



# Higher Education

THE PRACTICE OF BNIM

**bnim**

## ABOUT BNIM

BNIM is an innovative leader in designing high performance environments. BNIM's instrumental development of the USGBC, LEED, and the Living Building concept, combined with projects, methods, and research, shaped the direction of the sustainable movement. Through this involvement, the firm has redefined design excellence to elevate human experience together with aesthetics and building performance. In practice, this multifaceted approach to design excellence has yielded national acclaim, including the AIA National Architecture Firm Award, and consistent design recognition nationally and internationally. BNIM is **Building Positive**, a notion that describes how our practice leverages its collective capacity for design thinking to solve issues at every scale in a way that is focused on building the positive attributes of community and the built environment. Through an integrated process of collaborative discovery, BNIM creates transformative, living designs that lead to vital and healthy organizations and communities.



# Higher Education

THE PRACTICE OF BNIM

# Patient-Centered Care Learning Center

UNIVERSITY OF MISSOURI  
COLUMBIA, MISSOURI



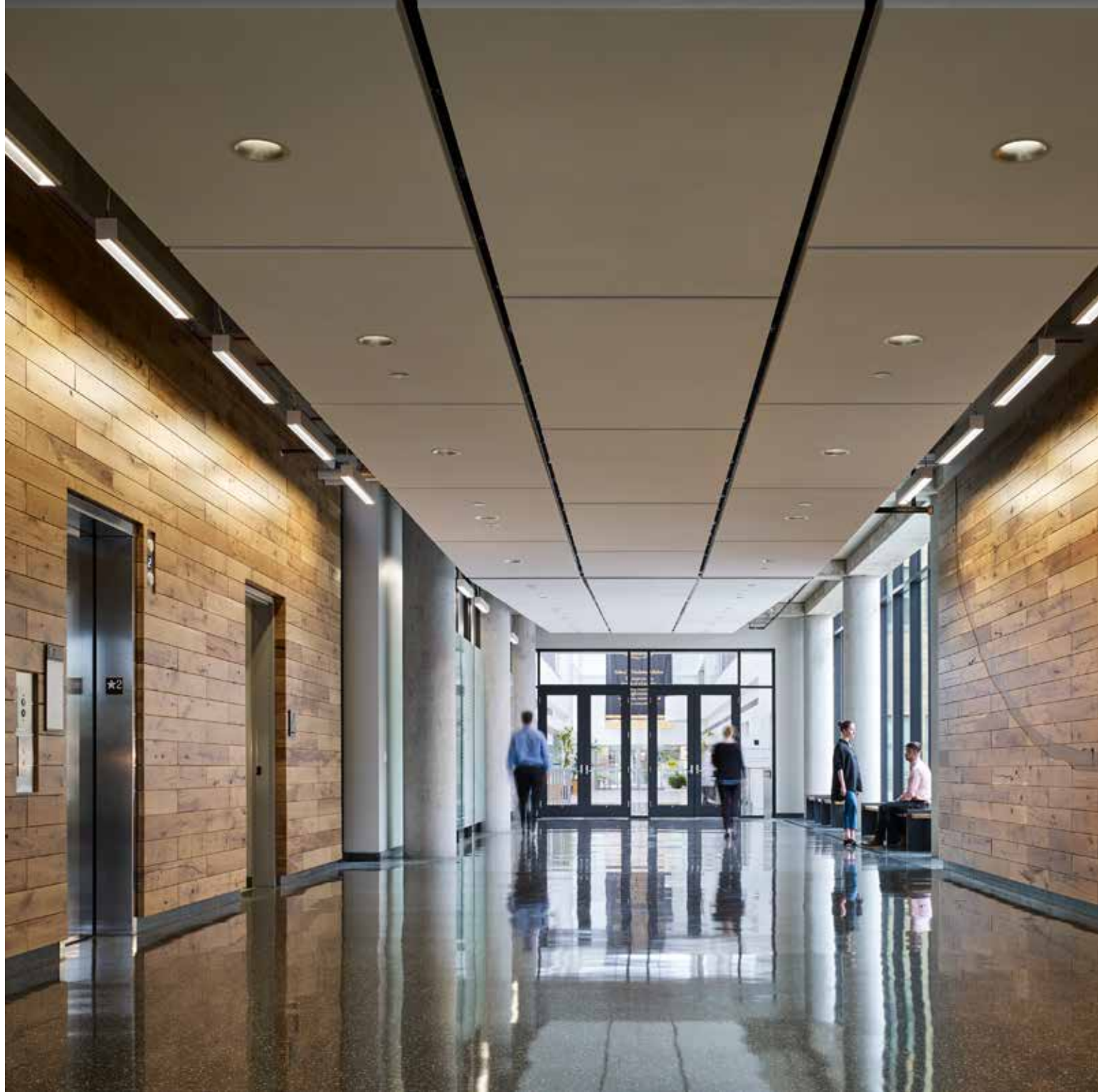


The University of Missouri School of Medicine (SOM) was tasked with expanding its enrollment in response to a call from the Association of American Medical Colleges (AAMC) for all medical schools to increase enrollment by 30%. The SOM has partnered with CoxHealth and Mercy health systems out of Springfield, MO to create a clinical campus in Columbia, which will help meet a critical need for more physicians. This public-private partnership will bring transformational change by ultimately providing more than 300 additional physicians for the state, adding more than \$390 million annually to Missouri's economy and creating 3,500 new jobs.

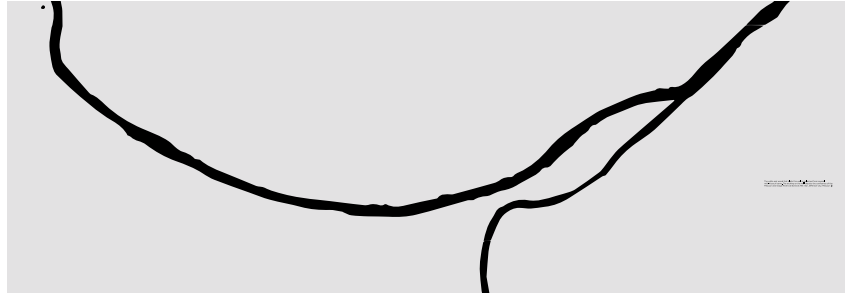
The SOM's focus on patient-based care defined the ultimate design, which includes improved daylight quality, access to views of campus, more generous amenities for students, and an enhanced focus on providing a facility that promotes collaboration among students, faculty, and staff. By improving its technology, increasing lab sizes and providing additional space for first- and second-year medical students, the new SOM will become a recruiting tool.

98,888 SF  
Completion in 2017





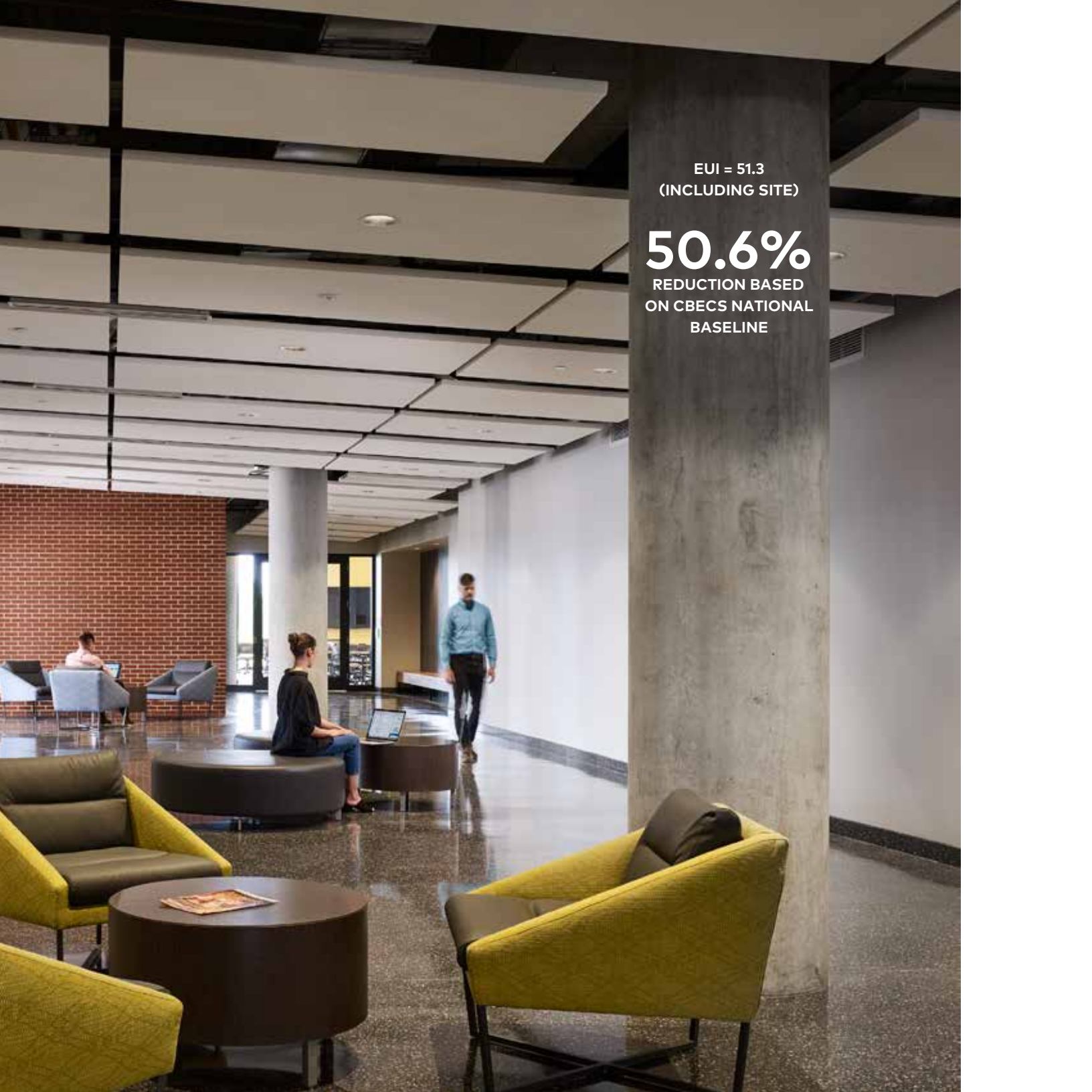




As the interior design of the building progressed in late 2014, the need to include a feature element at each of the six elevator lobbies became clear. Thinking that some warmer wood elements could meet that need, BNIM contacted brokers who collect and market reclaimed construction materials. We were able to identify and procure wood products that were salvaged exclusively within Missouri: walnut from Knox City, hickory from Palmyra, pine from Hannibal, and on. After consideration of how the wood could be detailed, we proposed to the Medical School that Missouri rivers be incorporated into the wood walls. Representing rivers from a variety of regions within Missouri, the rivers were carved into the wood with a computer-controlled router, and carefully pieced together like a jigsaw puzzle. What resulted are six beautiful, artistic feature walls that express Missouri's close connection with its waterways, and tell a story about how and where the wood was salvaged.







EUI = 51.3  
(INCLUDING SITE)

**50.6%**  
REDUCTION BASED  
ON CBECS NATIONAL  
BASELINE





#### **SUSTAINABLE STRATEGIES**

- Fixed horizontal and vertical louvers on the building's exterior reduce solar heat gain and glare.
- Designed glazing percentages based on combination of solar orientation and optimizing views.
- Reduced ventilation rate of anatomy lab when unoccupied











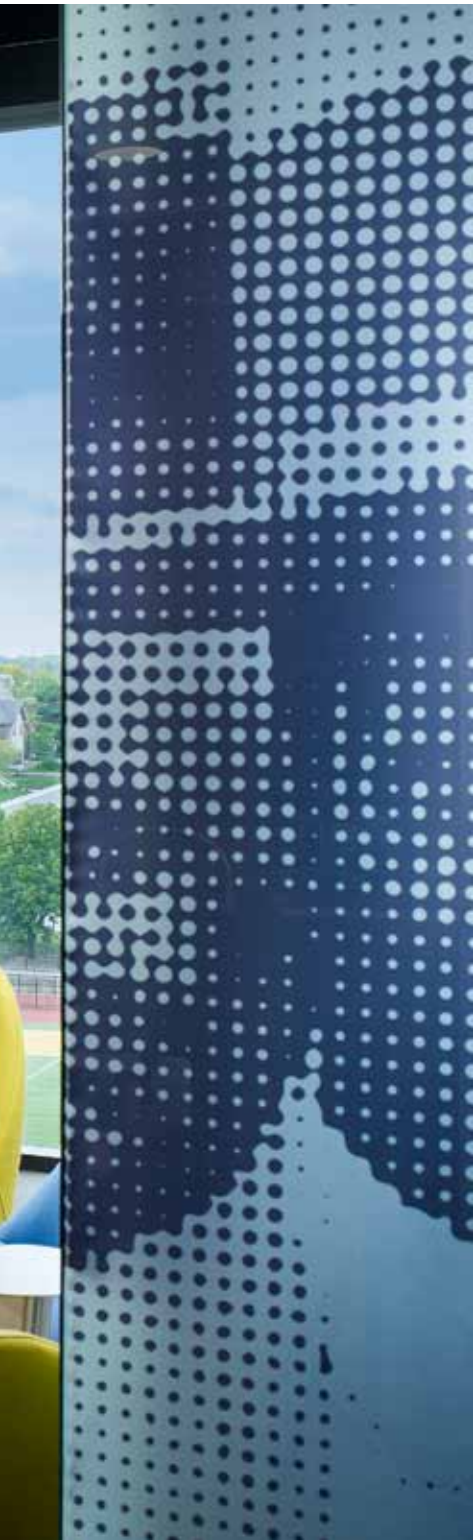




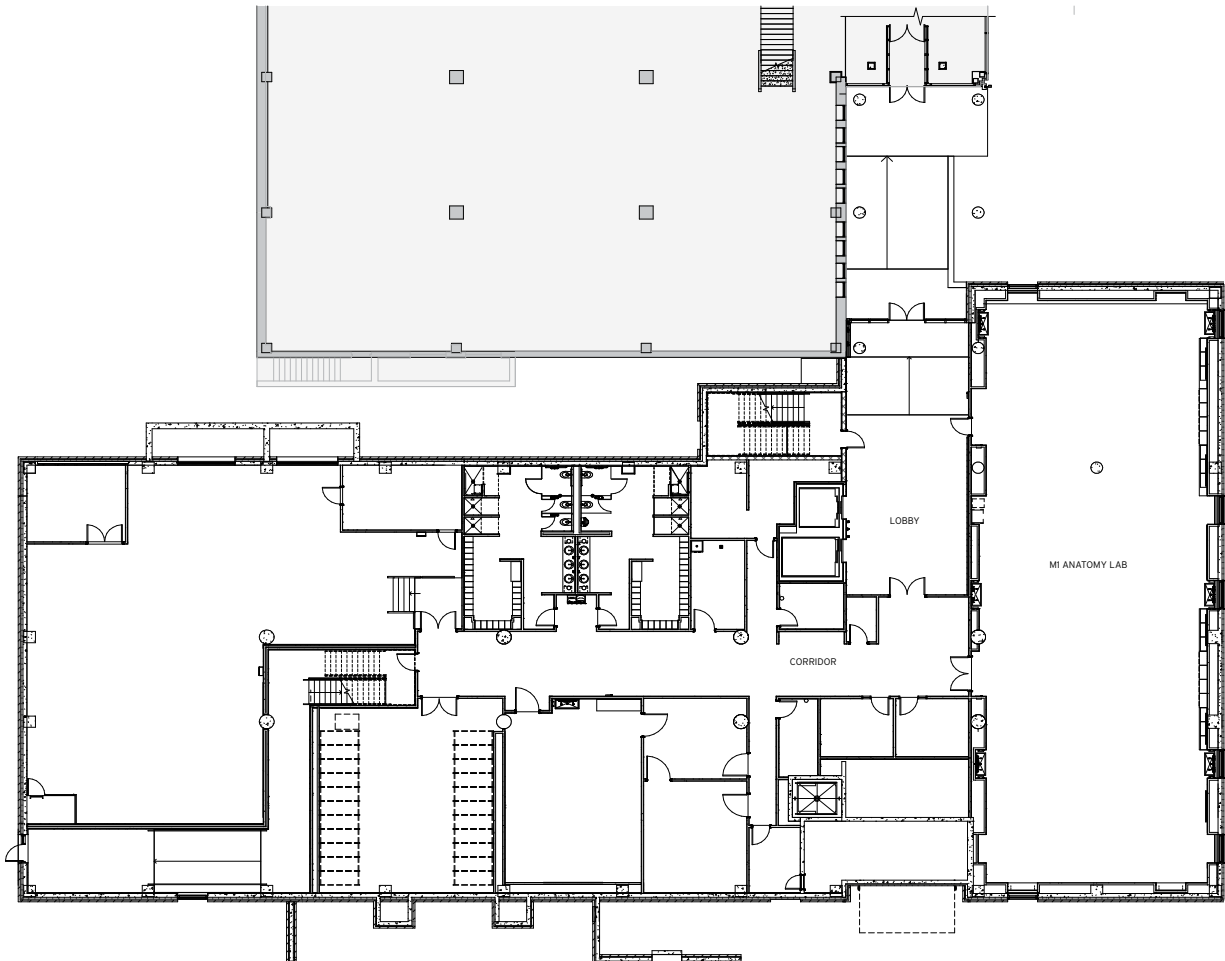








The mission to educate students to provide patient-centered care is realized in the 32 problem-based learning classrooms on levels 5 and 6. In each classroom humanity is emphasized with images of Missourians overlaid on the glass door, each with individual stories. The creative collaboration with the School of Journalism incorporated works of professional photojournalists from the Missouri Photo Workshop to create the artistic installation.

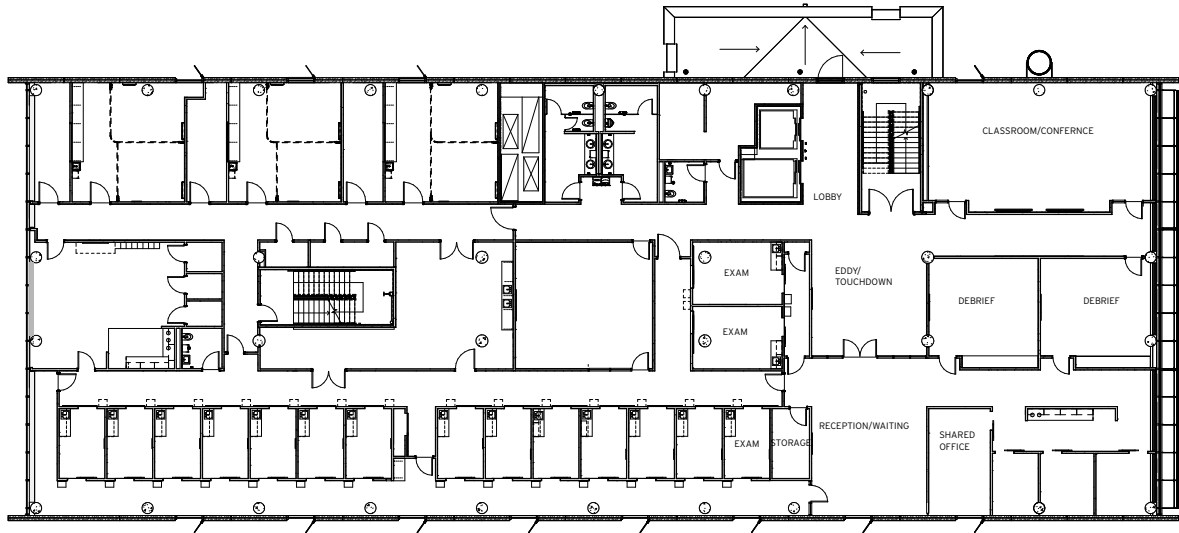


LEVEL 1

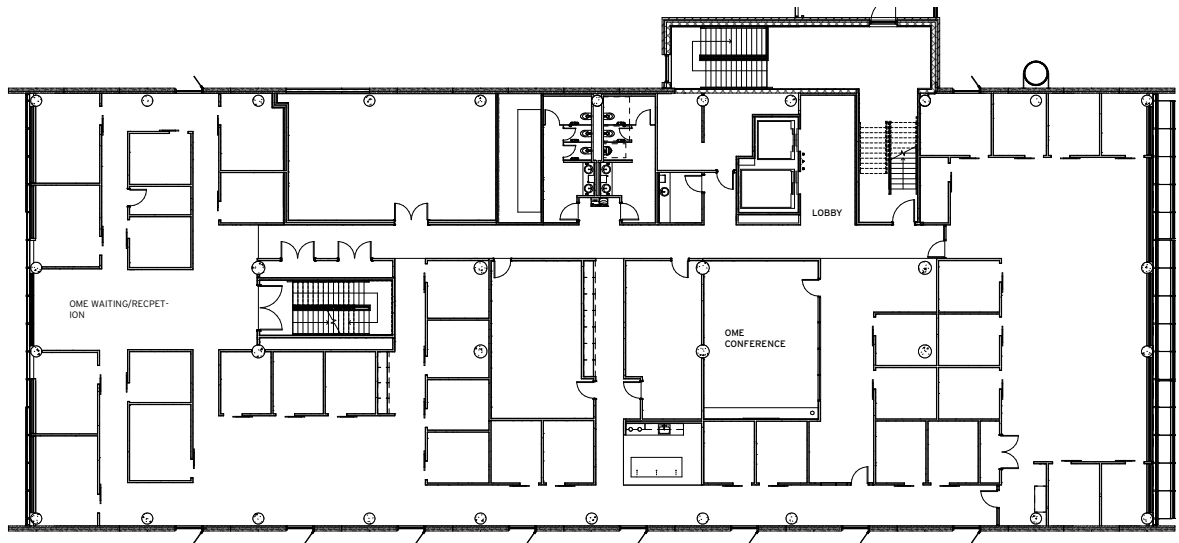


LEVEL 2





TYPICAL UPPER FLOORS



LEVEL 3



# Price Gilbert – Crosland Tower Library Renewal

GEORGIA INSTITUTE OF TECHNOLOGY  
ATLANTA, GEORGIA








The adaptive reuse of Price Gilbert Memorial Library and Crosland Tower at Georgia Institute of Technology will transform the two campus buildings into the *Research Library of the 21<sup>st</sup> Century*. The project is a critical initiative of the university's strategic plan and vision for transforming the campus into a knowledge-based community. The transformation is founded on changes in the way that students and faculty currently use the library, as well as future trends in library utilization on peer campuses across the country. Georgia Tech conceived of a place where knowledge is not simply stored, but generated.

230,000 SF  
Est. Completion in 2018 (Phase 1)

Original Building







MECHANICAL/ENERGY

**30%**

REDUCTION  
FROM ASHRAE

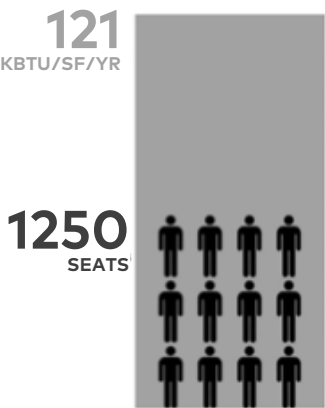




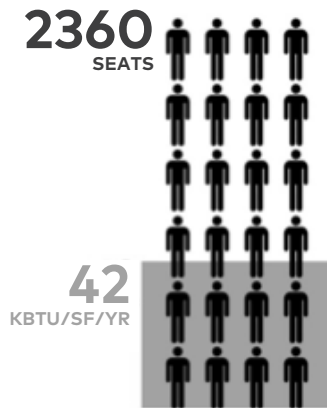




Price Gilbert Library is a memorable 1953 landmark. Crosland Tower, completed in 1968, is a building originally intended to store books with limited space for students or faculty. In order to accomplish the vision and be respectful of the buildings' landmark importance, the two buildings were approached differently in terms of architectural design and similarly in terms of human purposed integrated design. The interventions strive to maintain the clarity of the form while connecting the building to the campus and nature where the building touches the landscape, interacting with the sun through the envelope changes and at the roof with the introduction of a new reading room and roof gardens.



Before Renovation



After Renovation













WATER USE  
REDUCTIONS  
(GALLONS PER YEAR)

**1,031K**  
BEFORE RENEWAL

**97K**  
AFTER RENEWAL





Central to the long-term success of Price Gilbert and Crosland Tower is the concept of "long life, loose fit" — that the ability to address future, unanticipated needs is something that can be designed. Price Gilbert, with its open plan and high-ceilinged reading rooms, is already an exemplar of this mentality; the goal is to capitalize on and retain its adaptable nature while providing for the same at Crosland Tower. The renovation will create spaces that are functional, flexible, and have plentiful daylight and views.

The design team incorporated many sustainable strategies into the design, including chilled beams for cooling and LED lighting throughout the buildings. **After the renovation, the population using the buildings will have doubled—the 1,250 seats currently in the buildings will grow to 2,360—yet total energy consumption will be reduced by about a third**, and energy consumption per capita will be 80% less than what it is currently.











ENERGY USE  
PER PERSON  
(BTU/SF/PERSON)

**96.8**

BEFORE RENEWAL

**19.9**

AFTER RENEWAL



# School of Music

UNIVERSITY OF MISSOURI  
COLUMBIA MISSOURI





Historically, the University of Missouri School of Music has suffered from a fragmented environment, with their programs currently housed in seven different buildings throughout campus, all of which are acoustically inadequate to support a premier collegiate music program.

The new School of Music project is the first of a three-phase master planned facility that, will consolidate the school's academic, practice, and performance venues into a single facility. This new facility will strengthen the School's culture by providing spaces that create seamless collaboration amongst students and instructors, allow for flexibility and adaptability to emerging trends, and provide state-of-the-art, acoustically isolated spaces for all rehearsals, recordings, and performances.

The site, located at the corner of Hitt Street and University Avenue, sits at the northern edge of the campus, providing a unique and valuable opportunity for the project to spur the development of a cultural corridor connecting the University of Missouri with downtown Columbia. To tie into and enhance this cultural corridor, the performance space lobbies and primary building circulation run parallel along the street, anchored by two large entry plazas that double as external performance venues, allowing the building activity to be on display and spill out into the community.

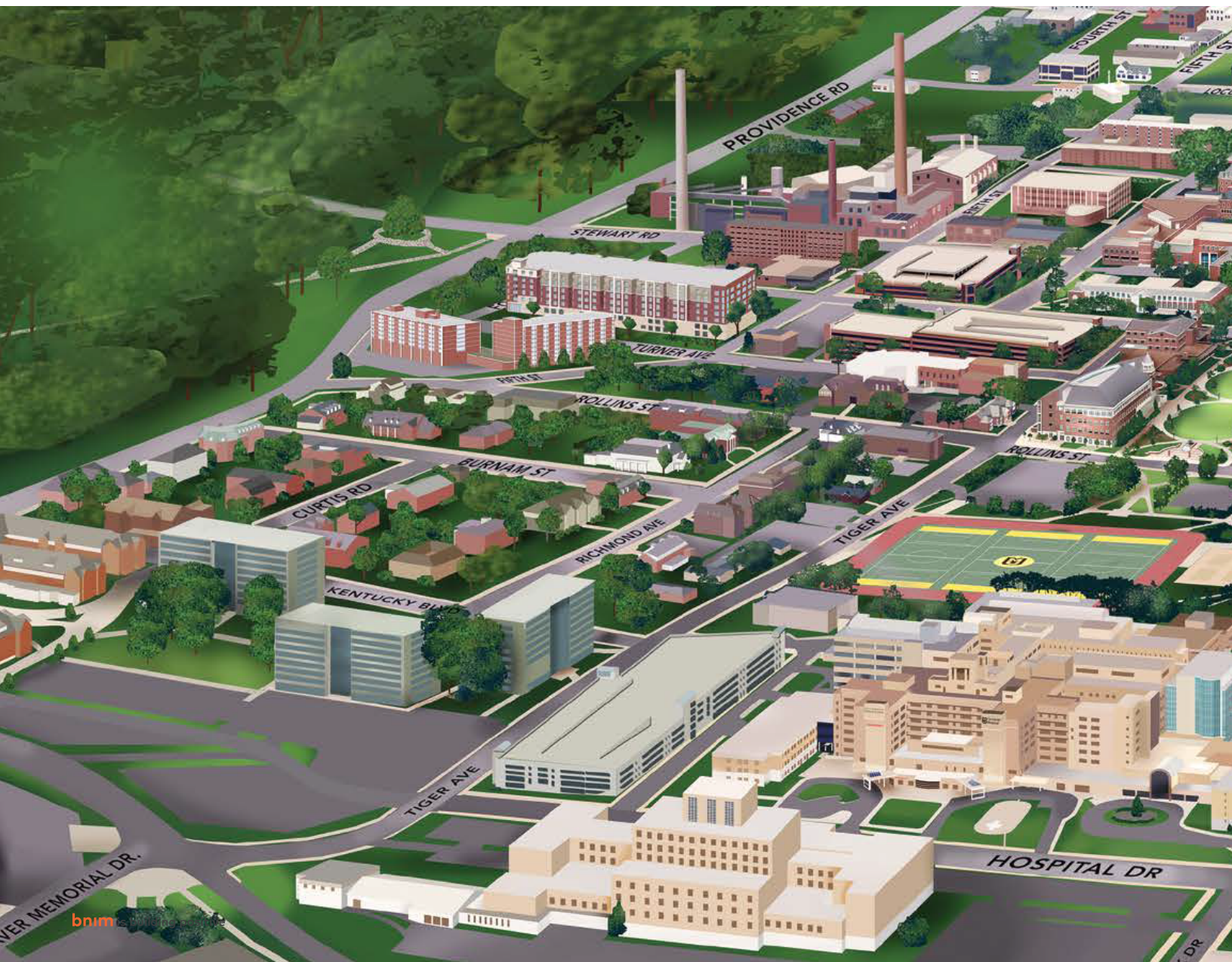
The building program is situated on the site as a series of "boxes" pulled apart from one another to enhance the acoustic isolation between spaces. The residual space from this strategy naturally created the building circulation, which is intentionally left open at the ends to provide views out and allow natural daylight to penetrate deep into the building.

Estimated Completion in 2020

The project is being designed to achieve LEED certification.









JESSE HALL



SCHOOL OF MUSIC SITE





0 20'

## LEVEL 1

- 1 Instrumental Rehearsal Room
- 2 Traditional Performance Space
- 3 Student Open Study
- 4 Practice Space
- 5 Digital / Recording Studio
- 6 Live Room / Jazz Combo Rehearsal
- 7 Library

- 8 Isolation Room
- 9 Storage
- 10 Vestibule
- 11 Restroom
- 12 Faculty Studios/Offices
- 13 Mechanical / Electrical
- 14 Classroom

- Rehearsal / Performance
- Classroom
- Collaboration Space
- Faculty Studios
- Administrative Offices
- Support Space
- Building Services





LEVEL 2







Instrumental Rehearsal Room



0 20'

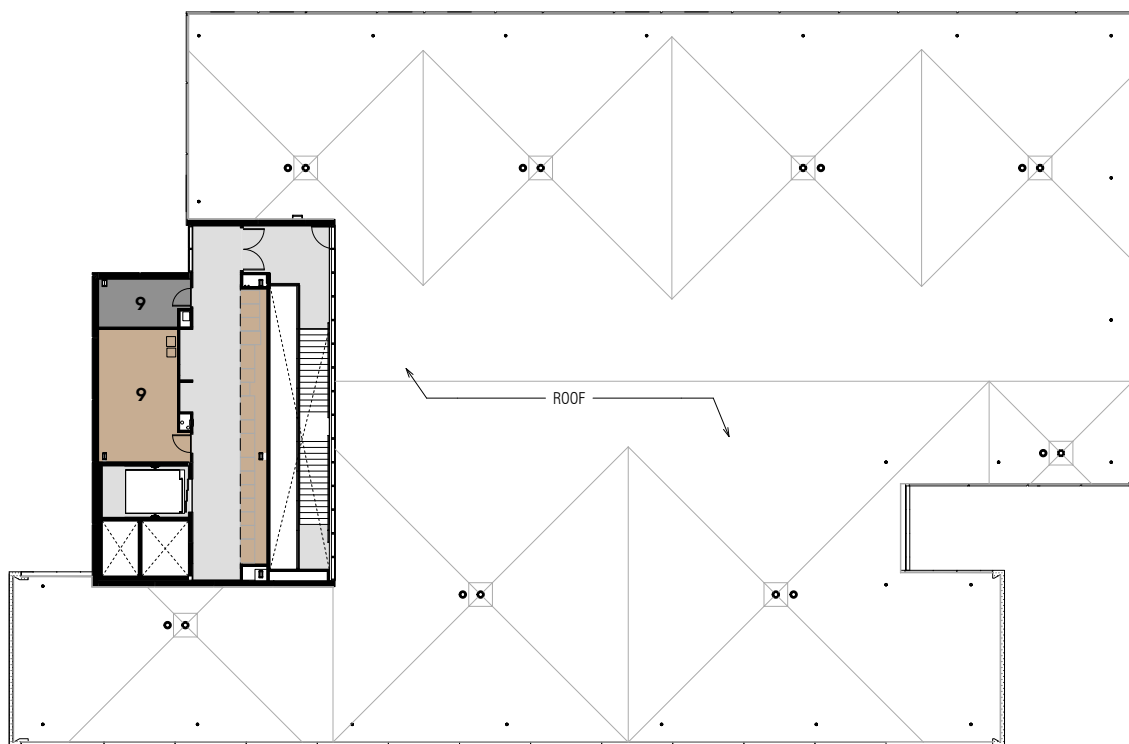
### LEVEL 3

- 1 Instrumental Rehearsal Room
- 2 Traditional Performance Space
- 3 Student Open Study
- 4 Practice Space
- 5 Digital / Recording Studio
- 6 Live Room / Jazz Combo Rehearsal
- 7 Library

- 8 Isolation Room
- 9 Storage
- 10 Vestibule
- 11 Restroom
- 12 Faculty Studios/Offices
- 13 Mechanical /Electrical
- 14 Classroom

- Rehearsal / Performance
- Classroom
- Collaboration Space
- Faculty Studios
- Administrative Offices
- Support Space
- Building Services





0 20'

LEVEL 4







Traditional Performance Space



# Western Institute of Nanoelectronics Green Engineering and Metrology

UNIVERSITY OF CALIFORNIA, LOS ANGELES  
LOS ANGELES, CALIFORNIA





The development of the Western Institute of Nanoelectronics (WIN) and Green Engineering and Metrology (GEM) building (Phase I) on the UCLA campus represents the highest of aspirations for the research community in supporting the advancement of clean and green technologies. The building houses three primary driving Centers of Excellence in the field of nano-systems and clean technology.

The WIN-GEM facility provides space for faculty and their industrial collaborators to perform research and development in energy harvesting, storage, conservation and management. As such the facility is thoughtfully designed for collaborative, multidisciplinary research, and the building itself is thought of as an expression and armature of that research.

