2013 Exhibition of School Planning and Architecture

Sarah E. Goode STEM Academy

Chicago, Illinois
Sarah E. Goode STEM Academy
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Community Environment:

**Community Involvement**

- Community meetings were held and attended by CPS and PBC
- Alderman hosted key stakeholders to discuss a draft site plan
- Entire community invited to second meeting
- Floor plans presented by architects and consultants
- Addressed questions related to program, construction schedule, and school opening

**Commitment to the viability of the community**

- Contractor utilized not only Chicago residents, but also community residents
- Positive use of previously vacant industrial property
- Partnering with IBM, the STEM academy exposes students to the working environment and allows them to earn college credit
- Winner of the 2013 Chicago Association of Realtors Good Neighbor Award

- Cistern
- Reading garden
- Community garden
• Front entrance
• Seating next to community garden and cafeteria

Community Environment:
Community Enhancement
• Locating the high school across from existing elementary school creates a campus hub for the surrounding community
• Created park-like atmosphere to enhance the community
• Bike path, walking trails, reading gardens, and athletic fields are all accessible to residents
• Community garden plots complete with rainwater stored in a cistern for watering plants
• Joint-use agreements allow gymnasium, pool and library to be available for community use
Learning Environment:

The space planning stresses adaptability and flexibility by incorporating multi-use spaces within the building.

• Full-size gym converts into auditorium with retractable seating and raised stage with theater rigging
• Multipurpose recreation space houses yoga, wrestling practice and dance classes
• Art wing corridor serves as an exhibition space
• Reading garden and community gardens are intended for students and community use
• Multiuse spaces also provide breakout space to extend the teaching from the classroom, both interior and exterior.

- Music/Lecture room
- Multipurpose gymnasium/auditorium
Learning Environment:
Supporting students in present and future needs

- Technology is integrated into entire building
- 6 STEM labs are incorporated with different functions:
  - Networking
  - Collaboration
  - Database
  - Gaming
  - Computer Labs (2)
- Distance learning labs connect students with other learning facilities and professional world
- Partnership with IBM to enable students to pursue careers in technology

• Art room
• Reading garden
• Brick detail
• Glass detail
• Third-floor corridor with natural light

Physical Environment
• Previously vacant industrial site; residential neighborhood to the south and west and industrial corridor to the north and east
• Masonry construction is in keeping with brick neighborhood homes as well as CPS goal for 100-year buildings
• Rusticated horizontal brick banding creates texture and shadow, minimizing the long mass of the classroom wing
• Conceptually, design has three thematic components - Body, Mind and Spirit – representing curriculum and activities
• The building plan is zoned accordingly with each them represented by a separate mass:
  • Athletics (body)
  • Academic classrooms/teaching spaces (mind)
  • Library, art and music classrooms (spirit)
• Design incorporates colorful glass in a moving pattern to express the creativity of the music and arts wing, inside and outside
• Native plantings and council circle
• Athletic field and track

Physical Environment
• LEED Platinum certification
• Incorporated visible environmental elements for educating and promoting sustainable practices to students and community members
  • Cistern collects water from roof
  • Rain gardens with educational signs detailing the benefits of native plants
  • Permeable pavement parking lot
  • Solar panels heat the pool water; excess energy goes to heating the domestic hot water system
  • Green roofs are visible to occupants
  • Bird sanctuary with bird houses and dead trees repurposed from the site
• Other sustainable elements:
  • Gardens for students and community use
  • Innovative backflush system for the pool enabling reduced water and chemical use
  • Geo-exchange heat pump system
  • Low-albedo pavement
  • Efficient lighting controls with automatic daylight dimming
- Aerial prior to construction
- Aerial after construction

Planning Process:
- One of 19 projects developed by the Public Building Commission through the Modern Schools of Chicago program
- Throughout the planning phase of the MSAC program, community meetings were held across the city to discuss all new high school and elementary school projects included in this program
- Specifically for Sarah E Goode, the alderman was consulted three times to discuss the project
- Two community meetings were held to share information and respond to residents’ concerns
- Prototype design extensively tailored for specific site and neighborhood
- Revised design to improve constructability and lower costs
- Aerial after construction
- Drilling for geoexchange wells

Planning Process:
- Design team held a charette to discuss project-specific sustainable goals resulting in several program enhancements including:
  - Garden plots for community use
  - Bird sanctuary on the green roof
  - Solar panels to heat the pool water
  - Geo-exchange heat pump system
  - Diverting roof rainwater into a cistern

- Located near Midway Airport, care was taken to ensure a quiet learning environment: triple-glazed windows with an acoustic rating of 45 STC used for the arts/music wing
- The planning team reviewed documents at milestones during design, and had a presence during the construction phase with the architect to ensure design and vision intent was maintained
Main level plan
Lower level plan
Second level plan
Third level plan
### Submitting Firm:
- **Firm:** STR Partners
- **Project Role:** Architect of Record
- **Project Contact:** Colby Lewis, AIA, LEED AP
- **Title:** Principal
- **Address:** 350 W. Ontario, Suite 200
- **City, State or Province, Country:** Chicago, IL 60654
- **Phone:** 312.464.1444

### Joint Partner Firm:
- **Firm:** Nia Architects
- **Project Role:** Associate Architect
- **Project Contact:** Anthony Akindele, AIA
- **Title:** Principal
- **Address:** 1130 S. Wabash Avenue, Suite 200
- **City, State or Province, Country:** Chicago, IL 60605
- **Phone:** 312.431.9515

### Construction Firm:
- **Firm:** FH Paschen
- **Project Role:** General Contractor
- **Project Contact:** Daryl Lesny
- **Title:**
- **Address:** 5515 N. East River Road
- **City, State or Province, Country:** Chicago, IL 60656
- **Phone:** 773.444/3474
## Project Details

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<td>Per Occupant(pupil)</td>
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Supporting/Supplemental files/Images

- Front entrance also serves as gathering space
- Growing wall at main entrance
Supporting/Supplemental files/Images

Reading garden with natural stone seating
Supporting/Supplemental files/Images

Front entrance at night
Supporting/Supplemental files/Images

Pool and spectator gallery for student and community use
Supporting/Supplemental files/Images

Library with natural light and materials