

# IU INDIANAPOLIS INNOVATION HALL

**SUBMISSION CATEGORY:** New Construction - Project Cost Greater than \$5 Mil.

**PROJECT TYPE:** Higher Education

**ADDRESS:** 625 W Michigan Street, Indianapolis, IN 46202

**DATE OF SUBSTANTIAL COMPLETION:** January 2021





## DESIGN NARRATIVE

Indiana University Indianapolis leadership, at the time operating as IUPUI, engaged the design team to co-locate three disparate schools on campus in a single 100,000 SF innovation and research hub. The School of Science, School of Engineering, and School of Informatics and Computing were combined and Innovation Hall was developed as the result. At the core of this combination was a challenge to re-imagine how education, cross-collaboration, and research could take place in a central location. Refined to a sleek, modern expression of technology, the building sits at the main axis of campus and is a nexus between a number of key campus locations.

The expression of the program drives the design of Innovation Hall, with a glass bar of student focused spaces and a metal-clad box with carved slit glazing focusing the privacy of the educator spaces. Both of these elements are perched on a base clad simply in decorative precast concrete and glazing, an echo of the rest of campus. Primary entries at the north corners and offset south facade emphasize the connective nexus of collaboration, metaphorically, and campus connections, literally, through ground floor teaching and laboratory spaces. Within the building, the core principle of “science, engineering, and technology on display” drives the program configuration. Clean rooms and laboratory spaces showcase

their live research with full height glazing while an array of lecture facilities offer professors diversity in teaching capabilities spanning from traditional lecture halls to a state-of-the-art “classroom in the round” concept with fully integrated technology and swivel seating. On the upper floors, students can collaborate independently or with their professors on either side of a central core of learning laboratory spaces. This circular floor plan loop creates opportunities for social and collaborative interaction between students of a variety of disciplines, fostering next-generation cross-collaboration.

