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6 North Apartments

St. Louis, Missouri

Project Type: **Residential**

Subcategory: **Housing—Multifamily**

Volume **36** Number **16**

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Case Number: **C036016**

PROJECT TYPE

6 North Apartments is one of the nation's first examples of a multifamily residential building featuring 100 percent universal design (UD). All 80 of the project's one- and two-bedroom apartments—as well as its common spaces, coffeehouse, and live/work units—are fully usable by both disabled and nondisabled persons. The residential/mixed-use and mixed-income building is located at the corner of Laclede Avenue and Sarah Street in St. Louis's central west end. UD features incorporated at 6 North include stepless entries, open floor plans, adjustable countertops and shelves, and high-contrast color and surface texture schemes. The three-story project contains 56 percent market-rate and 44 percent affordable units. As of 2006 it is fully leased, with eight apartments currently occupied by households that include at least one disabled member.

LOCATION

Other Central City

SITE SIZE

1.66 acres/0.67 hectare

LAND USES

Multifamily Rental Housing, Live/Work Space, Restaurant

KEYWORDS/SPECIAL FEATURES

- Universal Design
- Urban Infill/Revitalization
- Mixed-Income (Market-Rate and Affordable) Housing
- Mixed Use

PROJECT ADDRESS

4055 Laclede Avenue
St. Louis, Missouri 63108

OWNER

Laclede & Sarah, LP
St. Louis, Missouri
314-621-3400

DEVELOPER

McCormack Baron Salazar, Inc.
St. Louis, Missouri
314-621-3400
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ARCHITECT



Trivers Associates
 St. Louis, Missouri
 314-241-2900
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LANDSCAPE ARCHITECT

Austin Tao & Associates, Inc.
 St. Louis, Missouri
 314-436-3999
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UNIVERSAL DESIGN CONSULTANTS

The Starkloff Disability Institute
 St. Louis, Missouri
 314-588-7090

Cohen Hilberry Architects
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 314-367-8300

OTHER KEY DEVELOPMENT TEAM MEMBERS

Brinkmann Constructors
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GENERAL DESCRIPTION

6 North Apartments is a three-story, 80-unit residential/mixed-use and mixed-income building located at the corner of Laclede Avenue and Sarah Street in St. Louis's central west end. According to the Center for Universal Design at North Carolina State University, 6 North is the nation's first large-scale example of 100 percent universal design (UD) in a multifamily residential building. All of the project's one- and two-bedroom apartments—as well as its common spaces, corner coffeehouse, streetfront live/work units, and gated parking lot—are fully accessible by both disabled and nondisabled persons. UD features incorporated at 6 North include stepless entries, open floor plans, front-loading washers and dryers, front-mounted controls, adjustable-height counters and shelves, roll-in showers, offset plumbing controls, lever door handles, rocker light switches, and high-contrast color and texture schemes. The project contains 56 percent market-rate and 44 percent affordable units. It is fully leased, and eight units currently are occupied by households with at least one disabled member.

McCormack Baron Salazar, Inc., (MBS) is a development firm whose mission is to "rebuild neighborhoods in central cities throughout the United States that have deteriorated through decades of neglect and disinvestment."

The firm developed 6 North and is the managing general partner of Laclede & Sarah, LP, which owns the project. On-site management is provided by McCormack Baron Ragan Management Services, Inc., an affiliated company. As one of the nation's leading for-profit developers of economically integrated neighborhoods, MBS has more than 30 years' experience in the development and management of mixed-income communities.

