

[MULTIFAMILY]

E-VOKE-ING the Past

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A Worcester, Mass., Vocational High School Is Adapted for Multifamily Residential

Retrofit Team

ARCHITECT // The Architectural Team, Chelsea, Mass., www.architecturalteam.com

DEVELOPER // WinnDevelopment, Boston, www.winncompanies.com/winndevelopment/overview

WINDOW INSTALLER // Thermo Experts Inc., Pittsfield, Mass., www.thermoexp.com

MASONRY SUPPLIER/CONTRACTOR // D&S Masonry Inc., Wrentham, Mass., dandsmasonry.com

LIGHTING SUPPLIER // Boston Light Source, Boston, www.bostonlightsource.com



If you've ever traveled to Worcester, Mass., you've seen the Voke. I-290 feeds traffic from the Massachusetts Turnpike into Worcester along Salisbury Street, and the Voke is the first major landmark on the right. Built in 1909—with wings added in 1912 and 1926 to form its iconic U-shaped layout—the facility was known as the Worcester Boys Trade High School until the 1970s, when it merged with the nearby girls' vocational school and was soon renamed Worcester Vocational High School. Locals began affectionately referring to the school as "the Voke."

In recent years, that affection had been in short supply. Over time, the student population grew, leading to overcrowding. An infill expansion built to house a new gymnasium made use of the courtyard formed by the U-shaped building. Though the addition eased crowding for a time, it didn't

'fit the glove'. The addition cost the school most of its character and all of its green space and, ultimately, proved debilitating to the tiny campus and the structure. Eventually, continued student-body growth made the Voke obsolete. The school moved to a new facility in 2006, leaving the original campus decommissioned and empty.

Worcester's decades-long challenges from its deindustrialization—familiar to many of the Northeast's former manufacturing towns—included high unemployment, poverty and urban decay. The Voke became a symbol of these problems: the site a home to squatters and vandals; its empty, broken windows facing the traffic entering the city. The bustling educational center at Worcester's gateway had become a foreboding monolith offering neither welcome nor promise.

Thankfully, the property enjoyed a major transformation of late—one that many consider to be central to Worcester's recent renaissance.

From School to Residential Property

Boston-based WinnDevelopment purchased the property in 2008 with an eye toward repurposing the Voke to multifamily residential, founding its hopes on four premises: the city's dire need for housing, the optimal location of the project in relationship to transit and a retail center, anticipation of an economic revitalization for Worcester, and an ongoing multiproject partnership with Chelsea, Mass.-based design and master planning firm The Architectural Team Inc., a nationally recognized leader in adaptive reuse and historic preservation. Years of experience with innovative design solutions, planning challenges, and tax credit expertise have made the firm's partnership with WinnDevelopment an industrious and enjoyable win-win scenario.

For more than four decades The Architectural Team has been striving to preserve New England's architectural legacy, an endeavor most frequently associated with adapting



PHOTOS: THE ARCHITECTURAL TEAM

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PHOTOS: WARREN JAGGER



THE VOKE'S AESTHETIC CHALLENGES INCLUDED RESTORING THE ORIGINAL MASONRY AND EXPOSED STRUCTURAL ELEMENTS TO THEIR FORMER GLORY AND FINDING A SOLUTION FOR THE WINDOWS TO RECREATE THE HISTORIC APPEARANCE.

decommissioned mills and factories into multifamily housing, commercial space, mixed use, senior living, and artist live/work space. Like those structures, decommissioned school buildings lend themselves well to residential usage. The large number of windows makes it possible to adapt for multifamily housing while simultaneously achieving a historic tax credit by preserving the structure's architectural significance.

For the Voke, the development team faced the challenge of addressing the damage done by the single-story metal-and-glass infill gymnasium addition and another expansion for a welding shop. The structure would also need to be made energy efficient and sustainable. Aesthetic challenges included restoring the original masonry and exposed structural elements to their former glory and finding a solution for the windows to recreate the historic appearance.

