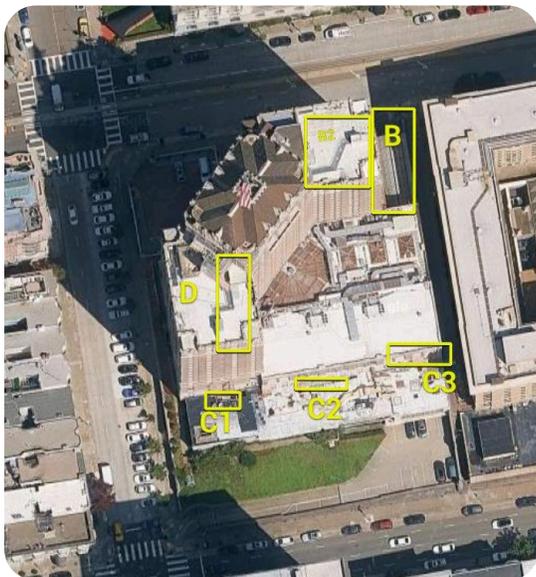


# Load Test Report - 999 California St, San Francisco, CA 94108

## Load Test by Fire Escape Engineers

is an approved member of Fire Escape Services Network

**Contact:** [800-649-3333](tel:800-649-3333) or [info@FireEscapeEngineers.com](mailto:info@FireEscapeEngineers.com)



### 999 California St, San Francisco, CA 94108

The Mark Hopkins Hotel is a 19-story historic landmark atop Nob Hill, featuring a chateau-style design with brick, stone, and ornate terracotta detailing with 5 fire escape egress systems.

Thank you for allowing us to perform a Load Test.

We appreciate the opportunity to support your compliance journey and will guide you through the next steps needed to bring your fire escape system into full certification.

## Codes to Reference:

### CAFC 1104.16.5 Materials and strength.

Components of fire escape stairways shall be constructed of noncombustible materials. Fire escape stairways and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.78 kN/m<sup>2</sup>). Fire escape stairways and balconies shall be provided with a top and intermediate handrail on each side.

### CAFC 1104.16.5.1 Examination.

Fire escape stairways and balconies shall be examined for structural adequacy and safety in accordance with Section 1104.16.5 **by a registered design professional or others acceptable to the fire code official** every 5 years, or as required by the fire code official. An inspection report shall be submitted to the fire code official after such examination.

**CAFC 1104.16.7 Maintenance.**

Fire escape stairways shall be kept clear and unobstructed at all times and shall be maintained in good working order.

**CABC 1008.2 Illumination.**

The means of egress serving a room or space shall be illuminated at all times that the room or space is occupied.

**NFPA Life Safety Code 101 7.2.8.6.2**

The Authority Having Jurisdiction (AHJ) shall approve any fire escape by Load Test or Certification (other evidence of strength).

## Systems Overview

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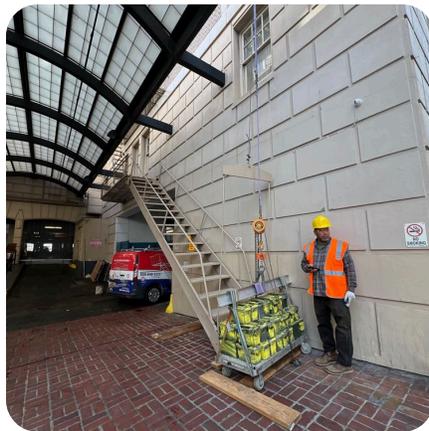
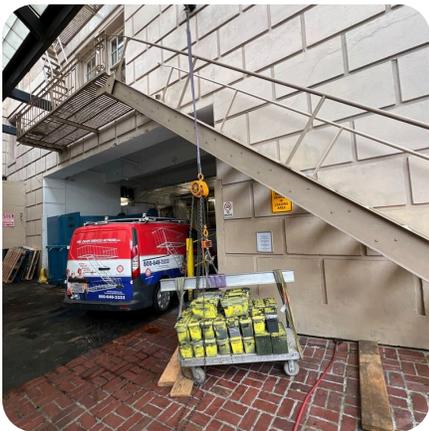
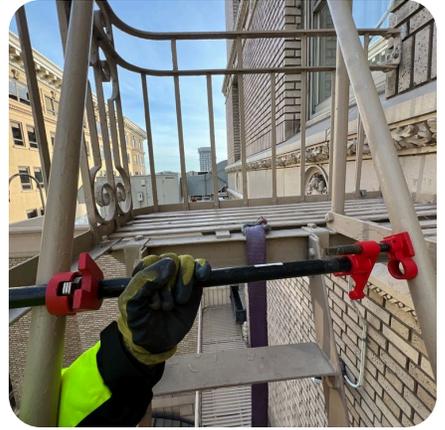
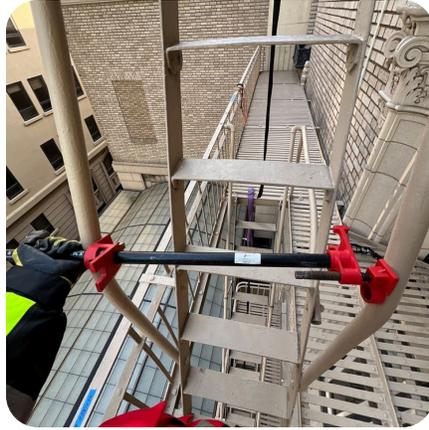
### System (B1): Passed Load Test