THE SITE

6 North is located on an urban infill site one block from the St. Louis University campus (to the east) and about six blocks from the Barnes/Jewish Hospital complex and the Washington University Medical School campus (to the west). It also lies within a few blocks of Forest Park (the second-largest municipal park in the United States), the Center for Emerging Technologies (a business incubator), and CORTEX (the region's first wet labs dedicated to converting biomedical research into usable technologies). Set at the convergence of multiple bus routes and within a mile (1.6 kilometers) of a light-rail station, the site is easily accessible by public transit. Behind the building are a warehouse located across an alley and a post office, while a hardware store and rowhouses are across Laclede Avenue and a vacant lot and restaurant sit across Sarah Street. A former warehouse that has been converted to condominiums stands on the opposite corner of Laclede and Sarah.

Built in 1915, the St. Louis County Producers' Market Building—a wholesale retailers' produce market consisting of a brick edifice and five open steel shed structures—sat on the site. After the farmers market closed in the mid-1970s, the building was used as office and warehouse space. By 2003, it had been vacant for many years, and only one of the steel sheds remained. The building was demolished that year, but the steel shed was salvaged and retained in what has become the 6 North parking lot. This large, metal Tinker Toy–like structure essentially sat at the center of the tight, urban site, requiring contractors to work around it as they built the new project. The types of unforeseeable problems often found in urban infill sites presented themselves at 6 North; for example, even after extensive testing showed no soil problems, contractors found a 30-by-30-foot (9.2-by-9.2-meter) sink hole created by an old grease pit, which had to be filled with concrete. Decay was discovered in the steel shed structures below asphalt level, and some of the steel had to be replaced; round concrete pillars also were placed around the bases of the steel supports to add stability.

The owner contributed \$50,000 toward public infrastructure improvements along Laclede Avenue, which were completed while 6 North was under construction.

DEVELOPMENT AND CONSTRUCTION PROCESS

The 6 North project was the brainchild of Paraquad, Inc., a private, nonprofit center founded by disability advocates Max and Colleen Starkloff in 1970 that is dedicated to providing independent living services for those with disabilities. Since 1997, Paraquad had owned and managed the Boulevard Apartments on Forest Park Avenue, which provided subsidized housing for disabled residents. In 2000, the U.S. Department of Housing and Urban Development (HUD) condemned the structure because of safety and other issues. After determining that renovating the structure to meet current HUD requirements would be prohibitively expensive, residents were moved to other buildings, and Paraquad and local politicians began the search for replacement housing that would allow disabled residents to live independently.

Missouri Senator Kit Bond, a longtime housing advocate and chairman of the Senate Appropriations Committee that funds housing programs, was able to secure \$1 million for the replacement project in the fiscal year 2002 VA-HUD appropriations bill and an additional \$500,000 in HUD funding in 2003. Recognizing MBS's experience in developing urban communities, Bond approached Richard Baron, the company's chairman and CEO, to discuss developing the new project. Baron, in turn, met with the Starkloffs (who had since left Paraquad to form the Starkloff Disability Institute) to discuss how to incorporate accessible design features into the units. Expressing concerns about accessible design—which often results in features that meet rigid design codes but do not always fully address the needs of disabled people and can create an unappealing, institutional image—and explaining the benefits of UD, Colleen Starkloff, the institute's director of education and training, proposed a revolutionary concept: to make the new project 100 percent UD. Rather than incorporating a specific number of units that would be accessible to disabled residents, the entire structure would be equally accessible to individuals of all ages and abilities. By removing the stigma of "handicapped" or "special needs" housing, UD offers a more mainstream approach to providing housing that meets everyone's long-term needs.

Baron bought into the UD concept from the beginning, encouraging the design and development team to explore a wide range of creative options to ensure that UD features were incorporated into every aspect of the project, often in ways that made them invisible to the able bodied. This open-minded attitude was an important factor in keeping the project on target, on time, and within budget. MBS brought in Trivers Associates, a multidisciplinary architecture, planning, and urban design firm, to design 6 North. The design process began in May 2002, and five months later MBS applied to the Missouri Housing Development Commission (MHDC)—the state's housing finance agency—for tax credits. Construction, which commenced in October 2003, took 14 months, and the project was

completed in December 2004.

