is characterized by a dense concrete columnar grid on generally open floor plates. The original construction had continuous fire separation walls extending from the east to west sides of the building that divided the building into three relatively evenly divided floor areas to the north, center and south at all levels above the first floor, though the firewalls have been removed at all levels of the building. Freight elevator and mechanical cores remain at the north/center/south dividing lines at each level. Overhead coiling doors fire shutters are located at each side of the fire wall separation at each side of the bridges and tunnels, though at some levels the bridge access between the buildings has been walled off.

There are six stair towers within the floor plate, which were originally arranged so that there were a minimum of 3 stair access exits from each fire area. At the north side of the building there is a stair in the northwest (Stair 1) and northeast (Stair 2) corners. Along the west side are three additional stairs between the north and center thirds (Stair 3), center and south (Stair 4) and southwest corner (Stair 6). At the east side of the building there is a stair (Stair 5) adjacent to one of the operational elevators that is utilized as the main employee building access.

Detailed assessments by floor and for each stair follow to describe existing uses, renovations and deficiencies per code as observed.

- Basement Level (Appendix A-1): The basement level is approximately 8' below grade. The basement area does not occupy the full floor plate, as the center of the basement area from the south end to near the north end is unexcavated where train car loading occurred within the building accessed from the south, as well as below loading docks at the east side of the building. At the south side of the building and at the center of the building tunnels connect to 1819 and 1769 buildings to the east. The boiler room is located at the southeast corner of the building, however there is currently no rated enclosure as required by code due to a damaged gypsum board partition and removed overhead door, and an opening into the utility tunnel to the south. A pipe-fitter's shop area is located within the rated boiler area and should be separated. At the northeast corner of the building is the fire pump room. There is a chiller room located on the southwest side of the building, two air handler rooms and electrical rooms. There is an engineer's office suite, pipe fitter's shop adjacent to the boiler room, and storage areas for AIS and various city agencies. The level appeared to be dry and active sump pumps were observed. At the south tunnel there was significant spalling and cracking that is further detailed in the structural report in the appendix.
- First Floor (Appendix A-2): The first floor is elevated approximately 4'-6" above grade, with the exception of an entry lobby at the west side of the north elevation that enters at grade. The northwest entrance is the public access for the building and has a chair lift for accessible route to the main level, as well as all fire department annunciator panels. Two passenger elevators serving all floors are accessed from a corridor past a security desk along the north elevation of the building. There are access controls on the elevators as well as doors from the secured entry

3. INTERIOR FLOOR CONDITIONS (cont.)

vestibule. At the northwest and center portions of the floor plate there are Fire Department storage area, and at the northeast corner an OEMC storage area. At the south end of the floor plate are loading docks and storage areas utilized by AIS Fleet Management. The east portion of the floor plate has loading docks and a security office for the facility. There is one air handler on the west side of the floor south of Stair 4. There is a fully accessible toilet core with men's and women's toilets just east of Stair 3, and a single user toilet just to the north of the dock area at the east side of the building.

- Second Floor (Appendix A-3): The second floor is the first of the typical floor layouts for the facility. The entire floor area is utilized by the Board of Elections. There are offices along the north edge of the floor. There is a fully accessible toilet core with men's and women's toilets just east of Stair 3 with an adjacent employee break room. The remainder of the floorplate is open warehouse space, with the exception of electrical rooms and shafts, and four air handler rooms, two each at the east and west sides of the floor plate. There is access to the connecting bridge to 1819 at this level.
- Third Floor (Appendix A-4): The third floor is a typical floor plate with gypsum board and masonry enclosures at 4 AHUs, with the remaining floorplate open. The entire floor area is utilized as storage by the Board of Elections. There is a fully accessible toilet core with men's and women's toilets just east of Stair 3. There is access to the connecting bridge to 1819 at this level.
- Fourth Floor (Appendix A-5): The fourth floor is occupied by multiple using agencies. The Department of Health, Cultural Affairs and Police Department all utilize storage areas on this floor, as well as AIS facility offices and work areas. There are four air handlers at similar locations as floors 2 and 3. There is a fully accessible toilet core with men's and women's toilets just east of Stair 3. The renovations on this floor generally follow the construction as floors below, though the work did not occur at the same time. The renovations have resulted in some egress routes that exceed the maximum travel distance requirements. There is no access to the bridge connecting to 1819 at this level.
- Fifth Floor (Appendix A-6): The fifth floor has been built out for storage by multiple agencies, with Department of Health storage areas occupying most of the south and center portions of the building, with some use by Department of Family Support Services, and the north side of the floor utilized by AIS as storage and shop areas. There is no access to the connecting bridge to the building to the central building at this floor level. The renovations on this floor are more recent than levels below and were not performed to same level of compliance. There are no air handlers at this floor and no observed ventilation or cooling for most of the floor area, and several enclosures that should be rated were observed to be of non-compliant construction. There is a fully accessible toilet core with men's and women's toilets just east of Stair 3 that matches the floors below.
- Sixth Floor (Appendix A-7): The top floor has not been renovated, and is currently utilized as an open storage area with some fenced partitions for AIS carpenters and various other city agencies. The abandoned toilet core and mechanical core areas remain from the previous Board of Education occupancy, however there have been limited upgrades for life safety and security only at this floor level and several non-conforming conditions remain. There are no toilet areas, and no mechanical ventilation or cooling at this level. There is no access to the connecting bridge between the west and center buildings.

Stairs Elevators and Vertical Enclosures

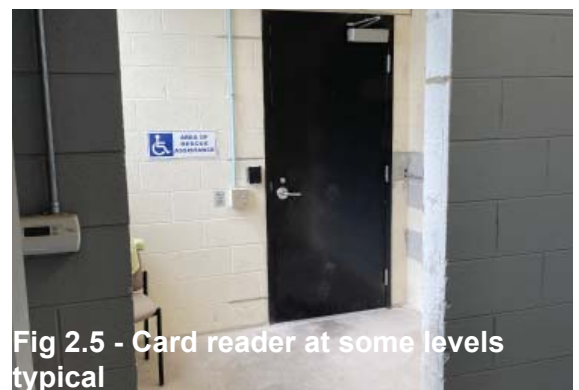
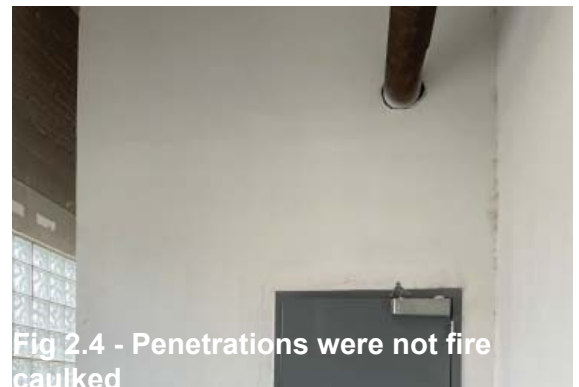
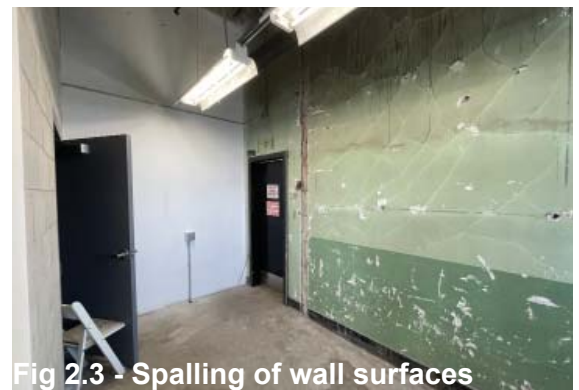
The building is served by six stairs at the perimeter of the building, with stairs 1, 2, 3, 5 and 6 connecting all levels from the basement to sixth floors, and stair 4 connecting the roof through 2nd floors and exiting directly to the exterior without access at the first floor. Code requires that the existing building comply with means of egress minimum width requirements, guardrail heights, reentry hardware, and other fire and life safety minimum code with which the project is currently out of compliance. Generally, all stairs were missing re-entry hardware at most floor levels, at the top 3 levels required signage was missing, and at the top two levels exit door width and rated enclosures are issues at some stairs.

3. INTERIOR FLOOR CONDITIONS (cont.)

In addition to the building stairs, there is an access stair between floor levels at the connecting bridge to 1819 Pershing as well. This stair is not used, and is an open riser metal and wood stair with no enclosure. This stair should be enclosed as currently there is no rated separation between levels at the bridge with this open stair.

In addition to the stairs the facility originally had eleven freight elevators and two passenger elevators. At the time of the Board of Education renovations multiple elevators were removed and the shafts were converted to mechanical shafts, with several remaining elevators left in place as inactive. Further renovation have resulted in two modernized passenger elevators, and two operational freight elevators, with a third freight elevator not currently in operation, and inactive elevators removed. The passenger elevators (P1 and P2) are located at the north side of the building, and operational freights are the furthest west at the elevator core bank between the center and south sides of the building near Stair 4 (W-7), and at the east side of the building adjacent to Stair 5 (W-8). The inoperative freight is the furthest east at the core separating the north and center portions of the building (W-9).

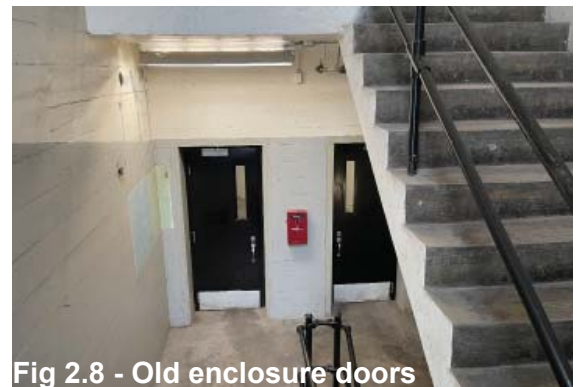
- Stair 1: Located at the northwest corner of the building, this stair connects all levels. The stair and landing construction are of concrete, and the enclosure is CMU at all levels. At the basement, the stair is enclosed with a masonry enclosure. The stair enclosure from the basement opens into the accessible public entry lobby for the facility, with a separate enclosure from the first floor to sixth floor levels. At the first floor through sixth floor a vestibule has been built at each floor that contains an area of refuge with two way communication. At the fifth floor level a fire alarm communication phone has been installed. Lighting and exit lighting are provided at all levels. At the 4th through 6th floors the stairwell is missing identification signage. Window glazing is broken at the sixth-floor vestibule area. The doors from the vestibule at some levels had card readers and were locked, and at some floors were locked or hardware function was set so that no reentry was possible. The interior handrail and guardrail at top of stair do not comply with minimum code requirements at areas where fall distance exceed 8'. There is debris on the stair between the fifth and sixth floors from spalling of wall surfaces. (fig 2.3)
- Stair 2: Located at the northeast corner of the building, this stair connects all levels. The stair and landing construction are of concrete, and the enclosure is CMU at all levels. At the basement, the stair is enclosed with a masonry enclosure. The stair enclosure from the basement opens into the enclosure from the first floor to sixth floor levels, with a direct exit to grade at Pershing. At the first floor through sixth floor a vestibule has been built at each floor that contains an area of refuge with two-way communication, however at the 5th and 6th floors this enclosure is not a rated assembly and penetrations were not fire caulked. (fig 2.4) At the fifth floor level a fire alarm communication phone has been installed. Lighting and exit lighting are provided at all levels. At the 4th through 6th floors the stairwell is missing identification signage. Doors from the vestibule at some levels had card readers (fig 2.5) and were



3. INTERIOR FLOOR CONDITIONS (cont.)

locked, and at some floors were locked or hardware function was set so that no reentry was possible, and the 6th floor door was propped open. The interior handrail and guardrail at top of stair do not comply with minimum code requirements at areas where fall distance exceed 8'.

