GSA Great Lakes Region

220 State Street Evaluation Report

220 S State Street

Chicago, IL 60604

BUILDING NO: IL0315ZZ

Report Issuance 6.1.23

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Executive Summary

The intent of this facility condition assessment is to document the current existing conditions of the building and to identify a conceptual scope of work and cost estimate for adaptive reuse. The cost estimate standard for reuse is defined by GSA as a warm lit shell. Observations were visual only with no destructive or material/systems testing employed other than environmental for hazardous materials.

The intent of this assessment is for GSA evaluative purposes and not for recommendations for occupancy type or reuse.

High Point Summary

Architectural:

The original building facades are clad in terra cotta on all four sides. All facades are in distress with significant replacement required for long term reuse. Water migration has cracked and spalled the terracotta cladding along with damaging the primary iron anchorage. Windows are a mix of aluminum replacement and existing wood in various conditions. The fire escape is in poor condition. The interior finishes are worn and generally in need of replacement throughout. The building is a collection of prior small office tenants so the floors would need to be gutted. Stone paneling in the lobbies is in good condition. Restrooms are not accessible and are in poor condition. The passenger and freight elevator systems were decommissioned and require full replacement. Two interior fire stairs satisfy the required by code means of egress, however some updates will be required for reuse.

Structure:

220 S State Street is a 21-story building with three basement levels. The basement structure is a combination of concrete floor slabs and clay tile arches supported on encased structural steel framing. The superstructure consists of steel framing with clay tile arch floors. There is concrete deterioration in all basement levels as well as water infiltration. It is estimated approximately 25% of the plan area in the basement and ground level slabs require repair or full depth replacement. Approximately 20% of the steel framing in the basement levels will require cleaning, coating, and replacement of concrete encasement. The superstructure appeared to be in good condition and generally the finishes do not show signs of systemic water infiltration except at isolated areas of current and past water infiltration. It is anticipated that 2-3% of the footprint area will require localized steel and/or clay tile arch repair throughout the superstructure.

Envelope - Roofing:

The existing main roof and penthouse roofs are severely deteriorated and actively leaking water throughout the building causing interior deterioration to portions of the building. The roofs, copings, flashings, drainage systems, horizontal parapet brace cladding, and other associated roofing features are beyond their useful service life and cannot be salvaged or reused. The complete roof system will need to be replaced to meet current building code requirements for roofing, coping, flashing, insulation, regular and overflow drainage systems, roof slope, roof access and other related roof features. Rooftop penthouse structures require terra cotta replacement and restoration as well as door, window, and skylight replacement to restore the structures.

Envelope - Facade:

The terra cotta facades are in poor condition and require extensive repairs, particularly at water tables, shelf angles and columns of the east and south elevations. Additional localized repairs are necessary and maintenance type repairs, such as repointing of mortar joints and holistic sealant replacement, is recommended.

Mechanical :

Based on the site visit conducted on February 6th, 2023, it has been noticed that all mechanical equipment and services are broken, beyond its expected lifetime and cannot be salvaged and reused. This narrative proposes an approach to rehabilitate the building as a warm shell and core for office usage. The approach suggests demolishing the existing mechanical services and providing new mechanical services. The narrative includes an estimation for the new systems capacities and quantities for the purpose of budgetary cost estimates.

Plumbing:

Plumbing piping, equipment, and fixtures in the building are heavily deteriorated and inoperable due the age of the systems. The building has not been heated for multiple winter seasons. Repeated exposure to freezing temperatures has accelerated the corrosion of the plumbing system within the building. The narrative illustrates the scope of work required to fully demolish all plumbing systems within the building, and install all new plumbing infrastructure for a shell-and-core space capable of supporting business occupancy on each floor of the building.

Electrical:

The state of the building's electrical infrastructure has significantly deteriorated beyond repair and is now non-functional due to the advanced age of the system. The level of damage is extensive and

widespread, affecting the entirety of the building's electrical systems, including wiring, panels, and fixtures.

To establish a shell-and-core structure that can support business occupancy on each story, extensive work is required to completely demolish and replace all the electrical systems in the building. This project will require a comprehensive plan to install new wiring, panels, and fixtures. Careful attention will need to be given to the electrical load capacity and safety requirements, as well as meeting the latest codes and standards for electrical infrastructure.

Structural

220 S State Street is a 21-story building with three basement levels. The sidewalk is vaulted at State Street and Quincy court. In addition, a small area at the northwest corner of the building is vaulted. The basement structure consists of a combination of concrete floor slabs and clay tile arches topped with concrete or cinder fill, and more recently placed areas of slab on metal deck. The floor slab spans to concrete and clay tile encased structural steel framing. The superstructure consists of steel framing with clay tile arch floors topped with concrete or cinder fill. The roof framing consists of steel framing encased in clay tile. The roof parapet is a masonry wall braced back to the roof structure with horizontal steel braces on the east and south facades. Structural drawings were not available for review.

In all three basement levels there is slab deterioration. The deterioration is mainly in the concrete slab and slab on metal deck portions. The deterioration ranges from small areas of exposed bottom rebar to large areas where the rebar is fully exposed and is no longer bonded with the slab. The most severe deterioration is concentrated in the northwest quadrant of the footprint and the easternmost portion of the plan footprint. Active water leaks and areas of standing water exist in these areas and in the southwest corner room of the lowest basement level. It is estimated that approximately 25% of the slab plan area in all three levels and the ground level slab require some level of concrete patch repair or full depth replacement. Many existing steel framing members have lost concrete or clay tile cover and the exposed steel has corroded. These steel members will need to be cleaned and their cover concrete replaced or new fireproofing applied. This typically occurs at the bottom flanges of beams. It is estimated that 20% of the existing steel framing in the basement levels will require some extent of cleaning and coating and cover replacement. Note that the room in the far northwest corner of the lower two basement levels was inaccessible, but there was heavy concrete deterioration in these areas at the underside of the ground level slab, observed from the upper basement level.

The majority of the superstructure was not visible due to the presence of existing finishes. The structure that was visible appeared to be generally in good condition and the finishes in place do not show signs of systemic water infiltration or structural deterioration in the superstructure. It is anticipated that there will be localized areas of steel and/or clay tile arch repair throughout the superstructure and would estimate this to be approximately 2-3% of the footprint area.

Structural Scope of Work for Building Reuse

1. Perform repairs ranging from partial depth patches to full depth replacement of concrete slab and concrete slab on deck at the three basement level slabs and the ground level slab. TT estimates approximately 25% of the slab supporting these levels requires repair or replacement.
2. Perform steel cleaning and coating and replacement of fireproofing at the three basement levels where concrete or clay tile arch cover on existing steel is missing. TT estimates approximately 20% of existing steel on the lower levels will require this.

3. Localized reinstatement of the concrete or masonry encasement at superstructure steel is also anticipated.
4. Perform localized clay tile arch repair throughout the superstructure and the ground level slab. TT estimates roughly 2 - 3% of the clay tile arch area will require repair.

Representative photographs of the structural conditions follow:

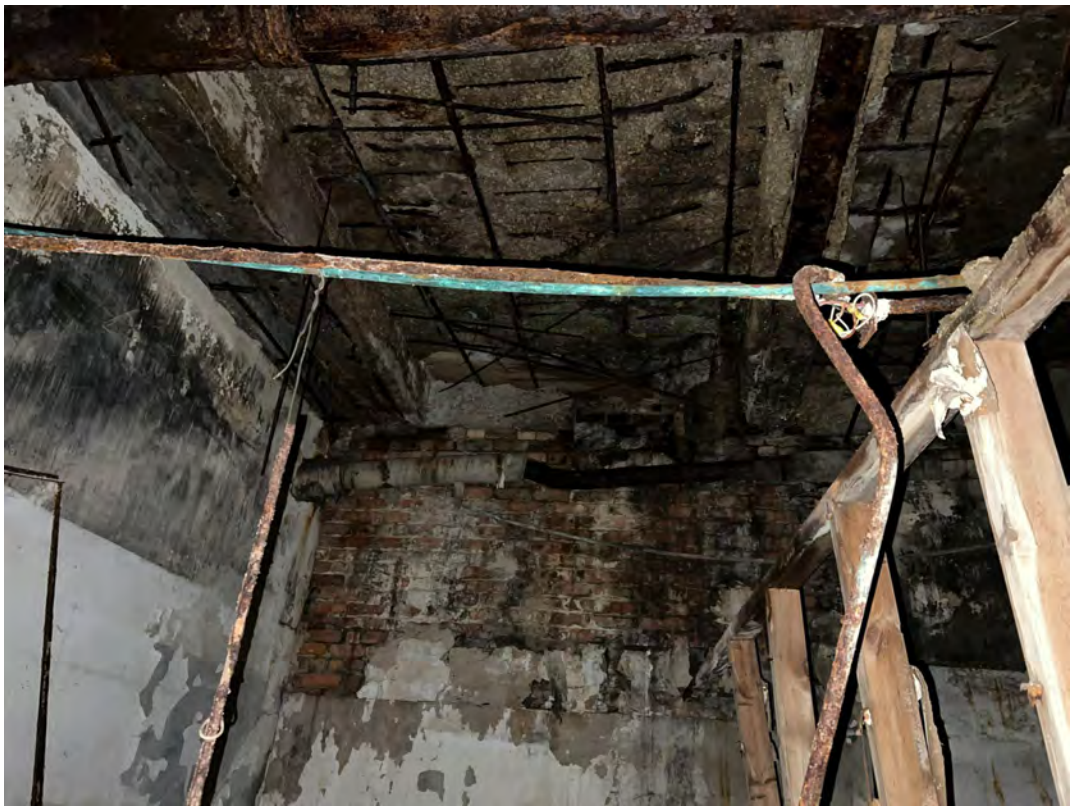
Exterior East elevation

Middle basement slab from below: Slab and encased framing

Middle basement slab from below: Area with exposed and corroded rebar

Middle basement slab from below: Southwest room heavily spalled and rebar is corroded

Ground level slab from below: Northwest room, heavy spalling and corroded and displaced rebar



Ground level slab from below: Northwest room, heavy spalling and corroded and displaced rebar

Superstructure: Framing layout, structure typically covered in finishes

Superstructure: Exposed clay tile arch floor structure at localized area of past water infiltration

Roof structure: Structural support at glass skylight

Envelope

Roof - Existing Conditions

The roof is accessed from a penthouse to a main upper roof. From the upper flat roof, the roof transitions to steep slopes to the east and south to a low flat roof area behind tall parapets. It appears that a black liquid topcoat was applied over a modified bitumen roof system. It is not known what types of materials were used. The penthouse roof is similar. All roof membranes are severely deteriorated and membrane details at parapets and penetrations have failed. Openings exist in the roof membrane.