UNIVERSAL DESIGN

According to Ron Mace, UD visionary and founder of the Center for Universal Design at North Carolina State University, UD "is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." The center, in collaboration with a consortium of UD researchers and practitioners from throughout the United States, has developed seven principles of universal design. (Funding for this process was provided by the U.S. Department of Education's National Institute on Disability and Rehabilitation Research.) The principles are as follows:

- **Equitable use.** The design is useful and marketable to people with diverse abilities.
- **Flexibility in use.** The design accommodates a wide range of individual preferences and abilities.
- **Simple and intuitive use.** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- **Perceptible information.** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- **Tolerance for error.** The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- **Low physical effort.** The design can be used efficiently and comfortably and with minimal fatigue.
- **Size and space for approach and use.** Appropriate size and space are provided for approach, reach, manipulation, and use, regardless of the user's body size, posture, or mobility.

(These principles are copyright © 1997 North Carolina State University, the Center for Universal Design. For more information, including images and guidelines for incorporating each principle, see http://www.design.ncsu.edu:8120/cud/about_udprinciples.htm.)

PLANNING AND DESIGN

According to Jack Hambene, senior vice president of MBS, the decision to make 6 North the first 100 percent UD multifamily project created extensive opportunities as well as significant challenges. Throughout the entire development process, UD was the key decision-making driver. The site plan and unit designs had to be accessible to, usable by, and attractive to a wide range of potential users, including those with mobility issues, audio and/or visual disabilities, and children and adults of all ages. Having worked on Americans with Disabilities Act (ADA) conversion projects that had to conform to strict design codes, Andrew Trivers, president of Trivers Associates, and project architect Greg Zipfel both note that the UD process was a liberating journey, an exciting opportunity to think creatively about how to design spaces that are comfortable, attractive, and easily used by all.

The design and development team—which also included Colleen Starkloff and representatives of Brinkmann Constructors—began meeting early in the design process and worked together throughout the design and development phases. One innovative feature of the apartments—a custom-designed, piston-driven adjustable countertop whose height can be raised or lowered—exemplifies how this collaborative design and development process worked. Trivers's interior designers sent drawings of their original plans for the counter to Starkloff, who reviewed and commented on them. After several series of revisions, Brinkmann representatives discussed the product with prospective suppliers, proposed materials, provided cost estimates, and built a mock-up, which was then further revised before the final version was approved and built in each unit. Although this process was quite time consuming, it ultimately resulted in a product that can be adjusted to meet individual apartment residents' needs. The design team also conducted extensive research on other unit features, including sinks, storage units, appliances, and windows. The UD approach continued throughout the construction process, as various products and ways of using them were tested and reworked as the project was built.

Although several products were designed specifically for 6 North, standard products generally were used throughout the project, which kept costs down. Planning and placement, rather than unique design, are what make UD work. Standard elevator buttons as well as rocker light switches are mounted lower than usual so that they can be easily reached by individuals in wheelchairs; likewise, electrical outlets are placed higher than usual. In kitchens, removable kick plates and sinks with corner drains that allow plumbing and garbage disposals to be offset, create legroom under sinks and counters for those in wheelchairs. Standard side-by-side refrigerator/freezers are easily accessible by everyone, as are standard wall ovens (placed lower than usual), dishwashers (placed higher than usual), and smooth cooktops plus front-loading washers and dryers with front-mounted controls. Easy-open hinges, adjustable shelving, and handle pulls (rather than knobs) make cabinet and closet storage spaces more usable and accessible. None of these adaptations strike the casual visitor as "special needs" features; in fact, nondisabled prospective residents typically comment on how user friendly the apartments are.

Large windows bring in copious amounts of natural light, which makes the units more usable for residents with low visual acuity as well as more appealing to everyone, and reduces the need for artificial lighting and energy use. High-contrast colors and textures provide additional cues for those with visual disabilities. Black trim around interior doorways, contrasting countertops and cabinets (light oak/black laminate), boldly contrasting wall colors, low-nap carpets and hardwood floors, and bright yellow trim around exterior doors all help residents orient themselves spatially.