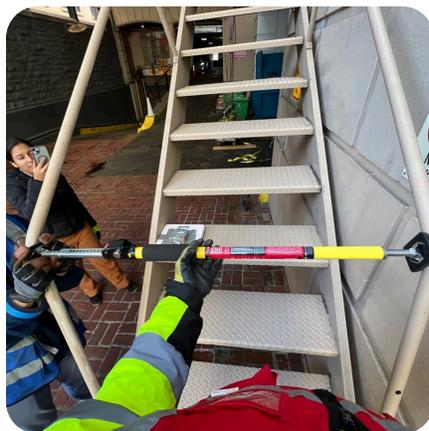
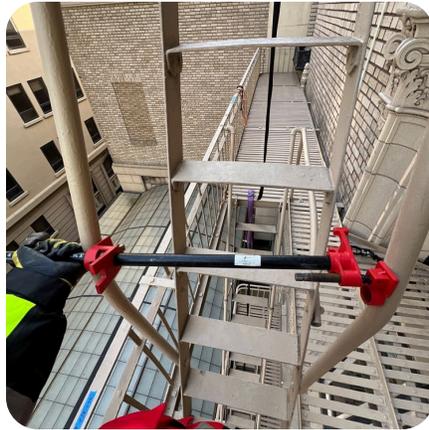
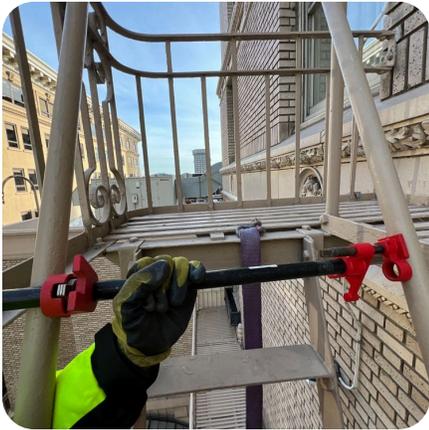
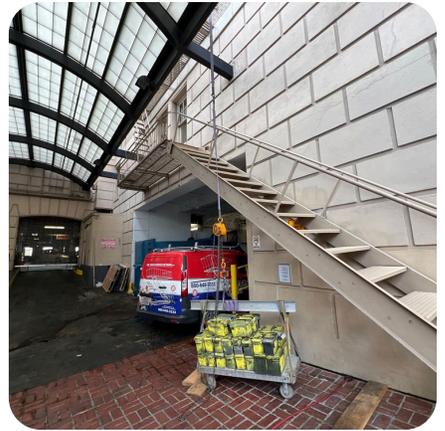
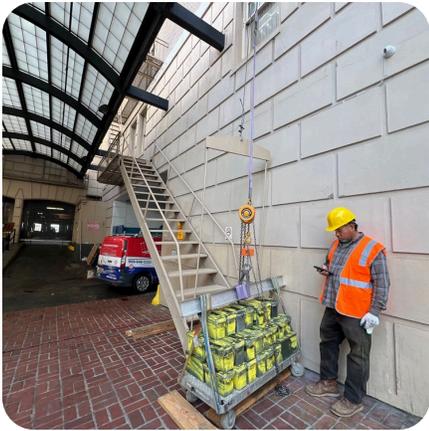


