The Portland Building: Postmodern Strategies for Preserving an Historic Icon

FR216
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1.50 LUs/HSW/GBCI/RIBA
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Questions related to specific products and services may be addressed at the conclusion of this presentation.
Acknowledgements/Credits

Integrated Design Team Key Players

Owner
City of Portland

Contractor
Howard S. Wright

Architect
DLR Group

Structural Engineering
KPFF Consulting

MEP Engineering
PAE Engineers

Envelope Consultant
Facade Forensics

Unitized Curtainwall
Benson Industries

Special thanks to
Michael Graves Architecture & Design

AIA Conference on Architecture 2019
June 6-8, Las Vegas
Speakers List

Carla Weinheimer, AIA – Justice+Civic Project Leader, DLR Group

Erica Ceder, AIA – Historic / Preservation Architect, DLR Group

Patrick Burke, AIA – Principal, Michael Graves Architecture and Design
Course / Learning Objectives

• Discover how changes in construction technology in the "modern" era explain preservation differences between modern and postmodern buildings with those of earlier periods.

• Develop a keener understanding of key elements of preservation theory and how their roots in pre-World War II buildings reveal a gap in applicability to postmodern buildings.
Course / Learning Objectives

• Spot the challenges of preserving buildings that were not necessarily built to last due to low budget, poor performance, and deterioration.

• Grasp the challenges of maintaining the historic integrity of an iconic building while adapting it to suit the needs of those it serves.
Project Background
The Portland Building

Postmodern icon designed by Michael Graves

15-story City of Portland Administration Building

360,000 SF

Built in 1982

$22 Million construction budget

National Register of Historic Places (2011)
Contentious design competition and selection process led by Phillip Johnson

Controversial design
Portlandia
Beloved Sculpture
Goals

$195 million project cost, 2020 completion
LEED Gold certification (minimum)
Maintain historic elements and character
Improve workplace
Reduce maintenance and operational costs

Scope

Envelope reconstruction
Seismic upgrade
MEP system replacement
Gut remodel of interior
New workplace and public engagement spaces

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Construction
Deficiencies
Persistent Issues

1982
Construction complete

1988
Efflorescence noted at base tile and study performed

1993
Leaks noted at curtain walls and study performed

1995
Efflorescence noted at red tile and study performed

1999
Reroof at 2nd and 3rd floors

1999
Window repair, north

2006
Leaks noted at various locations on west facade and study performed

2012
Briefing #1

2012
Replacement of stucco at penthouse and reroof at 14th floor roof

2015
Building systems and interior assessment performed

2016
Portland Building Reconstruction Project

1980

1990
Teal tile repairs: cleaning, mass grouting, parapet cap

1994
Curtain wall repairs, south elevation floors 4-10: caulking, gaskets, clips

1994
Reroof, 14th floor

1998
Window repair, south elevation all windows: caulking, gaskets

2005
Reroof at 15th floor roof and installation of eco-roof at 15th and penthouse roofs

2008
Reroof at 2nd and 3rd floors and repair of loggia ceilings

2013
Envelope and structure assessment performed

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Interior Design
Deficiencies
Underfunded
and Unresolved
Urban Design
Deficiencies
Loggias
Urban Design Deficiencies
East Façade
Postmodern Preservation Challenges
Changes in Architecture / Construction

Prewar materials were primarily craft materials

Material and assemblies were robust and redundant

Known quantities with a long history of use

Many established repair methods
Changes in Architecture / Construction

Post WWII shift to industrialization

More change at a faster pace

Buildings getting taller,

First skyscraper in 1884 was 10 stories tall

100 years later buildings were more than 10 times that height
Changes in Architecture / Construction

Building materials lighter and thinner

Less redundancy

Feasibility of repair more challenging

Replacement is often required
Changes in Architecture / Construction

More experimentation with untested systems

No established ‘building science’ to understand performance
Façade Replacement

Inherent problems in original materials and detailing
Façade Replacement
Portland Building

Painted concrete

Stick-built curtainwall and storefront windows

Mortar set ceramic tile

Myriad material and system failures beginning soon after initial construction
Façade Replacement
Portland Building
Concrete box attempting to integrate with a collection of systems

No continuity

Challenges with rectifying inherent flaws
Envelope issues inherent in flawed construction details

Deterioration is severe and previous attempts at repair were unsuccessful

Building required a cohesive façade solution that would resolve system issues
System defined by how it functions

Equalizes pressure differentials that drive water into a building

Tested system with long track record on high-rise buildings
Façade Replacement
Portland Building

Unitized curtainwall system comprised of a series of panels
Factory assembled for increased quality control
Tested before and after installation to verify performance
Façade Replacement
Portland Building

Unitized curtainwall system comprised of a series of panels
Factory assembled for increased quality control
Tested before and after installation to verify performance
Façade Replacement
Portland Building

Unitized curtainwall replicates building forms, colors and detailing

Allows the various material and plane changes to occur as designed without creating vulnerability in the system.
Façade Replacement
Portland Building

Allowed for interior transformation
Improved thermal comfort
Increased daylight
Healthy environment for occupants
DISCUSSION

Spot the challenges of preserving buildings that were not necessarily built to last due to low budget, poor performance, and deterioration.

Discover how changes in construction technology in the "modern" era explain preservation differences between modern and postmodern buildings with those of earlier periods.
Secretary of the Interior’s Standards and Guidelines for Rehabilitation focus heavily on historic materials. Traditional building materials often have a meaningful connection to their time and place. Materials are traditionally considered to be paramount in defining a building’s historic character.
Postmodernism

Reaction to modernism

Restored humanity to architecture

Embraced ornamentation and symbolism

Stylized expressions, bold colors, reinterpreted classical organization, forms and features

Not afraid to be whimsical
First large-scale built example of Postmodernism

First major completed work by Michael Graves

Manifested Postmodern ideas of context, applied ornament and symbolism
Postmodernism
Portland Building

“The first major-scale work of Graves’ to be translated from paper to reality, the Portland Building was an architectural experiment in the supremacy of surface over form, paint over material, vocabulary over construction”

Frozen Music: A History of Portland Architecture
Significant for its clear expression of Postmodernist ideals and importance to Michael Graves’ legacy

Changes in material do not impede the viewer’s understanding of the original design
Develop a keener understanding of key elements of preservation theory and how their roots in pre-World War II buildings reveal a gap in applicability to postmodern buildings.
Adaptation
From the
Original Architect’s Perspective
Michael Graves
Portland Building
Portland Building story from the perspective of Graves’ firm
Portland Building Opening Day

Important moment for Michael Graves’ practice

Design concept vs. final product
Portland Building Evolution

The idea of change as viewed from Graves’ perspective

Understanding that buildings evolve in order to remain relevant and functional
The Hague Façade Replacement

Change sometimes necessary to help buildings live on
The Benacerraf House Remodel

Openness to change evident in Graves’ treatment of his own work
Portland Building
4th Ave
Proposed change restores a public face to what had become the ‘back’ of the building
Portland
Building
Loggias

Proposed change creates a transparency that visually connects City services to the public
Grasp the challenges of maintaining the historic integrity of an iconic building while adapting it to suit the needs of those it serves.
THANK YOU!