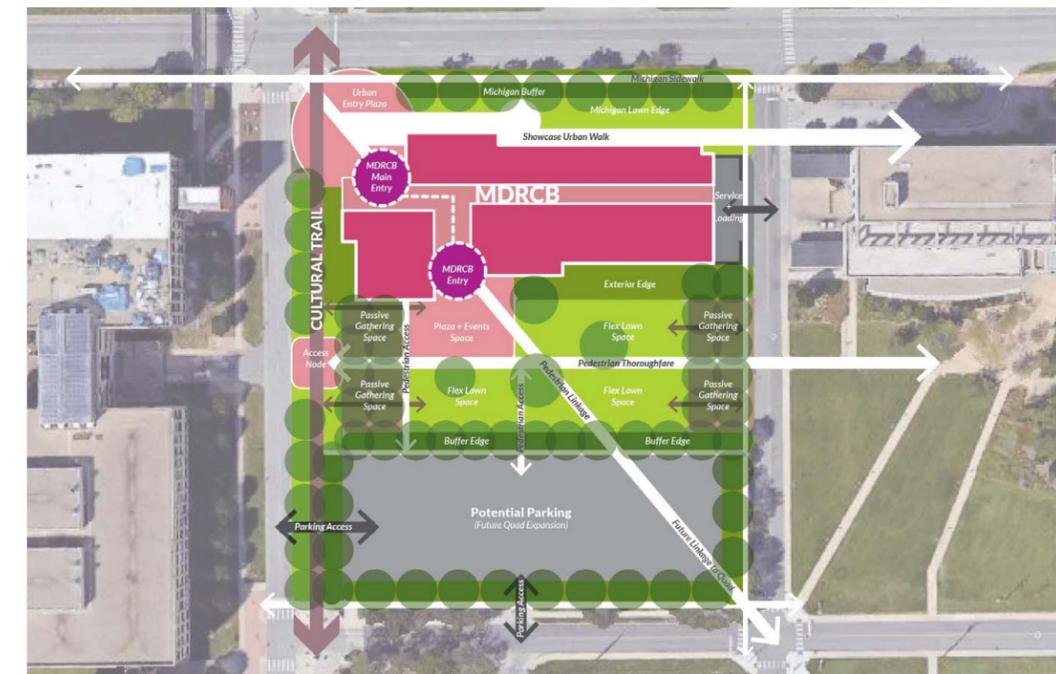
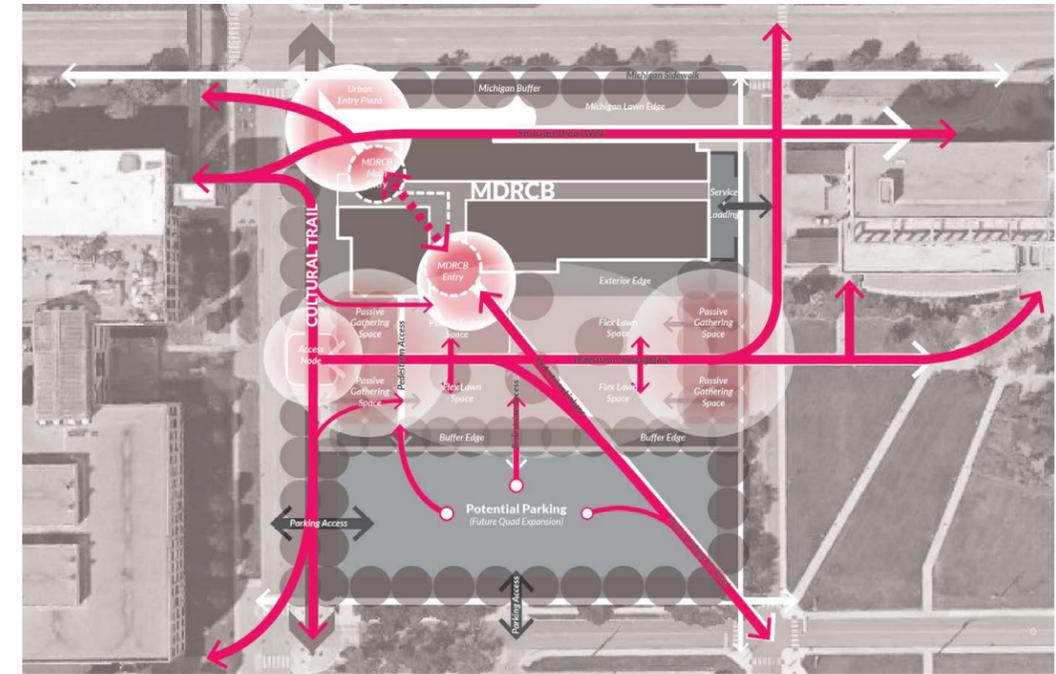
Underpinning this technology-driven design is a commitment to leadership in sustainability. With a focus on carbon optimization and energy use reduction, the building was awarded LEED Silver certification. Complex laboratory systems were married with high-efficiency systems to achieve the sustainability goals.



THIRD FLOOR CONFERENCE ROOM



STUDENT ENTRY



## DESIGN CONSIDERATIONS

Sitting on a former surface parking lot at the heart of the, at the time, IUPUI campus, it was clear from the outset of the project that the new Innovation Hall building was at a crossroads for campus connectivity. Balanced with a desire for a strong street presence on Michigan Street and functional need to preserve some of that surface parking, the siting of the building was mostly self-evident. The ways in which that connectivity manifested in the building form and layout were less so. As initial studies progressed, a strong diagonal axis on the ground floor was developed. The major classroom spaces on the ground floor were organized around this cross-cut to allow foot traffic to and from the building to follow a natural, interior desire path.