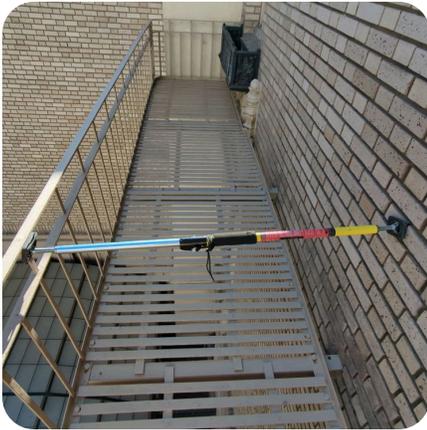
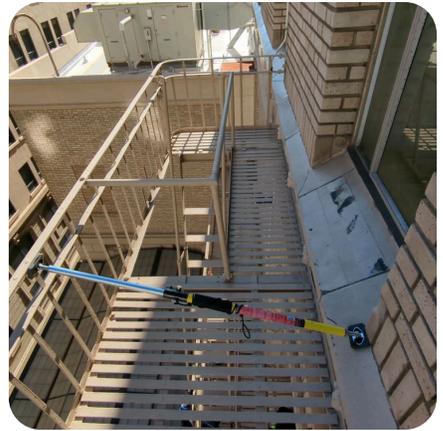
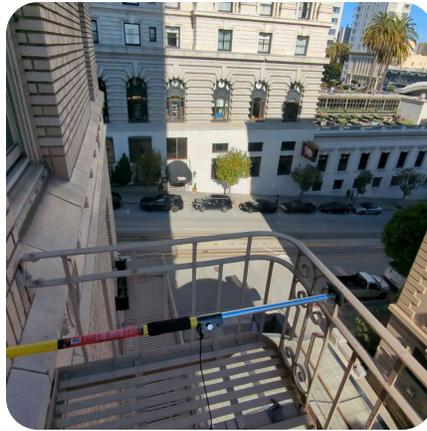
System (B1) is made of **galvanized steel** and consists of **platforms** and **inclined ladder** with **counterweight stairs** to grade.

**Results: Passed Load Test**

The fire escape system has passed required structural load tests and railing concentrated load tests with minor to negligible deficiencies present. It is recommended to keep the system maintained and painted to prevent deterioration of the material.







## Load Test Conclusion: Passed Load Test.

The fire escape has successfully passed a live load test of **100 pounds per square foot (psf)** and a **200-pound lateral load test** on the guardrails, in accordance with applicable code requirements.

In addition to load testing, a **visual evaluation** was conducted. During this evaluation, several minor **deficiencies** were identified. The following **corrective actions** are recommended to address these observed issues and ensure continued structural integrity and code compliance.

## Visual Evaluation Conclusion: Paint recommended

### Platforms:

- Discontinuity observed at platform slats, creating potential trip hazards. Preexisting nonconforming.

### Recommendation:

Install additional slats to ensure a continuous walking surface and eliminate trip hazards.

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## System (C1-B2): Passed Load Test