With Moore Ruble Yudell

61,625 SF  
Completion in 2014  
LEED Gold certified

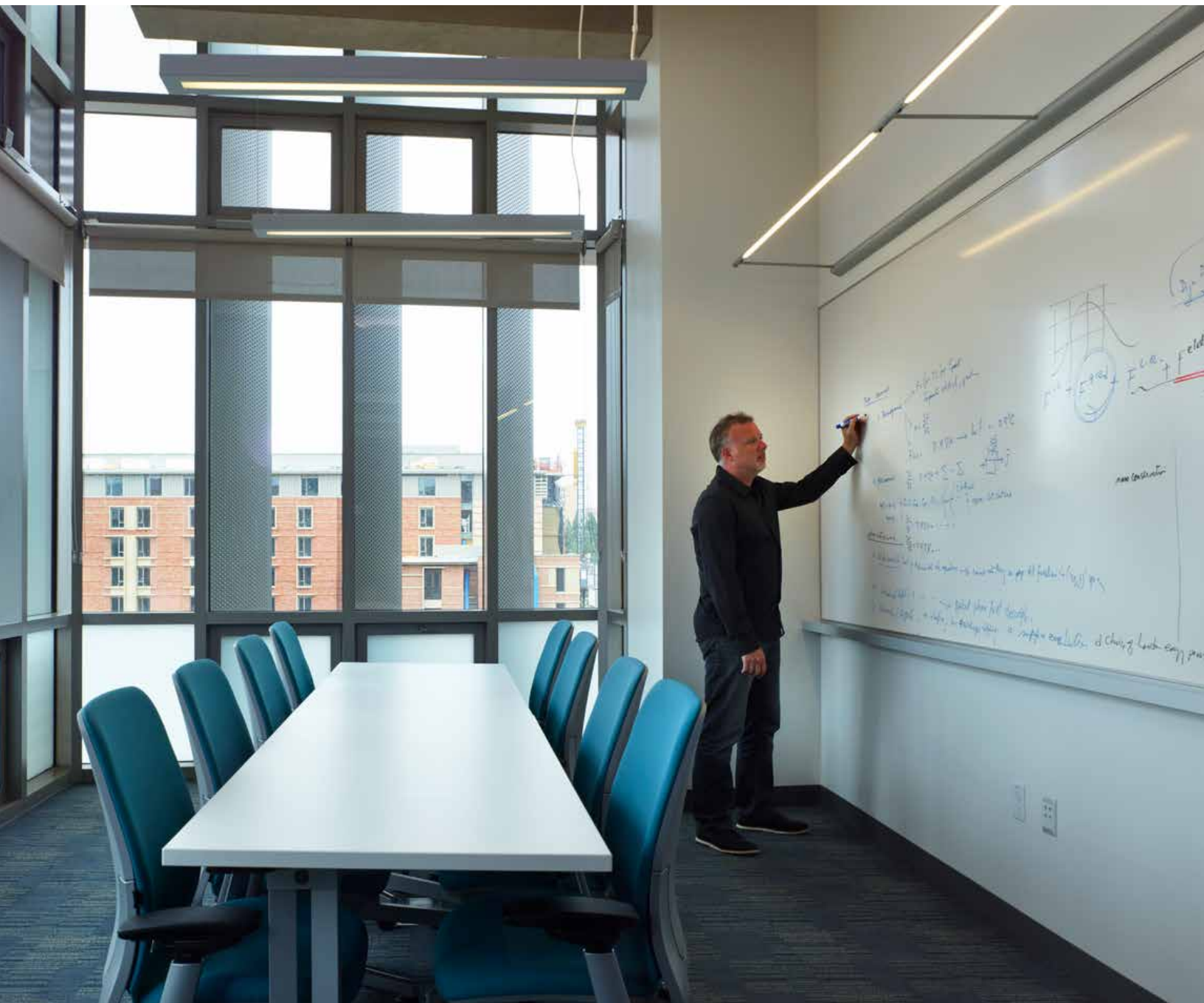


## SUSTAINABLE / NOTABLE FEATURES

- 61,625 SF facility
- Active chilled beams in dry labs
- Natural ventilation in post doc office suites – mixed-mode VAV
- Demand ventilation in wet labs to reduce air change rates
- Exhaust stream monitoring to reduce fan power
- Fume hood sash management by reduced height to reduce air changes
- Dry lab return air used as supply air in wet research support space alcoves
- Grey water system - reclaims waste RO process water for toilet flushing
- Façade shading element for solar heat gain control

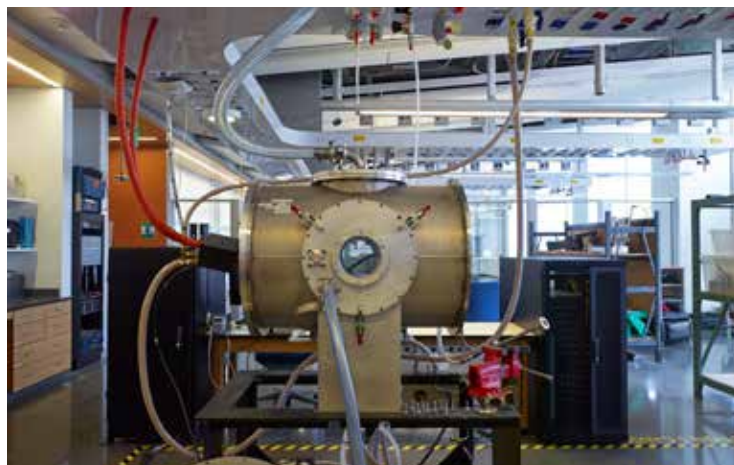












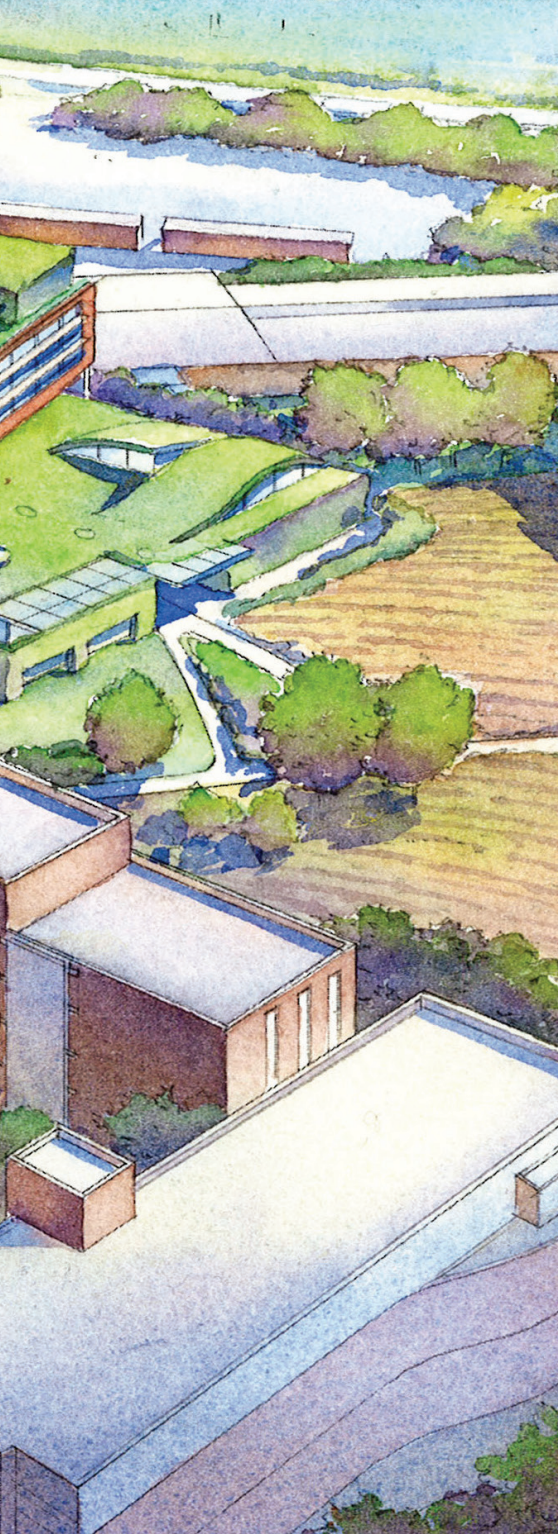




# Odum School of Ecology

UNIVERSITY OF GEORGIA  
ATLANTA, GEORGIA



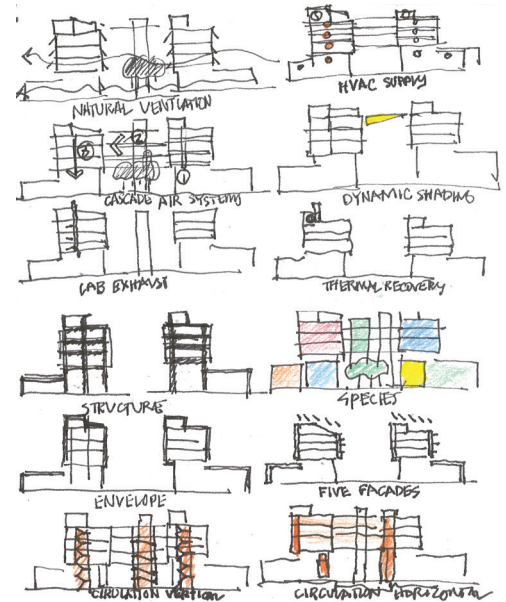


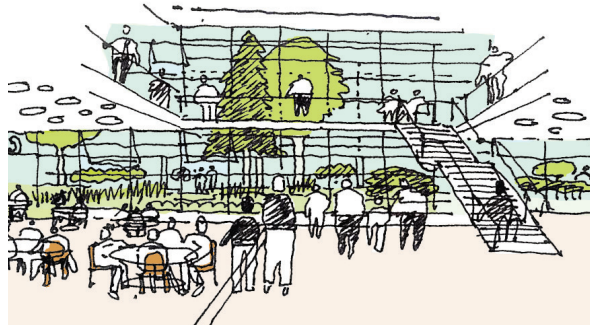
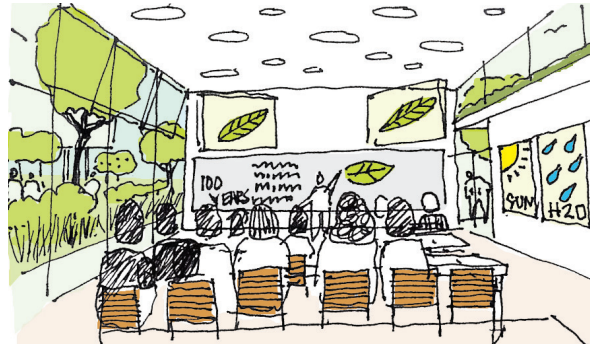
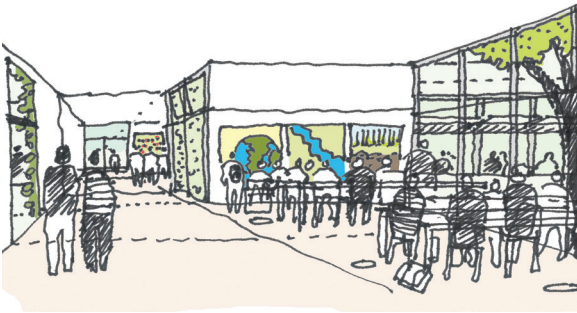
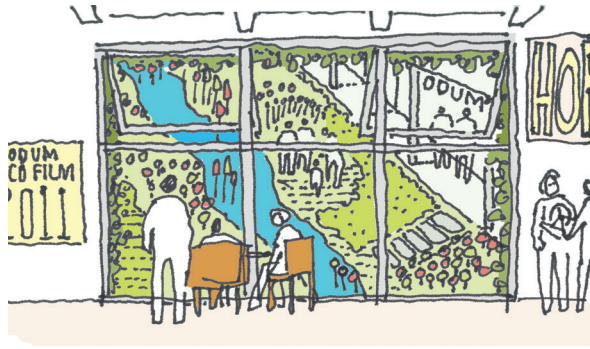
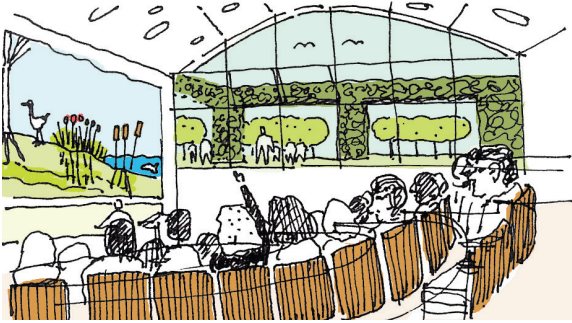
The Odum School of Ecology at the University of Georgia will transform education and research by setting a new benchmark as the world's most sustainable academic lab building. The design's innovative strategies — green roofs, living walls, water treatment system, photovoltaic cells, natural ventilation, daylight, double skin facades and a collaboration corridor — reinforce the spirit of founder Eugene Odum's approach to ecosystem ecology by creating a living laboratory that will foster regenerative relationships between the student, researchers, visitors and the natural systems at work in the building and site.

The feasibility study completed for the Odum School of Ecology developed new understandings of how an intensive University Laboratory Building could potentially achieve the Living Building Challenge expectations.

As the world's first living laboratory, Odum School of Ecology will mimic nature in its ability to harvest what it needs from the site and operate waste-free. The building focuses heavily on the life of water by thinking holistically and pedagogically about water. The students will learn about ecological wastewater treatment and employ the system to revitalize two existing watersheds and restore the site's stream to its original connection with the Chattahoochee River.

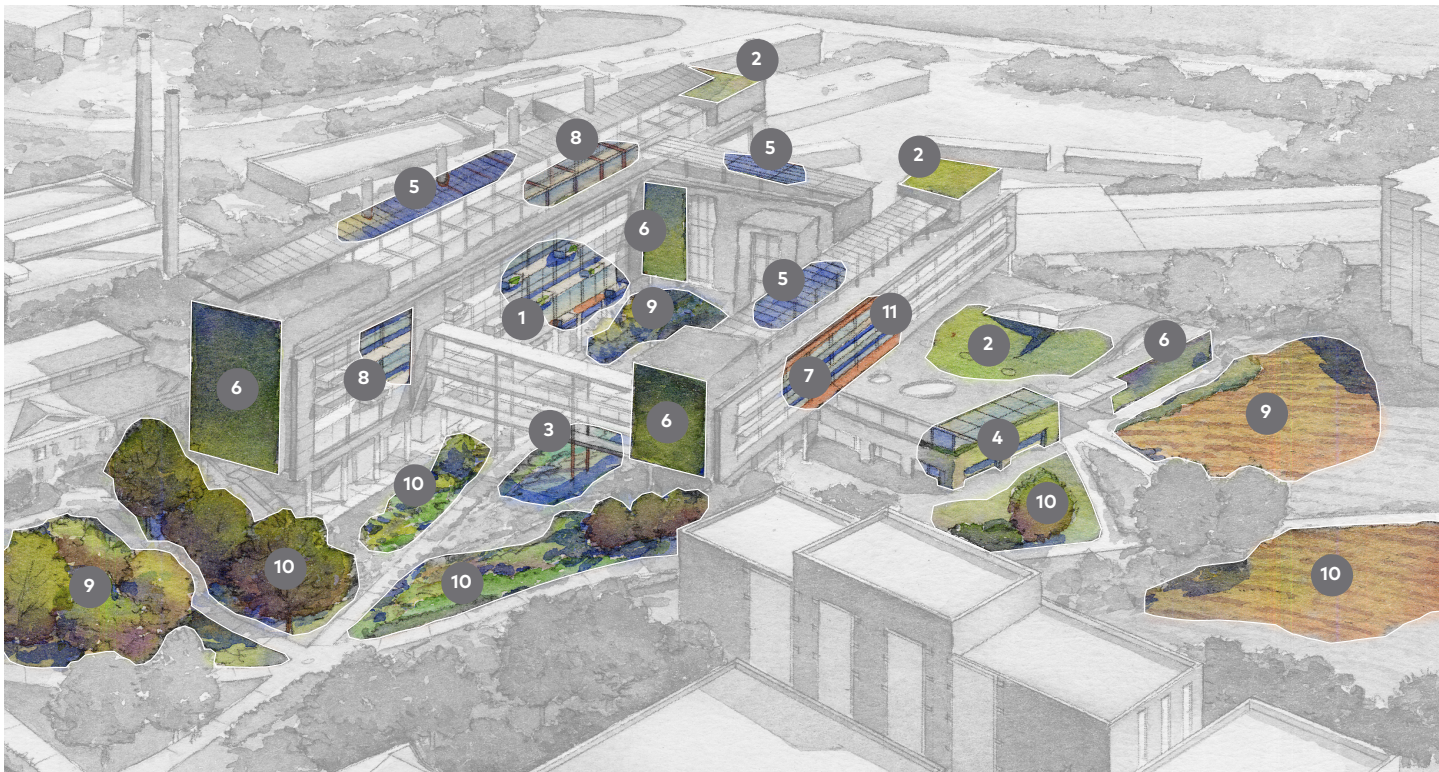
150,000 SF  
 Completion in 2010 (study)  
 Targeting Living Building Challenge





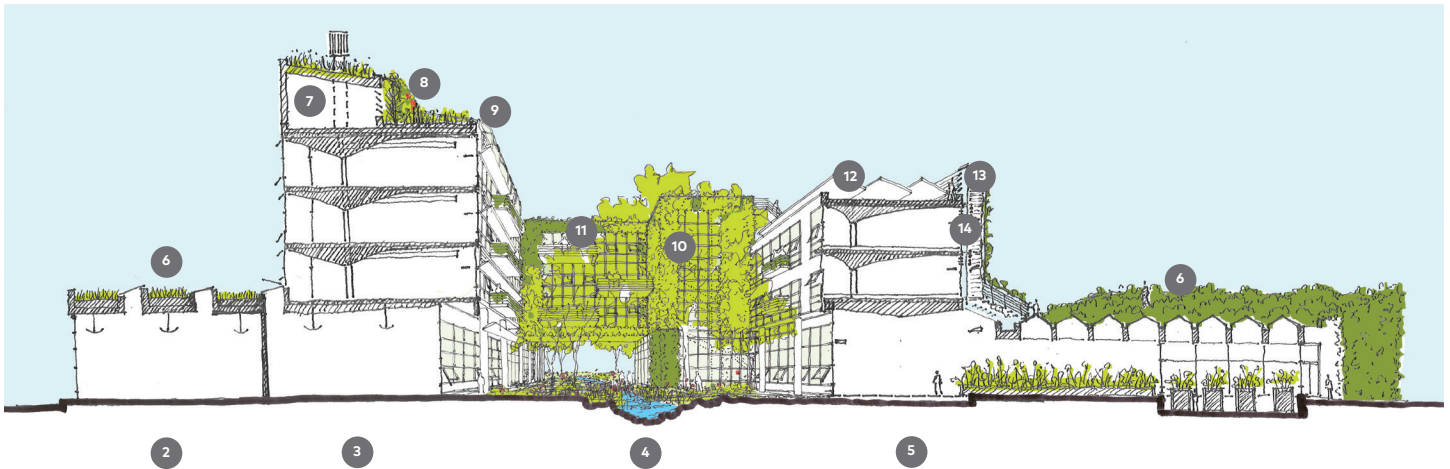
The school will take advantage of its prominent site on campus, and its location along the path to Sanford stadium, to reach out to the almost 1.8 million visitors who visit the campus annually by offering tours and programs that educate about a more integrated way of living. The project is based on the principles of pedagogy, biodiversity, livability, energy, water and nutrient cycling. It demonstrates that the teaching process, research process and the physical building can be one and the same.





- 1 Balconies in the canopy promote interaction between human activities and the eco-culture of the courtyard
- 2 Green roofs serve as living laboratories and demonstration gardens
- 3 The stream through the courtyard illustrates the continuity of the watershed to the river
- 4 Eco-machines purify black water and serve experimentation in the main entry space
- 5 Rooftop photovoltaic panels demonstrate the building's use of renewable energy sources
- 6 Green walls provide shade, cool through evapotranspiration and filter views in and out
- 7 Sun shades and light shelves articulate the facades and demonstrate the daylighting function of the building skin
- 8 Rooftop greenhouse serves as a living laboratory
- 9 Sustainable habitats, wetlands, grasslands and stream provide outdoor educational settings
- 10 Lawn and ground cover test areas, organic and container farming test areas and demonstration gardens are integrated into the project
- 11 "Breathing facades" save energy costs and improve indoor air quality

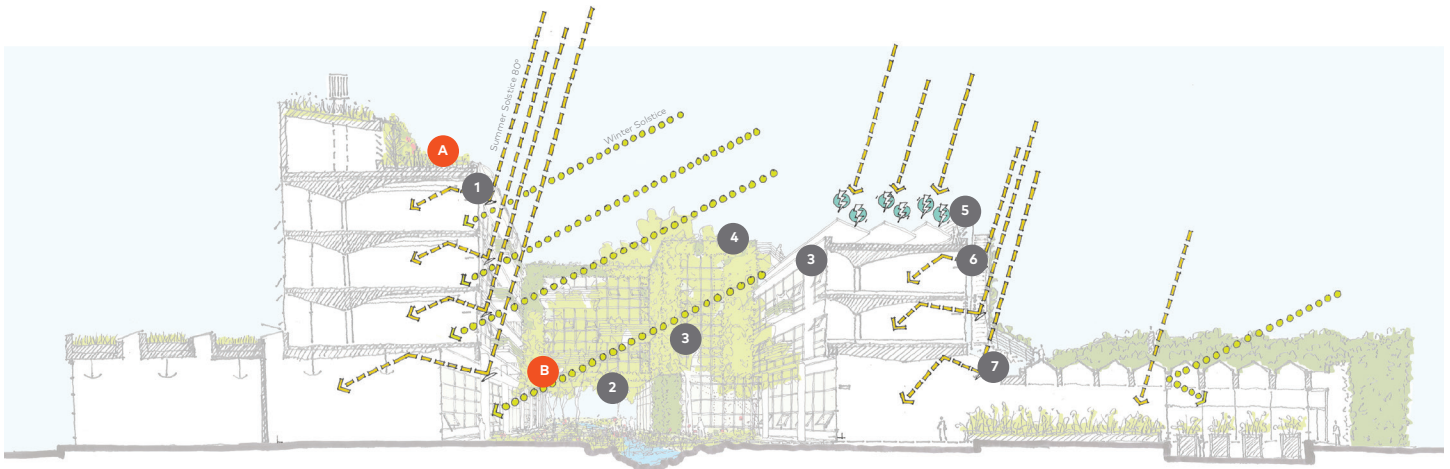
- Indoor greenhouses and terrariums with regional and tropical habitats, aquariums, compelling soil lab walls for hydrologic processes, indoor eco-machines for wetland ecologies, in a processional that dramatically enriches the building experience.
- Interactive computational study centers are distributed throughout to immerse students in G.I.S. based geo-tracking and geo-infomatics
- Annual updates and the links between eco-systems and climate, population, infectious diseases, crops and crop systems, plant reproduction, etc. will be made publically accessible through Odum's posters and screen saver series and publicly displayed.
- Rainwater collected from the roof and purified water from the eco-machine feed the stream and is used for on-site irrigation
- A regional/seasonal cafe is located in the main public space



- |  |   |   |
|--|---|---|
| 1 Mechanical, Storage, Overflow                  | 5 Auditorium, Exhibit Space, Entry, Eco-Machine | 10 Living Wall                          |
| 2 Laboratories                                   | 6 Green Roof                                    | 11 Balconies                            |
| 3 Circulation, Garden Commons                    | 7 Mechanical Room                               | 12 Photovoltaics                        |
| 4 Courtyard (Stream, Trees, Living Laboratories) | 8 Green Wall, Green Roof                        | 13 Access between levels and green roof |
|  | 9 Green House                                   | 14 Double skin facade                   |

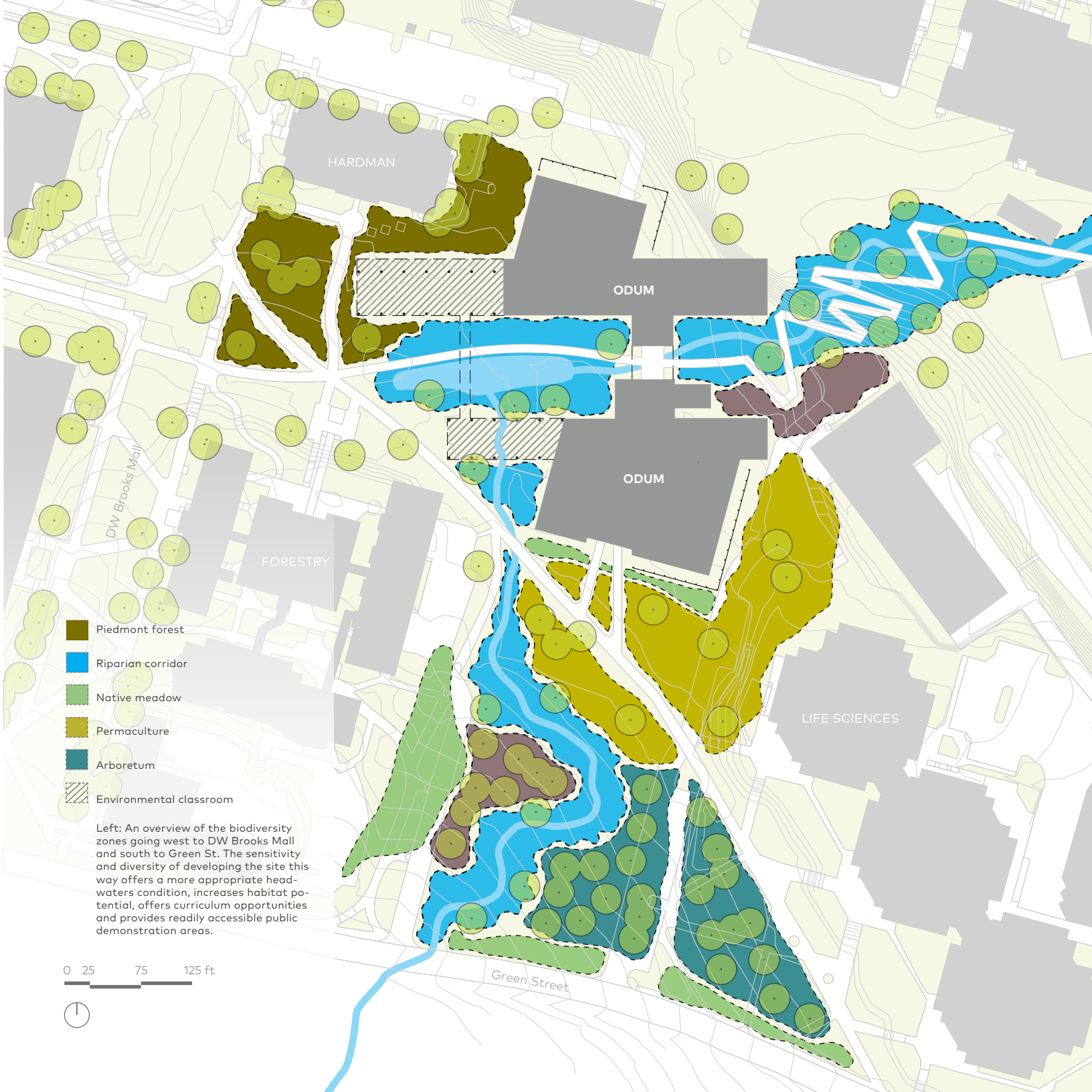
#### Section perspective looking east showing concept ideas for creating a new habitat

The enriched experience provides extensive green roofs planted in conjunction with lab curriculum to attract desired species; integrated green walls for shading and habitat; and rainwater capture and reuse to develop wetlands, grasslands and streams.



- |   |   |   |
|---|---|---|
| 1 100% of south windows sheltered from summer sun                                 | 4 East and west elevations to have limited amount of glass with green wall protection | A ECOL 3100<br>Greenhouse for Tropical Habitats |
| 2 Deciduous trees for summer sun protection                                       | 5 Photovoltaic panels to produce 100% of power  |   |
| 3 Building profiles allow daylighting into courtyard and lower levels of lab wing | 6 Light louvers to maximize internal daylighting                                      | B ECOL 4700<br>Soil Lab Wall                    |
|   | 7 Clerestory lights deeper internal spaces  |   |

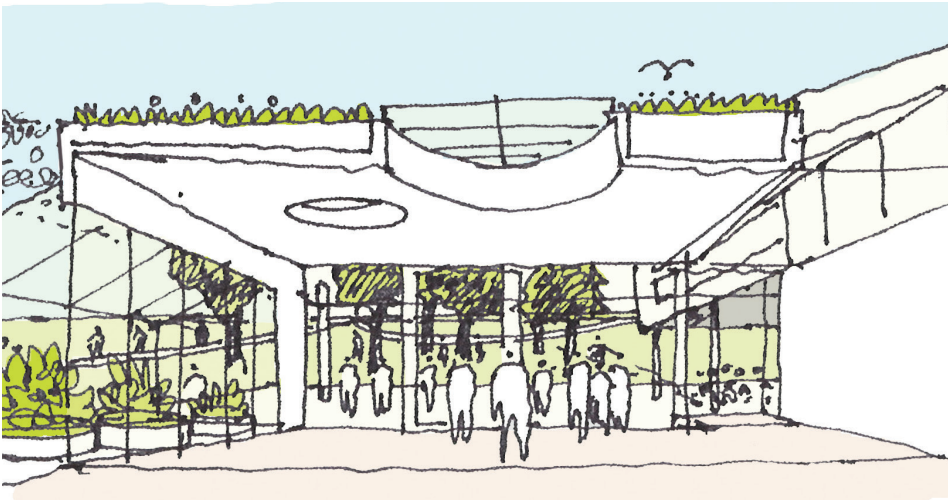
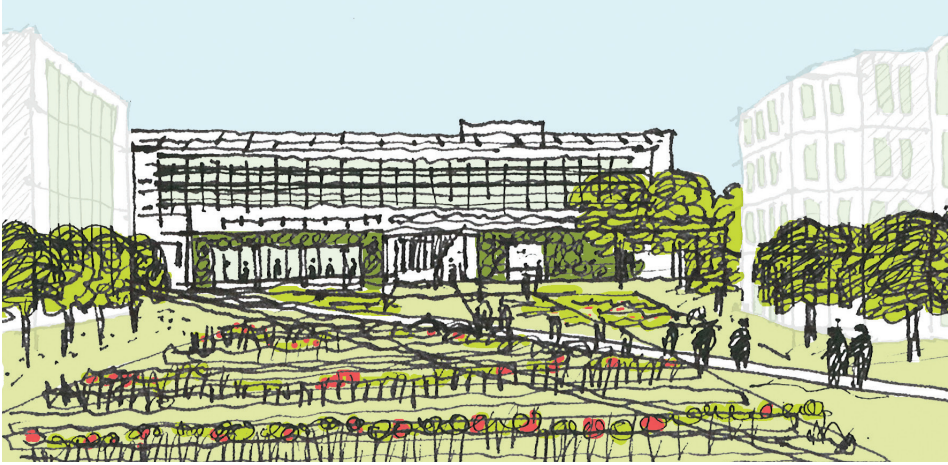




Left: An overview of the biodiversity zones going west to DW Brooks Mall and south to Green St. The sensitivity and diversity of developing the site this way offers a more appropriate headwaters condition, increases habitat potential, offers curriculum opportunities and provides readily accessible public demonstration areas.

0 25 75 125 ft





*top:* View looking north from Green Street at the south entry, with lawn and ground cover test areas, organic and container farming test areas, and other demonstration gardens in the foreground.

*bottom:* Users who come from the South will enter under a green roof research area and have a direct view of the ecological wastewater treatment system that will be cared for by the students and the faculty.

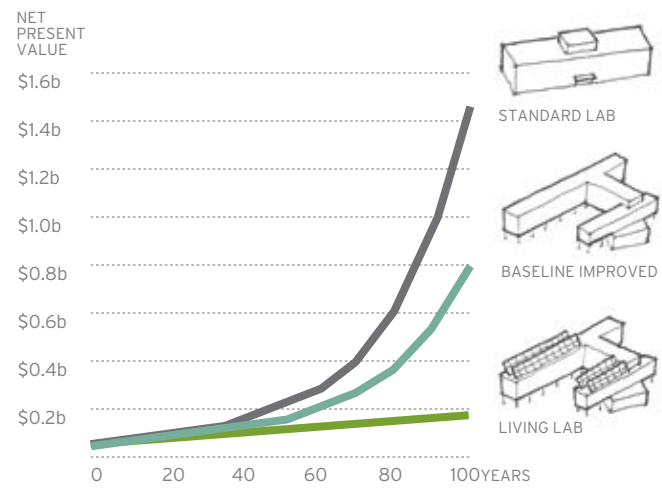
*right:* Perspective of the interior courtyard looking east, with the larger trees removed to convey the transparency and connection between the indoor and outdoor learning environments.



LIVING BUILDING COST  
BREAK EVEN AT

**15**  
YEARS

COMPARED TO BASELINE  
IMPROVED BUILDING



Cost Cycle Analysis







# Medical Education and Biomedical Library Study

THE UNIVERSITY OF CALIFORNIA, LOS ANGELES  
LOS ANGELES, CA





BNIM led a comprehensive design team to develop a new building for the David Geffen School of Medicine at UCLA, which will establish a new gateway for the Health Sciences campus, create a front door for the School of Medicine (SOM), and integrate the new building with existing facilities to provide greater campus connectivity and new outdoor spaces. The team developed a Design Brief that includes a space program for the School of Medicine and Library functions, a master plan for the Health Sciences campus precinct, and a conceptual design for a new building in conjunction with the repurposing of an adjacent, existing structure for the Biomedical Library, which will serve the entire campus.

The space program for the new SOM facility includes classrooms and seminar rooms, multi-purpose teaching laboratory space, study and amenity space for students, administrative offices and related building support space.

The plan creates new outdoor spaces to promote campus community and interprofessional activities, including a future Tiverton Health Sciences Commons, planned as a largely pedestrian outdoor space adjacent to the Botanic Garden, which will connect the front doors of the Schools of Medicine, Dentistry, Public Health and Nursing. The new commons relates directly to the newly renovated Court of Sciences due north in the heart of the main campus. The master plan includes a second new outdoor, public space north of the new building and east of the new library

Size	157,223 SF
Completion	2011



# Eden Hall Campus Master Plan

CHATHAM UNIVERSITY  
GIBSONIA PENNSYLVANIA







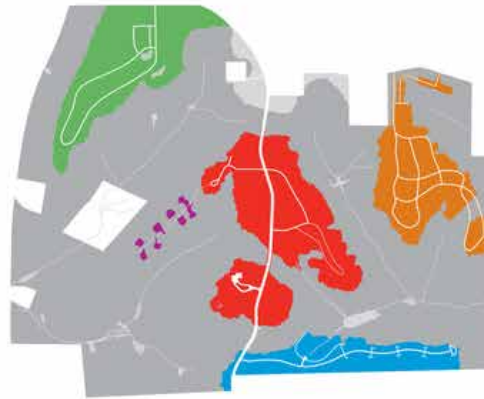
Chatham University's Eden Hall Campus (EHC), which is 25 miles north of the main campus in Pittsburgh, Pennsylvania, will be home to the new School of Sustainability and the Environment, and a model sustainable living and learning community for the region and beyond. BNIM and Andropogon worked to align the vision of University stakeholders and plan a restorative campus that will enhance the regional environment, ensure the long-term financial success of the University, and create quality of life and learning for current and future students.

The farmland and woodlands on the EHC will be actively utilized to support Chatham University's academic and educational outreach programs, and will also be available for public education and research. The campus master plan includes plans for the restoration and adaptation of a number of historic farm buildings and the original homestead mansion, as well as plans for new academic and residential facilities for students and faculty while restoring the natural systems to become learning tools for the school and the larger community.

A deep ecological study of the land and its carrying capacity guided the planning and design process in determining the most appropriate solutions for EHC's waste water treatment, energy generation and production of a healthy food supply for Chatham. These solutions, in turn, will guide the University in the development of the multidisciplinary curricula that may be engaged at EHC to fully benefit their student population and the community at large.

Location  
Size

Gibsonia , PA  
985,000 SF



Elsalma Center  
 Mueller Center Campus  
 Elizabeth Meadows  
 Thoreau Cottages  
 Stanford Hill



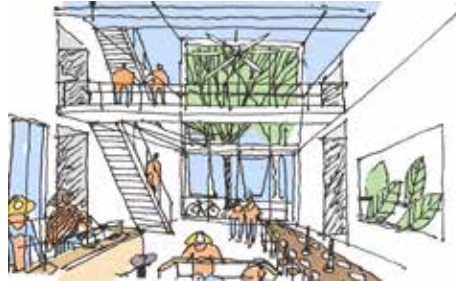


# PROPOSED SITE PLAN - ALL PHASES

- |                         |                           |   |
|-------------------------|---------------------------|---|
| 1. EcoCenter            | 11. Studio Arts Building  | A. Orchard and Guest House                    |
| 2. Greenhouse           | 12. Facilities Management | B. Meeting Center and Classrooms              |
| 3. Academic Building    | 13. Pedestrian Bridge     | C. Aquaponics and Living Machine              |
| 4. Residential Building | 14. ADA Parking           | D. Academic Building                          |
| 5. Commons Building     | 15. Thoreau Cottages      | E. Guest Lodge                                |
| 6. Constructed Wetlands | 16. Townhouse Community   | F. Bunkhouse and Common Building              |
| 7. Amphitheaters        | 17. Springhouse           | G. Wellness Center                            |
| 8. Mueller House        | 18. General Parking       | H. High Tunnels, Greenhouses, Market          |
| 9. Lodge                | 19. Gatehouse             | I. Animal Barn and Pasture (rotating acreage) |
| 10. Sports Complex      |                           |   |







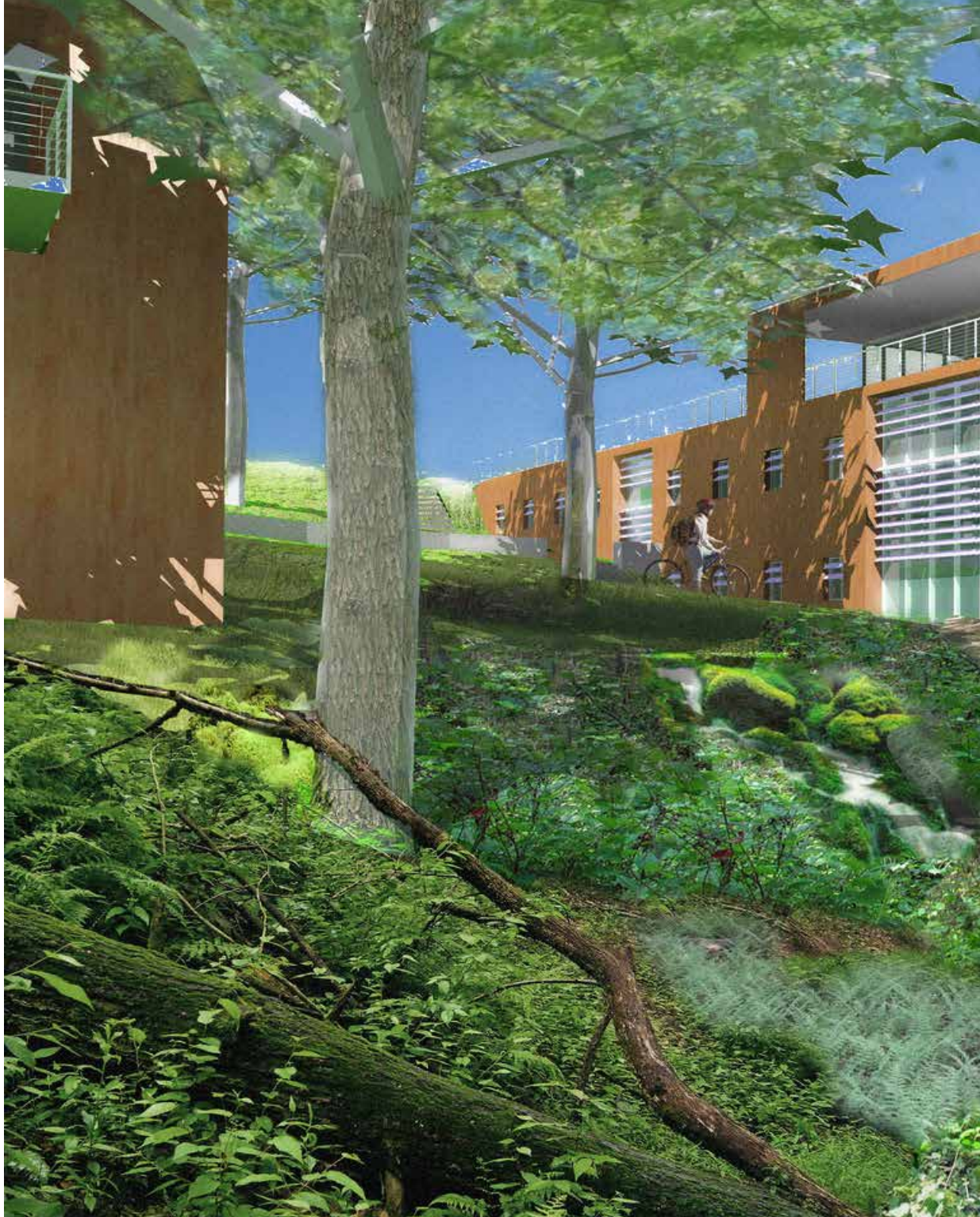












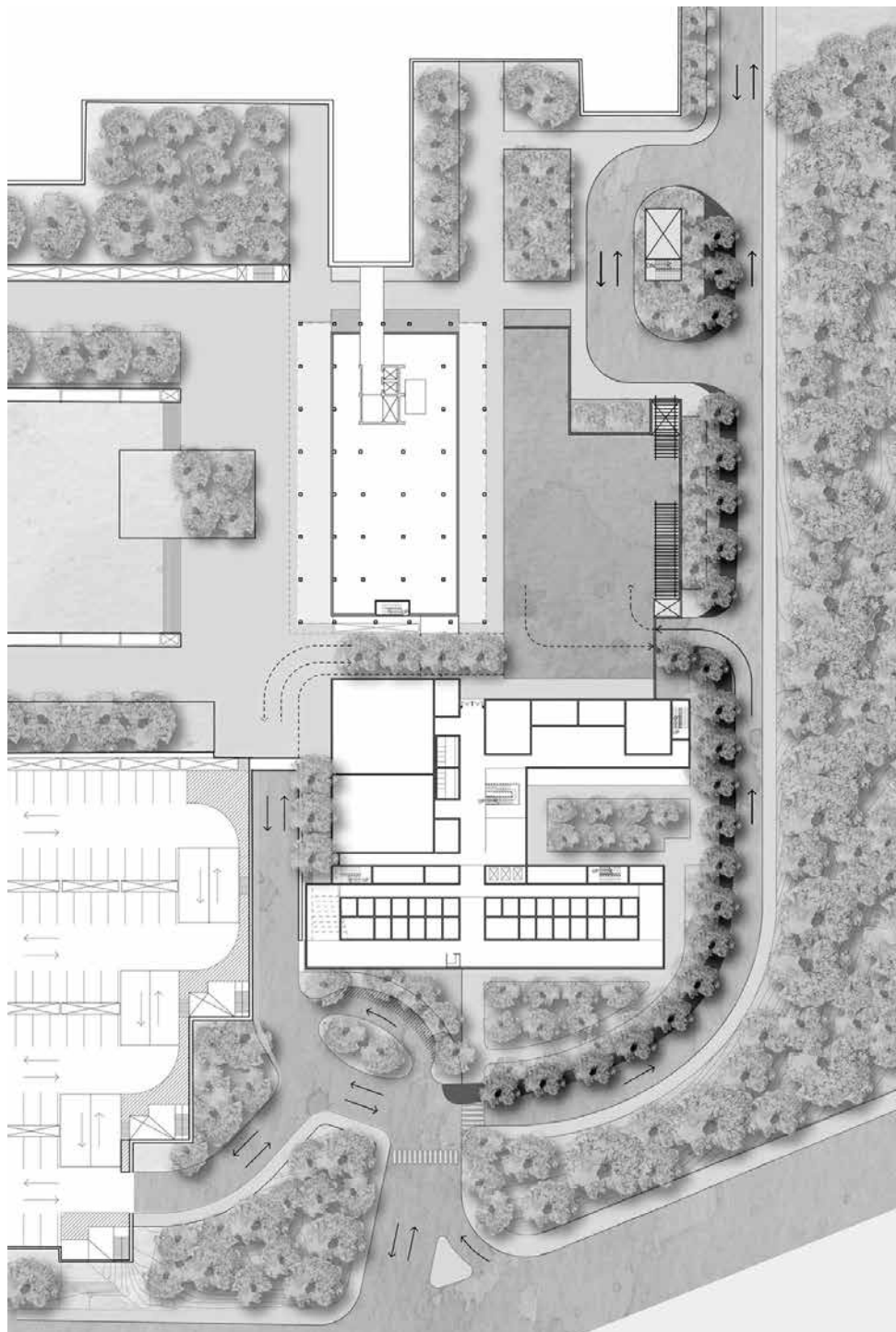












# Robert E. Kennedy Library Programming and Feasibility Study

CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
SAN LUIS OBISPO, CALIFORNIA







The Robert E. Kennedy Library at California Polytechnic State University (Cal Poly) in San Luis Obispo, originally completed in 1980, is heavily utilized by students, faculty, and the surrounding community. In 2016-217, the library received more than 1.5 million visitors, including researchers from around the world who traveled for its archival collections of manuscripts, rare books, architectural drawings, and photographs.

