

# Thornton Tomasetti

Building Solutions

## Project

**The Century Building**  
**202 South State Street**  
**Building IL0318ZZ**  
**Chicago, Illinois**  
**2021 Critical Examination Report – East, North,**  
**and West Elevations**  
**TT Project No. C20178.00**

## Prepared For

United States General Services Administration  
Great Lakes Region 5

## General Services Administration

230 South Dearborn Street  
Chicago, Illinois 60604

## Prepared By

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- iii. **Appendix C: Temporary Stabilization Recommendations  
(not included here due to size restrictions, see website)**

## 1.00 EXECUTIVE SUMMARY

This is a report on the critical examination of the east, north and west exterior elevations of The Century Building located at 202 South State Street in Chicago, Illinois. The report is being submitted for compliance with Section 34 (13-196-031) through 34 (13-196-039) of the Municipal Code of the City of Chicago for the Maintenance of Exterior Walls and Enclosures Ordinance, and was prepared in accordance with the City of Chicago's ordinance dated November 12, 2007, and Rules and Regulations governing the examination of exterior walls and enclosures, effective as of March 1, 2016. This report and related project documentation shall be maintained in a permanent building file at the property.

Based upon Thornton Tomasetti's observations and close-up review, the facade appears to vary in condition from good to poor depending upon the element under consideration. No imminently hazardous conditions were present at the conclusion of the critical examination due to installation of temporary stabilization repairs. No immediate repairs are necessary at this time; however, there are a large number of repairs that are recommended to be completed within the next 12 months.

This building is classified by Thornton Tomasetti, Inc. (TT) as "Safe with a Repair and Maintenance Program" condition. The repairs recommended to be performed (refer to the Recommendations Section for more detailed explanations and timelines for repairs) include, but are not limited to:

- Reconstruction of the parapet walls
- Replacement of deteriorated steel cables and fist grips securing the terra cotta urns
- Repairs at the exterior walls
- Repointing of mortar joints
- Removal and replacement of failed sealant joints
- Commencement of a comprehensive window repair or replacement project
- Installation of durable repair materials at locations of temporary repairs

The 202 South State Street building has a permanent protective sidewalk canopy installed along State Street and Adams Street. This canopy provides adequate coverage along the sidewalks immediately adjacent to the building facades and was specifically designed to perform the function of a sidewalk scaffold; supplemental temporary canopies are not required along the State Street and Adams Street sidewalks at the date of this report.

This critical examination shall be considered to be submitted for the year 2021. The report and related project documentation shall be maintained in a permanent building file.

Should the Owner elect to submit the report to the City of Chicago, two copies of this report must be submitted to the address listed below along with the receipt of payment from the City of Chicago Department of Revenue. The \$75 filing fee payment must be made at the City of Chicago Department of Revenue prior to submitting the report. Two printed copies of the report should be submitted to the following address:

Department of Buildings  
Exterior Wall Program  
Attn: Allison Sullivan  
2045 W. Washington Blvd., 3<sup>rd</sup> Floor  
Chicago, Illinois 60612  
T 312.743.3522

## 2.00 INTRODUCTION

### 2.01 BUILDING CATEGORIZATION

The Rules and Regulations for the facade ordinance require that each building elevation be categorized based on the type of building components that are used for the facade. The categories determine when future examinations are required. The following are the definitions according to the regulations:

- Category I Buildings – those buildings constructed with exterior walls and enclosures that are primarily reinforced with, or are in direct contact with, non-corrodible metal.
- Category II Buildings – those buildings constructed with exterior walls and enclosures that are primarily reinforced with, or are in direct contact with: (i) corrosion resistant metal; or (ii) corrodible metal that is protected by flashing and corrosion-resistant metal anchors.
- Category III Buildings – those buildings constructed with exterior walls and enclosures that are primarily reinforced with, or are in direct contact with, corrodible metal.
- Category IV Buildings – those buildings constructed with exterior walls and enclosures that are primarily secured to the substrate by adhesive bond or with masonry headers.

The elevations at the 202 South State Street Building can be classified as Category III, because they are primarily reinforced with or are in direct contact with corrodible metals and have carbon steel shelf angles, lintels, and lateral ties. 202 South State Street is a vacant building. The Facade Ordinance requires that vacant buildings must have a critical examination submitted every four years, regardless of the Category (Rule 2.1). It shall be noted that TT was only engaged by the Client to perform an examination at the north, east, and west elevations.

Thornton Tomasetti, Inc. previously performed a critical facade examination of the building in 2015 and at that time classified the condition of the facade of the building as “Safe with Repair and Maintenance”. Thornton Tomasetti also performed a critical facade examination of the building in 2013 with the same classification of the facade.

### 2.02 CONTACT INFORMATION

#### A. ENGINEER

Name and business address of Professional preparing report:

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Associate Principal  
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## B. CONTRACTOR

Access, labor, rigging and restoration services were provided by:

Berglund Construction Company  
8410 S. South Chicago Avenue  
Chicago, IL 60617  
Telephone: 773-374-1000

## 2.03 GENERAL BUILDING INFORMATION

### A. BUILDING NAME AND ADDRESS

The Century Building  
202 South State Street  
Chicago, IL 60604

### B. NUMBER OF STORIES

15 stories, plus a 1-story mechanical attic with a 2-story mechanical penthouse

### C. PRINCIPAL BUILDING OCCUPANCIES

Floor 1 (Ground) through 15: Vacant

### D. OWNER'S AGENTS

Ms. Laura Rusiniak  
Property Manager  
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Lead Property Manager  
General Services Administration  
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Chicago, Illinois 60604  
Telephone: 312.353.2846

### E. BUILDING HEIGHT

Approximately 202 feet

### F. PLAN DIMENSIONS

Approximately 44 feet (North and South) by 102 feet (East and West)

### G. BUILDING AGE

Approximately 106 years old; constructed circa 1915.

## H. BUILDING DESCRIPTION

The Century Building, also referred to as the 202 South State Street building (Photos 1 through 4), was designed by the Chicago-based architecture firm Holabird and Roche Architects in 1915. The building is a 15-story structure constructed with steel structural framing and clad in historic terra cotta on the north and east elevations and brick masonry on the south and west elevations. The building is bound by Adams Street to the north, State Street to the east, and 3-story buildings to the south and west. Refer to the Site Plan shown in "Part I" below.

The steel structural framing includes the use of rolled shapes and built-up shapes created by riveting steel angles and plates together for the columns and beams, typical of early steel construction. The exterior masonry is typically supported at each floor level by steel angles which are riveted back to the structural steel.

While the proportions of the building are somewhat typical of the "Chicago School of Architecture," which was popular between the late 19th century and the 1920s, the strong vertical emphasis of the facade elements is an early example of the Art Deco movement of the 1920s. Chicago School skyscrapers were typically divided vertically into proportions that resemble the three parts of a classical column. For the Century Building, the first three stories function as a base, the fourth through the 13th floors act as the shaft of the column, and the top two floors, which were originally topped with an ornamental cornice, represent the capital of the column. The upper portion of the original cornice was removed at an unknown date.

Elements of Neo-Manueline ornamentation, a historic Portuguese style, are evident by the intricate ornamentation including shields, knights, serpents, lanterns, and botanical motifs. This is evident on the primary or street elevations of the building, which are adjacent to Adams Street (north elevation) and State Street (east elevation) which are clad with terra cotta. At the primary elevations, architectural elements include ornamented spandrel panels, fluted columns, and vertical mullions. Spandrel panels are typically comprised of miniature twisting vertical columns. At the fourth floor, heavily ornamented spandrel panels depict a knight and shield flanked with botanical motifs. While typically recessed, the 13th and 14th floor spandrel panels project forward to become flush with the face of the columns. The tall parapet wall is clad with various elements of ornamentation including miniature columns, lanterns, serpents, and botanical motifs. The uppermost, projecting portion of the historic terra cotta cornice has been removed. The remaining portion of the parapet is now capped with a metal coping.