- Stair 3: Located at the west side of the building between the north and center areas, this stair connects all levels. The stair, slab and enclosure construction are entirely of concrete, with a vestibule built at each level providing an area of refuge with two-way communication, however at the 5th and 6th floors this enclosure is not a rated assembly and penetrations were not fire caulked. At the landing between 5th and 4th floors a louver/plenum assembly from the AHU outside air intake/exhaust extends into the space, and there is no rated separation for the shaft as required. (fig 2.6) At the fifth floor level a fire alarm communication phone has been installed. Lighting and exit lighting are provided at all levels. At the 4th through 6th floors the stairwell is missing identification signage. Doors from the vestibule at some levels had card readers and were locked, and at some floors were locked or hardware function was set so that no reentry was possible, and the 6th floor door was propped open. The interior handrail and guardrail at top of stair do not comply with minimum code requirements at areas where fall distance exceed 8'.
- Stair 4: Located at the west side of the building between the center and south areas, this stair connects from sixth floor to grade, with no access at the first floor. The landing slab and enclosure construction are entirely of concrete and the stairs are entirely of metal. The stair is accessed from a vestibule on the north side of the enclosure at all floors, with original 30" access doors remaining at the 5th and 6th levels that do not provide adequate exit width and should be removed. At the 5th and 6th floors the vestibule enclosure is not a rated assembly and penetrations were not fire caulked. At the landing between 3rd floor a louver/plenum assembly from the AHU outside air intake/exhaust extends into the stair enclosure, and there is no rated separation for the shaft as required. Doors from the vestibule at some levels had card readers and were locked, and at some floors were locked or hardware function was set so that no reentry was possible. At the fifth floor level a fire alarm communication phone has been installed. At the 4th through 6th floors the stairwell is missing identification signage. At the ground floor exit there is no light and lighting level is not adequate. At the roof level there is a section of concrete structural slab that is missing. (fig 2.7) The interior handrail and guardrail at top of stair comply with minimum code requirements for storage buildings, and no modifications would be required.
- Stair 5: Located at the east side of the building between the center and south portions of the floor plate and adjacent to Elevator W8, this stair connects all levels and serves as the main employee entrance to the building. The stair, slab and enclosure construction are entirely of concrete, with a vestibule built at each level with a standpipe and an area of refuge with two-way communication, however at the 5th and 6th floors this enclosure is not a rated assembly and penetrations were not fire caulked. The old enclosure doors remain at the 5th and 6th floors between the vestibule and the stair to provide fire separation, however these doors do not provide adequate exit width and need



3. INTERIOR FLOOR CONDITIONS (cont.)

to be removed as they were on floors 2-4 once the proper rated vestibules are completed. (fig 2.8) At the fifth floor a window A/C unit has been installed through the unrated vestibule wall from the office to the north. (fig 2.9) At the landing at the 2nd 3rd and 4th floors a louver/plenum assembly from the AHU outside air intake/exhaust extends into the space, and there is no rated separation for the shaft as required. At the 4th through 6th floors the stairwell is missing identification signage. Doors from the vestibule at some levels had card readers and were locked, and at some floors were locked or hardware function was set so that no reentry was possible, and doors were propped open at several levels. At the fifth floor level a fire alarm communication phone has been installed. Lighting and exit lighting are provided at all levels. The interior handrail and guardrail at top of stair do not comply with minimum code requirements at areas where fall distance exceed 8'.

- Stair 6: Located at the south west corner of the building, this stair connects all levels. The stair and slab construction are entirely of concrete with a CMU enclosure. The stair enclosure from the basement opens into the enclosure from the first floor to sixth floor levels, with a direct exit to grade at Pershing. At the first floor through sixth floor a vestibule has been built at each floor that contains an area of refuge with two-way communication, however at the 5th and 6th floors this enclosure is not a rated assembly and penetrations were not fire caulked. At the first floor the CMU is damaged (fig 2.10), and at the basement the door appears not to be able to latch, and at the sixth floor there is door from stair to vestibule with no hardware (fig 2.11), and the door enclosure does not latch. At the fifth floor level a fire alarm communication phone has been installed. Lighting and exit lighting are provided at all levels. At the 4th through 6th floors the stairwell is missing identification signage. Doors from the vestibule at some levels had card readers and were locked, and at some floors were locked or hardware function was set so that no reentry was possible, and the 1st floor door was propped open. The interior handrail and guardrail at top of stair do not comply with minimum code requirements at areas where fall distance exceed 8'
- Passenger Elevators P1 and P2 (fig 2.12): The passenger elevators are located adjacent to each other at the north side of the building and serve floors one through 6. Key card access is required to control the elevator. The elevators have fire control overrides, and phone call buttons at the interior, and generally appear to be code compliant. An elevator consultant would need to review all controls to ensure conformance with latest Chicago Conveyance Code requirements.
- Freight Elevator W7: Located at the west side of the building east of Stair 4, and is a secondary freight elevator for the facility with a 10,000 lb capacity. The elevator serves basement through 6th floor, and key card access is required



Fig 2.9 - A/C unit through unrated vestibule wall



Fig 2.10 - Damaged CMU wall



Fig 2.11 - Door without hardware



Fig 2.12 - Passenger elevators

3. INTERIOR FLOOR CONDITIONS (cont.)

to control the elevator. The operation is fully automatic, and the elevator has a telephone call button, fire controls and directional signage. An elevator consultant would need to review all controls to ensure conformance with latest Chicago Conveyance Code requirements.

- Freight Elevator W8: Located at the east side of the building south of the loading docks, this elevator has a door opening directly to the exterior, and is the main freight elevator for the facility with a 20,000 lb capacity. The elevator serves basement through 6th floor, and key card access is required to control the elevator. The operation is fully automatic, and the elevator has a telephone call button, fire controls and directional signage. A gap at the first floor was observed between the upper and lower door leaves (fig 2.13), which should be adjusted, or gaskets provided to maintain the shaft enclosure separation. An elevator consultant would need to review all controls to ensure conformance with latest Chicago Conveyance Code requirements.
- Freight Elevator W9: This elevator is not currently in service, and the cab and controls could not be observed. There is no fire station return control at the first floor for this elevator. At the basement and first floors the elevator lintel is deteriorated and requires repair (fig 2.14), and the shaft enclosure separation is not maintained.



Fig 2.13 - Gap at door

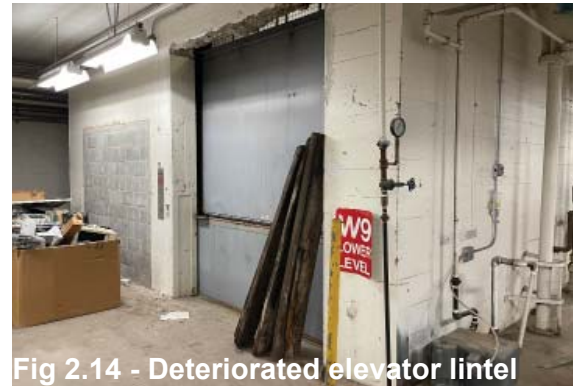


Fig 2.14 - Deteriorated elevator lintel

Accessibility

While the focus of this assessment is on minimum building compliance, 1869 W Pershing has received renovations to conform to ADA, Illinois Accessibility Code and CBC Code requirements. There is an accessible entrance to the building, accessible routes to all floor levels other than the basement, and accessible toilet facilities at most levels. Areas of refuge at all floor levels are provided. The main deficiency is that no accessible parking spaces are provided – while there is one space identified directly off the main accessible entrance at the northeast corner of the building this space does not conform to parking area requirements. Additional reserved street parking spaces at the main entrance are reserved for accessible parking through ordinance signage. The parking area is very remote from the accessible entrance and an accessible route from this location is not feasible.

Any future alterations to the sixth floor would alter and primary area of function, however since an accessible route is already provided the new work itself would just need to comply with accessibility requirements. All work planned as a portion of any minimum building requirement upgrades will require compliance with accessibility requirements. This will include door hardware, voice communication and signage, and any toilet room renovations.

Special Detailed Requirements High Rise Buildings

The Chicago Building Code defines High Rise Buildings as structures exceeding 80' in height. Title 14B defines building height as the distance from average grade to the top of the roof deck on low slope roof buildings where insulation is entirely above the roof deck. By this metric the structure at 1869 W Pershing just exceeds the minimum requirements, as from grade to top of structure building height is approximately 80'-6". The building must comply with Title 14X high rise requirements for existing buildings, which includes several 14B scope requirements. Additional high-rise requirements that do not apply to

3. INTERIOR FLOOR CONDITIONS (cont.)

structures below this height include:

- Automatic Sprinkler (403.3) system with fire pump located in a protected room.
- Emergency Systems (404.4) – Smoke Detection, Fire Alarm, Standpipe System, Voice Communication System, Fire Command, Smoke Removal, Standby and Emergency Power, Electrical Equipment Room in Vaults.
- Stairway Door operation (re-entry applies to all stairs over 4 stories) and communications systems
- Fire Service Elevators

The 1869 facility complies with all high-rise requirements, with the exception of stairway door operation, as at most floor levels the doors are or can be locked to prevent access from the interior. Stairwell doors are required to be modified and hardware should be replaced to allow for unrestricted access in either direction, or an automatic door release must be added and tied to the fire alarm system, so that in the event of a fire event the doors are automatically released.

Code Deficiencies and Recommendations

Minimum code requirement modifications for the building interior are listed as outlined under Title 14X. All scope items are based on observation walkthroughs, and should not be expected to be exhaustive of all potential violations or deficiencies on site:

- Per section 14X-3-306 handrails and guardrails are required to comply with minimum standards. At required stairs it is proposed that continuous metal grate panels be attached to the concrete stair structure similar to the security gates existing at some levels at existing stairs. Review of the condition with code officials may be sought to reduce guard protection requirements to limit to upper landings at stairs. The damaged handrail at Stair E basement will require repair.
- Per sections 14X-5-502.3.3 fire walls, barriers and partitions are required to be maintained including all penetrations in accordance with NFPA 80.
 - The existing fire wall separations at stairwell enclosures are not code compliant at the fifth and sixth floor levels.
 - There is no fire separation between AHU mechanical rooms and stairwells at several locations.
 - At the basement the rated enclosure around the boiler room is not maintained
 - At Stair 4 an unrated duct assembly penetrates through the rated vestibule enclosure.
 - At Elevator W9 the lintel is damaged at basement and first floor levels leaving open
- Per section 14X-5-502.4 opening protectives in fire walls or partitions must be maintained. Fire doors cannot be blocked or held open (unless by approved hold open devices) and must have operable closers and latches. For the stair enclosure opening protective doors may not be held open per code due to number of stories served, and some doors require repair where the doors do not currently latch.
- Per section 14X-5-505 means of egress must comply with minimum requirements of 14B including occupant load and exiting capacity, and minimum number of exits from all spaces and areas. At some levels the maximum exit distance appears to be exceeded due to floor plan buildouts, and floor plan modifications might be required for compliance. An appendix to this report provides exiting diagrams and load calculations for all floors as a portion of a building life safety analysis indicating exiting loading, travel distances and minimum required exits from all areas.
- Per section 14X-5-505.6 a minimum of 1 foot candle of illumination required at the walking surface at all portions of the means of egress, with emergency illumination provided in accordance with Article 700 of Chicago Electric Code. The exit discharge level for Stair 4 does not have operable lighting currently and a fixture needs to be added.
- Per section 14X-5-505.8 all doors on an egress path must have a minimum 28" clear width. The doors leading into Stairs 3, 4 and 5 at the fifth and sixth floors do not comply with this requirement – the clear width from egress to hardware to door frame is less than 24" at Stair 5 when the egress doors are fully open. The recommendation is to

3. INTERIOR FLOOR CONDITIONS (cont.)

build rated vestibules outside of these stairs at the 5th and 6th floors and provide a single 36" wide entry door into the vestibule to match the enclosures on floors one through four. The non-compliant doors would be removed within the stair enclosures to allow for adequate clear width.

- Per section 14X-5-505.9.7 existing stairways must have tactile identification signage indicating stair and floor identifier and reentry information at every floor. This signage is missing at floor levels 4 through 6 and require replacement.
- Per section 14X-5-505.9.9 doors in exit stairways connecting more than 4 levels must either not be locked from stairway side at any time or be equipped with a fail-safe electronic system to release manually and automatically in connection to an automatic fire alarm/protection system, including a 2-way communication system at every 5th floor. As this building qualifies as a high-rise any locked stairway doors must be automatically unlocked upon a signal from the fire alarm center. Currently all doors are locked or may be locked to prevent re-entry from the stairwell. Door hardware will need to be replaced or modified or tied to the fire alarm system where access controls are used to allow for re-entry at all stair levels.
- Per chapter 14X-6 mechanical or natural ventilation required. While existing window are operable at some locations at the fifth and sixth floors there does not appear to be any ventilation equipment. For ventilation requirements see mechanical narrative.
- Per section 14X-10 Elevators must comply with Chicago Conveyance Device Code. The inactive elevator requires repairs, and should be evaluated for code requirements prior to bringing back into operation. And assessment by an elevator consultant will be required to determine if all compliance requirements are met at active elevators.

Recommendations for occupant use and security:

- Individual through wall window type air conditioning units should be removed, and permanent ventilation solutions provided where required, such as split system units with remote condensers if needed.
- Finish and lighting levels at the sixth floor do not match floors below, and should be evaluated as portion of upgrades to the facility.

4. Mechanical

1869 W Pershing is currently a partially occupied property with six floors above grade and a basement. Floors 1 through 4 are occupied whereas floors 5 and 6 are used for storage. Each floor is approximately 90,000 SF of floor area. In addition to the building's heating and cooling plants covered below, the basement contains a steam heating plant that currently serves the 1819 W Pershing building consisting of (2) Burnham steam boilers (fig 4.1) and a separate steam Weil-McLain Model 88 boiler (fig 4.2) that serves the nearby firehouse building. The basement also contains (2) abandoned Kewanee Corp. steam boilers (fig 4.3) that seem to be original to the building. Steam to 1819 W Pershing and the firehouse building is transported through a utility tunnel connecting the buildings.