The penthouse has a terra cotta perimeter coping that surrounds a sloped glass skylight on the east elevation. The terra cotta coping sections are deteriorated while some have been replaced with clay tile. The skylight has broken glass and the frames are heavily deteriorated. A large, corroded metal stack exits the roof and is open to the elements. The terra cotta façade has been patched with glazed brick. The metal windows and doors are corroded and deteriorated. A corroded steel ladder is attached to the east wall to access the penthouse roof.

A U-shaped parapet within the center of the upper flat roof is clad in terra cotta on the east, south, and west elevations. The coping is terra cotta tile. A large portion of the south elevation has been replaced with glazed brick.

Access from the upper flat roof to the lower flat roof is by a steel stair that follows the slope of the steep roof. The steel structure is corroded. The roof membrane has failed where the supports penetrate the roof.

The parapet coping along the west and north side is terra cotta. The parapet coping along the south and east side is limestone. It has through bolted bracing at the top of the parapet where the brick is deteriorated. The northeast parapet corner is encapsulated with a sheet metal enclosure.

The penthouse roof drains to the east through a scupper, conductor head, and downspout that exits onto the main upper flat roof. Half of the upper roof slopes to the north to two roof drains which are clogged and support vegetative growth. Also, the west drain location had a scupper on the north parapet. The remaining upper roof portion drains to the south and east to the low roof below. Three roof drains were observed within the low roof area, though others may be present but covered with debris and not known. Two of the three observed drains were clogged with debris. One parapet wall scupper is at the west end of the low roof.

The horizontal bracing that supports the tall south and east parapet walls, penetrates the roof where the membrane is severely deteriorated. The brace enclosure of metal wrapped with an unknown membrane is severely deteriorated.

Several steel elements protrude from the roof and are not enclosed or properly flashed. These appear to be the support points for the sign that was once on the building. Active leaks were noted at the floor below in the vicinity of these elements.

Roof Scope of Work for Building Reuse

1. Install new roofing systems at all roof levels.
2. Roofing insulation will need to meet current energy code requirements.
3. New roof drainage design with proper slope to drains and overflow drains to meet current building code requirements.
4. Repair all deteriorated and damaged terra cotta and replace temporary brick repairs on the penthouse structure and parapets.
5. Replace all doors and windows.
6. Replace all skylights.
7. Replace all access ladders and stairs to various roof levels.
8. Repair all horizontal brace enclosures and interface with the roof.

Representative photographs of the roofs follow:

South elevation of terra cotta clad penthouse

East elevation of terra cotta clad penthouse

Deteriorated penthouse door and cladding

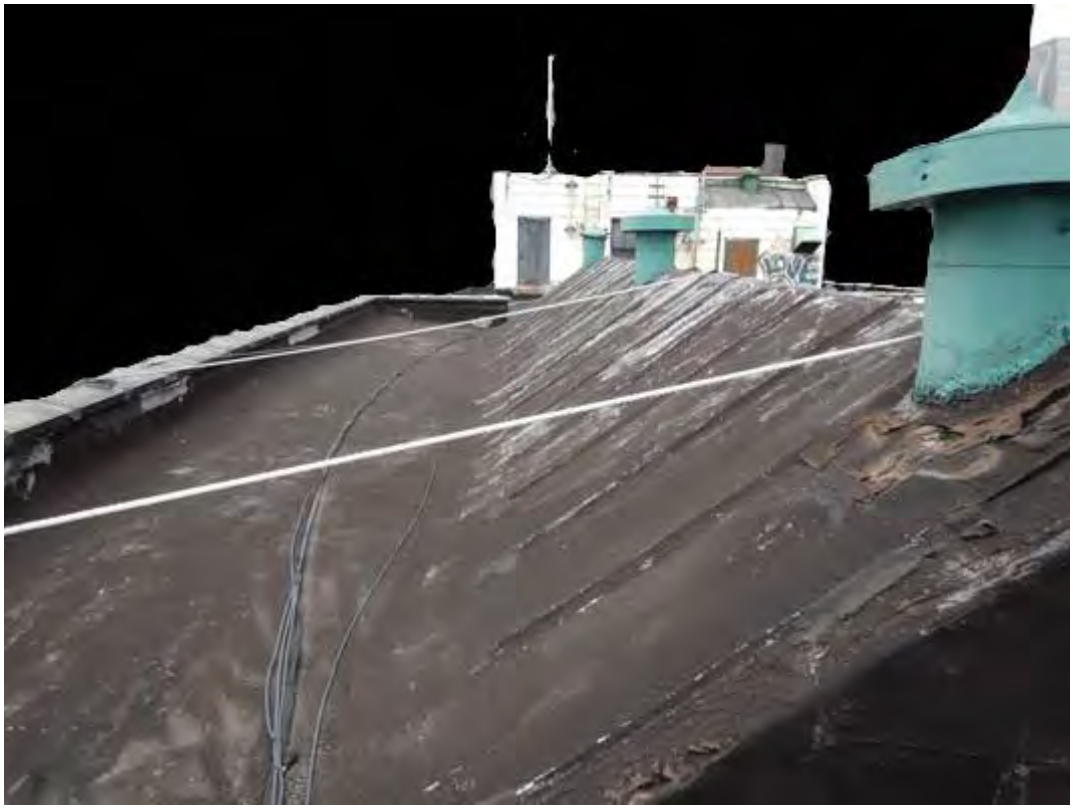
Deteriorated penthouse window and roof ladder

Penthouse roof with terra cotta coping

Damaged terra cotta coping

Temporarily repaired interior parapet structure

Skylight structure on upper roof, north elevation



Skylight structure on upper roof, roofed over on south elevation

Looking east along south parapet

Southeast roof corner

Northeast roof corner, parapet with white sheet metal enclosure

Southwest parapet corner with multiple copings, flashings, and temporary repairs

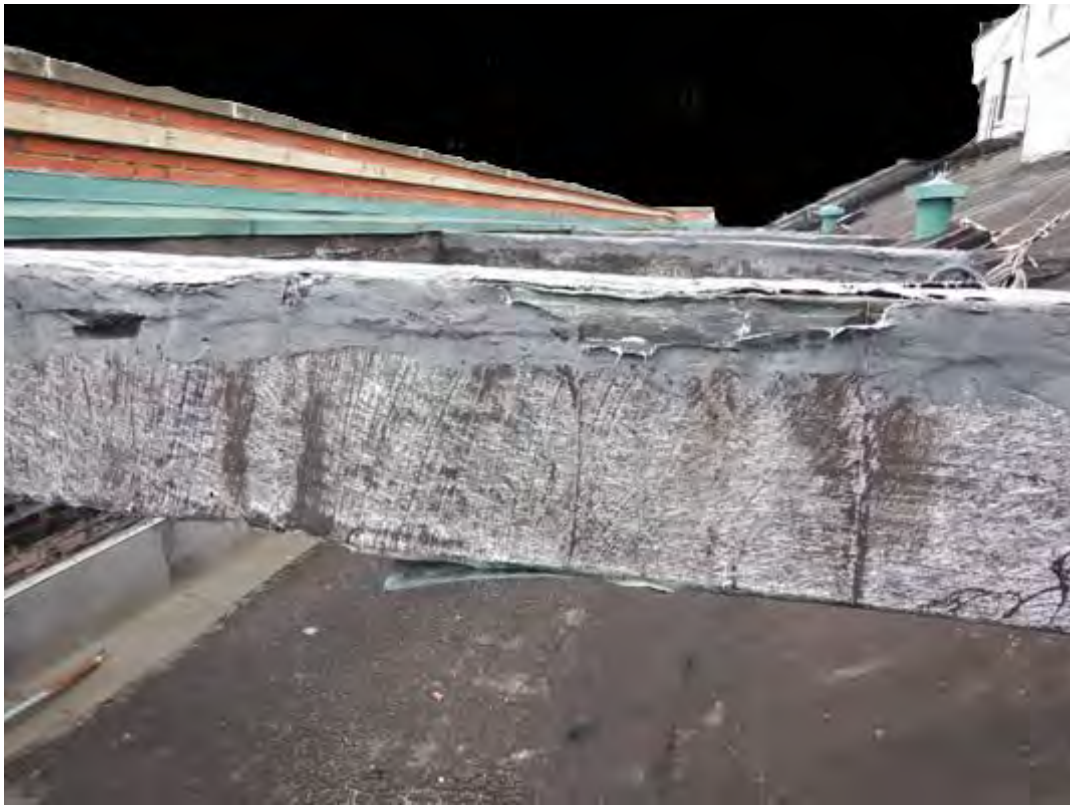
Severely deteriorated roofing membrane at south east corner

Clogged upper roof drain with vegetation

Clogged lower roof drain

Through wall scupper at southeast roof corner in west elevation

Severely deteriorated horizontal braces intersecting sloped roof



Severely deteriorated horizontal brace enclosure

Steel stair structure to lower roof

Failed roofing membrane around stair supports and vent stack

Failed vent stack roofing detail and deteriorated roofing membrane

Open tears within the roofing membrane on the upper roof

Facade - Existing Conditions

The aesthetic of the primary east and south facades is classic Chicago School style. All four elevations are clad in white terra cotta with white glazed brick used as a replacement material. The original decorative east and south parapet walls were removed at some point and reconstructed with brick masonry. The exterior masonry is typically supported at each floor level by steel shelf angles, which are riveted back to the structural steel.

