

SOLOMON CORDWELL BUENZ

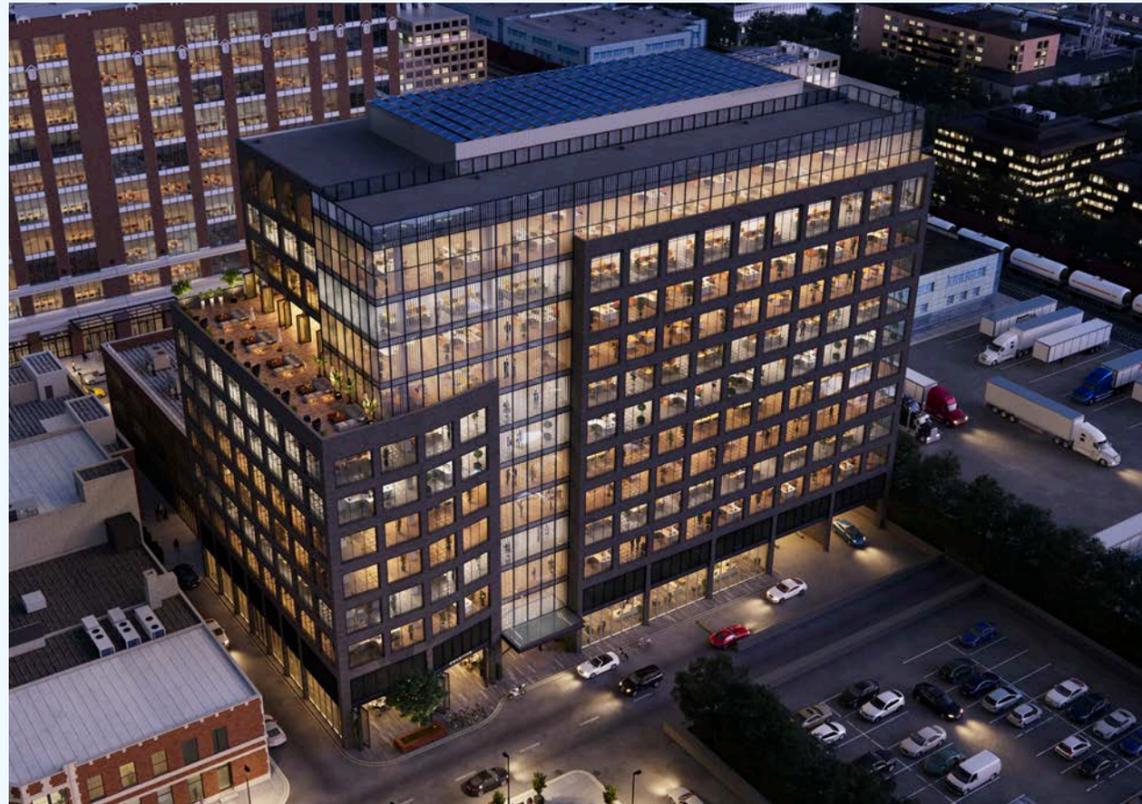
# Life Sciences

Repositioning + New Construction

# About

Investment in life sciences is on the rise, with factors such as an aging population, medical research, and technology driving demand for lab and office space to support research initiatives. A new research-based hybrid building typology has emerged; one that can accommodate the resources and support of a highly technical build-to-suit, in an urban multi-tenant building.

As a design firm with experience in both institutional and developer-led office and research projects, Solomon Cordwell Buenz (SCB) is helping clients explore new design approaches to science-focused developments and the feasibility of repositioning existing office buildings to support tenant needs in the growing life sciences market.



# Life Sciences Growth in Key Urban Markets

With offices located in Chicago, Boston, San Francisco, and Seattle, four of the top growing hubs for life sciences, SCB is uniquely situated to provide both programmatic and regional expertise for both new and repositioned development opportunities.