The five-story, 208,433 GSF Brutalist structure is in need of a renovation and addition to repair degrading infrastructure, accommodate current and future technology, increase energy and water conservation, and enhance overall functionality and flexibility for the 21st-century student experience.

Working with Brightspot, BNIM is reimagining the library to achieve its 2015–2022 Strategic Plan — as a place where expertise, scholarly content, and technology come together in an experiential learning environment.

208,433 SF  
Completion May 2018 (Phase 1)

## CONTEXT

The design team aims to capitalize on the facility's existing, intrinsic human-purposed design characteristics, including a central courtyard and views to the surrounding mountains. The project's temperate, coastal siting also provides opportunities for natural ventilation and daylighting, optimizing passive design strategies to achieve high-performance results and meet Cal Poly's LEED Gold design standard.







Connection to Nature - The stepped building form pays homage to the neighboring Nine Sisters mountain range.

CHALLENGES AND NEEDS

The building was completed in 1980, and since that time, there had been no significant renovations. Instead, there were several interior improvements made over time, but they did not address issues that were beginning to appear as the building aged, including:

**Temperature control:** The windows are manually operated, but there are no controls and no humidity monitoring. Students were often uncomfortably hot inside the building, even on mild days outside.

**Building systems:** The elevators were too small and unreliable, and acoustics on the exposed concrete deck were poor. Additionally, there were not enough outlets for students to plug in their laptops and mobile devices.

**Inefficient use of space:** As the Library moved its collections to an off-site storage facility, space utilization became a growing problem. There were many empty pockets of shelves, and certain faculty departments had more space than they needed while students were not provided with adequate study space.

**Security:** The existing building did not have any metal detectors, entry gates, or a visitor check-in desk.

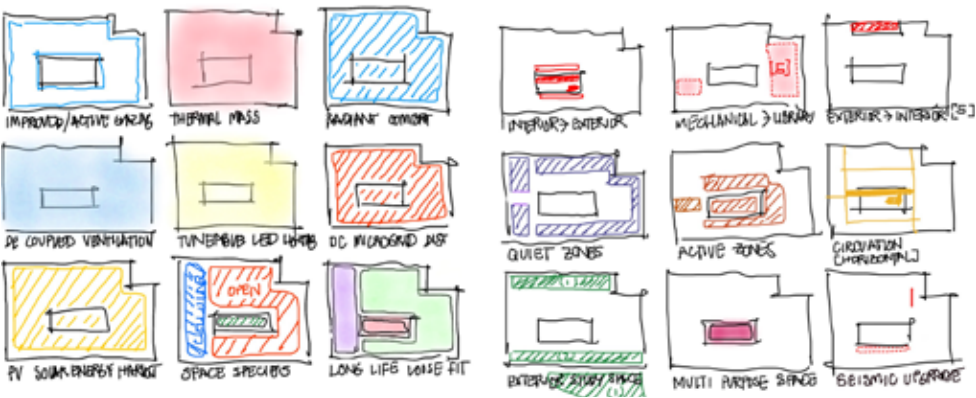
**Sustainability:** As an institution, Cal Poly also prioritized sustainable design. All projects must be designed to LEED Gold standards or higher, although they may not seek certification.

20,000+  
STUDENTS

243  
ADDITIONAL  
CLASSROOM SEATS

1,100  
ADDITIONAL CLASSROOM  
& STUDY SEATS

3,500  
TOTAL SEATS







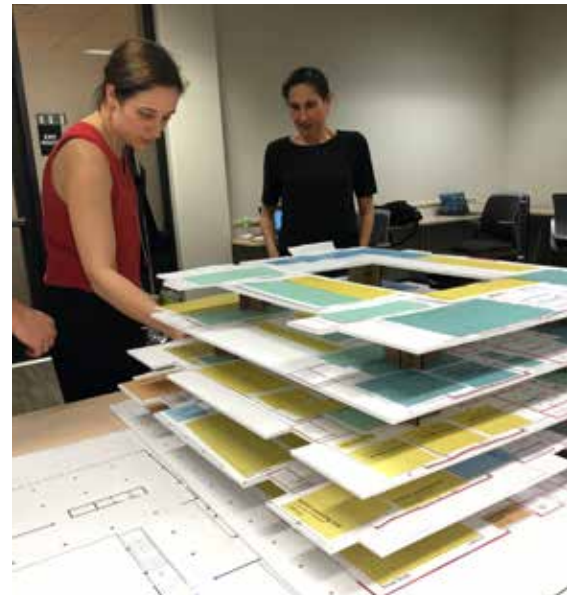
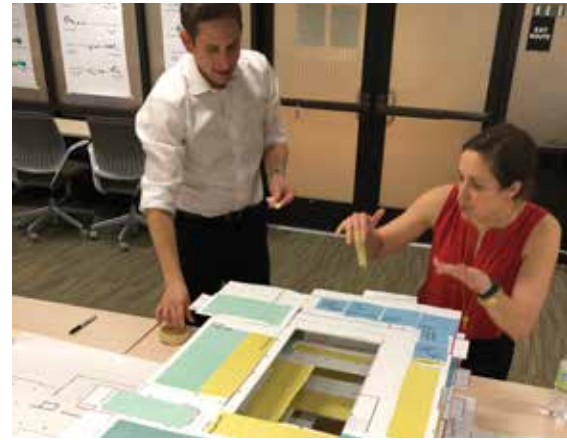
## PROCESS

The process began with visioning sessions and identifying metrics for success. The team then moved into the needs assessment and creating the program, while also developing alternative strategies. To determine the vision for the future of Kennedy Library, the team held frequent engagement sessions with students and faculty, including town halls, workshops with staff and stakeholders, and student feedback fairs. In every forum, library patrons have been encouraged to imagine the possibilities for Kennedy Library, from the services it provides to the spaces within the building.





Following these sessions, BNIM and Brightspot developed three design concepts, all of which involve updating the central courtyard, removing the main stairs, and introducing a new set of stairs to the courtyard. This will maximize the amount of usable space for library services. Each concept establishes a strong identity for Kennedy Library and achieves the goals outlined in the 2015-2022 Strategic Plan.



## DESIGN RESPONSES

The three distinct design concepts are grounded in several common elements that were derived from the workshops:

**Establish connections to nature** through increased daylighting, natural ventilation, and clear connections between interior and exterior environments.

**Provide students with a diversity of study space options and additional seats and choices** to support quiet, focused study periods and collaborative group work.

**Identify a staff home base**, which is a single, consolidated area where staff can interact and collaborate.

**Address thermal comfort** to support natural ventilation and integrate additional systems as needed.

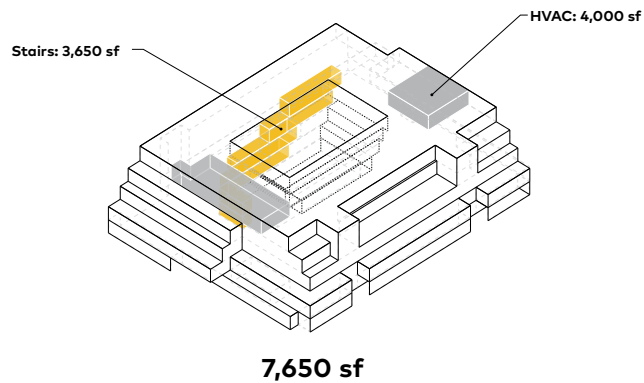
**Use long life, loose fit principles** to incorporate flexible spaces and prolong the useful life of the building.

**Increase porosity at the ground level and create a stronger connection to the surrounding campus** by including multiple points of entry and locating public programs adjacent to areas of high pedestrian and transit activity.

Promote the Library's special collections through a **global gallery**, where they will be celebrated and exhibited throughout the Library.

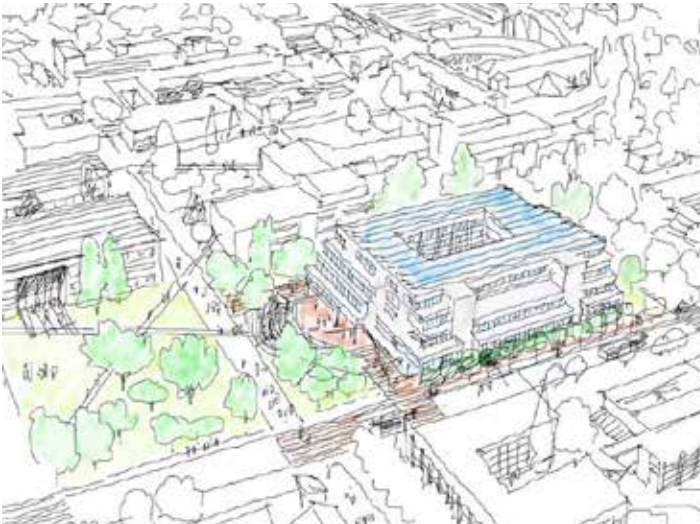






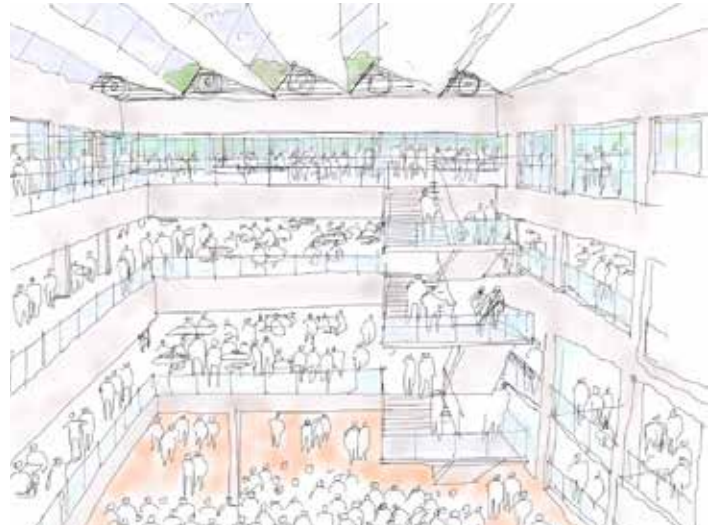
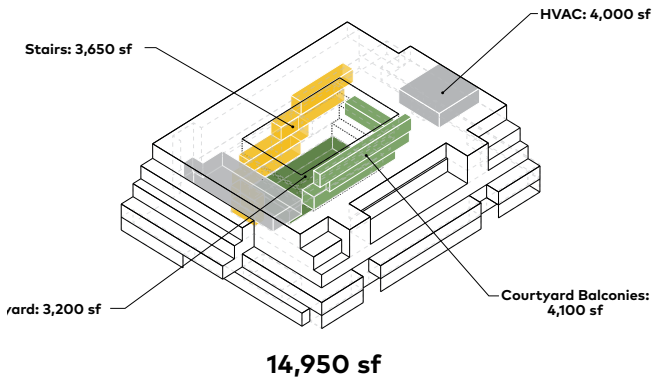
## DESIGN CONCEPT 1

- Updates to the existing open courtyard
- Removes existing main stair and introduces a new main stair at the courtyard
- Place a staff 'home base' on levels 3-5
- Include areas on levels 4 and 5 with high density shelving located on level 1 for special collections
- Stack classrooms vertically on levels 2-4
- Non-library partners will be located towards the southeast of the building on levels 2-3, adjacent to classrooms
- Stacks are dispersed with quiet study on levels 2-5 on the north side of the building

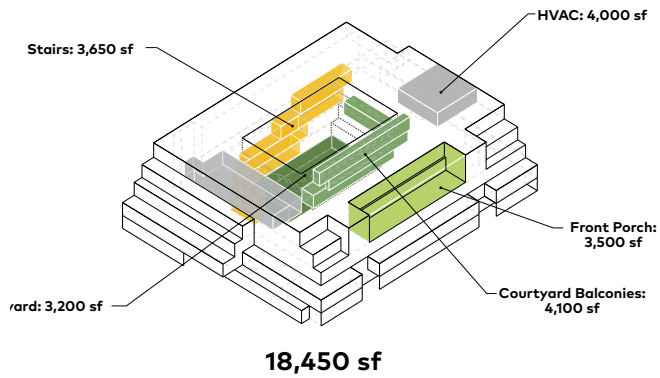


## DESIGN CONCEPT 2

- Updates to the existing open courtyard
- Removes existing main stair and introduces a new main stair at the courtyard
- Place a staff 'home base' on levels 2-3
- Include areas on levels 1 and 4 with high density shelving on level 1 for special collections
- Consolidate classrooms on levels 1-2
- Locate non-library partners on level 2, adjacent to the classrooms
- Stacks are distributed on levels 2-5 with books visible to atrium

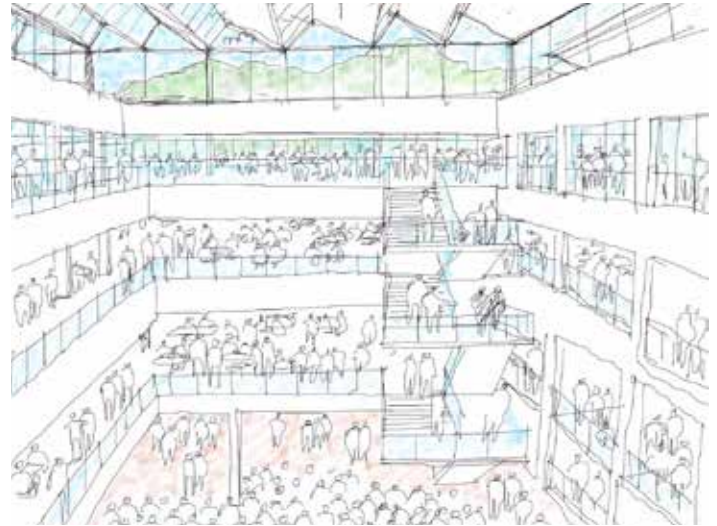






### DESIGN CONCEPT 3

- Updates to the existing open courtyard
- Removes existing main stair and introduces a new main stair at the courtyard
- Place a staff 'home base' on levels 2-4
- Include areas on levels 1 and 3 with high density shelving on level 1 for special collections
- Consolidate classrooms on level 5
- Non-library partners will be adjacent to classrooms on level 5
- Consolidate stacks on level 3, quiet study on level 4, active study on level 2









# Visual Arts Building

UNIVERSITY OF IOWA, IOWA CITY, IOWA



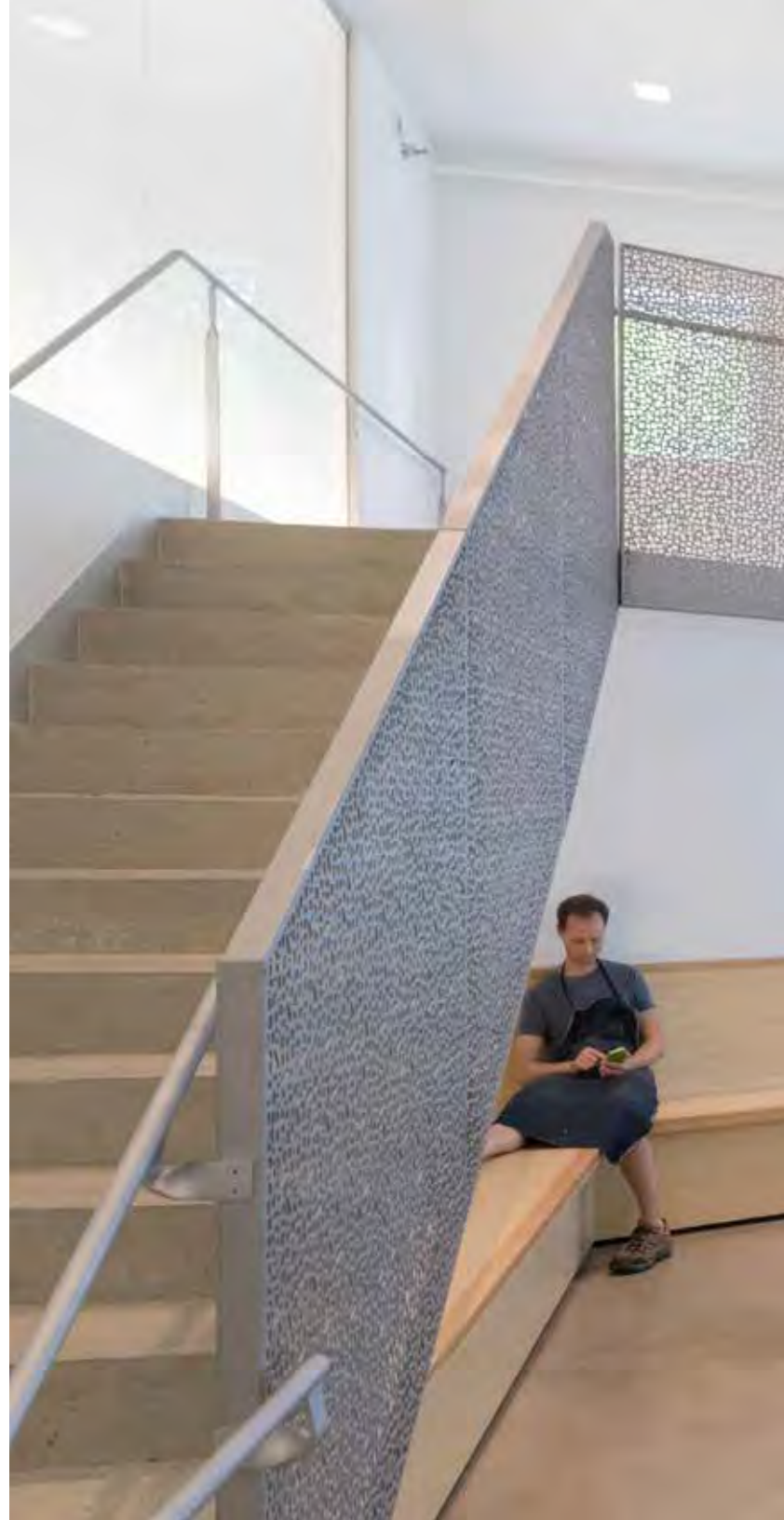




In 2008, the original University of Iowa School of Art and Art History building experienced significant flood damage. The 1930s Art Building was no longer a viable venue for arts education. The new University of Iowa Visual Arts Building provides studio space for ceramics, sculpture, metals, photography, printmaking, 3D design, intermedia, animation, and graphic design, as well as graduate student studios, faculty and staff studios and offices, and gallery space.

with Steven Holl Architects

126,000 SF  
Completion in 2016  
LEED Gold Registered









Sculptural open stairs are shaped to encourage meeting, interaction and discussion. Some stairs stop at generous landings with tables and chairs, others open onto lounge spaces with built-in seating.











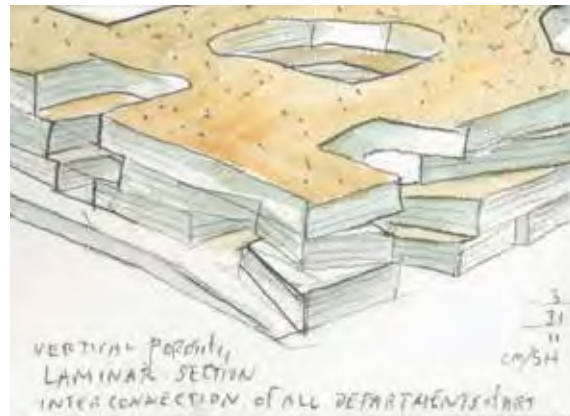




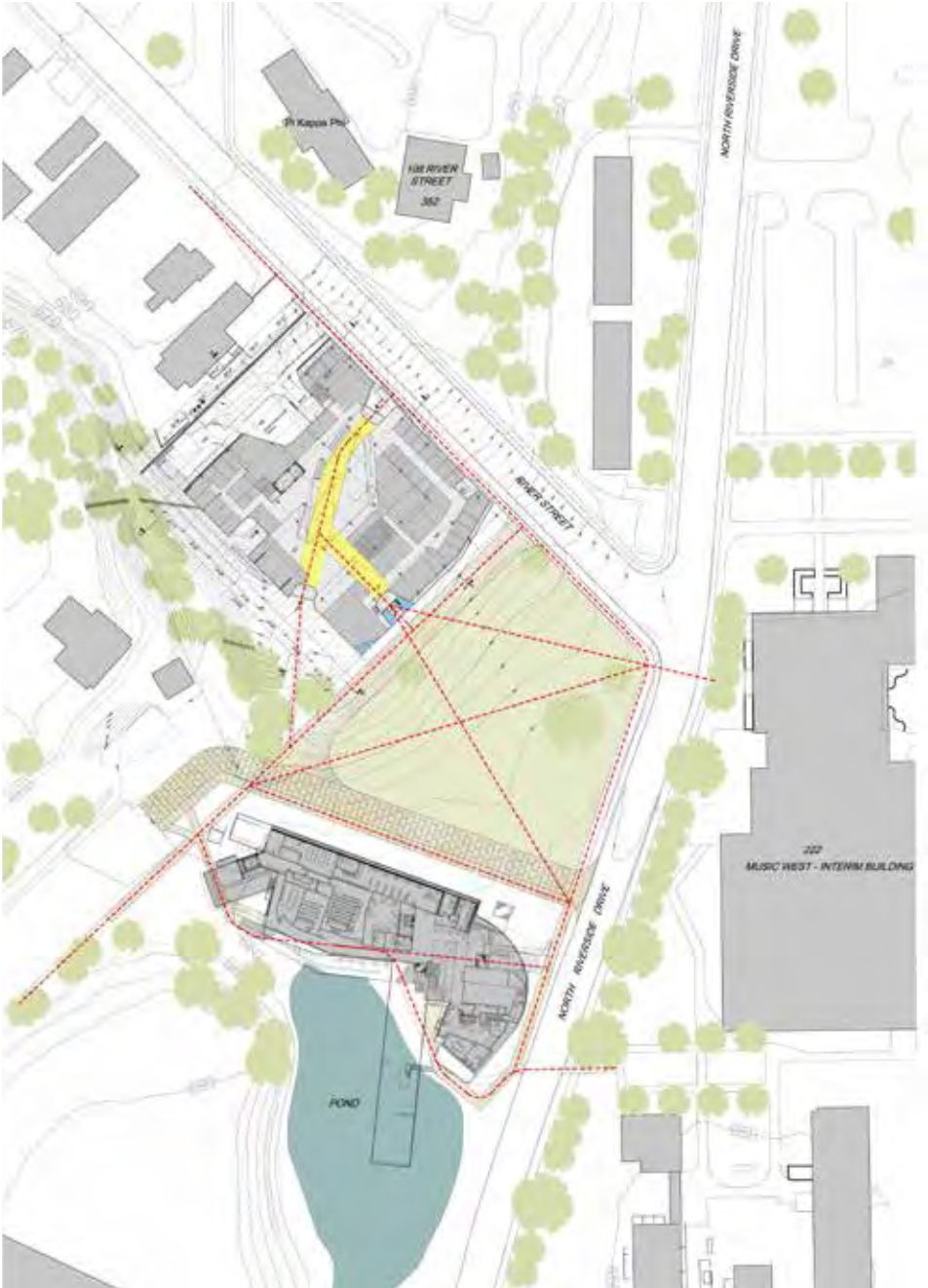




A punched concrete frame structure composed of cast-in-place concrete provides thermal mass at the exterior, while "bubble" slabs incorporating the Cobiax bubble deck system provide radiant cooling and heating. Computer modeling software was utilized to design the irregular shape of the structure and to coordinate the installation of the complex exposed mechanical pipes and ductwork. Key design features include significant daylighting, natural ventilation at the atrium skylight, a Rheinzink skin in weathering blue-green with a perforated stainless steel scrim for sun shade covers at the southwest and southeast building facades, thermal mass storage, an innovative thermal active slab heating and cooling system, and highly efficient HVAC systems utilizing energy recovery wheels to recapture potentially lost thermal energy through the extensive exhaust system.

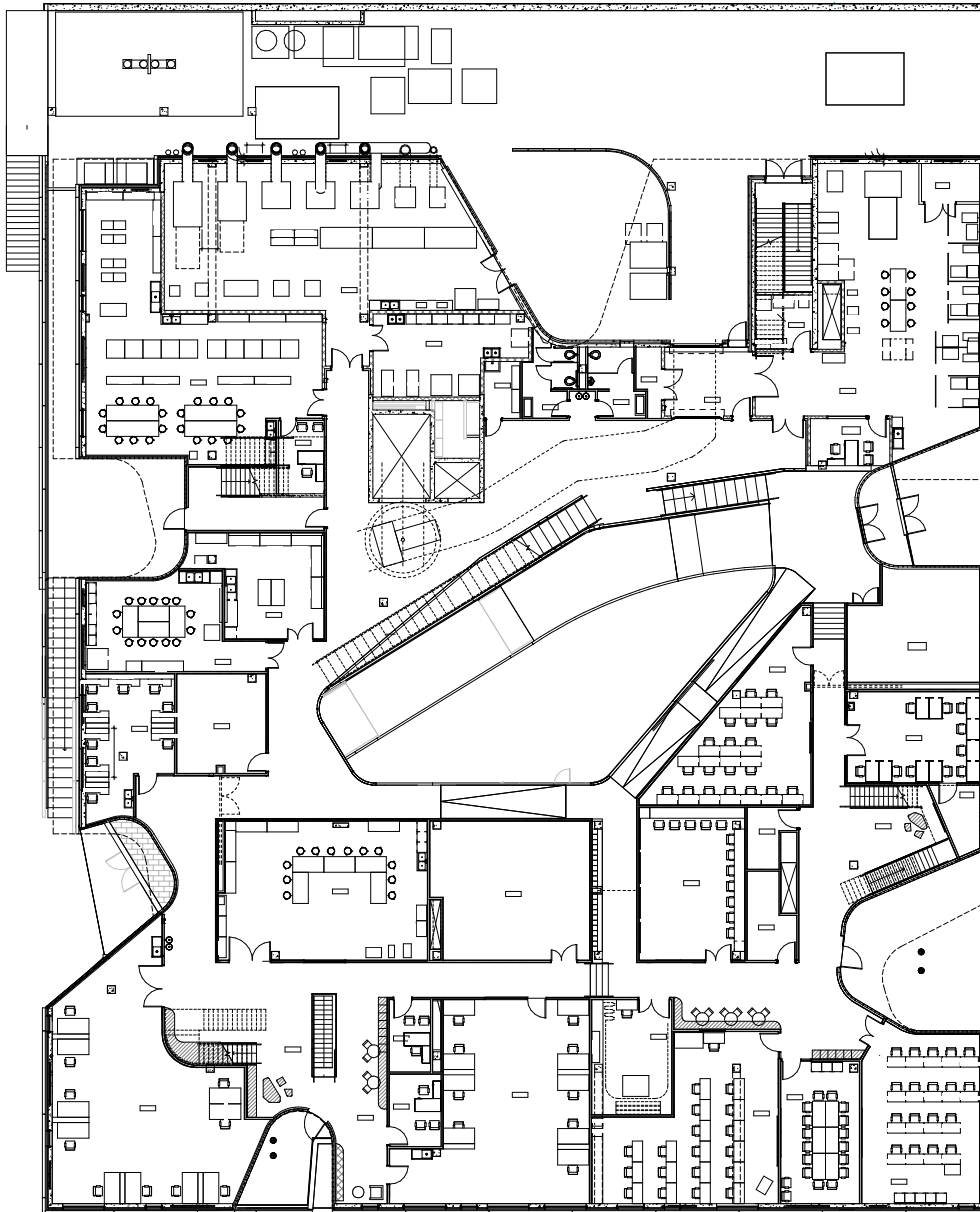


STEVEN HOLL ARCHITECTS



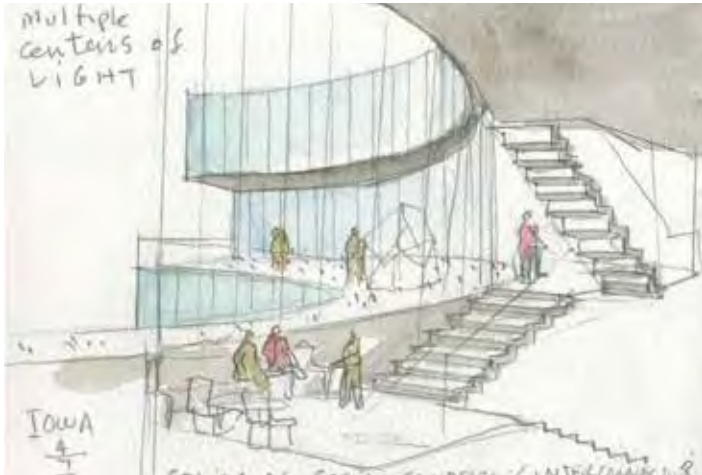
SITE PLAN





0 15'

FIRST FLOOR PLAN



Connection and communication between the departments is facilitated in the vertical carving out of large open floor plates. Natural light and natural ventilation are inserted into the deep floor plates by the inclusion of what the design team calls "multiple centers of light." Several vertical cutouts are designed to foster interaction between the facility's four levels. The atrium provides a central skylight and circulation space that results in a powerful core of the building.







## **AWARDS**

2017 AIANY Design Award  
Honor Award, Architecture

2016 Interior Design  
Best of Year Award, Education

2016 Architects Newspaper  
Building of the Year, Midwest

2017 Chicago Athenaeum  
American Architecture Prize

2017 The Weidt Group, Commercial New Construction  
Excellence In Energy Efficient Design

2017 Metal Construction Association  
Chairman's Award For Overall Excellence

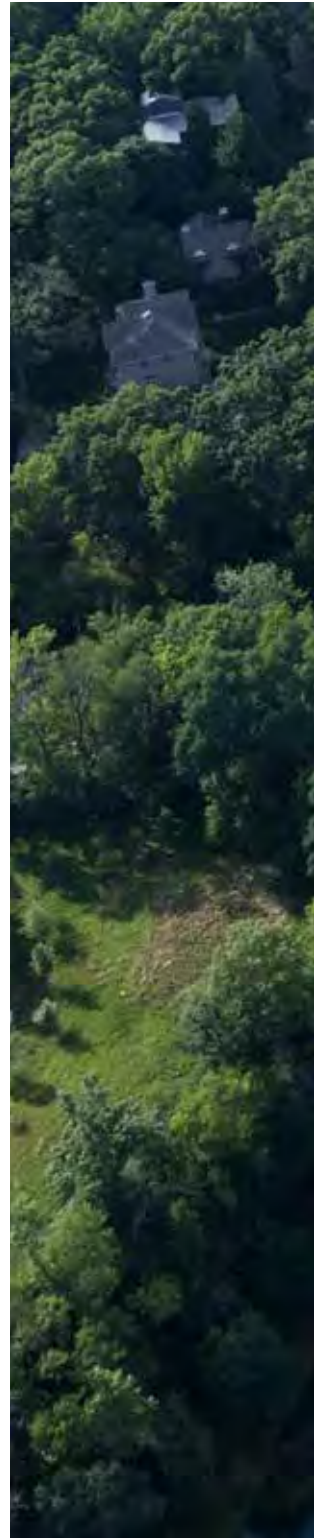
2017 SARA NY, Design Awards  
Design Award Of Excellence

2017 ENR, Midwest Regional  
Best Higher Education/Research Project

2017 Metal Construction News  
MCN Building And Roofing Awards, New Metal Walls

2016 Interior Design  
Best Of The Year Award Winner - Education

2016 Architect's Newspaper  
Building Of The Year Award, Midwest









# Center for Advanced and Emerging Technology

METROPOLITAN COMMUNITY COLLEGE  
OMAHA, NEBRASKA



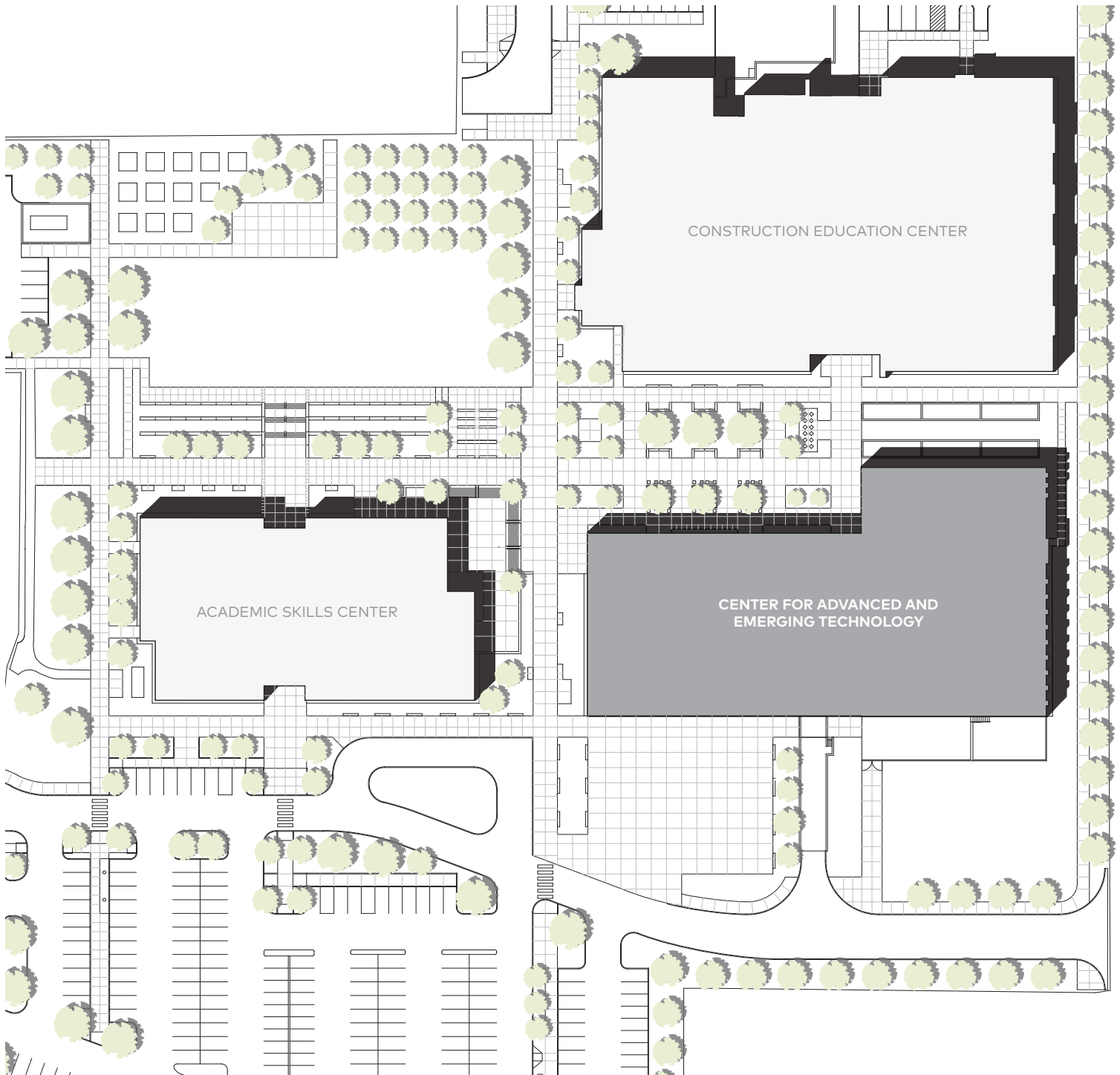




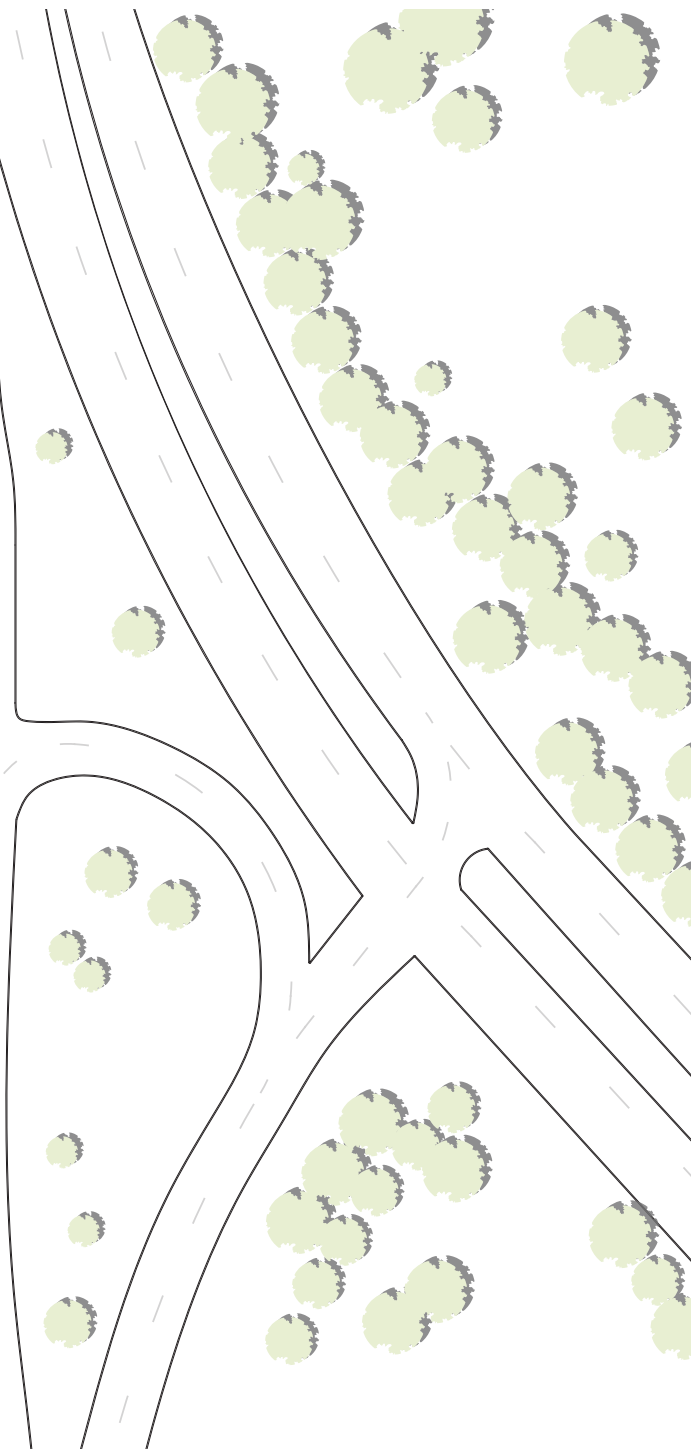
The Center for Advanced and Emerging Technology (CAET) encourages the making of things, where prototyping, design, and production spur innovation and entrepreneurship — filling a niche for makerspace that did not exist in Omaha. Students, faculty, and industry partners are provided ample space for training, fabrication, and collaboration, in addition to necessary support spaces such as multi-modal work areas, private offices, and an outdoor terrace with a green roof. CAET's layers of transparency progress from a two-story open volume off of the main corridor, called Innovation Central, to enclosed, focused space for administrative functions. Intentionally flexible, Innovation Central can house large research and development equipment, facilitate learning, accommodate presentations, or serve as an exhibit hall. The second-floor offices are perched with views into Innovation Central, quite literally putting knowledge on display. A low, red-brick box opposite Innovation Central comprises the fabrication laboratory, industrial spaces, and emerging labs for industry partnerships.