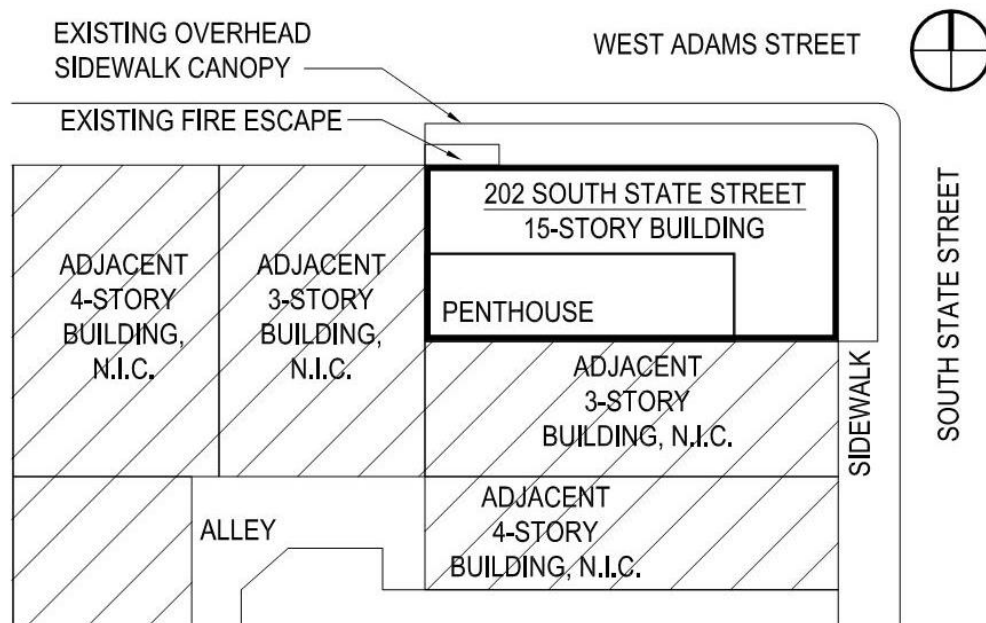
The south and west elevations of the building are the secondary elevations and are clad mainly with brick masonry. A cream face brick forms a grid pattern at the upper floors of the south elevation. One ashlar course of terra cotta and terra cotta coping units cap the parapet walls. No window, door or other openings exist on these two elevations. Terra cotta is used to ornament the chimney.

At the north and east elevations, the windows at the third floor are historic wood Chicago-style windows with a large center fixed pane flanked on either side by an operable double hung window. At floors four through fifteen, the punched openings are infilled with historic wood double hung windows. A fire escape exists at the westernmost bay of the north elevation, starting at the 2nd floor with landings at each floor and stopping at the attic floor. The windows and doors at the fire escape are steel framed with wired glazing. Within each bay, narrow terra cotta mullions run continuously from the third floor windowsill to the fifteenth floor window head.

Through the years the building facade has undergone several alterations, the most significant being the removal of the uppermost portion of the terra cotta cornice and significant renovations to the first and second floor facade. The first floor is clad with a metal storefront system. The second floor is clad with black granite panels, which have been covered with a metal storefront system with decorative panels.

Other changes have included, but are not limited to, the following: terra cotta repairs, terra cotta removal and replacement with various types of brick or plywood or painted metal, and other maintenance items. In 2008, a permanent sidewalk canopy was installed on the north and east elevation to protect pedestrians from potential fall hazards. Specific dates when the other modifications and repairs occurred are unknown. In both 2013 and 2015, limited temporary stabilization repairs were performed at the east elevation and the east end of the north elevation. Additional temporary stabilization repairs were performed in 2016 and 2017 throughout the north, west, and south elevations. As part of the 2020 to 2021 Critical Examination, temporary stabilization repairs were performed at the north, east and west elevations.

## I. SITE PLAN





## 3.00 EXAMINATION

### 3.01 DOCUMENT REVIEW

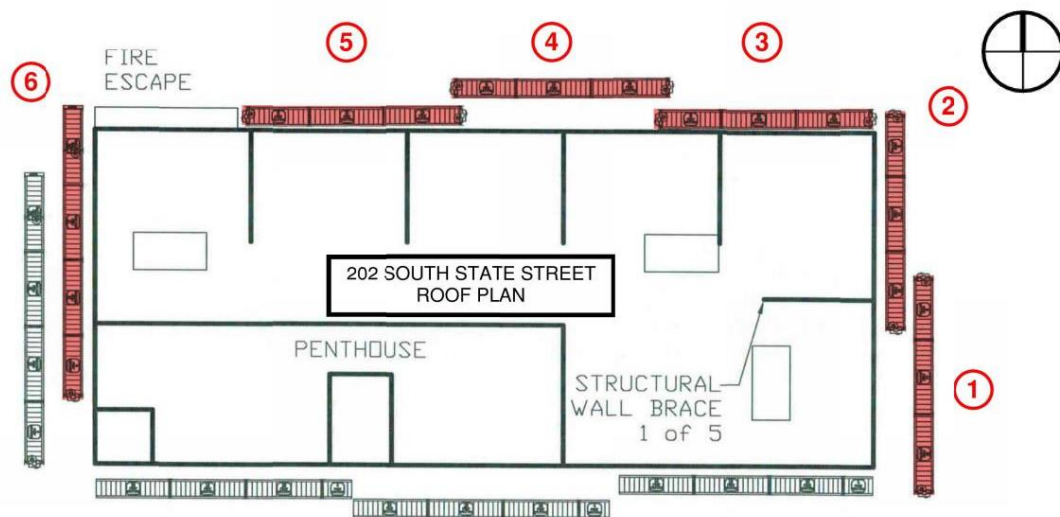
TT requested that the Owner provide any available drawings and facade-related reports for review. The following is a list of the documents reviewed:

- “2015 Critical Examination Report for The Century Building, 202 South State Street, Chicago, Illinois,” dated October 30, 2015, and prepared by Thornton Tomasetti, Inc.
- “2013 Critical Examination Report for The Century Building, 202 South State Street, Chicago, Illinois,” dated December 1, 2013, and prepared by Thornton Tomasetti, Inc.
- Partial set of the original building drawings for "Buck and Rayner Buildings, S.W. Corner of State and Adams St., Chicago, Illinois," dated November 28, 1914, and prepared by Holabird and Roche Architects.

### 3.02 PHYSICAL EXAMINATION PROCEDURES

The examination involved accessing the facade from suspended “swing-stage” scaffolds provided by the contractor. The east, north, and west elevations were inspected from numerous full-height “drops” from the swing-stage scaffold to visually cover approximately 100% of those elevations, including the fire escape (refer to Drop Plan below). Each “drop” location was performed from the parapet to the canopy level at the bottom of the second floor. Additionally, Thornton Tomasetti walked the fire escape to perform observations of the façade and the fire escape structure. Most site visits were performed from September 2020 through January 2021 with an additional drop at the west elevation performed in June of 2021. Additional observations were made from the ground level through December 2021. Documentation consisted of photographic images, field notes, and sketches.

#### DROP PLAN



Thornton Tomasetti's observations were limited to up-close visual inspections performed at arm's length with the aid of hammer or mallet devices utilized for sounding terra cotta. No destructive material testing was performed.

New individual probe openings were not performed as a part of this Critical Examination. However, the backup conditions at locations of previously removed terra cotta units were observed. Refer to Exploratory Probe Openings Section 3.04 herein for observations. Temporary stabilization repairs were implemented at areas of the building found to be critical in regard to condition and safety. Refer to the Stabilization Repairs Section 3.05 herein.

### **3.03 BUILDING FACADE DESCRIPTIONS AND OBSERVATIONS**

The following is a brief description of the building's east, north, and west facade components along with TT's observations (refer to Appendix A for representative photographic documentation and Appendix B for elevation drawings). Refer to Section 3.05 for a discussion of locations that were temporarily stabilized during the critical examination and are in need of permanent repairs. Repair recommendations are discussed in Section 4.0 Recommendations.

