

2013 Exhibition of School Planning and Architecture

Sarah E. Goode STEM Academy

Chicago, Illinois

Sarah E. Goode STEM Academy



Sarah E. Goode STEM Academy



- Cistern
- Reading garden
- Community garden

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



- 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



- Music/Lecture room
- Multipurpose gymnasium/auditorium

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.



- Art room
- Reading garden

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



- **Brick detail**
- **Glass detail**
- **Third-floor corridor with natural light**

Physical Environment

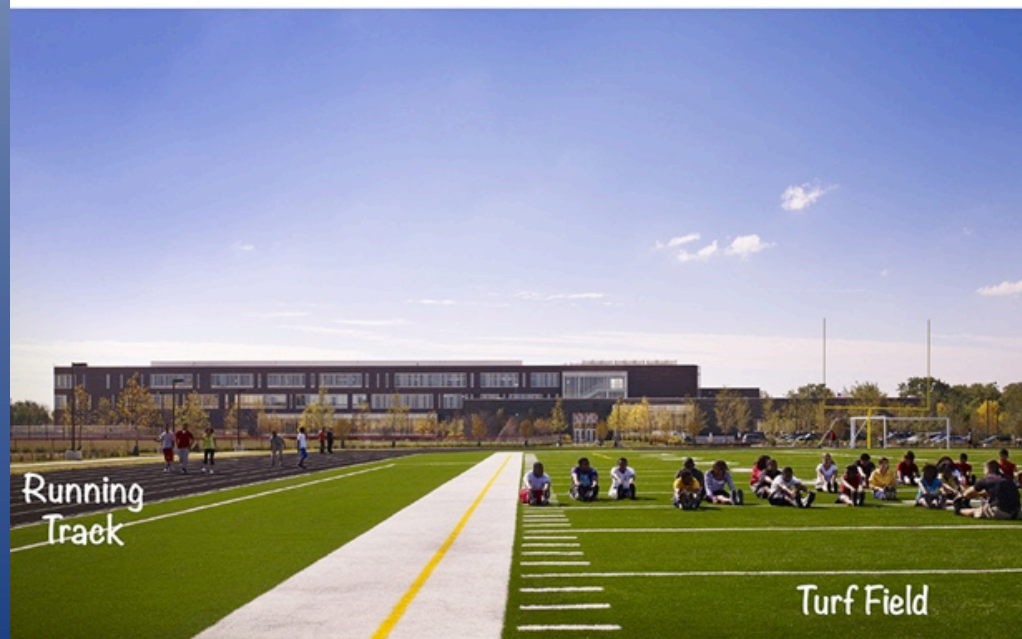
- Previously vacant industrial site; residential neighborhood to the south and west and industrial corridor to the north and east
- Masonry construction is in keeping with brick neighborhood homes as well as CPS goal for 100-year buildings
- Rusticated horizontal brick banding creates texture and shadow, 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 charrette to discuss project-specific sustainable goals resulting in several program enhancements including:

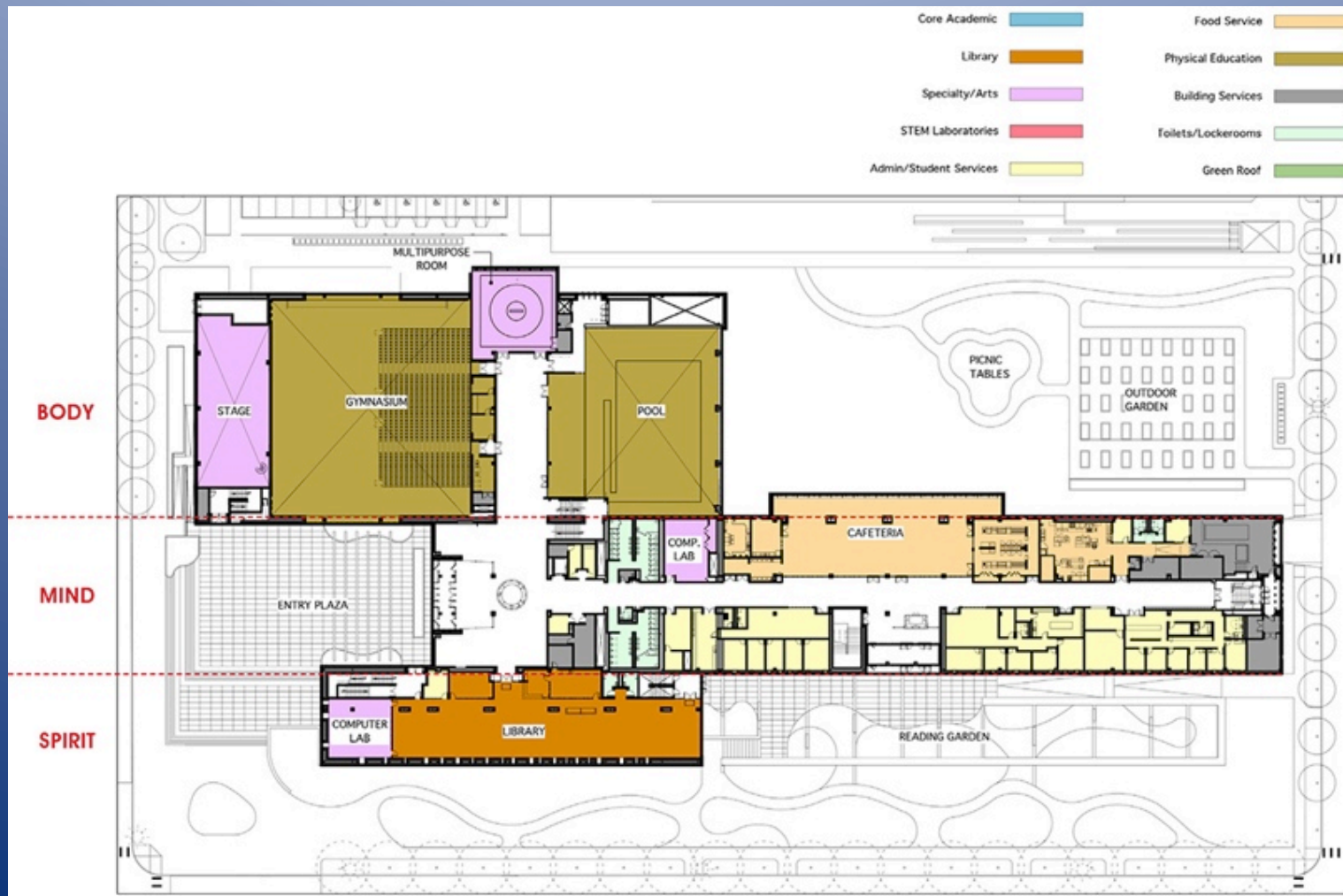
- Garden plots for community use
- Bird sanctuary on the green roof
- Solar panels to heat the pool water
- Geo-exchange heat pump system
- Diverting roof rainwater into a cistern

