FEATURES

A Building and a Forest

Pushing the boundaries of what a library can be for its community

By **Mark Robins** Senior EditorPosted October 03, 2018

When designers were looking at the site of the South Central Regional Library in Louisville, Ky., they realized it offered something "truly precious"—a fully grown urban forest—into which they had to insert a building and pavement. The site is less than 5 acres, and the parking and building were about an acre each, so the designers were absolutely committed to every bit of the remaining site being an expression of the forest. The result is a remarkable facility providing 100,000 nearby residents with an accessible, inviting and healthy building.

Doing this involved the combined expertise of two architectural firms: Louisville-based JRA Architects and Minneapolis-based MSR Design, in addition to landscape architect MKSK Studios, Louisville, and the Louisville Free Public Library's (LFPL) in-house design and project management team.

Matt Kruntorad, AIA, LEED AP, principal, and Byoungjin Lee, AIA, LEED AP, associate, from MSR Design, worked closely with Colin L. Drake, AIA, LEED AP, principal, and Marty Merkel, AIA, LEED AP, director of building information modeling (BIM) technologies, at JRA Architects. Andy Knight, PLA, ASLA, principal at MKSK Studios, LFPL's director Jim Blanton, LFPL manager of design and construction Matt Frazure, and Ryan Downs, project manager from Sullivan|Cozart, Louisville, the construction manager, were the other core design collaborators.

INTO THE WOODS

All design decisions were made to celebrate and protect the character and quantity of the existing trees. "We presented the forest in three unique ways that respond to the site and how patrons would interact with it," Knight says.

"[This includes] over an acre of completely untouched forest to the north, which hides the street beyond from the quiet adult reading areas; cleared understory in the parking and along the sidewalk, which offers a safer pedestrian experience without sacrificing the shade from the remaining canopy trees; and more manicured rows of newly planted trees along the street, which will eventually grow to replace those lost when the neighborhood was first developed," Kruntorad says. "By orienting the building east-west, we both preserved that northern forest and improved our daylighting access."

Since the building was wrapped in trees on all sides, designers saw very early on the opportunity to use reflective materials to help the building dissolve into its surroundings. Nominal 117-inch by 13-inch panels, 0.025 inches (24-gauge), type 316 stainless steel from Phoenix Metals Co., Gary, Ind., in both brushed (#5) and mirror (#8) finishes, with a linear, micro-embossing pattern by Rigidized Metals Corp., Buffalo, N.Y., were used for the exterior panels.

“Stainless steel cladding offered us a durable, natural finish material that we knew could thrive for decades with little to no maintenance,” Lee says. “As we researched further, we found that type 316 stainless was far more reliable at maintaining its appearance than the more conventional type 304, so we invested in the more durable material to ensure its long-term beauty. We further invested in microembossing for the metal, which was proven through early cladding mock-ups to virtually eliminate oil canning. The material’s increased rigidity also allowed us to use a thinner gauge metal that both reduced our resource consumption and offset the cost of the embossing, leaving us with a cost-neutral investment that was better for the environment, better looking and a unique feature that visitors would discover upon closer inspection.”

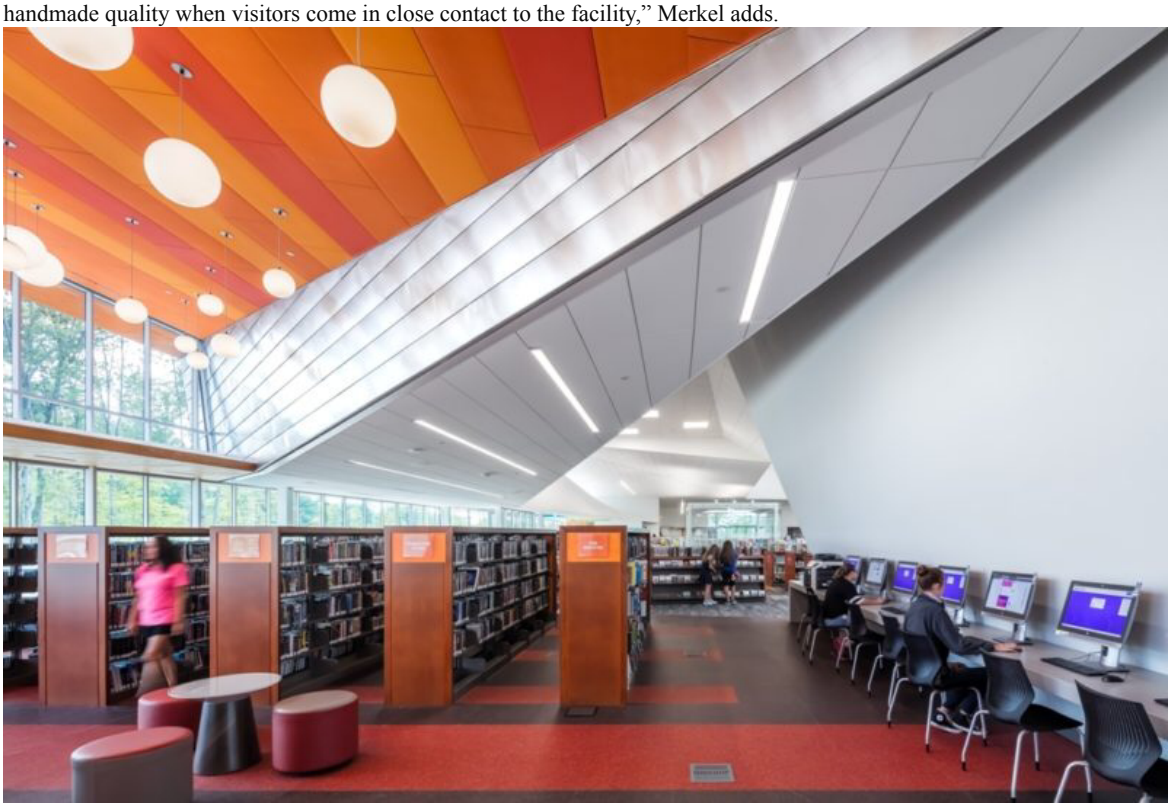
Varied size, type 423 stainless steel panels from Rigidized Metals, with abraded, prefinished surfaces in red, black and white, were used for the interior millwork in the children’s collection. Each interior panel color had a unique embossing pattern to engage the youngest library visitors with a tactile experience.

