2020 AIA Fellowship

Candidate: Bartlett J. Baker, Jr.
Organization: McGough Companies
Location: St. Paul, Minnesota
Chapter: AIA Minnesota; AIA St. Paul

Category of Nomination
Object 2 > Practice (Management)

Summary Statement
Focused on the dynamic interdependency of architecture and construction, Bake Baker has advanced new process leadership models for architects and owners using skillful inventive tools, shared among peers nationally, that define aspirations and design's value.

Education
Master of Architecture
University of Colorado
Denver, CO
1980

Bachelor of Arts, American History
University of Minnesota
Minneapolis, MN
1976

Licensed in: California (1984)
Minnesota (1985)
NCARB Certified (2003)

Employment
McGough Companies
St. Paul, MN
2004 to 2019 (15 years)
Executive Vice President / Director of Preconstruction Services / Board of Directors / Senior Leadership Team / Preconstruction Principal for McGough Development Group

HGA, Inc.
Minneapolis, MN
1984 to 2004 (20 years)
Vice President / Principal in Charge / Project Principal / Architecture Department Director

Skidmore, Owings and Merrill
San Francisco, CA
1980 to 1984 (4 years)
Licensed Architect / Architectural Intern
Skidmore, Owings and Merrill
Denver, CO
1978 to 1980 (3 years)
Architectural Student Intern
September 16, 2019

Mr. Paul Mankins, FAIA
Chair, Jury of Fellows
The American Institute of Architects
Washington, D.C. 20006

Re: Fellowship Nomination of Bartlett “Bake” J. Baker, Jr., AIA

Dear Mr. Mankins and Members of the Jury of Fellows:

Bartlett “Bake” Baker, Jr., AIA, stands out as a leader who has profoundly shaped the relationship between design and construction for the benefit of architects, owners, builders, and the public. His collaborative methods and innovative tools are emulated by successful architects across the country. It is indeed a pleasure to sponsor Bake for AIA Fellowship.

Bake’s depth of experience in both architecture and construction formed his passion to create more meaningful architecture through a new paradigm of project delivery. During my tenure on the AIA National Board, project delivery and the leadership role of the architect was an area of policy focus. In fact, a formal AIA position statement was adopted that reinforced the architect’s leadership role and advocated for early and consistent involvement of owners, constructors, and others. Bake Baker has long been a leading voice for this collaboration. His tools and methods empower the architect to have a stronger position of influence and leadership. An outcome is greater financial success accompanied by design excellence.

Passionate about sharing his inventive ideas and insights, Bake has generously presented his methods through many national forums. His tools create alignment among industry participants, including the owner, design team, builder, consultants, and governmental agencies. His work serves as a national reference, enabling countless architects to more effectively lead interdisciplinary teams on projects both large and small. Always eager to teach lay people about architecture, Bake’s extensive interface with community groups and planning commissions has had far-reaching impact, enabling the public to understand the architect’s role and inspiring people to become advocates for critical issues like sustainability and resilience.

Bake’s extensive accomplishments as a design and construction leader demonstrate his significant impact that is shaping our changing profession in new and positive ways. His inventive processes have resulted in an architectural profession that is achieving higher levels of leadership, thus solidifying Bake as one of our country’s most outstanding architects. It is with great enthusiasm that I recommend Bake Baker, AIA, for elevation to the American Institute of Architects College of Fellows.

Sincerely,

Stephen Fiskum, FAIA
Principal Emeritus
BRIDGING THE DISCIPLINES OF DESIGN AND CONSTRUCTION
With over twenty years of traditional practice, Bake Baker envisions greater integration and collaboration among those responsible for design and construction. He believes the architect’s leadership role can unify disparate processes and eliminate industry inefficiencies. His tools support design excellence through enriched communication among designers, owners, contractors and consultants. Inspired by the AIA’s position on architectural leadership in construction delivery, Bake reset his career to invent new processes empowering design professionals. Bake continues to share his project case studies throughout his region and the country.

CHANGING FOCUS IN AN EVOLVING INDUSTRY
Through his many years in design leadership on significant and complex projects, Bake developed a deep understanding of the process challenges architects often encounter. He recognized that most architects patiently navigate owner indecision, tighter schedules, faster delivery requirements, and misalignment of scope and budget. With this background, Bake decided to hone his holistic philosophy on the integration of design and construction delivery by focusing on his process leadership role as an architect. He worked with a large general contractor, dozens of architects, and numerous consultants, subcontractors, and owners to refine management tools and new processes.

NEW AND INNOVATIVE TOOLS
Recognizing the need for a common language and shared processes among all industry participants, Bake developed tools to enhance project team alignment, such as “First Time Right.” Using language freed from professional silos, his management systems bring everyone to the table in early feasibility assessment, budget triangulation, 3D design and construction modeling, 4D logistical planning and the proven principles of Lean delivery. Bake has also branded several other tools that improve communication, reduce rework by architects, enhance design outcomes and improve client satisfaction.

ADVOCACY AND SHARING THE KNOWLEDGE
In an increasingly complex and evolving industry, architects, owners, contractors, and subcontractors acknowledge that Bake’s processes and tools are leading to better design outcomes along with significant business benefits such as:

- Early alignment of project goals and budget that reduce wasteful redesign
- More time to focus on value-added design efforts
- Deeper integration of sustainability and resilience strategies
- Enlightened owners who know what to expect and the importance of timely decisions
- A greater public understanding of what architects do and the unique value they offer

Design professionals across the country who have worked with Bake become enthusiastic advocates for his tools and processes. With over 60 presentations and publications, Bake shares his methods with architects, builders, owners, planning and zoning administrators, and others. His process leadership models have sparked a new appreciation of architecture among clients, allied professionals and the public. Architects nationwide concur that Bake has significantly elevated the profession’s role and value.

SUMMARY
Focused on the dynamic interdependency of architecture and construction, Bake Baker has advanced new process leadership models for architects and owners using skillful inventive tools, shared among peers nationally, that define aspirations and design value.
ACCOMPLISHMENTS

2.1 SIGNIFICANT WORK – Prologue

SETTING THE TABLE FOR SUCCESS

In the dynamic evolution of design and construction, with increasing project complexity, tighter schedules, faster delivery requirements, escalating project costs and constrained design fees, there is a “window” of vulnerability and risk in the design phase of each project for the architect, owner and builder. Their interdependent roles are not recognized, articulated, poorly understood or even ignored. Failing to understand what the other does and needs to be successful is the critical gap. In this “gap” lurk detrimental inefficiencies of misaligned scope, budget and schedule expectations, redesign costs, schedule delays and ultimately the compromised ability for the architect to deliver maximum design value.

In Bake’s work over the last 15 years as Preconstruction Principal and Executive Vice President for a premier builder, he has overseen 4 million SF and one billion dollars of construction, collaborated with and led nationally recognized design firms and been responsible for assembling and leading the design teams. Applying 25 years of previous design experience with holistic process leadership and facilitation protocols, Bake has collaborated with those architects to develop and apply innovative design process tools, preconstruction delivery methodologies and support services. These services include Virtual Design and Construction, Sustainability, MEP services and Preconstruction Management, as well as expanded interface between estimating, scheduling, project management, and field operations to address that vulnerability. Design advocacy has given the architect more influence over critical project decisions. Streamlining work processes has enhanced design firm efficiency, profitability and supported the focus on value-added design. Bake has also capitalized on the opportunity to teach non-professionals about what architects do and the design process. Design and industry awards speak to the excellence of Bake’s preconstruction contributions and benefits to the profession.
2.1 SIGNIFICANT WORK – Professional Experience, Registration, Education

PROFESSIONAL EXPERIENCE

McGough Companies
St. Paul, MN  2004-2019

Executive Vice President / Director of Preconstruction Services / Board of Directors / Senior Leadership Team / Architectural Design Manager for McGough Development

HGA
Minneapolis, MN  1984 - 2004

Vice President / Principal-in-Charge / Project Designer / Architecture Department Head

SKIDMORE OWINGS & MERRILL
San Francisco, CA 1981-1984

Licensed Architect / Architectural Intern

SKIDMORE, OWINGS & MERRILL
Denver, CO 1978-1980

Student Intern

PROFESSIONAL REGISTRATIONS

Registered Professional Architect:

NCARB Certified (2003)

LEED Accredited Professional (2009)

EDUCATION

Master of Architecture with Honors
University of Colorado
Denver, CO  1980

1980 AIA Gold Medal Award, Colorado Chapter
Outstanding Student Design and Leadership

1980 Outstanding Thesis Award
“Urban Housing Village and Transit Station”
Cathedral Hill, St. Paul, MN

Bachelor of Arts, American History
University of Minnesota
Minneapolis, MN  1976

Phi Beta Kappa Society
Senior Honors Thesis –
2.1 SIGNIFICANT WORK

The outline of work illustrates the depth, complexity and scale of Bake's experience and the built results as architect, process leader, facilitator and collaborator with national design firms. The project descriptions include his role and highlight Bake's key contributions and applied innovations.