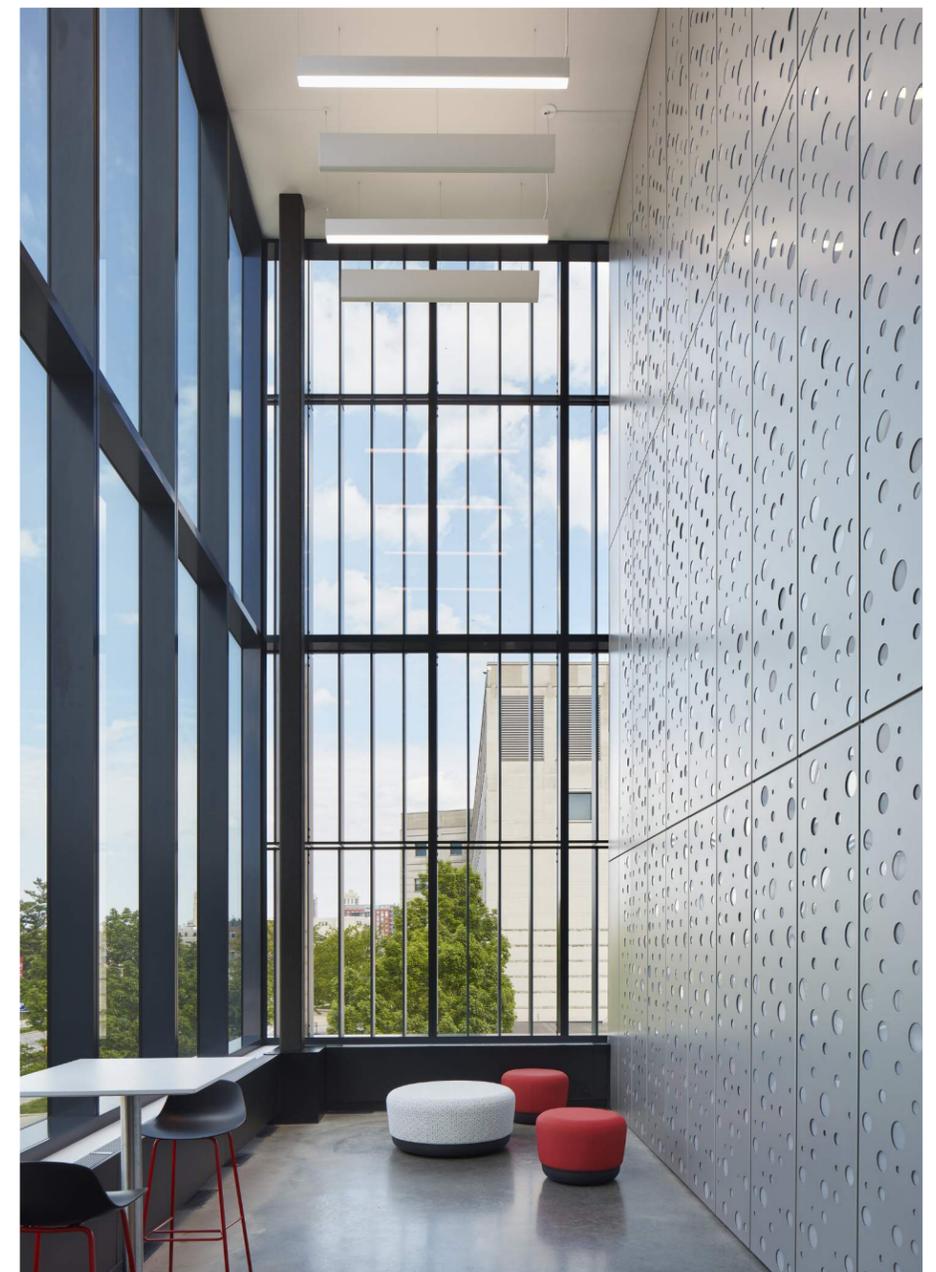
The push for core program functions to the ground floor elevated the office and learning laboratory spaces to the second and third floors, encouraging the ground floor geometry to pull back and open up to students arriving from all over campus.