Kentucky Mirror and Plate Glass Co., Louisville, installed curtainwall and storefront systems supplied by Kawneer Co. Inc., Norcross, Ga. Phalanx Construction LLC, Plainfield, Ind., was the light-gauge framing installer, and GBMC Inc., Clarksville, Ind., installed louvers supplied by Ruskin, Kansas City, Mo.

CLADDING AND COLUMN FREE

Because the main portion of the library is column free, despite being almost 140 feet wide, lightweight cladding that still offered an extremely durable finish minimized any additional load on the steel frame. Stainless steel fabricated into flat lock panels by American Roofing and Metals Co. Inc., Louisville, maximized material efficiency and reflective beauty.

Merkel says the panel dimensions were coordinated with the fabricator to ensure that fabrication waste was virtually eliminated and allow the panels to be easily handled on-site. “The lapped joints of the panels offer the further benefit of giving the cladding a handmade quality when visitors come in close contact to the facility,” Merkel adds.



A column-free interior space allowed for adaptability, which was one of the designers’ core design tenets. Drake admits that while the truss was a major investment, the result is a permanently open space that the library can reorganize without barriers as patron needs continue to evolve. “The truss [material supplied by Evansville, Ind.-based Sugar Steel Corp., and fabricated and installed by Mound Technologies Inc., Springboro, Ohio] allowed us to stay with conventional long-span roof joists [supplied by Gooder-Henrichsen Co., Chicago Heights, Ill.], which limited the investment for the free-span space, and stabilized the truss above and below our clerestory glazing,”

To further promote long-term adaptability in the face of ever-evolving technology, the library leaders made the access floor a required component of the design. An access floor is a system of metal-wrapped concrete floor planks (typically 2 feet square) mounted over a grid of adjustable steel pedestals. All wiring for patron amenities runs in the floor cavity for easy future access, and much of the building's heating and cooling system utilizes the floor cavity to distribute conditioned air to occupants. "Access floor air distribution is a wise sustainability investment, as it greatly reduces the amount of ductwork needed for a building, improves indoor air quality by reducing airborne particulates significantly, and allows heating and cooling equipment to be downsized since they're only conditioning the lowest several feet in a space rather than the whole interior volume," Frazure says.

COMMUNITY

Designers wanted to capture the attention of the community from the busy adjacent intersection. To do so, they invested much of their material and structural budget at the eastern edge of the building to produce a bold, colorful landmark. Drake points to this focal point as the one location where the metal cladding frames a much larger window to the interior, while a portion of the façade turns inward and soars into the space. In looking at the building as a whole, the entire street side composition literally stretches upward and outward toward the intersection.

Ultimately, rather than take a cautious approach with this facility and its significant public investment, designers say they were empowered by the library leaders to push the boundaries of what a library can be for the community it serves. “We have seen significant increases in the frequency and duration of patron visits, and have received overwhelmingly positive feedback from visitors and staff about how the building engages with the forest through its bright welcoming interior,” Blanton says. “The library system is working hard to position itself as a place not only to gain knowledge, but to apply it as well through compelling and creative immersive experiences.”

Lousiville Free Public Library South Central Regional Branch, Louisville, KY.

Owner:
Louisville Free Public Library, Louisville

Construction manager:
Sullivan and Cozart Inc., Louisville www.sullivancozart.com

Architects:
JRA Architects Inc., Louisville, MSR Design, Minneapolis www.jrarchitects.com and www.msrdesign.com

Curtainwall/storefront system installer:
Kentucky Mirror and Plate Glass Co., Louisville www.kentuckymirror.com

Erector:
Mound Technologies Inc., Springboro, Ohio www.moundtechnologies.com

Louvers installer:
GBMC Inc., Clarksville, Ind. (812) 282-7740

Curtainwall/storefront system:
Kawneer Co. Inc., Norcross, Ga. www.kawneer.com

Louvers:
Ruskin, Kansas City, Mo. www.ruskin.com

Millwork/stainless steel embossing :
Rigidized Metals Corp., Buffalo, N.Y. www.rigidized.com

Millwork fabricator/installer:
U.S. Millwork Inc., Louisville www.usmillwork.com

Roof hatches:
The Bilco Co., New Haven, Conn. www.bilco.com

Stainless steel:
Phoenix Metals Co., Gary, Ind. www.phoenixmetals.com

Stainless steel fabricator/installer :
American Roofing and Metal Co. Inc., Louisville www.americanroofingonline.com

Steel joists and metal deck:
Gooder-Henrichsen Co., Chicago Heights, Ill. www.gooderjoist.com

Structural steel:
Sugar Steel Corp., Evansville, Ind. www.sugarsteel.com