**MARRIOTT AUTOGRAPH HOTEL**
Craig Ranch, McKinney, TX
Size: 300-room resort hotel, lazy river, conference center
Architect: MAA, Dallas
Role of Nominee: Preconstruction principal, design-build team leadership, McGough Development
Completion: Opening 2021

*Table for Success* – Bake led RFP and design-build team selection; established design communication protocol; led design meetings with architect, operator, brand, investor and builder.
- Created high-functioning team from scratch
- Utilized pull planning sessions to manage approval milestones and long-lead procurement

**INTEGRATED SCIENCE CENTER**
Carleton College, Northfield, MN
Size: 243,000 SF expansion/renovation tying together existing science facilities with atrium, campus energy plant underground
Architect: EYP, Boston
Role of Nominee: Preconstruction principal, McGough
Completion: 2019

Bake led preconstruction efforts that required early budget and constructability evaluation of multiple options to test the re-use of existing science buildings and new construction.
- Early conceptual budgeting of multiple options
- Early construction sequence evaluation of demolition and new building system interface
- 3D model sharing throughout design
- Virtual construction planning

**THEATER AND DANCE CENTER**
Macalester College, St. Paul, MN
Size: 59,000 SF flexible theater and dance studio, scene shop, costume shop, offices, classrooms
Architect: HGA
Role of Nominee: Preconstruction principal, McGough
Completion: 2019

*Concept Scope and Budget Alignment* – Bake led preconstruction efforts; collaboration with designer to evaluate program fit and cost-effectiveness of multiple new vs renovation strategies; direction set at concept design.
- Early integration of programmatic needs and fundraising limits to establish clear alignment
- Re-directed team from inefficient renovation strategy to new cost-neutral solution that optimized program and design opportunities

**BCS 3 MULTI-FAMILY HOUSING**
Bloomington Central Station, Bloomington, MN
Size: 400-unit market rate housing, “Texas wrap” with 600-car garage
Architect: ESG
Role of Nominee: Preconstruction principal, design-build team leader, McGough Development
Completion: 2020, in construction

Bake led master planning efforts to create Transit Oriented Development (TOD) on re-purposed 50-acre corporate site in 2004/2005. Current multi-family project is Phase 3 of high-density housing development in TOD.
- Assembled and led design-build team
- Established communication protocols between designer, owner and builder
- Led pull planning to establish milestones for regulatory approvals, long-lead procurement
2.1 SIGNIFICANT WORK

**HAGFORS CENTER FOR SCIENCE, BUSINESS AND RELIGION**
Augsburg College, Minneapolis, MN
Size: 135,000 SF teaching and lab classroom building
Architect: HGA
Role of Nominee: Preconstruction principal, design-build team leadership, McGough
Completion: 2018

Bake led RFP and design-build team selection; provided continuous design process coaching with inexperienced owner.
- “First Time Right” budget alignment
- Utilized Pull Planning tool for fast-track design management and long-lead system procurement milestones
- Virtual design and construction planning
- Last Planner® tool shortened concrete pour cycle by 30%
- Project completed ahead of schedule and $3M under budget

**SCHILLING SCIENCE CENTER**
St. Paul Academy and Summit School, St. Paul, MN
Size: 39,000 SF math/science addition, chemistry & biology labs, "maker" space, classrooms
Architect: HGA
Role of Nominee: Preconstruction principal, McGough
Completion: 2018

Designed to LEED Silver Standard (not certified)
Bake led preconstruction efforts and evaluated cost-effectiveness of new construction, renovation strategies for adjacent 1910 building and temporary classrooms during construction.
- Early cost alignment with capital campaign goals
- Detailed constructability reviews of exterior wall assemblies
- 3D clash detection

**INTEGRATED SCIENCE COMPLEX**
Concordia College, Moorhead, MN
Size: 145,000 SF renovation, biology, chemistry, physics, math, computer science labs and classrooms
Architect: EYP, Boston
Role of Nominee: Preconstruction principal, McGough
Completion: 2017

LEED Silver
Bake led preconstruction effort that required initial re-definition of scope and budget to match revised project funding limitations. Project shifted from new construction to gut and renovate approach.
- Initiated design with collaborative, partner-centered protocols
- Early conceptual budgeting of multiple re-configuration options
- Early construction sequence evaluation of interior demolition and new building system replacement
- Academic program and goals delivered at 73% of original budget

**WEITZ CENTER - MUSIC & PERFORMANCE COMMONS**
Carleton College, Northfield, MN
Size: 56,000 SF expansion, 400-seat hall, practice rooms, and faculty offices
Architect: HGA
Role of Nominee: Preconstruction principal, design-build team leadership, McGough
Completion: 2017

Music addition was final component of integrated arts center. Bake led RFP and design-build team consultant selection. Consolidation of existing music program into compact site.
- Resolved constructability issues at interface between existing and new construction
- Virtual construction modeling for system and acoustic coordination
- Specialty exterior details and assembly vetted with 3D modeling
- Design-assist input and mock-ups for key design features
2.1 SIGNIFICANT WORK

GRADUATE HEALTH SCIENCES
College of St. Scholastica, Duluth, MN
Size: 45,000 SF  OT/PT/PA instructional facility, simulation labs, on-site clinic
Architect: HGA
Role of Nominee: Preconstruction principal, design-build team leadership, McGough
Completion: 2016

Bake led design-build team in preconstruction phase to meet owner’s extremely tight budget and delivery schedule.
- Guided integration of design intent with fabricator expertise to develop handsome, energy-efficient exterior wall system
- Utilized 3D clash detection with architect and design-build subcontractors
- Delivered project on time at very constrained owner budget

HUSS CENTER FOR PERFORMING ARTS
St. Paul Academy and Summit School, St. Paul, MN
Size: 36,400 SF performing arts facility, 650-seat hall, black box, scene shop
Architect: HGA
Role of Nominee: Preconstruction principal, McGough
Completion: 2015

AIA-MN Award
Top Project Award

Bake led the preconstruction team, supporting the architect in preliminary program and budget definition to align with fluid capital campaign budget.
- Detailed Pull Planning in design identified critical architectural and theater rigging components for early structural package that accelerated construction through winter
- Resolved complex interface between new and existing facilities
- Acoustic coordination
- Achieved critical opening date to meet academic calendar

MINNESOTA PUBLIC MEDIA COMMONS (TPT)
Twin Cities Public Television, St. Paul, MN
Size: 81,000 SF renovation of public spaces and offices around existing broadcast studios
Architect: Cuningham Group
Role of Nominee: Preconstruction principal, McGough
Completion: 2015

B3 Sustainability Certification

Bake led preconstruction planning, owner guidance and budgeting effort for major renovation and reconfiguration of public television broadcast facilities including public event and office space.
- Process coaching and bridging between inexperienced owner and architect
- Presentations to support public legislative funding
- Renovation and construction sequencing planning achieved continuous operation for daily broadcast production studios

HYATT REGENCY HOTEL
Bloomington, MN
Size: 210,000 SF 303-room luxury hotel, master planned transit-oriented development
Architect: ESG
Role of Nominee: Preconstruction principal, design-build team leadership, McGough Development
Completion: 2015

B3 Sustainability Certification

Bake assembled and led design-build team in collaboration with national brand architect and national hotel management architect to develop luxury hotel in master planned Transit Oriented Development.
- Integration into master planned site
- Created collaborative management structure with bi-weekly consultants’ immersion work sessions
- Utilized Pull Planning tool for fast-track milestones
- Last Planner® tool shortened concrete pour cycle by 30%
2.1 SIGNIFICANT WORK

OPTUM CORPORATE CAMPUS
UnitedHealth Group, Eden Prairie, MN
Size: 1,100,000 SF corporate campus for 5,500 employees, three office buildings, two parking garages, commons work café, customer experience center, conference center
Architect: HGA
Role of Nominee: Preconstruction principal, McGough
Completion: 2015

The large design and consultant team relied on Bake's leadership to coordinate preconstruction efforts for this multi-phased project within a master planned campus for a large corporate office user.
· 3D modeling used continually on a shared model platform
· 4D logistics and sequence planning for delivery & installation of major assemblies (steel erection, exterior wall, HVAC)
· Team exceeded metrics-based incentives established by owner

LEED Gold

CORPORATE HEADQUARTERS
Maurices, Duluth, MN
Size: 450,000 SF corporate headquarters office and 500-stall municipal parking garage
Architect: RSP
Role of Nominee: Preconstruction principal, McGough
Completion: 2015

The joint development project grew out of a public/private partnership between the city and major downtown employer looking to consolidate scattered offices. Bake led the preconstruction effort coordinating design activities between the core/shell and interior architects.
· Utilized conceptual estimating tools to re-align budget with anticipated scope following faulty public pricing exercise
· Detailed 4D logistics & construction sequence planning to complete work on tight urban site
· 3D virtual construction modeling of system assemblies

LEED Silver

JANET WALLACE FINE AND PERFORMING ARTS CENTER
Macalester College, St. Paul, MN
Size: 64,000 SF new construction and renovation, concert hall, commons, gallery
Architect: HGA
Role of Nominee: Preconstruction principal, McGough
Completion: 2014

Bake directed the preconstruction effort for the gut and reconfiguration of existing music building including concert hall and practice rooms with choral space and student commons addition.
· Detailed 3D modeling analysis of new building systems and acoustic isolation strategies within limited existing floor heights
· Fabricator design-assist input and mock-ups for concert hall screen wall
· Successfully met exterior design intent for new cladding with detailed constructability direction
· Considered best recital hall in Twin Cities

AIA-MN Award

ORANGE COUNTY CONSOLIDATION PROJECT
Medtronic Corporation, Santa Ana, CA
Size: 130,000 SF renovation and expansion of heart valve production facility, multiple production clean rooms
Design Architect: Snow Krelich
Architect of Record: PS3, Los Angeles
Role of Nominee: Preconstruction principal, McGough
Completion: 2013

Bake led the RFP process and design-build and consultant team formation. The project required assessment of adjacent existing building for office expansion and careful coordination of existing production facility reconfiguration and renovation work.
· Continued clean room production during renovation
· Owner user groups coordination
· FDA re-certification
2.1 SIGNIFICANT WORK

ANDERSON UNIVERSITY CENTER
Hamline University, St. Paul, MN
Size: 75,000 SF student center, campus dining, event space, student offices, visitor underground parking
Architect: Shepley Bulfinch, Boston
Role of Nominee: Preconstruction principal, McGough
Completion: 2012

Top Project Award, Finance and Commerce

Utilizing “First Time Right” methodology, Bake led the preconstruction efforts with the design firm to achieve scope and budget alignment with predetermined capital campaign tiers. Created pricing “menu” using:
- 1. Benchmarking against comparable projects
- 2. Program estimate options
- 3. Cost model development
- Defined final parameters prior to Concept Design start
- Detailed design-assist input and testing on terra cotta rainscreen

KOFI ANNAN INSTITUTE FOR GLOBAL CITIZENSHIP
Macalester College, St. Paul, MN
Size: 17,000 SF new office and convening space
Architect: Bruner/Cott, Boston
Role of Nominee: Preconstruction principal, McGough
Completion: 2009