A fire escape exists at the west elevation. A review of the fire escape was not included in this scope of work.

The facade varies in condition from fair to poor depending on the location. The review of the exterior walls was performed by binocular survey from the street level.

EAST AND SOUTH ELEVATIONS

The first floor of the building is clad with a storefront window system at the east and south elevations. Above the storefront is a panelized infill extending up to the water table at the second floor window sill. At the south elevation, solid panels infill the frames. The storefront systems appear to be in fair condition. Generally, sealants have failed and are beyond their service life.

Above the ground floor, belt courses and water tables occur at floors two, five, six, 18 and 21. Terra cotta spandrel panels exist beneath all other fenestrations. Terra cotta is also used at mullion units between windows and at columns. The terra cotta parapet walls have been removed and reconstructed with glazed face brick and have limestone copings.

At the columns, terra cotta units project outward with vertical bead, cove, and ashlar profiles. Extensive previous repairs exist at a significant portion of the columns, such as removal of the replacement glazed brick masonry, plywood coverings, stabilization pins, steel mesh, patch repair, and crack repair. Deterioration appears to be ongoing as evidenced by a large spall near the west end of the south elevation and newer cracks. Additionally, displacement and bowing of units was noted. Mortar joints are in very poor condition with a pattern of widened and very narrow joints, which can indicate movement. Sealants are typically in poor condition and are beyond their service life.

Belt courses are located at floors two and six. Water tables exist at floors five, 18 and 21. A window sill unit sits directly above the belt courses and water tables. The floor 21 water table is heavily ornamented with a rope-like profile beneath the top course. Ornamental shields cap each column. Glazed brick masonry was installed at isolated locations. Previous repair efforts include extensive crack repairs, stabilization pins, steel mesh, and steel straps. Glazed brick masonry has exhibited widespread cracking, previous patch repairs in poor condition and open joints were observed, as well as displacement. Due to the extensive deterioration observed at the water tables, it should be anticipated that the steel support elements are corroding.

Terra cotta window heads beneath the cornice, belt courses, and water tables are similar to the profile of the columns. At the window heads at floors four, five, 17 and 20, extensive cracking was

noted. Previous repair efforts include; installation of stabilization pins, crack repair, patch material, steel mesh, and steel straps. Previous sealant repairs appear to be in fair to poor condition. Mortar joints appear to be in poor condition. Due to the extensive deterioration observed, it should be anticipated that the steel support elements are corroding.

Spandrels exist below all fenestrations except at belt courses and water tables. The spandrels consist of a sill course, decorative courses and a window head course. Cracking and spalling of the raised terra cotta sill nose joints, deteriorated sealants, and failed mortar was observed at many locations. Often, units below the terra cotta mullions were observed to be cracked and spalled or encased in plywood. In general, the middle courses of the spandrel panels were noted to be in good condition. Localized cracking, small chips or spalls and some deteriorated mortar joints was observed. The flat window head units appeared to be in good condition. Mortar joints within the spandrels were noted to be in fair to poor condition.

Terra cotta is used at mullions between windows at floors five through 21. Previous repair efforts were noted at several locations including stabilization pins, steel straps or steel mesh. The condition of the mullion units seems to vary. Some locations appeared to be in good condition, while others were cracked with extensive previous repairs. At a few locations, the terra cotta had been replaced with glazed brick masonry. Due to the deterioration that was observed, it should be anticipated that the steel support elements are corroding.

Above the floor 21 window head, two courses of the original terra cotta parapet wall are in situ. Observed deterioration included open joints, failed mortar and sealant joints. Above the terra cotta is the glazed brick parapet wall.

The original terra cotta parapet walls were removed and reconstructed with glazed brick masonry. Wood stabilization shoring with steel wire mesh has been installed across the full width and height of the parapet wall. Wood components were generally in fair condition but some pieces appear weathered. At the roof side of the parapet walls, most of the face brick is covered with flashings and not exposed. Due to the condition of glazed brick, it should be anticipated that the brick masonry on the roof side has deteriorated as well.

Windows

At floors two through four, aluminum frame Chicago style windows exist. Above the 4th floor, aluminum clad, single hung windows exist at fenestrations. Windows on the south and east elevation appeared to be in fair condition with typical age-related deterioration. The sealant joints are typically in poor condition and are well beyond their service life.

WEST AND NORTH ELEVATIONS

The west and east elevations are clad with flat ashlar terra cotta units, except at locations where the terracotta was removed and replaced with a white glazed face brick or cementitious parge coats. At the northeast corner, the terra cotta was removed and infilled with glazed brick masonry. At the southwest corner, most of the terracotta elements were removed and replaced with glazed brick masonry.

Extensive cracking and deep spalls of the ashlar terra cotta units was noted across both facades. The deterioration seems to be associated with shelf angle and lintel angle locations, as well as window anchorage points. Cracking and spalling was also noted at fire escape embedments at the west elevation. Terra cotta at the parapet walls generally appeared in better condition than elsewhere on the facades.

Areas of brick masonry generally appeared in fair condition but widened joints were observed adjacent to terra cotta units and at some horizontal locations. Cracking was noted at various locations and slight displacement was also observed. At the east face of the northeast building corner, it appeared that there was more extensive cracking. Mortar joints generally appeared aged and weathered. Sealants are typically in poor condition and beyond their service life.

<u>Windows</u>

At the west and north elevations, the original steel frame windows with wire glass are still in place. Windows have various levels of corrosion along with deteriorated coatings and generally in poor condition. The sealant joints are failing and are well beyond their service life.

Facade Scope of Work for Building Reuse

EAST AND SOUTH ELEVATIONS

Due to the extent of deterioration, only slightly different approaches are available for the east and south elevations, depending on the requirements of authorities having jurisdiction. The first approach is to follow the Secretary of the Interior's Standards to restore the façade back to its original aesthetic. The second approach assumes only a redevelopment of the building. The difference between the two will be the selection of materials to be reinstalled once repairs to the structural steel and substrates have been completed. Regardless of approach, expensive repairs will be required.

The following are recommended repairs for the east and south facades:

a. At the ground floor, a new curtain wall could be fabricated to meet modern building code requirements and to recreate the aesthetic of the historic period of significance.

b. Repointing all mortar joints is recommended.

c. Replacement of all sealants is recommended.

a. Due to the observed extent of deterioration, water tables are recommended to be disassembled and terra cotta units salvaged

i. These locations should be anticipated to have shelf angles. At locations of steel shelf angles, it is recommended to fully expose the steel elements, clean and paint the steel, and install flashings. Based on the observed conditions, some steel elements may require structural repairs (e.g., welding on supplemental plates).

ii. The water tables could then be reconstructed either with salvaged and new terra cotta replacement units or a new panelized glass fiber reinforced concrete (GFRC) system designed to mimic the original aesthetic. GFRC is much lighter and easier to install than traditional terra cotta but does have maintenance requirements.

b. Due to the observed deterioration at the window heads beneath the belt courses and water tables, a similar repair procedure as the water table repair is recommended.

c. Due to the observed extent of deterioration at columns, the full height of terra cotta units are recommended to be disassembled and terra cotta units salvaged.

i. Steel elements should be repaired, cleaned, and coated.

ii. The columns could then be reconstructed either with salvaged and new terra cotta replacement units or a new panelized GFRC system designed to mimic the original aesthetic.

d. At locations where all or a significant portion of a terra cotta element is missing, the units could be reconstructed either with new terra cotta replacement units or a new panelized GFRC system designed to mimic the original aesthetic. GFRC is much lighter and easier to install than traditional terra cotta but does have maintenance requirements.

d. At locations of terra cotta units with minor deterioration (e.g., minimal cracks), terra cotta units are recommended to be removed, repaired and reinstalled.

e. At all locations of exposed structural steel lintel units, it is recommended to fully expose the steel elements, clean and paint the steel, install flashings, and reinstall the terra cotta.

f. Parapet Walls – The existing parapet walls are recommended to be dis-assembled due to their condition. The parapet walls should be reconstructed with a new backup structure designed to support the selected cladding material. A new panelized glass fiber reinforced concrete (GFRC) system could be designed to mimic the original aesthetic of the historic parapet and cornice. GFRC is much lighter and easier to install than traditional terra cotta but does have maintenance requirements.

g. Windows and Doors – Windows and doors are recommended to be replaced. Modern windows and doors can be manufactured to meet modern building codes and with custom “snap on” components to mimic the historic profiles.

WEST AND NORTH ELEVATIONS

The west and north elevations are the secondary facades and may not be required to follow the Secretary of Interior's Standards. However, due to unique anchoring methods for terra cotta, alternate repair materials could be considered but may be difficult to install.

Following are recommended repairs for the west and north facades:

1. Repointing all mortar joints is recommended.

2. Replacement of all sealants is recommended.

3. At locations of terra cotta units with minor deterioration (e.g., minimal cracks), terra cotta units are recommended to be removed, repaired, and reinstalled.

4. At locations of localized severely deteriorated terra cotta units (e.g., adjacent to the fire escape), new individual terra cotta units or a sympathetic replacement material are recommended to be installed to maintain the original aesthetic.

5. At all locations of steel shelf angles and lintel angles, it is recommended to fully expose the steel elements, clean and paint the steel, install flashings, and install new terra cotta or a sympathetic replacement material. Based on the observed conditions, some steel elements may require structural repairs (e.g., welding on supplemental plates).

6. At the northeast and southwest building corners, brick masonry should be removed at each floor level to expose the steel elements, clean and paint the steel, install flashings, and install new terra cotta or a sympathetic replacement material, such as brick masonry.

7. Windows and Doors – Windows and doors are recommended to be replaced. Modern windows and doors can be manufactured to meet modern building codes.

