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CHILDREN'S REHAB FOR THE 21ST CENTURY

Bloorview Kids Rehab offers a host of modern features **BY TERRY MONTGOMERY AND JANE WIGLE**

After more than a century of innovation in children's rehabilitation, Bloorview Kids Rehab in Toronto opened in a new, one-of-a-kind facility in 2006. Throughout the design stages for Canada's newest and largest children's rehabilitation hospital facility, one question was always paramount for the design team: Is this right for the kids? The kids in question are the more than 7,000 children and teenagers with disabilities who use Bloorview's wide range of family-centered rehabilitation and habilitation programs, hospital, school, summer camp, and/or community services.

The design team, Montgomery Sisam/Stantec Architecture—Architects in Joint Venture, was committed to the client's vision of creating a setting where kids with disabilities are empowered, where they can maximize their potential and create a fulfilling relationship in their world, now and into the future.

The facility carries through on that commitment, full of light and art, designed to spark exploration and resiliency. It operates as a hospital, but doesn't look or feel like one. It is a warm and living place that respects its unique site, its neighbors, the environment and, most of all, the young people who use it.

The program

The \$101 million project brings together programs formerly housed on two separate sites into one, stand-alone 353,000-square-foot center. Key goals were:

- to provide a welcoming and engaging environment for young people and their families;
- to demonstrate that groundbreaking accessibility can be beautiful;

- to break away from the typical isolation of the hospital environment and allow children to be and feel part of a larger world; and
- to create a strong sense of community within the facility, as well as in the neighborhood.

The new rehabilitation clinic and residential care facility is a place for children and teens leading busy and active lives. It also includes:

- A full teaching hospital specializing in children's rehabilitation.
- The world-renowned Bloorview Research Institute, which focuses on clinical research and development of assistive technologies.
- An all-grades school for inpatients, with an innovative integrated kindergarten that brings together children with and without disabilities and a head-start program where children ages four to seven are prepared for integration into community schools.
- An extensive family Resource Center with library, computer terminals, and adapted sports and play equipment that can be borrowed on a trial basis.
- Homelike, 24-hour living space for inpatient rehabilitation and complex continuing care, and short-term accommodation for visiting families.
- A swimming pool for integrated/community programs and a therapeutic pool.
- Community and inpatient Snoezelen rooms, offering the multisensory experience of light, color, sound, and touch.
- The acclaimed Spiral Garden summer camp.
- A two-story creative arts studio.
- A cafeteria and coffee kiosk.
- Therapeutic gardens, play areas, and ravine pathways.

Bloorview Kids Rehab is one of only a few stand-alone facilities around the world offering such a comprehensive range of programs for children with disabilities.