LEED Platinum
Top Project Award, Finance and Commerce

With the institution’s commitment to the Green College Initiative and international peace studies, the project created a signature building on campus for visiting scholars and lecturers. Bake led the preconstruction efforts.
- Guided owner and architect with continuous budgeting of innovative “green” features and assembly options
- Defined design-assist input on high-performance wall and roof assemblies, as well as innovative MEP system options
- Sustainability advocacy with subcontractors and building trades

WEITZ CENTER FOR CREATIVITY
Carleton College, Northfield, MN
Size: 135,000 SF renovation and new expansion tying together 1910, 1934 & 1955 structures in an integrated arts facility including dance, theater, and 2D/3D studios
Architect: MSR
Role of Nominee: Preconstruction principal, McGough
Completion: 2010

AIA-MN Award LEED Gold

Bake led conceptual pre-design efforts to re-program/re-configure project in response to dramatic post-Recession owner budget reduction. He led preconstruction support services with design architect.
- Interface between 1910, 1934 & 1955 existing & new expansion connecting 13 existing floor levels
- Re-purposing existing spaces for theater, dance & studios
- Re-configured project delivered 80% of original program for 60% of original budget

REFLECTIONS CONDOMINIUMS
Bloomington Central Station, Bloomington, MN
Size: 308,000 SF high-rise condominium, 260 units, high performance acoustic curtainwall, master planned transit-oriented development
Design Architect: Architects Alliance
Architect of Record: ESG
Role of Nominee: Preconstruction principal, design-build team leadership, McGough Development
Completion: 2007

LEED Silver
Best Overall Project Real Estate Journal

Bake managed master planning efforts to create Transit Oriented Development (TOD) on re-purposed 50-acre corporate site in 2004/2005. Bake led design-build team for Phase 1 of high-density multi-family project in TOD.
- Led research and testing of high-performance acoustic curtainwall adjacent to airport flight path for design team
- Multiple presentations to regulatory and lay audiences regarding acoustic mitigation surrounding airports
- First LEED Certified multi-family project in MN
2.1 SIGNIFICANT WORK

701 WASHINGTON – HGA CORPORATE HEADQUARTERS
Minneapolis, MN
Size: 130,000 SF historic warehouse renovation, historic designation and tax credits
Architects: HGA
Role of Nominee: Principal-in-charge, HGA
Completion: 2003

As principal-in-charge, Bake led the design team in the renovation of an historic structure for a nationally recognized design and engineering firm. The building systems and glazing were replaced. Historic interior features were retained. An existing loading dock was converted to an entry lobby, gathering space, research library and materials sample area. Daylight harvesting was used throughout. Historic tax credits assisted with the financing.

MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT
Metropolitan Airports Commission, Bloomington, MN
Size: $1B Lindbergh Terminal land-side expansion, master planning and pre-design, and campus design guidelines
Architects: BWBR/Alliance/Setter-Leach/Miller Dunwiddie/HGA
Program management: HGA
Role of Nominee: Pre-design program leader, HGA
Completion: 1998-2002

Bake was responsible, as representative of the program management team, for directing the predesign efforts of multiple architectural and engineering firms. This included overall master planning; campus-wide design guidelines for site, exterior and interior architecture; coordination of land-side with air-side planning; and directing predesign studies for all scopes of work. Bake also served as principal-in-charge for underground LRT station.

FINE ARTS INTERDISCIPLINARY MIDDLE SCHOOL
Arts Middle School, West Metro Education District
Robbinsdale, MN
Size: 107,000 SF multi-district voluntary desegregation arts magnet middle school, 520 students
Architect: HGA
Role of Nominee: Principal-in-charge, HGA
Completion: 2001

Bake, as principal-in-charge, led the design team in the programming and design of the project. An intense arts curriculum focus was used to recruit students from five surrounding districts as part of a voluntary metro-wide desegregation program. The middle school includes a dance studio, 200-seat theater, 2D and 3D art studios, music and choral practice rooms as well as classrooms, cafeteria and offices. The school was recognized nationally for innovative program, planning and design.

MONTICELLO HIGH SCHOOL
Charlottesville School District, Charlottesville, VA
Size: 180,000 SF sustainable high school, 1000 students
Design Architect/Planner: HGA in association with Wm. McDonough, Charlottesville
Architect of Record: Rancorn Wilman, Newport News
Role of Nominee: Senior Designer/Planner, HGA
Completion: 1998

As senior designer and planner, Bake led the educational programming and conceptual design, working in conjunction with Wm. McDonough’s firm to integrate many cutting-edge sustainable features. DOE modeling was used for building orientation and daylight harvesting. Displacement ventilation, passive and active daylight controls, local material sourcing, native plantings and water conservation were incorporated.
2.1 SIGNIFICANT WORK

KINGDOM ACADEMY SCHOOL
Kingdom Holding Company, Riyadh, Saudi Arabia
Size: 57,000 SM master plan for 3,500 student K-12 school, gender separated facilities
Architect/Planner: HGA in association with Omarania, Riyadh
Role of Nominee: Principal-in-charge/planner, HGA
Program/Planning Completion: 1997

Bake was the principal-in-charge and planner for the master plan study. He provided program leadership, coordinated international consultants and worked closely with Prince Al-Waleed’s staff and advisors. The planning process included benchmarking tours of schools in Jeddah, Dharan and Riyadh. Cultural sensitivities and the required gender separation of the upper grade levels created space planning challenges.

BIOTECH AND GENETICS BUILDING
University of Wisconsin, Madison, WI
Size: 140,000 SF research laboratory facility located on campus mall
Architect: HGA
Role of Nominee: Designer, HGA
Completion: 1994

Leading the project design team, Bake worked with university officials and faculty user groups to develop the research facility that houses laboratories, faculty offices and a lecture hall. It is located on the original land-grant college mall on campus. A sky lit atrium wraps around the lab “machine” providing daylight to both research spaces & adjacent offices.

RIVERCENTRE EXPANSION
St. Paul Civic Center Authority, St. Paul, MN
Size: 400,000 SF civic center renovation and expansion, convention center, ballroom and exhibit, lobby and prefunction spaces, underground truck dock
Architect: HGA in association with LMN, Seattle
Role of Nominee: Senior designer, HGA
Completion: 1997

Bake led the design team for a major expansion of a downtown convention center in collaboration with LMN. Dramatic views of the Mississippi River Valley are the focus of the lobby and prefunction spaces. The project included complex long-span structure, multiple skyway connections to adjacent public facilities, deep rock excavation for underground parking garage and a large below-grade loading dock. The adjacent sports arena and exhibit spaces remained in operation during construction.

3M DIVISIONAL HEADQUARTERS
3M Corporation, Maplewood, MN
Size: 680,000 SF corporate offices, conference and training facilities, employee cafeteria, 2 parking garages
Architect: HGA
Role of Nominee: Project design team lead, HGA
Completion: 1991

Bake led the project design team and consultants for this consolidated divisional headquarters. The program placed new office space for marketing and administrative functions between two existing research laboratories to create an integrated facility. A shared sky lit atrium, training center and employee dining facility provide a commons for the research, sales and management interaction.
2.1 SIGNIFICANT WORK

**ONE MINNESOTA CENTER**
Homart Corporation, Bloomington, MN  
**Size:** Masterplan for 5 phase suburban campus, 300,000 SF speculative office building, and parking garage  
**Architect:** HGA  
**Role of Nominee:** Design team member, HGA  
**Completion:** 1987  

As a design team member, Bake contributed in developing the phased masterplan for the suburban corporate campus. The first phase included a 14-story Class A spec office building and 900-stall garage. The building form is expressed as two interlocking forms and provides optimum flexibility for single and multi-tenant leasing.

**222 KEARNY**  
San Francisco, CA  
**Size:** 150,000 SF in-fill office building, renovation of two adjacent historic structures, concept design studies with Downtown Plan for the San Francisco Planning Commission  
**Architect:** SOM, San Francisco  
**Role of Nominee:** Design team member, SOM  
**Completion:** 1985  

At SOM, Bake was a design team member on the infill-office building that included the incorporation of two historic structures. As one of the early “test” projects for the Planning Commission's new Downtown Plan, it went through multiple iterations of size, height & massing options over a one year period to arrive at a concept that met prescriptive zoning code requirements.

**SAN ANTONIO PLAZA MASTER PLAN**  
City of San Jose, San Jose, CA  
**Size:** Masterplan for 6-block downtown redevelopment district, 1.5 million SF of office space, 5,000 parking spaces, 3,000 housing units  
**Architect:** SOM, San Francisco  
**Role of Nominee:** Architectural intern, SOM  
**Completion:** 1984 Master Plan  

As an architectural intern, Bake supported the master planning efforts of the planning team, architects and landscape architects for a rapidly growing area as part of the early Silicon Valley boom.  
- Early experience with complex project planning involving multiple design consultants, economic development advocates and regulatory agencies

**BAKER CABIN**  
La Pointe, WI  
**Size:** 300 SF log cabin designed and hand-built from materials on-site  
**Role of Nominee:** Designer & Builder  
**Completion:** 1976  

Bake designed and built a one-room log cabin by hand using traditional building techniques while an undergraduate student. He researched building technologies with local Scandinavian immigrant builders.  
- Demonstrated interest in historic building technology  
- Early experience in budget and schedule management, as well as personal labor efficiency (his own)
2.1 SIGNIFICANT WORK – Professional Activities, Affiliations and Civic Activities

Bake has been active in professional and industry organizations, as well as community volunteer activities and youth sports. This diverse participation has created a broad network that spans across the design, planning and construction industries.