#### **A. TERRA COTTA**

Terra cotta is used to clad the east and north elevations. Specific observations are listed below and grouped by type of element, i.e., lower portion of the original cornice, spandrel panels, continuous mullions, and columns. The upper portion of the original terra cotta cornice has been previously removed and the remaining wall is capped with a metal coping. In general, deterioration of the components has progressed at an increased rate since the 2015 Critical Examination due to the lack of a comprehensive repair and maintenance program. At the conclusion of observations at each vertical "drop" location, temporary stabilization repairs were provided by Berglund at areas of noted new distress, which are further discussed in Section 3.05, with the exception of the facade adjacent to the fire escape. TT understands temporary stabilization repairs will be addressed as a separate project.

##### **1. Lower Portion of Original Cornice**

Above the 15th floor windows, much of the original terra cotta below the original cornice and on the parapet wall remains. The wall is constructed with terra cotta cladding at the exterior face with a common brick masonry backup wall. The common brick is discussed below. The heavily decorated terra cotta is typically cream in color, but the recessed elements are accented with a green colored glaze. Elements include urns, miniature columns, and lanterns (Photo 5). The terra cotta in this area is generally in poor condition.

Bowing, displacement, and cracking was observed throughout the lower portion of the cornice. Widespread open joints between units were observed.

Large terra cotta urns top each column (Photo 6). Bowing, displacement, and cracking was observed at these locations. Widespread open joints between units

were observed. Previous stabilization repairs include wire cables, which wrap the urns and are drilled through the full thickness of the parapet wall.

Some of the terra cotta elements have been previously removed and covered with aluminum sheeting. At some locations, a cementitious patch material has been applied to locations of removed terra cotta. The patch material is typically in poor condition. Additionally, previous repairs include installation of pins and crack repairs. Newer hairline and wider cracks were observed at previous repairs and new locations since our last close-hand review (Photo 7). Numerous previous crack repairs have sustained adhesive failure. Spalling was observed at isolated locations (Photo 8). Small areas of loose material were removed, and the area sealed as a part of this critical examination project (Photo 9). Failed sealant material, cracked and weathered mortar joints, open mortar joints, and voids in the joints were observed across the parapet. Additionally, widespread rust-colored staining was observed across terra cotta elements throughout the parapet.

The metal coping units are corroding but appear to be securely anchored (Photo 10). Sealant materials are in poor condition.

## 2. Spandrel Panels

Spandrel panels are present below each window opening. The spandrels consist of a windowsill course, a decorative middle course, and a window head course. Spandrel terra cotta units are a deep green color and are typically recessed behind the columns. The decorative course typically consists of miniature columns, with an egg-and-dart capital and a twisting shaft, and fluted elements. At the fourth floor, heavily ornamented spandrel panels depict a knight and shield flanked with botanical motifs (Photo 11). At the 13th and 14th floors, the spandrels project forward to be flush with the face of the columns. At these floors, the spandrels also include heavily decorated elements (Photo 12).

The sill and center course of the spandrel construction tend to be in good to fair condition, while the window head course tends to be in fair to poor condition.

The window head units are severely cracked at most floors throughout the east and north elevations. Previous stabilization repairs include crack repairs at all floors and the installation of horizontal metal channels to support the hung units of the attic and 15th floors. Newer cracks and the widening of previous cracks was commonly observed on the underside of window head units now supported by the horizontal metal channels (Photos 13 and 14). Widespread corrosion was observed throughout the horizontal metal channels previously installed at the window head units of the uppermost floors. At the other floors, varying degrees of distress are typically evident, including previously spalled terra cotta material, repaired cracks, newer hairline cracks, and newer large cracks (Photos 15 through 18). At some locations, previous repair efforts included the installation of stainless steel straps to secure window head units. At some windowsill locations, the "nose" portion was observed to be cracked or spalled. A few of the spandrel units were observed to be slightly displaced.

Mortar joints were observed to be cracked, open, or otherwise failed. Skyward facing joints were often observed to be failed and open in most locations (Photos 19 and 20).

### 3. Continuous Mullions

These mullions run continuously from the third floor windowsill to the head of the 15th floor window. The vast majority of the mullion units have been removed and covered with aluminum sheeting.

The aluminum sheeting appeared to be securely installed; however, some of the anchorage is ferrous metal, which has continued to corrode causing the anchors to become brittle. A few anchors appeared to be slightly disengaged from the substrate (Photo 21). The sealant along the sheeting is in poor or failed condition.

Where the mullion units are still intact, primarily at the 3rd floor, the terra cotta is typically in fair-to-poor condition (Photo 22). Mortar joints were typically observed to be in poor condition.

### 4. Columns

The columns are clad with fluted terra cotta panels flanked by narrow ashlar units at the edges. It appears that “quarter round” units originally provided the transition from the columns to the window openings; however, these have been removed and covered with aluminum sheeting.

The column components adjacent to the fire escape are deteriorating at an accelerated rate due to the lack of repairs and maintenance.

The aluminum sheeting appeared to be securely installed; however, some of the anchorage is ferrous metal, which has begun to corrode causing the anchors to become brittle. A few anchors appeared to be slightly disengaged from the substrate. The sealant along the sheeting is also in very poor condition.

In general, the terra cotta units at the columns are in fair condition. Previous repairs included the removal of a few deteriorated units and replacement with an alternate material (brick masonry, plywood, or aluminum sheeting) (Photo 23), pinning stabilization, and crack repairs. Newer cracks were observed mainly at the ashlar units and typically in the vertical direction. Small, isolated incipient spalls were removed and sealed as a part of the critical examination (Photos 24 through 26). At various locations adjacent to steel fire escape supports, extensive cracking and spalled terra cotta was noted.

Mortar joints are in fair-to-poor condition, and sealant used in previous repairs is in poor condition.

## 5. Mortar and Sealant Joints

As discussed above, the skyward facing joints were found to have further deteriorated sealant or mortar materials (Photo 27). A variety of generations of mortar and sealant was observed in the joints. Most joints have some degree of deterioration.

Mortar joints on horizontal surfaces, specifically at the cornice, windowsills, and door sills were found to be opened and cracked (Photo 28). The remainder of the joints are aged with some deterioration.

## B. BRICK MASONRY

Typical deterioration of the brick masonry has progressed since the 2015 Critical Examination due to the lack of a comprehensive repair and maintenance program. At the conclusion of observations at each vertical “drop” location, temporary stabilization repairs were provided by Berglund at areas of noted new distress, which are further discussed in Section 3.05, with the exception of the facade adjacent to the fire escape. TT understands temporary stabilization repairs will be addressed as a separate project.

At isolated locations across the north and east elevations, brick masonry was used to replace terra cotta units (Photo 29). In general, these areas of brick masonry are in fair condition, with some cracks in the brick units and mortar joints.

At the southeast corner of the building, brick masonry has been used to reconstruct a portion of the parapet wall. The glazed surface of the brick has deteriorated, and surface spalls of the brick were noted. Observations at the roof level confirmed failed roof flashing and deteriorated roofing materials.

The west elevation, constructed of brick masonry, was observed to be in generally fair to poor condition. At numerous locations, medium to large areas of severely weathered brick was observed throughout the elevation (Photos 30 through 32), with severely eroded mortar joints noted throughout the northern half of the elevation and throughout the 12th floor (Photo 33). This condition was exacerbated due to a failure in the roof drain piping, which is embedded in the masonry at the building’s northwest corner. That failure allowed an excessive amount into the masonry construction. The Owner has since repaired the failure.

The roof side of the parapet wall is constructed of common brick masonry. The common brick is in extremely poor condition. Various generations of coating and cementitious parge coatings have failed. The brick and mortar show signs of significant weathering and erosion.