## Chicago

**5.4 MSF**  
Market Square Footage

**+54%**  
Employee Growth since 2010

**1.3%**  
Vacancy Rate

## Boston

**20.6 MSF**  
Market Square Footage

**+53%**  
Employee Growth since 2010

**0.8%**  
Vacancy Rate

## San Francisco

**11 MSF**  
Market Square Footage

**+114%**  
Employee Growth since 2010

**4.9%**  
Vacancy Rate

## Seattle

**21.8 MSF**  
Market Square Footage

**+252%**  
Employee Growth since 2010

**7.5%**  
Vacancy Rate

# Tenant Needs

Traditional, new construction, build-to-suit laboratory

## System Considerations

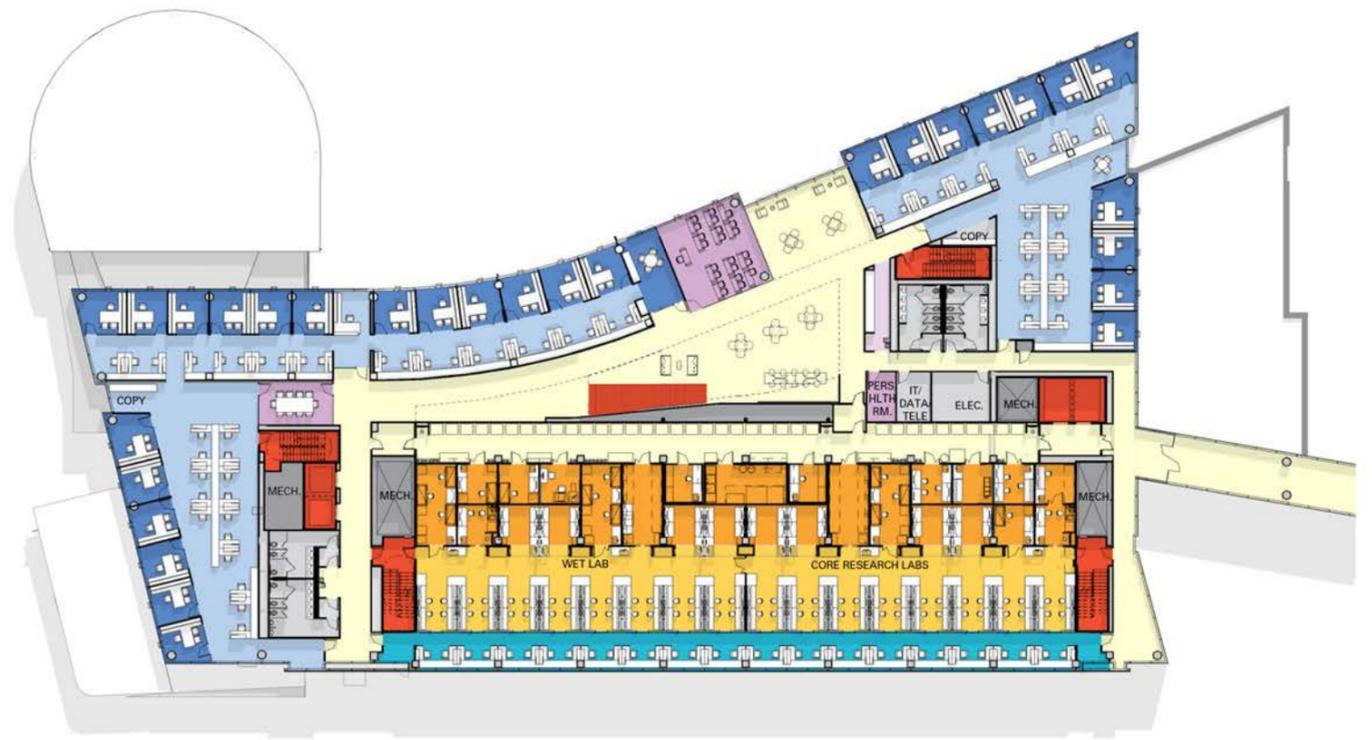
- Higher levels of structural vibration resistance
- 100 - 150 PSF structural live loads
- 100% outside air ventilation
- Additional shaft space for exhaust hoods and risers
- Large mechanical penthouses for ventilation and chillers
- Additional backup generators
- 2-3 times electrical load capacity
- Increased cooling redundancy