**ARCHITECTURE AND PLANNING**
- Board Member, Minnesota Architectural Foundation, AIA Minnesota (2019 - current)
- Member, American Institute of Architects (1983-2019)
- Board Member, Minneapolis Chapter, AIA Minnesota (1996-1997)
- Governor’s Design Team, AIA Minnesota

**DESIGN-BUILD INSTITUTE OF AMERICA**
- President, Upper Midwest Chapter (2010)
- Steering Committee, Upper Midwest Chapter (2006-2013)
- National Conference, Las Vegas, NV (2014)

**LEAN CONSTRUCTION INSTITUTE (LCI)**
- LCI Congress, Chicago, IL (2016)
- P2SL/LCI/AIA Lean Design Forum, Lean Construction Institute, Berkeley, CA (2015)

**SOCIETY OF COLLEGE AND UNIVERSITY PLANNERS (SCUP)**
- Regional Conference, Overland Park, KS (2017)
- Regional Conference, Minneapolis, MN (2017)
- Regional Conference, Evanston, IL (2016)
- Regional Conference, Champaign-Urbana, IL (2012)
- National Conference, Chicago, IL (2012)

**EDUCATION DESIGN SEMINAR**
- GSA, Harvard University, Cambridge, MA (1997)

**LEADERSHIP MINNEAPOLIS**
- Year-long leadership program, Minneapolis Chamber of Commerce, Minneapolis, MN (1990)

**COMMUNITY VOLUNTEER**
- Natural Resources and Ground Water Committee, Afton, MN (2017-2019)
- St. John’s United Church of Christ, LaPointe, WI (2010-2019)
- Board of Directors, Envision Minnesota (Formerly 1000 Friends of Minnesota), St. Paul, MN (2008-2013)
- Council Board, Memorial Lutheran Church, Afton, MN (2004-2008)
- Member, Open Space Committee, Town of Afton, MN (2000-2001)
- Foundation Board, Hennepin Avenue United Methodist Church, Minneapolis, MN (1992)

**YOUTH SPORTS**
- Certified Technical Delegate – Alpine Youth Race Official, United States Ski and Snowboard Association (2015-2019)
- President, Afton Alps Alpine Club, 501-c3 Youth Ski Club, Afton, MN (2008-2016)
- Alpine Training Coordinator, Central Division-Region One, United States Ski & Snowboard Association (2005-2019)
- Board Member, Central Division-Region One, United States Ski and Snowboard Association (2012-2019)

**OTHER MEMBERSHIP ACTIVITIES**
- Trust for Public Land
- Sierra Club
- International Ski Heritage Association
- Lewis and Clark Trail Foundation
2.1 SIGNIFICANT WORK – Presentations and Knowledge Sharing

Sharing information with the profession and teaching non-professionals about architects and the design process has been very rewarding for Bake. He has counseled inexperienced owners, taught young real estate developers, guided land-use committees, instructed GSA leadership and presented to government authorities. Bake has conveyed understandable information in a transparent, affable manner stressing the importance of design, sustainability and the contributions of the profession.

2018
Presenter Effective Design-Build in Higher Education: A Tale of Two Projects Design-Build Institute of America, National Convention New Orleans, LA

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2017
Tour Leader Hagfors Center for Science, Business & Religion NACUBO Annual Meeting Minneapolis, MN

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2016
Presenter Project Phasing Strategies Traldeine College & University Facilities Conference Boston, MA

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2015
Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2014
Presenter, Lean Project Delivery AIA Minnesota Convention, Minneapolis, MN

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2013
Presenter Building Value with Consensus APPA Annual Conference Minneapolis, MN

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2012
Presenter Weitz Center Laboratory for Creativity Society of College and University Planners, Grand Rapids, MI

Presenter Construction from an Architect’s Perspective – Building a Foundation Urban Land Institute-Minnesota Minneapolis, MN

2011
Presenter Design-Build Delivery Creating Collaborative Teams AIA Minnesota Convention Minneapolis, MN

Presenter Building Value With Consensus, APPA Conference, Minneapolis, MN 2013

2002
Presenter The Art and Science of Classroom Design Language of Instruction in a Digital World Conference, Carleton College Northfield, MN

1999
Visiting Lecturer Pre-design: Cost Control in Building Design University of Wisconsin – Professional Development Program Madison, WI

Presenter FAIR Arts School – Multi-District Arts Integration National CEFPI Conference Baltimore, MD

1997
Visiting Lecturer Pre-design: Cost Control in Building Design University of Wisconsin – Professional Development Program Madison, WI

Visiting Lecturer Innovative School Planning University of Wisconsin – Professional Development Program Madison, WI

1996
Presenter Pre-design: Cost Control in Building Design GSA Training Program Philadelphia, PA

Visiting Lecturer Innovative School Planning University of Wisconsin – Professional Development Program Madison, WI

Visiting Lecturer Pre-design: Cost Control in Building Design University of Wisconsin – Professional Development Program Madison, WI

1995
Urban Design Charette Team ULI Minnesota St. Paul, MN

1994
Visiting Lecturer College of Architecture NDSU, Fargo, ND

1988 - 1994
Visiting Critic College of Architecture, University of Minnesota, Minneapolis, MN
2.2 AWARDS, HONORS AND RECOGNITIONS

Design and industry awards are a testament to Bake's continued leadership, collaboration and interdisciplinary success in design, project delivery and construction partnering. (The award and project are listed followed by Bake's project role and the design architect.)

AIA – REGIONAL:

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Weitz Center - Music &amp; Performance Commons</td>
<td>Precon. Principal/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2017</td>
<td>St. Paul Academy Huss Center</td>
<td>Precon. Principal/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2016</td>
<td>Emerson Process Management Building</td>
<td>Precon. Principal/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2015</td>
<td>Ordway Concert Hall</td>
<td>Precon. Principal/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2015</td>
<td>Surly Brewing Company</td>
<td>Precon. Advisor/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2014</td>
<td>Unity Church Unitarian</td>
<td>Precon. Advisor/Miller Dunwiddie</td>
<td>HGA</td>
</tr>
<tr>
<td>2013</td>
<td>Macalester Janet Wallace Fine Arts Center</td>
<td>Precon. Principal/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2013</td>
<td>Carleton College Weitz Center for Creativity</td>
<td>Precon. Principal/MSR</td>
<td>MSR</td>
</tr>
<tr>
<td>2011</td>
<td>Ramsey County Roseville Library</td>
<td>Precon. Advisor/MSR</td>
<td>MSR</td>
</tr>
<tr>
<td>2009</td>
<td>Great River Energy Headquarters</td>
<td>Precon. Advisor/Perkins Will</td>
<td>Perkins Will</td>
</tr>
<tr>
<td>2007</td>
<td>Ramsey County Maplewood Library</td>
<td>Precon. Advisor/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2003</td>
<td>701 Washington, HGA Headquarters Building</td>
<td>Architect, Prin. in Charge/HGA</td>
<td>HGA</td>
</tr>
<tr>
<td>2001</td>
<td>F.A.I.R. Arts Middle School</td>
<td>Architect, Prin. in Charge/HGA</td>
<td>HGA</td>
</tr>
</tbody>
</table>

Award of Recognition, AIA Minnesota

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Alumni House, Macalester College</td>
<td>Precon. Advisor</td>
<td>HGA</td>
</tr>
</tbody>
</table>

25-Year Project Award, AIA Minnesota

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Land O’Lakes Corporate Headquarters</td>
<td>Firm Award, Dir. of Precon. Services/Alliance</td>
<td></td>
</tr>
</tbody>
</table>

Merit Award, Excellence Beyond Design, AIA Minneapolis Chapter

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Great River Energy Headquarters</td>
<td>Precon. Advisor/Perkins Will</td>
<td>Perkins Will</td>
</tr>
</tbody>
</table>

Top Ten Green Project Award

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>AIA Committee on the Environment - Great River Energy Headquarters</td>
<td>Precon. Advisor/Perkins Will</td>
<td></td>
</tr>
</tbody>
</table>

AIA Walter Taylor Award, American Association of School Administrators

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>F.A.I.R. Arts Middle School, Crystal, MN</td>
<td>Architect, Prin. in Charge/HGA</td>
<td></td>
</tr>
</tbody>
</table>

Honor Award AIA - Virginia Society of Architects

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>Monticello High School, Charlottesville, VA</td>
<td>Architect, Senior Designer/Rancorn Wildman &amp; HGA</td>
<td></td>
</tr>
</tbody>
</table>

AASA / AIA / CEFFI Shirley Cooper Award

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Heritage and Woodside High Schools, Newport News, VA</td>
<td>Architect, Senior Designer/Rancorn Wildman &amp; HGA</td>
<td></td>
</tr>
</tbody>
</table>

ENVIRONMENTAL DESIGN

LEED Platinum

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kofi Annan Institute for Global Citizenship, Macalester College</td>
<td>Precon. Principal/Briner Cott</td>
<td></td>
</tr>
</tbody>
</table>

Great River Energy – USGBC 2008 (Precon. Advisor/Perkins Will)

LEED Gold

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hagfors Center for Science, Business and Religion, Augsburg University</td>
<td>Precon. Principal/HGA</td>
<td></td>
</tr>
<tr>
<td>Optum Campus, UnitedHealth Group – USGBC 2016 (Precon. Principal/HGA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science Center Addition, St. Scholastica – USGBC 2012 (Precon. Principal/Ellerbe)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weitz Center for Creativity, Carleton College – USGBC 2010 (Precon. Principal/MSR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramsey County Roseville Library – USGBC 2010 (Precon. Advisor/MSR)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEED Silver

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Role</th>
<th>Design Architect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Center, Concordia College – USGBC 2017 (Precon. Principal/EYP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper School Addition, Breck School – USGBC 2013 (Precon. Principal/Holabird &amp; Root)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflections at Bloomington Central Station – USGBC 2007 (Precon. Principal/Architects Alliance &amp; ESG)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2015 Governor's Award for Pollution Prevention, Great River Energy (Precon. Advisor/Perkins Will)

2011 Sustainable Concrete Award, Minnesota Concrete Council – Weitz Center, Carleton College (Precon. Principal/MSR)
2.2 AWARDS, HONORS AND RECOGNITIONS

DESIGN-BUILD INSTITUTE OF AMERICA – REGIONAL

Design Excellence Award,
Design Build Institute of America – Upper Midwest
2017 Weitz Center – Music & Performance Commons, Carleton College, Northfield, MN (Precon. Principal/HGA)
2016 Graduate Health Sciences Building, St. Scholastica, Duluth, MN (Precon. Principal/HGA)
2013 Weitz Center, Carleton College, Northfield, MN (Precon. Principal/MSR)