Representative photographs of the facade follow:

Overview of east elevation

Overview of south elevation

Overview of north elevation

Terra cotta column with various previous repair efforts

Terra cotta column with various previous repair efforts

Terra cotta column with various previous repair efforts

Terra cotta column with various previous repair efforts and new area of spall (dark area at mid-height of west column)

Terra cotta column with various previous repair efforts

Overview of water tables at upper floors

Overview of belt course and water tables at lower floors

Overview of mesh installed at water table and building northeast corner

Overview of mesh installed at water table and building northeast corner

Overview of steel straps and mesh installed at water table

Overview of steel straps installed at water table and cracking at terra cotta lintel units

Overview of previous repair efforts and open joint at top of water table

Overview of previous repair efforts and open joint at water table

Overview of steel mesh repair effort and crack repair efforts and window lintel

Previous repair efforts at terra cotta window lintel

Overview of terra cotta spandrel and Chicago style window

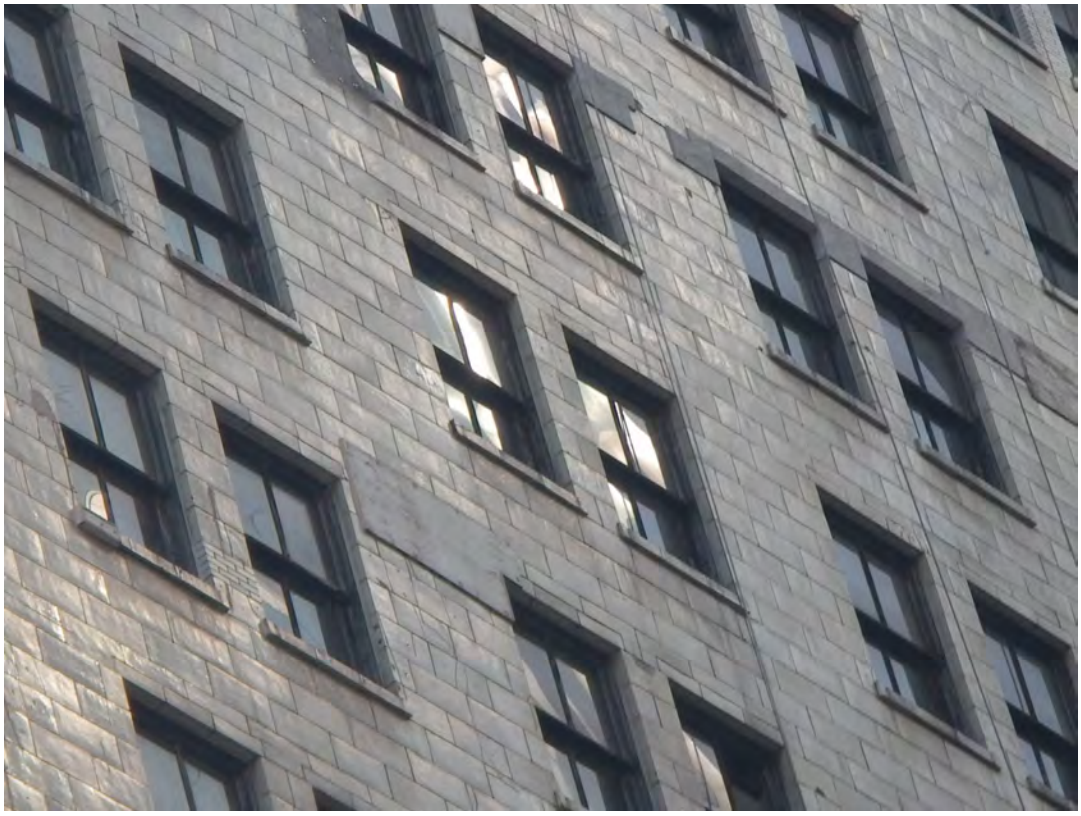
Overview of terra cotta spandrel with previous stabilization effort

Overview of terra cotta mullion with previous repair efforts and newer crack

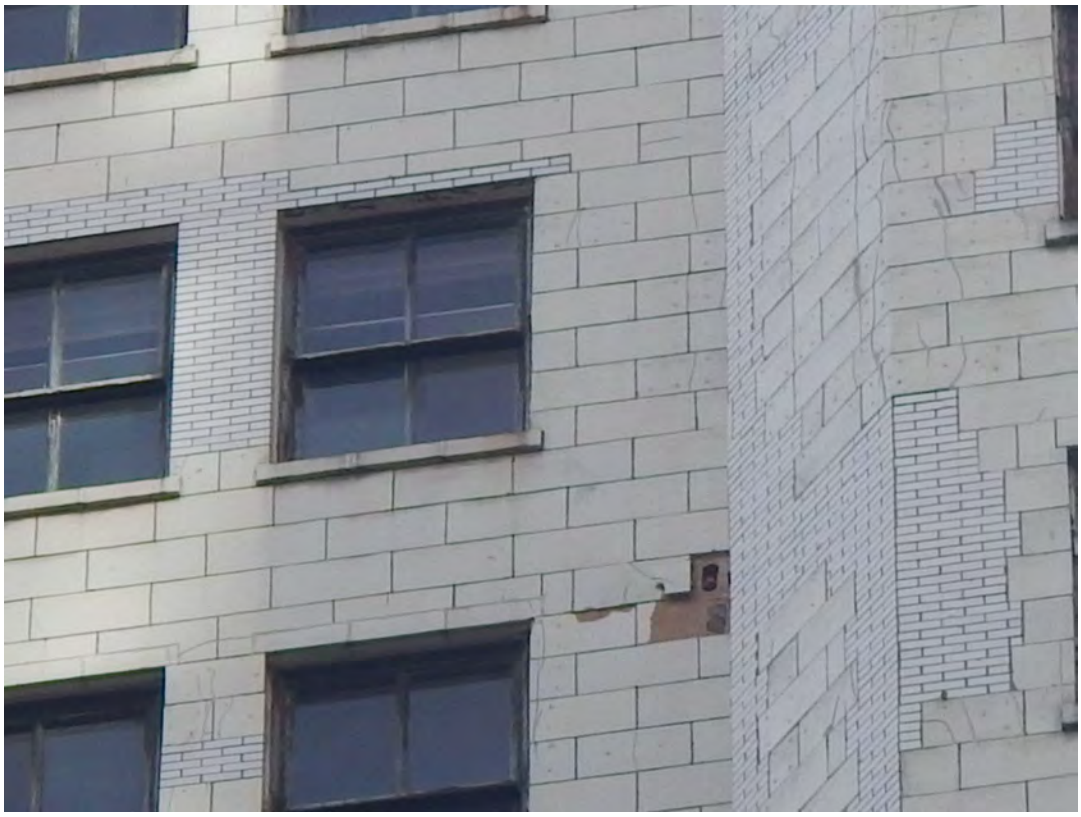
Overview of terra cotta mullion units with newer crack

Overview of parapet wall with wood 2x and steel mesh

Overview of parapet wall with wood 2x and steel mesh



Overview of north elevation with previous stabilization efforts



Overview of north elevation with terra cotta spalled units and cracked units

Overview of north elevation with terra cotta spalled units and cracked units

Overview of north elevation with terra cotta spalled units and cracked units

Overview of north elevation with terra cotta spalled units and cracked units

Overview of typical steel window head

Overview of typical steel window sill

Mechanical

Existing Conditions

On February 6th , 2023, a site visit was conducted. All observations are based on visual inspection for the safely accessible areas. Sub-basement, basement, first, second, and third floors were inspected. Upper floors and the roof were not accessed due to safety concerns.

All mechanical equipment, piping and ductwork in the building have exceeded its lifetime, broken and cannot be salvaged and reused.

The following is a list of the major mechanical equipment that was seen during the site visit:

1. Four Steam Boilers.
2. One Condensate tank/pump set.
3. Four huge ventilation fans.
4. Intake air oil wash filter.
5. Three AHUs.
6. Natural gas boosters.
7. Radiators in typical floors.
8. Existing ducts, thermal insulation, and pipes.

Refer to the below representative photos for the above-mentioned mechanical services.

Mechanical Scope of Work for Building Reuse

Based on the available data, the building's area is around 248,525 SqFt. The following systems capacities and quantities are for budgetary cost estimate only and cannot be used as final design for construction. Final equipment capacities and quantities are subject to detailed design requirements.

The tenant will provide their own services within the leased space such as FCU/AHU, duct distribution, air diffusers and grilles, pipe, finned tubes/radiator and control.

The design will be as per GSA P100 Facilities standards latest edition.

The following mechanical services are required to reuse the building as a warm shell and core for office usage:

1. Demolish existing mechanical systems such as but not limited to boilers, steam condensate tank and pumps, hot water pumps, expansion tanks, air separators, pipes, fitting, valve, AHU, fans, ducts, air outlets, natural gas and control.
2. Provide water cooled centrifugal chillers: two chillers, 600 Ton each.
3. Provide cooling tower with two cells, induced draft counterflow: total flow 3400 GPM.
4. Provide chilled water Variable Primary pumps: three pumps, 1100 GPM each, 60 HP.