The steel columns extend up above the roof level to provide support for the parapet wall. These columns are encased in common brick pilasters along the parapet wall. The brick pilasters are severely cracked and in some locations the brick was missing completely. These conditions allow water to enter directly into the parapet wall. Visible portions of the steel columns and steel connections were observed with severe corrosion (Photo 34).

## C. STOREFRONT AND GRANITE CLADDING

The first floor is clad with a metal framed, fixed storefront system. The second floor is clad with granite panels, most of which have been covered with a metal storefront system with decorative Panaflex panels.

Typical deterioration of the components has progressed since the 2015 Critical Examination due to the lack of a comprehensive repair and maintenance program. The storefront systems appear to be in fair condition with failed sealants being the most commonly observed type of deterioration.

## D. FIRE ESCAPE STRUCTURE

TT walked the fire escape to document the condition of the facade in order to develop temporary stabilization repair recommendations and to review the condition of the steel fire escape in order to develop repair recommendations as part of a separate project. The fire escape structure itself is outside of the scope of this report, and our full recommendations for repair have been provided in a separate budget pricing document.

In general, TT observed deteriorated or failed coatings and extensive corrosion through the fire escape structure. TT noted a wide range of deterioration at select components, including missing or failed anchors and significant section loss at components that do not drain water well, such as posts and inverted angles. Loose components were removed or secured by the Contractor as a part of the Critical Examination.

## E. WINDOWS

At the third floor, historic wood Chicago-style windows exist. At floors four through fifteen, historic wood double hung windows exist, except at the fire escape. Along the fire escape at the north elevation, steel-framed windows and a steel egress door exist.

Deterioration of the components has progressed since the 2015 Critical Examination due to the lack of a comprehensive repair and maintenance program. The exterior paint coating has worn away with time, leaving the wood and steel exposed to the weather. The wood components; including but not limited to, the sashes, frames, and glazing are in very poor condition (Photo 35). It is unknown if any of the units are still operable. Glazing putty is in poor condition and is failed at many locations. Perimeter sealant joints were observed to be in poor condition. The sealant joints of these windows are cracked and debonded and are past their serviceable life (Photo 36). Steel windows and doors have begun to corrode to varying degrees. Cracked glass was not observed during our site visits.

## F. MORTAR JOINTS

Mortar joints have been mentioned above as they relate to the respective component; general notes on the condition of the mortar are noted here.

Deterioration has progressed since the 2015 Critical Inspection due to the lack of a comprehensive repair and maintenance program. Mortar joints in general were found to

be largely deteriorated (Photo 37). Areas where significant cracking and damage exist are more susceptible to water infiltration and thus an accelerated rate of deterioration.

## **G. SEALANT JOINTS**

Sealant joints have been mentioned above as they relate to the respective component; general notes on the condition of the sealants are noted here.

Deterioration has progressed since the 2015 Critical Inspection due to the lack of a comprehensive repair and maintenance program. In general, most areas have aged sealant, resulting in cracking, debonding, or holes in the sealant. Sealants in the horizontally exposed joints at windowsills are in poor condition. Overall, sealants are past their service life.

## **3.04 EXPLORATORY PROBE OPENINGS**

A probe opening is defined per the City of Chicago Rules and Regulations for Exterior Wall Maintenance as “examination of the substrate of typical wall areas with no externally visible distress.” The regulations state that no less than one inspection opening per elevation shall be required for buildings that meet all three of the following criteria:

- The building is fifty (50) years or older;
- Component and cladding of the building is comprised of masonry, stone, or terra cotta;
- The material is affixed to the building with concealed corrodible or corrosion-resistant metal fasteners.

The east and north elevation at The Century Building meets the above criteria; however, new probe openings were not created as part of this critical examination report. In lieu of new openings, TT reviewed the backup conditions at numerous locations of previously removed terra cotta to better understand the construction and conditions of the building. The Contractor removed previous existing plywood or metal coverings to allow for TT’s review. Below is a review of observations made at each exploratory opening:

- Exploratory opening at 7th floor, East Elevation: Existing plywood covering at previously removed terra cotta was removed over an existing steel column. The built-up steel column and some components of the connections to steel spandrel beams were observed with minor surface corrosion (Photos 38 and 39). Conditions do not appear to have significantly changed since the 2015 Critical Examination.
- Exploratory opening at 4th floor, North Elevation: Existing plywood covering at previously removed terra cotta was removed at a mullion passing over a spandrel beam. The bottom flange and portions of the web of the steel built-up spandrel beam were observed with minor to moderate surface corrosion. Steel hanger rods, originally part of the terra cotta mullion construction, were observed with minor to moderate section loss due to corrosion (Photos 40 and 41). Conditions do not appear to have significantly changed since the 2015 Critical Examination.



- Exploratory opening at 5th floor, North Elevation: Two plywood coverings at previously removed window header units were removed along the bottom flange of the existing steel built-up spandrel beam (Photos 42 and 43). At both openings, the steel was observed with minor to moderate surface corrosion. Conditions do not appear to have significantly changed since the 2015 Critical Examination.
- Exploratory opening at 8th floor, North Elevation: Existing plywood covering at previously removed terra cotta was removed over an existing steel column. The built-up steel column was observed with minor surface corrosion (Photo 44). Conditions do not appear to have significantly changed since the 2015 Critical Examination.
- Exploratory opening at 13th floor, North Elevation: Existing plywood covering was removed over two existing window headers (Photo 45). At this opening, the underside of the steel built-up spandrel beam and the underside of a steel shelf angle were observed with moderate surface corrosion along with minor section loss due to corrosion. Additionally existing J-bolts that previously supported a steel rod passing through the window header units were observed with extensive surface corrosion. Evidence of water infiltration was also noted along the edge of the shelf angle (Photos 46); however, conditions do not appear to have significantly changed since the 2015 Critical Examination.
- Exploratory opening at the attic floor, North Elevation: Two separate plywood coverings were removed over existing window headers at ends of spandrel beams of the attic floor (Photos 47 through 50). Steel elements that were observed with extensive surface corrosion and rust jacking include the spandrel built-up bottom flange, shelf angle, J-bolts, and hanger rods. Unlike other openings, the steel elements in this opening contained lesser to no amounts of original paint due to the widespread surface corrosion present.

### 3.05 TEMPORARY STABILIZATION REPAIRS

In conjunction with the critical examination, temporary stabilization repair work was performed by the Contractor between September 2020 and June 2021, with the exception of the facade adjacent to the fire escape which TT understands will be completed as part of a separate project.

Refer to Appendix C for a complete list of locations and stabilization repair recommendations. Commencement of permanent repairs should begin in 2022, or measures taken to inspect them in 2022 unless otherwise specifically stated. The most critical areas that were stabilized during the facade evaluation include the following:

#### A. EAST ELEVATION

At the parapet, several cracked terra cotta units were routed and sealed or removed all together if unsound. Additionally, remaining areas around the removed terra cotta, were covered with stainless steel wire mesh anchored to adjacent sound material. Terra cotta header units with cracks on the underside, were also covered with stainless steel wire mesh anchored to adjacent sound material at multiple windows of the 14th and 13th floors.



At each floor between the attic floor and 3rd floor, typical localized stabilization repairs include routing and sealing cracked terra cotta, pointing or sealing upward facing mortar joints, and replacing existing plywood coverings on both spandrel beams and columns. Isolated locations of spalled and/or loose terra cotta were removed and covered with sealant with new plywood covering provided at larger spalls. These locations occurred at the following floors: 15th, 14th, 12th, and 9th through 3rd floor. Additionally, disengaged anchors at the metal cladding were replaced.