Executive Architect: Holland Basham  
Design Architect / Architect of Record: BNIM

65,000 SF  
LEED Gold  
Completion in 2017

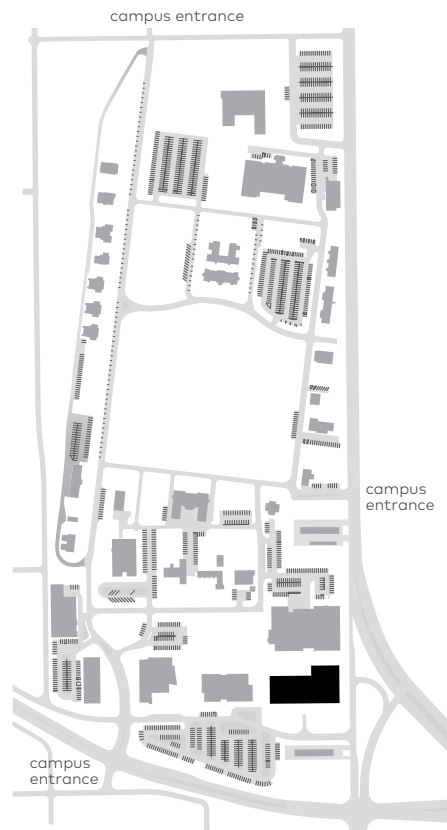






0 64'

Site Plan



CAET is sited at the southeast corner of a community college campus that occupies an historic (1868) United States Army fort. The facility was designed concurrently with two other campus facilities, created by other architects, that share a common, pedestrian-focused site development. This common site was conceived as part of a much needed urban redevelopment project for the neighborhood. All three buildings share red brick "bones" with the historic buildings on campus, but look to the future and surrounding community context through the blending of modern materials, such as metal and precast concrete.

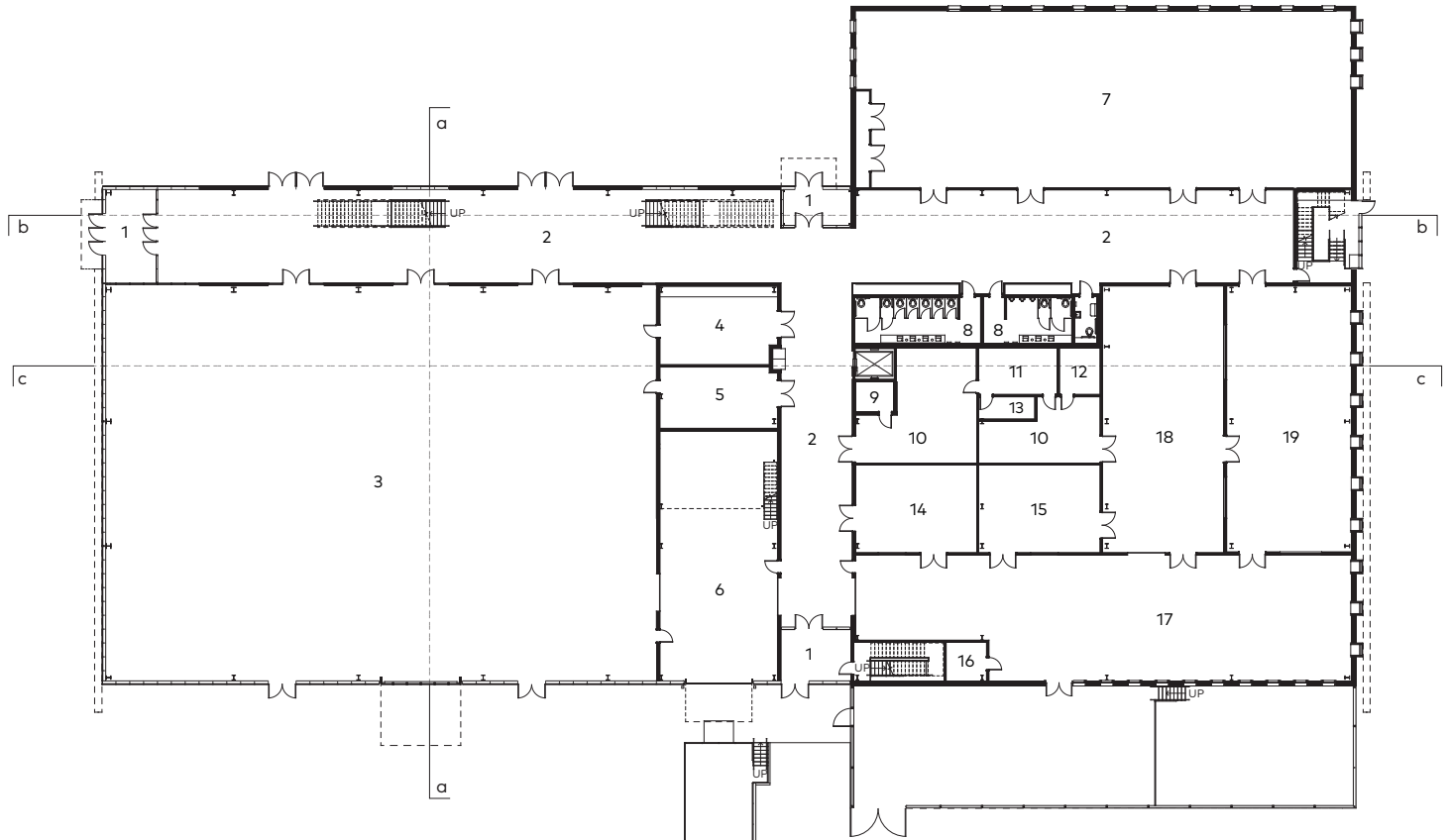
CAET's core purpose is to develop innovative academic programming that targets industry-specific advanced and emerging technologies. Emerging technologies are largely undefined and constantly evolving; therefore, the building was designed as a vessel of various scales and space typologies, embedded with flexible infrastructure to allow for invention and pilot-scale application between students, faculty, and industry partners. CAET includes an ecosystem of design and fabrication labs, flexible emerging labs, a large innovation high-bay space with exterior plaza, technology-rich training spaces, and a spectrum of office and collaboration spaces.







- |                             |                         |
|-----------------------------|-------------------------|
| 1 Vestibule                 | 10 Storage              |
| 2 Corridor                  | 11 Electrical           |
| 3 Innovation Central        | 12 Data                 |
| 4 Kitchen                   | 13 Electrical Emergency |
| 5 Custodial                 | 14 Electronic           |
| 6 Loading/Receiving/Storage | 15 Fit & Finish         |
| 7 Emerging Labs             | 16 Utility Entry        |
| 8 Restroom                  | 17 Metal Prototyping    |
| 9 Elevator Room             | 18 Wood Prototyping     |
|                             | 19 Design Room          |

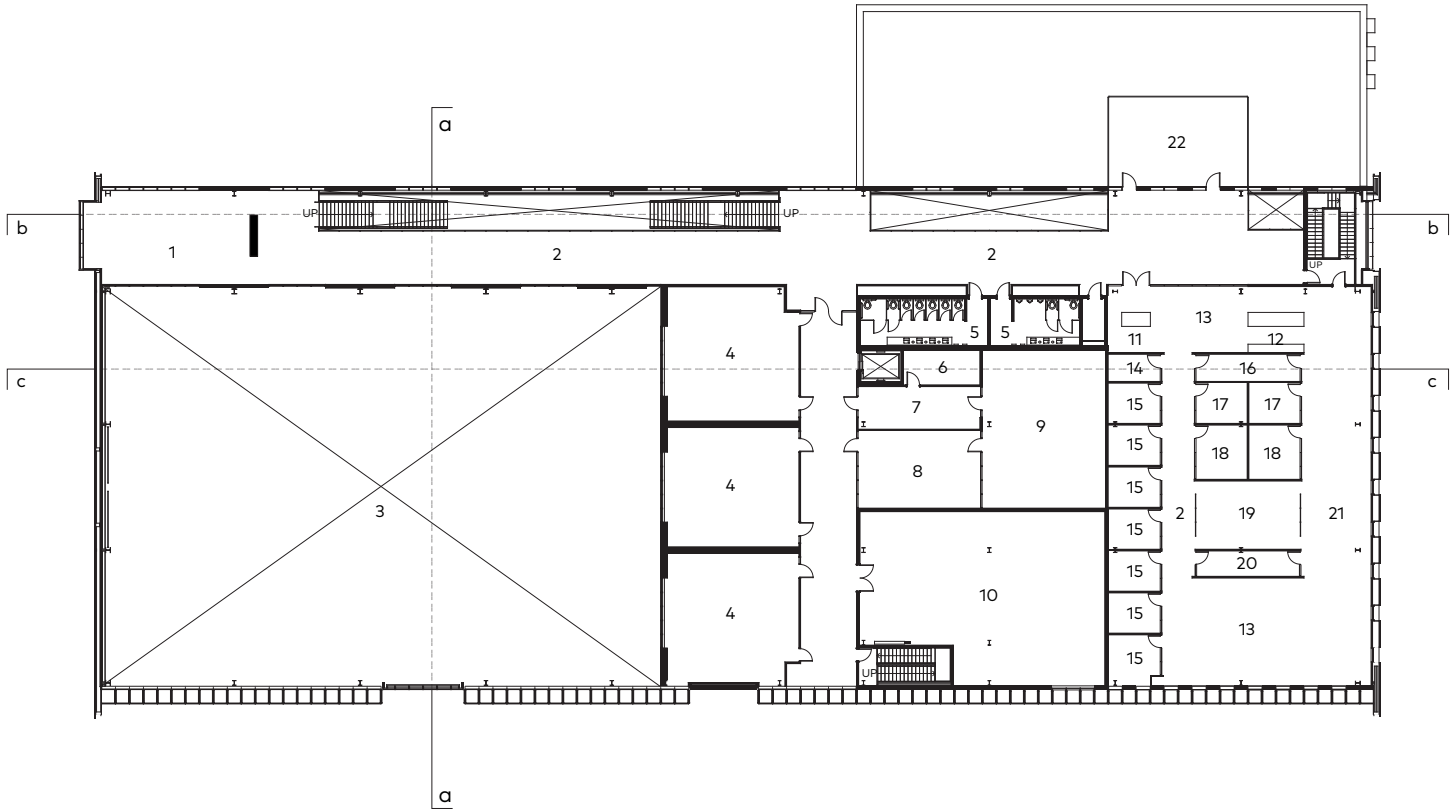


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First Floor Plan

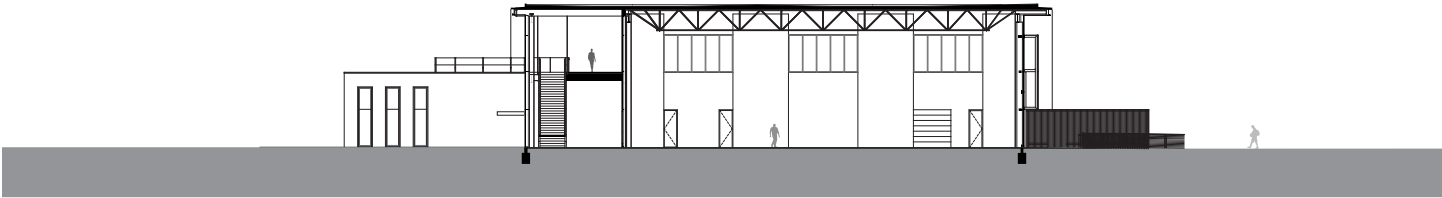


- |                             |                  |
|-----------------------------|------------------|
| 1 Collaboration Space       | 12 Kitchenette   |
| 2 Corridor   Social Commons | 13 Work Area     |
| 3 High Bay Space            | 14 Phone         |
| 4 Training Room             | 15 Office        |
| 5 Restroom                  | 16 Storage       |
| 6 Data                      | 17 Flex Space    |
| 7 Data Build                | 18 Small Meeting |
| 8 Data War                  | 19 Work Room     |
| 9 Academic Data             | 20 Resource Room |
| 10 Mechanical               | 21 Hoteling      |
| 11 Reception                | 22 Roof Terrace  |

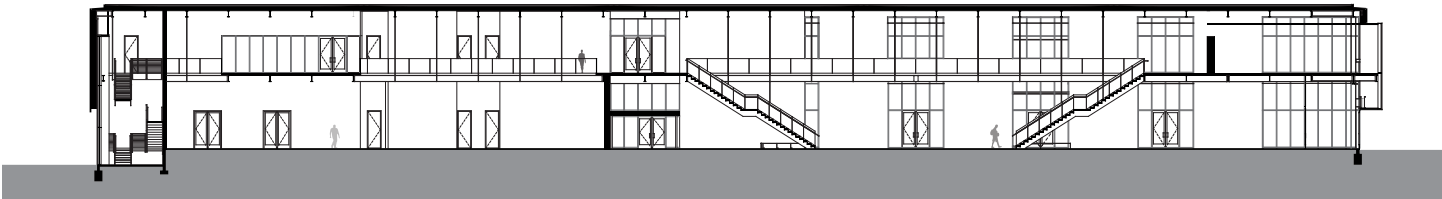


0 16

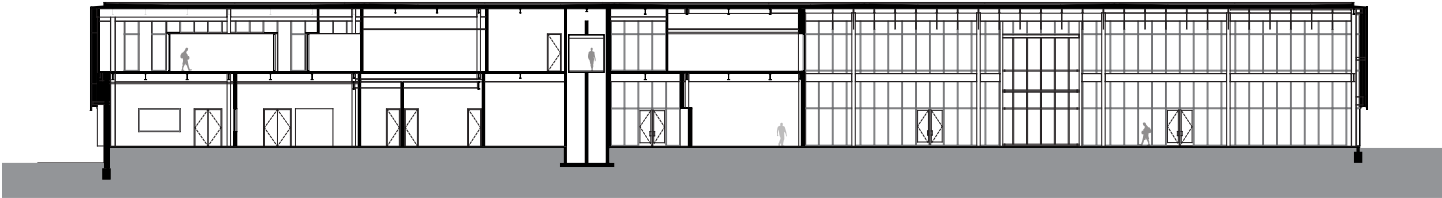
Second Floor Plan



Section a-a



Section b-b



Section c-c

0 16

Building Sections





Innovation Central



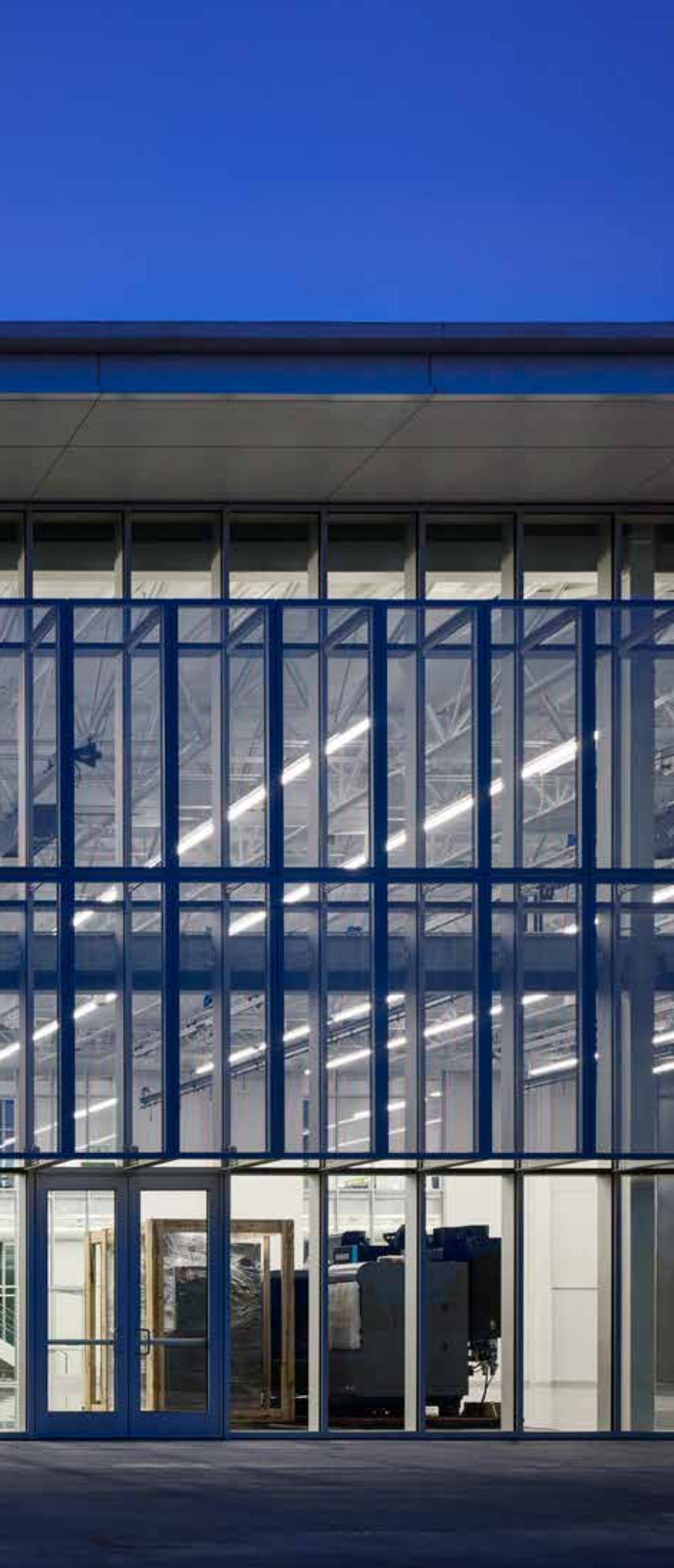




CAET serves as a new educational front door to the community with high transparency between the building and passersby. Extensive transparency in the Midwest climate presents challenges with heat gain and glare; thus, the design strategically organizes space and glass to respond to function and orientation. Extensive exterior glass walls organize the high-bay innovation space, and provide daylight and views deeper into interior training rooms, reducing glare. Smaller daylighting glass panels organize office and fabrication spaces. A perforated metal veil limits solar gain and becomes transparent in the evening.









Upper Social Commons - looking west

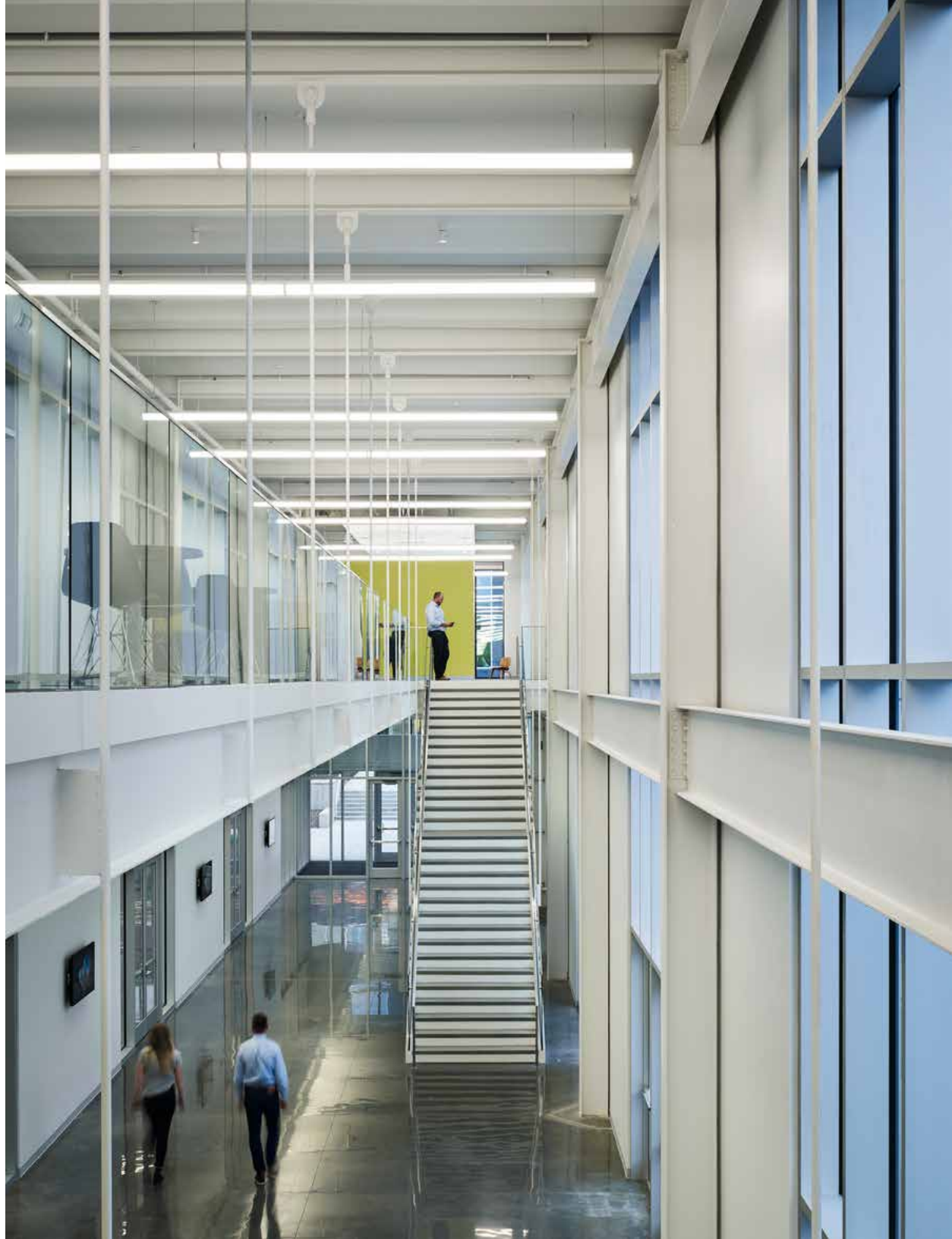
CAET industry partners began their involvement with the programming and design process, now serve as a committee to identify future jobs training needs in the surrounding region, and will continue to contribute as collaborative partners in the design, making, and testing of "things" utilizing the emerging laboratories and design and fabrication labs. In addition, Metropolitan Community College (MCC) and the Construction Manager held presentation receptions throughout MCC's service region, particularly for small businesses and trades interested in involvement in the project's construction to help grow the area's economy.











Office Suite - looking south



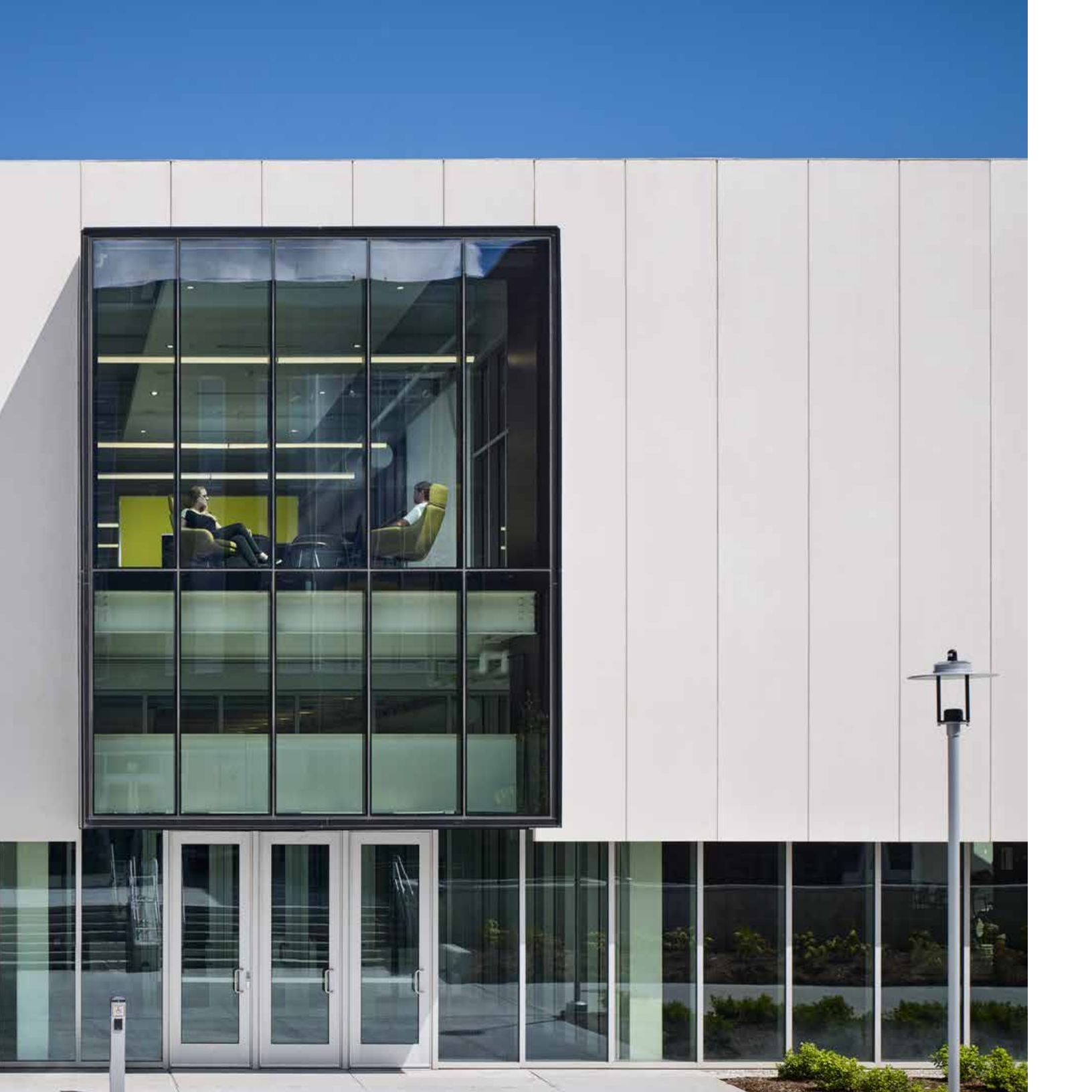




Collaboration Space  
Emerging Labs (clad in brick) beyond













View from northwest

CAET established and achieved strong sustainable goals, fulfilled a commitment to LEED Certification, and utilized a highly integrated design process. The project redeveloped an existing urban site, improved stormwater management for the surrounding urban area, and created pedestrian and public transportation connections to the neighborhood. The building design holistically incorporated recycled content materials, diverted waste from the landfill, and created a highly productive and energy efficient interior environment through integrated water, HVAC, and lighting systems. CAET was optimized for daylighting and lighting controls and received a LEED Gold Certification in December 2017.



Green Roof over Emerging Labs - view from northeast (top)  
Emerging Labs (clad in brick) - view from northeast (right)





# Maintenance and Operations Complex

PALOMAR COMMUNITY COLLEGE DISTRICT  
SAN MARCOS, CALIFORNIA







The Palomar College Operations and Maintenance Complex will serve buildings and grounds at Palomar College and other satellite campuses. It will house the district's facilities personnel for buildings, grounds, and maintenance as well as providing conference space, staff offices, and shop spaces. The project consists of a large shop building and small office building that are linked through a series of outdoor paths and spaces on an irregularly shaped site. While campus operations facilities are often relegated to secondary locations, the project is located on what was an existing surface lot at a highly visible campus gateway. The design team has used site topography and the strategic placement of the building to screen vehicular uses and to create a series of memorable indoor and outdoor spaces that are visible from pedestrian and vehicular entries to the campus. The team worked with Palomar staff to map the many vehicular and maintenance circulation patterns in order to optimize the performance of the facility while reducing the overall vehicular footprint.

28,000 SF  
Completion in 2018  
Designed to achieve Net Zero

2/3<sup>rd</sup>s

THAT FUNCTIONS AS A  
WORKSHOP AREA,  
HAS NO MECHANICAL  
SYSTEM









An aerial architectural rendering of a modern commercial building. The building features a large, flat white roof with a significant portion covered by blue solar panels. The exterior walls are a mix of orange-brown horizontal siding and large glass windows. A parking lot with several cars is visible to the left of the building. In the foreground, there is a landscaped area with green trees, shrubs, and a paved walkway where a few people are walking. A road with a few cars is at the bottom of the frame.

80%

STRATEGIES RESULT IN  
REDUCTION OF MECHANICAL  
SYSTEMS UP TO 80%  
OF THE TIME





#### **SUSTAINABLE STRATEGIES**

- 100% Daylight for all Office Spaces
- 100% Natural Ventilation for all Shop and Offices
- Primarily Native Californian Landscape
- 86% Cooling Load Reduction
- 29% Heating Load Reduction
- 105% Renewable Energy Provided by Solar Panel Array
- 20.95 Current Designed EUI

# The Center of Excellence for Energy Technology

TARRANT COUNTY COLLEGE DISTRICT  
FORT WORTH, TEXAS











BUILDING  
ENVELOPE

20%  
REDUCTION  
FROM ASHRAE



89,000 SF  
Completion in 2015  
LEED Platinum Certified

The Tarrant County College Center of Excellence for Energy Technology (CEET) will house the Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) program, as well as training programs for oil, gas and renewable energy technologies. Located in Fort Worth, Texas, this facility sets a new course for development on a campus largely built in the 1970s and will be a premier training center for its students, faculty and the greater community. The project has achieved LEED Platinum certification, but has also set a goal of net zero energy use. Aggressive sustainability goals established by TCCD, and refined during programming, created a foundation for vetting project decisions. Led by BNIM in partnership with Freese and Nichols, design was a collaborative effort involving faculty, administrative and campus facilities personnel.