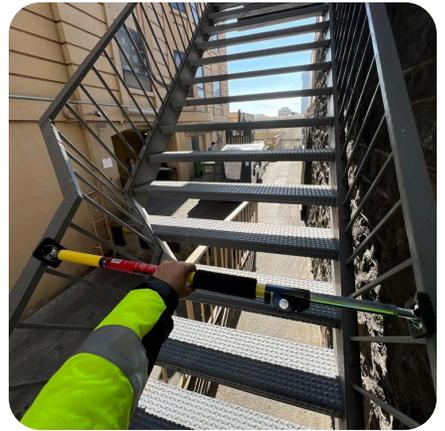
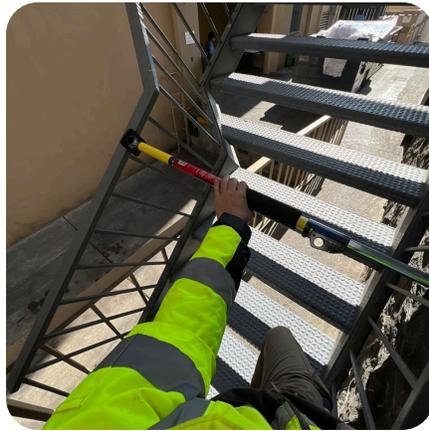
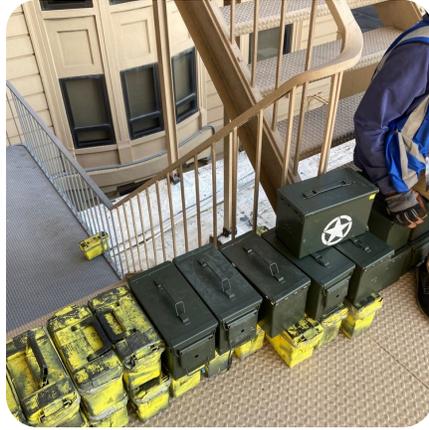
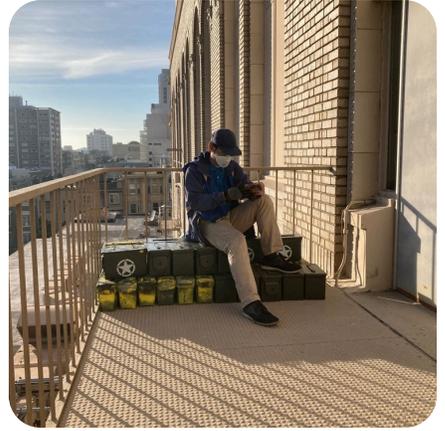
System (C1-B2) is made of **galvanized steel** and consists of **platforms** and **stairs** to grade.

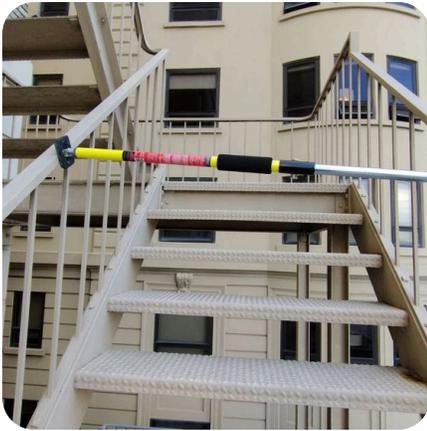
### Results: Passed Load Test

The fire escape system has passed required structural load tests and railing concentrated load tests with minor deficiencies present.

The visual inspection has revealed multiple areas of **localized deterioration** primarily due to **corrosion and moisture infiltration**.

Timely corrective action, including cleaning and proper priming and painting to protect against the elements is strongly recommended to maintain the fire escape's safety, functionality, and code compliance.





## Load Test Conclusion: Passed Pending Deficiencies

The fire escape has successfully passed a live load test of **100 pounds per square foot (psf)** and a **200-pound lateral load test** on the guardrails, in accordance with applicable code requirements.

In addition to load testing, a **visual evaluation** was conducted. During this evaluation, several **deficiencies** were identified. The following **corrective actions** are recommended to address these observed issues and ensure continued structural integrity and code compliance.

Corrective Action: Cleaning, treatment and paint of corrosion-affected sites to limit further exposure to water and rusting.

## Visual Evaluation Conclusion: Spot paint required

### Platforms and Stairs:

Water intrusion is causing rust jacking, corrosion, and material loss of material at some seams at tread-to-stringer and diamond plate to diamond plate connections.

## System (C2): Passed Load Test

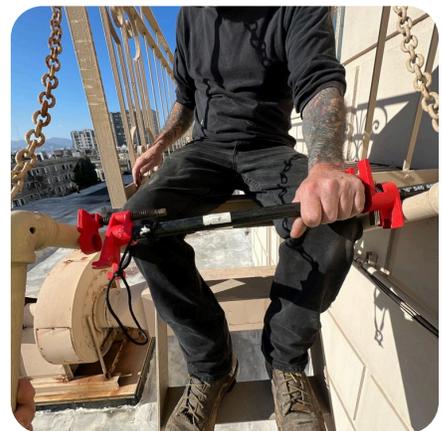


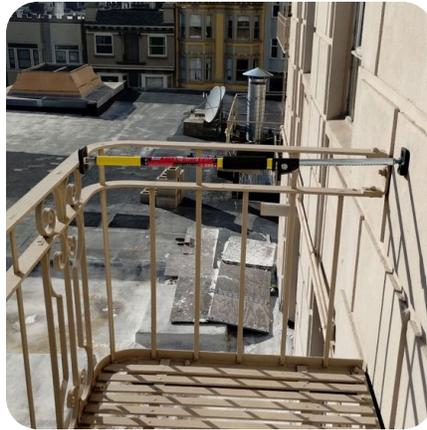
System (C2) is made of **galvanized steel** and consists of **platforms** and **stairs** to grade.