1869 W Pershing Heating Plant:

The building is heated by a central hot water boiler plant in the basement of the building. The plant consists of (3) 6720 MBH Bryan hot water boilers (fig 4.4). (2) of the boilers were manufactured in 2006, the third boiler is manufactured in 2010. Armstrong VFD controlled pumps (fig 4.5) are used to circulate the hot water throughout the building's air handling units/unit heaters/finned-tube radiators. The heating plant's aforementioned equipment appears to be in good working condition.



Fig 4.1 - Burnham Steam Boiler serving 1819 Building



Fig 4.4 - Bryan Hot Water Boiler



Fig 4.2 - Weil-McLain Boiler serving the Firehouse building



Fig 4.5 - Armstrong Hot Water Pumps

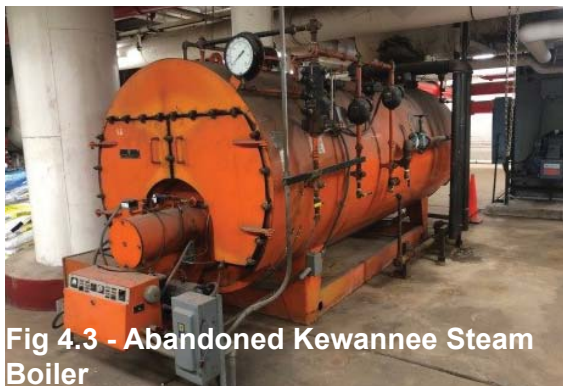


Fig 4.3 - Abandoned Kewanee Steam Boiler

4. Mechanical (cont.)

1869 W Pershing Cooling Plant:

The building's cooling load is handled by a water-cooled chiller plant in the basement of the building. The plant currently contains (4) chillers, (2) Carrier chillers (CH-1 & CH-2) installed/manufactured in 2006 (fig 4.6) and (2) Trane Chillers (CH-3 & CH-4) installed/manufactured in 2010 (fig 4.7). All (4) chillers are tied into the same central system, CH-1 & CH-2 are mostly inactive due to control operation difficulties, CH-3 & CH-4 currently handle the building's cooling load. The cooling tower is installed on the roof of the building; the cooling tower was manufactured in 2006 by Marley (fig 4.8), was installed with CH-1 & CH-2 in and currently serves CH-3 & CH-4. The cooling tower's control panel and associated fan VFDs can be found on the 6th floor. Armstrong VFD controlled pumps circulate the chilled water to the air handling units throughout the building. The cooling tower is drained every winter therefore cooling is not available during winter season. The aforementioned plant equipment appears to be in good working condition.

Air Handling Units:

The air handling units (AHUs) provide the code required ventilation for each of their served areas and air tied into the building's central heating and cooling plants. The units contain a heating coil, cooling coil, supply fan and return fan. The units are variable-air-volume (VAV), 1st through 4th floor units supply air to VAV boxes which in turn supply air to their associated zones. The system is a 4-pipe system where the building does not have to do a change over. The building contains 16 AHUs in total distributed as follows:

Basement – (2) AHUs

1st Floor – (2) AHUs

2nd-4th Floors – (4) AHUs

The AHUs serving the basement-3rd floor are installed and manufactured in 2006; meanwhile the 4th floor units are installed and manufactured in 2010. The units are manufactured by Trane and are the Climate Changer model and are in good operating condition (fig 4.9).



Fig 4.6 - Inactive Carrier Chiller



Fig 4.7 - Active trane Chillers



Fig 4.8 - Marley Cooling Tower



Fig 4.9 - Trane Climate Changer AHU

4. Mechanical (cont.)

Miscellaneous Roof Equipment:

The roof contains multiple roof mounted exhaust fans. The main toilet stack is served by a central roof exhaust fan. Liebert cooling equipment is also installed on the roof for the data room on the 4th floor. (fig 4.10) A remote radiator for the building's emergency generator is also installed on the roof.

5th & 6th Floors:

Both floors are used for storage. The 5th floor is heated but the 6th floor is neither heated nor cooled. The 6th floor contains steam perimeter heating that has been abandoned (fig 4.11). The building engineer has never had issues with the lack of heat on the 6th floor. Ventilation air is not required per code for the current occupation classification (unoccupied/inactive storage). If the space is to be built-out for different purposes in the future, mechanical ventilation is required to be supplied to occupied spaces in accordance with Section 18-28-403 of the Chicago Building Code. The minimum supply and exhaust ventilation rates for different space types is provided in Table 18-28-403.3. The code section also specifies that a minimum of 1/3 of the required ventilation air comes from the outdoors. The ventilation rates for the different space types noted in this building are as follows:

- Toilet Rooms – 2 CFM/SF exhaust
- Offices – 0.6 CFM/SF supply, 0.3 CFM/SF exhaust
- Active Storage – 0.5 CFM/SF supply, 0.5 CFM/SF exhaust
- Inactive Storage – Not required
- Corridors – Not required

Recommendations:

- Most galvanized steel cooling towers last 10-15 years before they need to be re-furbished. It is recommended that the aforementioned cooling tower serving the building's cooling plant to be re-furbished as it is at the 15 year mark. The following work is recommended:
 - Remove and replace the fill with OEM MX75 hanging fill media to get the tower back to CTI certification and FM Approval.
 - Typically, most galvanized hot water basins would be replaced at this point, along with nozzles, and gaskets.
 - At the time of replacing the fill we recommend the installation of a cold-water basin liner and possibly a liner on the interior fill area casing sheets. This liner will protect the steel from further corrosion. The only time to do this is when replacing the fill.
 - Perform a full mechanical tune up. Change gear oil or belts. Check fan pitch and that all hardware is torqued down to the factory settings.
- Demolish abandoned steam heating equipment on the 6th floor, tie in to the future connection hot water stubs and install finned-tube radiators to handle the floor's heating load.



Fig 4.10 - Data Room Cooling



Fig 4.11 - Inactive Carrier Chiller

4. Mechanical (cont.)

- Although the AHUs are in good working condition, it is recommended that the AHUs installed in manufactured in 2006 (serving basement-3rd floor) to be rehabilitated/tested as follows:
 - Supply and Return Fans
 - Check fan wheel for proper rotation
 - Check bearings and other moving parts for proper lubrication
 - Record motor data including motor make, horsepower, RPM, volts, phase, hertz, full load amperage, and service factor
 - Adjust or replace loose or damaged belts
 - Check motor starters and system fan controls for proper operation
 - Provide test and balance report with all fan system deficiencies noted
 - Heating/Cooling Coils
 - Inspect coils and associated piping for leaks
 - Clean and comb coil fins
 - Check control valves and system controls for proper operation
 - Check control dampers for proper operation
 - Calibrate and adjust thermostats and system temperature sensors
 - Provide test and balance report with all heating/cooling system deficiencies noted
 - Ductwork
 - Replace filters
 - Clean interior of ductwork
 - Securely fasten loose insulation
 - Clean and adjust supply diffusers
 - Clean and adjust outside air intakes

5. Electrical

ELECTRICAL POWER DISTRIBUTION SYSTEM

There is COMED vaults located in the building basement adjacent to main electrical room which provides power connection to (3) switchgears. First one is 3000A 480Y/277V 3ph 4W switchgear (SWBD-1) located in main electrical room at the basement level (fig 5.1). This switchgear mainly serves large mechanical equipment (e.g. HVAC, pumps) and buildout areas including 4th floor Data Center and Health Dept. Second switchgear is 3000A 208Y/120V 3ph 4W (SWBDE) and it's located in the same room (fig 5.2). It provides 208Y/120V power for branch circuiting and general use equipment serving east half of building. Third switchgear is 3000A 208Y/120V 3ph 4w (SWBDW) and it's located on the 1st floor. It provides 208Y/120V power for (5) elevators, fire house and general lighting serving west half of building. The equipment is in working condition and appear to be well maintained but have limited spare capacity.



Fig 5.1 - 3000A 480Y/277V Switchboard SWBD-1



Fig 5.2 - 3000A 208Y/120V Switchboard SWBDE

In general, all major mechanical and plumbing equipment (HVAC, pumps, boilers etc.) is fed from 480V, 3Ph, 4W distribution panelboards. Lighting, general receptacles, some miscellaneous controls and smaller equipment are fed from 120/208V branch panelboards. Mainly distribution and branch panelboards have been located throughout the building in designated electrical rooms, mechanical spaces and riser locations. Overall panels are in fair, working condition but there are a few panels (basement to 4th floor) with missing or removed front cover and all "live" wiring and bussing is exposed. It was observed that panels in similar deteriorated condition and possibly abandoned are more prevalent on 5th and 6th floors. (fig 5.3 - 5.8)



Fig 5.3 - Typical Distribution Panel (Outside Elec Rooms)

5. Electrical (cont.)



Fig 5.4 - Exposed "Live" Elements



Fig 5.5 - Typical Branch Panel (Outside Elec Rooms)



Fig 5.6 - Exposed "Live" Elements



Fig 5.7 - Abandoned Panel on 6th Floor



Fig 5.8 - Typical Panels (Inside Elec Rooms)

5. Electrical (cont.)

Code Requirements:

- 14X-7-703.2 Unsafe conditions.
 - Provide missing cover to open electrical panel and junction boxes
 - Open-wiring splices are prohibited.
 - Covers shall be provided for all switch and electrical outlet boxes.
 - Provide all missing covers for electrical panel and junction boxes
- 14X-7-703.3 Abandoned electrical equipment.
 - Remove all abandoned or non-operational wiring, raceways, cables, conductors, boxes, and electrical equipment in locations that are able to be accessed without causing damage, or requiring demolition to the building
- 14X-7-703.4 Wiring.
 - Remove any flexible cords used for permanent wiring, or for running through doors, windows, or cabinets, or concealed within walls, floors, or ceilings.

Power Distribution Scope of Work Recommendations:

- Based on age and condition of existing distribution system we recommend the following:
 - There is a mix of existing and new distribution system equipment. The switchgear has been observed as well maintained but it is recommended to have internal components including fusible bolted pressure switches inspected, tested and document findings to ascertain life expectancy. Many of the existing downstream distribution and branch panels appear to be either approaching end serviceable life or have become a safety concern and replacement is recommended and/or required. Also, there are many new panels which are either replacements or added for tenant buildout spaces which are suitable for intended use.

EMERGENCY SYSTEM

The building has emergency power system served by auxiliary source as separate feed from 350kW 480V 3ph natural gas generator located in the basement. System is serving life safety loads including emergency (egress) lighting and exit signs throughout. The system also serves 4 elevators. The generator is over 15 years of age but appears to be well maintained and is operational.

The health dept 4th floor buildout has a dedicated emergency power system served by auxiliary source as separate feed from diesel generator located outside in cage area southwest corner of building. The system is serving life safety loads, HVAC loads and one elevator.

The data center 4th floor buildout has standby power system served by auxiliary source as (2) separate feeds: one from 600kW 480V 3ph diesel generator located outside at Honore street entrance and one from generator termination box for connection to mobile generator. The system is serving mainly AIS data server and network equipment.

Emergency System Scope of Work Recommendations:

It is recommended to have the building natural gas generator condition professionally inspected, tested and life expectancy assessed since it is over 15 years of age.

5. Electrical (cont.)

Emergency System Scope of Work Recommendations:

It is recommended to have the building natural gas generator condition professionally inspected, tested and life expectancy assessed since it is over 15 years of age. (fig 5.9 -5.12)



Fig 5.9 - Building Natural Gas Generator



Fig 5.10 Building Natural Gas Generator



Fig 5.11 - Data Center Diesel Generator



Fig 5.12 - Health Dept. Deisel Generator

EMERGENCY LIGHTING

Most of exit signs and light fixtures connected to emergency circuits are working and are in fair condition and coverage is adequate. (fig 5.13)

Emergency Egress Lighting Scope of Work Recommendations:

It is recommended to replace existing fluorescent type exit signs (approximately 300) and light fixtures connected emergency power source with energy efficient LED type to meet current energy Code which will reduce maintenance costs associated with replacing fluorescent lamps and ballasts and saves energy.



Fig 5.13 - Typical Exit Sign

5. Electrical (cont.)

INTERIOR LIGHTING

Existing interior lighting largely comprised of 4-foot suspended non-dimmable fluorescent strip lights. The light fixtures are mostly in fair condition, but are in good condition for buildout areas and on the 4th floor. (fig 5.14 -5.18)

Lighting Scope of Work Recommendations:

It is recommended to replace existing fluorescent type light fixtures (approximately 5000) with energy efficient dimmable LED type to meet current energy Code and will reduce maintenance costs associated with replacing fluorescent lamps and ballasts and saves energy.