## **B. NORTH ELEVATION**

One decorative urn at the parapet was covered in stainless steel wire mesh anchored to adjacent sound material due to observed cracking around the middle portion of the urn. The horizontal metal channels that were previously added to support the hung units of the attic floor, were cleaned and re-painted due to the moderate surface corrosion typically observed throughout the north elevation. Terra cotta header units with cracks on the underside, were also covered with stainless steel wire mesh anchored to adjacent sound material at multiple windows of the 15th through 13th floors. Supplemental pins or stainless steel straps were installed at cracked header units at the 15th through 13th floors and the 5th through 3rd floors.

Similar to the east elevation, each floor between the parapet wall and 3rd floor, typical stabilization repairs include localized routing and sealing cracked terra cotta, repointing upward facing mortar joints, and replacing existing plywood coverings on both spandrel beams and columns. Isolated locations of spalled and/or loose terra cotta were removed and covered with sealant with new plywood covering provided at larger spalls. These locations occurred at the following floors: 15th through 11th, 9th, 8th, 4th, and 3rd floors. Additionally, disengaged anchors at the metal cladding were replaced.

## **C. WEST ELEVATION**

The widespread eroded mortar joints throughout the west elevation were ground and repointed. Concentrated areas include the north end of the west elevation, the 12th floor, and the 6th floor. At numerous locations patches of severely deteriorated brick were replaced, which occurred throughout the 14th, 10th, 9th, and 8th floors.

## **4.00 RECOMMENDATIONS**

The following is a summary of TT's recommendations based on observations during the critical examination. Recommendations are organized into the following prioritized conditions, based on the City of Chicago Facade Ordinance. A definition of each condition based on the City of Chicago Rules and Regulations for Exterior Wall Maintenance is included, as follows:

- Unsafe and Imminently Hazardous Condition – a condition in an exterior wall or enclosure that has no reliable means of structural support, and that is dangerous to people or property.
- Safe with a Repair and Maintenance Program Condition – a condition in an exterior wall and enclosure that is considered by the professional not to be in an "Unsafe and Imminently Hazardous Condition" at the time the critical examination is performed, but

requires repair and maintenance within a time period designated by the professional in order to prevent its deterioration into an "Unsafe and Imminently Hazardous Condition."

- Safe Condition – a condition in an exterior wall and enclosure that exhibits neither an "Unsafe and Imminently Hazardous Condition" nor a "Safe with a Repair and Maintenance Condition" at the time of the critical examination.

#### 4.01 UNSAFE AND IMMINENTLY HAZARDOUS CONDITIONS

Any imminently hazardous conditions that were observed at the east and north elevations throughout inspections of the critical examination, were removed or stabilized when encountered. These conditions were limited to spalled and/or loose terra cotta observed. No imminently hazardous conditions were observed at the west elevation.

#### 4.02 SAFE WITH A REPAIR AND MAINTENANCE PROGRAM CONDITIONS

The east, north, and west elevations can be considered to be in a "Safe with a Repair and Maintenance Program" condition. During the course of the examinations, TT observed the following conditions that, in TT's opinion, were safe with a repair and maintenance program. These recommended long-term repairs shall be implemented within the time frame shown below. If this cannot be accomplished, TT recommends that a program of close-up examinations and temporary repairs be implemented within the time frame shown below.

##### A. TERRA COTTA

###### 1. Urns

At a minimum, replacement of deteriorated steel cables and fist grips securing the terra cotta urns at the top of the columns should be completed within the next year. TT recommends that urns be removed, steel support elements replaced with new, and the urns reinstalled within the next 2 years.

###### 2. Lower Portion of Original Cornice

TT recommends reconstruction of the remaining original cornice within the next 12 months. Most terra cotta units appear to be in a salvageable condition and could be restored and reinstalled with a new backup wall.

###### 3. Spandrel Panels

TT recommends repointing of mortar joints and replacement of sealant at skyward facing joints and at other locations within the next 12 months. TT also recommends replacement of temporary patch materials such as plywood and metal infill pieces with more durable repair material within the next 12 months. Distressed units (particularly adjacent to metal embedment locations) are recommended to be repaired within the next 12 months. It should be anticipated that replacement may be likely at some units.

TT recommends that severely cracked terra cotta units be replaced. In conjunction with that work, underlying conditions (such as corroded steel structural elements) are

recommended to be repaired as well. This work is recommended within the next 12 months.

#### **4. Continuous Mullions**

TT recommends repointing of mortar joints and replacement of sealant at skyward facing joints and at other locations within the next 12 months. TT also recommends that the anchors for the aluminum sheeting be reviewed every 2 years and replaced as necessary.

#### **5. Columns**

TT recommends repointing of mortar joints and replacement of sealant at skyward facing joints and at other locations within the next 12 months. Replacement of temporary patch materials such as plywood and metal infill pieces with more durable repair material are recommended within the next 12 months. Distressed units (particularly adjacent to metal embedment locations) are recommended to be repaired within the next 12 months. TT also recommends the anchors for the aluminum sheeting be reviewed every 2 years and replaced as necessary.

Severely cracked terra cotta units are recommended to be replaced. In conjunction with that work, TT recommends that underlying conditions (such as corroded steel structural elements) be repaired as well. This work is recommended within the next 12 months.

#### **6. Mortar and Sealant Joints at Terra Cotta Elements**

TT recommends that mortar joints be repointed, and existing sealant joints be replaced within the next 12 months.

### **B. BRICK MASONRY**

TT recommends replacement of isolated spalled face brick at the east facade within the next 12 months. At the east and north parapet walls, the brick masonry is recommended to be completely reconstructed along with the terra cotta components. TT recommends structural repairs to the associated steel structure be completed at the same time. At the west elevation, reconstruction of deteriorated portions of or voids in the brick masonry at the facade and the roof side of the parapet walls are recommended within the next 12 months.

### **C. STOREFRONT AND GRANITE CLADDING**

TT recommends replacing sealant and mortar joints at the store front system and at the granite cladding within the next 2 years.

### **D. WINDOWS**

TT recommends a phased repair program be developed and implemented over the next 2 years. Until such time a program is completed, TT recommends the historic wood windows be closely monitored on an annual basis. TT recommends deteriorated or failed wood components be replaced in the next six months. Failed sealants are recommended to be replaced within the next 12 months.

## **E. MORTAR JOINTS**

TT recommends mortar joints not specifically discussed above be repointed within the next 12 months.

## **F. SEALANT JOINTS**

TT recommends sealant joints not specifically discussed above be replaced within the next 12 months.

### **4.03 ADDITIONAL RECOMMENDATIONS**

The following items will help the long-term durability of the building facade and would be a more durable program treatment selection:

#### **A. MAIN ROOF**

Although the roof is generally outside of the scope of a Critical Examination, current failures in the roof system are a source of water infiltration into the building and façade elements. The previously observed deterioration of the roof system has worsened since 2015, and TT continues to recommend that repairs be performed. Water ponds in large areas on the roof. Implementing repairs or replacement to roofing components will add years of serviceable life to the structure if implemented with other recommended parapet repairs. TT recommends replacement of the roofs at the upper two mechanical penthouses and repair of the main roof, including proper flashings and terminations within the next 12 months.

#### **B. REPLACEMENT TERRA COTTA**

Beyond the repair recommendations above, it would give the facade more years of serviceable life if previous infill areas that are in poor condition are removed and replaced with new terra cotta units.

#### **C. PENTHOUSES**

The Owner reported that no repairs have been performed since the 2015 critical examination. TT recommends that corroded steel lintel angles and other steel elements be replaced, and distressed brick removed and reconstructed at the exterior walls of the penthouses within 12 months.

#### **D. CHIMNEY**

The Owner has reported that no repairs have been performed since the 2015 critical examination. TT recommends that repairs be performed, and TT recommends that close-up observations of the chimney and repair work be completed within the next 12 months.

### **4.04 FUTURE EXTERIOR EXAMINATIONS**

Based on the current Facade Ordinance, the following examinations are required by the Facade Ordinance and recommended by TT to be completed:

## **A. ONGOING FACADE EXAMINATIONS**

Required every 2 years in between the 4 year requirement of critical examinations, and are due by November 1. Provided that 202 South State Street building is vacant, ongoing inspections cannot be performed every two years in lieu of a critical examination.