Open floor plans maximize turning and transfer space for those in wheelchairs. Sliding closet doors create more usable space, as do wall-mounted cabinets in bathrooms and kitchens.

The bathrooms at 6 North illustrate important differences between standard residential design and UD. They feature wall-mounted cabinets that extend to 12 or 18 inches (30.5 to 45.7 centimeters) above the floor, allowing wall space to be efficiently used for storage while maintaining adequate wheelchair turning space at floor level. Sinks are angled just a bit, making it easier for wheelchair users to reach faucets. Seventeen-inch-high (43.2-centimeter-high) toilets (slightly higher than standard) are not noticeably different but are easier to access from a wheelchair, and are placed so that those who find it easier to transfer to a toilet from one side than the other can be accommodated. Prefabricated roll-in shower stalls with adjustable shower heads and center drains do not drain as well as custom-built units would have, but were considerably less expensive, and extra-long shower curtains help keep the slip-resistant bathroom floors dry. Water-mixing valves for bathtubs and showers were installed closer to the outside of the showers/tubs than in standard bathrooms, making them easier to reach and adjust. Perhaps most important, plywood blocking was installed behind the drywall around all toilets and showers, as reinforcement, to allow stable grab bars to be attached (and removed) as required by residents.

The building's common spaces, which include a lobby, a community room, a fitness center, a patio, elevators and elevator landings, and hallways, also incorporate UD features. Clerestory elevator landings bring in natural light and offer wayfinding reference points. Contrasting color/texture schemes in the six-foot-wide (1.8-meter-wide) hallways and black-framed doorways help residents orient themselves, and a package shelf by each entry door provides a place to put packages and bags while opening the unit door. A 20-foot-long (six-meter-long) sliding glass door enables the community room to be closed off for private functions. The building shares its outdoor patio, which has become a popular gathering place, with the corner coffeeshop. The fitness center, which all residents may use at no additional cost, contains several exercise machines that can accommodate wheelchair users, including a rotating exercise bicycle.

No parking is provided for retail users, although ample street parking generally is available, and two street spaces are reserved for disabled patrons. (Additional spaces for the disabled—more than the number required by code—are found in the secure parking lot.) One parking space per unit is allotted to residents of the income-restricted apartments at no additional charge; other tenants pay \$50 per month for a space within the fenced, restricted-access lot.

Although the original building on the site was completely demolished, the design of the new, three-story, red brick structure reflects the industrial vernacular of nearby buildings, and its massing and style complement the surrounding neighborhood. Along the Laclede streetscape, brick and black metal fences create courtyard entrances for the ground-floor apartments, and residents have personalized these courtyards with potted plants and outdoor furniture. Planting strips along the low brick walls help soften the sidewalk edge. Industrial-style, floor-to-ceiling windows; exposed ductwork; nine- to 11-foot (2.75- to 3.35-meter) ceilings; and built-in metal awnings extend the industrial feel throughout the building. Along the Sarah Street facade, a grade difference issue was resolved through the installation of another planting strip, which separates the more public section of the sidewalk from that directly in front of the live/work units.

APPROVALS

The community was quite nervous about what would be built on the 6 North site. Although the existing abandoned building was considered an eyesore, neighbors were concerned about the size and uses of what would replace it. The transitional neighborhood contains both industrial and residential uses (including single-family and multifamily housing), and residents wanted walkable retail uses but worried that housing for low-income and special-needs residents would lower their property values. Recognizing the importance of creating activity on the street, the design team addressed these concerns by placing live/work units (which could be used as retail, office, or a combination of commercial and residential space) at street level, along the Sarah Street facade. These units are occupied by service-oriented commercial uses that currently include a stationary store, a catering service, and an architectural office. Two live/work units at the corner of the building were combined to create the Six North Coffee Company, which has become a popular gathering place for neighborhood residents.