Top Project Award,
Design Build Institute of America – Upper Midwest
2017 Hagfors Center, Augsburg University, Minneapolis, MN (Precon. Principal/HGA)
2009 Ramsey County Library, Roseville, MN (Precon. Advisor/MSR)

BUSINESS AWARDS – LOCAL

Outstanding Performance Award, Finance and Commerce
2017 Butler Square, Minneapolis, MN (Precon. Advisor)

Top Project Award, Finance and Commerce
2015 Midway YMCA, St. Paul, MN (Precon. Advisor/LSE)
2015 Huss Performing Arts Center, St. Paul, MN (Precon. Principal/HGA)
2014 Surly Brewery, Minneapolis, MN (Precon. Advisor/HGA)
2013 Unity Church Unitarian, St. Paul, MN (Precon. Advisor/Miller Dunwiddie)
2013 Twin Cities Habitat for Humanity, St. Paul, MN (Precon. Advisor/Perkins Will)
2011 Weitz Center, Carleton College, Northfield, MN (Precon. Advisor/MSR)
2012 Anderson Center, Hamline University, St. Paul, MN (Precon. Principal/Shpeley Bulfinch)
2010 Ramsey County Library, Roseville, MN (Precon. Advisor/MSR)
2010 K. Annan Institute for Global Citizenship, Macalester College, St. Paul, MN (Precon. Principal/Bruner Cott)

Best Overall in Real Estate, Minneapolis/St. Paul Journal
2005 Reflections at BCS, Blooming, MN (Precon. Principal/Architects Alliance & ESG)

CONSTRUCTION INDUSTRY AWARDS – REGIONAL

2017 T.O.P.S. Award (Teamwork, Opportunities, and Partnering with Subcontractors), American Subcontractors Association of Minnesota (Firm Award, Dir. of Precon. Services)
2016 T.O.P.S. Award (Teamwork, Opportunities, and Partnering with Subcontractors), American Subcontractors Association of Minnesota (Firm Award, Dir. of Precon. Services)
2009 T.O.P.S. Award (Teamwork, Opportunities, and Partnering with Subcontractors), American Subcontractors Association of Minnesota (Firm Award, Dir. of Precon. Services)

Excellence Award, Minnesota Concrete and Masonry Contractors Association
2014 Anderson Center, Hamline University, St. Paul, MN (Precon. Principal/Shpeley Bulfinch)

2013 Contractor of the Year, Minnesota Construction Partnering Program (Firm Award, Dir. of Precon. Services)
2012 Contractor of the Year, Minnesota Construction Partnering Program (Firm Award, Dir. of Precon. Services)
2011 Contractor of the Year, Minnesota Construction Partnering Program (Firm Award, Dir. of Precon. Services)
2010 Contractor of the Year, Minnesota Construction Partnering Program (Firm Award, Dir. of Precon. Services)

Sustainable Concrete Award, Minnesota Concrete Council
2010 Ramsey County Library, Roseville, MN (Precon. Advisor/MSR)

PRESERVATION AWARDS

Preservation Award, St. Paul Heritage Preservation Commission & AIA St. Paul Chapter
2017 Palace Theater, St. Paul, MN (Precon. Principal/Oertel Architects)
2012 Alumni House, Macalester College, St. Paul, MN (Precon. Advisor)
2013 Minnesota Preservation Award, Preservation Alliance of Minnesota, Weitz Center, Carleton College, Northfield, MN (Precon. Principal/MSR)
2011 Heritage Award, Minneapolis Heritage Preservation Commission, Our Lady of Lourdes Catholic Church, Minneapolis, MN (Precon. Advisor)
The abbreviated publications list outlines Bake's continuing recognition and contribution to the profession and community.

ABOUT BAKE BAKER'S PROJECTS

2018
“Augsburg’s Business School Looks to Leverage New Digs” Minneapolis Star Tribune 4 Mar
“St. Paul Academy’s Huss Center for the Performing Arts” Frank Martin, Architecture Minnesota, Mar–Apr
“Artistic License: A Minneapolis-based firm transforms a tired Brutalist structure” Architectural Record, Nov 2014

2017
“Another 400 Apartments Planned Next to Bloomington Central Station” Minneapolis/St. Paul Business Journal 14 Dec

2016
“New Full-Service Hyatt Regency Opens Near Mall of America” Minneapolis/St. Paul Business Journal 24 Feb
“Hagfors Center for Science, Business & Religion – Augsburg’s New Building Brings Sciences and Liberal Arts Together” Minneapolis Star Tribune 11 Mar
“Employees’ Well-Being Drives Design of Building” Duluth News Tribune 24 Apr
“Cool Office: tpt’s Office Changes With the Broadcast Business” Minneapolis/St. Paul Business Journal 21 June

2015
“Augsburg Preps For $73M Multi-Discipline Center” Finance & Commerce 22 Oct
“2014 AIA Minnesota Honor Awards” – Janet Wallace Fine Arts Center, Architecture Minnesota, Mar–Apr
“Artistic License: A Minneapolis-based firm transforms a tired Brutalist structure” Architectural Record, Nov 2014

2013
“Optum Campus” Finance & Commerce 28 Nov
“Top Projects: Hamline University Anderson Center” Finance & Commerce 6 Aug
“Sustainability at Macalester College” Journal Of Chemical Health And Safety July–Aug
“Reflections of the Times” Architectural Record, Jan – Feb

2006
“Best in Real Estate Winners Unveiled” Minneapolis/St. Paul Business Journal 21 Apr

2005

2003

1992
“High-Tech Comfort, 3M Corporation, Divisional Headquarters” Architecture Minnesota

ABOUT BAKE BAKER - ARCHITECTURAL SPOTLIGHT

2013
“Madeline Island Summer Houses, an Intimate Journey” Linda and Kendra Mack, I Was There Press

2003
“Washington Avenue - HGA Headquarters” Architecture Minnesota

2002
“Offices for Hammel, Green and Abrahamson – Historic Loose Wiles Biscuit Factory” Architectural Record
“2001 AIA-MN Honor Awards – Art Forms, FAIR Arts Middle School” Architecture Minnesota

1998
“The House Concept – Anonymity Doesn’t Live Here” Author, Bartlett Baker, High School Magazine

1997
“Architecture For The Whole Child” Author, Bartlett Baker, Schools In The Middle
Bake’s exhibits focus on: first, sharing his unique, collaborative approach to project leadership and process facilitation; second, outlining the Lean tools and processes he has developed to support architects’ design processes; and third, highlighting project examples that illustrate the successful application of his leadership, processes and tools. The project exhibits each include a simple matrix that lists the specific tools and processes applied. While all the exhibits utilized multiple facilitation processes and tools, each example features the application of just one or two.

### TABLE OF CONTENTS

| EXHIBIT 2 | TOOLS | Creative Collaboration with Design Partners | Graphics: McGough |
| EXHIBIT 3 | ORANGE COUNTY CONSOLIDATION PROJECT | Medtronic Corporation, Santa Ana, CA | Remote Design Team Assembly | Photographer: RMA Architectural Photography Inc. |
| EXHIBIT 4 | A NEW DOWNTOWN: THE BLOOMINGTON TRANSIT-ORIENTED DEVELOPMENT PLAN | Bloomington, MN | Team Facilitation and Design Advocacy | Photographer: Gallop Studios | Drawings: EDAW & Pickard Chilton |
| EXHIBIT 5 | ANDERSON UNIVERSITY CENTER | Hamline University, St. Paul, MN | Shepley Bulfinch | First Time Right = Early Alignment | Photographer: Gallop Studios and Shepley Bulfinch |
| EXHIBIT 6 | REFLECTIONS CONDOMINIUMS | Bloomington, MN | Interdisciplinary Coordination and Fabricator Design-Assist | Photographer: Heinrich Photography and Gallop Studio |
| EXHIBIT 7 | INTEGRATED SCIENCE CENTERS | Concordia College, Moorhead, MN and Carleton College, Northfield, MN, USA | Complex Phasing and Curriculum Continuity | Photographer: Kirk Monpas | Drawings: EYP |
| EXHIBIT 8 | HUSS CENTER, ST. PAUL ACADEMY | St. Paul, MN | HGA | Lean Tools: Early Pull Planning | Photographer: Richard Brine Photography |
| EXHIBIT 9 | HAGFORS CENTER FOR SCIENCE, BUSINESS AND RELIGION | Augsburg University, Minneapolis, MN | HGA | Lean Tools: Last Planner® and Community Engagement | Photographer: Gaffer Photography and Augsburg University |

© All Exhibit process diagrams and graphics created by Bake Baker in the course of his project work.
EXHIBIT 1 PROCESS LEADERSHIP
Dynamic Interdependency of the Architecture and Construction Industry

Design Architect: Processes developed & implemented with multiple architectural firms

Design Architect for Process: Bake Baker, AIA

Completion: Implemented on multiple projects between 2009 and 2019

Role: Preconstruction Principal, McGough

Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included:

- **Development of the process, creation of explanatory diagrams, education of the client, design team members, public, and others about the process and leadership of process implementation.**

LEADERSHIP

With Bake’s **interdisciplinary** approach to architecture and the integration of design and construction delivery and diplomatic leadership style, he has served as a **strong bridge** between designer, engineer, owner, and builder. His role has been that of **design process advocate, facilitator, go-between and trusted guide**. Outcomes have been improved by defining attainable aspirations early, streamlining processes, and focusing time and talent on **value-added design efforts**.

