



WAKE FOREST BIOTECH PLACE





## “91 Turkish”



Just as the aroma of tobacco permeated downtown Winston-Salem in the early decades of the 20th century, the red-brick buildings of R.J. Reynolds Tobacco Co. were a comfortable imprint.

Then, in 1937, Reynolds agreed to a new look. The Libbey-Owens Glass Company proposed that a new building at Patterson and Fifth streets use a newfangled method called glass-brick construction. Glass bricks had their origins in Germany and had recently begun to become more popular.

The effort in Winston-Salem wasn't easy. The first glass bricks cracked from expansion and contraction because of the extreme temperatures. Then, Thomas Solomon, head brick mason for Reynolds' construction department, devised a method to lay the bricks, protecting them from expansion and contraction.

With thousands of the translucent glass bricks on its façade, RJR opened the 93,125-square-foot "Building 91," which would soon become known as "91 Turkish." That's because it was used as late as 1956 to warehouse Turkish tobacco, a signature ingredient credited with creating the smoothness and aroma of RJR's popular Camel cigarettes.





# the Shops

It's hard for Garland Ladd not to envision the inside of what used to be Building 91.

Ladd can still see motors "strewn all over the place" being rebuilt and repaired in the electric shop. He can still hear the sounds of hammers and automatic machinery and air-powered nailers in the wood shop.

When he retired as Reynolds' director of engineering in August 1981, Ladd was in charge of the seven different shops that were brought under one roof when a second structure was added to Building 91. Completed in 1962, Building 91-1 and Building 91-2 totaled 235,000 square feet and reached to Sixth Street.

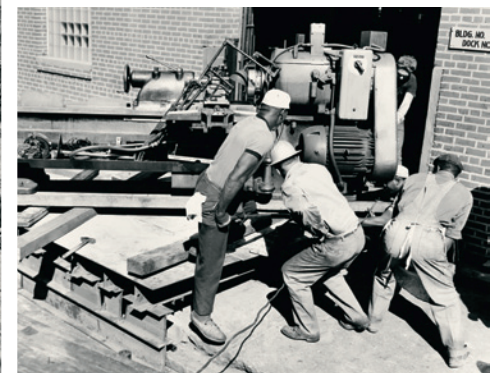
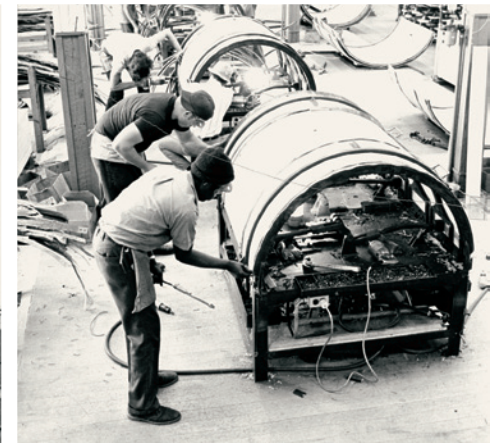
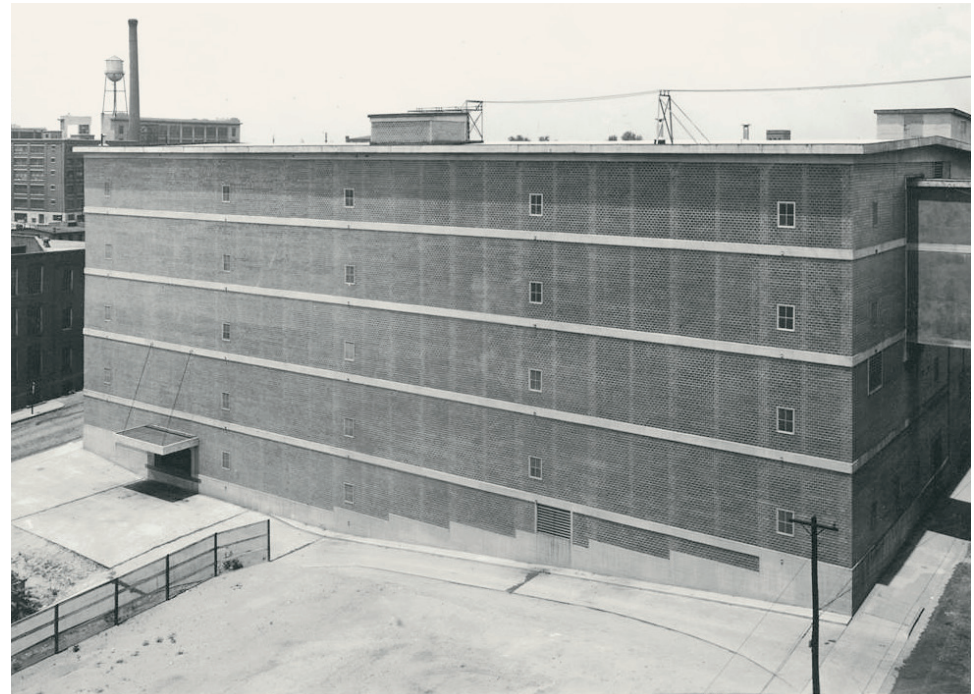
With cigarette manufacturing moved out of downtown and to plants in Whitaker Park, the old Turkish warehouse and the newer Building 91-2 created a good home for the various shop operations.