The infill gymnasium addition had been demolished prior to WinnDevelopment's purchase of the property as had the non-historic addition housing the school's welding shop. But rather than improving the site's appearance, a decision made to pave the courtyard and use it for tractor-trailer storage only contributed to the Voke's aspect of decay. The redesign called for a landscaped courtyard, as the trade school itself had once boasted, to be enjoyed by residents and visitors.

The design team worked to ensure that, in addition to accomplishing aesthetic and programmatic goals, the reintroduction of elements, like the courtyard, supported the restoration and preservation of the building's architectural significance. The residents of Worcester all know the Voke, whether they attended the school themselves, know someone who did, or drove past it countless times travelling to and from the 'Pike. It would not be enough to adapt the building for residential use. The completed Voke Lofts project would have to help restore some measure of pride to the community.

Restoring Pride

With the gymnasium extracted, the plan offered a courtyard entrance to the structure, walkways, views of green space and ample natural daylighting (vital to any residential project) to all floors, including the first. The site of the demolished welding shop provided



ALL 312 OF THE BUILDING'S WINDOW OPENINGS RECEIVED REPLICATED FENESTRATION THAT MATCHED THE ORIGINAL HISTORIC LOOK, AUGMENTING THE VOKE'S ARCHITECTURAL BEAUTY AND ICONIC WEIGHT.

PHOTO: JOSH FALK, COURTESY WINNDEVELOPMENT

PHOTO: THE ARCHITECTURAL TEAM

Before

After

PHOTO: JOSH FALK, COURTESY WINNDEVELOPMENT

A COMPLETE GUT OF THE BUILDING'S INTERIOR WAS NOT POSSIBLE. THIS RESULTED IN A DESIGN IN WHICH NO TWO UNITS OF THE 84 TOTAL HAVE THE EXACT SAME LAYOUT OR AESTHETIC.

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a new spot for a small parking area. But the additions had created other challenges. Most notably, the masonry on all three courtyard-facing facades were badly damaged and stained by construction and facility operation associated with the gymnasium addition.

Restoring the masonry exterior would be extremely important to preserving the historic structure's iconic industrial appearance. Particularly noteworthy of the façade are the horizontal cast stone belt courses on the building's Grove Street frontage, linking the three sections of the school structure. The team restored the belt courses to appear brighter and more welcoming, as they may have appeared when the school was first completed. Ornamental masonry panels were likewise restored. One of these, a concrete entablature within the brick and cast stone parapet, reading "WORCESTER BOYS TRADE SCHOOL", required special effort for preservation.

In addition to the cleaning, rebuilding and tuckwork necessary to restore the brickwork that had long ago become stained and discolored,

certain pieces of the masonry had to be replicated rather than preserved. The existing brick parapets on the 1912 addition were found to be structurally unsound, and the team discovered rusting lintels behind the original brick of the 1926 addition. These could not be saved and had to be rebuilt.

For the Voke's windows, preservation was not possible but historical accuracy remained a priority. Happily, the design team's experience opened the door to a first-rate solution: historic replica frames. All 312 of the building's window openings received replicated fenestration that matched the original historic look, augmenting the Voke's architectural beauty and iconic weight. The architects worked closely with the Worcester Historical Commission and National Park Service on this process, creating steel and aluminum frame mock-ups, conducting trial installations and ultimately delivering the replicas to exacting specifications.

The large, arched windows that were once a part of the 2-story school auditorium space were particularly challenging for replication. The size and radius of the arches are not standard for the local manufacturer, so bespoke production was required. The design team also had to coordinate the mullion locations in a way that would mask the new floor structure being constructed behind the window. From the outside, the windows still dictate the large 2-story auditorium space while inside the added floor allowed the team to program duplex units.