EXTERIOR VIEW FROM MICHIGAN STREET



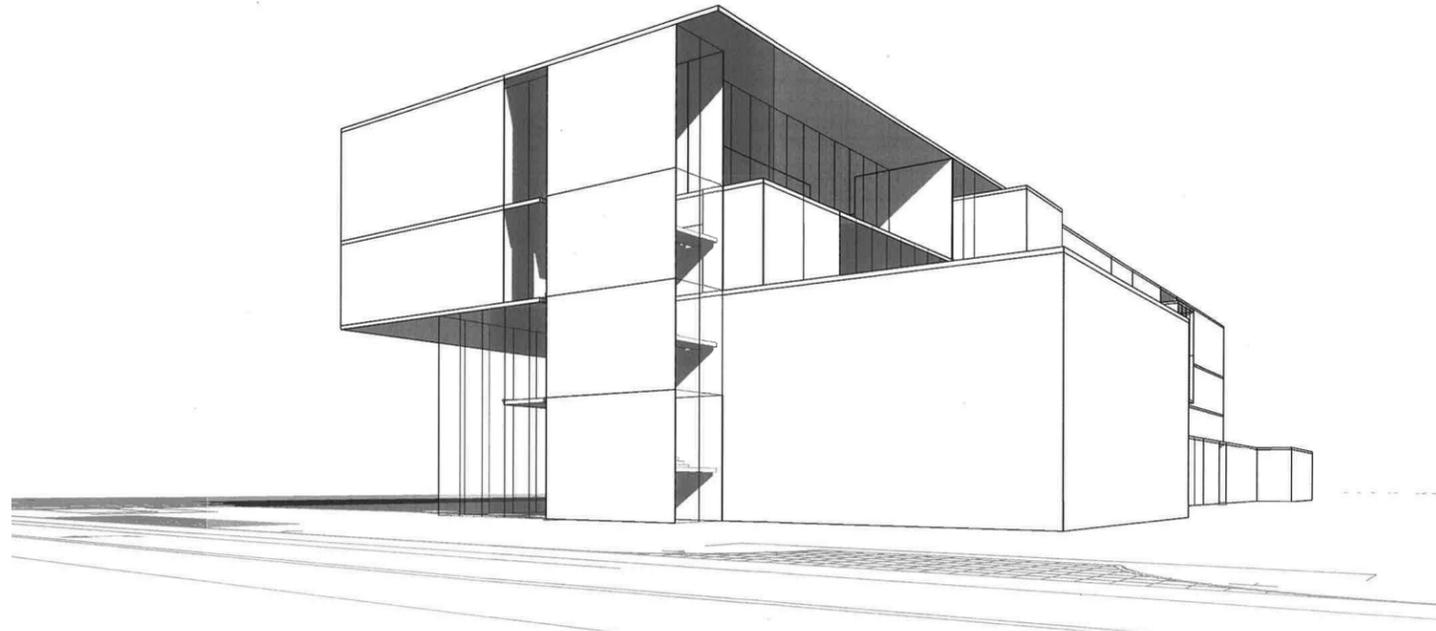
PRELIMINARY SITE RENDERING



**SOLUTIONS**

Outside the building, the front yard presented an opportunity for enhancement of public outdoor space while still allowing for some surface parking. In initial concepts, that front yard on the south side of the building was conceived of as only sod and pathways; a traditional campus solution. Through collaboration between architecture, landscape architecture, and the sustainability leadership of the design team, a more robust solution was developed that focused on native plantings, raingardens to filter stormwater, and crushed stone shaded gathering spaces. The solution later demonstrated the power of site materials to lower embodied carbon on projects of this type.

Inside, a variety of nooks were added to the program to foster collaboration and enhance the student experience. Some focused on students directly, like the 2-story space seen above. Others focused on faculty or the collaboration of specific disciplines. These nooks are expressed in the facade with cohesive materials and integral lighting, reinforcing to the campus the focus on collaboration in this new facility.