Ladd says proudly that RJR workers could make anything in those shops, frequently crafting unique and high-quality pieces for any number of company operations.

Ladd couldn't be happier about the makeovers of both the buildings in the Winston-Salem Tobacco Historic District and the local economy.

"I'm delighted that they're doing it," says Ladd, who worked for RJR from 1951 to 1981. "Everything has changed so appreciably it's hard to fathom it. I think it's all for the better for the most part.

As for Building 91-1 and 91-2? "They were built in the era when they knew how to build stuff, and they were built to last."







## the Renovation

The sheer size of Reynolds' downtown buildings with their open interiors is one of the things that made them historically significant, as were the skywalks and pedestrian bridges common to the structures.

Steve Leonhardt, the lead architect on Wake Forest Biotech Place for the Baltimore-based architectural firm Gaudreau Inc., says saving the glass bricks and making use of other materials in the building were challenges, but rewarding ones.

**"From an architectural point of view, we feel it's very beneficial to recycle buildings whenever possible," he says. "It's great to save some of the history."**

In the case of Building 91, laboratories from Wake Forest School of Medicine overlook the centerpiece of the renovation, a spectacular, four-story glass atrium. The atrium will serve as an enormous think space, and occasional theater, thanks to a 14-foot Jumbotron screen and state-of-the-art sound system.

The building is sprinkled with pieces of salvaged history, with a good number of the original columns left in place, and planks of the original maple flooring reused throughout.

To comply with federal guidelines for historic renovations, windows within the glass brick front were re-created with available materials as close to the original as possible. Leonhardt says only three totally complete, historical windows could be saved. But the restoration is done so well it's impossible to tell old from new, he says.

Remarkably, though many of the nearly 66,000 glass bricks on the building's facade were damaged, workers were able to remove and save hundreds of others from the north side of the building, where they were not needed. Combined with the discovery of hundreds of extra glass bricks that RJR had kept stored in the building for decades, the renovation was able to use only original bricks.

Leonhardt says one of the key engineering feats involved in the renovation was raising the entire third floor by two feet to make the ceilings on that level high enough to serve as laboratory space.

Wake Forest Biotech Place was built to Leadership in Energy and Environmental Design (LEED) silver standards for green building design, construction, operations and maintenance. For example, Wake Forest Biotech Place gained points for conserving energy through its use of chill beam system, which uses just one-third the traditional amount of power to heat and cool a building.





# Biotech Place

The opening of Wake Forest Biotech Place brings Piedmont Triad Research Park (PTRP) to about 800,000 square feet of Class A office, laboratory and mixed-use space, and employment in the park is expected to reach nearly 1,500.

Biotech Place will be a unique mix of Wake Forest School of Medicine departments, private biotech businesses, and retail and office space.

Although the old rooftop parking of Building 91-2 made way for heating and cooling units, ample parking surrounds the building amid landscaping that includes cobblestones designed to recall the downtown of yesteryear.