## **B. CRITICAL FACADE EXAMINATIONS**

Required every 4 years because the building is vacant (Rule 2.2). The next critical examination will be due four years from the due date of this examination.

## **C. ARCHITECTURAL AND STRUCTURAL IRON INSPECTION**

TT performed observations of the fire escape in 2021; however, we were not retained to complete a City of Chicago Architectural and Structural Iron Inspection Report. This Report is required every 5 years by City ordinance. It is not known when the last report was prepared for the City of Chicago. Because of this, TT recommends completing a report as soon as practical.

## **5.00 LIMITATIONS AND SIGNATURES**

1. This report shall not be construed to warrant or guarantee the building and/or any of its components under any circumstances. Thornton Tomasetti, Inc. (TT) shall not be responsible for latent or hidden defects that may exist, nor shall it be inferred that all defects have been either observed or recorded.
2. This report is based upon information obtained from visual observations of representative items made at the time of TT's site visit(s) and from TT's review of the information available at the time. TT's findings and conclusions are subject to change based upon the receipt of additional or updated information.
3. Conditions noted in this report are as of the time of examination only. It can be expected that the subject building will undergo changes and additional deterioration subsequent to that date.
4. TT's visual observations include no specific knowledge of concealed construction or subsurface conditions at the subject property. Comments pertaining to concealed construction or subsurface conditions are professional opinion of TT based on relevant experience, judgment and current standards of practice, however the actual concealed conditions at the subject property may vary from TT's expectations.
5. TT's professional services have been performed in accordance with the standards of skill and care generally exercised by other professional consultants acting under similar circumstances and conditions at the time the services were performed. TT's findings, conclusions and opinions are based on TT's review of the available documents, visual observations, professional experience, and sound investigation practices. No other warranty, expressed or implied, is made as to the findings presented in this report.

6. This report has been prepared by TT at the request of its Client and is exclusively for its Client's use. This report is not intended for use by any third parties and no third party has any right to rely on any of the analysis or conclusion set forth herein. No responsibility or liability to any third party is accepted for any loss or damage whatsoever arising out of the use of or reliance on this report by any third party.
7. This report has been prepared by TT at the request of its Client and is exclusively for its Client's use for the sole purpose of assisting the Client with meeting its obligations under the City of Chicago Facade Ordinance, and not for any other purpose.
8. Without limiting any of the above, TT's liability, whether under the law of contract, tort, statute, equity or otherwise, is limited as set out in the terms of TT's engagement with the Client.

A copy of this report has been given to the owner/agent of the building, and the owner/agent has been informed of all the observed conditions requiring maintenance and repair work.

This report was prepared under the direction of Rachel Michelin, AIA, LEED AP BD+C, Associate Principal of Thornton Tomasetti, 330 North Wabash Avenue, Suite 1500, Chicago, IL 60611, Telephone: 312.596.2000.

Respectfully submitted,

**THORNTON TOMASETTI, INC.**



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Tara Toren-Rudisill  
Senior Associate



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Rachel Michelin, AIA, LEED AP BD+C  
Associate Principal



SEAL

Expires: November 30, 2022

**Appendix A: Photographic Documentation**



# Thornton Tomasetti



**Photo 1.** Historic rendering of building circa 1920 (202 South State and 220 South State beyond).



**Photo 2.** East and north elevations.



**Photo 3.** West and north elevations.

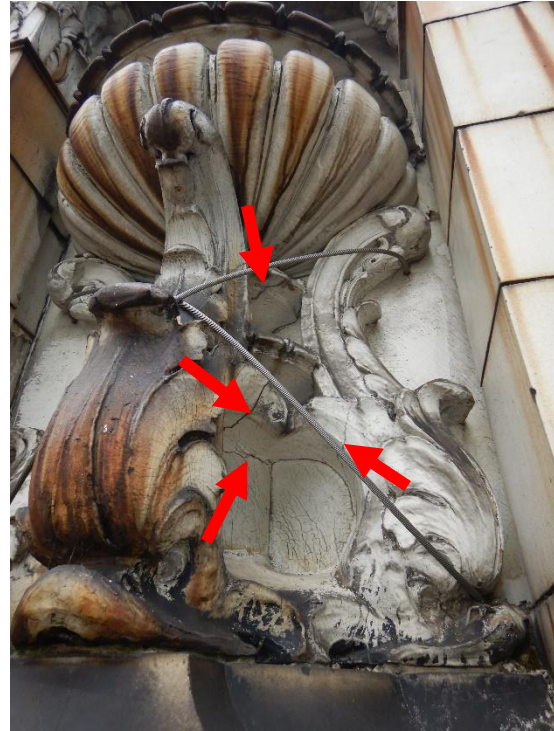


**Photo 4.** South and east elevations.





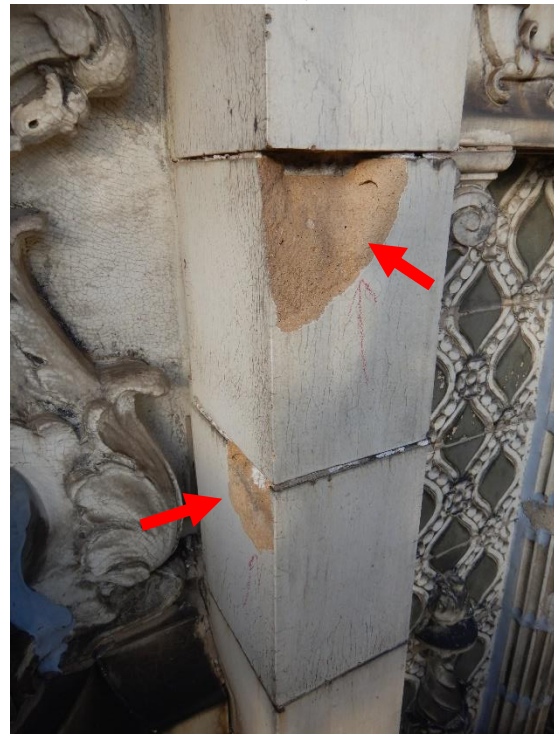
**Photo 5.** Lower portion of cornice throughout north and east elevations.



**Photo 6.** Terra cotta urn previously strapped (by others), new cracks noted by red arrows.

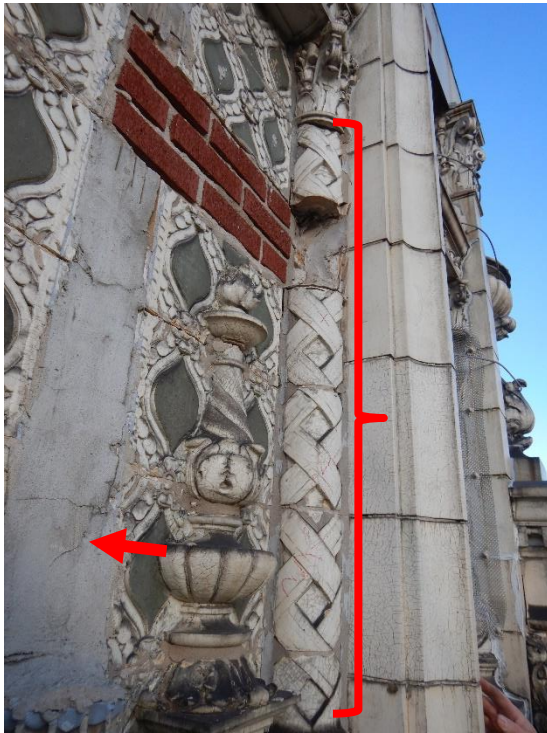


**Photo 7.** New cracks and loose material observed at terra cotta units.



**Photo 8.** Typical spalls observed at terra cotta units.





**Photo 9.** Unsound terra cotta units marked to be removed. Failed patch material noted by red arrow



**Photo 10.** Typical condition of metal coping units.



**Photo 11.** Ornamental spandrel at 4th floor (new cracks noted by red arrows).



**Photo 12.** Ornamental spandrel at 14th floor (crack noted on mullion units).



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**Photo 13.** New underside cracks (red arrows) at terra cotta window head units (metal channel noted by yellow arrow).