## Design Considerations

- Floor-to-floor heights - 15' preferred
- Centralized lab support and chemical storage
- Oversized loading dock with direct 10,000 lb. capacity freight elevator access
- Large support spaces on ground floor / basement
  - Chemical storage
  - Centralized gas and water
  - Vivariums
  - Pilot labs
- Blast resistant hazardous storage

## Agency Considerations

- Zoning Requirement
- Building (IBC Biohazard Chapter 7)
- Fire Safety Code
- Health Code



**Center for Translational Research  
Loyola University Health System | Chicago, IL**

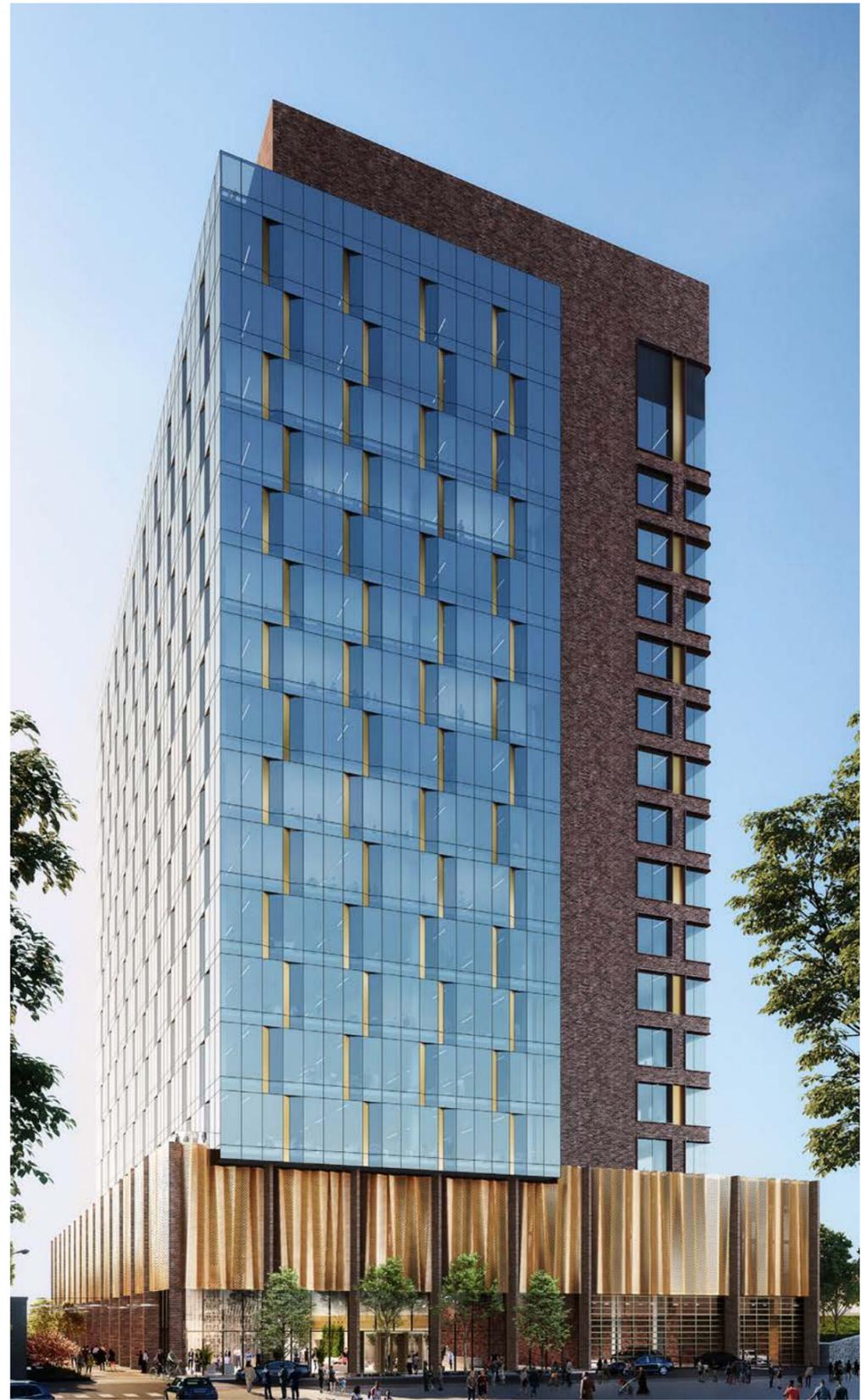
262,000 sf, LEED Gold integrated research facility that augments bench-to-bedside effectiveness created by co-localizing basic sciences with clinical research, including population, health services, nursing and intervention foci, all targeted on improving prevention strategies and treatment outcomes for patients. Includes flexible, state-of-the-art wet and dry laboratory spaces, a vivarium, and variety of offices and collaborative support spaces.