**SW VIEW** EARLY CONCEPT MASSING



**SW VIEW** EARLY CONCEPT RENDERING



**SW VIEW** FINAL

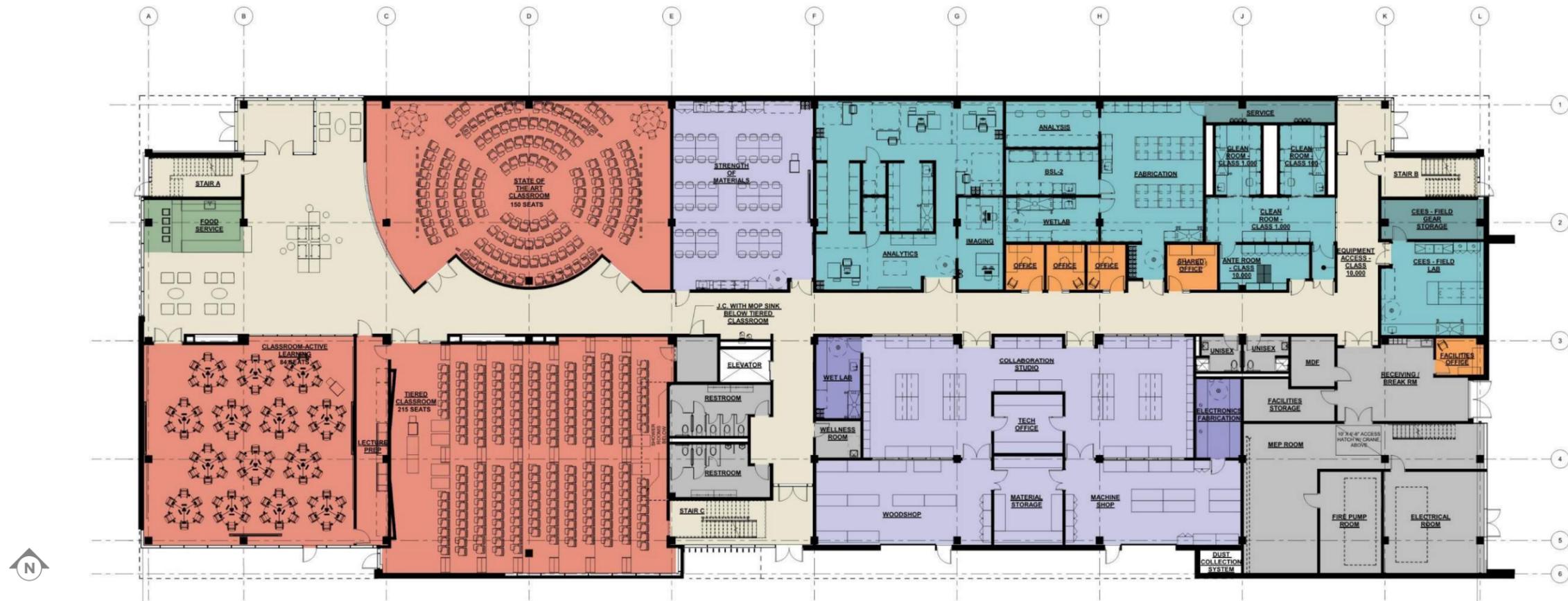
### LIMITATIONS

As with many public higher education projects, budget quickly became a key driver of design consideration. Originally the building was conceived as a 4-story innovation hub with core program functions spread throughout the building. A high-capacity lecture hall was included in these early studies along with a bridge connection to other campus buildings. As the project was reduced in scope, many of the key architectural design considerations were reduced in kind or removed outright. These reductions opened the door for other opportunities. The facade design was born out of the changes in program and scope, with a glass-bar and metal-box configuration taking the place of early concepts which had more haphazard geometry and glazing patterning. An evolutionary design to be sure, the process allowed for careful consideration of program distribution throughout the building while maintaining the overarching goal of celebrating STEM programs within the campus and adjacent community.

### REQUIREMENTS

IUPUI leadership made clear early in the project development that the enhancement of students successes in engineering and science was to be the foremost goal of the building. To that end, specific attention was to be paid to the prominence of the building on the campus landscape, and even more critically, the means by which the building would foster the relationships between students and faculty and their combined research.