5. Provide condenser water constant speed pumps: three pumps, 1700 GPM each, 80 HP.
6. Provide chilled water Plate heat Exchanger (for the upper zone) : Two units each 250 Ton.
7. Provide chilled water variable secondary pump (for the upper zone) : two pumps each 650 GPM, 25 HP.
8. Provide Cooling system hydronic specialties: expansion tank, air separator and pressure fill (30% PG).
9. Provide cooling BTU energy meters for tenants (around 22 meters).
10. Provide dedicated outdoor air units with energy recovery: two units each 15000 CFM.
11. Provide one AHU for the entrance lobby: 5000 CFM.
12. Provide central exhaust air fan: two fans, each 15000 CFM.
13. Provide miscellaneous fans: four fans, each 2000 CFM.
14. Provide stair pressurization fan: one fan 18000 CFM.
15. Provide galvanized duct work with thermal insulation: 160000 Ib.
16. Provide chilled water pipes with thermal insulation: total length 2600 ft.
17. Provide hot water condensate Boilers: four boilers ,3000MBH each output capacity.
18. Provide hot water variable primary pumps: four pumps, 300 GPM each, 20 HP.
19. Provide hot water Plate heat Exchanger (for the upper zone) : Two units each 2520 MBH.
20. Provide hot water variable secondary pump (for the upper zone) : two pumps each 360 GPM, 20 HP.
21. Provide heating BTU energy meters for tenants (around 22 meters).
22. Provide hot water system hydronic specialties: expansion tank, air separator and pressure fill (30% PG).
23. Provide heating water pipes with thermal insulation: total length 2600 ft.
24. Provide a gas meter and boosters.
25. Provide Building Automation System (BAS).

Representative photographs of existing mechanical services follow:

Basement 3 - Existing Steam Boiler

Basement 3 - Existing Condensate tank and pump

Basement 2 - Existing Outdoor air intake fan

Basement 2 - Existing Outdoor air intake filter

Basement 2 - Existing AHU

Basement 1 - Existing piping

Electrical

Existing Conditions

On February 6th, 2023, a visual only site inspection was performed to determine the existing conditions of the electrical infrastructure within this building. As-builts, one-lines or drawings showing the existing system were not available for review. The inspection of the electrical system of this 21 story building with 3 basement levels consisted of the sub-basement (3), sub-basement (2), basement (1), and first through third floor. Upper floors were not inspected due to safety concerns. No testing was performed. No equipment was opened or operated.

The existing two switchboards and existing electrical panels are outdated throughout the building and are in poor condition. The existing electrical panels do not have enough circuit breakers or adequate amperage ratings to handle the power demands of modern appliances and electronics. The wiring in the panels and conduits may not meet current safety codes or may have become damaged or corroded over time. Cloth wiring was observed in some panels. Cloth wiring can cause shorts, arcing, and other hazards.

Most of the existing lighting in this building has been removed. The lighting controls, lighting conduit, and wiring have been stripped or abandoned in place.

Existing emergency battery units were non-operational throughout the building.

Existing low voltage, a/v, and security systems were not found.

The existing main fire alarm control panel was not found. Existing pull stations, smoke/heat detectors, strobes and speakers were missing.

The existing electrical system within the building is in overall poor and unreliable condition and poses a significant safety risk, and is potentially hazardous. It is not recommended to reuse any of the existing electrical power distribution equipment, fixtures, panels, conduits or wiring.

Refer to pictures below for representation of existing conditions.

Electrical Scope of Work for Building Reuse

Electrical Infrastructure:

The electrical main feed needs to be replaced back to the ComED connection on the exterior side of the building. Coordinate with ComED for replacement of existing feed with new wire and conduit. Provide a second separate new ComED feed for the fire pump.

Demolish all existing electrical equipment and infrastructure in this building in its entirety.

Provide a new switchboard(s) to feed the entire building. Switchboard(s) to be sized to accommodate multiple future tenants. Provide new bus duct to upper floors for connection to for future buildout. Provide for shell and core, new distribution and house panels that will feed life safety lighting, general lighting, receptacles, elevators, plumbing, and HVAC equipment. Provide energy monitoring as required by the latest energy code.

Provide a new stand-by generator sized appropriately to serve emergency light fixtures, fire alarms, elevators, and other life safety systems.

Provide for shell and core new LED light fixtures. LED lights will need to be in compliance with GSA standards. Provide lighting controls compliant with the most current standards and energy code including occupancy sensors, daylight harvesting, and time-based scheduling.

Provide for shell and core new LED exit signage throughout the building based upon egress plans.

Provide for shell and core convenience power in house spaces to serve building maintenance and custodial staff. Provide plug load controls in areas required by the latest energy code.

Provide power for mechanical equipment such as pumps, chillers, cooling towers, air condition units, air handling units, and fans.

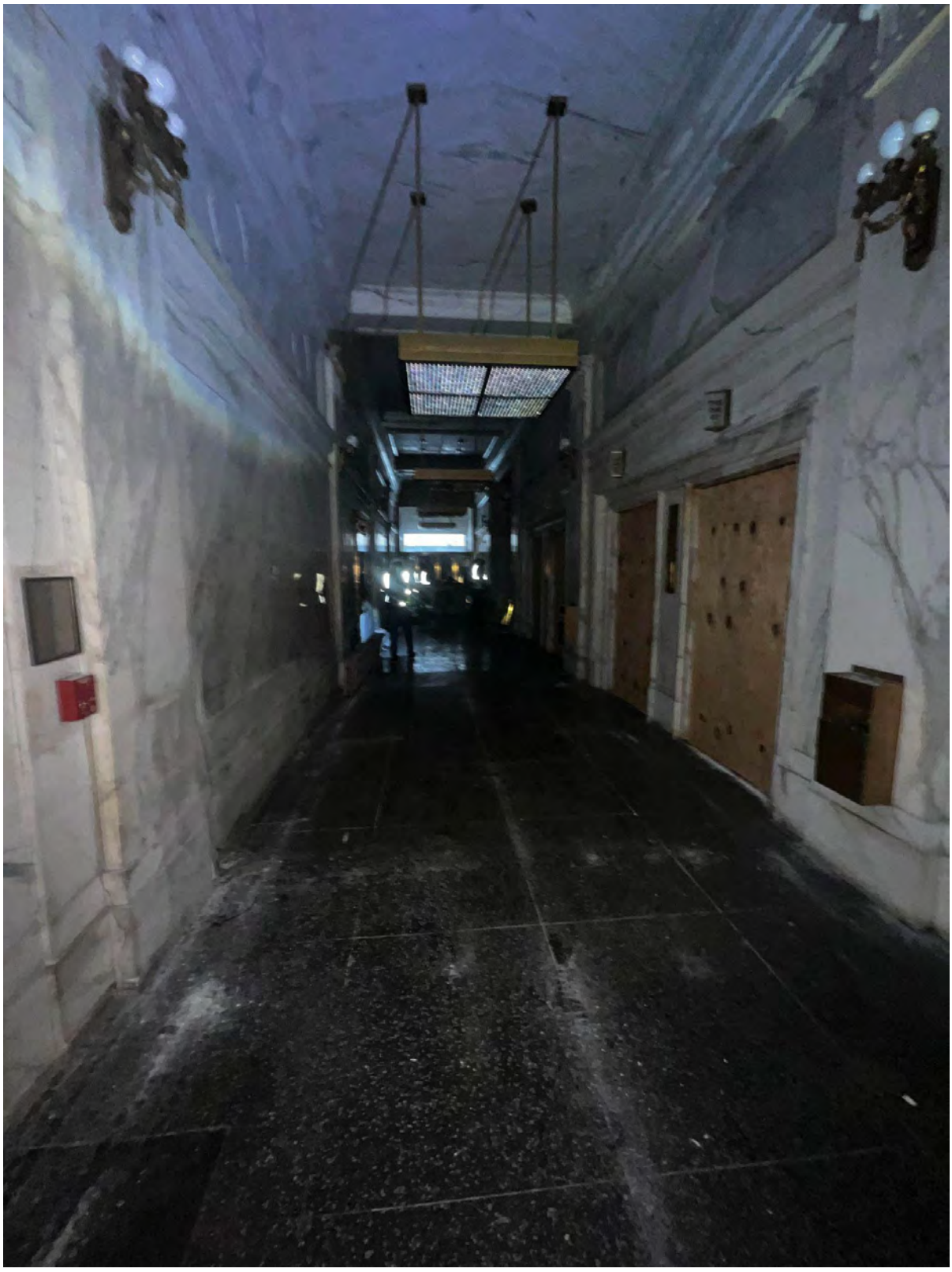
Provide power for plumbing equipment such as hot water heater, sump pumps, and sewage ejector pumps.

Provide for shell and core a new Fire Alarm Control system that will monitor the entire building with expandability for future build-out. The system should include, but not limited to:

- Multi-sensor detectors: These detectors use a combination of technologies, such as smoke and heat detection, to provide early warning of a fire.
- Addressable control panel: An addressable control panel allows for precise detection and identification of the location of a fire or smoke.
- Wireless connectivity: A wireless fire alarm system can provide greater flexibility and ease of installation, particularly in retrofit applications. It can also allow for faster communication of alarms and alerts to emergency responders.
- Voice evacuation system: A voice evacuation system provides clear and concise instructions to occupants in the event of a fire. This can help to reduce panic and ensure a safe and orderly evacuation.
- Emergency communication system: An emergency communication system can be integrated with the fire alarm system to provide mass notification in the event of an emergency. This can include text messaging, email alerts, and automated phone calls to keep occupants informed and safe.
- Remote monitoring: Remote monitoring allows for 24/7 monitoring of the fire alarm system, providing early detection of any issues or malfunctions. This can help to prevent false alarms and ensure the system is functioning properly at all times.

Provide for shell and core, a new security system that includes an access control system such as key cards, CCTV system, and intrusion detection system with expandability for the entire building

Provide for shell and core, a new low voltage system with capabilities to provide data outlets and wifi with expandability to provide services to future tenants.



1st Floor Main Lobby

1st Floor: Panelboard with possible cloth wiring.

Basement: Damaged exit and emergency lights.

Sub-basement: Existing 120/208v switchboard

Sub-basement: Outdated panelboard with corrosion on exterior and missing covers.

Sub Basement: Existing 480v switchboard

2nd Floor Stairwell: Existing riser to upper floors

Upper Floor: Lights and electrical in corridor in poor shape

Plumbing

Existing Conditions

The site visit was performed on February 6th, 2023. As-built documentation for this property was not available at the time of the walkthrough for review and field verification. Plumbing systems of the building's sub-basement, basement, first, second, and third floors were inspected. Upper floors and the roof were not accessed due to safety concerns.