# 400 N Elizabeth

400 N Elizabeth is part of the rapidly growing life science and biotechnology sector in Chicago. The 500,000 square-foot project combines office space, labs and research support spaces, and tenant amenities. Located on a tight urban site between two commuter and freight rail lines, the materials, scale of spaces, and patterns are inspired by the history of rail in Chicago, and the significant role it has played in the city's growth and economic success. Patterned screening elements inspired by box cars with perforated and slatted metal walls, a mix of metals referencing hard iron rail tracks and softer brass oil lanterns, and brick facades relating to the original buildings in the West Loop ground the building in its context and site.

A south-facing patterned glass volume set into a larger brick mass breaks down the scale of the overall massing allowing for floor-to-ceiling glass for the lab/office tenants. The ground floor lobby faces Elizabeth Street with a 30-foot floor-to-floor height, presenting an active and large volumetric space to the neighborhood. Above, typical floors will be 32,230 square feet with a center core configuration and 16' floor-to-floor heights. The building is targeting LEED Silver and WELL Certification, and incorporates the latest in health safety and technology with an emphasis on environmental sustainability including reduced carbon dioxide emissions, increased fresh air, and significantly reduced heating and cooling costs.

Location	Chicago, IL
Size	500,000 SF
Sustainability	Targeting LEED Silver and WELL Certification