These are OSHA minimum illumination standards for areas that was observed in the building:

- Warehouse/Storage 10-20 fc (approximately 50% of the building)
- Loading areas 30-40 fc (approximately 5% of the building)
- Offices 50 fc (approximately 25% of the building)
- Corridors 20 fc (approximately 5% of the building)
- Mechanical spaces 20-30 fc 15%
- Tunnel 5 fc

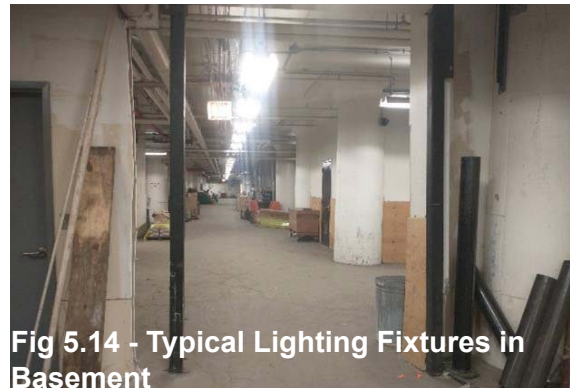


Fig 5.14 - Typical Lighting Fixtures in Basement

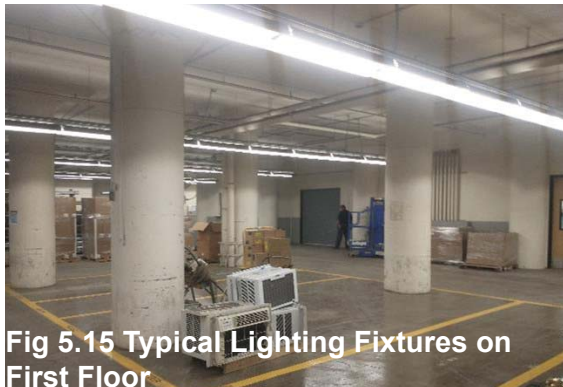


Fig 5.15 Typical Lighting Fixtures on First Floor

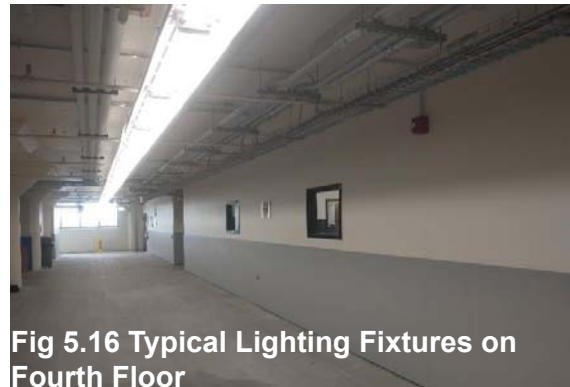


Fig 5.16 Typical Lighting Fixtures on Fourth Floor

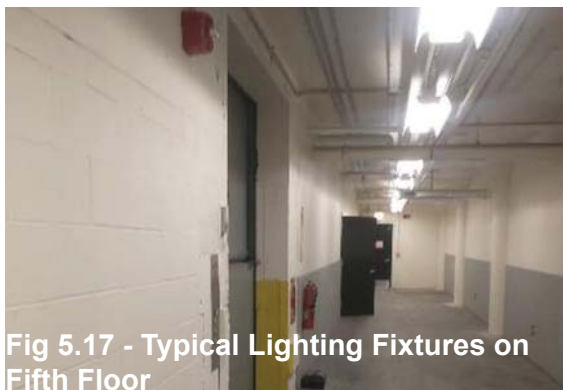


Fig 5.17 - Typical Lighting Fixtures on Fifth Floor



Fig 5.18 - Typical Lighting Fixtures on Sixth Floor

5. Electrical (cont.)

INTERIOR LIGHTING CONTROLS

Existing interior lighting controls is accomplished primarily by local manual switch, manual switch with occupancy sensor or ceiling mount occupancy sensors. There presently is no central or networked lighting controller to provide energy Code required programmable occupancy scheduling, sweep ON/OFF, time clock control, holiday schedule, and manual override for select open areas, corridors, lobbies, vestibules and non-emergency lighting in stairs.

Interior Lighting Controls Scope of Work Recommendations:

It is recommended to implement such controls, add perimeter lighting daylight harvest sensor controls and upgrade existing local manual and occupancy sensor controls to be compatible with new dimmable LED lighting.

EXTERIOR LIGHTING

The building perimeter is lit by a combination of HID high mount metal halide flood lights and HID metal halide wall pack lights. Fixtures are in fair to poor condition. Street lighting serves as light source at front of building on Pershing street. Wall pack lighting fixtures (with integral photocell control) serving west side of building are in fair to poor condition and there is no security flood lights or security lighting for the generator located at southwest corner of building. High mount flood lights on west side of building and adjacent building serve the exterior dock area on Honore street and wall packs serve the covered area of docks located closer to Pershing road. Lighting behind the building is limited to one high mount LED flood light (good condition) above the dock and one HID metal halide wall pack at the alley behind the building and the fire house. (fig 5.19-5.22)

Exterior Lighting Scope of Work Recommendations:

- Replace existing non-LED flood and wall pack lighting fixtures with new LED fixture and provide new control to meet energy Code. (Approximately 3 flood lights and 10 wall packs)
- Add security lighting coverage at alley and for generator at southwest corner of building. (Approximately 5 wall packs)



Fig 5.19 - Exterior light fixtures on Honore St. Docks.

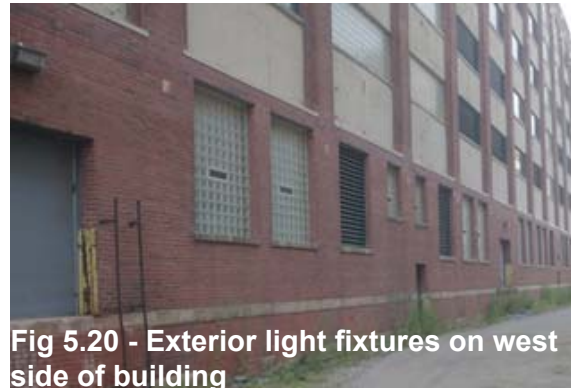


Fig 5.20 - Exterior light fixtures on west side of building

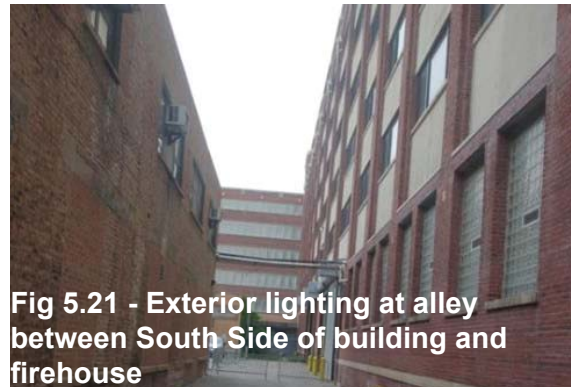


Fig 5.21 - Exterior lighting at alley between South Side of building and firehouse



Fig 5.22 South side of Building Dock

5. Electrical (cont.)

FIRE ALARM SYSTEM

There is existing full coverage Notifier fire alarm system with fire command center, loud speaker coverage, two-way voice communication capability and elevator recall. The system is maintained, functional and has Code required detection/notification device coverage, but is unknown if it's a conventional or Code required addressable system. The system is 25 years old and may be approaching its serviceable life expectancy and is likely non-addressable hard-wired system. (fig 5.23)

Fire Alarm Scope of Work Recommendations:

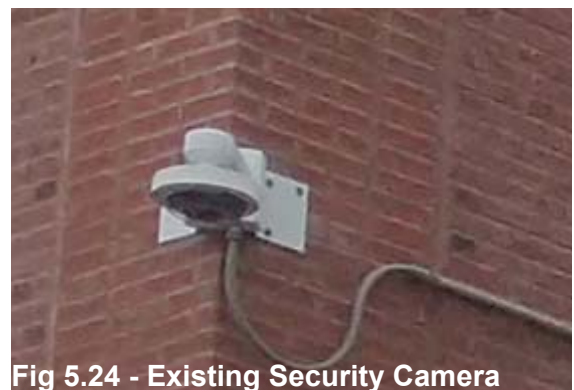
It is recommended to consider replacing the system with Code compliant addressable type system. The coverage area is approximately 630,000 square feet.

SECURITY SYSTEMS

There is existing interior security camera coverage for the basement to the 4th floor and exterior security camera coverage at four corners of building, dock areas, entrances and at generator at southwest corner of building (total 72 cameras). There is HID key card access controls at entrances and at secured locations within the building. These systems appear to be well maintained and operational. Also, there is intercom call boxes at front entrance and various locations within the building. It was indicated that this system is not in use and may be abandoned (fig 5.24-5.26)

Security Systems Scope of Work Recommendations:

It is recommended to add security camera coverage for 5th and 6th floor which currently utilized primarily for storage but may be used for future tenant buildout spaces. Also, it recommended to demolish any existing abandoned systems such the intercom call boxes.



6. Plumbing

DOMESTIC WATER SERVICE

The building “1869 W Pershing” 1st floor to 5th is currently occupied, with domestic water service cut off to 6th floor. The main incoming service is 12” combined domestic and fire protection on the north side of the basement. A 4” domestic water feed provides water to this building and the other two connecting buildings (1819 & 1769) (fig 6.1). The existing triplex domestic water booster pump (fig 6.2), located in the pump room in the basement, northwest side of the building provides adequate pressure and flow to all buildings. The existing booster pump is manufactured by Taco and it is 450 GPM. Domestic water is supplied to each of the 6 stories, across all buildings, through the connecting walkways at floors 2, 3, and 6. The “cut-off” point or valved-off point to floor 6 was not observed but was confirmed disconnected by facility staff. However, per the building engineer, the water to building 1769 has been cut off.

Recommendations:

- Replace damaged/messing insulations on domestic water service.
- The existing booster pump was working at time of observation; however, it does not seem to be in good condition. Provide prevision for replacing or upgrading the existing pump.

TOILET ROOMS

The Men and Women toilet rooms on floors one through 5th have been renovated a few years ago and all are in good working condition. The toilets are stacked and located west side of the building. The water closets are wall-mounted with hard-wired flush valve. The lavatories and urinals are hard-wired, ADA compliant and we observed a floor drain. The bathrooms are up to date and no code violation or deficiency was found. (fig 6.3-6.5)

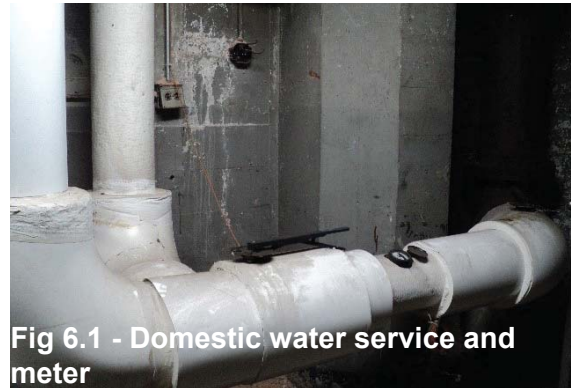


Fig 6.1 - Domestic water service and meter



Fig 6.2 - Domestic water booster pumps



Fig 6.3 - Domestic water booster pumps



Fig 6.4 - Domestic water booster pumps



Fig 6.5 - Domestic water booster pumps

6. Plumbing (cont.)

DOMESTIC WATER PIPING

Domestic water piping was observed to the extent feasible when exposed. Only a small sample was viewed. No official determination can be made to the overall condition. Most of the piping is believed to be original steel with minor sections replaced with copper. The piping insulations either are missing or badly damaged for the portion being observed. (fig 6.6)

- Code compliance:
 - 18-29-605.26 Unused sections of water supply piping systems (or so called, dead-ends) where city water will become stagnant are prohibited other than fire protection systems. All domestic water pipes (hot and cold on all floors) within the building and supplying the other buildings must be brought back to a point of service where no dead ends will occur. Piping must be capped or valved off.
- Recommendations:
 - Replace all existing galvanized domestic water piping.
 - Replace damaged/messing insulations on domestic water piping

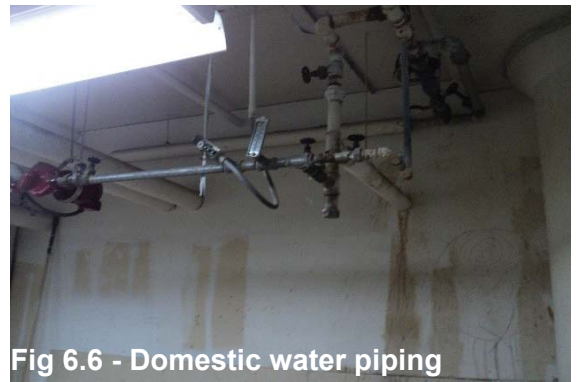


Fig 6.6 - Domestic water piping



Fig 6.7 - Hot Water System

DOMESTIC HOT WATER PLANT

The domestic hot water plant is located in the basement building and services all 3 buildings, However, per the building engineer, the water to building 1769 has been cut off.