## **AWARDS**

**2016 ENR TEXAS AND LOUISIANA**  
Best Green Project

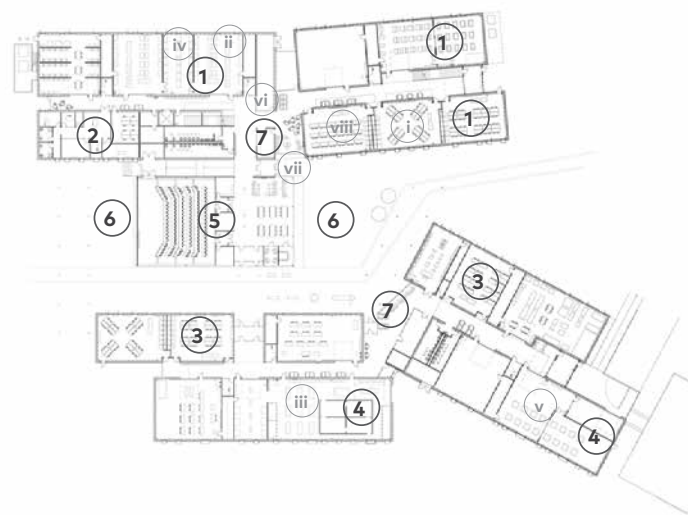
BUILDING  
ENVELOPE

**12.5%**

BELOW IECC\*  
BASELINE

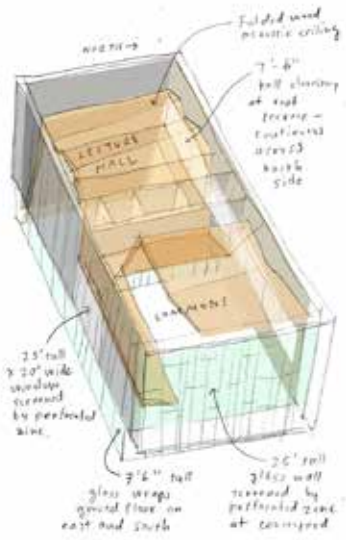




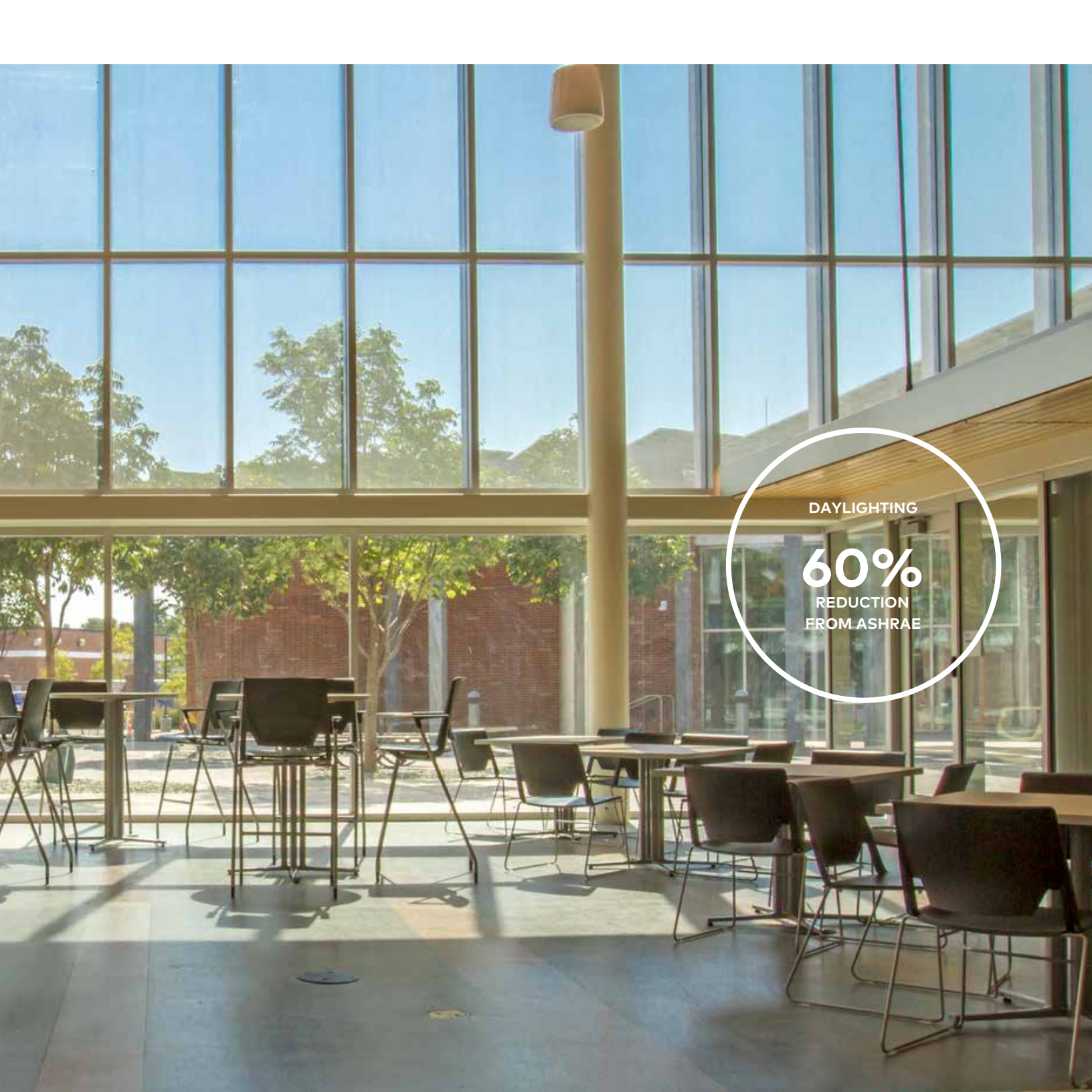


#### KEY

- 1 Two Story Lab/Classroom
- 2 Admin Offices
- 3 One Story Lab/Classroom
- 4 Double Height Labs
- 5 Commons
- 6 Courtyard/Outdoor Classroom
- 7 Circulation + MEP Hub







DAYLIGHTING

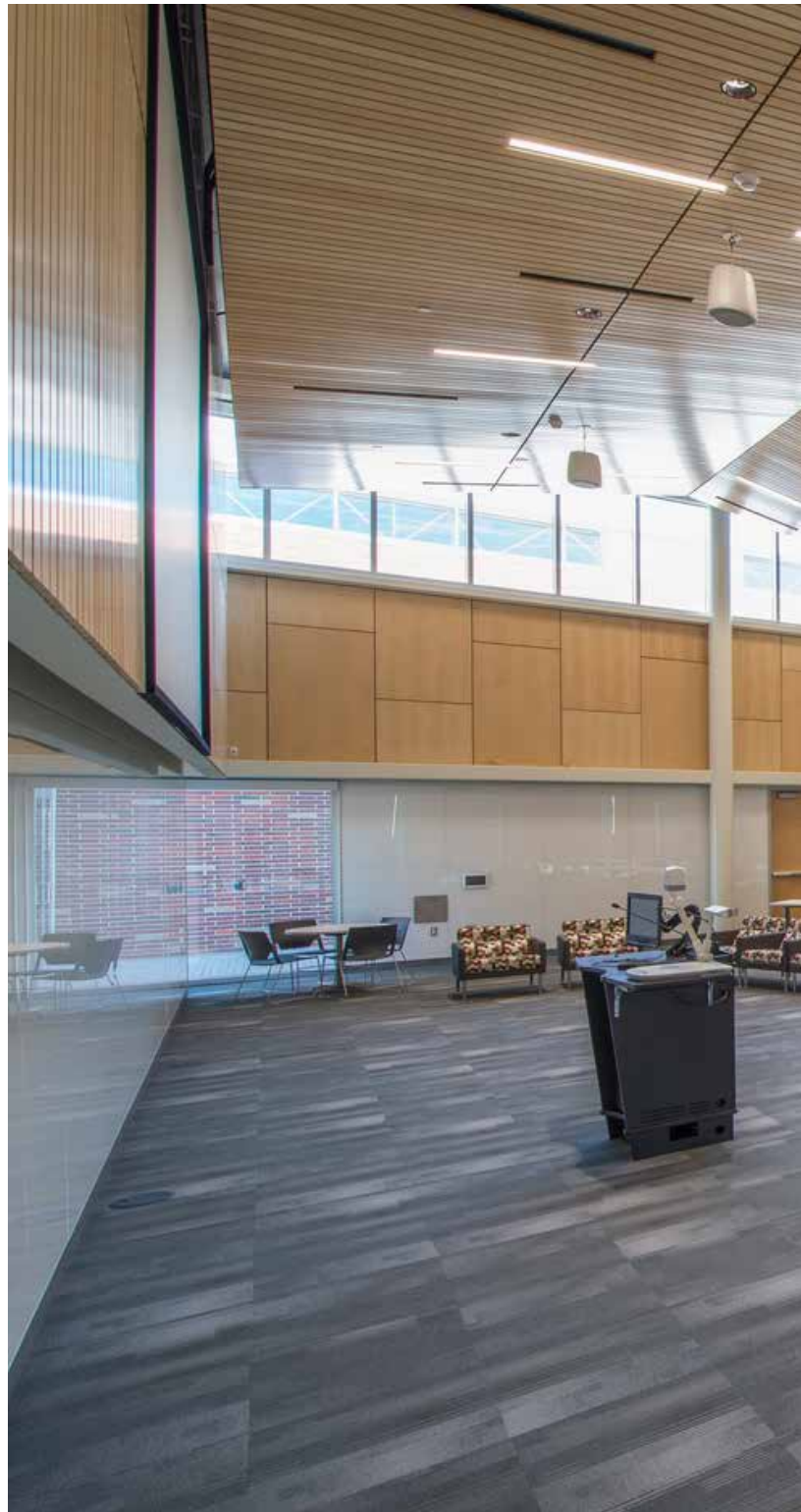
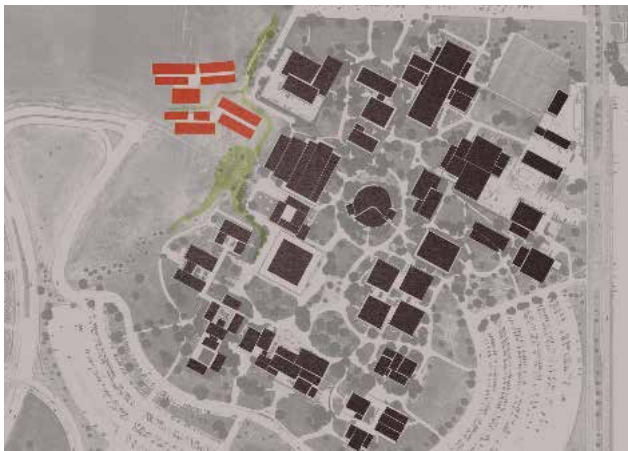
60%

REDUCTION  
FROM ASHRAE

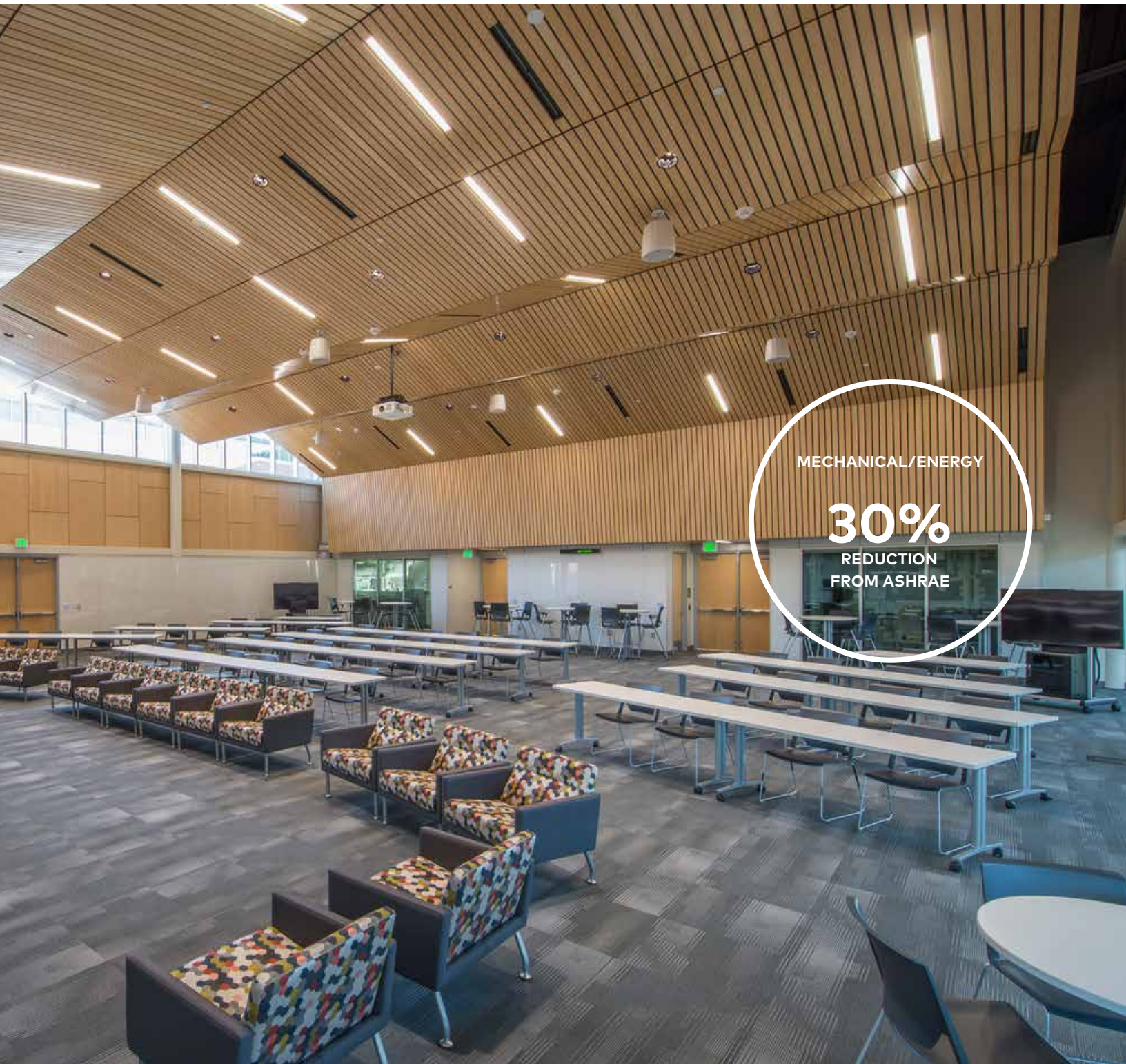
The Tarrant County College Energy Technology Center (ETC) will house the Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) Program, as well as training programs for oil, gas and renewable energy technologies. Located in Fort Worth, Texas, on the TCCD South Campus, this facility sets a new course for development on a campus largely built in the 1970s and will be a premier training center for its students, faculty and the greater community. The project seeks to achieve and go beyond LEED Platinum with a goal of net zero energy use. Aggressive sustainability goals established by TCCD, and refined during programming, created a foundation for vetting project decisions. Lead by BNIM in partnership with Freese and Nichols, design was a collaborative effort involving faculty, administrative and campus facilities personnel.

With goals of LEED Platinum and net zero energy, the ETC will operate as a high performance building and will be a living, teaching and learning laboratory. The building will be a pedagogical tool allowing occupants to observe its inner workings and mechanics. Plumbing, electrical, mechanical, and structural components will be openly visible in strategic locations, giving students and visitors the opportunity to learn from the building systems on a daily basis. Digital displays will provide real-time feedback and informative data about how the building systems are performing. In essence, the entire building will become an instructional environment.

new building and original mid-century campus







MECHANICAL/ENERGY

**30%**

REDUCTION  
FROM ASHRAE









## KEY

- i General Classroom
- ii Refrigeration Principles Lab
- iii Duct Fab + Installation Lab
- iv Refrigeration Principles Welding Lab
- v Climate Lab
- vi Circulation + MEP Hub
- vii Foyer
- viii Computer Lab



# Lewis Center for the Arts

PRINCETON UNIVERSITY, PRINCETON, NEY JERSEY



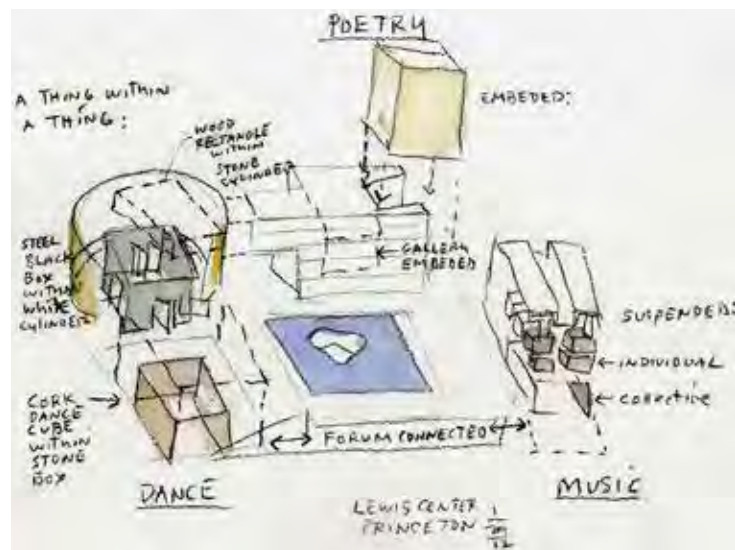


Princeton University's Lewis Center for the Arts is an academic program comprised of Writing, Dance, Theater, Visual Arts, and the Princeton Atelier, a program that brings together artists from different disciplines to collaborate for one dedicated semester. The new Lewis Center for the Arts facility is a physical representation of these creative forces, dedicated to the belief that the arts lift the human spirit.

The 139,000 square foot complex consists of three contemporary buildings designed around a courtyard. The buildings will share a common reception area and will house several public spaces, including an art gallery, a black box theater, a dance studio and a music rehearsal room. The complex will also house faculty and administrative offices and a box office.

With Steven Holl Architects

139,000 SF  
Completion 2017







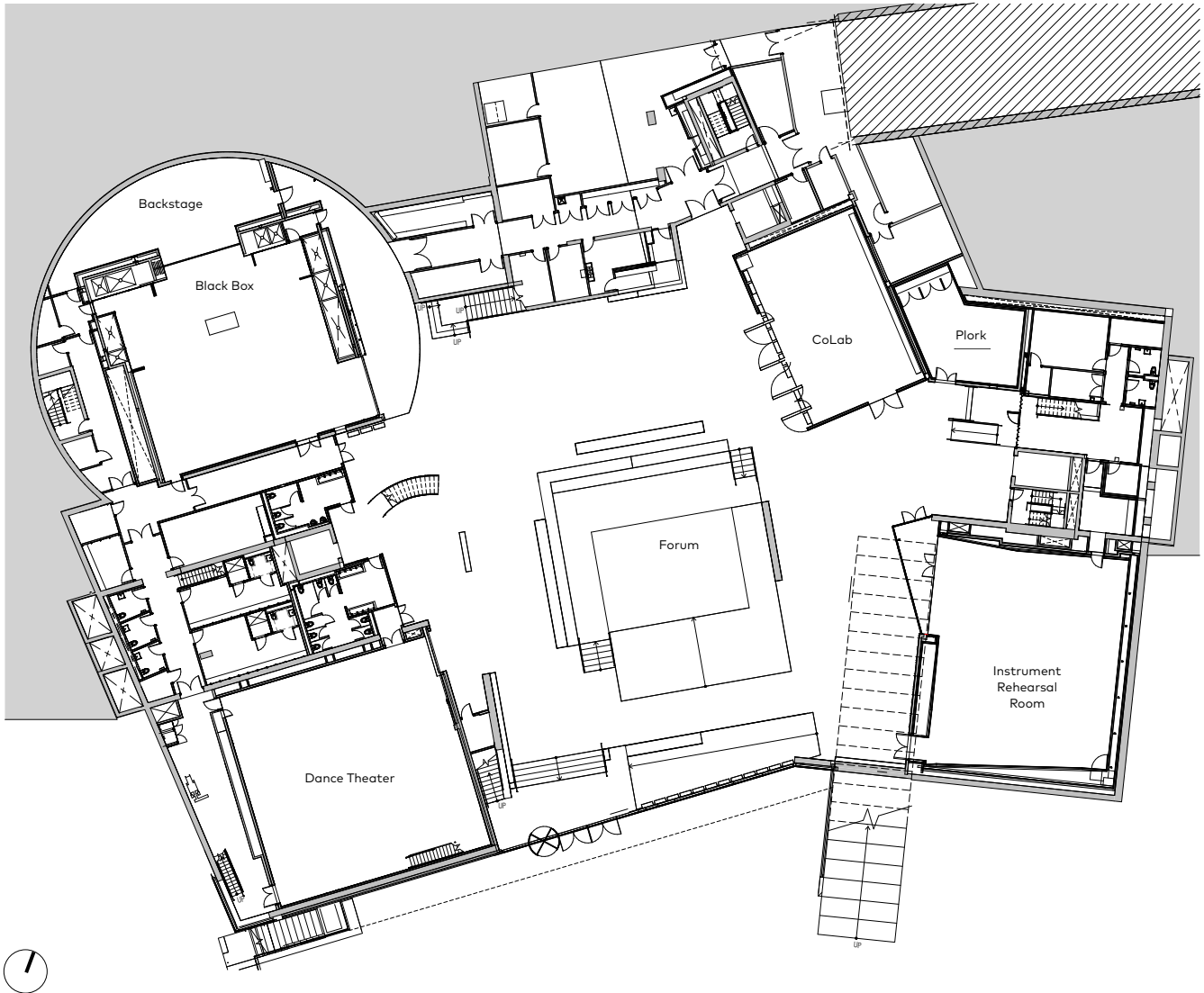


The project has an energy goal of utilizing 50 percent less energy than required by current energy codes. Princeton's policy is not to pursue LEED, but to go beyond LEED and focus on maximum carbon reduction throughout the design, construction and operation of the facility. To achieve this goal integrated sustainable features are being considered, including geothermal heating and cooling, green roofs, improved exterior envelope performance, displacement ventilation system; mixed mode ventilation system; radiant heating and cooling, and passive design strategies of building orientation, shading, natural light, natural ventilation and thermal mass. In furthering environmental stewardship goals, sustainable material selection and construction management practices also will be key components of the building project.





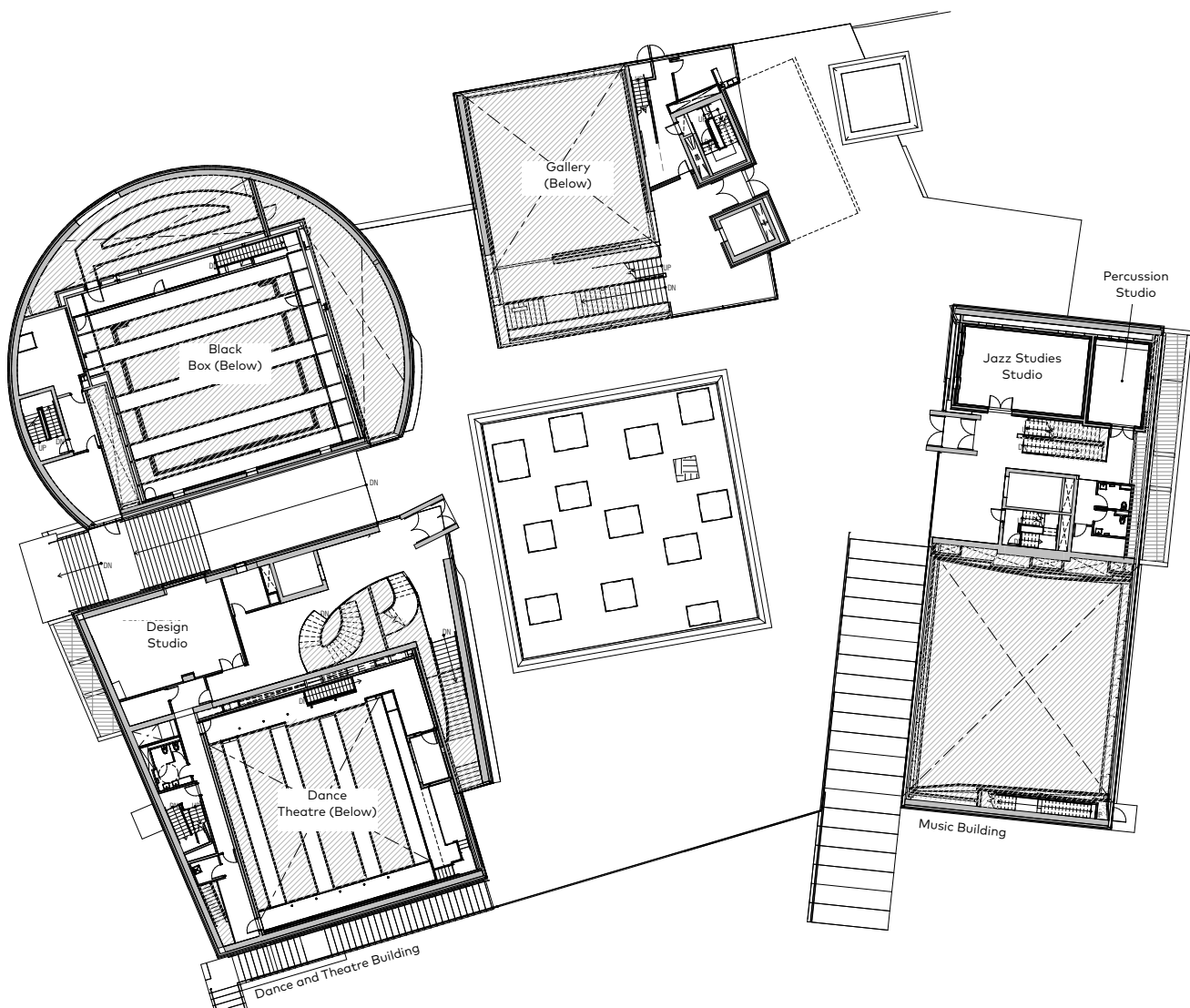




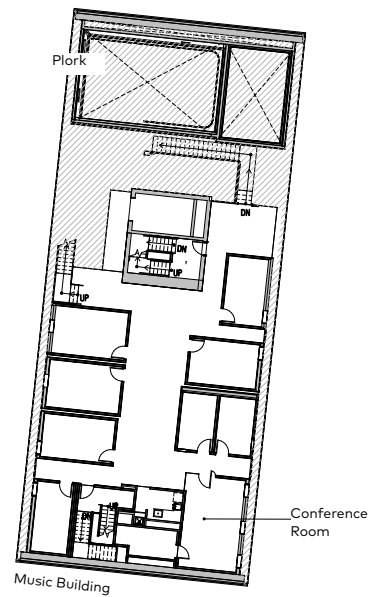
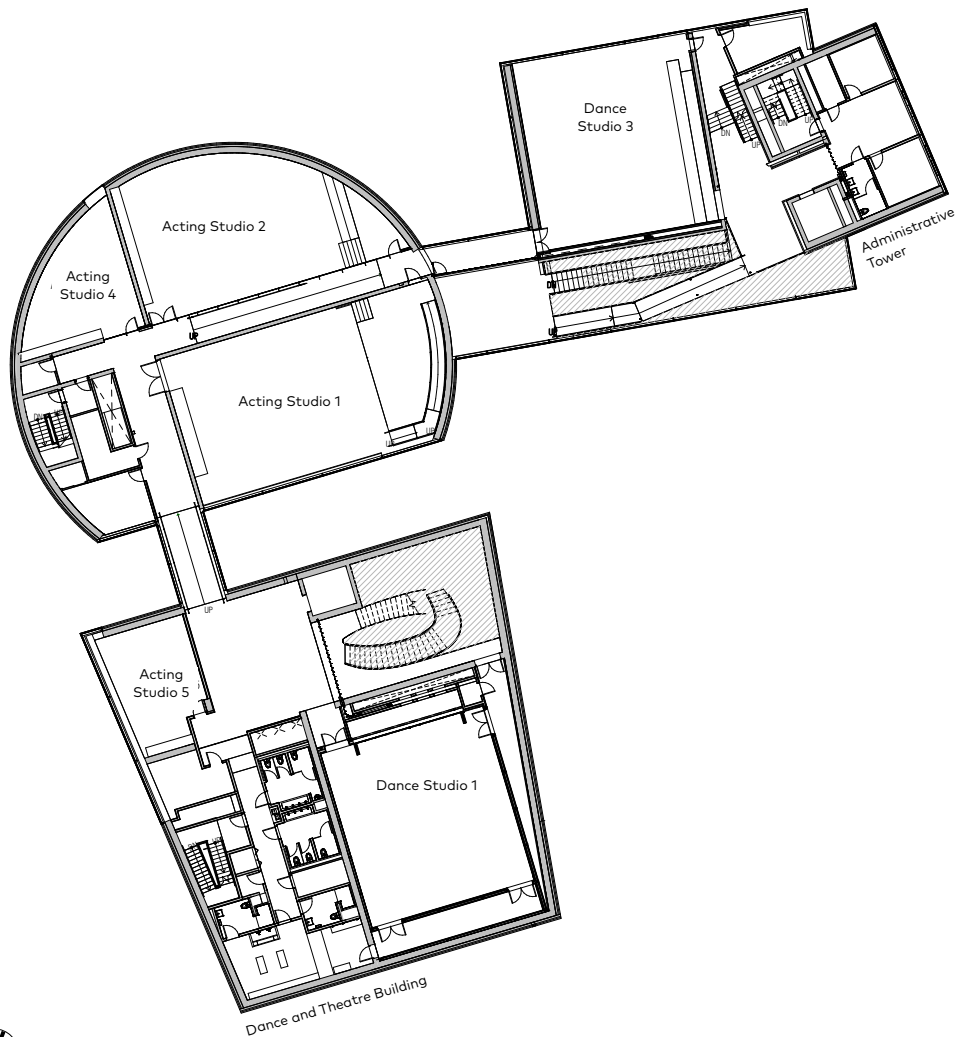
0 16'

FORUM LEVEL





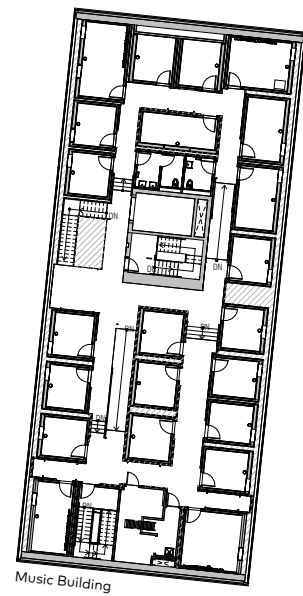
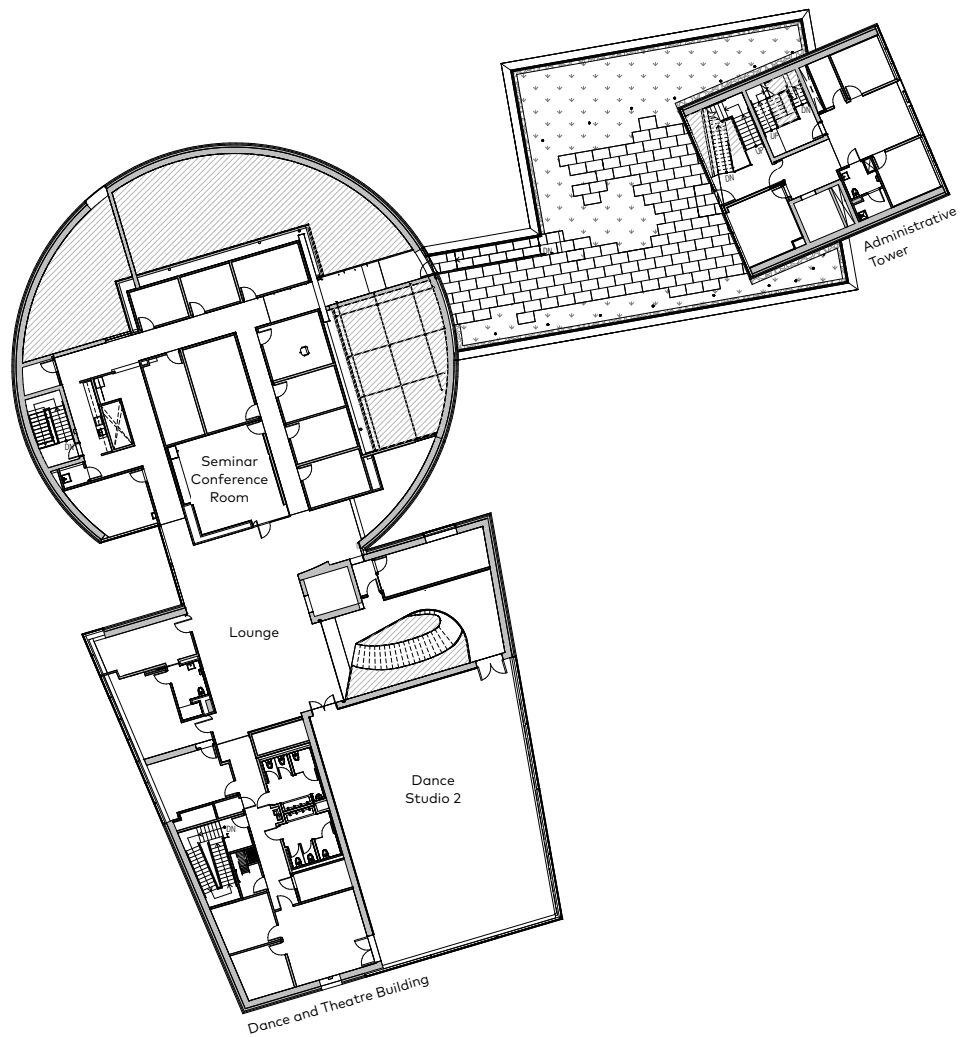
PLAZA LEVEL



0 16'

LEVEL 2

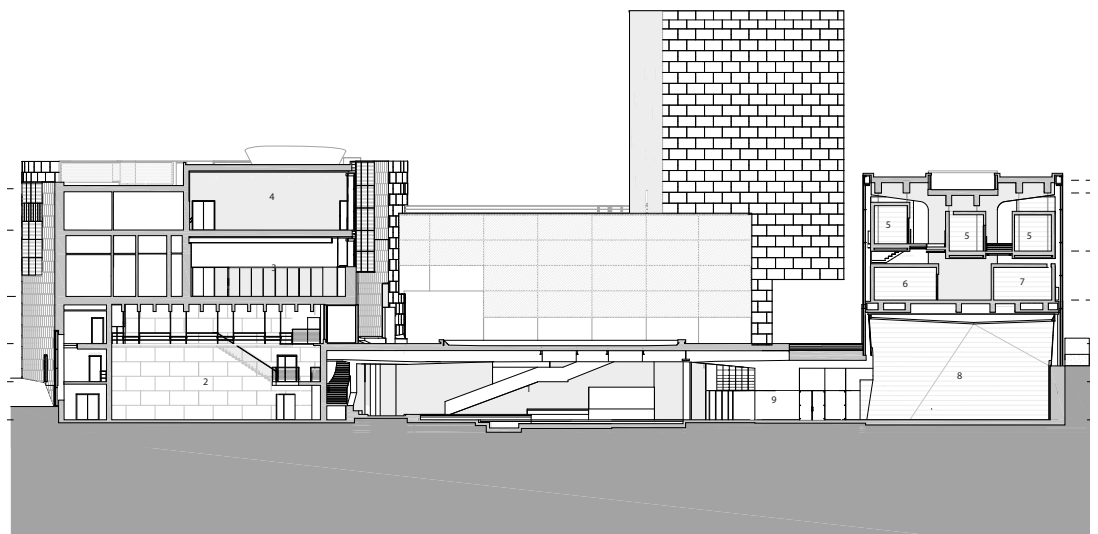




LEVEL 3



- 1 Forum
- 2 Dance Theater
- 3 Dance Studio 1
- 4 Dance Studio 2
- 5 Practice Room
- 6 Music Studio
- 7 Office
- 8 Instrumental Rehearsal Room
- 9 CoLab



BUILDING SECTION















## **AWARDS**

2017 Best Building - Mid Atlantic  
Architect's Newspaper

2018 Project Of The Year Award  
Professional Engineers Society Of Mercer County

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"BNIM's leadership has been critical to the success of this project. We have been greatly impressed by the depth of their staff at all levels, whether related to design or technology, building codes, sustainability, envelope detailing, waterproofing or specifications. Their goal has been to make the finished product the best it can be, consistent with our budget. BNIM is a valued team member, willing to listen closely, to offer their professional advice, to be patient, and to lead."

**JANE CURRY, AIA, LEED AP**

Sr. Project Manager, Princeton University  
Office of Design and Construction

# Seaton Hall and Seaton Court Renovation and Expansion

KANSAS STATE UNIVERSITY, MANHATTAN, KANSAS







Over the last decade, the College of Architecture, Planning, and Design (APDesign) at Kansas State University has risen in stature and recognition among the nation's design programs. Today, the program's home in the historic Seaton Hall complex no longer supports the college's current and future needs. Each semester, APDesign students, faculty, and visitors together explore the potential of design to impact human experience, health, and happiness – the new and renovated facility is born of these same pedagogical objectives.

The new addition stitches together the two renovated historic buildings of Seaton East (1908) and Mechanics Hall (1874), and is punctuated by "The Jewel," a transparent, three-story social container and entry courtyard that assumes the new face of APDesign. Located in the heart of the campus network, the facility is a hub of interdisciplinary interaction, engaging KSU in a unified expression of innovation, excellence, and sustainability.

With Ennead Architects and Confluence

191,247 SF  
Completed in Fall 2017  
LEED Gold Targeted



**40%**

WATER USE REDUCTION  
AND 50% POTABLE WATER  
REDUCTION











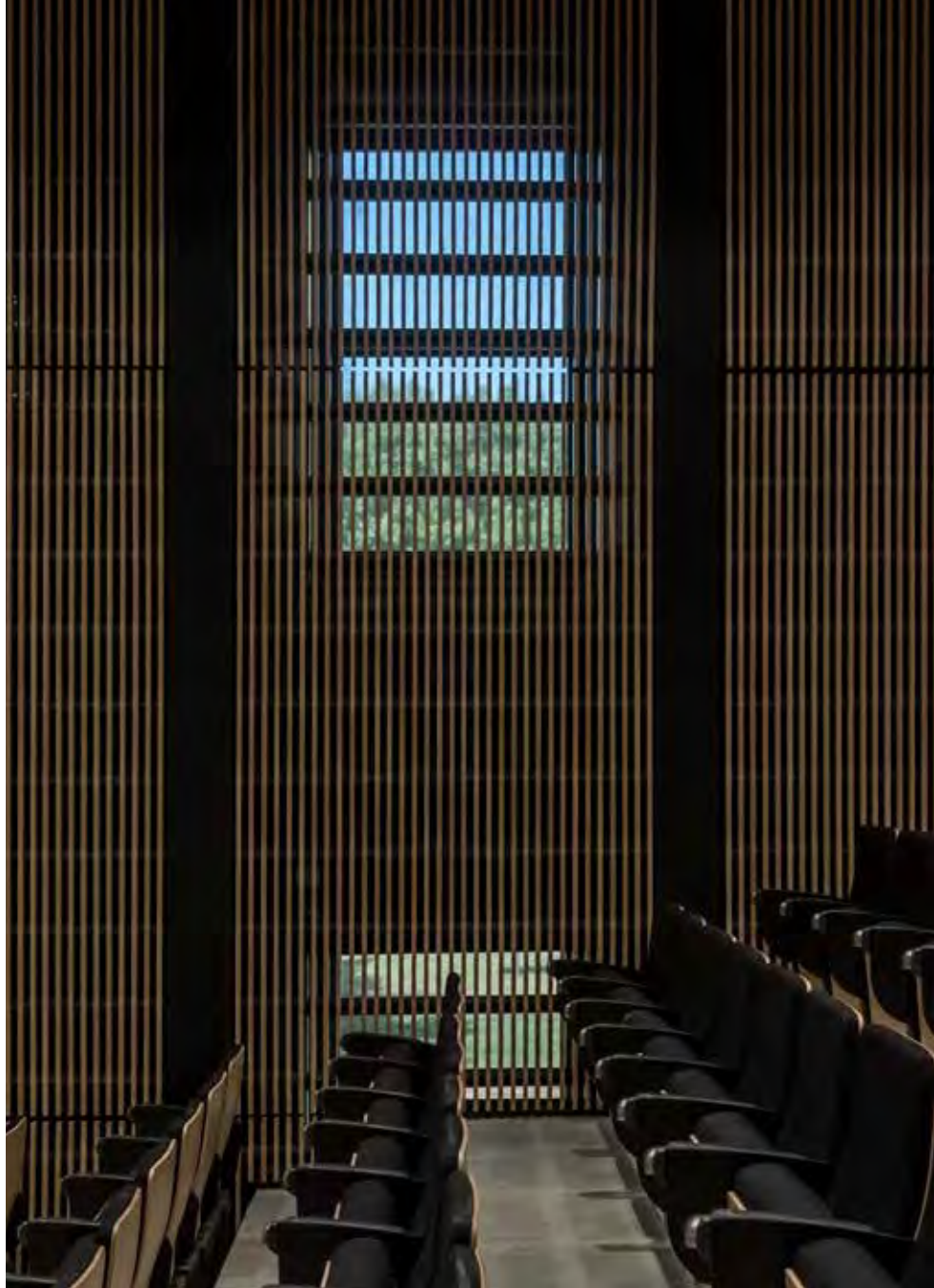








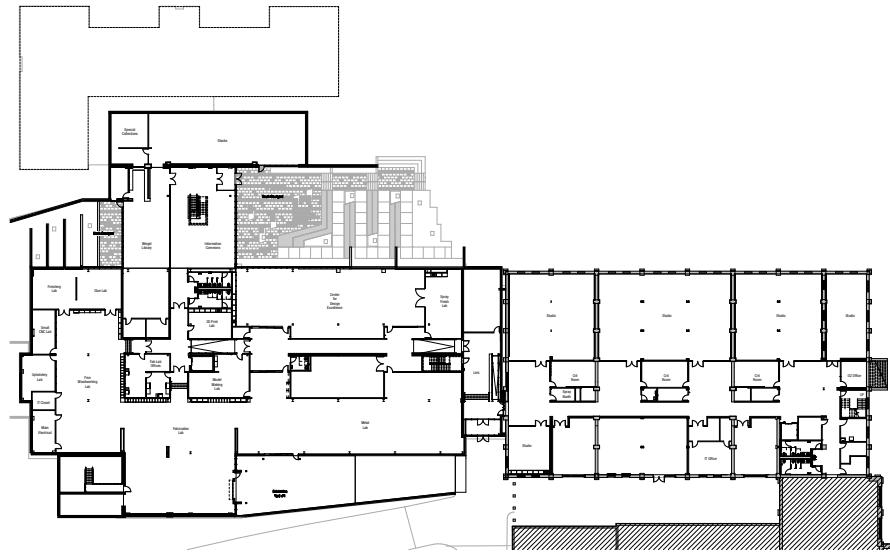




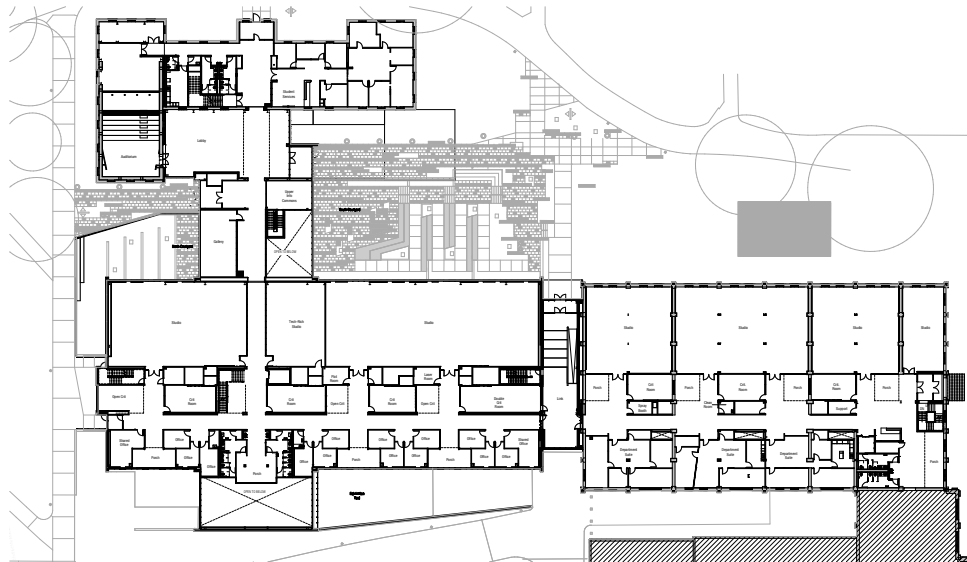






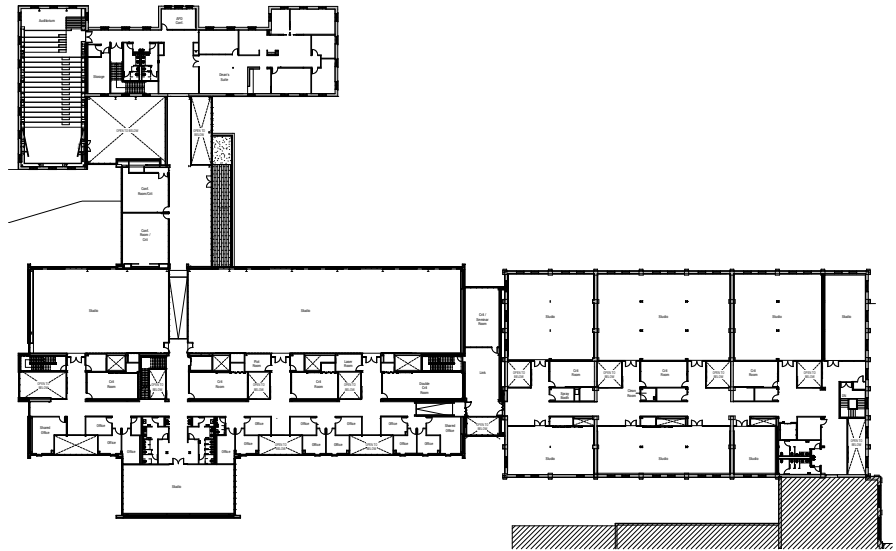


Basement

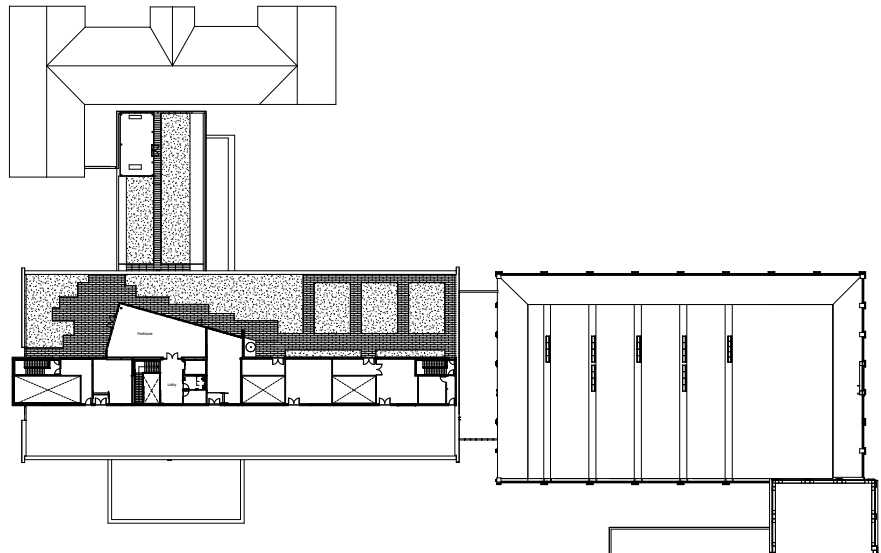


Level 1





Level 2



Level 3







# McCain Auditorium Study

KANSAS STATE UNIVERSITY  
MANHATTAN KANSAS







Focused on increasing the use and viability of the venue, the design of the Kansas State University McCain Auditorium Study proposes a new addition to the west of the existing auditorium space that is conceived as a transparent volume to provide visual connections to the quad and the new exterior courtyard to the west. An additional multipurpose room element, elevated above the new lobby and clad in limestone, is held away from the box of the existing auditorium to allow light into the lobby and to emphasize the existing auditorium form. This design study improves the community outreach experience by adding a more intimate multi-purpose room/performance space and lobby improvements to the existing 1,800-seat auditorium, an opaque limestone box that houses the current lobby and auditorium.