### Passed Load Test

The fire escape system has passed required structural load tests without deficiencies. The paint is in fair condition. The counterweight stairs system has been found to be left in a down position, and exhibits minor signs of deterioration, including discolored (brown) cables indicative of insufficient maintenance, as well as corrosion on the pulley discs and the counterweight box.

Timely corrective action, including painting and maintenance, is strongly recommended to maintain the fire escape's safety, functionality, and code compliance, especially if the stairs is brought back to an up-position..





## Load Test Conclusion: Passed Load Test

The fire escape has successfully passed a live load test of **100 pounds per square foot (psf)** and a **200-pound lateral load test** on the guardrails, in accordance with applicable code requirements.

In addition to load testing, a **visual evaluation** was conducted. During this evaluation, negligible deficiencies that did not prevent the system from passing were identified. System is recommended to be kept painted. Counterweight system should be greased if it is not intended for the inclined ladder to be kept permanently down.

# Visual Evaluation Conclusion: Pass

## Counterweight Stairs

Recommend to grease and maintain counterweight stairs, such that it can be brought to an up-position as needed.

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## System (C3): Passed Load Test



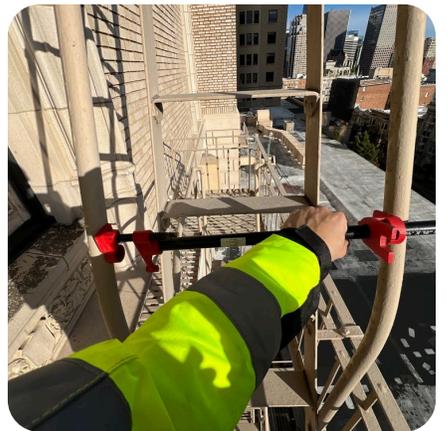
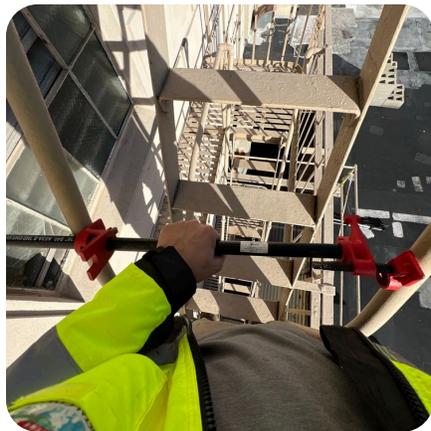
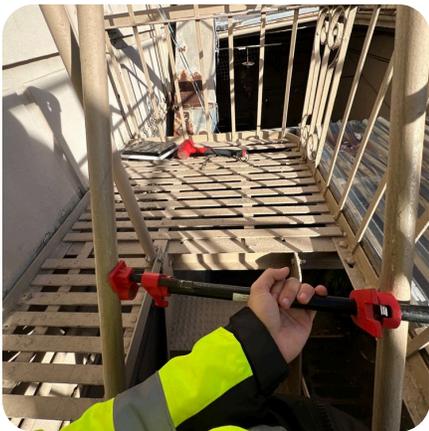
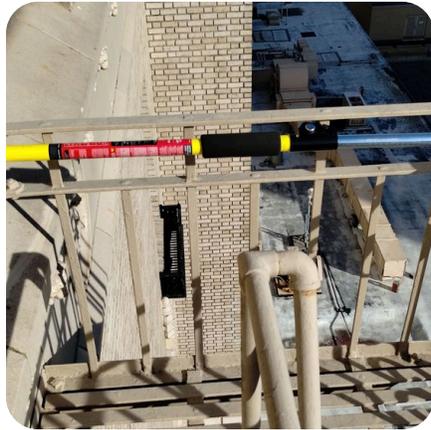
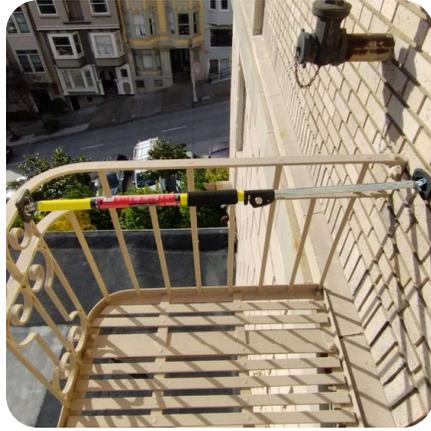
System (C3) is made of **galvanized steel** and consists of **platforms** and **stairs** to grade.