Hot water is supplied to each of the 6 stories, across all buildings, through the connecting walkways at floors 2, 3, and 6. The domestic hot water return line is located in the ceiling of the lower level. Domestic water has been cut off to the 6th floor of this building. (fig 6.7)

- Code compliance:
 - Replace all missing and damaged hot water piping insulation.
- Recommendations:
 - The existing boiler (the equipment tag is messing, we can't confirm the size of the boiler) was working at time of observation; however, it does not seem to be in good condition. Provide prevision for replacing in near future
 - Replace all existing galvanized domestic hot water piping.

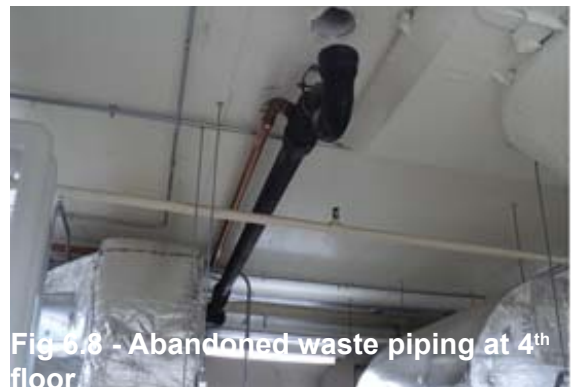


Fig 6.8 - Abandoned waste piping at 4th floor

SANITARY WASTE AND VENT

Waste and vent piping were observed to the extent feasible when exposed. Only a small sample was viewed. No official determination can be made to the overall condition. Waste and vent observed at the basement level ceiling appeared to be in poor condition. The existing



Fig 6.9 - Typical Vent through the roof

6. Plumbing (cont.)

ejector pump was observed to be in working condition. The pit cover was observed to be in poor condition, the pipe gaskets must be missing or damaged as a strong odor can be sensed around the pit. All electrical connections appear to be connected. Functionality was not confirmed but was reported to be working.

Some of the plumbing vents through the roof do not meet the requirement in the Chicago Building Code to terminate a minimum of 12" above the roof surface. (fig 6.8 - 6.10)

- Code compliance:
 - Extend roof vents to code required 12" height above the finished roof
- Recommendations:
 - Test pump and high-water alarm/switch for functionality. Replace the pipe gasket.
 - Cap the abandon 4" sanitary piping at ceiling of 4th floor where the AHU-15 located. The dead end shall not exceed 2'-0".

STORM PIPING

The storm piping was observed to the extent feasible when exposed. Per existing As-Built drawings the storm piping from the roof drains travels vertically to the basement level. Horizontal runs only occur at the lower level. No roof drain clogs or backups were observed or reported, however, the roof drain by the exiting cooling tower is clogged and cause the water ponding on the roof. (fig 6.11)

- Recommendations:
 - Rod and televise existing storm leaders from roof drains to lower-level wyes. Provide Owner and A/E representatives with a Plumber's report with all findings, obstructions and damage. Provide 1" thick insulation with jacket on all horizontal storm runs to foundation wall.

PLUMBING FIXTURES

The plumbing fixtures were observed to the extent feasible and appear to be in good working condition. The fixtures observed were generally in the decent (functional) condition in toilet rooms. A sampling of fixtures tested was found to be functional in the toilet rooms that were active. Metering faucets at a sampling of the lavatories within toilet rooms had acceptable flow. The mop basin in janitor closets is provided by the City of Chicago Plumbing Code required elevated vacuumed breaker. The sink at the 4th-floor lunchroom is equipped with a grease trap which is also required by the City of Chicago Plumbing Code. (fig 6.12-6.13)



Fig 6.10 - Duplex sewage ejector



Fig 6.11 - Roof Drain by cooling tower



Fig 6.12 - Typical Mop Basin



Fig 6.13 - Typical Mop Basin

7. Fire Protection

The main incoming is 12" combined domestic and fire protection on the north side of the basement. A 10" fire protection pipe branching out of the main incoming to feed the fire protection system. The entire building is protected with a wet system while the computer room/ data center has its dedicated fire suppression system. The 10" double-check valve is located at the north end of the basement while the fire pump is at the northwest of the basement. The fire department connection is located in front of the building by W. Pershing Road. In addition to the city water, an 8" fire protection piping enters the building from the Fire House southeast of the building to boost up the system. (fig 7.1-7.5)



Fig 7.1 - Fire Department connection



Fig 7.2 - 8" fire pipe from fire house



Fig 7.3 - Fire Pump



Fig 7.4 - Double Check Valve

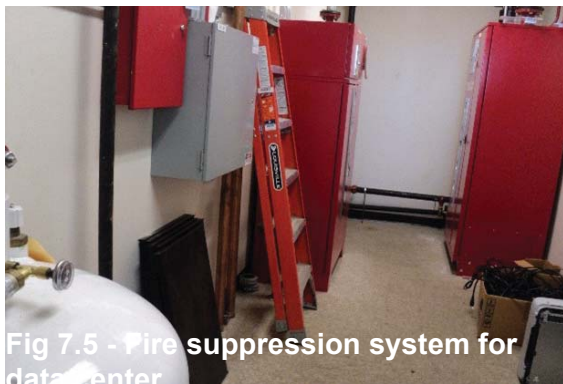
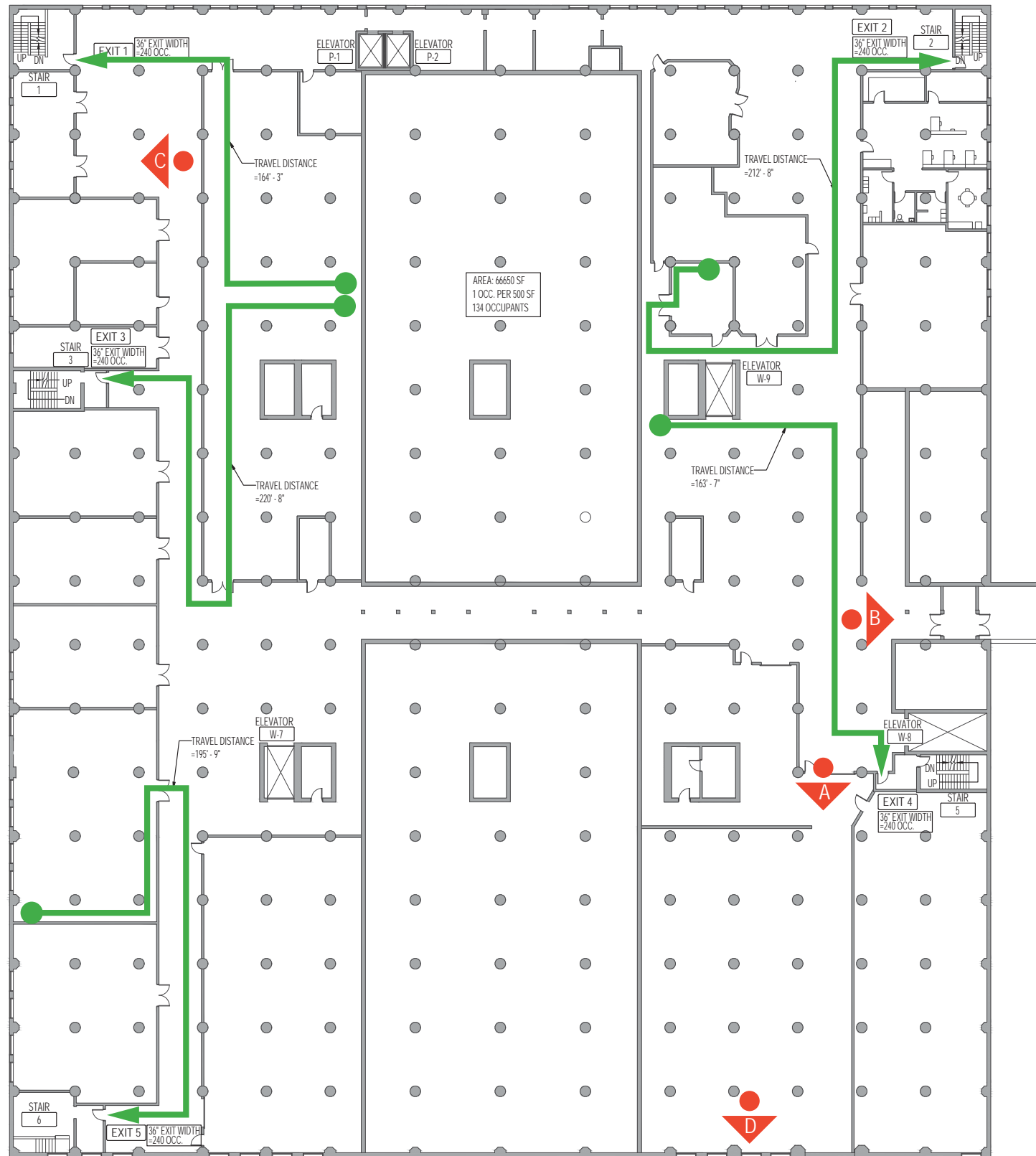




Fig 7.5 - Fire suppression system for data center

PERSHING ROAD BUILDING
1869 W Pershing Ave, Chicago, IL 60609
Appendix A
Floor Plans