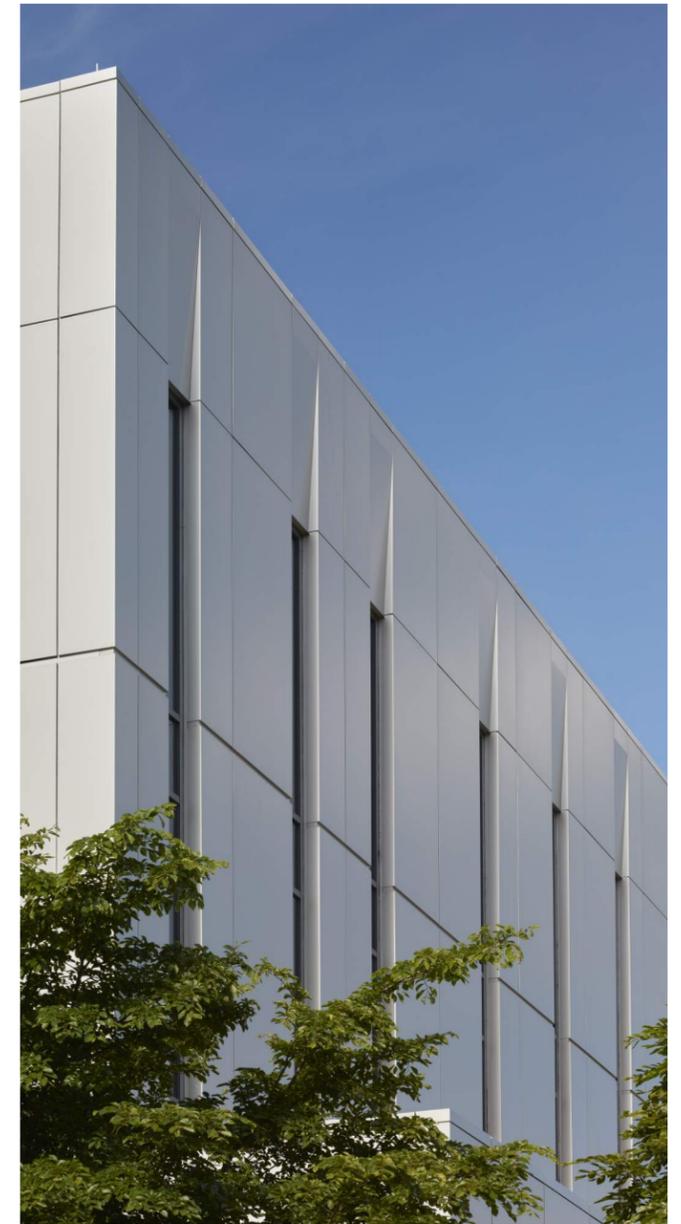
The composition reflects this arrangement with a bar and box arrangement; student focused spaces in the glass bar exposed and visible to all and the teacher focused spaces in the metal box, shrouded from direct view but still visible through thin glazing slits carved into the box, and the collaborative learning spaces spread between the two.



**GROUND FLOOR PLAN**



**TYPICAL UPPER FLOOR PLAN**



## MATERIALS

An innovation hub should reflect the cutting edge research occurring at its heart. The skin of this building reflects that with clean and crisp metal panels, and a simple clear glass bar, both spanning over a precast and glass building base, anchoring the design to the core aesthetic of the rest of the campus.

The ACM panels are carved away in a variety of ways to reflect the program and function within. At the glass bar on the north facade, the panels break in a clean reveal, letting the glass stand alone. On the south facade, the panels slide inward, revealing tall slits of glazing in a repeating pattern. In other areas, the metal is broken vertically, creating shading fins on key glazing areas. Where marrying indoor and outdoor spaces, the metal is punctured, revealing a playful pattern that spans vertically, moving from exterior to interior and highlighting the building entries.



## SYSTEMS SOLUTIONS

The student laboratories at the heart of Innovation Hall are carefully designed as modular, adaptable spaces that can accommodate not only changes in technology, but in teaching trends, team structures, and even physical equipment. Additionally, a LEED Silver rating was required, pushing the MEP systems harder to achieve the programmatic requirements of robust modular lab spaces. The required lab spaces included Clean Rooms, Wet Labs, Teaching Labs, Computational Labs, and a Makerspace. To foster the goal of collaboration and “science on display,” the labs themselves are a reflection of the building, with transparency built into the space requirements. Even the clean rooms have direct, full height glazing looking into the lab space, which required creative collaboration between multiple disciplines and trades.

In addition to the building systems, the project has since served as a case study in embodied carbon reduction through a combination of building materials optimization and site design. By carefully selecting site materials and refining the site configurations, the embodied carbon of projects can be significantly reduced beyond the baseline reduction seen from building optimization alone.

**Baseline EUI: 587.40 / Projected EUI: 266.84 [55% Savings]**





“STATE OF THE ART” CLASSROOM



NORTH FACADE FROM MICHIGAN STREET



AERIAL VIEW LOOKING TO DOWNTOWN