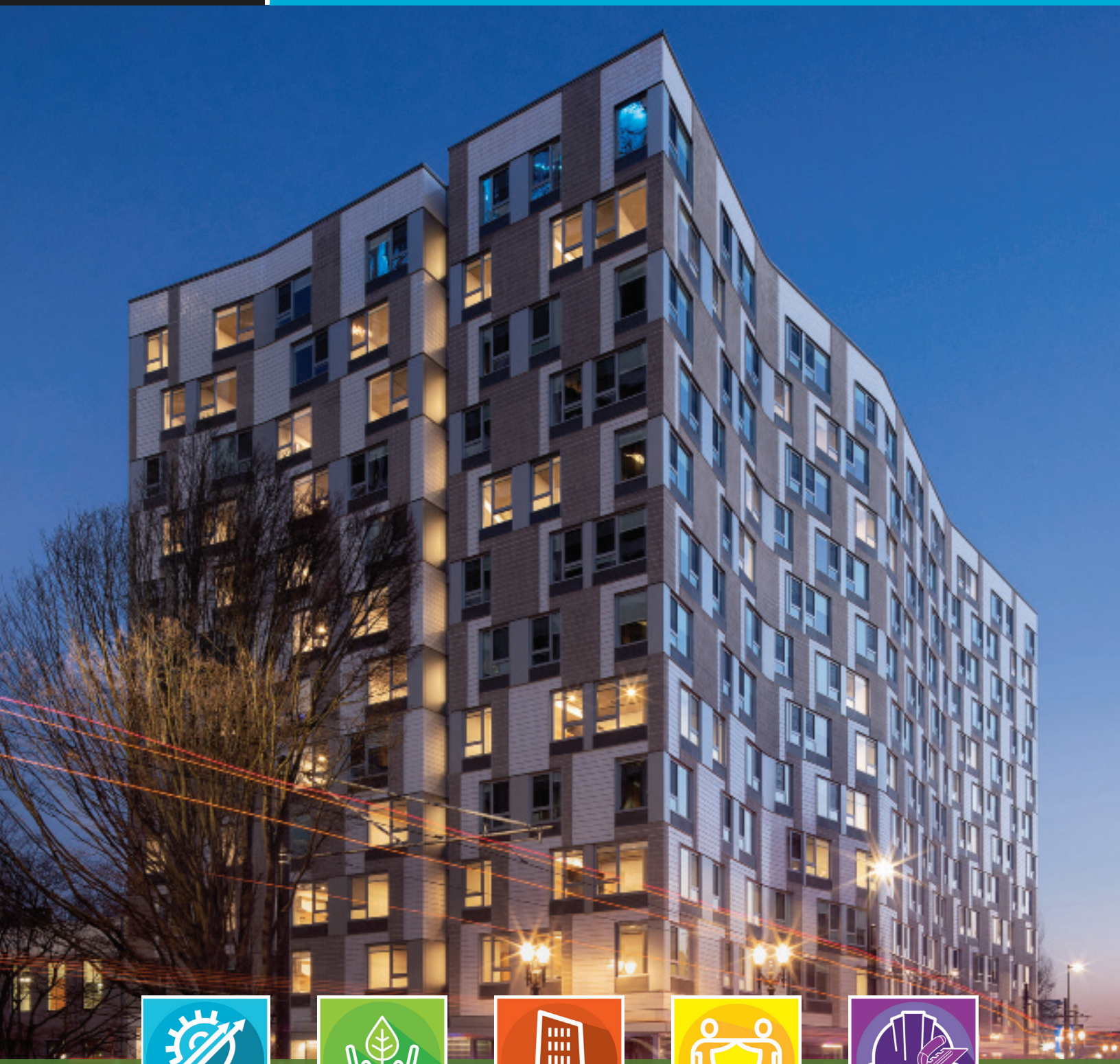
# The Louisa Flowers Affordable Housing Project