Basement Floor Plan

 More than 250 feet Travel Distance
 Less than 250 feet Travel Distance



A - Pipe Fitter Room and Boilers



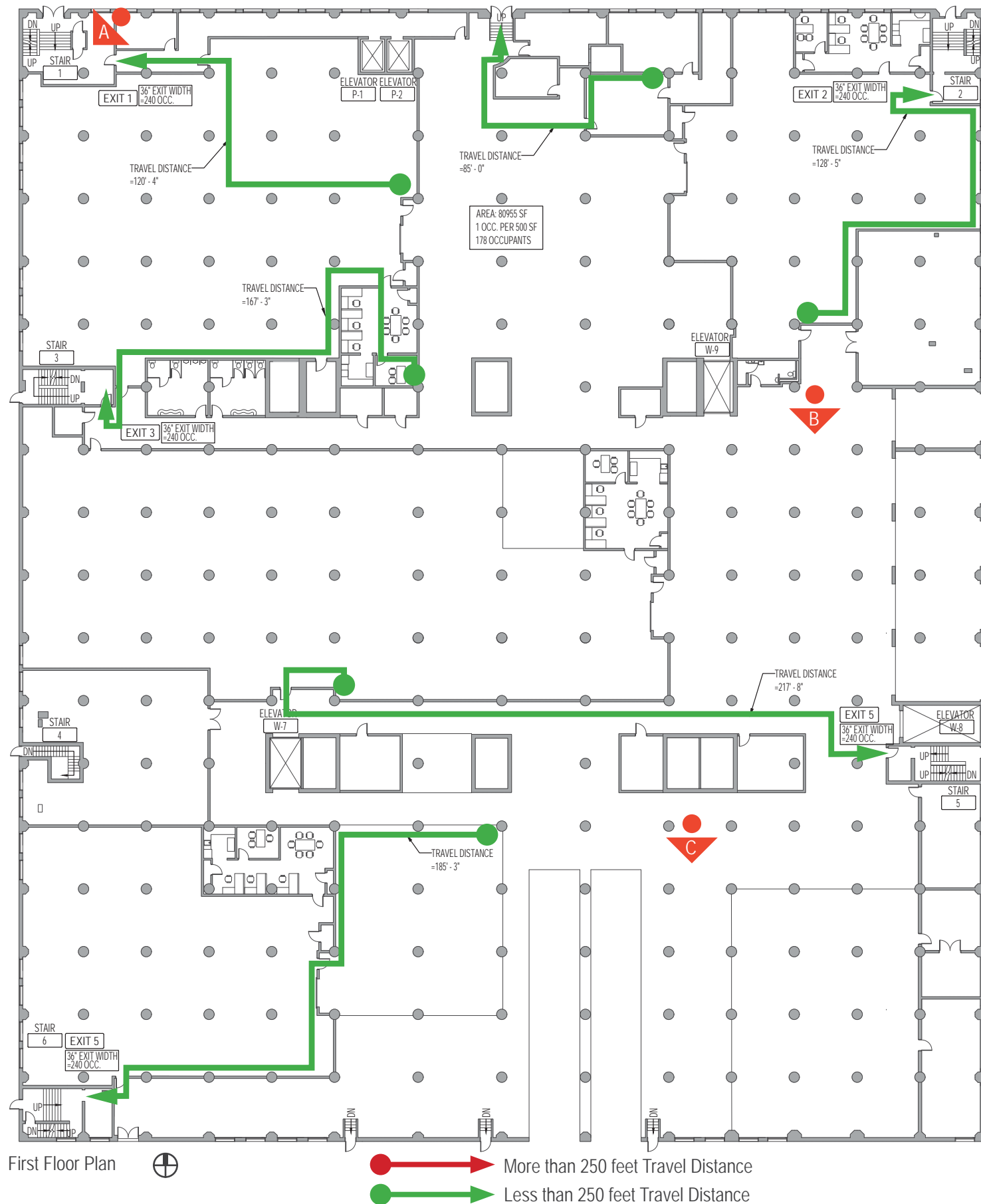
B - Tunnel to 1819 Building



C - Fire Pump Room



D - South Tunnel spalling



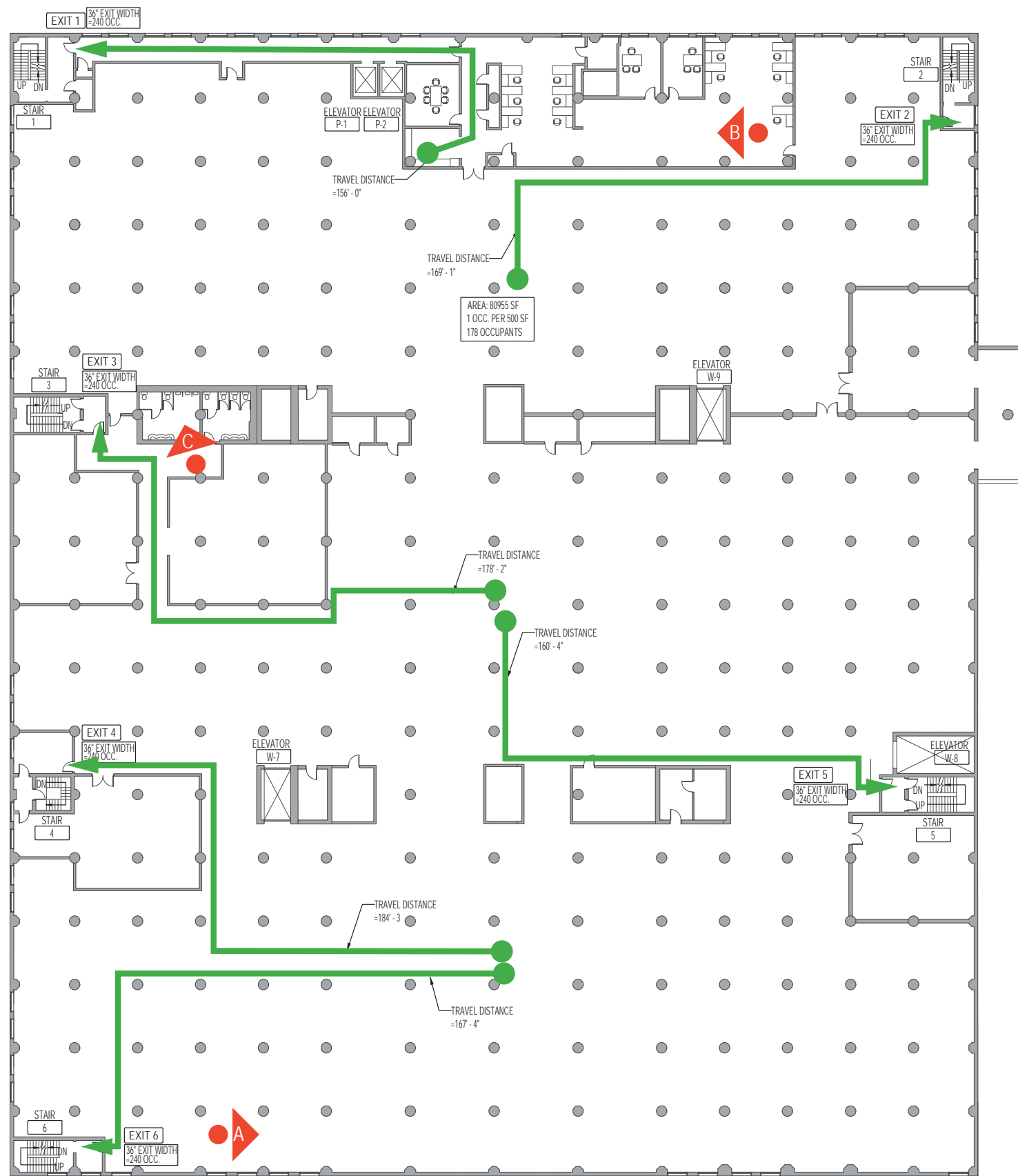
A - Chair lift for accessible route and Fire Department annunciator panels



B - East loading docks



C - South loading dock and AIS Fleet Management's Storage Areas



Second Floor Plan

● → More than 250 feet Travel Distance
● → Less than 250 feet Travel Distance



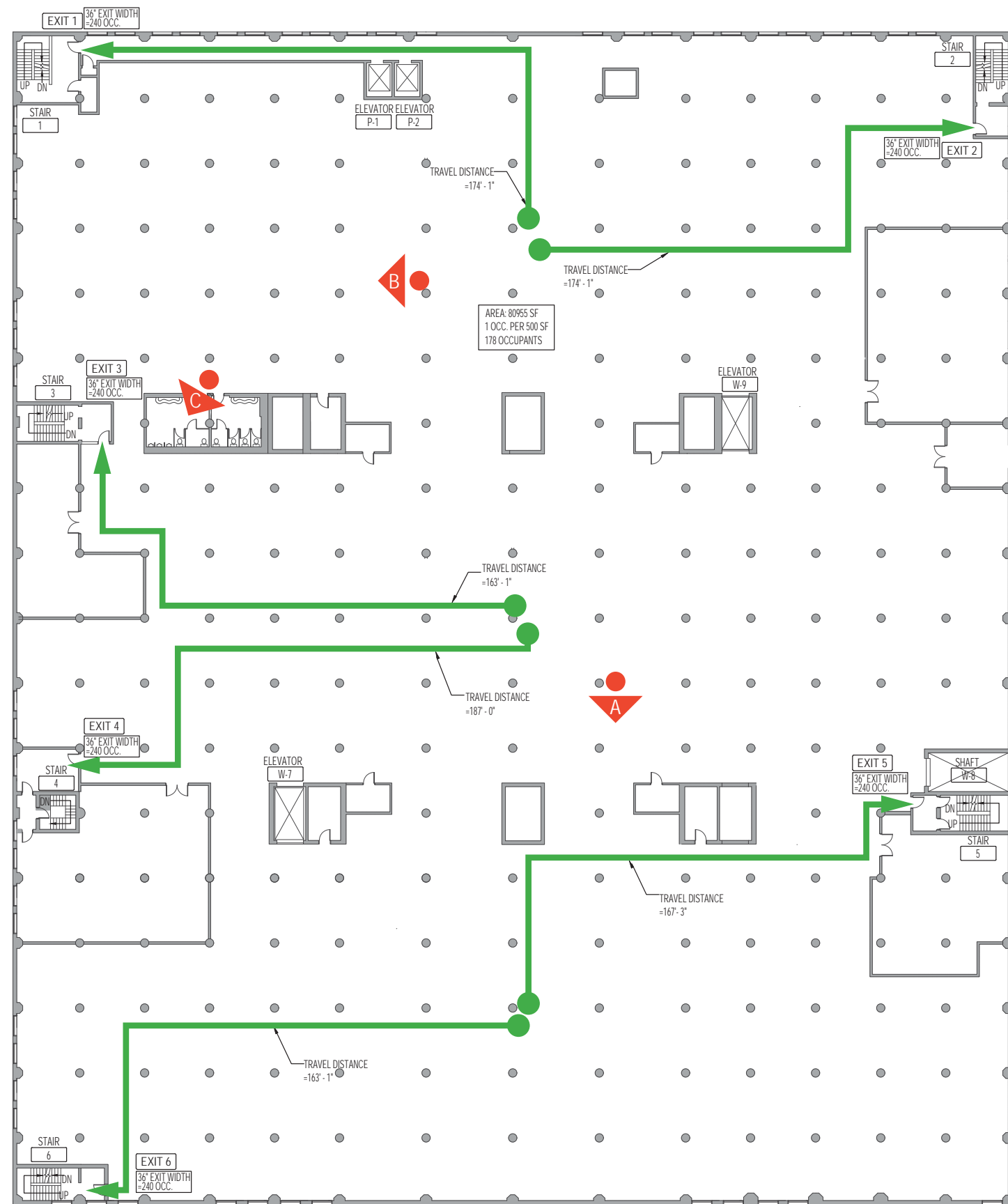
A - Board of Election's storage





B - Offices at north of floor.



C - Fully accessible toilet



Third Floor Plan

 More than 250 feet Travel Distance
 Less than 250 feet Travel Distance



A - Board of Election's storage



B - Board of Election's storage



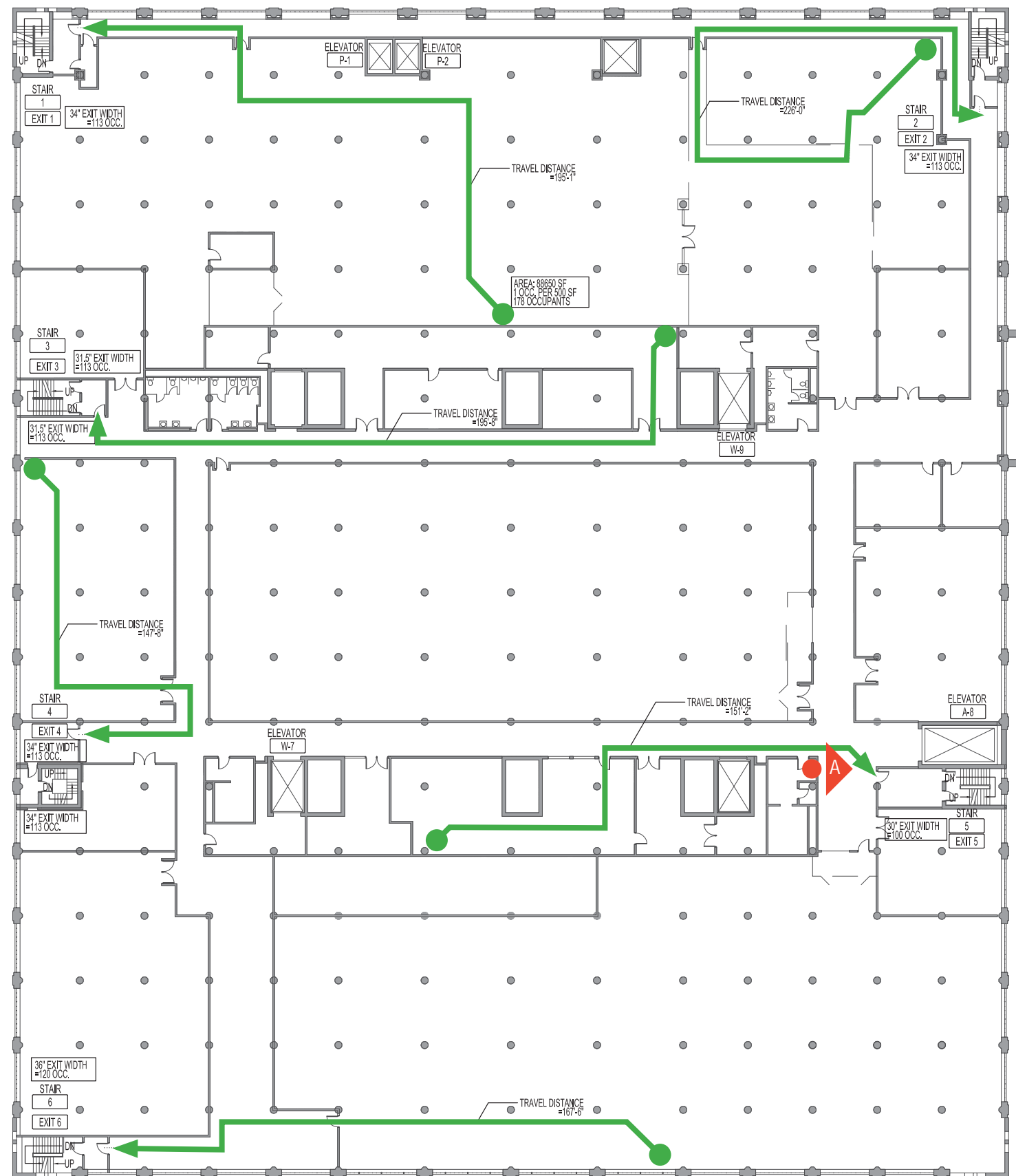
C - Accessible toilet





PERSHING ROAD BUILDING - 07/30/2021
1869 W Pershing Road Chicago IL 60609

A photograph showing a section of a concrete wall. On the left, there is a vertical metal rod or pipe protruding from the wall. To its right, a yellow vertical marker or strip is attached to the wall. The wall itself is made of light-colored concrete blocks. The top of the image shows a corrugated metal ceiling structure.