The team was also able to specify the fenestration to support the project's energy-efficiency and sustainability goals. The glazing delivers saturating daylight while reducing solar heat

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ILLUSTRATION: THE ARCHITECTURAL TEAM



PHOTO: WARREN JAGGER

Materials

WINDOWS/GLAZING // Diamond Windows & Doors Manufacturing, diamondwindows.com

CANOPIES // Soucy Industries Inc., soucyindustries.com

SITE LIGHTING // Antique Street Lamps, antiquastreetlamps.acuitybrands.com

BOILERS // HydroTherm, hydrotherm.co

CHILLER // Johnson Controls, www.johnsoncontrols.com

FAN COILS // The Whalen Co., whalencompany.com

PUMPS // Taco Inc., www.taco-hvac.com

HEAT PUMPS/CONDENSING UNITS // Samsung, www.samsung.com

RESILIENT FLOORING IN UNITS KITCHENS AND MARKET UNIT LIVING AREAS // Shaw Contract Group, www.shawcontractgroup.com

BATHROOMS // Centiva Flooring, www.tandus-centiva.com

WOOD FLOORING IN LOUNGE / GALLERY, CARPET TILES IN CORRIDOR / COMMON AREA, AND UNIT BROADLOOM CARPET // Shaw Contract Group

DRYWALL AND ACCESSORIES // USG Corp., www.usg.com

MASONRY CLEANERS AND PAINT STRIPPER // PROSOCO, www.prosoco.com

gain and UV penetration, and the replica frames minimize thermal bridging and air infiltration better than the original windows.

Unique Challenges

The unique nature of this particular school building presented challenges that the designers rarely encountered in conversions of mills and factories. For instance, the Worcester Historic Commission required that a solution for the interior redesign respect the original large school corridors to preserve the school-building atmosphere, eliminating valuable square footage from use in rental units and creating challenges for the layouts. Another example: Student trade shops could not be converted in the same way typical classrooms might, and the nature of the vocational school meant that there were few “typical” classrooms.

Perhaps most challenging for the interior, the Voke presented differing structural beam and column material, to say nothing of the layout, in each of the three building sections. The 1909 building was heavy timber; the 1912 addition presented a mixture of wood and steel columns and beams; and the 1926 addition is all steel. Each section required its own specific detailing and approach to layout dictated by its column spacing. The wood decking and brick exterior walls were the only constant.

A complete gut of the interior not being possible, the development team worked to find innovative solutions. In the end, the challenge required flexibility and inventiveness, resulting in a design in which no two units of the 84 total have the exact same layout or aesthetic. Each resident family enjoys a unique home within the Voke.

The 116,000-square-foot building had been decommissioned for only a few years before WinnDevelopment took over its custody, so much of the interior was still in very good condition. The roof had not yet begun to leak, and the exposed brick in many areas was less challenging to restore. The existing plaster walls, badly deteriorated by cold winters without any heat in the building, were the major exception and had to be replicated with drywall.

The team focused on exposing as much of the original architectural elements—structural columns and beams, wood

decking, brick walls—to the fullest extent possible. The goal was to allow these elements to be part of the Voke’s resurgence and help tell the story of its past.

The team removed degraded finishes and replaced them with more appropriate ones for residential applications. The 12- to 14-foot-high ceilings, exposed beams and enormous windows naturally lent themselves to creating bright, airy lofts and apartments, and the double-loaded corridors were used to the advantage of the new residential programming. Although it was impossible to retain much of the original, noisy wood flooring, replacing it with a composite flooring made with recycled content provided the look of wood but with much-needed sound dampening. The team also installed a state-of-the-art high-efficiency HVAC system.

Many of the spaces lent themselves naturally and others, surprisingly, to their new programming as shared amenity spaces. The Voke’s original school lobby now serves as a resident lobby and main entrance while a former boiler room is now a resident lounge with access to the outdoor kids’ play area. An exercise room and art gallery occupy what once was a student trade shop.

Paying Homage to the Past

Now renamed Voke Lofts as homage to the building’s history, government officials, investors, locals and press are hailing the project as a significant achievement for Worcester. As a mixed-income multifamily dwelling, it provides much needed affordable housing for city residents. As part of the “Gateway District” redevelopment plan, Voke Lofts serves as a hub for continued redevelopment of the area, including other historic structures nearby. The market-rate units have been eagerly sought by young professionals, many with families. And combined with Worcester’s revitalized downtown life, projects like Voke Lofts encourage many natives to continue residing in Worcester after high school or college.

As the second-largest city in New England (and growing), Worcester deserves to take pride in its history and heritage. The transformation and preservation of a building like the Voke offers citizens an anchor for that pride. 