• 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

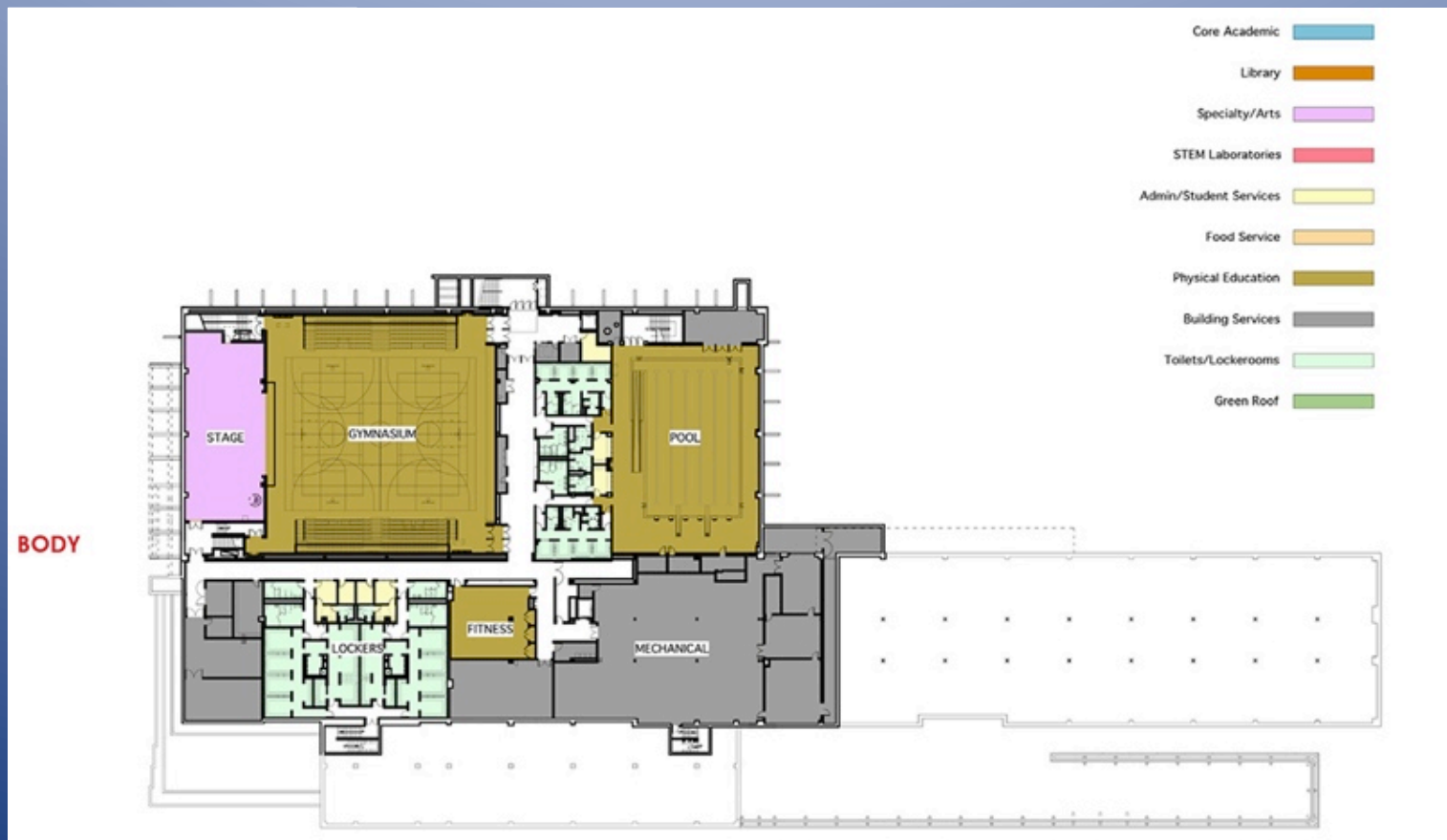
• The planning team reviewed documents at milestones during design, and had a presence during the construction phase with the architect to ensure design and vision intent was maintained