INTERDEPENDENCY GAP IDENTIFIED

Bake recognized the challenges to **improved integration of design and construction delivery** for the profession. Those challenges included:

- **“Us/Them” divide** between designer, owner and builder
  - Failure to understand what the other does and needs to be successful
  - Lack of “holistic” understanding of design, construction and occupation of building
  - Poor communication and incomplete information flow
  - Lack of trust between parties
  - Owner information held back - leading to surprises (program additions, soft cost increases, funding delays, slow decision making)

- **Compromised ability of architect to maximize design value** delivered to project by “wasted” efforts and time
  - Re-design/re-draw to meet budget
  - Re-detailing or altered design to address constructability issues

- Inefficient/redundant documentation
- Designing “outside of budget” boundaries
- Limited access to fabricator/subcontractor input creating “unbuildable” assemblies
- Slow and conflicting owner input
- Inefficient, wasted design effort & re-draw fee expenditure due to misalignment of scope, budget & schedule
- Project **schedule delays** due to ill-defined and poorly coordinated early procurement needs
- **Ineffective builder support** of energy efficient design strategies

PROCESS LEADERSHIP DIAGRAM TO GUIDE INEXPERIENCED OWNER

Working with an inexperienced client, Bake led the owner through the process steps outlined in the diagram below to validate their program, assemble faculty and staff expertise, create project budget aligned with fundraising parameters and evaluate design concept options.
**EXHIBIT 1 PROCESS LEADERSHIP (Continued)**

**BRIDGING THE DISCIPLINES**

In Bake’s unique leadership role he has driven the creation of expanded project support services to serve design teams through all project phases. Bake’s corporate leadership and strategic planning focused on elevating preconstruction services in the industry.

- Preconstruction management
- Virtual design and construction
- Sustainability
- MEP coordination services
- Preconstruction Lean Tool development
- Estimating
- Scheduling

**BENEFITS TO ARCHITECTS**

Bake’s strong facilitation skills, holistic process leadership, development of innovative tools, commitment to sustainable design, and engagement with architects and the community have significantly benefited the profession.

- Early alignment of project vision through collaboration
- Guide owners through the design and construction process
- Informed design decisions to focus where design brings greatest value
- Enhanced builder input through assembly expertise
- Utilization of virtual construction technology for coordination and constructability
- Increased efficiency with streamlined documentation and Lean Tools
- Support a vision of sustainable and resilience principles
- Mentor and coach young professionals across many projects
- Help the public better understand and value what architects do

**BAKE’S PROCESS AND DESIGN COLLABORATORS**

Leading the pre-construction process with architectural partners

- AECOM (Minneapolis)
- Allianze (Minneapolis)
- Architects Alliance (Toronto)
- Bruner/Cott (Cambridge)
- BWBR (St. Paul)
- CannonDesign (Chicago)
- Cuningham Group (Minneapolis)
- EDAW (Denver)
- ESG (Minneapolis)
- EYP (Boston)
- Hastings Chivet (St. Louis)
- HDR (Omaha)
- HGA (Minneapolis)
- Holabird & Root (Chicago)
- Jerde Partnership (Los Angeles)
- LMN (Seattle)
- Wm McDonough (Charlottesville)
- MAA (Dallas)
- Miller Dunwiddie (Minneapolis)
- Moncur Design (Toronto)
- MS & R (Minneapolis)
- Omrania (Riyadh)
- Perkins Will (Minneapolis)
- Pickard Chilton (New Haven)
- PS3 Architects (Los Angeles)
- Rancon Wildman
  (Newport News)
- RSP (Minneapolis)
- Shepley Bulfinch (Cambridge)
- Snow Kreilich (Minneapolis)
EXHIBIT 2 PROCESS TOOLS FOR PARTNERING
Creative Collaboration with Design Partners

Design Architect: Processes developed & implemented with multiple architectural firms
Design Architect for Process: Bake Baker, AIA
Completion: Implemented on multiple projects between 2009 and 2019
Role: Preconstruction Principal, McGough
Declaration of Responsibility: I have personal knowledge of the nominee's responsibility for the exhibit listed. That responsibility included: Development of the process, creation of explanatory diagrams, education of the client, design team members, public, and others about the process and leadership of process implementation.

In Bake’s leadership role with a premier builder and developer, typically selected concurrently with the architect in some form of negotiated delivery, the preconstruction efforts run parallel with project design partners through all design phases. This has provided partnering opportunities to develop innovative tools to enhance the design and delivery process. Bake has sponsored and led Lean work sessions with design partners utilizing Value Stream Analysis and Rapid Improvement Events to develop tools and protocols to streamline work efforts, eliminate wasteful and redundant documentation and improve builder understanding and support of architects and the design process. These tools and protocols have been broadly shared with design partners and implemented on all projects.

ADOPTION OF STREAMLINED LEAN PRECONSTRUCTION METHODOLOGY
- Document Quality Review and Streamlined Deliverable Definition
- Pull Planning in the Design Process
- Last Planner® methodology bridging between design and construction
- Design-assist methodology with favored subcontractors
- Integrated Project Delivery
- Best Value Selection
- Target Value Design
- 2P and 3P Project Planning

TARGET VALUE MILESTONES

“FIRST TIME RIGHT” (Early Scope/Budget/Quality/Schedule Alignment)
- Project Feasibility Assessment
- Early Budget “Triangulation” (Benchmarking, Program Estimate, Cost Model)
- Dynamic Cost Estimating – ongoing cost management utilizing 3D design models
- ICAT (proprietary Interactive Cost Assessment Tool)

VIRTUAL DESIGN AND CONSTRUCTION
- 3D Model Sharing
- System coordination and clash detection
- 3D constructability modeling
- 4D logistics, construction sequence planning and trade coordination
- Virtual construction of major building systems

SUSTAINABILITY
- In-house sustainability group and employee training
- LEED credit scoring
- Preliminary cost evaluation tool for sustainable strategies
IMPROVED OUTCOMES / BENEFITS TO PROFESSION

- Initiate design with collaborative, partner-centered protocols, relationships and communication
- Earlier alignment of project goals, scope, budget and schedule reduce re-sets and re-design costs
- Proactive architect advocate on builder’s side
- Guide owner through design process – what to expect, when and how to make decisions
- Improved integration of design intent with fabricator expertise
- Improved architect productivity and fee retention with streamlined documentation and processes
- More time available for value-added design efforts (design exploration, improved documentation, adequate CD time)
- Better informed owner design decision-making throughout design process
- Enhanced support for sustainable and resilient principles
- Implementation of sustainability “firsts” in Midwest
- Utilization of 3D visualization improved coordination and reduced costly field changes
EXHIBIT 3 ORANGE COUNTY CONSOLIDATION PROJECT
Remote Design Team Assembly
Medtronic Corporation, Santa Ana, CA

Design Architect: Snow Kreilich, Minneapolis
Architect of Record: PS3 Architects, Los Angeles, CA
Completion: 2013
Role: Preconstruction Principal, McGough
Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: design team assembly, design-build team management, owner liaison, architect/builder coordination.

Julie Snow, FAIA, Principal
Snow Kreilich, Architects

HIGH FUNCTIONING TEAM FORMATION
1. Define Project Needs
2. Develop Team Expertise Criteria
3. Research & Prequalify Firms
4. Prepare RFP & Finalize with Owner
5. Short List Qualified Firms
6. Interview: Work Session Format
7. Evaluate Based Upon Criteria & “Fit”
8. Notify & Award
9. Team Kick-off Orientation (2-Days)
10. High Functioning Multi-Disciplinary Team

SYNOPSIS/KEY CHALLENGES: Medtronic, a major medical device company, consolidated three office, sales and production facilities scattered throughout Orange County. They chose one of their existing heart valve production facilities with an adjacent warehouse for the combined space. The program called for new lobby, office spaces, updated production areas, and a large employee commons space—all very different from the two buildings’ original purposes.

Bake assembled the design and engineering team, managed the design-build team, and acted as process leader for the owner and user groups. Bake knew that Medtronic’s Orange County project demanded creative architectural design talent coupled with architects who brought deep industrial building experience.

He developed a rigorous team selection and interview process including mock work sessions with the owner in order to test candidates’ cultural “fit” with client and users. Ultimately, Bake and the owner chose two exceptional firms—Snow Kreilich, the 2018 AIA Firm of the Year, and PS3 Architects, a firm with superb technical, industrial, and clean room expertise.
RESOLUTION

- Create qualified short list with thorough research and vetting of design and technical firms
- Careful RFP preparation in collaboration with owner
- Informal interview, rigorous evaluation, unbiased selection and honest feedback
- Foster synergy and collaboration between creative design talent and highly technical production and clean room expertise
- Compilation of owner’s project information, including project background, preliminary program, schedule and budget into pre-design document to jump start design team
- Assessment of existing facility at consolidation site and adjacent unused warehouse targeted for expansion
- Facilitate detailed programming effort with multiple user groups – research, production, management and sales

BENEFITS

- Collaborative, high-functioning design team
- Leveraged the talents of both architectural firms
- Elevated what would otherwise be an ordinary project to something much more
- Excellent project result for a demanding client – highly functional and elegant design

EXHIBIT 3
ORANGE COUNTY CONSOLIDATION PROJECT (Continued)

PROCESS TOOLS FOR PARTNERING

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Pre-design</th>
<th>Design</th>
<th>Construction/Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Assembly</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Time Right</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Feasibility Assessment</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Budget Triangulation</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
| Soft Cost Definition | | | ✔
| Interactive Cost Assessment | | | ✔
| Dynamic Cost Estimating | | | ✔
| Virtual Design & Construction | | | |
| 3D Model Sharing | ✔ | | |
| 3D Constructability | | | ✔
| 3D Logistics/Trade Coordination | | | ✔
| Virtual Construction | | | ✔
| Pull Planning | | | |
| Target Value Design | | | |
| Best Value Selection | | | |
| Last Planner® | | | |
| 2P & 3P Planning | | | ✔
| Sustainability | | | |
| LEED Credit Scoring | | | |
| Energy Strategy Cost Evaluation | | | |
| Community Engagement | | | |
| Entitlement Management | | | |
| Disruption Avoidance | | | |
| Lay Educ./Presentations | | | |
| Neighborhood Outreach | | | |
| WBE/MBE/SBE Outreach | | | |

Entry Lobby in Re-purposed Warehouse

Daylit Employee Break Area

Reconfigured & Repurposed Production
EXHIBIT 4 A New Downtown: The Bloomington Transit-Oriented Development Plan
Team Facilitation & Design Advocacy
Bloomington, MN

Design Architects & Planners: Pickard Chilton, New Haven; EDAW, Denver; ESG Architects, Minneapolis; Oslund & Associates, Minneapolis; URS, Minneapolis; Kimley Horn, Minneapolis
Completion Date: 2004-2005 Initial Master Plan
Role: Preconstruction Principal, Design-Build Team Leader, McGough

Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: Design team assembly, design-build team management, preconstruction, owner liaison and architect/builder coordination.