**Photo 14.** Previous underside crack repair (red arrow) in poor condition at terra cotta window head unit (metal channel noted by yellow arrow).



**Photo 15.** Underside crack at terra cotta window head unit (red arrow).



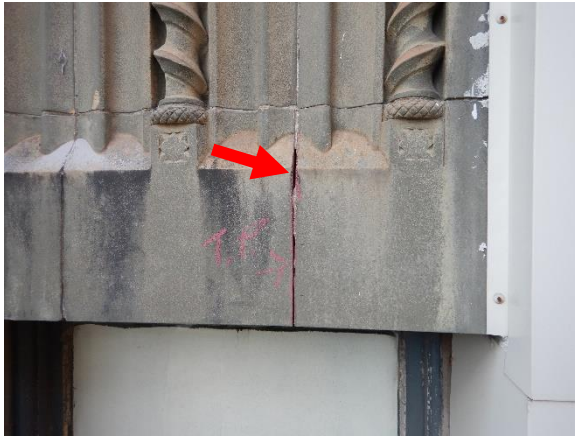
**Photo 16.** Typical diagonal crack observed on most terra cotta window head units (red arrow).



**Photo 17.** Large spall observed on terra cotta spandrel units.



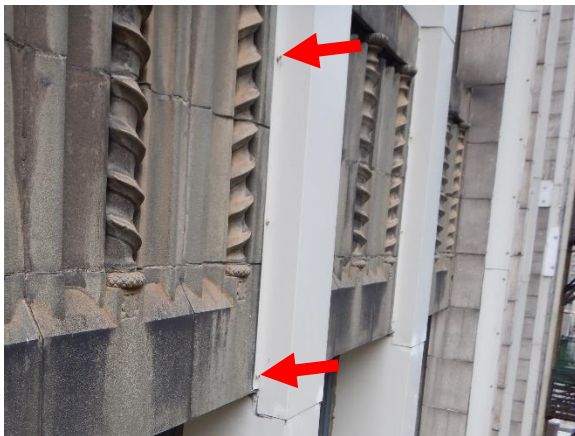
**Photo 18.** Typical spall on spandrel window sill terra cotta unit.



**Photo 19.** Typical open joint observed at most terra cotta window units.



**Photo 20.** Typical open skyward facing joints observed at most window sill terra cotta units.



**Photo 21.** Typical loose anchors observed on aluminum sheeting at mullions.



**Photo 22.** Mullion units at 3rd floor in extremely poor condition, marked for removal.





**Photo 23.** Typical weathered/deteriorated plywood coverings at previously removed terra cotta units.



**Photo 24.** Spalled terra cotta units at column.



**Photo 25.** Cracked terra cotta units at jamb return.



**Photo 26.** Previous crack repair in poor condition (red arrow) with new crack (yellow arrow).



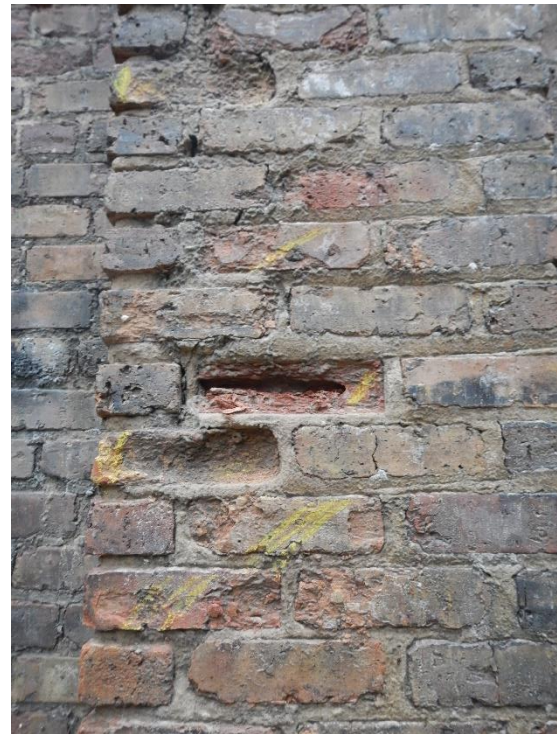
**Photo 27.** Failed sealant at skyward facing joint.



**Photo 28.** Cracked and deteriorated mortar joint with organic growth (red arrow).



**Photo 29.** Replacement of terra cotta units with brick masonry.



**Photo 30.** Typical deteriorated condition of brick masonry throughout west elevation.



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**Photo 31.** Typical brick deterioration at the west elevation included: cracked brick, spalled brick, organic growth, and efflorescence staining.



**Photo 32.** Surface spall observed, indicating excessive moisture within masonry wall.



**Photo 33.** Severely eroded mortar joints observed at the west elevation.



**Photo 34.** Exposed steel column at north elevation parapet. Exposure has led to extensive section loss due to corrosion.



**Photo 35.** Deteriorated wooden window frame elements.



**Photo 36.** Failed sealant around window frame elements.





**Photo 37.** Deteriorated mortar joints at 3rd floor window sill.



**Photo 38.** Exploratory opening at 7th floor column, east elevation.



**Photo 39.** Steel column and connection in good to fair condition with minor surface corrosion.



**Photo 40.** Exploratory opening at 4th floor mullion, north elevation (hanger rod noted in red).





**Photo 41.** Section loss due to corrosion noted on steel hanger rod (red arrow).



**Photo 42.** Exploratory opening #1 at 5th floor spandrel, north elevation. Moderate surface corrosion observed at bottom flange of steel built-up spandrel.



**Photo 43.** Exploratory opening #2 at 5th floor spandrel, north elevation. Moderate surface corrosion observed at bottom flange of steel built-up spandrel.



**Photo 44.** Exploratory opening at 8th floor column, north elevation. Minor surface corrosion and rust staining observed on steel.



**Photo 45.** Exploratory opening at 13th floor window headers, north elevation.



**Photo 46.** Corroded steel shelf angle with water staining (red arrow), evidence of water infiltration.



**Photo 47.** Exploratory opening #1 at attic floor window headers, north elevation (painted metal channel noted by red arrow).



**Photo 48.** Extensive surface corrosion and rust jacking observed on existing steel elements.



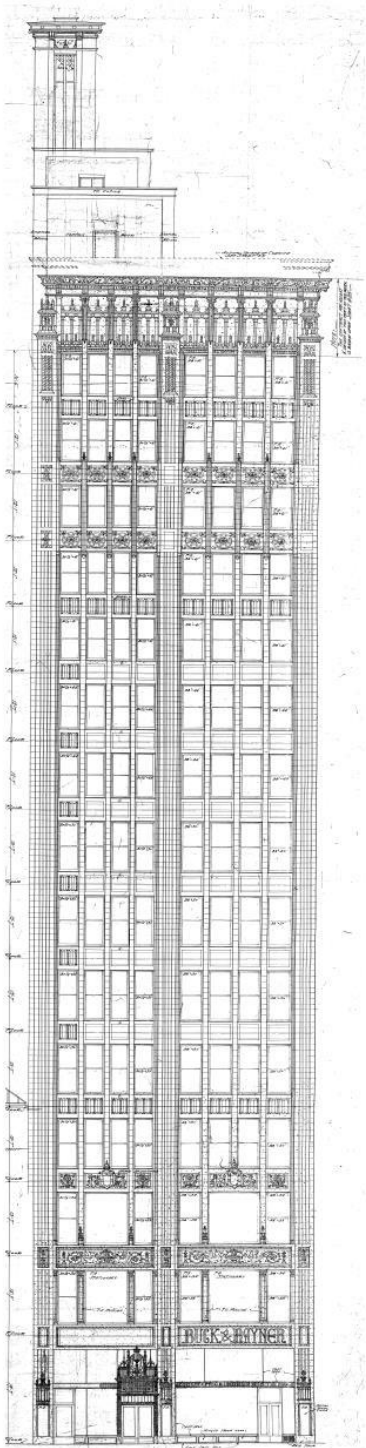
**Photo 49.** Exploratory opening #2 at attic floor window headers, north elevation.