Plumbing piping, equipment, and fixtures in the building are heavily deteriorated and inoperable due the age of the systems. The building has not been heated for multiple winter seasons. Repeated exposure to freezing temperatures has accelerated the corrosion of the building's plumbing systems.

Existing Equipment:

The existing plumbing equipment that was identified on site included: a domestic water booster pump, a sump pump, a sewage ejector, several tank type and tankless domestic water heaters, and a fire pump. Most of the plumbing equipment is heavily corroded, antiquated, and aged beyond its useful service life. Only the sump pump appears to have been refurbished in order to mitigate water ponding in the sub-basement caused by pipe leaks and seepage of groundwater into the structure. The new sump pump was installed in an existing sump pit with a heavily corroded cover.

Existing Sanitary and Storm Piping:

The existing sanitary waste and vent piping was a combination of cast iron and copper piping and appeared original to the building. The cast iron piping utilized hub-and-spigot joints or threaded joints. The copper piping was soldered. The piping exhibits signs of severe corrosion cracks, and extensive surface rust. Also, misaligned/dislocated joints were observed at some locations.

The storm piping system, like the sanitary piping, appears to be heavily deteriorated and beyond its useful life. Insulation on storm piping is damaged and/or missing.

At the basement level portions of the original suspended cast iron horizontal storm and sanitary drainage piping mains were replaced with PVC piping. The piping replacement appears to be done as part of an emergency repair to mitigate flooding in the basement which occurred due to leaks in the aging piping system. The use of PVC pipe for this application is not compliant with the local codes or GSA standards. The new PVC piping would have to be removed along with the other, original cast iron and copper, deteriorated piping to bring the installation up to code and GSA building standards.

Existing Domestic Water Piping System:

The existing domestic water piping system is a combination of galvanized steel piping material and copper piping. All domestic water mains that were accessible for inspections were galvanized steel. Smaller, local, piping serving individual plumbing fixtures appeared to be a combination of soldered copper piping and threaded galvanized steel piping. The piping appears to be heavily corroded, and

insulation is missing on many pipe segments. Several existing pipe stubs were found on site. The uncapped galvanized pipe stubs reveal heavy corrosion inside the existing piping system, which typically results in poor water pressure and subpar flow rates.

Plumbing Scope of Work for Building Reuse

Domestic Water System:

- Provide complete demolition of the domestic water piping system including all distribution piping, risers, plumbing fixtures, and the domestic water piping service back to the municipal water main.
- Provide all new ductile iron combined domestic water/FP service for the building.
- Provide dedicated backflow preventer for the FP service.
- Provide all new domestic water booster pump system.
- Provide all new galvanized steel domestic water risers with subs on each floor. The building is high-rise construction and at least two pressure zones would be required not to exceed code allowable pressure at each floor. Assume a PRV station would be required to satisfy this requirement.
- It is assumed that the domestic hot water equipment and associated hot water and hot water recirculation piping systems would be furnished for each tenant on each floor and are excluded from the shell-and-core renovation's scope of work.

Drainage/Vent Piping System:

- Demolish existing sanitary/vent piping within the building. Include demolition of the sanitary piping service back to municipal sanitary main.
- Provide all new drainage/vent piping systems for the building. The system shall consist of:
    - new sanitary service connection to the City main,
    - new vent and sanitary stacks with stub-outs on each floor for future tenants to connect to,
    - new vent terminals (VTRs) on the roof,
    - and new floor drains and associated underground drainage piping required for mechanical/plumbing/FP equipment in the basement. Provide associated floor slab saw-cutting/repair as required to install the new underground piping.
- The new piping shall be cast iron pipe as required per the GSA standards. Provide new sanitary/vent stacks with stub-outs on each floor where the new fixture could connect during the fit-out.

Storm Piping System:

- Demolish existing roof drains, storm stacks, associated horizontal storm piping system, and storm water service back to municipal storm water main.

- Provide an all-new storm piping system for the building including new roof drains, piping, storm stacks and storm water service connection to the municipal storm water main. The new piping shall be cast iron pipe as required per GSA standards.

Drain tile System:

- Demolish or abandon in place the existing underground drain tile system. Demolish the associated sump pump serving the existing drain tile system.
- Provide an all new drain tile system below the basement floor. Provide associated floor slab trenching and repair required for installation of the new underground piping system.

Miscellaneous Equipment:

- Provide a new sump pump system with new pit, pumps, controls, connection to BAS, etc.
- Demolish existing elevator sump pumps & sewage ejectors.
- Provide all new elevator sump pumps.
- Provide a new sewage ejector system with new pit, pumps, controls, connection to BAS, etc.
- Provide an all-new sump pump system for the new electrical switchgear room.

Fire Protection:

- Demolish all existing FP systems including: existing fire pump, FP piping, etc.
- Provide all new fire pump, FP piping, standpipes, and FP sprinkler system with full coverage on all floors including: mechanical spaces, stairwells, future tenant spaces, etc.

Representative photographs of all floors follow:

Basement Level: Abandoned domestic water piping - corrosion inside the pipe.

Basement Level: Tank-type Electric Water Heater.

Basement Level: Fire PumpBasement Level: Drainage piping with damaged insulation.

Basement Level: PVC piping that was installed to mitigate pipe leaks. The pipe material is not code compliant or does not meet the requirements listed in GSA's P-100 document.

2nd floor restroom - Lavatory fixtures.

Basement level: Sump pump pit.

Architectural/Interiors

Existing Materials/Vertical Movement

The ground floor entry lobby is in reasonably good condition along with the stairwell. The marble detailing and surfaces will need some restoration work but are generally in good condition. The historic defining features are in a reasonable condition and generally repairable where they still remain. Some smaller items (Mailbox front door, hardware, etc) have disappeared from the earlier Johnson Lasky preservation report.

The original core walls remain however they have significant deterioration. Minimal riser shafts exist to accommodate new full building services. Modern services and accessibility requirements will have a significant impact on the reuse of the building elements. The original typical public corridor is in reasonable condition on most floors. Although, it is in need of new lighting, some repairs, and decorating.

The condition of interior finish materials are generally consistent throughout the entire building. Prior tenant build-outs exist but are in various levels of deterioration. The building had few large tenants with most floors broken up into a large number of small suites. The suites are in a wide range of vintages, decoration schemes, and conditions. To reuse the building for tenant occupancy, practically speaking, the spaces will need to be gutted of all prior tenant construction. The original plaster covering of the exterior wall is significantly deteriorated. Most prior tenants clad it in gypsum board enclosures.

Other than the marble lobby, floor finishes are in need of replacement. The non-heated conditions have damaged the remaining wood floors throughout the building. In most conditions, the floors are damaged and/or have buckled.

Toilet rooms - Many original toilet rooms remain with marble partitions. Generally, these rooms are in poor condition. Some toilet rooms have not been refreshed for 15+ years. The common issue with most of the toilet rooms is that they have been constructed above the base floor elevation (one or two stair risers). This was done to avoid cutting holes in the clay tile arch slab and disturbing the structural integrity of the slab to run horizontal piping to a riser. Therefore, most toilet rooms lack accessibility. A few rooms have makeshift ramps, but the majority in the core of the building lack sufficient space for ramps, as would commonly occur in the public corridor. Fixture configuration is too compressed to meet accessibility requirements.

Stairs - Two enclosed egress stairs exist in the building above Lower Level 2. Open stairs access Lower Level 3. The stair enclosure appears to be of a fire-rated construction. The doors, frames, and hardware will need to be replaced in order to operate properly, become labeled construction, and to be accessible.

Elevators - Six overhead traction passenger elevators exist in the building. Additionally, one freight elevator provides access to all the floors. The elevator system was decommissioned 15 years ago and no components of the system are reusable. All hoistway doors have been permanently sealed so that there is no access to the shaft or cabs. Hoistway doors and frames in the entry lobby are boarded up so there is no way to know their condition. The balance of doors and frames in the building look to be painted steel where visible without special detailing. The overhead machine room contains older open controllers that are rusted and covered in debris. Motors and ropes are significantly rusted.

Accessibility - First floor is level with the sidewalk so the building is configured to have an accessible route in. The balance of the building is inaccessible and without vertical transportation. Toilet rooms on each floor are not accessible.

Architectural Scope of Work for Building Reuse

1. Restoration work and repairs in the 1st Floor Lobby. This applies also to the marble stair up and down into Lower Level 1. New entry security desk.
2. Gypsum board reclad interior face of exterior walls. (Levels - Lower Level 1 to 22) As this is a mass wall constructed exterior wall construction the addition of any insulation, vapor/air barriers will need to be carefully analyzed so as not to further impact the terra cotta.
3. New interior layin ceilings and lighting in tenant areas. Restoration of finishes (partitions and ceilings) in all common corridor areas. (Levels - Lower Level 1 to 22)
4. New carpet flooring in tenants and common areas. Included with this will be lightweight concrete topping slabs/leveling to level floor elevations damaged in the existing building. (Levels - Lower Level 1 to 22)
5. Doors, frames and hardware will require assessment, restoration and component replacement for fire rated assemblies, accessibility, damage, etc.
6. Floor penetrations for new building services.
7. New core toilet rooms on all floors

8. Replacement of all six passenger elevators and freight elevator with new traction equipment along with a complete elevator control system and all components. This includes cabs, rails, and hoistway openings. Historic integration of controls on the 1st Floor.
9. Building graphics
10. Repairs to finishes in the 3 lower levels.