B - Condition of Elevator W-9



Fifth Floor Plan

 More than 250 feet Travel Distance
 Less than 250 feet Travel Distance



A - Condition of column S14 at Exit 5



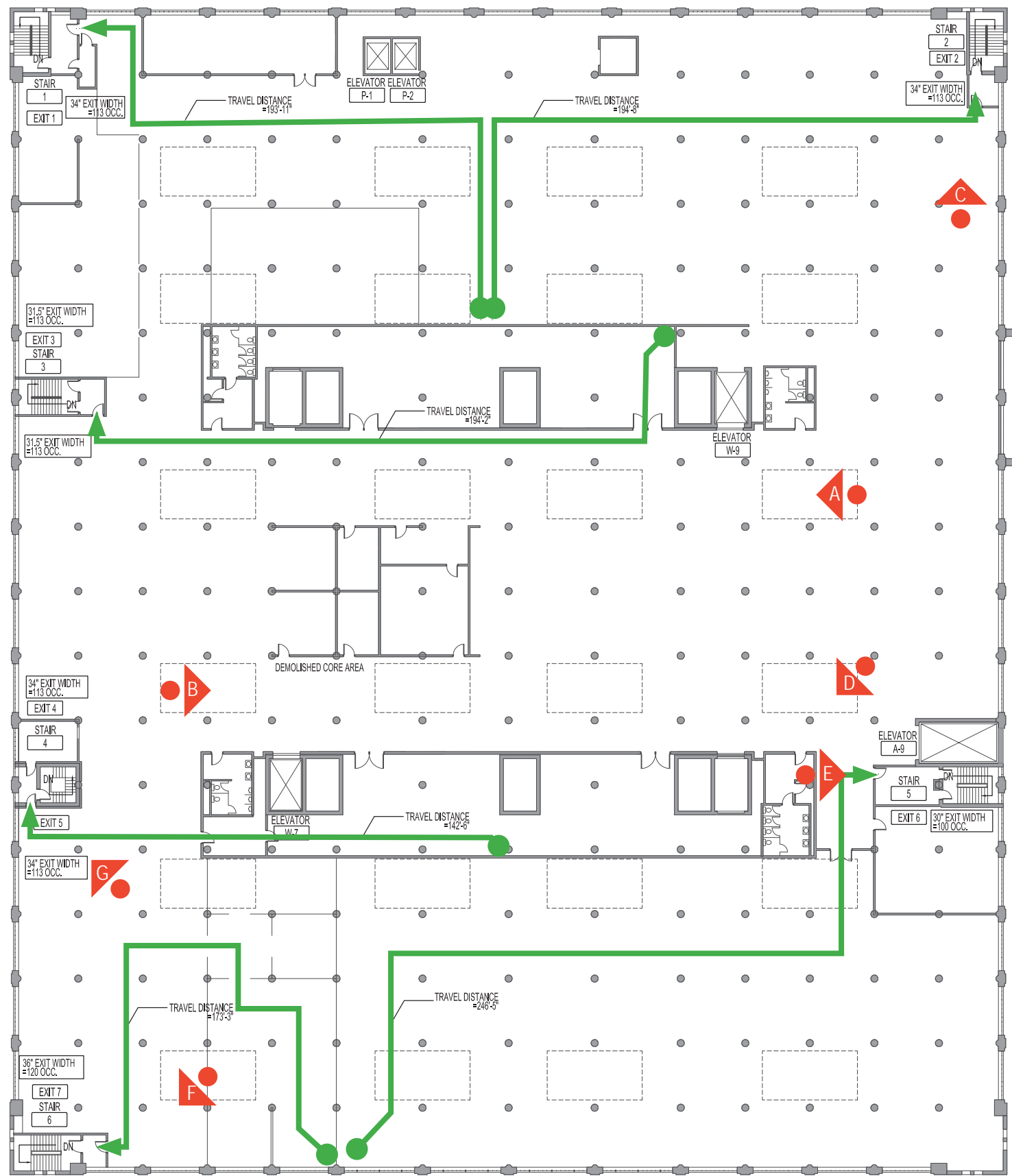
B - Exit 4 Corridor



C - Condition of column D16



D - Damaged wall assembly



Sixth Floor Plan



● → More than 250 feet Travel Distance
● → Less than 250 feet Travel Distance



A - Circulation space between column lines 8-9



B - Circulation space between column lines 11-12



C - Stored material at Exit 2



D - Stored materials in front of bathroom



E - Condition at Exit 6



F - Stored materials in front of Exit 7



G - Stored materials in front of Exit 5

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PERSHING ROAD BUILDING
1869 W Pershing Ave, Chicago, IL 60609
Appendix B
Structural Assessment Report

HARDING MODE JOINT VENTURE



175 N Franklin Street
Chicago, Illinois
(312) 750-1701

Suite 410
60606
Fax (312) 750-1704

STRUCTURAL ASSESSMENT REPORT

Date:	July 12, 2021	Participants:	C. Perrin
Date of visit:	June 25 & June 28, 2021		M. Fagerson
			M. McClendon
Project:	EPR Pershing Structural Assessment		
	1769, 1819, & 1869 W. Pershing		
	Chicago, Illinois		
		Distribution:	FILE
			Paul Harding
Weather:	Rain, 78° F (June 25); Partly Cloudy, 75° F (June 28)		C. Anderson

Accompanied by Paul Harding of Harding Partners and the building engineer of EPR Pershing, we observed the general structural conditions of the EPR Pershing buildings at 1769, 1819, and 1869 W. Pershing in Chicago, IL. We performed a walk-through of the three buildings, that included the 6 floors and basement of each building, the 2 interconnecting bridges, and 3 tunnels, to assess visible structural issues. The building envelope, including the exterior façade and roofing, were not assessed by cea&a. We previously issued a report on June 28, 2021, that discussed the condition of the 3 tunnels in the basement that required immediate attention. This report will discuss the condition of the remainder of the building.

The three buildings were originally constructed in 1917. The existing structure of each building consists of concrete two-way flat slabs, spanning between concrete columns with capitals and drop panels. Given the relatively close column spacing of 18'-0" on center and the presence of drop panels, the concrete structure was likely designed for heavy loads, such as required for storage or manufacturing. The interconnecting bridge buildings are separated from each main building with expansion joints on each end.

1869 W. Pershing (West Building)

The building structure was generally in good condition. On Level 6, we observed a hole in the roof concrete slab, where the concrete had been removed, but the rebar was still intact and visible. We also observed a concrete beam above the Elevator B-6 opening that appeared to have been cut. Some of the bottom bar reinforcement and stirrups in the cut beam were visible. Generally, on Level 6, we observed several locations of concrete spalling and exposed, rusted rebar. Typically, when reinforcing is exposed to water and rusts it expands. The forces that result from the rusting cracks and eventually spalls the concrete cover. The majority of the locations of rusted rebar and spalled concrete were around skylights. It appeared that there had been leaks in the past, which caused the rebar to rust and concrete to spall. At the time of our visit, we did not observe any leaks, possibly the roof and skylights had been repaired and the water damage rusting and spalling occurred some time ago.



Cut Slab Near Column M.2



Cut Beam at Elevator B6



Exposed Rebar around Skylight



Exposed Rebar around Skylight

Levels 1 to 5 of 1869 W. Pershing were in relatively good condition. There were many existing cores through the concrete structure for plumbing and other utilities. Some cores occurred through column capitals. The cores reduce the strength of the concrete slabs. Cores through the column capitals and drop panels reduces the shear and flexural strength of the slab/column connection. We observed several locations where there were cracks in the floors. We did not see these cracks telegraphing through to the underside of slab in the locations we checked. There are many causes for concrete surface cracks, such as initial shrinkage cracks that enlarged over time due to overloading of the slab by heavy equipment, or long-term deflection of the slab due to creep. The surface damage cracks may also have occurred from the forklifts and equipment that were driven over the slab.



Pipes Through Column Capital



Plumbing Cores Through Concrete Slab



Floor Cracks at Level 5



Floor Cracks at Level 5

1819 W. Pershing (Center Building)

At Level 6, there was extensive visible damage due to water infiltration. There was visible water leaking through the roof structure, and there was mold and water damage throughout the floor. The majority of the substantial leaks were occurring at the skylights. There were many areas where the concrete structure around the skylight was covered with mold, and there was visible rusted rebar. The majority of the structure around the skylights will need to be repaired or replaced. There were other leaks in the roof away from the skylights that could result in damage to the reinforcing and concrete. There were

approximately 10 locations of leaks and possible water damage in other locations away from the skylights.



Water Damage at Skylights



Water Damage at Skylights

On Levels 3 to 5 of 1819 W. Pershing, we observed areas of water damage, spalling concrete, and rusted rebar that corresponded with areas of leaking water from above. It appeared that the water infiltrated the slab and caused the rebar to rust. The rusted rebar spalled the concrete and created a crack in the slab. The water then filtered through the cracks and pond on the level below creating similar damage on multiple levels. The extent of the water damage diminished as it progressed down the building to lower floors. There were some areas that were not visible at the time of our visit, because the structure was covered with drop ceiling tiles.

There were also several locations where we observed a continuous crack at the underside of the slab at the midspan of a bay. At the upper levels, water was infiltrating these continuous cracks and leaking down to the floor below. At the lower levels, the crack was visible, but there was no water leaking through. A possible cause of the continuous cracks is that there are no intermediate building expansion joints in the large floor plates. When the building expands and contracts, it creates internal stresses within the slab, and those stresses are relieved by developing cracks. Another possible cause of the cracks in the bottom of the slabs is that the slab is under-reinforced for the span conditions. This condition would be exasperated by the thermal expansion and contraction noted above.

At the ground floor and 2nd floor, the condition of the structure was generally good. We observed thin continuous cracks on the underside of the floor slab in the midspan of several bays. The cracks were similar to those that had been observed on the upper floors, but there was no water infiltrating these cracks at the time of our visit.



Level 5 Water Damage



Water Damage at Column



Level 5 Water Damage



Continuous Crack at Slab Underside

Also, at 1819 W. Pershing, we observed the condition of the metal stair in the southeast corner. Based on the sound of the metal when struck with a hammer, we believe that the stair may be made of cast iron. The metal should be tested, as required, to verify this assumption. It should be noted that after testing the metal, if it is cast iron, cast iron is difficult to modify. If welding or cutting of the stairs is anticipated to modify the stairs, special construction procedures and guidelines will need to be implemented. The stair appeared to be in fair condition, however there was some rust color on the metal, and there was visible water near the top of the stair.

At Level 3, in the interconnecting bridge building, we observed water dripping through the building expansion joints on each side. There was some deterioration of the structure due to water damage.



***Water Damage at Expansion Joint between
Main Building and Interconnecting Bridge***

1769 W. Pershing (East Building)

There was widespread water damage to the roof slab of the 1769 W. Pershing building. There were active leaks at all skylight locations. At least 1/3 of the bays observed across the entire roof structure had some sort of active leak or visible corrosion. There were other areas of the roof that were not visible due to a dropped ceiling. There was extensive mold across the 6th floor, with moss and plants growing under the skylights where there was direct sunlight. Much of the carpeted floor was moist, so much of the concrete slab below is constantly being exposed to moisture.



Mold and Corrosion @ Skylight



Water Damage and Cracking in Roof Slab



Plant growth at skylight areas



***Corrosion visible on underside of
Roof slab***



***Corrosion visible on underside of
Roof slab***



***Overall condition of all elements
on Level 6***

On Level 5, there were at least 10 locations observed throughout the building where there were active leaks with signs of concrete deterioration. Most of these were small cracks that ranged from within one bay to several bays in length. There was also a location where water was leaking through a column capital, indicating possible corrosion of reinforcing within the column. A good portion of the concrete structure on this level is concealed by dropped ceilings, but judging from locations of water leaks on the floors below, there could be up to 10 more locations where active leaks are occurring through the 6th floor slab. In addition to the cracks through the floor, there is also deterioration around the freight elevators, and in other locations where plumbing penetrates the floor structure.