23,545 SF

























# Museum of Art

UNIVERSITY OF IOWA, IOWA CITY, IOWA







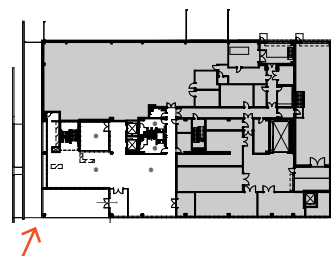
The University of Iowa Museum of Art is designed to replace the original Museum Building damaged by the 2008 flood of the Iowa River. The collection was moved prior to the flood and the Museum has never reopened. The collection has been stored and displayed at the Figge Art Museum, on campus, or has been loaned to museums around the world. Studies were completed to provide for flood mitigation and to improve the existing Museum to comply with contemporary museum standards. The studies concluded that a cost effective solution to provide the improvements and adequate flood mitigation was not feasible and it was decided to build the new museum on another site. The new Museum of Art was designed to comply with contemporary museum requirements to process, exhibit and store the University's collection of African art, works on paper, and contemporary art including a treasured Jackson Pollock "Mural."

63,000 GSF

Completion in December 2020





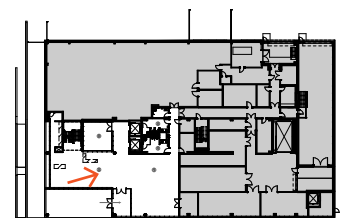








Level 1 - Art Lounge

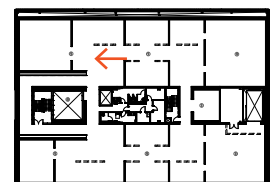








Level 2 - Gallery Space



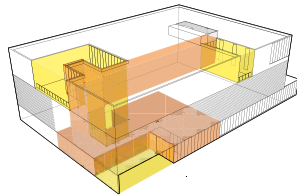
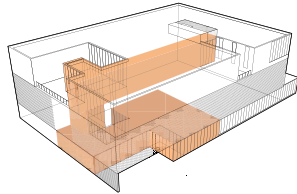
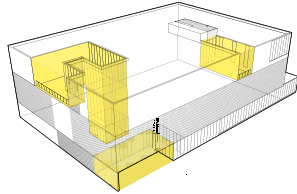
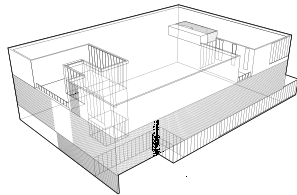


Level 1 - Courtyard





Level 3 - Terrace



light  
articulated voids

The University of Iowa Museum of Art is conceived as a rectilinear solid interrupted by interconnected voids that form the protective and respectful home for the display, conservation, and storage of the collection while providing light-filled, interconnected volumes that emotionally, visually, and physically guide patrons as they experience the Museum. The articulated voids provide exterior exhibition spaces, educational areas, and horizontal and vertical circulation pathways; all intertwined by a three-story, light-filled exterior gallery comprising the core of the Museum and permeating the entirety of the experience.

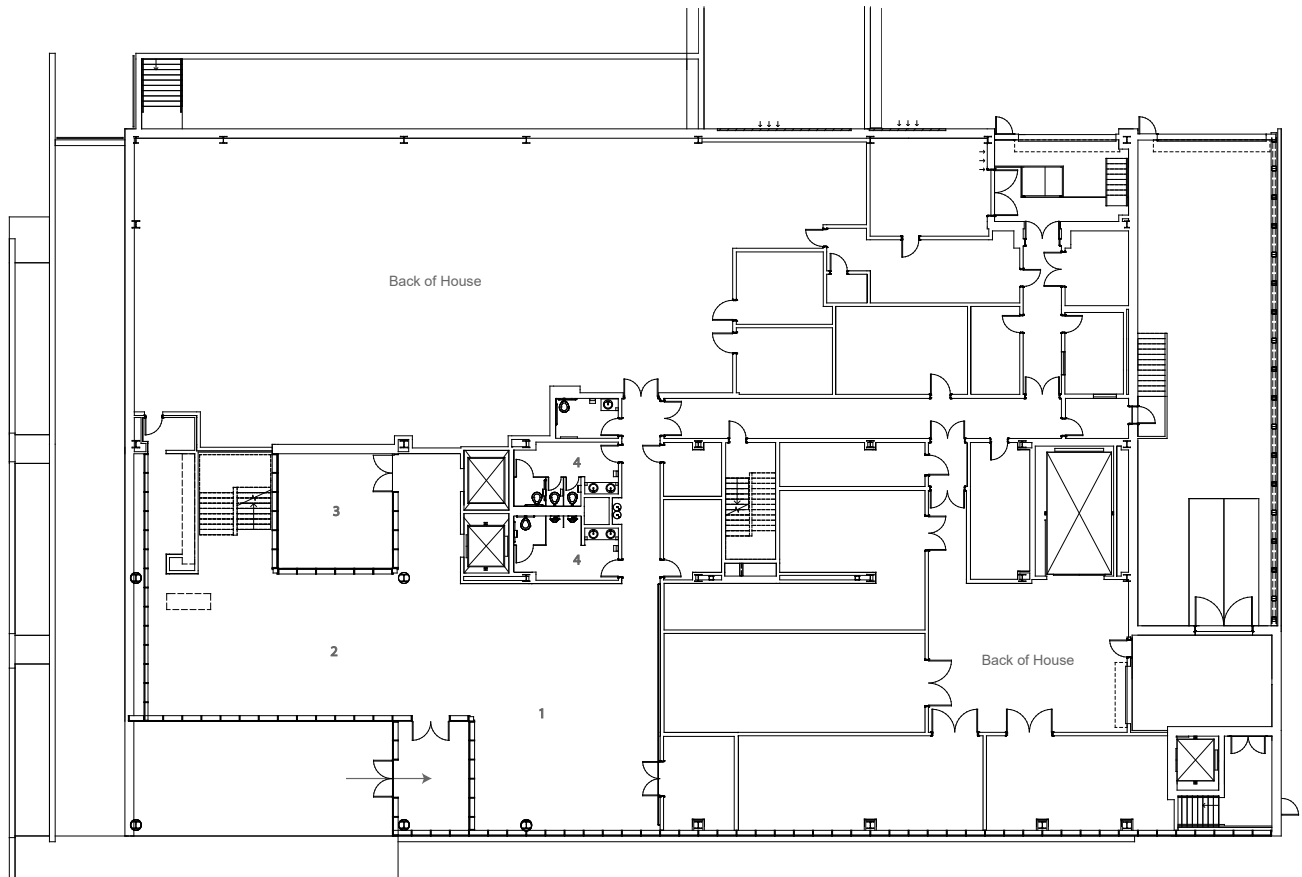
Recalling the timeless academic and cultural brick masonry buildings of Alvar Aalto, Louis Khan, and Eero and Eliel Saarinen, the exterior of the Museum is clad in brick masonry to complement the characteristics of neighboring structures, and to convey the importance of the timelessness and stability of the collection housed within.

Through a composition of alternating brick screens and textures that articulate the internal organization, the Museum façade becomes transformative and animated by the daily and seasonal changes in exterior daylight quality and quantity — creating oscillating levels of reflectance, shadow, and animation. A darker brick has been selected to contrast the predominantly red brick of the surrounding buildings and to clearly delineate the significance of the Museum in the hierarchy of buildings on campus while creating a meaningful dichotomy with the white-light-filled interiors and warm wood detailing.





**EAST - WEST BUILDING SECTION**  
through the courtyard

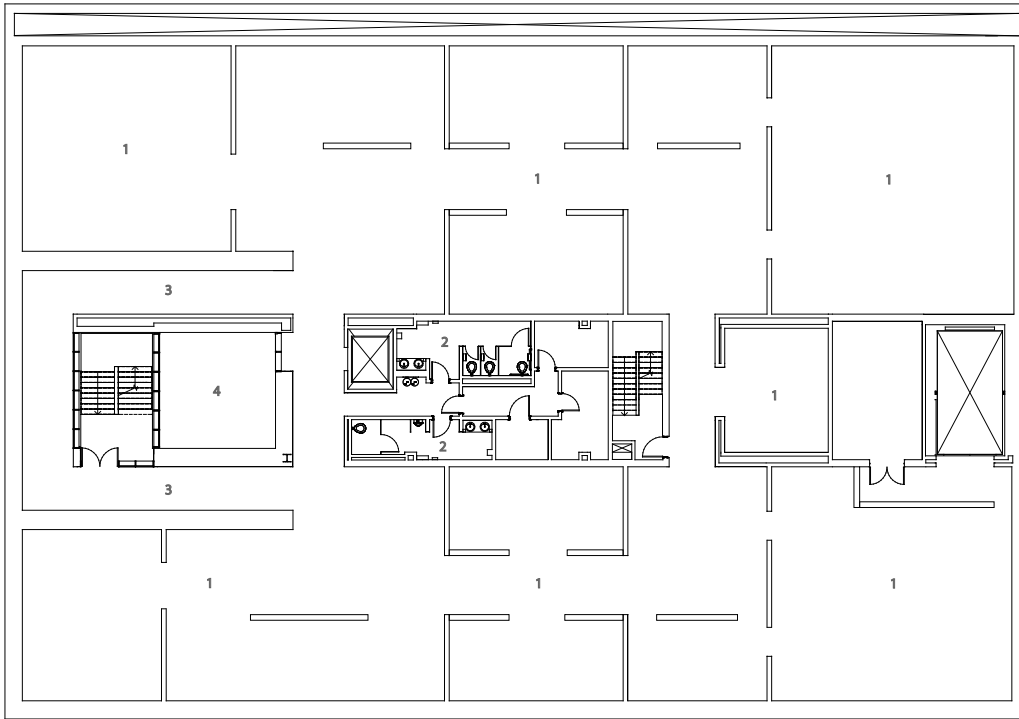


0 30'

#### LEVEL 1

- 1 Art Lounge
- 2 Welcome Desk
- 3 Courtyard
- 4 Restroom
- Back of House

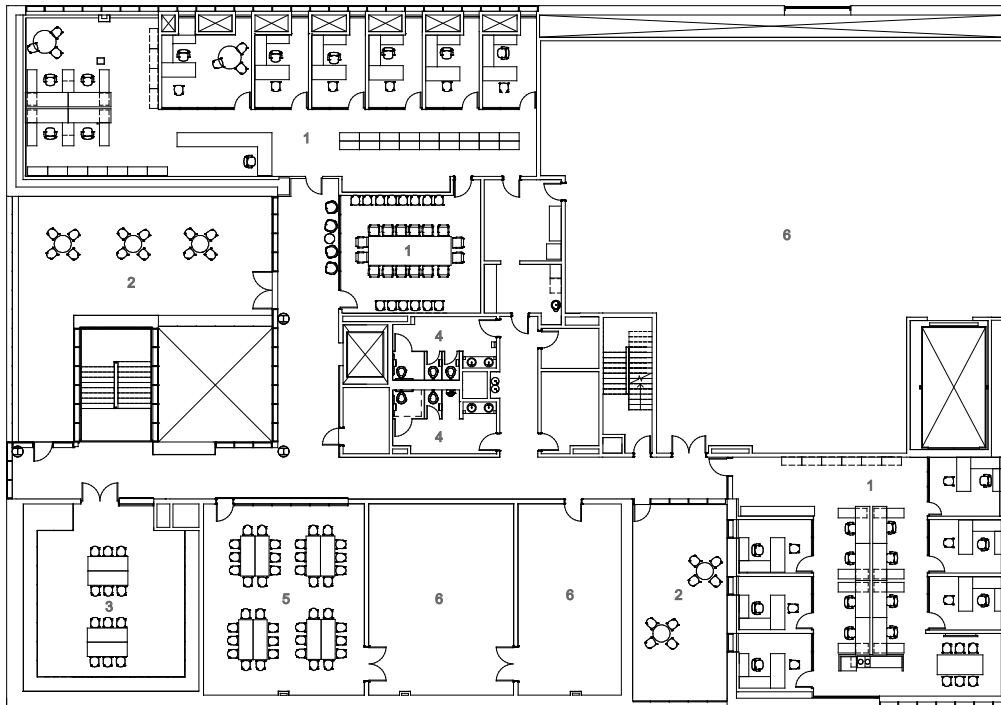




0 30'

#### LEVEL 2

- 1 Gallery Space
- 2 Restrooms
- 3 Visitor Storage
- 4 Light Well



0 30'

### LEVEL 3

- 1 Office
- 2 Terrace
- 3 Visitor Storage
- 4 Storage





1 Parking







# Fine Arts + Design Studios

JOHNSON COUNTY COMMUNITY COLLEGE  
OVERLAND PARK, KANSAS





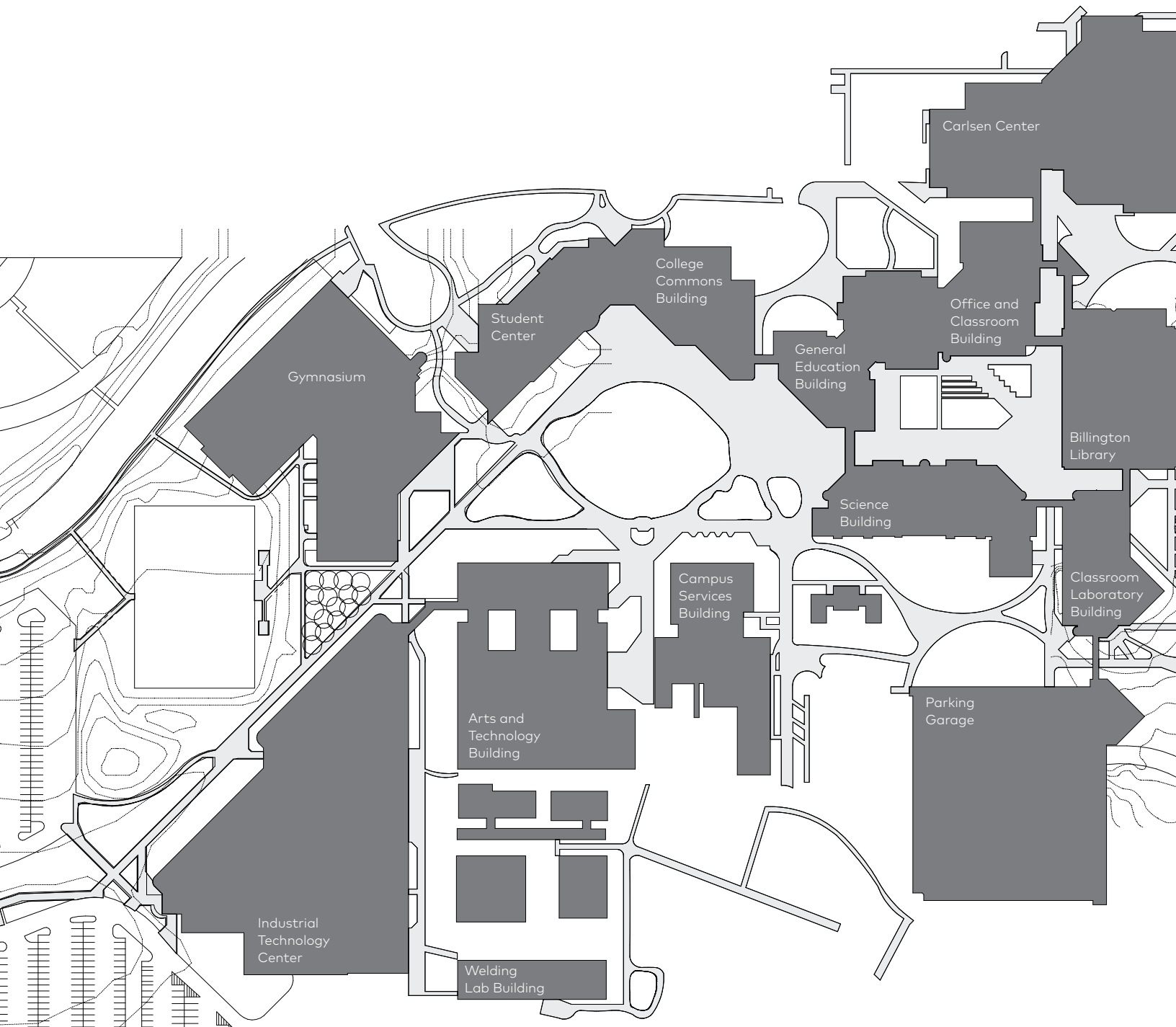


The new Fine Arts + Design Studios building at Johnson County Community College (JCCC) will bring together the following disciplines into a single, carefully crafted facility: graphic design, sculpture, ceramics, metals, painting, drawing, photography, and filmmaking. The building and its spaces will exemplify the notion of learning by doing, providing a framework for new synergies and enhanced collaboration across disciplines that are currently dispersed across campus.

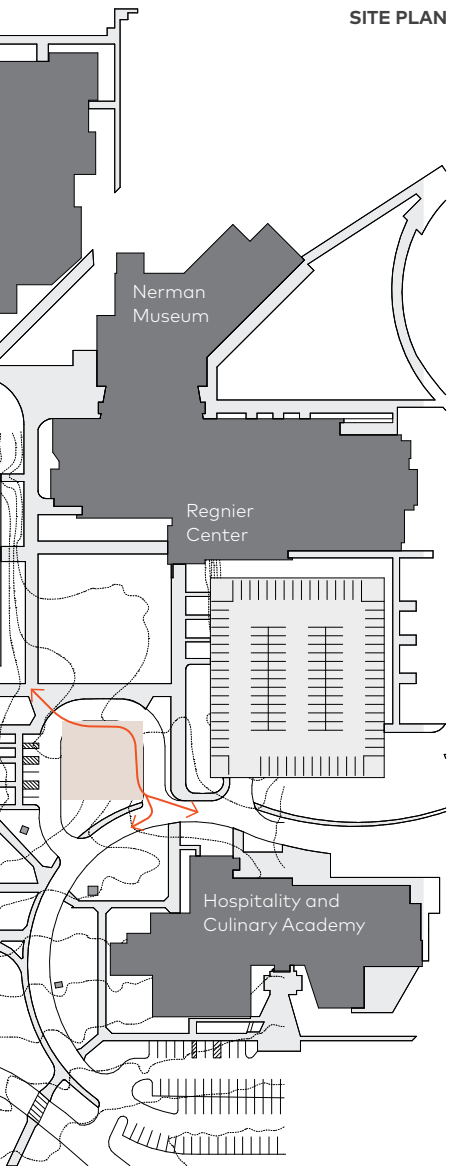
In addition to providing flexible and vibrant interior studios, the building is thoughtfully sited to provide intimately scaled exterior spaces for the creation and display of art, and integrate and strengthen campus connections. The building will also anchor a new arts neighborhood on campus with its adjacency to JCCC's successful Wylie Hospitality and Culinary Academy Building and the Nerman Museum of Contemporary Art.

The design of the Fine Arts + Design Studios project has included careful consideration of the building envelope, energy use, occupant health and well-being, building systems and connection to the surrounding campus. The project is currently on target to achieve a LEED V4 Silver rating. It is anticipated that the building will achieve a total energy savings of about 25% over the baseline case.

40,000 SF  
Completion in 2018







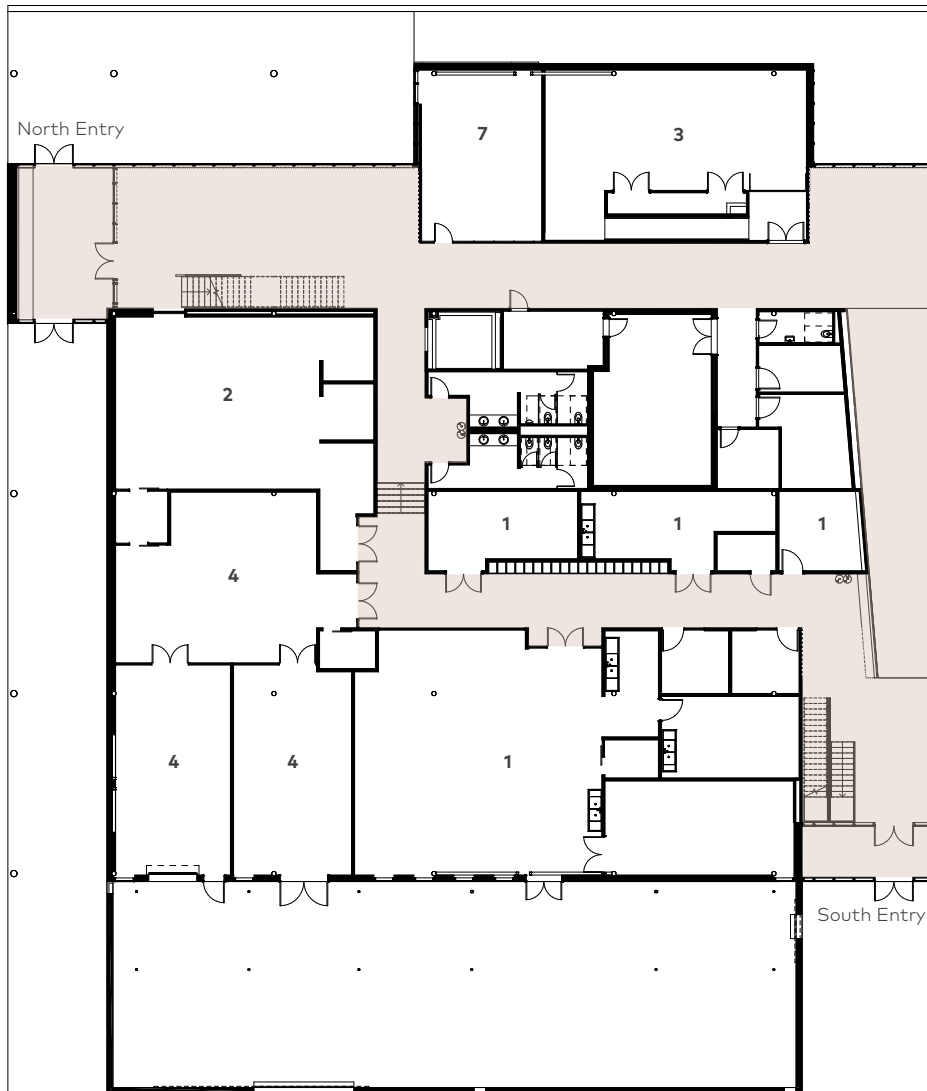
## Building as Gateway and Connector

The JCCC Fine Arts and Design building brings together art and design disciplines into a single facility on campus for enhanced collaboration across disciplines and greater synergy between Graphic Design and Fine Arts. It better integrates HCA (Hospitality and Culinary Academy) with the campus core.

The placement of building on site creates and frames intimately scaled exterior spaces for the creation and display of art and to strengthen campus connectivity. The building anchors a new arts neighborhood/district on campus with adjacency to HCA and the Nerman Museum of Contemporary Art drawing students, faculty, industry and the community.

The building provides flexible and vibrant maker spaces and supports various scales of work in light-filled teaching and learning environments.

The interior "street" serves as gallery/display, circulation, critique, gathering, instruction, mixing, etc. Project leverages every inch of the building for display and critique.



# FIRST FLOOR



- 1 Ceramics
- 2 Metalsmithing
- 3 Photo + Film
- 4 Sculpture

- 5 2D Arts
- 6 Graphic Design
- 7 Multi-Use Space
- 8 Student Production/Lounge
- 9 Crit/Gallery Space

Circulation through the building





SECOND FLOOR

### North Entry

Informally referred to by the project team as "the Street" this north entry and corridor which expands to the east facade and connects to the southeast entry will serve as gallery space for both 2D and 3D art to be displayed. Exterior walkways allow for the viewing of work from the outside in through full height glazing along "the street". The panelized expanded metal ceiling above provides an overhead canvas for hanging work while integrating a flexible track lighting system. The Mixed-Use space beyond is not dedicated to a specific department and can therefore be used for a variety of purposes such as formal gallery space, special exhibits, special project space, classroom, etc. It has fully operable glass walls that can be opened up for special events. The connecting stair with clerestory above filters natural light into the space. This is duplicated near the southeast entry as well.









### **Crit/Gallery Space**

Located on the second floor near the south connecting stair, this Crit/Gallery space is another area that is not dedicated to a specific department and, therefore, providing flexibility to the users. Both planned and spontaneous activities will take place here ranging from special exhibits, small group presentations, special projects, and classes.



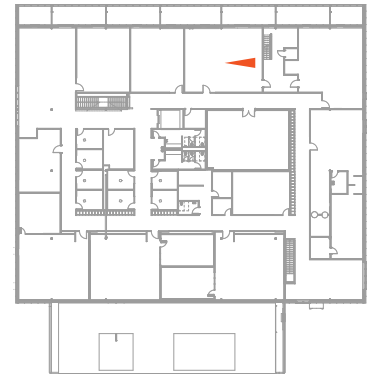


### **Student Production/Lounge**

This Student Production space and lounge will not only serve as a space to help students get their work done outside of class but will also encourage the cross-pollination of programs as a place to gather and retreat away of the classrooms and studios. Visibility to and collaboration with students from the various art and design programs is a critical project goal. This space provides access to network computers, art supplies and equipment, storage for work, vending machines, and a variety of postures ranging from comfortable seating to standing. This area is located near the connecting stair to the gallery space below with other amenities directly adjacent including Print Lab/Materials Check-Out, Library for shared resources, and staff and faculty offices. All the gypsum walls are constructed with plywood backing so that various art can be displayed throughout all public corridors. Natural daylight floods the space by way of clerestories and large windows.

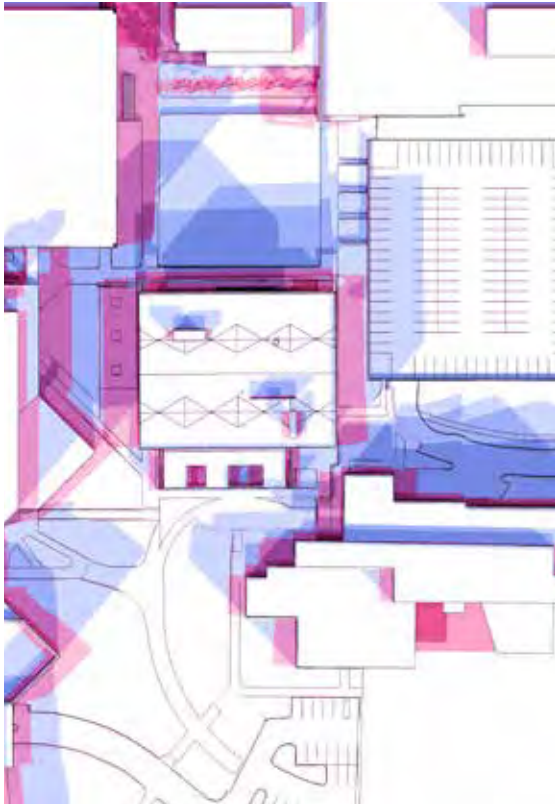






### Painting Studio

The Painting studio with optimal northern light, gallery walls, high ceilings, flexible lighting, open floor space, updated technology and various storage spaces will support the teaching of the arts. A specialized ventilation system is integrated into the walls to maintain healthy indoor air quality.



Summer and Winter Shade Overlays

Summer	Winter
9 am	9 am
12 am	12 am
3 am	3 am



Plant Typologies Based on Sun

Full Sun
Part Sun
Full Shade







## Landscape

The campus landscape at Johnson County Community College (JCCC) is similar to other community college landscapes in many ways, yet is also uniquely different. The gathering spaces between the academic buildings vary in scale, from large, more public courtyard spaces or amphitheater style spaces down to small, very intimate areas for personal study or reflection. All of these spaces, despite their scale, are enhanced by a lush, very diverse and comprehensive palette of plant material, unlike the majority of community college campuses. The landscape at the Fine Arts + Design Studios building will be no different, it will learn from its contextual surroundings and microclimate and establish unique landscape typologies that vary in function and style. There will be a large, minimal lawn area for active play, a shaded hardscape area for passive gathering and maybe most importantly, a sculpture garden, where large scale art pieces created by the students in the new academic building can be showcased, amid a dense ground plane of ornamental plantings. All of these plantings will be native, assisting in stormwater treatment and minimizing long term maintenance needs.













# School of Medicine Renovation

UNIVERSITY OF MISSOURI - KANSAS CITY  
KANSAS CITY, MISSOURI



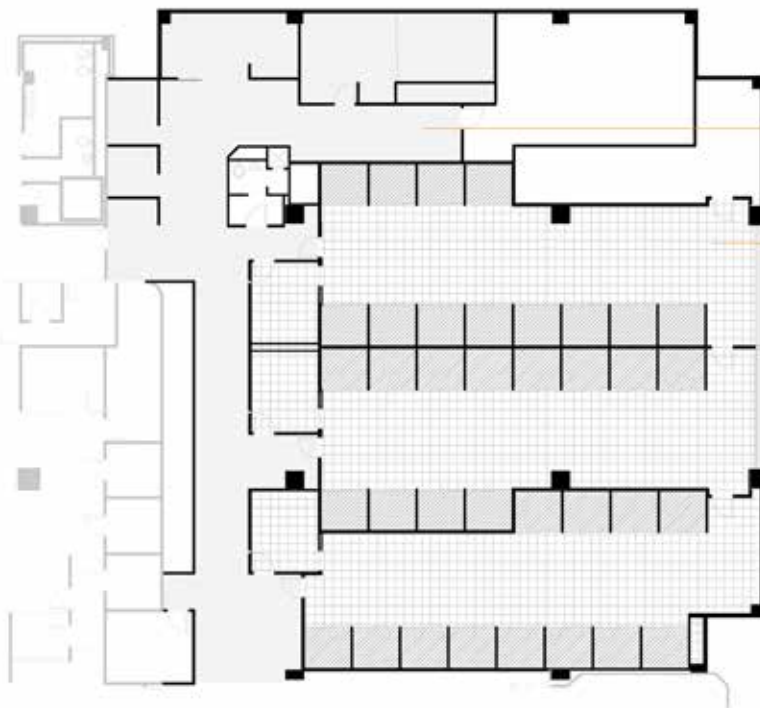




After completing programming and conceptual design services for the UMKC Hospital Hill Campus Health Sciences Education and Research Buildings, BNIM began a multi-phased renovation project on the 254,000 square foot School of Medicine building, scheduled to take place over the next several years. The first phase was comprised of approximately 11,000 square feet on the first and third floors. The primary program areas for the renovation were a Computer Test Lab and a prototypical design for a Docent Unit.

The Docent Unit design was developed as part of an overall planning study in creating 32 Docent Units on the third and fourth floors. This renovation provides four of those Docent Units, with the additional Units being constructed through future phases of renovation.

11,000 SF  
Completion in 2012



Shared Docent Support Space  
Purple Unit Student Space  
Workroom / Mailboxes  
Break Room / Lounge Space

Docent Unit  
Docent Office  
Student Office  
Student Unit Space



0 12'











# University of Iowa Informatics Initiative (UI<sup>3</sup>)

UNIVERSITY OF IOWA  
IOWA CITY, IOWA

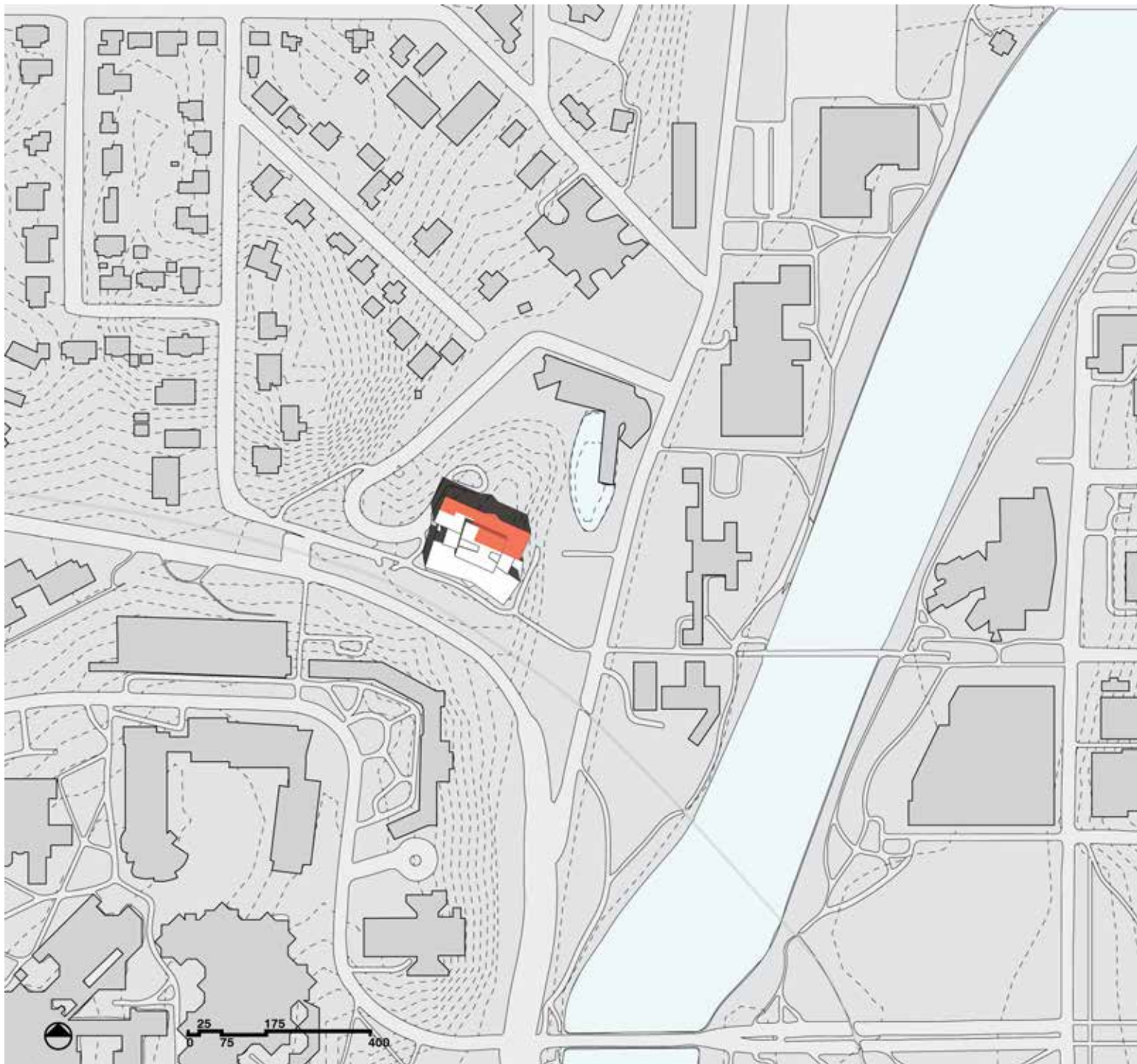




The University of Iowa introduced a campus-wide initiative designed to foster collaborations and cultivate research opportunities across disciplines. The initiative joins the computational discipline with the humanities, arts, natural, biological, health, and social sciences to identify and resolve current issues. Researchers and faculty who work within these different disciplines needed a place that would allow them to connect and collaborate, to work together, and to work privately.