Representative photographs of all floors follow:

1st Floor Main Lobby Looking West

1st Floor Main Lobby Looking East

1st Floor Main Lobby Hoistway Openings

1st Floor Main Lobby Stairs Up and Down

Lower Level 1 Abandoned Stair from 1st Floor

Lower Level 1 Former Restaurant Area

Lower Level 1 Former Restaurant Seating Area

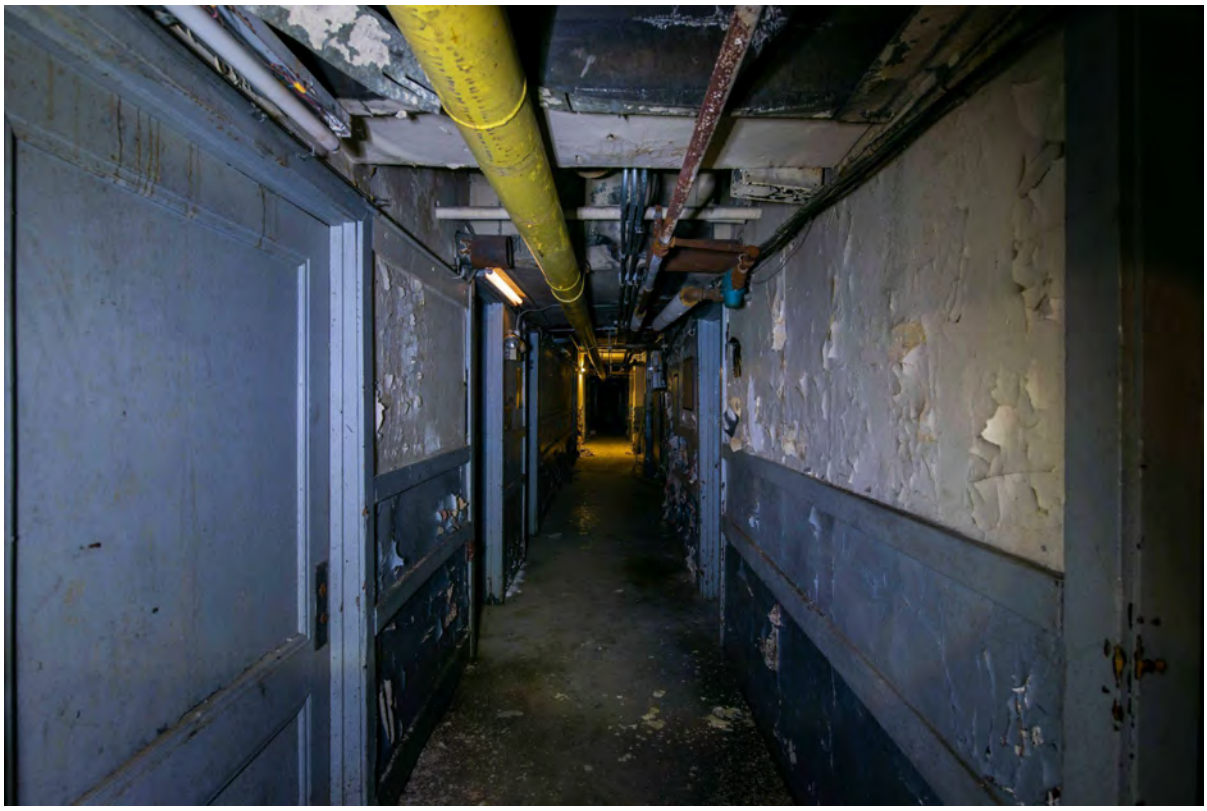
Lower Level 1 Plaster Detail Remanent

Lower Level 1 Former Restaurant Kitchen

Lower Level 1 Switchgear

Lower Level 1 Mechanical

Lower Level 1 Freight Elevator Hoistway Opening



Lower Level 1 Typical Corridor

Lower Level 1 Typical Maintenance storage Space

Lower Level 1 Empty Room

Lower Level 1 Storage Room

Lower Level 2 Mechanical

Lower Level 2 Corridor

Lower Level 2 Stair

Lower Level 2 Corridor

Lower Level 2 Corridor

Lower Level 2 Freight Hoistway Opening

Stair from Level 1 Up to Level 2

Level 2 Office Space

Level 2 Office Space

Level 2 Corridor

Level 2 Typical Core Toilet Room

Level 2 Typical Toilet Room

Level 2 Freight Hoistway and West Fire Stair

Level 2 Pipe Distribution Between the Flooring and the Top of the Clay Tile Arch

Level 3 Office Space

Level 3 Office Space

Level 3 Corridor

Level 3 Office Space

Level 4 Office Space

Level 4 Office space

Level 4 Office Space

Level 4 Corridor

Level 5 West Fire Stair

Level 5 Office Space

Level 5 Office Space

Level 5 Office Space

Level 6 office Space

Level 6 Corridor

Level 6 Restroom. Note 2 Steps Up.

Level 6 Restroom

Level 6 Restroom

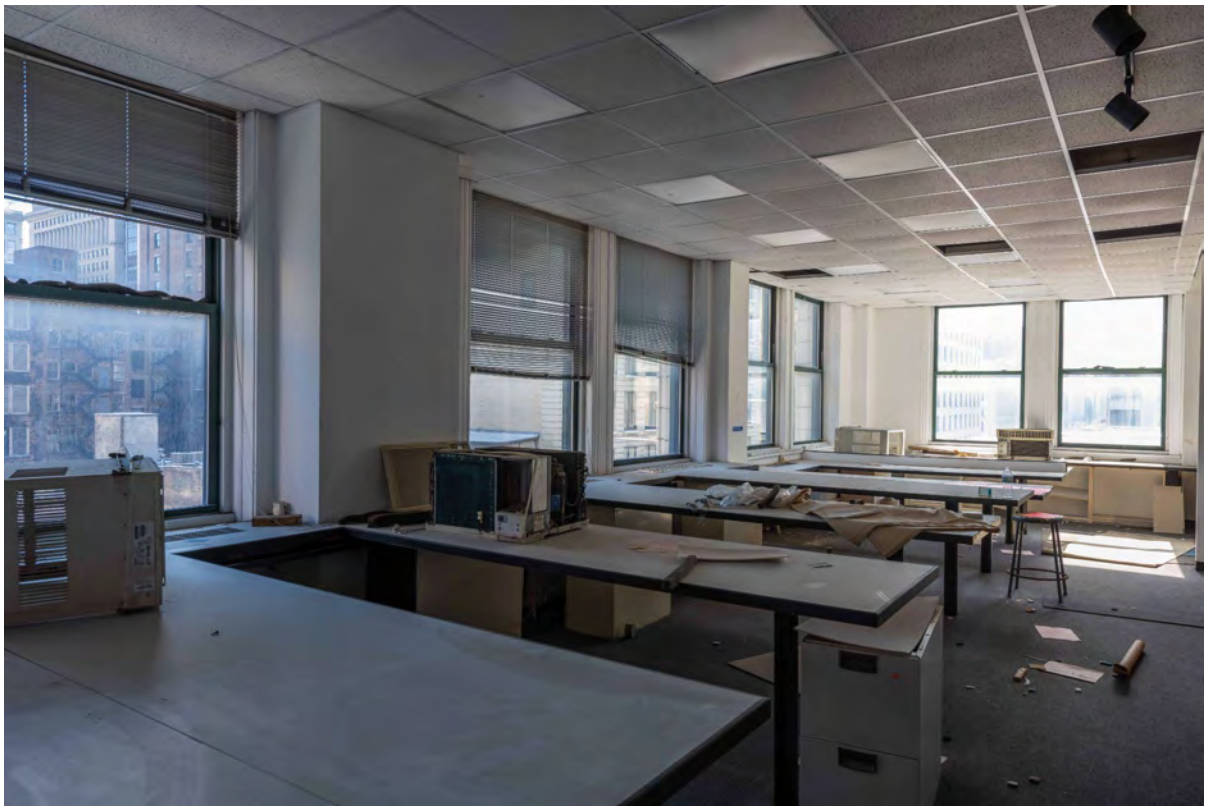
Level 6 Office SpaceLevel 6 Freight Elevator Hoistway