Throughout the design process, members of the development team consulted with the local alderman, the Central West End Association (a nonprofit organization dedicated to maintaining and enhancing the area as a desirable

and diverse urban residential, business, and institutional neighborhood), and various other area and neighborhood groups on the building's design and the need for retail services. The tax abatement entitlement process also required public hearings and approval by a subcommittee of St. Louis's board of aldermen. The MHDC/HUD-mandated environmental review was prepared by city staff and approved by HUD, the state historic preservation office (a division of Missouri's department of natural resources), and the federal Advisory Council on Historic Preservation.

FINANCING

McCormack Baron Salazar used a variety of public, private, and nonprofit sources to fund the project. U.S. Bank provided \$3.99 million in debt financing through a private first mortgage and \$5 million in tax credit equity financing. MHDC provided a \$540,000 HUD HOME junior loan, a \$693,000 Affordable Housing Assistance Program credit, and \$463,000 in federal and state low-income housing tax credits. The use of these credits required 35 of the units to be income restricted for up to 30 years; five of the apartments must be rented to residents earning up to 50 percent of area median income (AMI) and 30 units to those earning up to 60 percent of AMI.

In addition to the \$1.5 million in HUD grants, significant funding (\$650,000) came from the St. Louis Affordable Housing Trust Fund (AHTF), which was formed by a city ordinance in 2001 to provide loans and grants "for the rehabilitation, modification, construction, and preservation of affordable and accessible housing." The AHTF is the only housing trust fund in the country that requires all of the projects it funds to incorporate UD. Revenues for the fund come from a 2.625 percent sales tax on out-of-state purchases exceeding \$2,000. 6 North is the fund's primary demonstration project.

MARKETING AND MANAGEMENT

Although legally the developers could not make units available only to disabled people, McCormack Baron Ragan (MBR) knew that renting the affordable units quickly was key to making the project work financially, and recognized that many disabled individuals also have low incomes and are in need of subsidized housing. MBR therefore started promoting 6 North to prospective disabled tenants, holding open houses for key members of this community well before it began its general leasing efforts. The building was quickly leased upon its completion in December 2004. The first resident moved in before Christmas, 6 North celebrated its grand opening in March 2005, and the building was fully occupied by April. The first renters included 12 families with disabled members and eight seniors, all of whom qualified for the affordable units. The market-rate units also leased rapidly, to a wide range of residents that currently includes empty nesters, students at nearby universities, and young professionals and entrepreneurs who work all over the metropolitan area but prefer the neighborhood's urban lifestyle and amenities. While the building has experienced significant turnover (due primarily to its many student residents), vacated units generally have been re-leased quickly.

Removing the blighted building on a key corner in a transitional area of St. Louis and replacing it with residences and street-level businesses has increased redevelopment activity on adjacent land parcels and spurred a substantial increase in the city's income and property tax bases, as new residents and businesses are attracted to the area. And 6 North continues to serve as a demonstration project for universal design; designers, developers, and planners from throughout the country and around the world still visit the site to learn about the feasibility of and challenges involved in creating UD projects elsewhere.

EXPERIENCE GAINED

- Flexibility was key to obtaining the approval of the community while keeping the project financially and physically viable. Designating the first-floor space as live/work units demonstrated the developer's commitment to including retail space, yet left open the option of these units also being used as residences. After a retail tenant (the coffee shop) was identified, two planned live/work units were combined to create space for this tenant and another was transformed into a fitness center for the building's residents. Although the remaining three live/work units could still be used as both living and work space (since they contain a kitchen/bedroom area and bathroom, separated by a long, sliding door from a loft-type space located at the front of the unit), two are being used as entirely commercial spaces as of August 2006.
- Cost is always a consideration when building affordable housing, but because 6 North was a demonstration of the full range of UD principles, the project averaged about \$7,000 more per unit than a traditionally designed project. Several of the more expensive options such as the aforementioned piston-driven adjustable countertop could be addressed less expensively, and many of the key design features—such as the open floor plan, wide doorways, lower light switches, contrasting color patterns, and so forth—could either be installed at no additional cost or be purchased as stock items.
- Although preserving and building around the steel farmers market shed was expensive, time consuming, and problematic, the development team believes that retaining it was ultimately beneficial to the project.