## Using MVIS™ to Meet Complex Challenges in Portland



INNOVATIVE

COMMITTED TO SUSTAINABILITY

ENABLING ICONIC DESIGNS

TRUSTED FOR LIFE

BEST INSTALLER EXPERIENCE

# Louisa Flowers

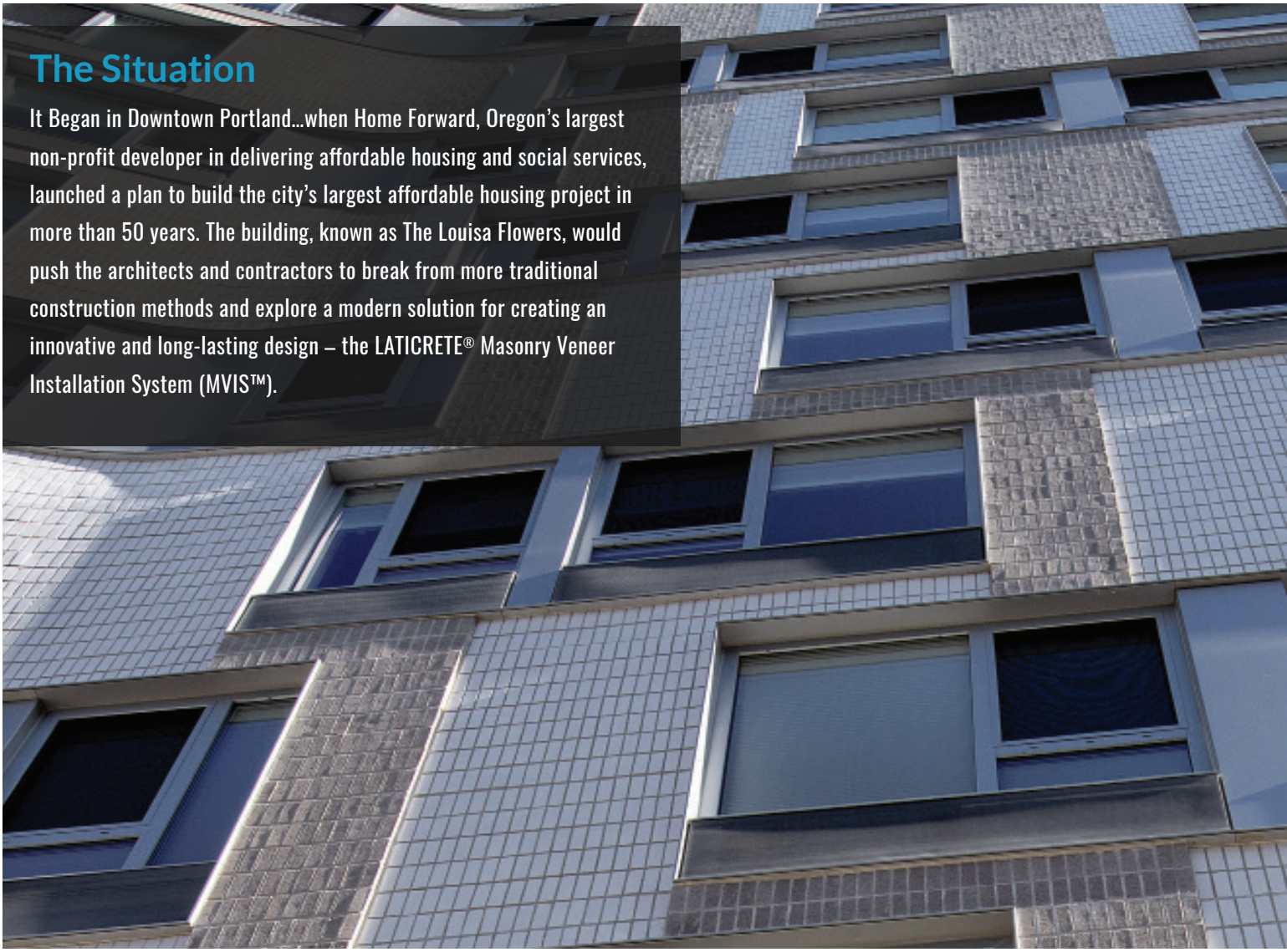
Portland, OR

**Building Owners:**
Home Forward – Portland, OR

## Rooted in Innovation, Growing for Excellence

The LATICRETE Brand Promises are a company-wide initiative to ensure we are fulfilling our commitments to our customers, the Earth, and the construction industry.