The University of Iowa Informatics Initiative (UI<sup>3</sup>) creates a physical and intellectual home for the initiative within existing building shell space at the university. Establishing a culture and identity for this new collaboration was an important goal of the project. While the individuals who are part of the program are dispersed across campus, a common ground is found in the work they do. By offering a rich variety of functional opportunities, the design ensures users are attracted to the space and utilize it regularly, regardless of where their departments are located. The space draws together these individuals, who share a common pursuit, creating opportunities that lead to academic collaborations and innovations.

11,913 SF  
Completion in 2016







During the programming process, BNIM and the University of Iowa determined that people – and the connections between them – were the most important element that a space can offer. The design was shaped by organizing a spectrum of spaces to support various modes of work, optimize interactions, interweave relationships, and promote visual connections while respecting appropriate levels of privacy. The diverse disciplines and backgrounds within the initiative necessitated a single unifying element. Design cues were drawn from genetics – a human data element and common thread that binds these disciplines together. Visual connections through and across the entire space inspire curiosity and promote engagement.

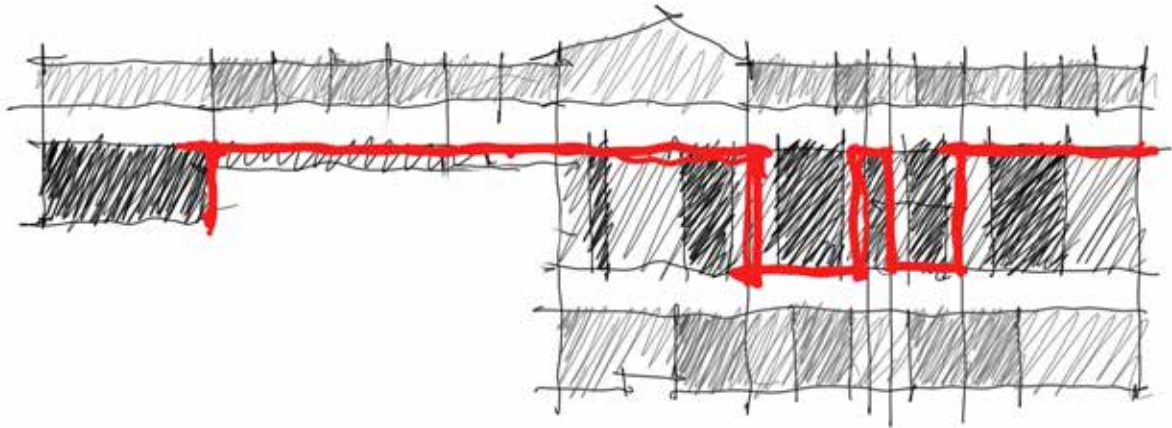
Bent linear ribbons, inspired by the graphic linearity of human genome mapping and the ribbon-like structure of DNA, serve as a spatial organizing device. This unifier was interpreted in various scales, from the organization of spaces united by contiguous bands, to surface treatment such as glazing frit patterns. The frit pattern, which provides privacy and writable space at key areas, was based on the pattern of the human genome and developed using digital algorithms. Within the pattern itself the coded message can be found, revealing the name of the initiative. This series of consistent gestures at various levels and scales establishes and reinforces a sense of place and identity unique to the program.

A central core of collaboration rooms spans east-west in the space, woven together with a series of bent wood ribbons. Secondary ribbons rendered in white capture and organize smaller scale collaboration and focused workspaces adjacent to those contained by the central spine. These spaces take advantage of their proximity with connectivity to the central spine as well as views to the exterior.

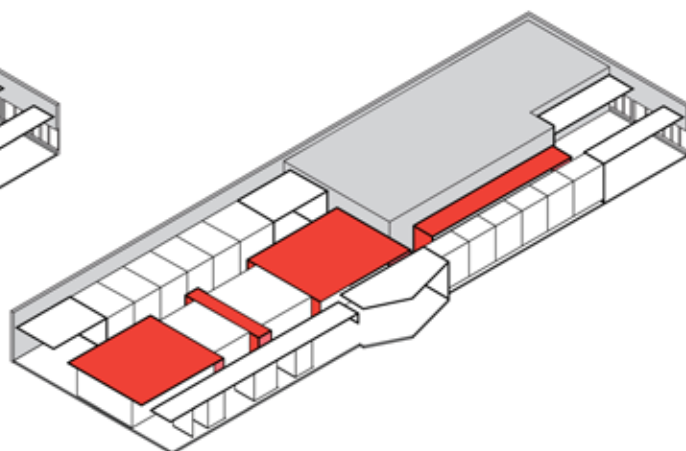
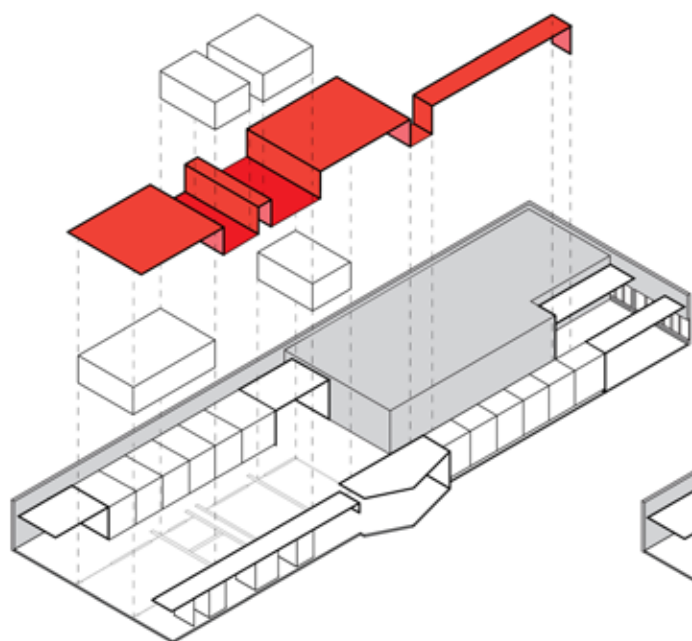












EXISTING    TENANT FIT OUT

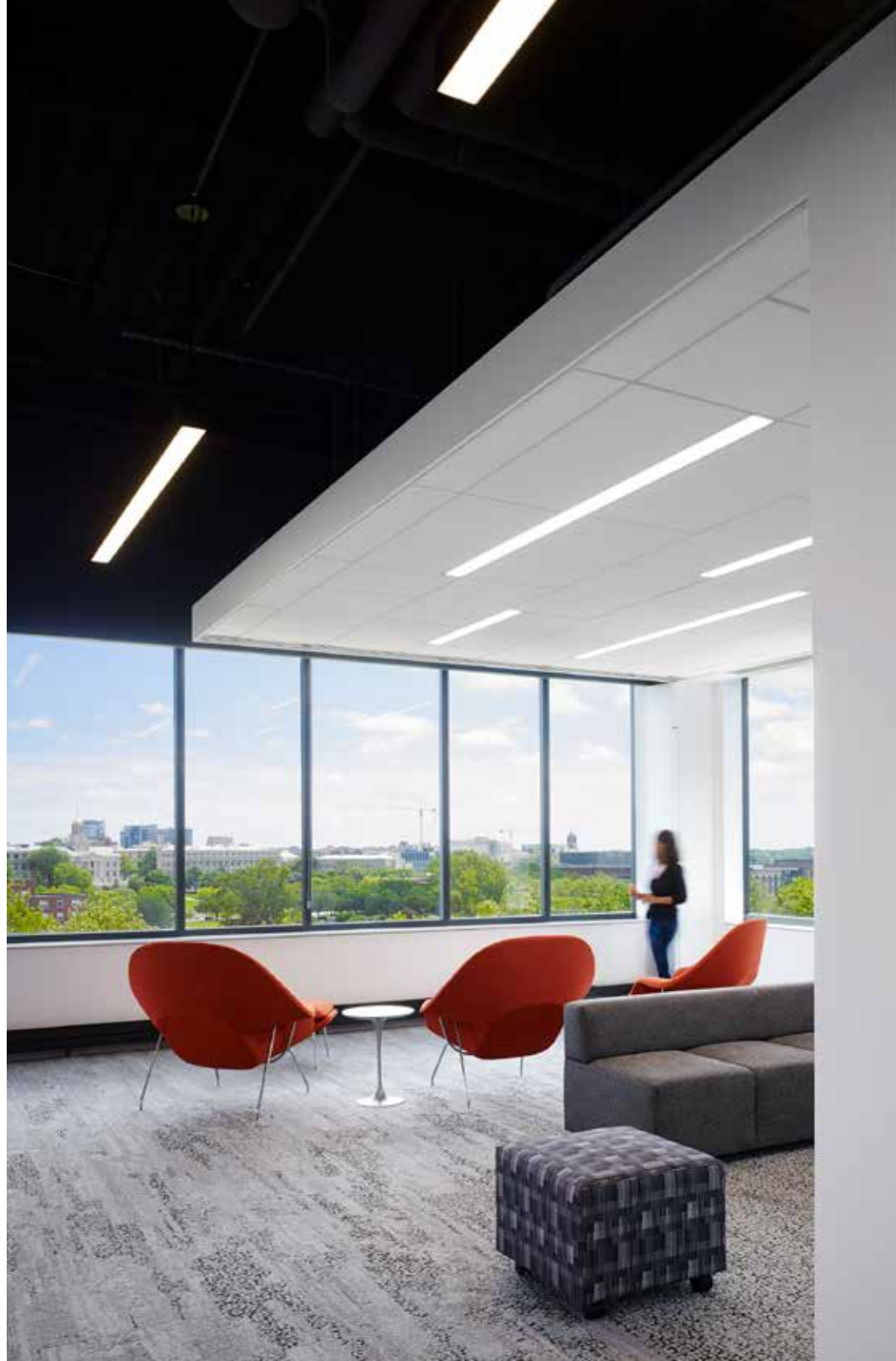
























## AWARDS

2017 IIDA Mid-America Design Awards  
Gold Award, Higher Education, Research

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"Working with BNIM was great. They were very collaborative and worked with us to help us better define our needs and vision, and then they came up with a wonderful design. We wanted to create a space that would help us bring the Informatics community together — from all corners of the University, from art to medicine — to foster collaborations, scholarship, and training."

## GREGORY CARMICHAEL

Director  
University of Iowa Informatics Initiative

# Psychological and Brain Sciences Building

UNIVERSITY OF IOWA  
IOWA CITY, IOWA







The Department of Psychological and Brain Sciences has grown into the University of Iowa's largest undergraduate department, but it was housed in three separate buildings on campus. These buildings could no longer support the department's growth, both in students and faculty, nor did it provide adequate space for research.

The new Psychological and Brain Sciences building will be the new front door to the department and a gateway to the east side of campus. It will include flexible classrooms and cutting-edge labs for human research. Spaces for collaboration and interaction are strategically located throughout the building.

66,470 SF  
Estimated Completion Spring 2018



The building contains spaces on the lower and ground levels, including a student learning commons, with generous natural daylight and views to the street. On the second floor, there will be office space for the department's faculty, and the third through sixth floors contain laboratories, collaboration space, and offices.


















EUI = 50.3

**28%**

BETTER THAN UTILITY  
BASELINE PROTOCOL







# College of Nursing Building Modifications

UNIVERSITY OF IOWA  
IOWA CITY, IOWA





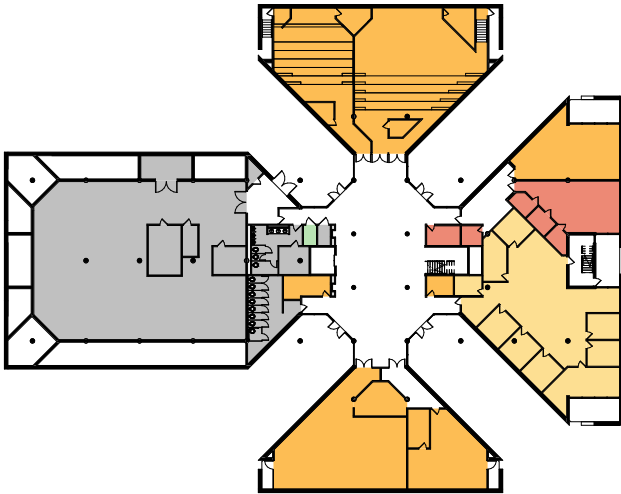


Due to emerging trends in healthcare and the critical role that nurses serve in patient-centered care, the College of Nursing at the University of Iowa — a highly regarded provider of nursing education in the region — expanded enrollment for its nurse practitioner programs.

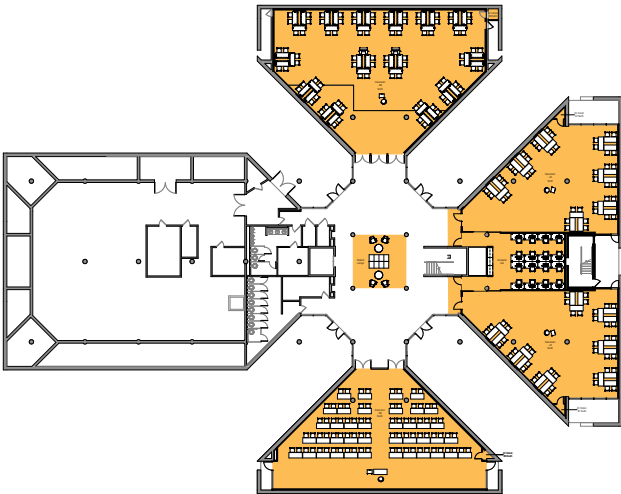
The modifications to the building will enable the College to address the needs they foresaw for updated technology and state-of-the-art facilities, while also adapting to current pedagogical methods that emphasize active student learning. The renovation will address numerous issues, including: space quality, program adjacency, accessible technology, equipment requirements, and much-needed student commons space. It will also include completely new several hybrid learning interactive classrooms.

85,000 SF  
Completion 2019

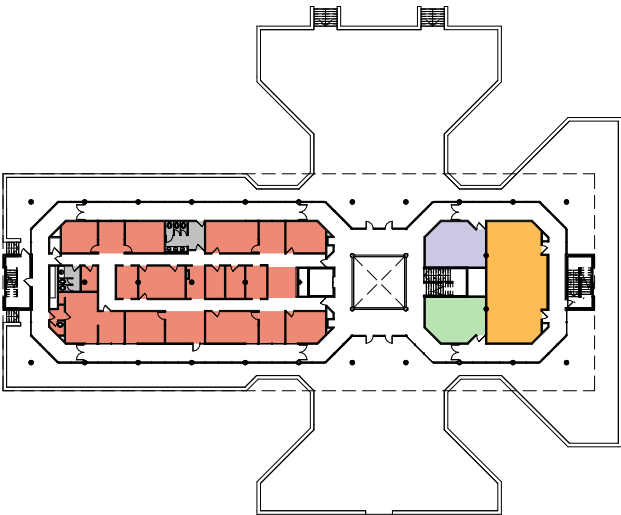




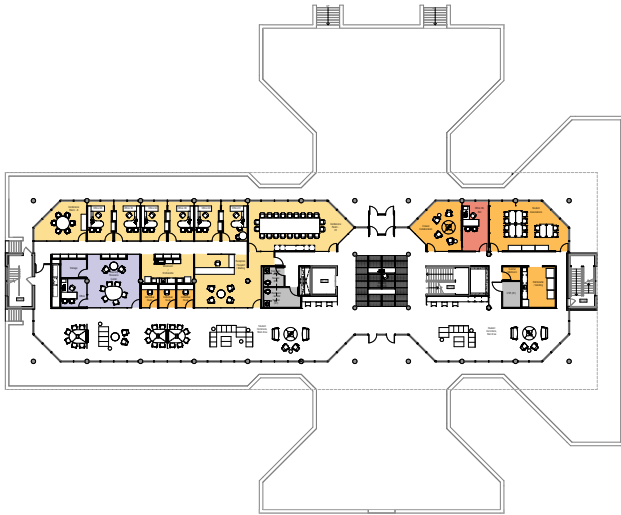
GROUND LEVEL - EXISTING DEPARTMENT PLAN



GROUND LEVEL - PROPOSED PLAN



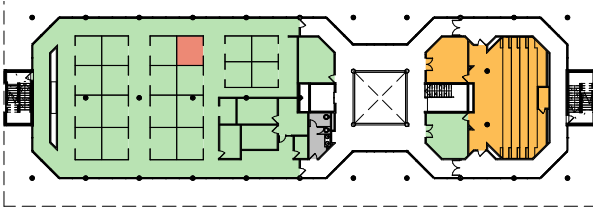
LEVEL 1 - EXISTING DEPARTMENT PLAN



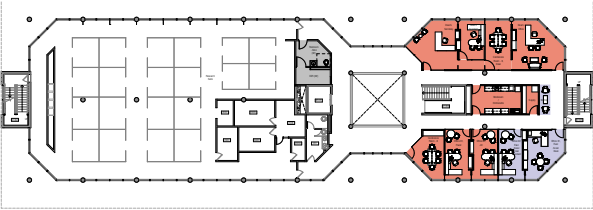
LEVEL 1 - PROPOSED PLAN

- Administration
- Student Services
- General Use
- Research
- NCEC
- Academics
- Centers
- Faculty Services
- Teaching Services
- Building Support

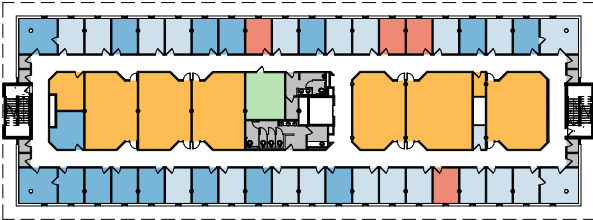




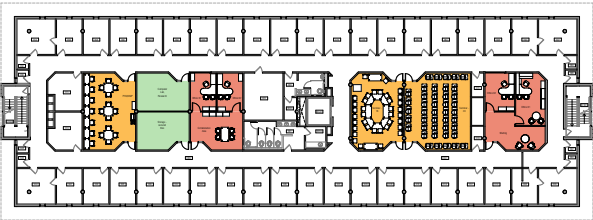
LEVEL 3 - EXISTING DEPARTMENT PLAN



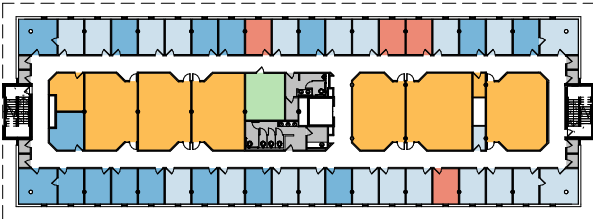
LEVEL 3 - PROPOSED PLAN



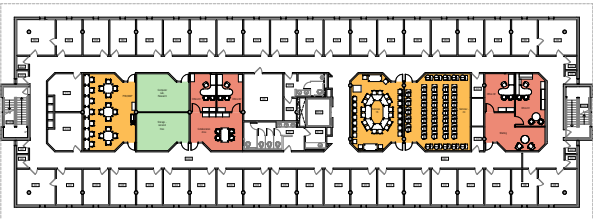
LEVEL 4 - EXISTING DEPARTMENT PLAN



LEVEL 4 - PROPOSED PLAN



LEVEL 5 - EXISTING DEPARTMENT PLAN



LEVEL 5 - PROPOSED PLAN

# Bloch Executive Hall

UNIVERSITY OF MISSOURI - KANSAS CITY  
MISSOURI





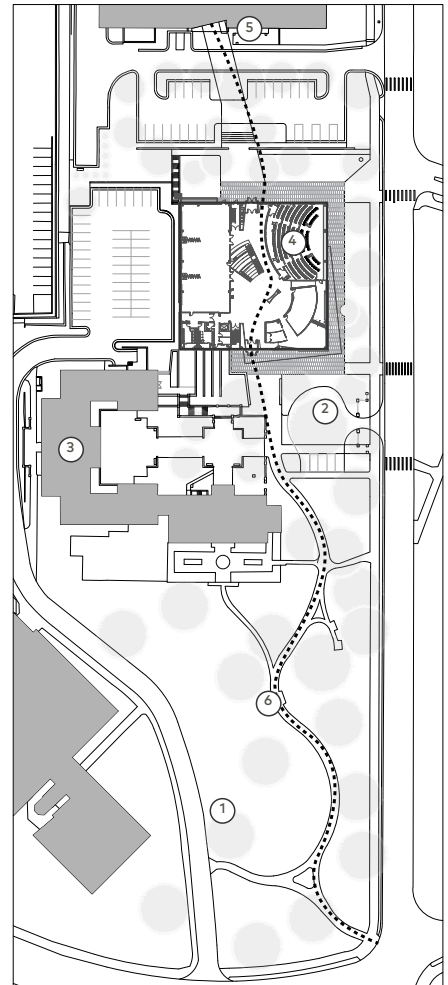
Entrepreneurship and Innovation is designed for high levels of collaboration between students and faculty in a variety of active learning classrooms, similar to the interdisciplinary collaboration within health sciences facilities. The building serves as a social hub for students on campus, providing new spaces for increased student population, the specialized needs of entrepreneurial education programs, and growing executive education programs. Its design is intentionally simple and elegant. It includes a 200-seat auditorium, multiple flexible- and active learning classrooms, seminar rooms, a finance lab, faculty offices, and prototyping and business incubator spaces. The upper three floors are connected by an open, light-filled lobby that includes an amphitheater.

With Moore Ruble Yudell

68,000 SF  
Completion in 2013  
LEED Gold Certified

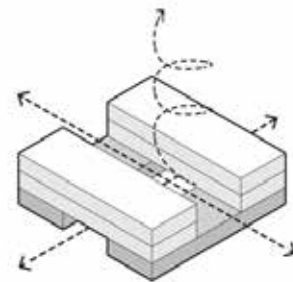


- 1 Marion H. Bloch Park
- 2 Bloch School Courtyard
- 3 Henry W. Bloch School
- 4 Henry W. Bloch Executive Hall
- 5 Student Union
- 6 Entrepreneur's Hall of Fame / Path of Innovation

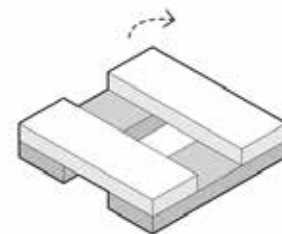




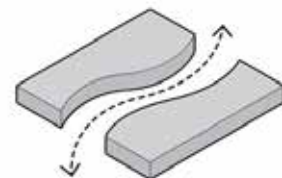




spatial connections

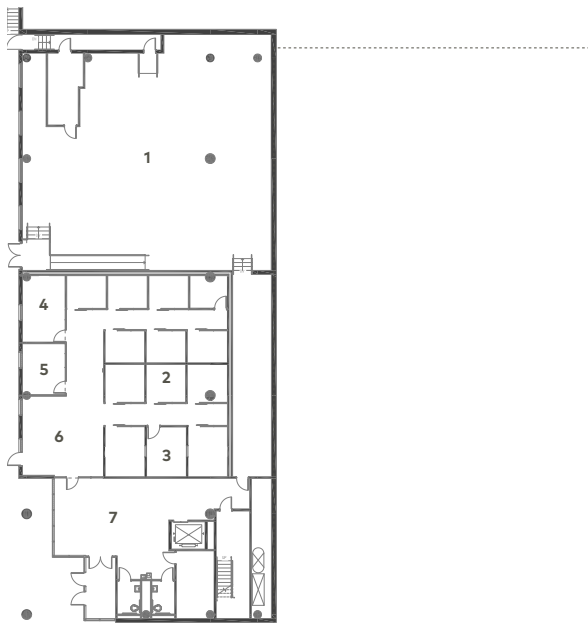


solar orientation

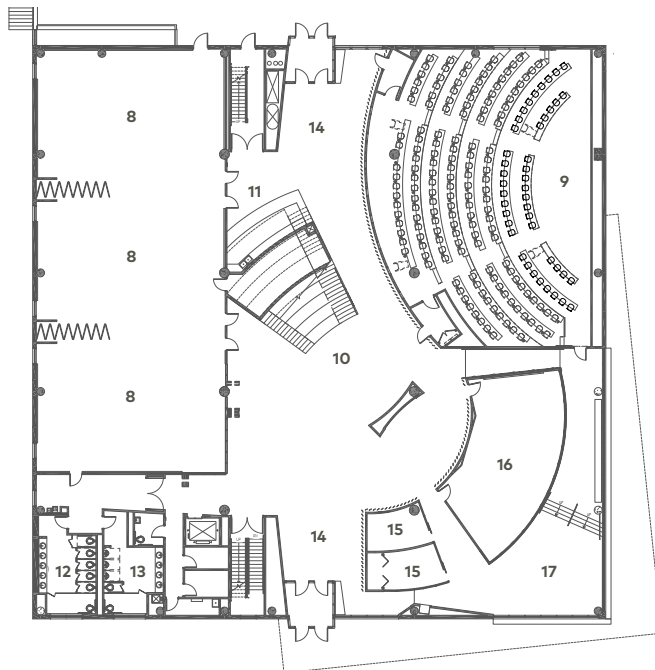


path of innovation

Level One connects with Level One of the existing Bloch School and has a west-facing, grade-level entry providing convenient access to the largest parking area of the Bloch School. This floor houses lobby space, the behavioral research lab and building support spaces for mechanical and other uses.



The main entries are on Level Two, which houses a 200-seat auditorium, three active learning classrooms, a finance lab, small group study rooms and informal student study areas. The spaces are organized along a north-south axial lobby space. At the center of the building is an amphitheater connecting the three main levels of the building with a light-filled, three-story lobby.





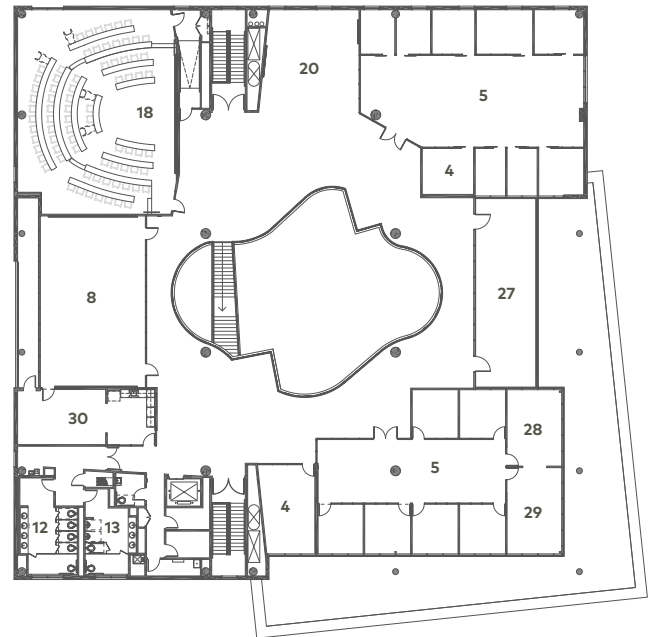
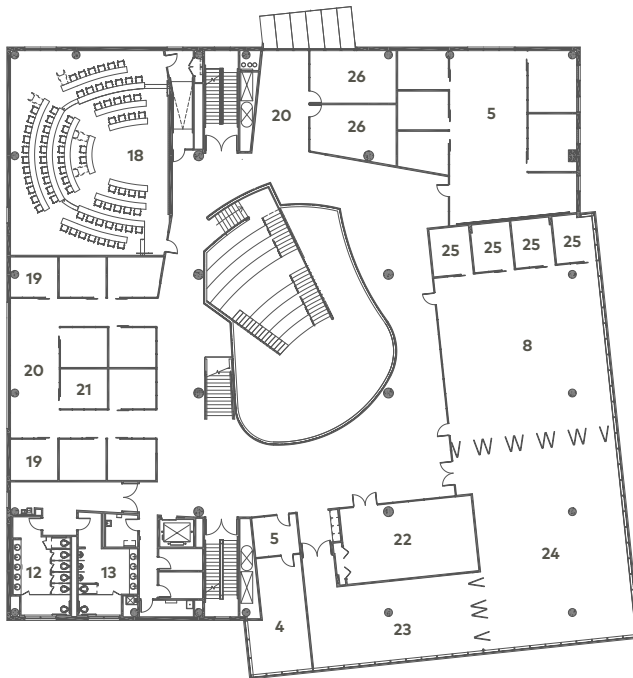
0 20 40 60 FT



- |                             |                 |                              |
|-----------------------------|-----------------|------------------------------|
| 1 Mechanical Room           | 9 Auditorium    | 20 Open Teaming              |
| 2 Individual Research       | 10 Amphitheater | 21 Venture Accelerators      |
| 3 Team Research             | 11 Cafe         | 22 Prototyping               |
| 4 Conference                | 12 Womens       | 23 Brainstorming             |
| 5 Office                    | 13 Mens         | 24 Design-led Innovation Lab |
| 6 Research Assistants       | 14 Atrium       | 25 Break-out                 |
| 7 Lobby                     | 15 Group Study  | 26 Seminar                   |
| 8 Active Learning Classroom | 16 Finance Lab  | 27 Rooftop Patio             |
| 9 Executive Mentor          | 17 Quiet Study  | 28 Dean's Conference         |

The Institute for Entrepreneurship and Innovation is the primary occupant of Level Three. The spaces include the Design-Led Innovation Lab, one 60-seat active learning classroom, an 80-seat tiered classroom, small group study rooms and institute offices wrapped around central lobby space.

Level Four will house a second 80-person tiered classroom, the remaining active learning classroom/boardroom, small group meeting/office rooms for departmental use and the dean's suite. There is also a roof garden that opens to the central lobby space and serves the entire building for small group study, relaxation and special events.











encourage wild ideas  
judgment dream big  
quantity the visual  
small bets build on  
of others stay focused  
the topic think global  
conversation









**HENRY W. BLOCH EXECUTIVE HALL**  
for Entrepreneurship and Innovation









## **AWARDS**

2015 IIDA Mid America  
Mid-America Design Awards - Silver Award -  
Higher Education

2014 Precast/Prestressed Concrete Institute (PCI)  
Best Higher Education/University Building

2014 Precast/Prestressed Concrete Institute (PCI)  
The Harry H Edwards Industry Advancement Award

2014 AIA Kansas City  
Merit Award, Excellence in Architecture

2014 AIA Kansas  
Excellence in Architecture Merit Award

2013 Precast/Prestressed Concrete Institute (PCI)  
Honorable Mention

2013 Design-Build Institute of America (DBIA)  
Mid-America Regional Award

2013 Concrete Promotional Group (CPG)  
Excellence in Concrete Award – High Rise

2013 AIA Kansas City  
Citation Award – Architecture

2013 Southtown Beautification Award



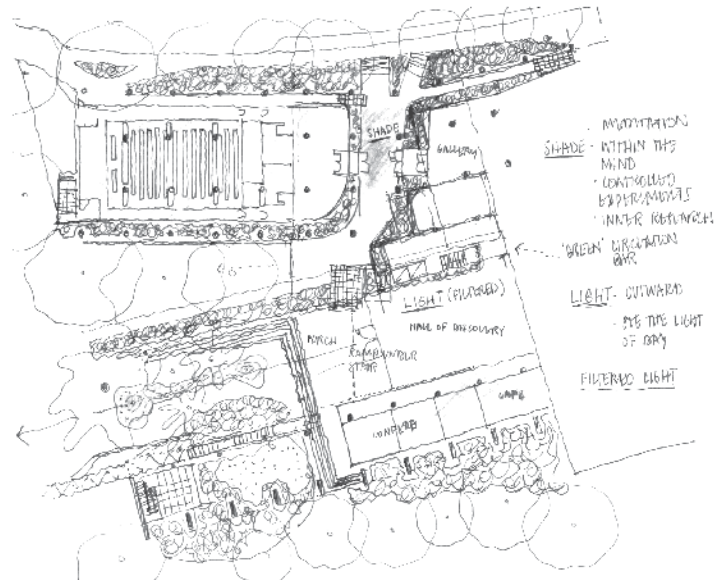
# Fayez S. Sarofim Research Building

THE UNIVERSITY OF TEXAS  
HEALTH SCIENCE CENTER AT HOUSTON  
HOUSTON, TEXAS



The Faye S. Sarofim Research Building, home of the Brown Foundation Institute of Molecular Medicine, is a comprehensive research facility on a tight urban site within the Texas Medical Center campus. This facility is designed to support research collaboration in the area of molecular medicine, particularly in genetics and proteomics and bioinformatics. The Sarofim Research Building houses dry and wet laboratories, offices, conferencing areas, a 200-seat assembly facility, and appropriate support spaces. The design creates a dynamic, interactive environment conducive to research and learning on multiple levels. From the relationship with the outdoors, to the architecture of the building, to the interior spaces, the approach considers form and function holistically, promoting the productivity and well-being of users.

229,250 SF  
Completion in 2005





The building incorporates sustainable design strategies at many scales. Building orientation allows optimum penetration and control of natural light in relationship to the differing programmatic elements of flexible laboratory space, support laboratories, office and common areas. The separation of office and lab elements enabled the environmental control system to capture and reuse energy that would normally have been wasted. The reinforced concrete column and slab structure employs high fly ash concrete thus reducing the upstream environmental impact of the building. The building also has a specialized facade design that responds to the Houston climate.





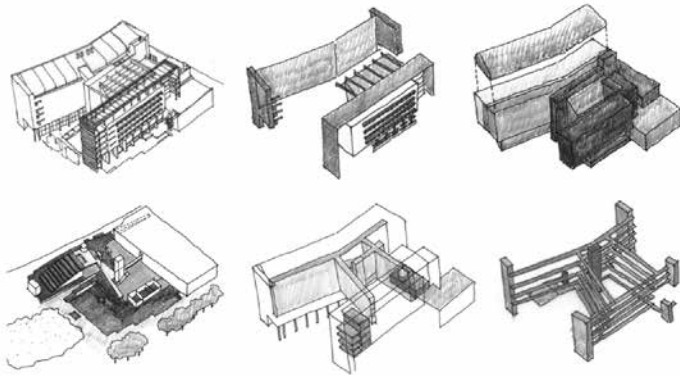










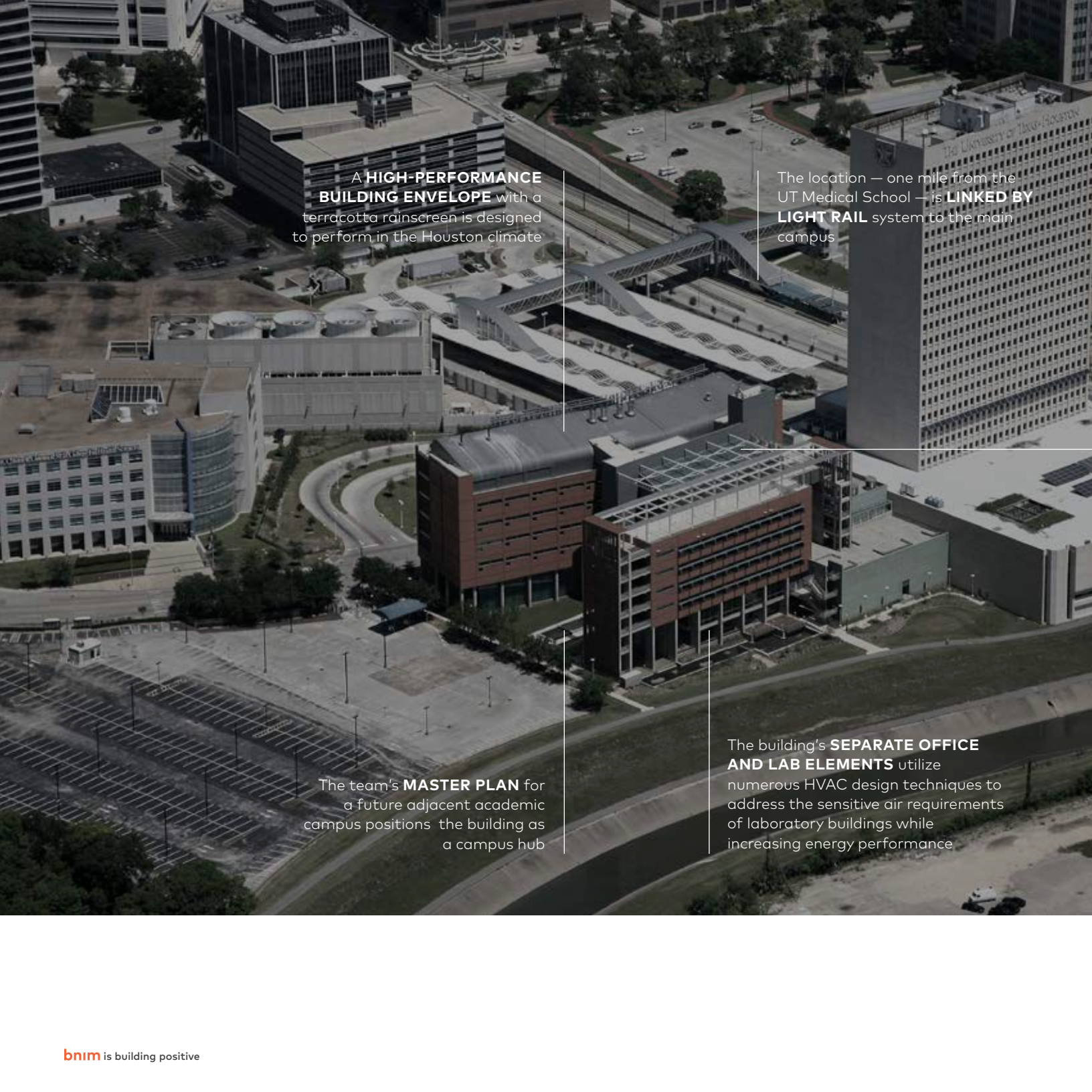


The approach to the design was based on three underlying principles: place, collaboration and sustainability. The design focuses on creating a dynamic, interactive environment conducive to research and learning on multiple levels. The building is a composition of separate functional "species". Each species is designed as a unique typology fulfilling the specific needs of its function and use. These separate building elements are then connected by an atrium and circulation spaces. Distinction between the interior and exterior is blurred by the continuation of materials throughout.