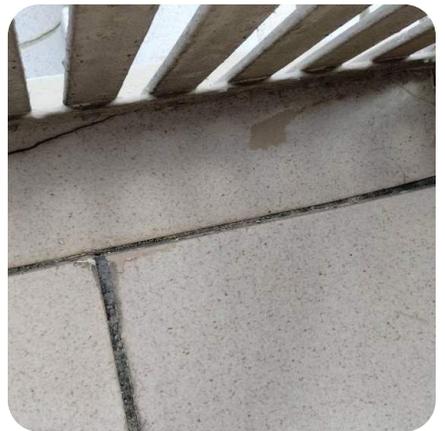
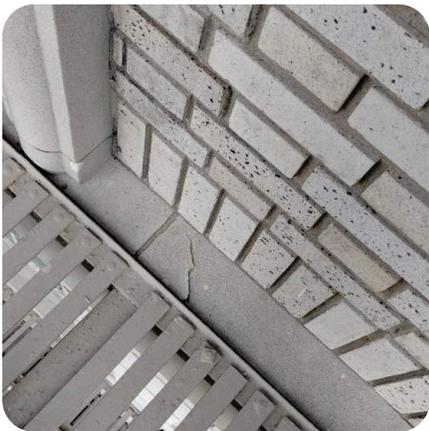
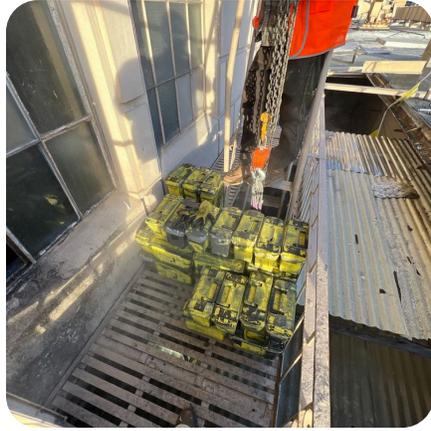
### Passed Load Test

The fire escape system has passed required structural load tests and railing concentrated load tests with minor deficiencies present.

The visual inspection has revealed a few areas of localized surface deterioration primarily due to corrosion and moisture exposure, mainly from steam exhaust exposure.

Timely corrective action, including cleaning and proper priming and painting to protect against the elements is strongly recommended to maintain the fire escape's safety, functionality, and code compliance.





## Load Test Conclusion: Passed Recommend Spot Paint

The fire escape has successfully passed a live load test of **100 pounds per square foot (psf)** and a **200-pound lateral load test** on the guardrails, in accordance with applicable code requirements.

In addition to load testing, a **visual evaluation** was conducted. During this evaluation, several **deficiencies** were identified. The following **corrective actions** are recommended to address these observed issues and ensure continued structural integrity and code compliance.

## Visual Evaluation Conclusion: Paint recommended

Cracks are noted to be present at or near some support connection to the wall, which may allow water intrusion if not sealed. One support has corrosion at connection to the wall, which may cause mechanical damage and further deterioration if not addressed, cleaned, and painted.

A steam vent is noted to keep lower parts of the system moist; those parts must be kept painted and maintained against exposure and accelerated corrosion.