Active leak through column capital



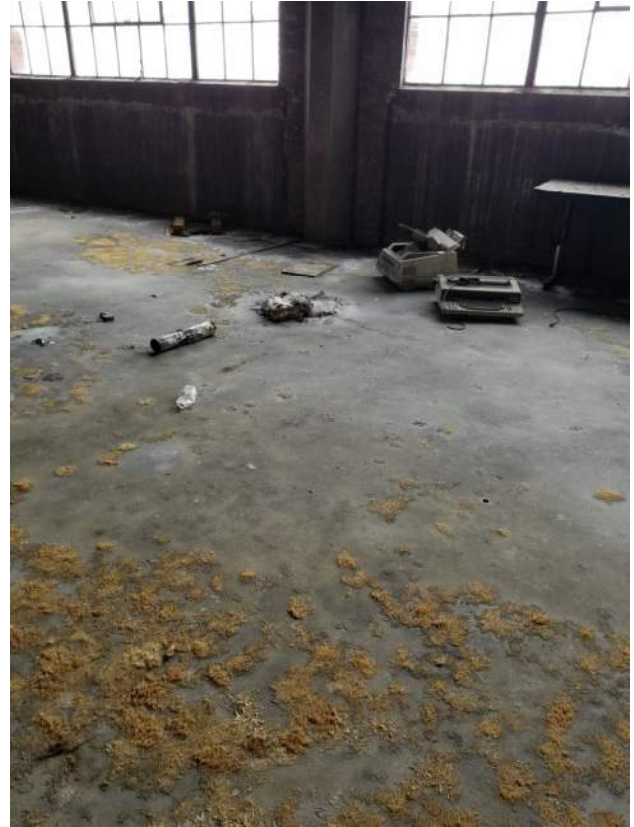
***Corrosion of slab surrounding the
freight elevator shaft***



Cracking @ Water Infiltration in Floor Slab



***Deterioration of spandrel beam on
north side of building***



***Life forms growing on surface of
5th floor slab***

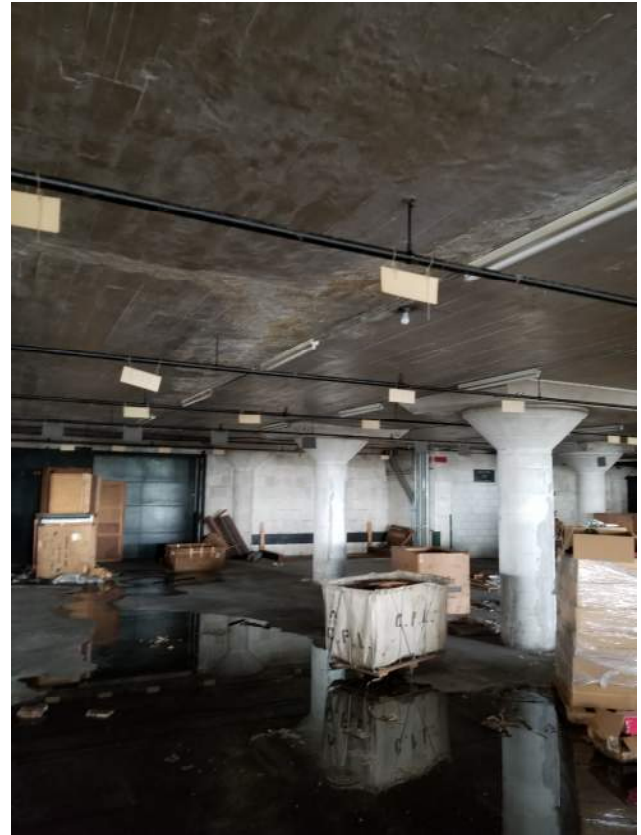
On Level 4, there were 18 observed locations of concrete deterioration around cracks. More locations were observed on this level than on the upper levels because there were no dropped ceilings, so all concrete structure was visible for inspection. Most of these locations were discoloration or efflorescence, but at 4 of the locations there were active leaks. A good length of the spandrel beam at the north wall was deteriorated, and there was also some corrosion visible along the south wall, particularly at one of the columns.



Spalling at North Spandrel Beam



***Deterioration of spandrel beam on
north side of building***



***Crack running through multiple
bays, with corrosion***

At Level 3 of the 1769 W. Pershing building, the condition of the structure was generally good with a few isolated areas of water leaks located within the interior areas of the floor plan. There were several locations at the elevator doors that had visible water leaking. Additionally, there were large pieces of spalled concrete from the beam above the elevator opening. Based on the color of the concrete, it appeared that these beams had been patched at some time in the past. The patched concrete was spalling in large pieces, and were on the floor slab below the opening. This could have been attributed to the patches applied without wire or pins, for a positive mechanical connection to the original base concrete. This issue is recurring on the other levels of this building at the 4 interior freight elevator shafts.



Elevator 13 Concrete Beam Deterioration



Elevator 13 Spalled Concrete



Elevator 9 South Door



Elevator 9 North Door

At the levels below the 3rd floor, the deterioration was minor, mainly in the form of efflorescence at some of the cracks. There were very few locations of active leaking, except at the freight elevator shafts and some of the adjacent pipe penetrations.



***Corrosion visible on underside of
3rd floor slab***



***Deteriorated beam at freight elevator,
and corrosion in adjacent 3rd floor slab***

We also observed the condition of a metal stair, possibly cast iron, in the 1769 W. Pershing building. This stair had more visible rust, including on the face of the stair shaft walls.



Rust from Metal Stair Structure

Recommendations

1869 W. Pershing (West Building)

This building structure is in good condition. Minor concrete repairs are recommended at the corroded areas around the skylights, and at the door of the freight elevator shaft. The openings in the slab should be patched with new concrete.

1819 W. Pershing (Center Building)

The roof needs to be replaced on this building as soon as possible to avoid any further water infiltration and damage to the structure. At the time of the roof replacement, all damage to the roof structure should also be repaired. All existing dropped ceilings and drywall finishes should be removed as soon as possible to expose all deteriorated areas of the roof slab. The slabs surrounding all cracked and corroded areas should be shored so the concrete around the corroded spots can be removed and the reinforcing bars can be inspected and replaced as required. After the roof is replaced, repairs should be made in a similar fashion to the floors below, where there is any sign of corrosion around cracks.

Areas A and B on the attached plan are where the worst deterioration is visible on the lower levels, so it is assumed that these would also be the worst areas of deterioration on the upper levels. We recommend that all dropped ceilings, drywall ceilings, carpet, and ducts be removed from areas A and B as soon as possible to allow for a more detailed visual inspection of those areas, to determine the extent of deterioration on the upper two levels.

We also recommend that all dropped ceilings, drywall ceilings, carpet, and ducts be removed from area C on the 5th and 6th floors so the remainder of the structure can be inspected. Partitions need to be removed, or the architect needs to provide a plan of existing partitions to assist in the locating of damaged areas. After this demolition is completed, we can provide a more detailed location of areas that may need to be shored temporarily so the floors below can remain occupied.

1769 W. Pershing (East Building)

The roof needs to be replaced on this building as soon as possible to avoid any further water infiltration and damage to the structure. More inspection will be required at this level, once all interior finishes and roofing is removed, to fully assess the condition of the roof structure. Due to the widespread water infiltration noted at this level, consideration should be given to completely removing the roof slab and replacing with new structure, or removing the uppermost level entirely and roofing the floor below. At the time of the roof replacement, all damage to the roof structure should also be repaired. The slabs surrounding all cracked and corroded areas should be shored, so the concrete around the corroded spots can be removed, and the reinforcing bars can be inspected and replaced as required. After the roof is replaced, repairs should be made in a similar fashion to the floors below where there are any signs of corrosion around cracks. Further inspection is required of the interior of the freight elevator shafts, where extensive water damage is likely.

The above constitutes our understanding of events observed and issues discussed. Any discrepancies should be immediately addressed, in writing, to the observers. If there are any questions or additional information required, please do not hesitate to contact us.

C. E. Anderson & Associates PC



Charles E. Anderson SE AIA
President

PERSHING ROAD BUILDING
1869 W Pershing Ave, Chicago, IL 60609
Appendix C
Tunnel Report

HARDING MODE JOINT VENTURE

STRUCTURAL ASSESSMENT REPORT - TUNNELS

Date: **July 2, 2021**
Date of visit: **June 25 & June 28, 2021**
Project: **ERP Pershing Structural Assessment
1769, 1819, & 1869 W. Pershing
Chicago, Illinois**
Weather: **Rain, 78° F (June 25); Partly Cloudy, 75° F (June 28)**

Participants: **C. Perrin
M. Fagerson
M. McClendon**
Distribution: **FILE
Paul Harding
C. Anderson**

Accompanied by Paul Harding of Harding Partners and the building engineer of ERP Pershing, we observed the general structural conditions of the ERP Pershing buildings at 1769, 1819, and 1869 W. Pershing in Chicago, IL. We performed a walk-through of the three buildings, including the 6 floors and basement of each building, the 2 interconnecting bridges, and 3 tunnels, to assess structural issues that were visible at the time of our visit. The building envelope, including the exterior façade and roofing, were not assessed by cea&a. This report will discuss the condition of the 3 tunnels in the basement that require immediate attention.

1869 W. Pershing (West Building)

In the basement of 1869 W. Pershing, at the tunnel area beneath the loading docks, we observed spalled concrete and exposed, rusted rebar from water damage that was occurring at the joint in the building basement wall and the pavement slab above the tunnel. There was damage in the concrete wall under the exterior face of the building above, and there were some areas of the tunnel slab that were deteriorated and may need replacement.



Deteriorated Rebar in West Building Tunnel



Deteriorated Masonry at Tunnel Entrance

1819 W. Pershing (Center Building)

In the tunnel beneath 1819 W. Pershing, there was visible leaking at the west entrance to the tunnel and along the exterior basement walls. There was also approximately 3-4" of standing water at the entrance to the tunnel. At the east entrance of the tunnel, there were many locations of spalled concrete and exposed, rusted rebar. The damaged sections of the concrete slab were extensive and will need to be replaced. The rebar was visible, and by measuring, we estimated it to be #4 bars spaced at 2" on center. There were areas of rusted rebar spanning from exterior building wall to exterior tunnels wall, that occurred approximately every 10'. In some locations, the rebar was falling out of the slab and no longer in contact with the concrete.



Standing Water at West Tunnel Entrance



Water Leaks on Interior Face of Wall



Exposed Rebar in Tunnel Roof Slab



Strips of Rusted Rebar at 10' on center

At the link between the 1819 and 1769 W. Pershing buildings, we observed an area of water damage and deteriorated structure. The concrete on the underside of the slab and the concrete on the face of the column that supports the link building above had spalled off, and pieces of concrete were on the floor slab of the link tunnel. The rebar in the underside of slab and in the face of the column was exposed and extensively rusted.



Deterioration in Underside of Link Slab



Deterioration of Link Column

1769 W. Pershing (East Building)

In the tunnel of the 1769 W. Pershing building, we observed the same areas of rusted rebar in the slab occurring at approximately 10' on center that we observed in the 1819 W. Pershing building. There were visible leaks within the tunnel and many areas of deteriorated slab reinforcement. There was also cracking, spalled concrete, and rusted rebar in the interior face of the basement wall.



Tunnel, Looking East



Tunnel, Looking West



Exposed Rebar in Tunnel Slab



Exposed Rebar in Basement Wall

There was portion of the tunnel slab that had been supported by a dropped concrete beam and reinforced concrete posts on each end. The bottom of each of the existing concrete posts has excessive spalling and corroded rebar.



Concrete Post in Tunnel with Exposed Rebar



Concrete Post in Tunnel with Spalling at Base

Recommendations

Due to the severe deterioration of the tunnel slabs and the column beneath the link building, we recommend that any loading on the slab, such as from vehicle traffic, be removed from the slab immediately. Temporary shoring and bracing may be installed underneath the slab to provide support until permanent repairs can be made. Shoring should be placed immediately under the link building column and slab, and vehicle traffic through the area should be rerouted until the shoring is installed. Along the tunnels, shoring should be placed immediately under traffic areas and all areas used for loading dock purposes. The areas used for parking should be barricaded from traffic and parking; shoring can be installed under these areas, if desired. See the attached key plan for shoring requirements. The temporary shoring should be designed by the shoring contractor's licensed Illinois Structural Engineer.

The above constitutes our understanding of events observed and issues discussed. Any discrepancies should be immediately addressed, in writing, to the observer.

Humberto's Pizza
Takeout • Delivery

Twin Lens Auto
Service and Repair

S Honore St

S Wood St

Chicago Ave

W Pershing Rd

W Pershing Rd

W Pershing Rd

Chicago Fire Department

S Wolcott Ave

1869

1819

1769

5' FROM CORNER
OF BLDG

10' FROM CORNER
OF BLDG

5' FROM CORNER
OF BLDG

EXTENT OF
TUNNEL BELOW

23' FROM FACE
OF BLDG

BARRICADE

EXTENT OF
TUNNEL BELOW

IMMEDIATELY SHORE THE
FULL LENGTH OF THE
TUNNEL SLAB UNDER ALL
TRAFFIC AREAS, AND ALL
AREAS USED FOR LOADING
DOCK PURPOSES

IMMEDIATELY SHORE THE
FULL LENGTH OF THE
TUNNEL SLAB UNDER ALL
TRAFFIC AREAS, AND ALL
AREAS USED FOR LOADING
DOCK PURPOSES

IMMEDIATELY BARRICADE ALL
OTHER AREAS ABOVE THE
TUNNEL FROM TRAFFIC AND
PARKING. REMOVE ALL LOADING
FROM THE AREA ABOVE THE
TUNNEL SLAB, AND IN ALL AREAS
WITHIN 5 FEET OF THE
PERIMETER OF THE TUNNEL.
THESE AREAS CAN ALSO BE
SHORED, IF MAINTAINING
ACCESS DESIRED.

IMMEDIATELY SHORE
THE AREA OF SLAB
SURROUNDING THE
DETERIORATED BEAMS
AND COLUMN IN THE
BASEMENT OF THE LINK
(SHORE THE FULL
LENGTH OF THE TUNNEL
BETWEEN BUILDINGS
1769 AND 1819.)