Throughout this piece, you will see icons highlighting how those needs were met on this project. Learn more about our brand promises by **scanning the QR code** or **click here**.



## The Situation

It Began in Downtown Portland...when Home Forward, Oregon's largest non-profit developer in delivering affordable housing and social services, launched a plan to build the city's largest affordable housing project in more than 50 years. The building, known as The Louisa Flowers, would push the architects and contractors to break from more traditional construction methods and explore a modern solution for creating an innovative and long-lasting design – the LATICRETE® Masonry Veneer Installation System (MVIS™).

> "A housing crisis like we've experienced in Portland demands historical action, and that's what this project represents."

Ted Friedman, Superintendent at Walsh Construction

# The Challenges

**Environmental:** Situated in a densely populated, seismically active region, where heavy rains and freeze-thaw cycles wreak havoc on inferior building materials and installations, any construction solutions would have to provide a superior level of adhesion and durability. The materials would also have to help designers hit certain sustainability goals and create an energy-efficient building.

**Scale:** The 12-story, 240-unit, 177,000 ft2 (16,443.8 m2) building would be the biggest thin brick and masonry veneer project ever attempted by the teams involved, and with a limited budget, any building solutions would have to maximize efficiency and offer a streamlined technical solution for installers.

**Visibility:** This development would be the biggest and tallest affordable housing community in Portland, designed to both honor Louisa Flowers' legacy in the city and provide homes for some of the city's underprivileged citizens. The design had to be iconic and something that could be enjoyed by generations to come, while fitting within the strict design guidelines of the city's historic Lloyd District.

**Location:** Situated in the middle of a bustling urban environment, and adjacent to major transportation lines like the MAX Light Rail and Portland Streetcar, construction would need to meet certain logistical concerns. The ideal solution would need to ensure a safer, more durable installation, with reduced scaffolding and staging, without disrupting the surrounding neighborhood.

Architects designed a visually striking building using concrete and post-tension concrete slabs for the structural frame and featured various angles on the exterior walls with a thin brick veneer façade of two different thicknesses and textures. The thin bricks would be arranged in a soldier pattern, stacked vertically and side by side, a pattern that requires precision and can extend install time. All these challenges meant the project team, led by O'Neill Walsh Community Builders, Lever Architecture and LRS Architects, would need to find the right subcontractor partner to ensure the job would be done right.

# A LATICRETE Solution

Nathan Storey's family has been installing masonry in the Pacific Northwest for 5 generations. When he and the team at B&B Tile and Masonry won the bid to handle the brick façade on The Louisa Flowers project, they knew it would be their biggest challenge to date and needed to find a better way to handle the installation. Could they find a single system that would allow them to satisfy the unique challenges presented by this building?

Enter Mike Baker at Mutual Materials Company, a company with over 100 years in the masonry business, who presented a variety of potential solutions. He knew a thin brick veneer solution would provide various advantages over full dimension brick veneer and could help the team stay on budget, provide a durable solution, and enable the iconic design laid out by the architects. After examining the options, the LATICRETE® Masonry Veneer Installation System (MVIS™) - clearly emerged as the ideal solution to handle the unique set of challenges presented by this project.

Knowing the proper substrate is key for success on any project, PermaBase® cement board by National Gypsum was specified for this project. This substrate provided a number of advantages. Compared to traditional lath and scratch, MVIS installs utilizing an approved cement board such as PermaBase can be done up to 35% faster. Cement board also allows for a safer install, as it is lighter and easier to handle than the 80-pound bags of unmodified mortar used in a scratch coat, and eliminates the use of lath, which is sharp and difficult to handle. Lath is also prone to rusting in wet environments, which can lead to failures down the line.