The building's tenants include PTRP administration, Wake Forest School of Medicine's departments of Biochemistry, Biomedical Engineering, Microbiology and Immunology, and Physiology and Pharmacology, and the Childress Institute for Pediatric Trauma, as well as private businesses such as Carolina Liquid Chemistries Corp. and Allegacy Federal Credit Union.

Biotech Place has brought more improvements to the neighborhood around Piedmont Triad Research Park, which is being developed to LEED for Neighborhood Development (LEED-ND) standards. With the construction of Biotech Place has come the sprucing up of areas around the parking lots and the addition of a small open space park south of the building.

To date, Biotech Place is the northernmost property in PTRP and fits in well with its neighbor, Goler Memorial AME Zion Church, which for years through its Goler Community Development Corp. has worked to create a diverse, mixed-use neighborhood on the eastern side of downtown.



# Biotech Place

The Wake Forest Biotech Place project was built thanks in part to the contribution of New Market and Historic federal tax credit programs, as well as Mill Rehabilitation tax credits from the State.

In addition, the city of Winston-Salem and Forsyth County have contributed toward the cost of neighborhood infrastructure improvement projects totaling \$6.2 million. These funds will be repaid through property tax payments made by Wake Forest Baptist Medical Center to occupy Wake Forest Biotech Place.

Leonhardt, the lead architect, says the ability of those interested in preserving historically significant structures such as Building 91 to work with designers of a modern function such as biotechnology is what has made the project "a win-win for everybody."



Piedmont Triad Research Park



# building Biotech Place

Cassidy/  
Turley Commercial  
Real Estate Services



Gaudreau, Inc.  
Architects Planners Engineers



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More than 200 companies participated in the planning, design and construction of Wake Forest Biotech Place. As of Dec. 31, 2011, 1,572 people worked on the project, with 70 percent of those representing local companies.

Listed are some of the prime contractors on the project.

Abatemaster, Inc.	Foster & Associates, Inc.	S&ME
Allen & Company	Garland Woodcraft Co.	Salem Steel
Alpha Insulation	Gaudreau	Sgroi Land Surveying
Arbon	Getinge	Shapiro Walker
Artios Retail, LLC	Global Cleaning Services	Shields
Attolist	Granite Enterprises	Snipes Photography
Bahnson Environmental Spec.	Graybar	Specialty Finishes
Baseline Consultants	Harsco	Starr Electric
Blythe Construction	HDR, Inc.	Stimmel
Brady Surveying	Hillmann Environmental Grp	Stonhard
Brite Engineering	Hughes Associated	Terracon
Cassidy Turley	Jamesca Cleaning Services	Timothy Haas & Associates
Charlotte Glass	Johnson Controls	Trac
Clean Air Environmental	Kibart	Triad Roofing
Containment Control	Kimley-Horn	UniSky
Cook & Boardman	Kuester Sales (Aiolite)	Warco Enterprises
Cost Cutters	Leisure Time	Warco, Inc
CR Installations	Level 3	Watson Woodworking
Dalton Carpet One	Lithko	Wayne Brothers
DARI	LMI Builders	Wexford Science & Technology, LLC
Design Collective	Lorax	Whiting Turner
DH Griffin	Macade	Whitlock
Dimension Data	MacRostie Historic Advisory, LLC	Winston Salem Police Department
DK Construction-Kurt Hemrick	McGee Brothers	Womble Carlyle Sandridge and Rice, LLC
DpM Partners	Metropolitan Drywall	Workplace Strategies
Dunlap Lawn Service	Michael Clapp & Associates	Worldwide Engineering
EAS	NC Fire Protection Inc	Yadkin Valley Paving
ECS Carolinas, LLC	NetUnlimited Cabling	Yates Construction
EE Wilson	Nycom	
Engineered Quality Services	OH Door of Greensboro	
Environmental Holdings Group	Otis Elevator	
ERM, Inc	Performance Cabling	
ERM NC, PC	Pfaffs	
Express Servcie Group	Piedmont Fence	
Faisant	Ramey Kemp	
Fire Protection Specialists	Reyes Supply	
	S&L	



**PIEDMONT  
TRIAD  
RESEARCH PARK**

**WAKE FOREST BIOTECH PLACE**

575 N. Patterson Avenue

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