TENANT B | 8,840 SF      TENANT C | 6,000 SF

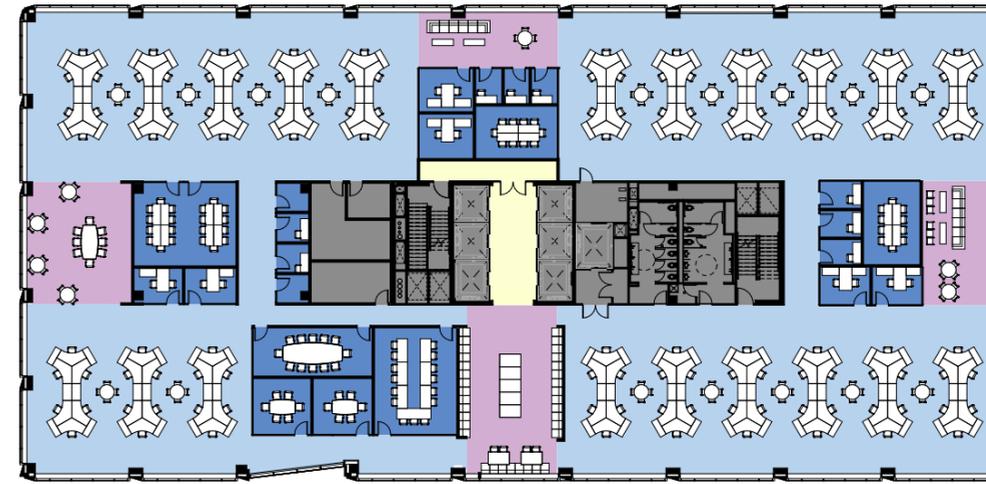


TENANT A | 17,155 SF

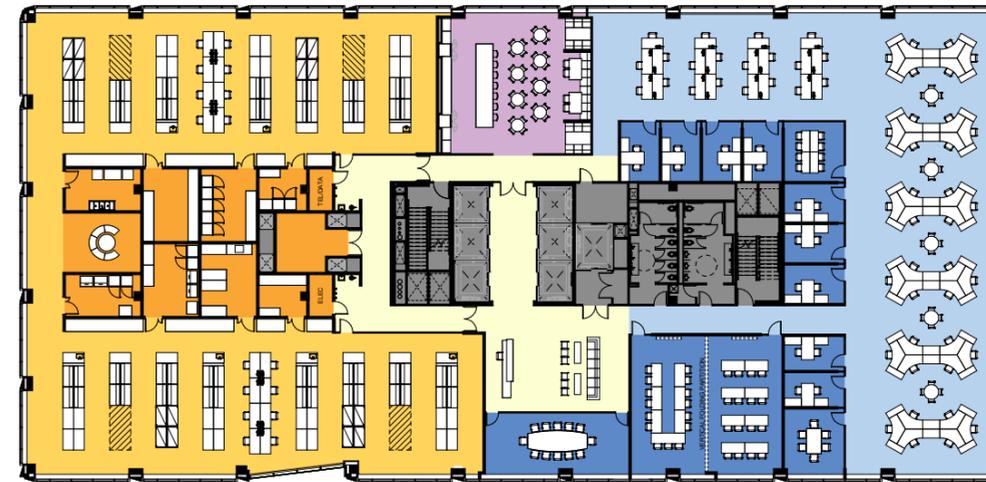
# Repositioning

## Office to Lab Considerations

	Typical Market Office	Typical Market Lab
Floor-to-Floor	13'	15'
Structural Bay	30'	11' - 22' - 33'
Floor Live Load	50-70 PSF	100-150 PSF
Vibration	16,000 MIPS	125-2000 MIPS
Electrical Power	6 Watts/SF	15 Watts/SF
Backup Power	None	5 Watts/SF
Ventilation	.10-.15 cfm/SF	1.25-2.0 cfm/SF
Additional Shafts	-	6-8 SF/floor
Fire Protection	Light Hazard	Ordinary Hazard
Loading Dock	Per Zoning	Per Tenant - Large
Freight Elevator	5,000 lb	10,000 lb
Parking	Per Zoning	2.5-4 per 1000 SF
Ground Floor	Minimum office tenant spaces	Large tenant area for chemical storage, centralized gas and water, vivariums and pilot labs



Office Single Tenant Test Fit



Life Sciences Single Tenant Test Fit  
Traditional Benching



Life Sciences Multi-tenant Test Fit  
Individual Lab Benches, Incubator/Co-working Model

# Now Trending in Life Sciences

## Innovation Through Collaboration

- Interdisciplinary partnerships
- Co-working model for labs
- Spaces to support group work and meetings
- Technology-rich spaces for virtual connection