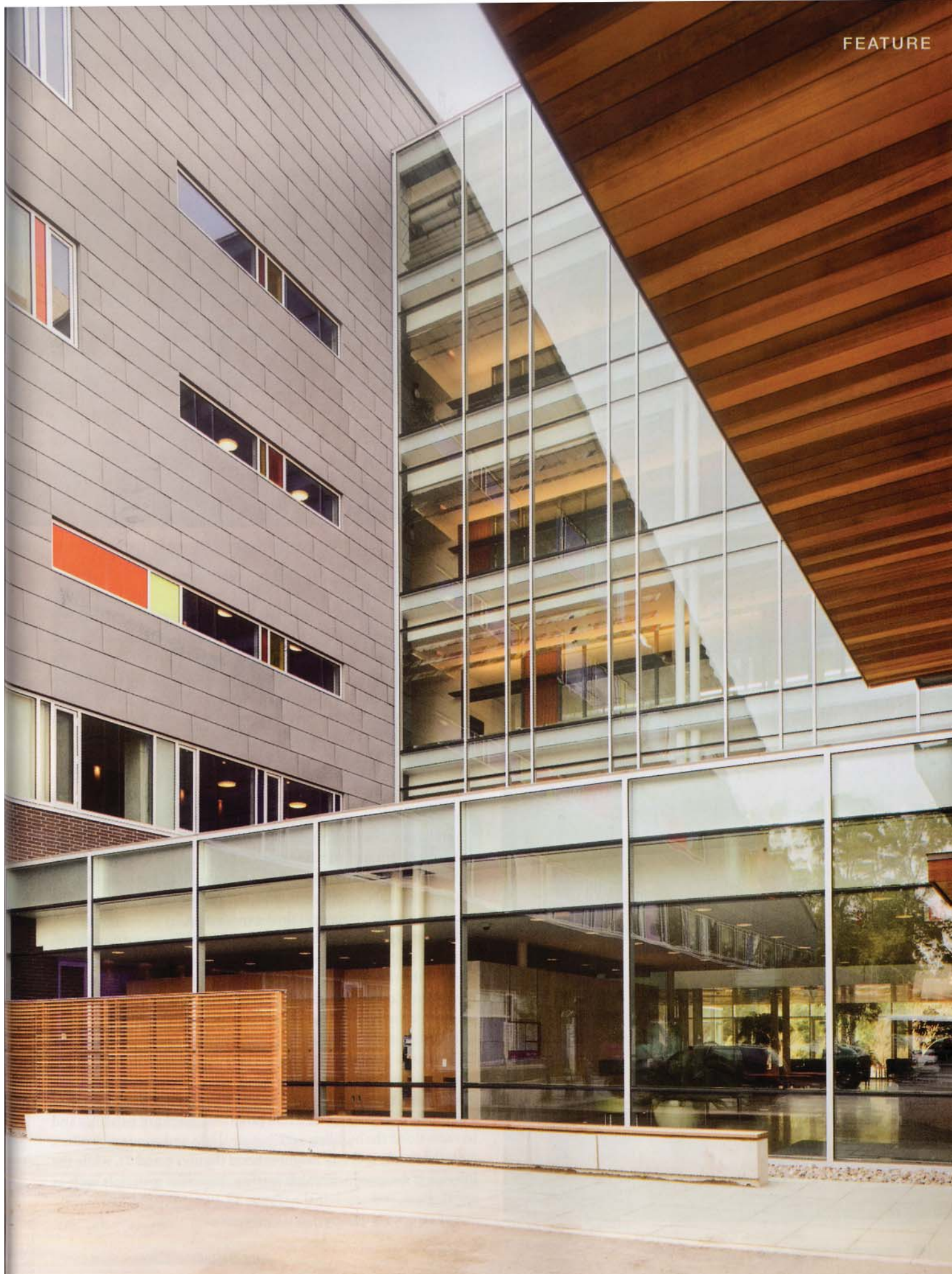




Figure 1.



Figure 2.

Architecture and interiors

A theme of transformation and new possibility starts with a grassy egg-shaped mound in the main entrance driveway (figure 1). Welcoming benches sit under a glass canopy that features painted, in-motion silhouettes of children inspired by artist Stuart Reid's visit to the Bloorview School. The feeling continues in the reception area with colorful curved seating reminiscent of caterpillars (figure 2). Beyond, the view through floor-to-ceiling windows draws visitors into the Resource Center, where the metamorphosis culminates, as a breathtaking curtain of 5,000 handmade glass beads and two wire-sculpted birds lift visitors' vision upward and outward (figure 3).

"When a new client comes here for the first time—a child with cerebral palsy or a recent amputation or brain injury, for example—everything is new and often a bit overwhelming for them and for their families," says Shelley Ditty, Bloorview's vice-president of planning and organizational effectiveness. "The Resource Center, located right at the front entrance, will be a gateway to all the information, knowledge, staff, equipment, and virtual connections across the country that can transform their experiences."

The facility's form takes advantage of its striking surroundings, with the roof line of the western wedge-shaped wing descending towards the ravine to the north (figure 4). Outdoor spaces have also been given careful consideration. The design allows for supervised play, while a network of pathways opens up the ravine for Bloorview Kids Rehab, and for the public.

The sterile plastic finishes so often associated with hospitals have been replaced with a rich palette of wood (figure 5), limestone, brick, glass and zinc. Panels of strong color enliven the exterior and provide identity for different programs. Banks of windows and terraces flood the building with natural light and connect children with the ravine and city neighborhood (figures 6 and 7), while the interior is designed with high-quality, homelike materials such as wood, glass, and ceramic tile (figure 8).