With the proper substrate installed, the team then looked to help mitigate some of the environmental issues by applying MVIS Air & Water Barrier. Air and water barriers are vital to prevent weather-related damage, otherwise façades can experience issues such as water infiltration, damage from thermal movement, cracks, and de-lamination. MVIS Air & Water Barrier is not only an air barrier, controlling the flow of moisture vapor into and out of the structure (and enhancing the building's operational energy efficiency), but it is also designed for the adhesion of veneer directly to the membrane, enabling water protection and crack isolation to be brought further outward in the wall assembly and protecting more of the structure. Next, MVIS Thin Brick Mortar was used to install the custom made thin brick veneer. Traditional mortars are typically mixed on-site, leading to greater variation in performance, and are made for stacking full-dimension brick and block, not for adhering thin veneer to walls. MVIS Thin Brick Mortar is engineered for superior adhesion to hold veneer on the most demanding of installs, including high-velocity wind zones and seismically active regions, and is manufactured in a quality-controlled environment leading to consistent performance across an installation. The mortar's non-sag performance also allows installers to set the thin brick once and adjust as needed without having to use spacers or remove and replace the unit if alignment is incorrect, which is key when laying brick in a soldier pattern.

The finishing touch was MVIS Pointing Mortar, a fiber-reinforced, mildew and stain-resistant pointing mortar that creates a strong and durable joint between bricks. Unique amongst other pointing mortars on the market, MVIS Pointing Mortar also is available in a mortar base and dispersible pigment pack solution with 40 standard colors, as well as a nearly unlimited custom color palette, which allowed designers to perfectly complement the various colors chosen for the project.

"Our legacy here at LATICRETE has always been rooted in innovation while growing for excellence. We aim to change the way construction is done, while improving the lives of those involved" said Daniel Rothberg, Product Manager at LATICRETE. "The Louisa Flowers project is a perfect example of how our MVIS System is changing the way masonry veneer installations are done. We're proud to know that our products will help to recognize the legacy of such an important figure as Louisa Flowers, and perhaps more importantly, help provide access to homes and services for those in need."

# The Outcome: A Legacy Reborn

In the late 1800s, Louisa Flowers, an esteemed African American civic leader, settled in Portland, Oregon with her family and became instrumental in establishing the town's African American community. As one of the first black families to own property in the city, Flowers opened her home as a local gathering space and went on to purchase and develop homes for those in need. The Flowers family's communal leadership and economic prosperity became the pillar of Portland's African American community.

Nearly 100 years after her death, the building that honors her name and family's legacy opened its doors to its very first tenants. The Louisa Flowers apartment building offers 240 affordable units, serves 20 of Portland's lowest-income neighborhoods and provides Portland residents easy access to various public transportation systems, employment centers, community amenities and schools. Additionally, residents can enjoy a publicly accessible ground-level courtyard, which features a historical display, created by Oregon Black Pioneers, and a mural by artist Baba Wague Diakite, to showcase the Flowers family and their lives and acknowledge the past, present and future. The building grants housing to the chronically homeless and survivors of domestic violence, helping provide those within its walls achieve a sense of self-worth, a brighter future, and a sense of community. The Louisa Flowers project also helps address the city's affordable housing crisis and improves the lives of those directly impacted by the crisis.

"The team is incredibly proud of the results of their dedicated and concerted efforts on the success of this project," said Ted Friedman, Project Superintendent for O'Neill/Walsh Community Builders (OWCB), an entity of Walsh Construction Co. and O'Neill Construction Group. "A housing crisis like we've experienced in Portland demands historical action, and that's what this project represents, and we are proud to be a part of this historic event. To be able to provide all affordable units in a building of this scale is an impressive feat, and it's a true testament to Home Forward's deep commitment to the people of Portland, and to provide stable, affordable homes for our community."

The Louisa Flowers project was praised for having an inclusive, diverse project team makeup, with a majority-female-led team and 30% of the project value awarded to minority-owned, woman-owned and emerging small businesses.

The Louisa Flowers affordable housing project achieved a LEED Platinum certification – which surpassed the original sustainability goals and has already been honored for excellence and recognized by AIA Oregon, the Chicago Athenaeum's American Architecture Award, Architizer A+ Awards, Architect's Newspaper Best of Design Award, DJC Oregon TopProjects Awards, the Gold Nugget Awards and the Earth Advantage Green Builder of the Year Awards.

LATICRETE International, Inc. ■ One LATICRETE Park North, Bethany, CT 06524-3423 USA ■ 1.800.243.4788 ■ +1.203.393.0010 ■ www.laticrete.com