Main level plan



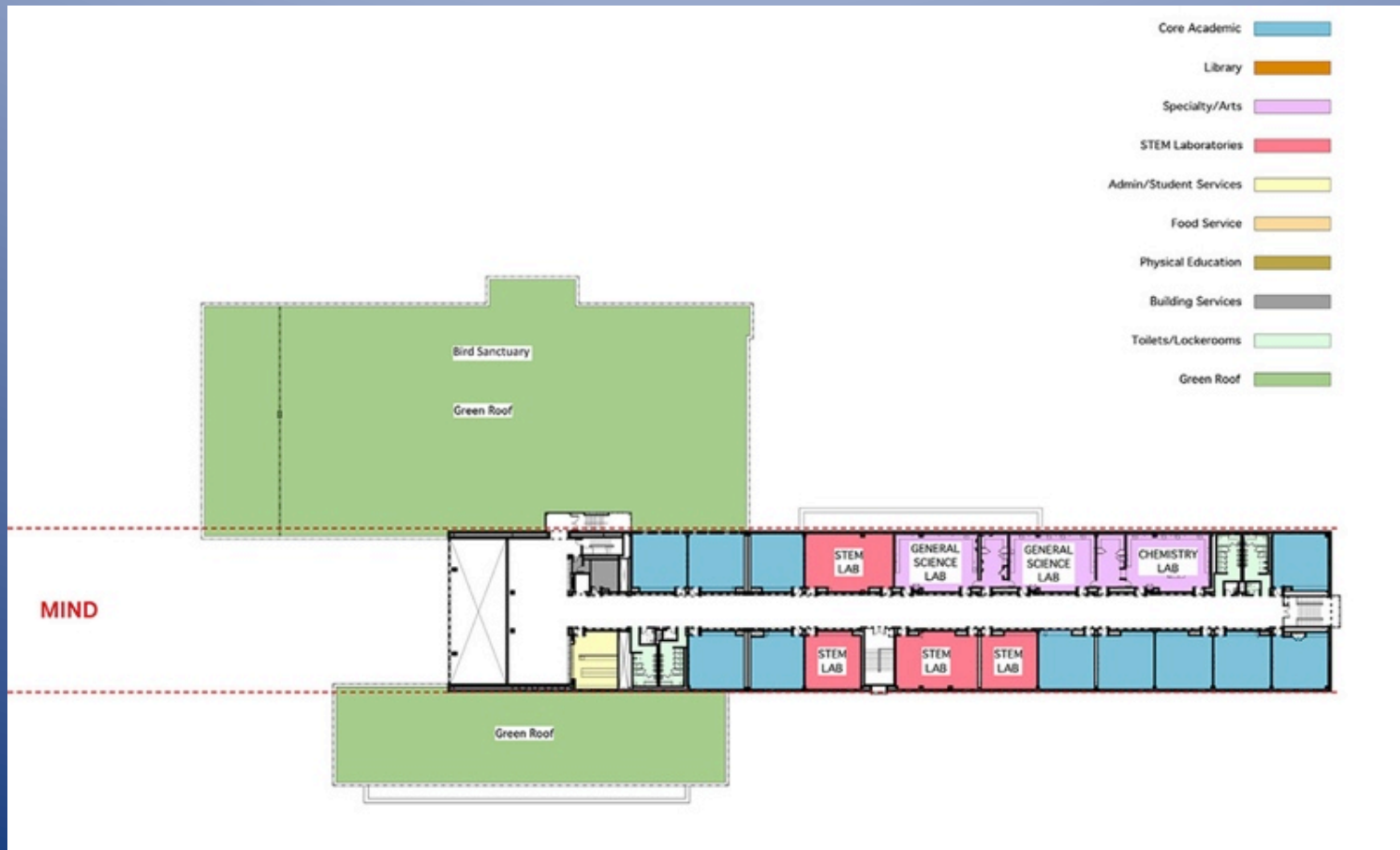
Lower level plan



Second level plan



Third level plan



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Project Data

Submitting 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:	
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other 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:	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

Exhibition of School Planning and Architecture

Project Details

Project Name	Sarah E. Goode STEM Academy
City	Chicago
State	Illinois
District Name	Chicago Public Schools
Supt/President	Barbara Byrd-Bennett
Occupancy Date	September 2012
Grades Housed	9-12
Capacity(Students)	1,200
Site Size (acres)	15.28 acres
Gross Area (sq. ft.)	207,600 gsf
Per Occupant(pupil)	173 sf
gross/net please indicate	
Design and Build?	Design - Public Bid – Build delivery
If yes, Total Cost:	\$82,352,064
Includes:	Construction, site development, FF&E, land acquisition, environmental and site preparation
If no,	
Site Development:	
Building Construction:	
Fixed Equipment:	
Other:	
Total:	\$82,352,064

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