## System (D1): Deficiencies Present

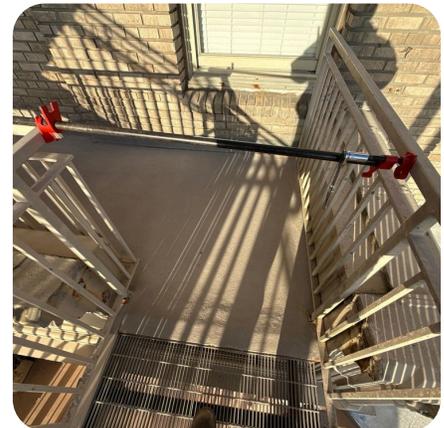
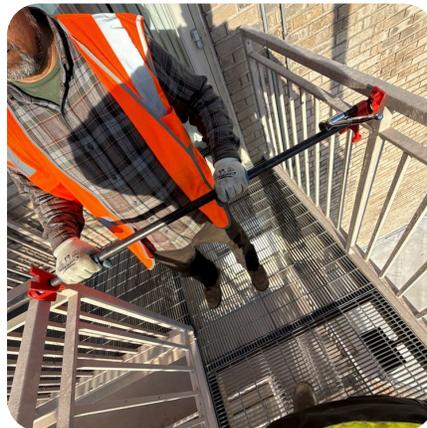
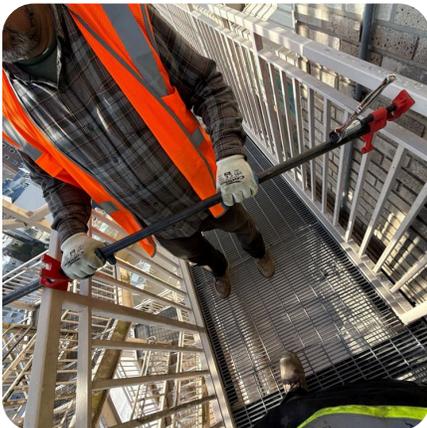


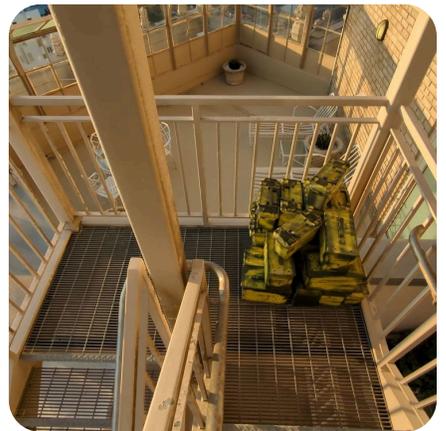
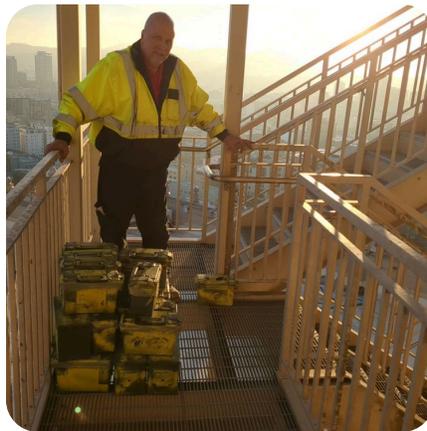
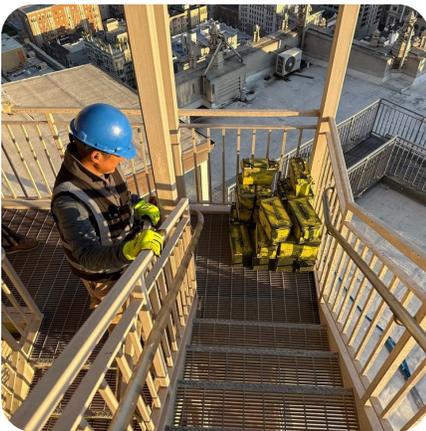
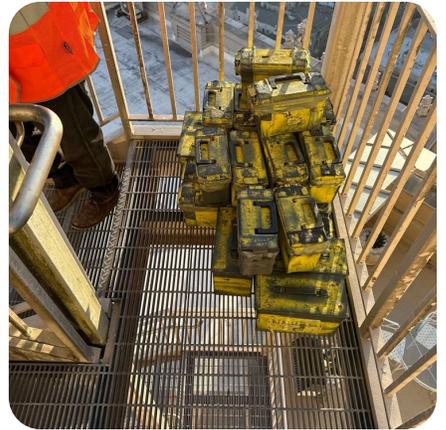
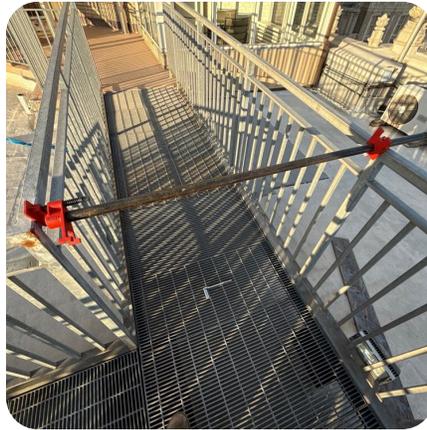
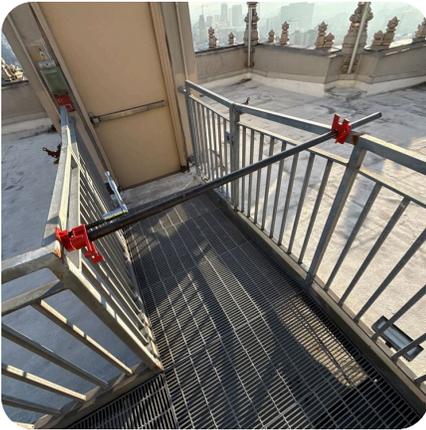
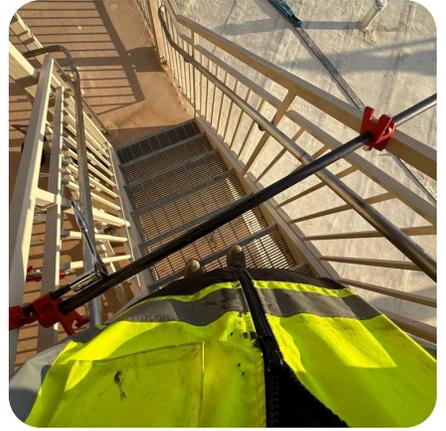
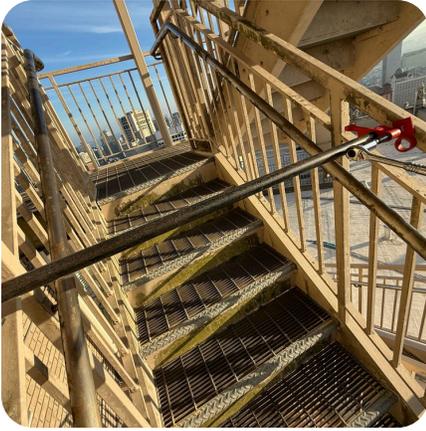
System (D1) is made of **galvanized steel** and consists of **platforms** and **stairs** to grade.

