



# ALDEN PARK HISTORIC WINDOW REPLACEMENT PHILADELPHIA, PA

6,688 windows replaced with engineered historic replicas

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# CASE STUDY

## Glazier

Graboyes Commercial Window Company  
Philadelphia, Pa.

## Team

Owner: L3C Capital Partners, LLC | New York, N.Y.

Contractor: Briarwood Construction, Inc.  
Philadelphia, Pa.

Architect: BartonPartners | Norristown, Pa.

Historic Consultant: Powers & Company  
Philadelphia, Pa.

## Historic Details

Built: 1926

Original Architect: Edwin G. Rorke

National Historic Register: listed 1980

Philadelphia Historic Register: listed 1981



*Alden Park Cambridge Building after renovation (photograph © Marc Harary, courtesy BartonPartners)*

## ABOUT

The Alden Park complex on Wissahickon Avenue in Philadelphia features three Jacobean Revival apartment buildings amid landscaped grounds. Modeled after late Renaissance architecture and designed by Edwin Rorke, the buildings feature classical and fanciful details. The Manor opened to residents in 1926, followed by the Kenilworth and the Cambridge shortly thereafter. Prominent Philadelphians called Alden Park home, including the family of actress-turned-princess Grace Kelly. The property is listed on both the National and Philadelphia Registers of Historic Places.

Like many early 20th century buildings, Alden Park featured steel windows. Popularized in American factories, steel windows let in ample sunlight and fresh air with narrow sight lines. By 2016, the windows at Alden Park had deteriorated beyond repair. As part of a comprehensive renovation by owners L3C Capital Partners and architect BartonPartners, the exterior masonry was restored and 6,688 windows replaced with engineered historic replicas.

AGI member Graboyes Commercial Window Company performed the historic window replacement – the largest project in the company's 34-year history.

## HISTORIC CHALLENGES

The property's historic register listings required compliance with Philadelphia's Historic Preservation Ordinance and the Secretary of the Interior's Standards for Historic Preservation, administered through the National Park Service (NPS). The design and construction team performed extensive research and met with NPS representatives in Washington, D.C., to gain approval.



*Left: original Thorn Casements window brochure featuring Alden Park*

*From left: window fabrication at Graham Architectural Products, Foreman Joe Mignone with an installed replica window, exterior after window replacement (images courtesy Graboyes Commercial Window Company)*



Exchanging old steel windows with aluminum replicas presents challenges: maintaining sight lines while adding thicker insulating glass and compensating for aluminum's lesser strength across larger openings. Original manufacturer Thorn Casements was no longer in business. Instead, Graboyes worked for almost a year with window manufacturer Graham Architectural Products. A version of its award-winning SR6700 steel replica architectural window was modified to suit the project's variations. The Graboyes team also performed selective demolition to determine original anchoring points and connection details. The new windows replicate the look of steel in durable, energy efficient aluminum with stainless steel concealed hinges and white bronze cam lock hardware.

Graboyes Chief Estimator Bill Steedle noted that collaboration among all the various teams was remarkable; the window replacement was approved by all historic entities.

## ALL IN THE FAMILY

One talented family helped keep Graboyes on point throughout the project. Director of Preconstruction Michael DelRossi and his son Michael, Jr., spent two months precisely measuring each window opening. Two more of Mike's sons then took over. Procurement Specialist Chris DelRossi performed all drafting and design. Jim DelRossi served as foreman along with Joe Mignone. (Fourth son, Anthony, works as a technician for another company.)

## LOGISTICS

Graboyes secured warehouse space near the project to prep and deliver material in just-in-time fashion. According to Steedle, the process was easier than working out of storage containers on site due to the wide variety of window sizes. Instead, the warehouse was organized for synchronized daily deliveries. Each day, crews would pick up what they needed and deliver to Alden

Park; debris was removed in each return trip. Senior Project Manager and 25-year Graboyes veteran Les Schlemback ran the project, coordinating closely with onsite realty management and Briarwood Construction.

## REPLACEMENT

Graboyes crews averaged 12-17 windows (three or four residences) each day, working top-down, often simultaneously in multiple buildings. One team would dismantle the original windows and remove all debris while another crew prepped the openings and installed the new windows. Schlemback likened it to a conveyor belt – with white glove service. "At the end of each day, the unit would be 100 percent done and ready for residents to return."

Originally scheduled for 18 months, the project was finished four months ahead of schedule in November 2017. "I've worked in retrofit windows for 40 years," said Steedle. "I've never seen a job go as well as this. We had a good customer, a good GC, and a good window supplier." Schlemback added, "The individuals we had on the team did a bang-up job. As usual, they were understanding and respectful of the unit owners and their property and they were very efficient. They were the guys who got it done."

## EPIC SUCCESS

"Graboyes worked diligently and creatively with us to arrive at solutions that were not only cost effective and well suited for the existing conditions, but also met strict NPS requirements for historic accuracy," said BartonPartners Senior Project Manager Lyle Suess, AIA, LEED AP. "Their work with Graham Architectural Products resulted in a visually striking historic restoration that also dramatically improved interior conditions and energy efficiency, as well as restored window operability - a true success of epic proportions."