The structure, now lit at night, serves as a landmark and a reference to the property's past.

- While the design and development team did not specifically plan 6 North as a smart growth or new urbanist project, UD, smart growth, and new urbanist goals clearly complement each other, and 6 North addresses many smart growth/new urbanist objectives through its mix of uses, density, urban infill development, and accessibility.
- Architect Andrew Trivers and other members of the development team say they firmly believe that in the future, all buildings will incorporate UD. Developing 6 North gave them a chance to explore this new type of development.

PROJECT DATA				
LAND USE INFORMATION				
Site area (acres/hectares): 1.66/0.67 Percentage complete: 100 Gross density (units per acre/hectare): 48/119 Number of off-street parking spaces: 87				
LAND USE PLAN				
Use	Acres/Hectares	Percentage of Site		
Buildings	0.66/0.27	39		
Streets/surface parking	0.70/0.28	42		
Landscaping/open space	0.30/0.12	19		
Total	1.66/0.67	100		
RESIDENTIAL INFORMATION				
Unit Type	Number of Units	Area (Square Feet/Square Meters)	Percentage Leased	Initial Rental Prices
A: Market rate One bedroom, one bathroom	12	743/69	100	\$850
B: Market rate One bedroom, one bathroom	14	657/61	100	\$685
C: Market rate Two bedrooms, two bathrooms	16	1,050/98	100	\$975-\$1,100
D: Live/work One bedroom, one bathroom	3	1,100/102	100	\$1,100-\$1,600
E: Income restricted One bedroom, one bathroom	21	640/60	100	\$474-\$628
F: Income restricted Two bedrooms, two bathrooms	14	930/86	100	\$617-\$756
RETAIL INFORMATION				
Tenant Classification	Number of Stores	Total GLA (Square Feet/Square Meters)		
Food service (coffeehouse)	1	2,067/192		
DEVELOPMENT COST INFORMATION				
Site Acquisition Cost: \$700,000				
Site Improvement Costs: \$645,133				
Paving/curbs/sidewalks and landscaping/irrigation: \$323,461				
Demolition: \$208,455				
Relocation: \$33,609				
Environmental: \$29,608				
Public improvements: \$50,000				
Construction Costs: \$9,073,012				
Soft Costs: \$2,517,855				
Architecture and engineering: \$445,856				
Marketing and lease-up: \$77,977				
Taxes/insurance: \$100,594				
Construction interest and fees: \$259,109				
Other: \$1,634,319				

Total Development Cost: \$12,936,000

DEVELOPMENT SCHEDULE

Planning started: May 2002
Site purchased: May 2003
Demolition and construction started: October 2003
Sales/leasing started: September 2004
Project completed: December 2004

DRIVING DIRECTIONS

From St. Louis International Airport: Take I-70 east for 7.8 miles (12.6 kilometers) to Kircher Boulevard. Take Kircher toward Kingshighway. Turn right on Kingshighway. After 3.5 miles (5.6 kilometers), make a left on Forest Park Avenue, then go one mile (1.6 kilometers) and turn left on Sarah Street. The project is at the intersection of Sarah Street and Laclede Avenue.

Driving time: 20 minutes in nonpeak traffic.

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This Development Case Study is intended as a resource for subscribers in improving the quality of future projects. Data contained herein were made available by the project's development team and constitute a report on, not an endorsement of, the project by ULI—the Urban Land Institute.

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