### Passed Load Test pending deficiencies, Repairs and Paint Required

While the fire escape system has passed required structural load tests at most locations, the visual inspection has revealed multiple areas of **localized deterioration** primarily due to **corrosion and moisture infiltration**, especially at welded joints at platform shelf angles that support the grating and at some railing tube posts.

Timely corrective action, including painting, sealing, bolt replacement, and concrete repair, is required to maintain the fire escape's safety, functionality, and code compliance.







## Load Test Conclusion: Passed Pending Deficiencies

The fire escape has successfully passed a live load test of **100 pounds per square foot (psf)** and a **200-pound lateral load test** on most guardrails, in accordance with applicable code requirements.

In addition to load testing, a **visual evaluation** was conducted. During this evaluation, several **deficiencies** were identified. The following **corrective actions** are provided to address these observed issues and ensure continued structural integrity and code compliance.

## Visual Evaluation Conclusion: Repairs and paint required

### STRUCTURAL SUMMARY

#### Platforms

Platform shelf: Internal rust is present at platform shelf angle welded connections to platform frame. Welds have currently passed load test, but will continue to degrade and deteriorate over time as rust expands. Shelf angles should be bolted to reinforce and negate rusting connections.

#### Railings

Some tube railings have severed at the connection to frame due to material loss at base from rust and water intrusion. These do not pass the 200 pound lateral load test.

### PAINT SUMMARY

#### Platforms

Welded platform shelf angles supporting the grating pass load test, but have rust jacking in the connection to platform frame. To preserve integrity of the welds, rust should be removed, and the exposed metal treated, painted, and sealed against further rust and water intrusion. Other sections of metal have surface rusting, and should be properly painted to preserve lifetime of the components.

## Conclusion & Next Steps

Please let us know whether you intend to proceed as a **Do-It-Yourself (DIY)** client or if you

would like to engage our team under the **Vendor Management Oversight (VMO)** program. Both options require coordination with your local authority (AHJ – Authority Having Jurisdiction) and thorough documentation to ensure your fire escape system meets certification standards.

***Whether you choose to manage the process independently or allow us to guide you through it, we ensure you have the tools and documentation to solicit and compare bids confidently—or, if you prefer, you can bypass the bid process entirely and engage our certified team based on trust, warranty, and proven experience.***