**Photo 50.** Extensive surface corrosion and rust jacking observed on existing steel elements.

**Appendix B: Elevation Drawings**





*Figure 1: East Elevation*

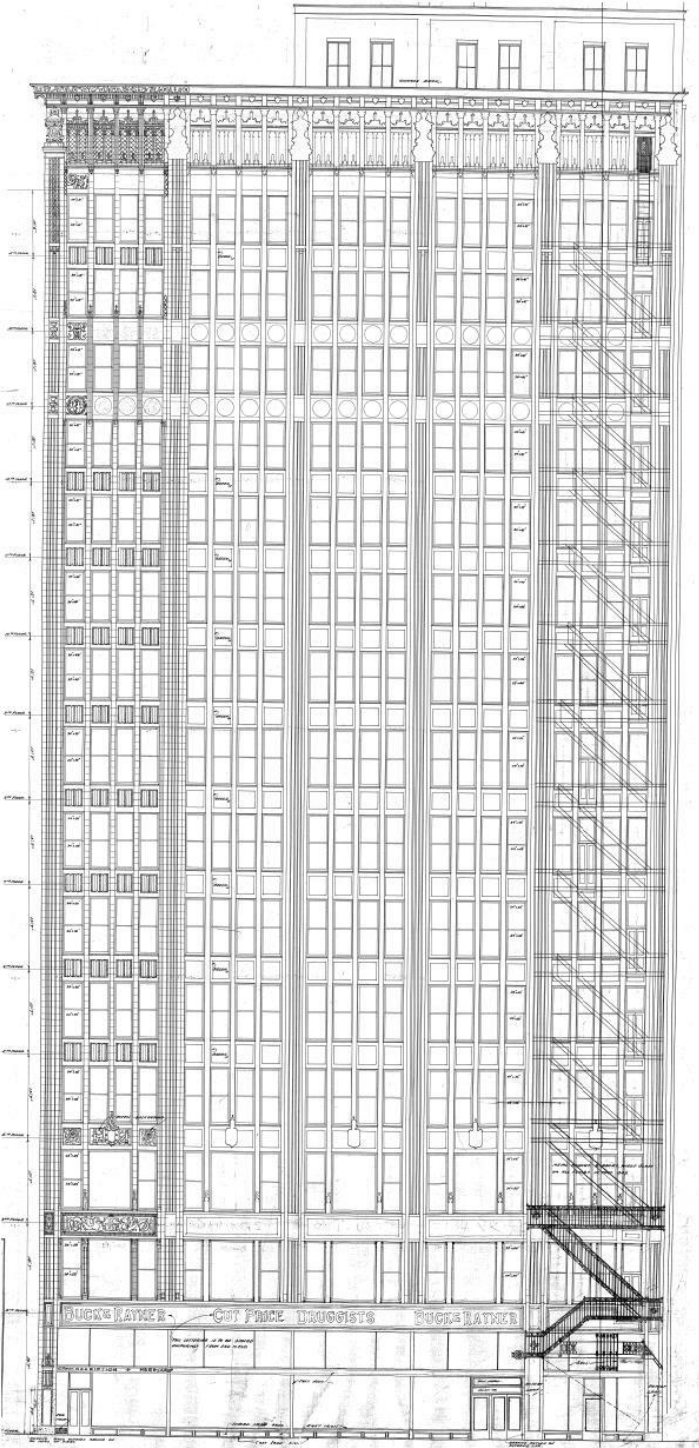


Figure 2: North Elevation

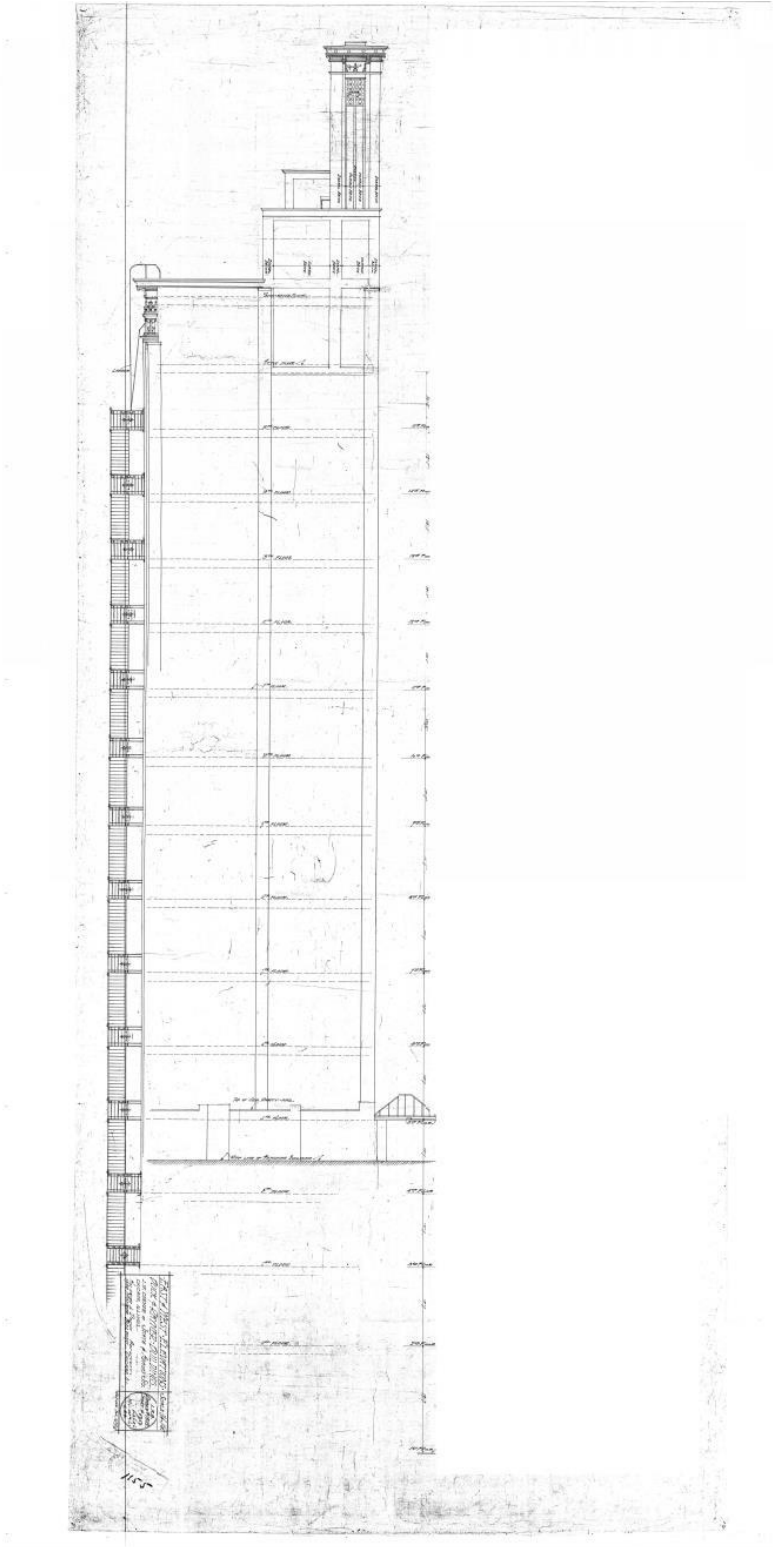


Figure 3: West Elevation