## Increased Focus on Immunology

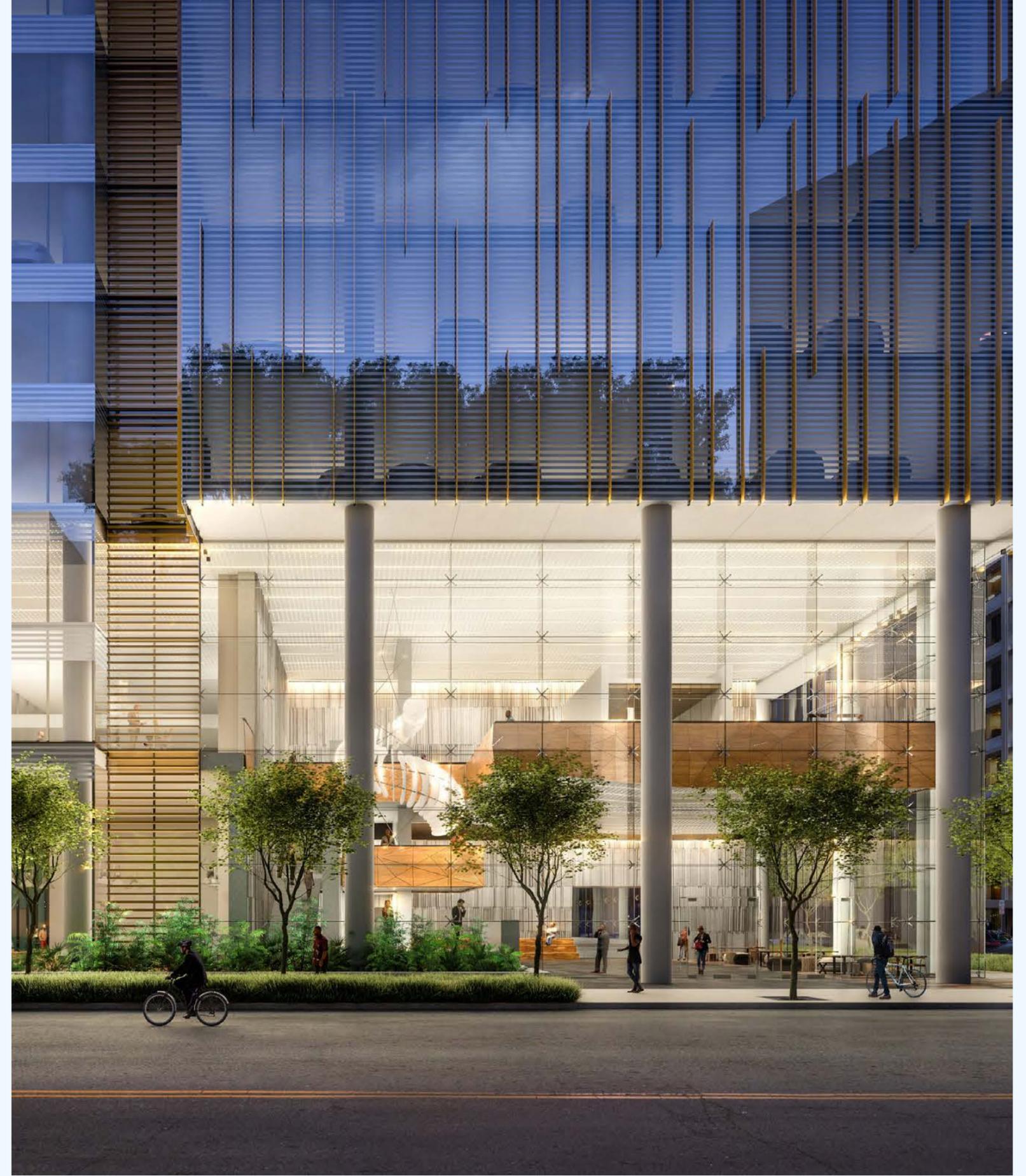
- Specialty/pilot labs
- Medical-focused research labs
- Large, ground floor support spaces

## Maximized Efficiency and Flexibility

- Large, open floor plates
- High floor-to-floors
- 50/50 or 40/60 lab to office ratios
- Universal lab planning modules
- Higher structural loading capability and vibration control
- Centralized large support spaces

## A New Workplace for Research

- Amenity spaces - lounges, outdoor space, fitness
- Activated lobbies
- Wellness-focused design



# Solomon Cordwell Buenz

Solomon Cordwell Buenz (SCB) is an architecture, interior design, and planning firm with a thoughtful design vision and a dynamic national imprint. Since 1931, SCB has made a lasting visual impact on skylines, campuses, and neighborhoods nationwide. From offices in Chicago, San Francisco, Boston, and Seattle, we offer our expertise to clients across the country, helping them achieve their goals, serve their constituents, and create unique built environments. Our approach is to ask questions, listen, and develop the best design solution for each individual project. We are future-oriented, continually challenging ourselves to design to a higher standard, innovate at every level, and give our clients more as we achieve design excellence.

Architecture  
Interior Design  
Planning

[scb.com](https://www.scb.com)

Clara Wineberg  
Principal  
[clara.wineberg@scb.com](mailto:clara.wineberg@scb.com)  
617.865.8705

Jay Longo  
Principal  
[jay.longo@scb.com](mailto:jay.longo@scb.com)  
312.896.1110