Level 7 Office Space

Level 7 Corridor

Level 7 Office Space

Level 7 East Stair



Level 8 Office Space

Level 8 Corridor

Level 8 Office Space

Level 8 Office Space

Level 8 Office Space

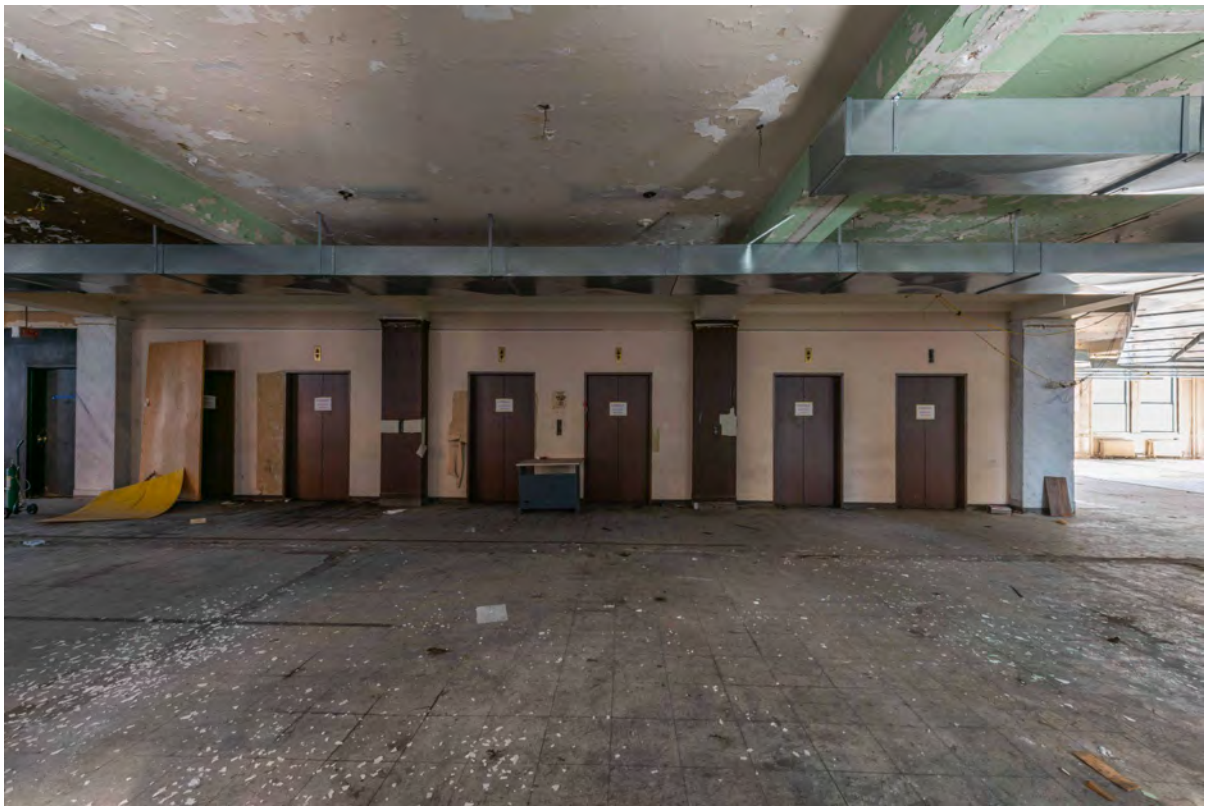
Level 9 West Stair

Level 9

Level 9

Level 9

Level 9 Flooring



Level 9 Elevators

Level 10 Office Space

Level 10 Office Space

Level 11 Office Space

Level 11 Office Space

Level 12 Office Space

Level 12 Office Space

Level 13 Office Space

Level 13 Office Space

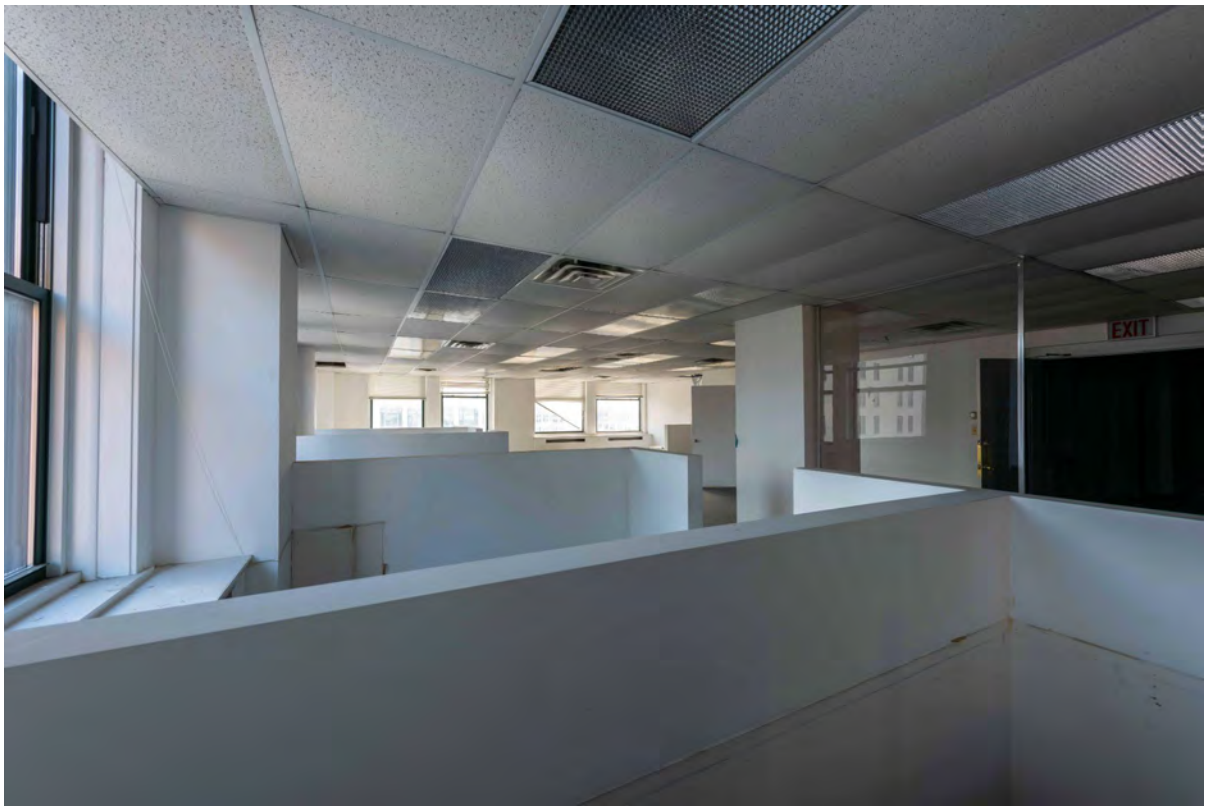
Level 13 Corridor

Level 13 Office Space

Level 14 Corridor

Level 14 Office Space

Level 14 Mechanical



Level 14 Office Space

Level 15 Office Space

Level 15 Office space

Level 15 going up to 16 West Stair

Level 16 Office space

Level 16 Office Space

Level 16 Office Space

Level 18 Office space

Level 18 Office Space

Level 19 Office Space

Level 19 Office Space

Level 19 Office space

Level 20 Office Space

Level 20 Office Space

Level 20 Office Space

Level 20 Office Space

Level 21 Office space

Level 21 Office Space

Level 21 corridor

Level 21 corridor

Level 22 Office space

Level 22 Office Space

Level 22 Mechanical

Level 22 Elevator Machine Room

Level 22 Under Roof

Historic

The previously issued June 30, 2009 Building Preservation Plan prepared by Johnson Lasky Architects is the reference for the scope of the defining elements of the building. This report is comprehensive in identifying the historic features and concerns for the building.

Environmental

Carnow, Conibear & Assoc., Ltd. (Carnow Conibear) was requested to perform a survey for asbestos-containing materials and lead-based paint at the vacant Federal Building located at 220 S. State Street in Chicago, Illinois.

The asbestos-containing material survey was conducted in several phases. The first phase included a review of available historic asbestos and lead-based paint. Next, an onsite walkthrough inspection to identify homogeneous areas (materials which are uniform in composition throughout) and to assess material condition was conducted. The final phase consisted of collecting representative bulk samples from each suspect material, analyzing representative samples for the presence of asbestos, and to quantify each confirmed asbestos-containing material.

Asbestos-containing materials identified at the subject sites include:

Drywall Joint Compound – approximately 6,000 linear feet located on the 12th floor

- 9”x9” (Brown, Beige, Tan, Red, White, Black, Green, and Blue) Floor Tile – approximately 91,000 square feet located at throughout the building
- Mastic associated with 9”x9” (Red, Black, and Gray) Floor Tile – approximately 3,850 square feet located on 5th, 7th, 9th, 14th, 17th, and 19th floors
- 12”x12” (Tan with Gray Streaks, Gray, and Black) Floor Tile – approximately 2,600 square feet located on the 3rd, 5th, 10th, 11th, 14th, and 15th floors.
- 12”x12” (Tan and Maroon) Floor Tile and associated Mastic – approximately 1,200 square feet located on 2nd floor Room 222
- Black Felt Paper beneath 12”x12” (Tan and Maroon) Floor Tile – approximately 1,200 square feet located on 2nd floor Room 222
- White Sink Undercoat – approximately 12 square feet located on the 6th, 17th, 19th, and 21st floors
- Black Sink Undercoat – approximately 6 six square feet located on the 7th and 8th floors
- Aircell Pipe Insulation and Pipe Fitting Insulation – Approximately 10,700 linear feet located throughout the building.
- HVAC Duct Insulation – approximately 8,100 square feet located in Basement 1 and Basement 2
- Fire Doors Insulation – approximately 125 square feet (5 doors) located in Basement 1
- Transite Electrical Paneling – approximately 2,000 square feet located on the Basement 3 East Room and 2nd Floor NW Corner Room 204
- Vault Door Insulation – approximately 30 square feet located in 4th floor Room 400.
- Black Gasket on Hot Water Tank – approximately 20 linear feet located at basement 2
- 1’x1’ Hex Ceramic Tile Grout – approximate 50,000 square feet located at hallways, stairwells, rooms, and bathrooms in the Basement and 2nd thru 21st floors

The lead-based paint survey consisted of visually inspecting the painted survey areas to determine representative paint histories and collecting random samples. The testing was limited to representative paint or surface coatings on building components at locations throughout.

The following lead-based paint is confirmed present:

- Metal Walls – painted gray and beige and located in the basement Boiler Room
- Plaster Walls – paint gray, beige, white, and green located throughout the building
- Plaster Ceiling – painted white and light gray located throughout the building
- Brick Wall – painted White and located in basement level 1
- Concrete Columns – painted white and located at various areas throughout the building
- Metal Doors – painted gray, beige, green, black located at various areas throughout the building
- Wood Doors and Door Frames – painted gray and located at various areas throughout the building
- Metal Guard Rail – painted yellow and located in the basement Boiler Room
- Metal Elevator Door – painted gray and located at elevators
- Metal Stair – painted gray and located in the basement boiler room
- Block Walls – painted brown and beige and located in basement level 3
- Metal Platform – painted beige and located in basement level 3
- Metal Hot Water Tank – painted black and located in basement level 2
- Concrete Floor – painted gray and located in basement level 2
- Metal Pipe – painted black and white and located at various areas throughout the building
- Metal Electrical Panel - painted black and red located at various areas throughout the building
- Metal Duct – painted beige and located at various areas throughout the building
- Metal Elevator Pulley – painted green and located on the 22nd floor Mechanical Room
- Metal Tank – painted black and located on the 22nd floor Mechanical Room

Carnow Conibear recommends incorporating this information into demolition or renovation documents regarding the presence and location of asbestos-containing materials and lead-based paint. All abatement activities shall be conducted by a licensed contractor in accordance with the Illinois Department of Public Health (IDPH), US EPA National Emissions Standards for Hazardous Air Pollutants (NESHAPS), and Occupational Safety and Health Administration (OSHA) regulations and requirements.

Cost Estimates

Provided separately