The scheme is designed as a hierarchy of spaces:



Figure 3.



Figure 4.

- Ground level: Public functions (Bloorview School, Grocery Foundation Resource and Conference Center, Cafeteria and Café, Community Snoezelen Room, and Creative Arts Program)
- Lower level: Recreation and Therapy Pools, Gym, Video Conference Room, Pharmacy, and Staff Room
- Second floor: Outpatient services (Child Development, Community Programs, Outpatient Rehabilitation, Kindercircle Day Care)
- Third floor: Inpatient services (Rehabilitation and Complex Continuing Care, Therapeutic Playroom, and Inpatient Snoezelen [figure 9])
- Fourth floor: Research-related functions (Bloorview Research Institute, Communication and Writing Aids, and Clinical Technology, including prosthetics, orthotics, myoelectrics, and seating)
- Fifth floor: Family Accommodation and Administration

The building incorporates universal accessibility standards, promoting independence in children using wheelchairs, walkers, and other assistive devices through extra-wide corridors (figure

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Figure 5.



Figure 6.



Figure 7.



Figure 8.



Figure 9.



Figure 10.

10), double-sided elevators, and floors made of a carefully chosen combination of materials. This allows young people to test their skills and mobility aids in a real-life environment. Wheelchairs, walkers, and tricycles have ample room to turn corners and to pass each other safely.

During the planning phase, accessibility consultants reviewed all drawings. Architects and designers even spent a day going through the existing hospital in wheelchairs, and children, families and staff provided feedback throughout the design process.

Significant consultation with staff and families ensured that interior finishes and materials are suitable for children with cognitive, mobility and visual challenges, as well as those with emotional difficulties (figure 11). These include strong, bright finishes for visual cueing without sensory overload, signage/wayfinding that meets universal accessibility standards, including Braille, and tactile finishes.

Materials and spaces are designed to integrate treatment activities as naturally and invisibly as possible. Warm cherry millwork plays up the homelike atmosphere of inpatient rooms and downplays medical technology (figure 12). Adjustable tracks on the headwalls in constant-care rooms give nurses flexibility to move multiple oxygen and suction hookups to meet the needs of different child sizes and room configurations, but minimize the visibility of gas tubing. Regular medical team centers have low counters, making them friendly and accessible to kids in wheelchairs. In the complex care area, in-room nursing stations are slightly elevated to support high-level, 24-hour observation of medically-fragile children (figure 13).

Thirty-two artwork installations are woven throughout the Center. These allow for special experiences and create landmarks, encouraging children and families to explore the facility. Windows provide



Figure 11.



Figure 12.



Figure 13.

framed views of nature and the city, many designed specifically for seated users. A main corridor viewing area overlooks the activity in the recreational pool (figure 14). A section of green roof on the second floor provides the adjacent clinic waiting rooms with views of grasses, wildflowers, and birds.

Sustainable design was carefully integrated into the early planning, influencing site considerations, mechanical/electrical systems, and the building envelope. Photovoltaic panels on the east wing roof contribute to the facility's energy production. The building skin includes improved window frame and glazing technology. All perimeter rooms have operable windows. Daylighting is provided in all regularly occupied areas. Perforated blinds allow visibility while providing thermal/UV protection.

The design achieved the ambitious goals for this client on multiple levels. Bloorview Kids Rehab sets groundbreaking standards for accessibility and draws on the natural beauty and restorative nature of the neighboring ravine. It provides a space where children can explore, interact, and learn in an exhilarating environment. It is a place that recognizes the wholeness and promise in every child. **HD**

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Figure 14.

Firms Involved

Architects

Montgomery Sisam / Stantec Architecture —
Architects in Joint Venture

Interiors

Stantec Architecture, Ltd. Interiors; Carlyle Design Associates

Structural

Halcrow Yolles

Mechanical/Electrical

H.H. Angus and Associates Limited

Landscape

Vertechs Design, Inc.

General Contractor

Ellis-Don Construction