A **HIGH-PERFORMANCE BUILDING ENVELOPE** with a terracotta rainscreen is designed to perform in the Houston climate

The location — one mile from the UT Medical School — is **LINKED BY LIGHT RAIL** system to the main campus

The team's **MASTER PLAN** for a future adjacent academic campus positions the building as a campus hub

The building's **SEPARATE OFFICE AND LAB ELEMENTS** utilize numerous HVAC design techniques to address the sensitive air requirements of laboratory buildings while increasing energy performance





A **CENTRAL  
ATRIUM**  
encourages  
informal interaction  
and provides  
an important  
community heart

## SUSTAINABLE / NOTABLE FEATURES

- 229,250 SF facility
- 101,000 SF Laboratory Space
- 22,367 SF Offices, Support
- Prominent site along Bray's Bayou in the Texas Medical Center
- Recipient of 9 Design Awards
- Designed to LEED Standards
- Conceived as a 100-year building
- Building orientation allows optimum penetration and control of natural light
- The building envelope is a terra cotta rain screen — a pressure-balanced system that reduces moisture penetration
- The reinforced concrete structure employs high fly ash concrete reducing the upstream environmental impact of the building
- The concept for this building is an "academic village" where a community of researchers, faculty, and students are engaged together in biomedical research and study
- Unique two-bar design that separates laboratory and office functions in to separate wings for energy optimization and promoting interdisciplinary collaboration
- Apex of two bar design enables informal exchange
- The Sarofim building was conceived as an organism with discrete parts or species. Each species is designed for individual functions with appropriate spatial configuration, mechanical system, lighting, furnishings, and other qualities to ensure the highest levels of health, comfort, productivity and innovation
- The Sarofim building houses dry and wet laboratories, offices, conferencing areas, a 200-seat assembly facility, vivarium and appropriate support spaces
- This facility is at once both an entire community to itself, complete with a sense of place, and an anchor for inviting future development within the planned campus
- The building is designed for long term flexibility, accommodating program changes and varying research parameters over time
- Lab spaces are open with custom designed overhead carriers to provide ventilation and a movable wall system to provide physical separation as needed
- Houses the IMM's 10 research centers: Human Genetics, Cardiovascular Genetics, Diabetes and Obesity, Cell Signaling, Neurodegenerative Diseases, Stem Cells, Immunology and Autoimmune Diseases, Proteomics and Systems Biology, Molecular Imaging, Senator Lloyd Bentsen and B.A. Bentsen Center for Stroke Research



"The community has embraced the building as an ideal spot to host events and lectures. The water feature has been the greatest 'discovery' for many within the building and within the TMC campus. The south decks are now a daily place of interaction for staff during breaks."

**IRMA GIGLI, MD**

Director Emeritus, Brown foundation Institute of Molecular Medicine











## AWARDS

2007 Merit Award, Architecture  
AIA Kansas

2007 Honor Award  
AIA Houston

2007 Texas Society of Architects  
Honor Award

2007 Design Award, Smooth Metal Walls  
Metal Architecture

2006 Texas Construction Magazine  
Best of Higher Education Award

2006 Merit Award  
AIA Kansas City

2006 Merit Award, Architecture  
AIA Central States Region

2005 Merit Award, Unbuilt  
AIA Houston

2004 Excellence in Architecture, Unbuilt  
AIA Kansas

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"The building is a tremendous asset in the recruiting process. With BNIM's leadership we were able to achieve a new paradigm for collaborative science and research."

### IRMA GIGLI, MD

Director Emeritus, Brown foundation Institute  
of Molecular Medicine



# FASTER Feasibility Study and Programming

KANSAS STATE UNIVERSITY  
MANHATTAN, KANSAS







This comprehensive master planning and programming study evaluated over 1.1M SF of existing facilities. BNIM worked with 11 departmental groups to create a phased concept design with the overall goal to elevate the College of Agriculture from a top 20 program into the top 5 national ranking. The study identified additional space needs for research, teaching, offices, and greenhouses. The proposed expansion of facilities will be addressed by building two new buildings, a set of three new greenhouses, and renovating existing research and teaching space to provide opportunities for contemporary models of research, teaching, and collaboration.

385,000 SF  
Completion in 2015 (study)











An aerial architectural rendering of a proposed health sciences campus. The image shows several large, modern buildings with flat roofs and extensive glass facades, interconnected by skybridges. The campus is surrounded by green spaces, trees, and parking areas. The style is a colorful, illustrative sketch. The text 'Hospital Hill Health Sciences Education & Research Planning Study' is overlaid in the upper left corner.

# Hospital Hill Health Sciences Education & Research Planning Study

UNIVERSITY OF MISSOURI - KANSAS CITY  
KANSAS CITY, MISSOURI





The project site is very unique in its location, character, topography and relationship to the future campus growth. The campus master plan study was conducted to inform the new building organization on the site to balance functionality, energy efficiency, daylighting and campus design. The fundamental planning approach is one that is intended to result in buildings and outdoor spaces that are ideally suited to the climate and environmental conditions and make strong connections to existing and future neighboring buildings.

The team worked with the University's project committee to finalize the study that includes exploring the programmatic needs for all space types, the appropriate placement of spaces within the buildings, phasing concepts, circulation concepts, benchmarking of similar institutions, classroom utilization and the project cost profile.

663,000 SF  
Completion in 2010





# School of Nursing and Student Community Center

THE UNIVERSITY OF TEXAS  
HEALTH SCIENCE CENTER AT HOUSTON  
HOUSTON, TEXAS





As one of the premier teaching institutions for health-related professions in Houston, the University of Texas Health Science Center identified a critical need: create an environment that speaks to living health-centered lives and also creates a connection between the Health Science Center campus and the Texas Medical Center.

The School of Nursing and Student Community Center was designed to integrate seamlessly with its site and impart a sense of place that would become a heart for the campus. It utilized a holistic design approach to serve as a pedagogical model of wellness, comfort, flexibility, environmental stewardship, and fiscal responsibility. The building includes approximately 20,000 square feet of state-of-the-art classrooms, a 200-seat auditorium, cafe and dining room, bookstore, student lounge, student government offices, research laboratory, and faculty offices.

With Lake|Flato

195,000 SF  
Completion in 2005  
LEED Gold certified



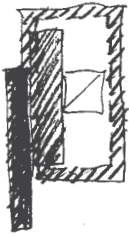
The School of Nursing utilized a holistic design approach that unites façade design, building systems, resource conservation and materials reclamation in creation of a high-performing, integrated educational and academic workplace facility. The strategies have a quantifiable return on investment: the annual purchased utilities cost for the School of Nursing is approximately 60% less than comparable buildings on the campus. In addition, rainwater storage tanks capture approximately 826,140 gallons of rainwater or "grey" water (non-potable water) per year fulfilling the estimated 42,000 gallons needed each month for toilet flushing and irrigation. Because of the limits of the available site, the building is oriented with its long axis in a north-south direction. A breezeway connection—a two story open air space carved from the lower levels of the building—runs east to west allowing the entrance and the main public spaces to be oriented toward Fay Park. Each façade of the building was designed with unique fenestration and sun screening strategies, all of which were computer modeled by BNIM to maximize building performance.







SCHOOL OF NURSING & STUDENT COMMUNITY CENTER



CIRCULATION



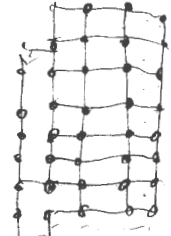
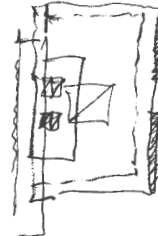
DAYLIGHT



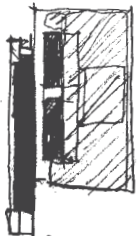
TYPICAL OFFICE FLOOR  
NEIGHBORHOODS



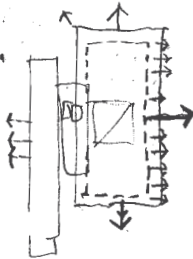
TYPICAL FLOOR  
COMMONS



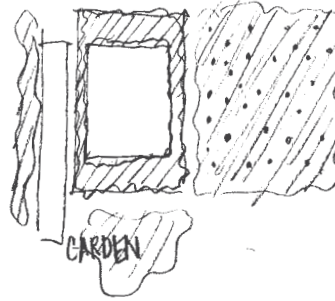
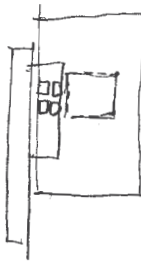
STRUCTURE (40 COLUMNS/  
TREES)



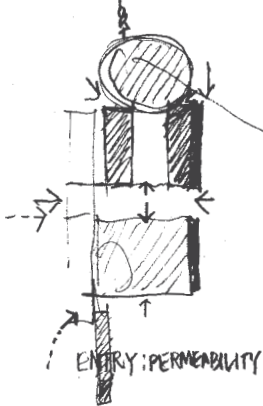
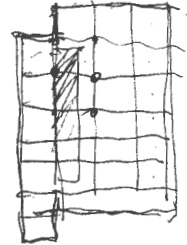
COMMONS  
SERVED  
SPACE



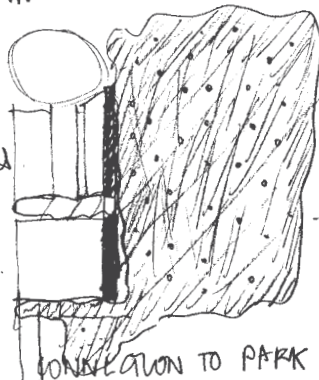
EVERYONE NEEDS A  
VIEW



GARDEN



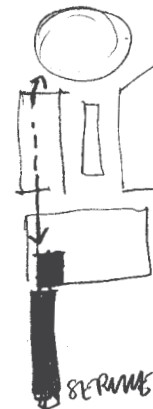
ENTRY: PERMEABILITY



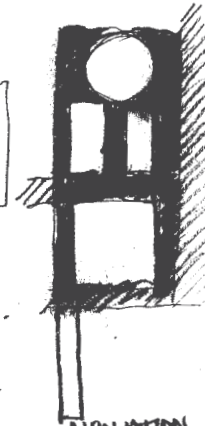
CONNECTION TO PARK



TRANSIT



SEPARATE



CIRCULATION

STREET

ALLEY









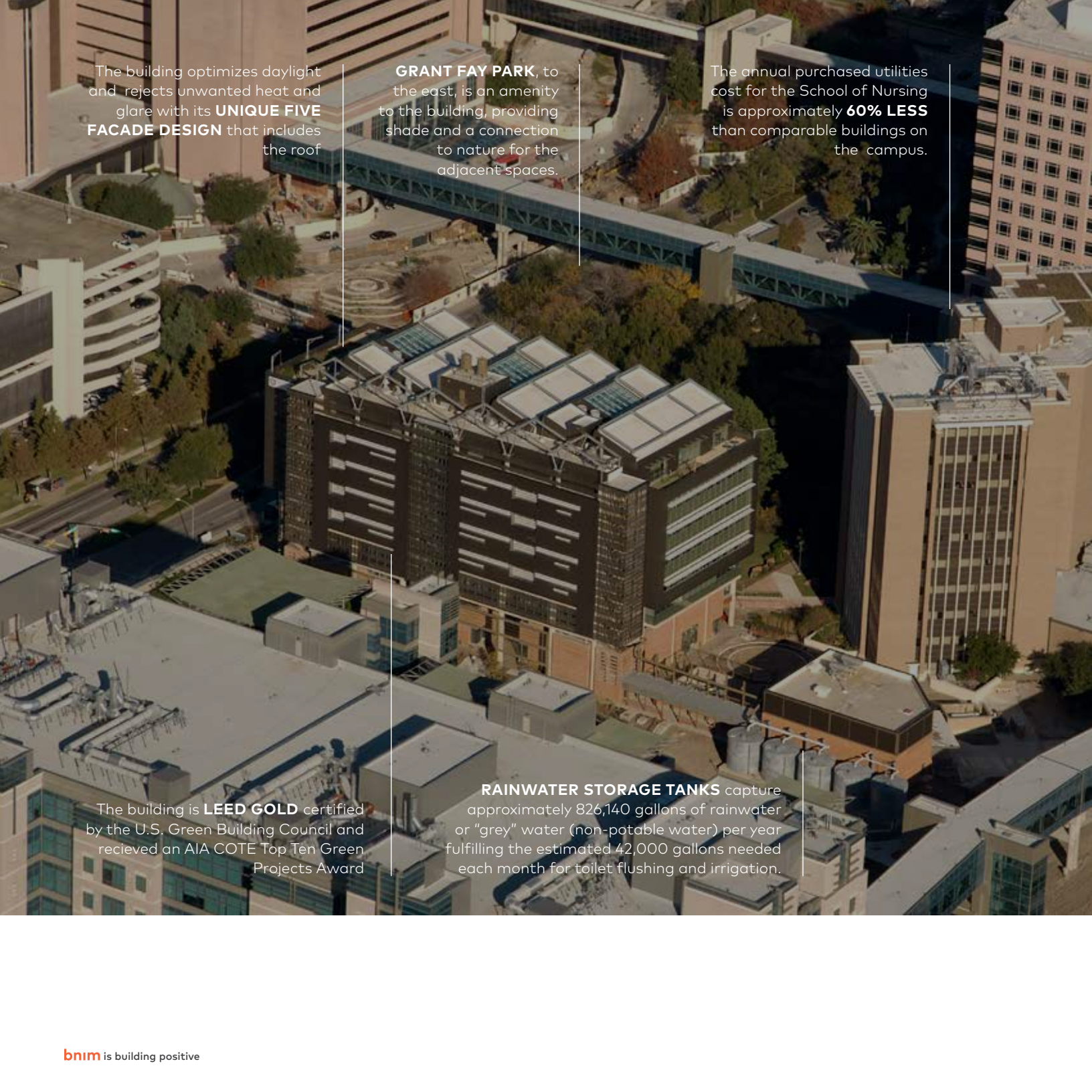
"The building showcases a philosophy that if we're teaching about health, we're also operating in a healthy way... We believe we're now the most technologically advanced school of nursing in the country. And with an entire floor dedicated to nursing research, the school now has the kind of equipment and laboratories that will attract world-class researchers."

PATRICIA STARCK  
FORMER DEAN OF THE SCHOOL OF NURSING









The building optimizes daylight and rejects unwanted heat and glare with its **UNIQUE FIVE FACADE DESIGN** that includes the roof

**GRANT FAY PARK**, to the east, is an amenity to the building, providing shade and a connection to nature for the adjacent spaces.

The annual purchased utilities cost for the School of Nursing is approximately **60% LESS** than comparable buildings on the campus.

The building is **LEED GOLD** certified by the U.S. Green Building Council and recieved an AIA COTE Top Ten Green Projects Award

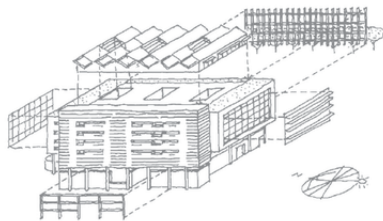
**RAINWATER STORAGE TANKS** capture approximately 826,140 gallons of rainwater or "grey" water (non-potable water) per year fulfilling the estimated 42,000 gallons needed each month for toilet flushing and irrigation.



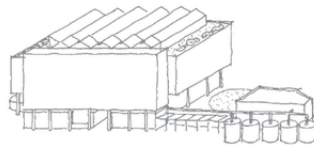


## SUSTAINABLE / NOTABLE FEATURES

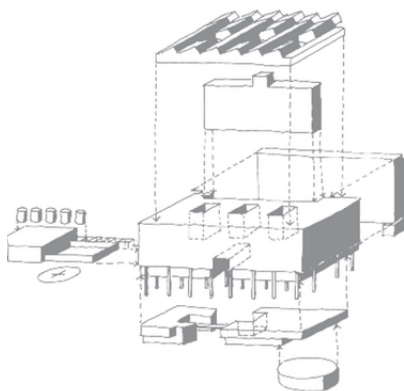
- LEED Gold
- 195,000 square foot, 8-story facility in the Texas Medical Center
- This classroom and academic office building contains 20,000 square feet of classrooms and skills labs, a 200-seat auditorium, a cafe and dining room, bookstore, student lounge, student government offices, a research laboratory and faculty offices.
- This facility was designed using three guiding principles:
  1. Provide physical and visual connections to the park to the east;
  2. Express the interior functions with the design of the exterior massing and materials;
  3. Maximize human health and productivity and minimize the impact on the environment.
- This signature facility creates an identity for the University by providing an important sense of place for students and visitors within the UT Health Science Center at Houston campus.
- The building was designed to save 33% more than a similar ASHRAE 90.1 1999 compliant building.
- The building was designed to easily install photovoltaics on the roof structure for further emission reductions and self-reliance.
- Daylight penetration was a key strategy so that all occupants have access to natural light. Vertical atria and a horizontal atrium provide additional controlled daylight.
- Operable windows are installed throughout the building and could be open approximately 134 days or over 1/3 of the year.
- Indoor air quality has been improved with healthy interior materials such as agri-fiber board and low VOC paints, adhesives and sealants.
- For teaching and offices spaces, an under-floor air distribution system is used to increase energy efficiency and provide increased thermal comfort for building users by providing user controls.
- Flexible building elements such as raised floor and demountable partitions will accommodate building changes over time.
- Water reduction strategies amount to a 93% total reduction of potable water through the reuse of collected rainwater for flushing and irrigation, as compared to a LEED baseline case.
- Efficient plumbing fixtures such as waterless urinals, low flow lavatories and low flow showerheads are installed throughout.
- 75% of the building's total construction waste was recycled or salvaged—including waste from the deconstruction of the building that had previously occupied the site.
- Building materials were chosen to minimize environmental impact and include recycled brick from a 19th century warehouse in Texas, wood siding from reclaimed cypress logs, aluminum panels specially fabricated with 92% recycled material, and structural steel specified to have more than 80% recycled content.
- The building used 48% fly ash in its concrete mixture, saving approximately 1,808 tons of carbon dioxide that would have been released into the atmosphere.
- Designed in collaboration with Lake | Flato and a consultant team that represented 17 disciplines and specialties.



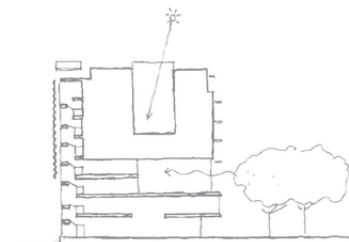
FIVE FAÇADES



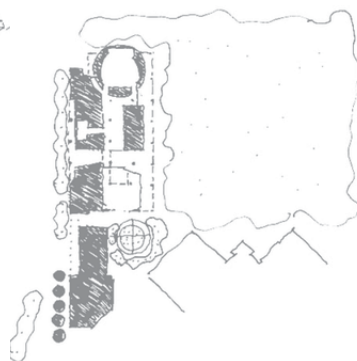
RAINWATER COLLECTION



ARCHITECTURAL COMPONENTS



DAYLIGHT PENETRATION



GROUND-FLOOR PUBLIC SPACE













## SELECT AWARDS

2006 Top Ten Green Projects Award  
AIA Committee on the Environment (COTE)

2006 Honor Award  
Texas Society of Architects

2006 Region IV Energy Project of The Year  
Association of Energy Engineers (AEE)

2005 Honor Award, Architecture  
AIA Houston

2005 Honor Award, Sustainable Architecture  
AIA Houston

2005 Award For Innovative Schools  
Recognized Value Award  
Designshare International

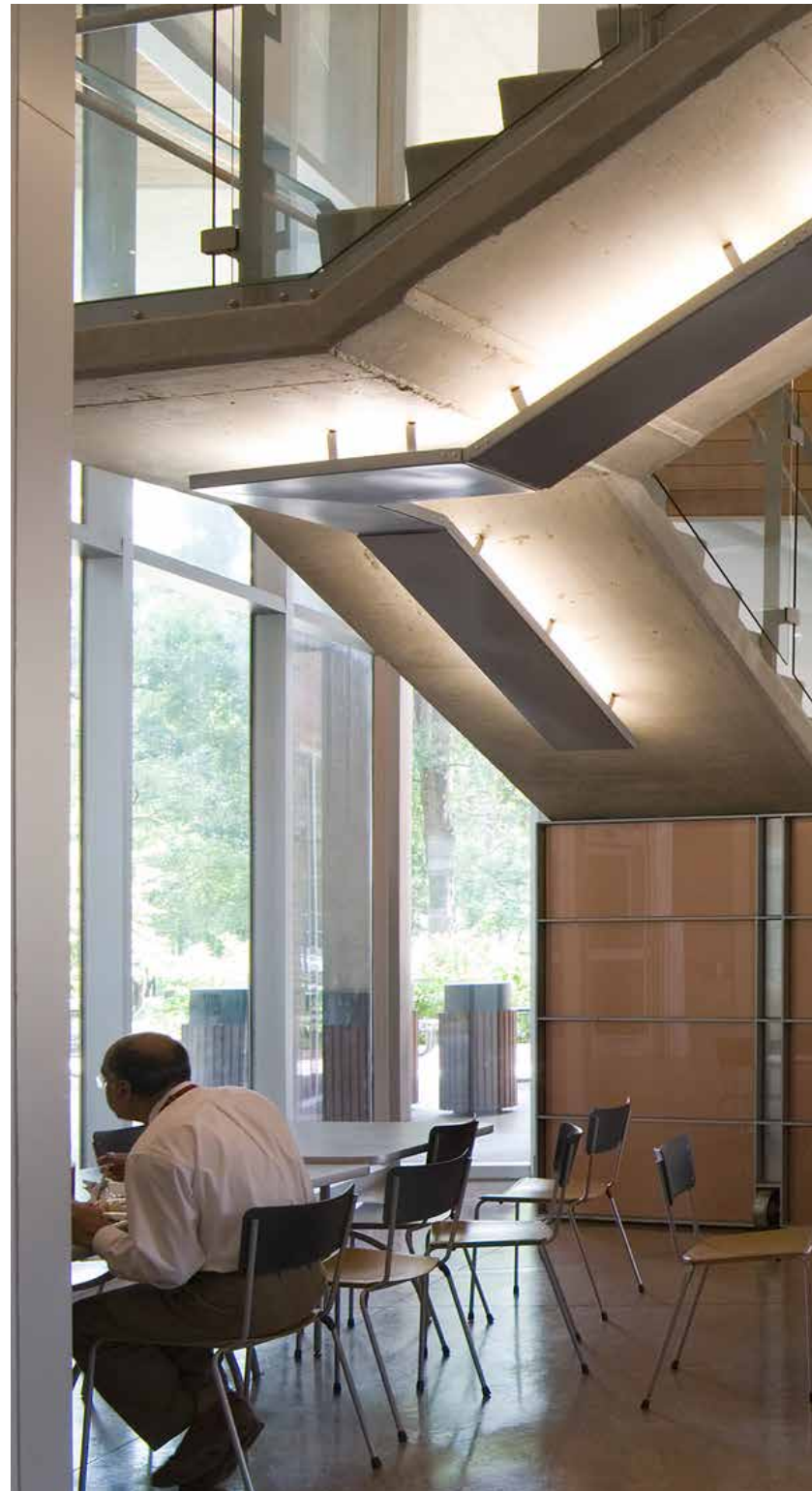
2004 Honor Award  
AIA San Antonio

2004 Honor Award, Excellence In Architecture  
AIA Kansas City

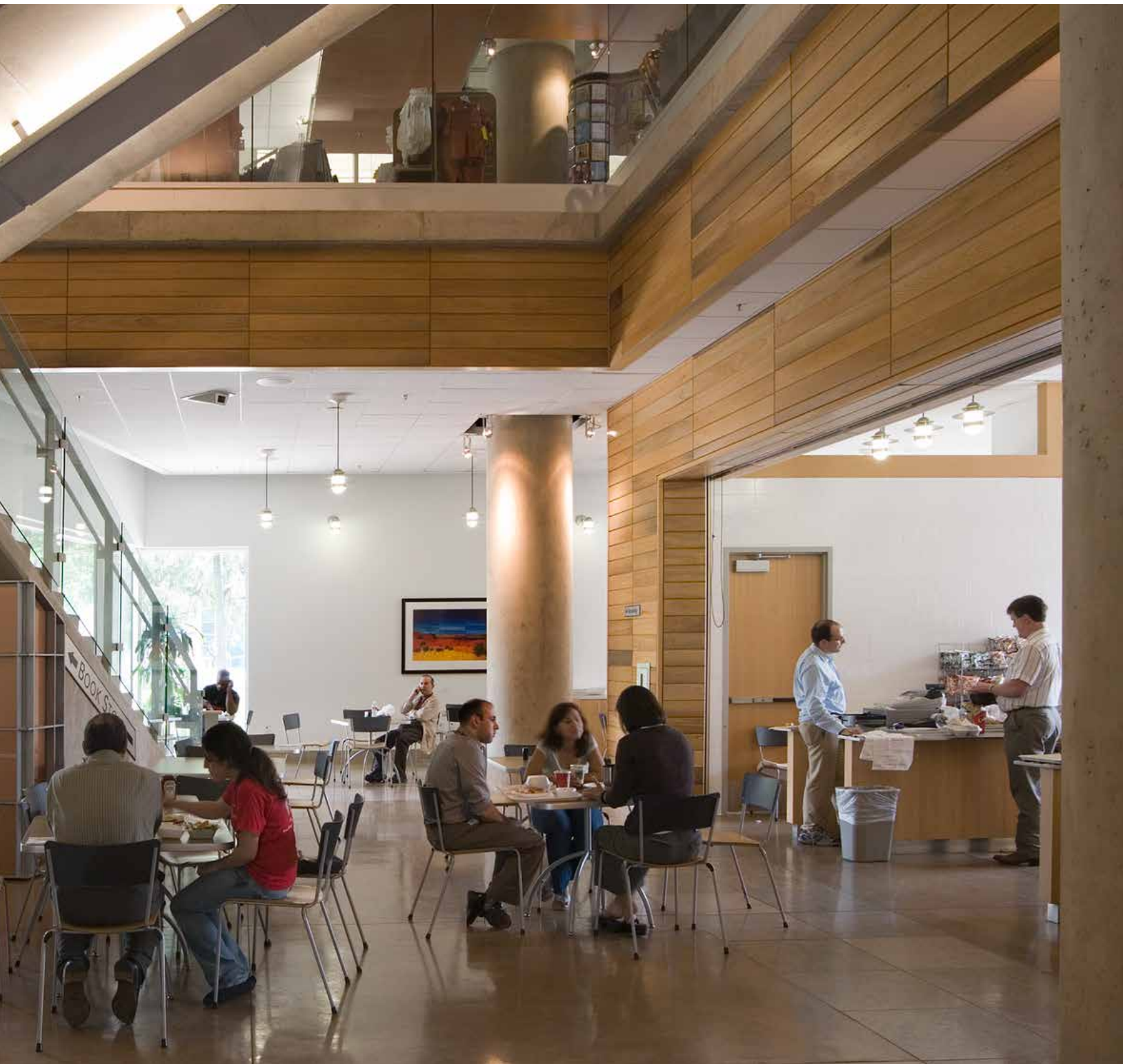
2004 Honor Award  
AIA Kansas

2004 Honor Award, Excellence In Sustainable Design  
AIA COTE Kansas City

2004 Merit Award  
AIA Central States Region









# Christopher S. Bond Life Sciences Center

UNIVERSITY OF MISSOURI - COLUMBIA  
COLUMBIA, MISSOURI







The Life Sciences Center at the University of Missouri - Columbia unites faculty and students from several schools and programs into one, collaboratively focused research center. The Colleges of Agriculture, Food and Natural Resources, Arts and Sciences, Veterinary Medicine, Human and Environmental Sciences Engineering, and the School of Medicine engage in joint research into genomic and biomolecular structures. State-of-the-art laboratories, shared meeting areas and public spaces provide unsurpassed opportunities for interdisciplinary biomedical science and agricultural biotechnology research.

239,714 GSF  
Completion in 2004









With the idea that a healthy building illustrates the principles that life sciences embody, research, teaching and education converge in naturally daylit laboratory spaces, generous meeting areas, and informal teaming areas located off of the primary circulation spaces. The building features a central daylit atrium, strategically connecting the wings in an east-west direction to create a lively corridor called 'Main Street.' The naturally lit atrium, which centralizes faculty and research offices, a café and one of the reading rooms, encourages and facilitates interaction among users.







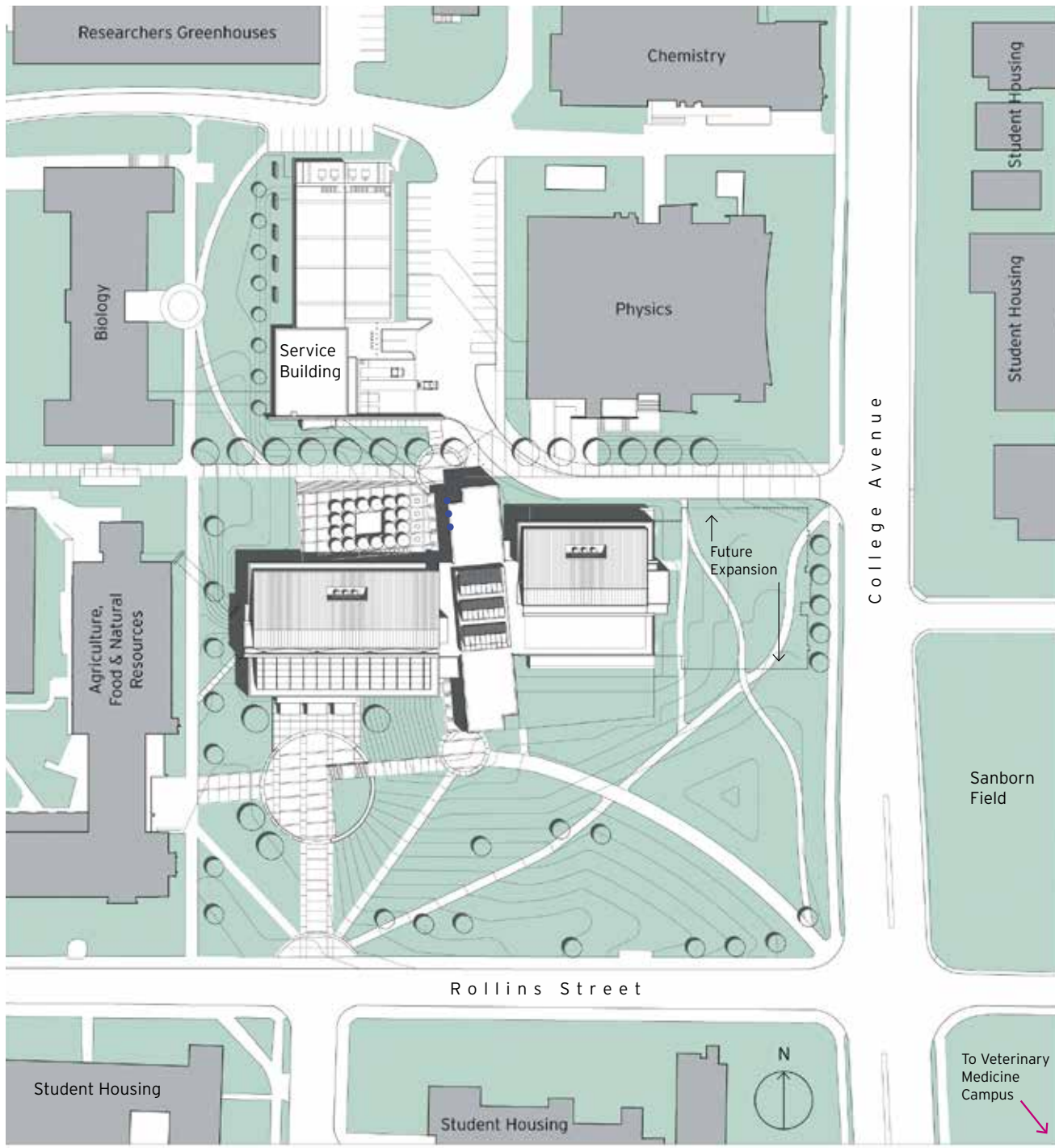
"The Center is kind of a catalyst that brings people together doing such different things."

MANNIE LISCUM  
BIOLOGICAL SCIENCES PROFESSOR AND  
ASSOCIATE DEAN OF GRADUATE STUDIES





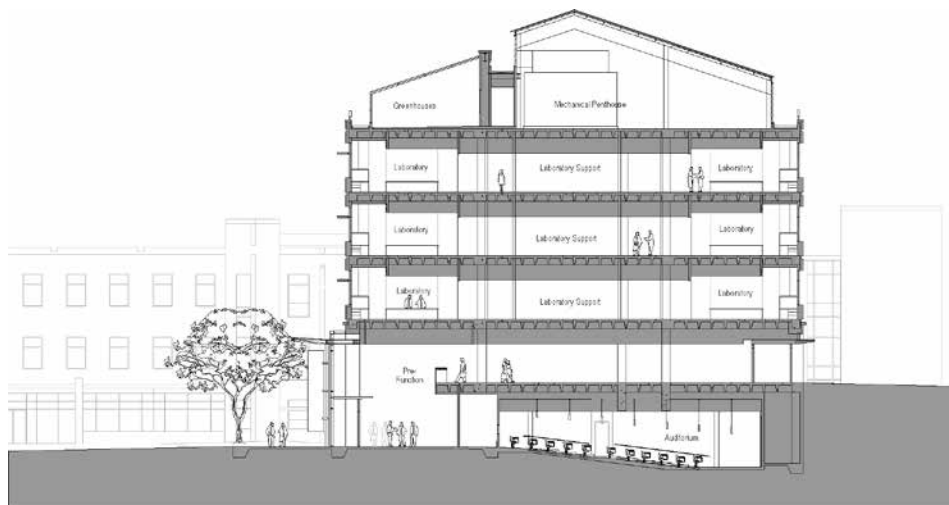








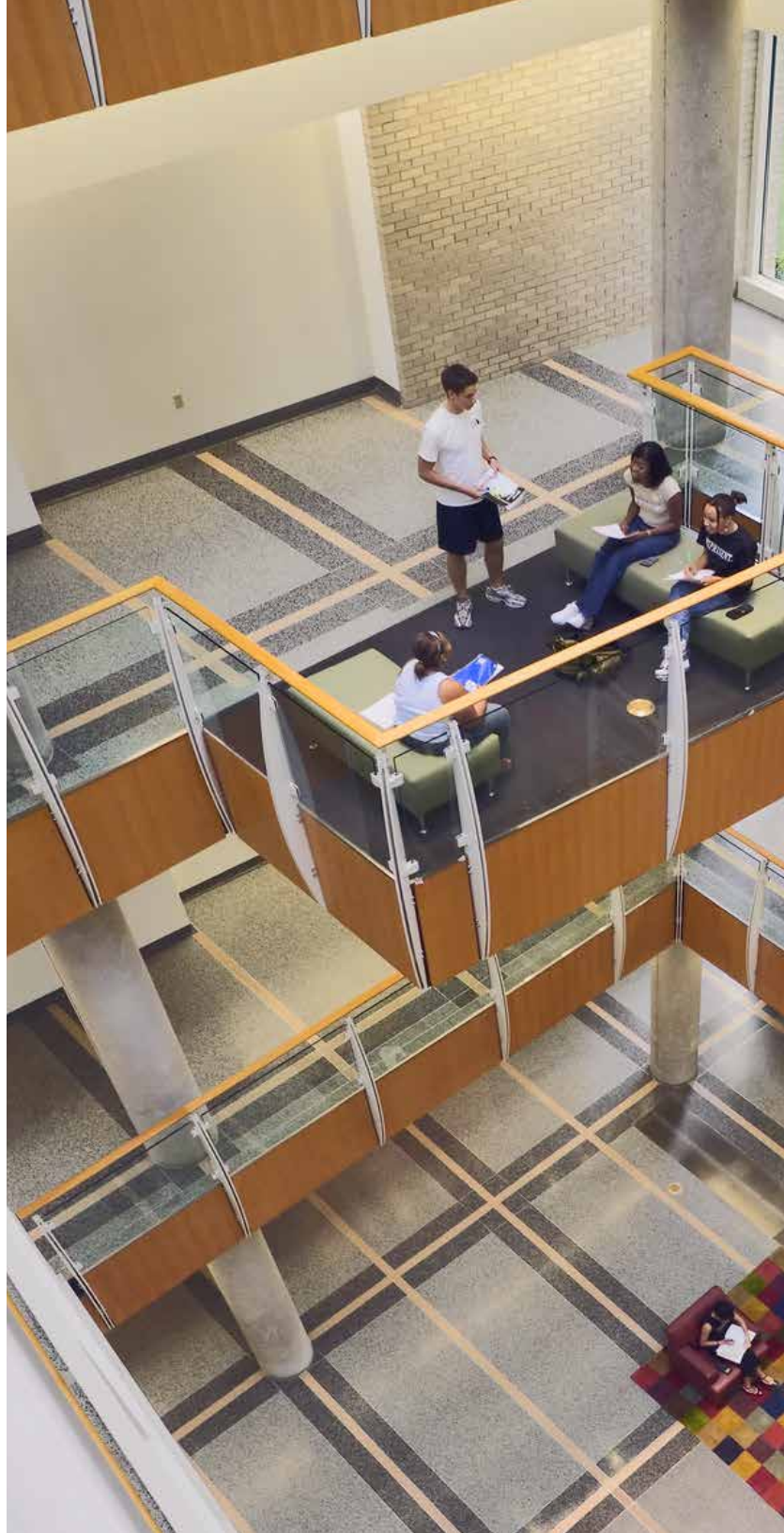
SECTION - ATRIUM



SECTION - LABS

"The Building has been set up with lots of what we call 'collision zones.' In Chemistry, when things collide you get a reaction. When two people can interact in a hall or corner and discuss an idea, that's when you get new ideas and new things happening. Students see how this happens and they grow and thrive under this."

DR. G. MICHAEL CHIPPENDALE, PH.D.  
PROFESSOR EMERITUS  
DIVISION OF PLANT SCIENCES







## AWARDS

2005 Honor Award, Excellence in Architecture  
AIA Kansas

2005 Merit Award  
AIA Mid-Missouri



**bnim** is building positive

2460 PERSHING RD  
SUITE 100  
KANSAS CITY  
MO 64108

816 783 1500

[BNIM.COM](http://BNIM.COM)

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SUITE 100  
DES MOINES  
IA 50309

515 974 6462

797 J ST

SAN DIEGO  
CA 92101

619 795 9920