Bill Chilton, FAIA, Principal
Pickard Chilton

SYNOPSIS/KEY CHALLENGES: Once a large computer company campus, the 50-acre site lies atop the bluffs of the Minnesota River near its juncture with the Mississippi. Acquired in 2002, McGough Development saw the potential for a “downtown” core in suburban Bloomington. In 2006, the Twin Cities region’s first light-rail line opened a station stop at the heart of the site—now bookended by the Minneapolis-St. Paul Airport and the immense Mall of America.

One of the nation’s largest urban wildlife refuges lies next door, just below the bluffs. Graced with these transit opportunities and fragile ecological amenities, Bloomington asked McGough and Bake to assemble, coordinate, and manage a planning and design team to create a multi-scaled Transit Oriented Development (TOD) master plan.

Surrounded by freeways and underutilized land, Bake’s challenge was to reposition the site toward a pedestrian-scaled urban form, to create high-density land uses supporting transit, public life, and retail—all to be realized within a development window of 15 to 20 years.
RESOLUTION

- Assembled a team of nationally recognized planners, architects, landscape architects and civil engineers to develop long-term TOD plan for site that leverages surrounding amenities, infrastructure and uses
- Created campus and building design guidelines
- Designed and constructed 1.5-acre publicly financed central park
- Negotiated TIF financing with city to fund conversion of surface parking to structured parking to free land area for higher and best uses
- researched and resolved aircraft noise mitigation concerns
- Completed stormwater management and utility infrastructure for campus
- Commenced first phase master plan with multi-family, high-rise housing

BENEFITS

- TOD campus master plan has guided development and construction for 14 years
- Entitlement for 1,100 high-density housing units, hotel, service retail, 2 million SF of office space
- Increased transit use with Travel Demand Management Plan (TDMP) to leverage on-site LRT station and reduce vehicular use

SELECT PUBLICATIONS

EXHIBIT 5  ANDERSON UNIVERSITY CENTER  
First Time Right = Early Alignment  
Hamline University, St. Paul, MN USA

Design Architect & Architect of Record:  
Shepley Bulfinch, Boston, MA  
Completion Date: 2012  
Role of Nominee:  
Preconstruction Principal, McGough  
Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: preconstruction management, conceptual project budgeting, owner liaison & architect/builder coordination.

Angela Watson, FAIA, Principal  
Shepley Bulfinch

AWARDS  
Top Project Award, Finance and Commerce  
Excellence Award, 2014 Minnesota Concrete and Masonry Contractors Association

SELECT PUBLICATIONS  
“Top Projects: Hamline University Anderson Center”  
Finance & Commerce 08/2013  
“The Greening of College Campus Roofs in Twin Cities”  
Finance & Commerce 09/2012

SYNOPSIS/KEY CHALLENGES: The challenge for this private midwestern university, like many, was to address the very competitive campus facilities “arms race” for attracting prospective students, meet design aspirations for a signature building on campus, achieve the operational program needs and align costs with a predetermined fundraising cap. Early and accurate alignment of scope and budget at concept phase was critical for the capital campaign target and funding credibility. The result was a 75,000 SF student center with campus dining and food service, event space, student offices, and visitor underground parking. Bake led the early alignment exercise utilizing the First Time Right Methodology, which grew out of internal initiatives to discover and refine a process that ensured scope, budget and schedule alignment at the concept phase of projects with continuous tracking following through design. The methodology minimizes costly re-draw, painful value engineering exercises and lost design time.
RESOLUTION

- Collaboration with design team and owner to define goals, major program variables and project funding limitations
- Rigorous testing of multiple concept options to “fit” college funding scenarios
- First Time Right process utilized to create menu of program variables and costs for owner consideration
- Budget Triangulation, with three sources of preliminary cost input, used to create accurate decision-making tool for team at concept stage
- Final program size, preliminary concept and budget finalized prior to the start of schematic design

BENEFITS

- Early alignment of vision, scope and funding through intense team collaboration
- High owner confidence in scope and budget alignment prior to fundraising campaign
- No design re-draw during the design phase to stay on budget
- Design efforts focused on value added design features, high quality documents and responsive CA services
- Project on time, under initial concept budget target
- Signature project for campus
EXHIBIT 6 REFLECTIONS CONDOMINIUMS
Interdisciplinary Coordination and Fabricator Design-Assist
Bloomington, MN

Design Architect: Architects Alliance, Toronto
Architect of Record: ESG Architects, Minneapolis
Completion Date: 2007
Role of Nominee: Preconstruction Principal,
Design-Build Team Leader, McGough
Declaraton of Responsibility: I have personal
knowledge of the nominee’s responsibility for the
exhibit listed. That responsibility included: Design
team assembly, design-build team management,
owner liaison, architect/builder coordination, fab-
ricator design-assist.

David Graham, FAIA, Principal
ESG

AWARDS
2006 Best in Real Estate,
Minneapolis/St. Paul Journal
First LEED Certified Multi-family in Minnesota

SELECT PUBLICATIONS
“Green Condos Anchor Transit-Oriented, Master
Planned Project” Multi-Housing News 06/2007
“Reflections of the Times” Architectural Record,
01/2007
“Best in Real Estate Winners Unveiled”

SYNOPSIS/KEY CHALLENGES: The Reflections
Condominiums is the first high-rise housing
project within Bake’s master plan for the new
TOD-based “downtown” in Bloomington. Adjacent
to the MSP airport with 420,000 takeoffs and
landings annually, there were numerous aviation
safety-based regulations and challenges.

Bake’s team faced the challenge to develop
landmark, all-glass high-rise towers that optimized
dramatic river vistas and the wildlife refuge while
also meeting regulatory and resident comfort
concerns. Representing the developer, owner and
builder, Bake managed the design-build team and
also led the interdisciplinary design effort to develop
a cost-effective, high-performance curtain wall
to meet acoustic, thermal, and design expectations.

The Metropolitan Airports Commission (MAC)
was eager to support residential development at
this under-used site, but had concerns about the
aircraft noise impact on the proposed residential
units. MAC had already been sued by residents
from other nearby neighborhoods over noise and
air traffic.

Residential Towers with Floor to Ceiling Glass Open Up Views to the Wildlife Refuge & River

Bartlett “Bake” J. Baker, Jr. AIA, NCARB, LEED AP
AIA Honors Fellowship Submission for 2020
RESOLUTION
With the consultant team and design-assist fabricator, the process steps included:

- **Research noise mitigation** and threshold standards (federal, state, local), local flight path patterns, mitigation strategies in similar locations, existing assemblies on market, aircraft noise characteristics, overall acoustic recommendations for human sleep comfort
- Define performance **criteria** (acoustic, thermal, maintenance, cost)
- Develop **concept options** for curtainwall assembly to meet design intent and performance criteria
- Perform mock-up **testing** on glass and frame assemblies
- Perform full **2-story mock-up** in materials testing lab (aesthetics, acoustics, air and water infiltration, ease of installation)
- Refine assembly design based on test results
- Shop drawing review and fabrication
- On-going **installation inspection**
- Final field testing (acoustic, water and air infiltration) to verify results

BENEFITS

- **Floor to ceiling triple-glazed curtainwall** for maximum views to adjacent wildlife refuge and river valley that meets design intent
- **50 STC rating** for resident sleep comfort (no resident aircraft noise complaints over 10-year period)
- **High thermal performance** in northern climate
- Cost-effective design utilizing off-the-shelf assemblies and components
EXHIBIT 7 INTEGRATED SCIENCE CENTERS  
Complex Phasing & Curriculum Continuity  
Concordia College, Moorhead, MN and Carleton College, Northfield, MN, USA

Design Architect & Architect of Record:  
EYP Architects  
Completion Date: Concordia Integrated Science Complex 2017 & Carleton Science Center 2019  
Role of Nominee: Preconstruction Principal  
Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: Preconstruction management, conceptual project budgeting, owner liaison & architect/builder coordination.

Jeremy Oberc, AIA, Principal  
EYP Architects

AWARDS  
LEED Silver Concordia Integrated Science Center  
LEED Gold standards (designed to, not certified) Carleton Science Center

SYNOPSIS/KEY CHALLENGES: Two mid-western private colleges, Concordia College and Carleton College, faced similar challenges. They needed to upgrade and expand aging science facilities that served core health science academic programs including biology, chemistry, physics, math and computer science. Some buildings dated back to the early 1960’s. Project goals and issues closely paralleled one another.

• Pressing need to create a new interdisciplinary science teaching facility  
• Leverage existing science facilities as much as possible to reduce cost  
• Located in a central campus location that made construction access difficult and campus disruption likely  
• Central plant upgrades and expanded infrastructure triggered by existing building renovations  
• Constrained project budget  
• Deliver sequential science curriculum without interruption throughout design and construction
RESOLUTION

Quickly it became clear to Bake and the design team that each project would require extensive demolition, new building systems, and significant reconfiguration. In Carleton’s case, it would also require a new addition and trigger complicated interface connections between two existing structures needed for instruction during construction. Bake led work sessions with campus leadership and faculty in the development of project phasing scenarios, temporary lab and classroom strategies and Pull Planning with the owner, architect, and builder.

- **Disruption avoidance** analysis to identify critical campus concerns (noise, dust, student safety and campus circulation)

- Intense collaboration between faculty, architect and builder to develop schedule that maintained science curriculum continuity

- Multiple **phasing and construction** sequence scenarios that examined detailed work durations, system cut-overs, demolition and abatement impacts to limit down-time and utilize student breaks for critical work

- Creation of **temporary lab and classroom** swing spaces

- Detailed pull planning with owner/faculty/trades to coordinate critical work activities and moves

- Development of **campus-wide communication** plan for faculty and student body
BENEFITS

- Integrated science curriculum and campus design aspirations met within constrained budget
- Science curriculum continuity maintained with a combination of temporary labs and phased renovation
- Campus central plant infrastructure upgraded providing improved energy efficiencies
- Well-coordinated and phased departmental and faculty moves
- Disruption of campus environment minimized and student/staff safety maintained

**PROCESS TOOLS FOR PARTNERING**

<table>
<thead>
<tr>
<th>Tools Used:</th>
<th>Pre-design</th>
<th>Design</th>
<th>Construction</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Assembly</td>
<td>Design Team Formation Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Time Right</td>
<td>Project Feasibility Assessment</td>
<td>Early Budget Triangulation</td>
<td>Soft Cost Definition</td>
<td>Interactive Cost Assessment</td>
</tr>
<tr>
<td>Virtual Design &amp; Construction</td>
<td>3D Model Sharing</td>
<td>3D Constructability</td>
<td>3D Logistics/Trade Coordination</td>
<td>Virtual Construction</td>
</tr>
<tr>
<td>Sustainability</td>
<td>LEED Credit Scoring</td>
<td>Energy Strategy Cost Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Engagement</td>
<td>Entitlement Management</td>
<td>Disruption Avoidance</td>
<td>Lay Educ./Presentations</td>
<td>Neighborhood Outreach</td>
</tr>
</tbody>
</table>
**EXHIBIT 8 HUSS CENTER, ST. PAUL ACADEMY & SUMMIT SCHOOL**

**Lean Tools: Early Pull Planning**

**St. Paul, MN**

---

**Design Architect & Architect of Record:**
HGA Architects and Engineers

**Completion Date:** 2016

**Role of Nominee:** Preconstruction Principal, McGough

**Declaration of Responsibility:** I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: *Preconstruction management, conceptual project budgeting, owner liaison & architect/builder coordination.*

---

E. Timothy Carl, FAIA, Principal
HGA

**AWARDS**

*2017 Honor Award, AIA Minnesota, Top Project, Finance & Commerce, Designed to LEED Silver standards (not certified)*

**SELECT PUBLICATIONS**

“St. Paul Academy’s Huss Center for the Performing Arts” *Architecture Minnesota*, 03/2018


---

**SYNOPSIS/KEY CHALLENGES:**

St. Paul Academy (SPA), a venerable independent school, recognized that its aging performing arts facilities could no longer support its traditional level of excellence in drama, dance, and music. A new 21st century performing arts center became a top funding priority. Successful fundraising accelerated the project start by one academic year.

Given the need, SPA compressed the construction **schedule to 13 months** – from the end of classes in early summer to the resumption of classes in August the following year. Adding to the challenge, the construction period required a 45-day window during the second summer to complete demolition and construction of a new 2-story connection and major MEP infrastructure upgrades.

Bake identified two **critical path** items requiring **early architectural and engineering focus:**

- Designing a precast enclosure system for the performance hall because of its acoustic isolation and speed of construction
- Building the 2-story connection and infrastructure upgrades at the end of the project

These front and back-end requirements demanded detailed team-wide **Pull-Planning collaboration** with the architect, engineer, theater designer, and builder.

Working with nationally-acclaimed architects for the arts, HGA, Bake was able to achieve remarkable results on time and budget. The **award-winning** 36,000 SF professional level performing arts facility includes a 650-seat hall, black box scene shop, lobby, and performance space. The project has become a popular city landmark offering both school and professional performing arts events.
RESOLUTION
Detailed Pull Planning for two critical path activities:

**Accelerated definition and coordination of systems** with the architect, theater designer, structural engineer, performance hall acoustician and MEP engineer for early precast panel design
- Hall configuration and volume
- Acoustic isolation joints and details
- Theater rigging locations and connections for embeds
- HVAC and plumbing penetrations

**Detailed design and construction sequencing** for 2-story link
- Partial demo at project start and remaining demo at end
- Material procurement and staging on site
- Crawler crane sizing for very limited site access
- Prefabricated structural steel components to speed erection
- Detailed planning of overlapping trade activities in confined work space

<table>
<thead>
<tr>
<th>PROCESS TOOLS FOR PARTNERING</th>
<th>TOOLS USED:</th>
</tr>
</thead>
</table>
| Team Assembly                | Pre-design
| Design Team Formation Process|            |
| First Time Right             | Design     |
| Project Feasibility Assessment| Construction /Occupancy |
| Early Budget Triangulation   | Team Assembly |
| Soft Cost Definition         | Design Team Formation Process |
| Interactive Cost Assessment  | First Time Right |
| Dynamic Cost Estimating      | Project Feasibility Assessment |
| Virtual Design & Construction| Early Budget Triangulation |
| 3D Model Sharing             | Soft Cost Definition |
| 3D Constructability          | Interactive Cost Assessment |
| 3D Logistics/Trade Coordination | Dynamic Cost Estimating |
| Virtual Construction         | Virtual Design & Construction |
| Pull Planning                | 3D Model Sharing |
| Target Value Design          | 3D Constructability |
| Best Value Selection         | 3D Logistics/Trade Coordination |
| Last Planner®                | Virtual Construction |
| 2P & 3P Planning             | Pull Planning |
| Sustainability               | Target Value Design |
| LEED Credit Scoring          | Best Value Selection |
| Energy Strategy Cost Evaluation | Last Planner® |
| Community Engagement         | 2P & 3P Planning |
| Entitlement Management       | Sustainability |
| Disruption Avoidance         | Community Engagement |
| Lay Educ./Presentations      | Entitlement Management |
| Neighborhood Outreach        | Disruption Avoidance |
| WBE/MBE/SBE Outreach         | Lay Educ./Presentations |

**PULL PLANNING = WORK BACKWARDS FROM COMPLETION DATE**

**< Resultant Start Date**

**Task Duration Antecedent**

**Target Completion Date >**

**BENEFITS**
- **Early erection of precast panels** and completion of enclosure allowing interior system installation and rigging through winter months
- **Accelerated C of O** for acoustic and AV system testing and hall tuning
- Completion of 2-story link in 45-day window; entire facility opened on time prior to start of academic year
- **Excellent acoustic characteristics** for St. Paul Chamber Orchestra and student performances
EXHIBIT 9 HAGFORS CENTER FOR SCIENCE, BUSINESS & RELIGION
Lean Tools: Last Planner® and Community Engagement
Augsburg University, Minneapolis, MN

Design Architect & Architect of Record: HGA Architects and Engineers
Completion Date: 2018
Role of Nominee: Preconstruction Principal, Design-Build Team Leader, McGough
Declaration of Responsibility: I have personal knowledge of the nominee’s responsibility for the exhibit listed. That responsibility included: design team assembly, design-build team management, preconstruction, owner liaison & architect/builder coordination.

William Blanski, FAIA, Design Principal
HGA

AWARDS
2017 Top Project Award, Design Build Institute of America–Upper Midwest, LEED Gold

SELECTED PUBLICATIONS
“Augsburg’s Business School Looks to Leverage New Digs” *MPLS Star Tribune* 04/2018
“Hagfors Center for Science, Business & Religion – A...” *MPLS Star Tribune* 03/2016
“Augsburg Preps For $73M Multi-Discipline Center” *Finance & Commerce* 10/2015

SYNOPSIS/KEY CHALLENGES: Augsburg is an historic Lutheran university with a compact campus in one of Minneapolis’ oldest neighborhoods. Given this history and location, the school stands out today in serving many first-generation college students, recent Somali immigrants, and Native Americans. Originally conceived in 2005, Augsburg’s vision called for a pivotal building at the heart of the campus to serve the integrated study of science, business and religion. The project languished in the Great Recession and in the following years. A major unanticipated gift sparked a fundraising “burst” that accelerated the design and construction schedule. The inexperienced owner mandated that the project be delivered using design-build—while also desiring to be an active participant in the designer selection and design process.

Augsburg is surrounded by institutional and residential neighbors who were concerned about construction noise, dust, traffic, parking and the potential loss of community gardens adjacent to the building site. Neighborhood activists also pressed for employment of local small businesses and job training during construction. Working with HGA, Bake met these diverse challenges, constructing a 135,000 SF multi-use building supporting students and Augsburg’s future.
RESOLUTION
- Rapid assembly of highly qualified design-build team
- Accelerated re-programming and concept design
- Early scope/feasibility and soft cost budgeting
- Pull planning in design to define long-lead procurement
- 3D virtual construction modeling for structural system
- Neighborhood outreach plan – community garden, parking, noise disruption
- Local small business outreach and sub hiring
- Last Planner® shortened construction schedule and dramatically improved trade coordination

BENEFITS
- Confidence in early alignment of scope and budget for funding sources, Trustees and architects
- Shortened design and construction schedule for mid-year move-in
- Project delivered below budget
- Enhanced community relationships
- Improved architect productivity
- Virtual construction of complex details
- Higher design impact through on-going value selection
COMMUNITY ENGAGEMENT

Project dictated a high level of successful public engagement that included regulatory presentations and entitlement negotiations, neighborhood and campus communication strategies, project and operational disruption avoidance planning. Active community and trade outreach to maximize participation of MBE, WBE, and small businesses.

- Entitlement management
- Communication strategies
- Operational disruption avoidance
- Community and trade outreach
- Campus/Neighborhood Communication – Open houses, newsletters, website
- Subcontractor Outreach – WBE/MBE/SBE

**EXHIBIT 9 HAGFORS CENTER FOR SCIENCE, BUSINESS & RELIGION (Continued)**

![Hagfors Center in Minneapolis Landscape](image)

**PROCESS TOOLS FOR PARTNERING**

<table>
<thead>
<tr>
<th>Tools Used</th>
<th>Pre-design</th>
<th>Design</th>
<th>Construction</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Team Assembly</strong></td>
<td>Design Team Formation Process</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>First Time Right</strong></td>
<td>Project Feasibility Assessment</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early Budget Triangulation</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soft Cost Definition</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interactive Cost Assessment</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Dynamic Cost Estimating</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Virtual Design &amp; Construction</strong></td>
<td>3D Model Sharing</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3D Constructability</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3D Logistics/Trade Coordination</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Virtual Construction</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pull Planning</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target Value Design</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Best Value Selection</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Last Planner®</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>2P &amp; 3P Planning</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>LEED Credit Scoring</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Energy Strategy Cost Evaluation</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Community Engagement</strong></td>
<td>Entitlement Management</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Disruption Avoidance</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Lay Educ./Presentations</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Neighborhood Outreach</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>WBE/MBE/SBE Outreach</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>