

LINCOLN HIGH SCHOOL

Seattle Public Schools | Seattle, WA



EXECUTIVE SUMMARY

Revival of a Historic and Iconic High School

Originally opened in 1907, Lincoln is the district’s oldest existing high school. Despite student and staff protests, Lincoln closed its doors in 1981 due to declining enrollment. The campus was unoccupied for 16 years until Seattle Public Schools began to operate it as a swing site for elementary, middle, and high schools in construction. Nearly forty years

Lincoln was re-born as a viable, 21st century learning facility that celebrates its 20th century roots.

after Lincoln closed its doors, increased enrollment in north Seattle created the need for an additional high school. The District’s goal in restoring Lincoln was to renovate the landmark school to meet 21st century learning needs while preserving primary characteristics of the historic structure. Critical outcomes in addressing the educational specifications for a comprehensive high school included: increased safety and security; universal access; supporting evolving teaching and learning modalities; developing academic neighborhoods to enhance a more personalized, integrated, and exploratory curriculum; and creating a central heart to unite the disparate additions and buildings across

the campus. Lincoln’s tight budget demanded that the design respond to both the stringent landmark requirements and the progressive program. A new main entrance was designed to meet accessibility and safety needs. The glass, at-grade vestibule was designed to complement the landmark building while welcoming the community into a transparent, light-filled entry, recessed from the historic façade. Classrooms, labs, teacher planning areas, and flexible breakout learning spaces were organized into academic neighborhoods throughout the four levels of the historic school. To make room for additional learning settings, two undersized gyms located in the school’s north wing were re-purposed into two additional academic neighborhoods. Located centrally within the historic campus, a bright, airy new commons opens onto a protected courtyard where, on sunny days, students spill out at lunchtime and teachers oftentimes conduct classes. The new heart of the school supports performances, community events, daily cafeteria use patterns, as well as the critical social connections of the adolescent students. Lincoln is now a thriving, learner-centered, adaptable high school campus that honors its historic roots. The preservation of Lincoln reinforces the continuum of neighborhood identity while the new program enhances learning opportunities in the digital age.

In 1981, students protested to keep Lincoln High School open.



21st Century Learning Immersed in a Historic Structure

The flexible commons learning stair provides space for studying, lunch, presentations, impromptu performances, and access to the central courtyard.



Honoring the Past, Embracing the Future



Lincoln High School opens to accommodate 1,000 students. Lincoln was the first Seattle high school built north of the Lake Washington Ship Canal.

1906



Floyd A Naramore addition completed. The south wing addition contained classrooms and a study hall.

1930



Despite student protests, Lincoln was closed due to low student enrollment.

1981



Lincoln Saved! Due to an influx in student enrollment Lincoln was restored.

2019

1914

Edgar Blair addition completed. The north wing addition included an auditorium, library, and boys' and girls' gymnasiums.



1959

Naramore, Bain, Brady & Johanson addition complete. The east addition included a gymnasium, music rooms, audiovisual classrooms, and two industrial arts shops.



1997

The school was used as an interim site to provide temporary locations for schools undergoing construction. Numerous remodels were made to accommodate the needs of various schools.



SCOPE OF WORK AND BUDGET

Lincoln required extensive renovation to re-establish a comprehensive high school for 1,600 students. The overall project included new academic neighborhoods (classrooms, labs, and breakout spaces); food service and cafeteria space; roof replacement; new energy-efficient mechanical and electrical systems; and seismic upgrades to the four-story historic masonry buildings. Additions for a new entry, custodial storage, and mechanical spaces were also included.

The design intent recognized the need to respect and maintain the historic integrity of the building. Alterations were minimal where possible in order to preserve and restore the original features and character. New additions were designed with a minimalist, contemporary approach that complements the landmark building.

Owner: Seattle Public Schools

Location: Seattle, WA

Grade: 9-12

Student Capacity: 1,600

Building Size: 257,000 sf

Construction Budget: \$63,000,000

Final Construction Cost: \$70,730,000

The landmarked, 1907 twin staircases were restored, and glass panel inserts were designed to bring them up to code without detracting from the intricate ironwork.



SCHOOL & COMMUNITY ENGAGEMENT

A Community-Centered Approach

To reawaken this slumbering school, the design team needed to help formulate a program and design from scratch. A strong sense of community in the engagement process was necessary to effectively accomplish this. This carefully curated community provided direction and feedback, tested multiple design options, and narrowed options down to the preferred design and program.

The first step in the engagement process was the formation of the School Design Advisory Team (SDAT). Developed by Seattle Public Schools, the SDAT process provides insight and direction for all major school construction projects. The SDAT committee for Lincoln was comprised of Wallingford community members, alumni, teachers, staff, parents, and incoming students. The design team facilitated seven SDAT meetings, which identified the vision, philosophy, and objectives of the school.

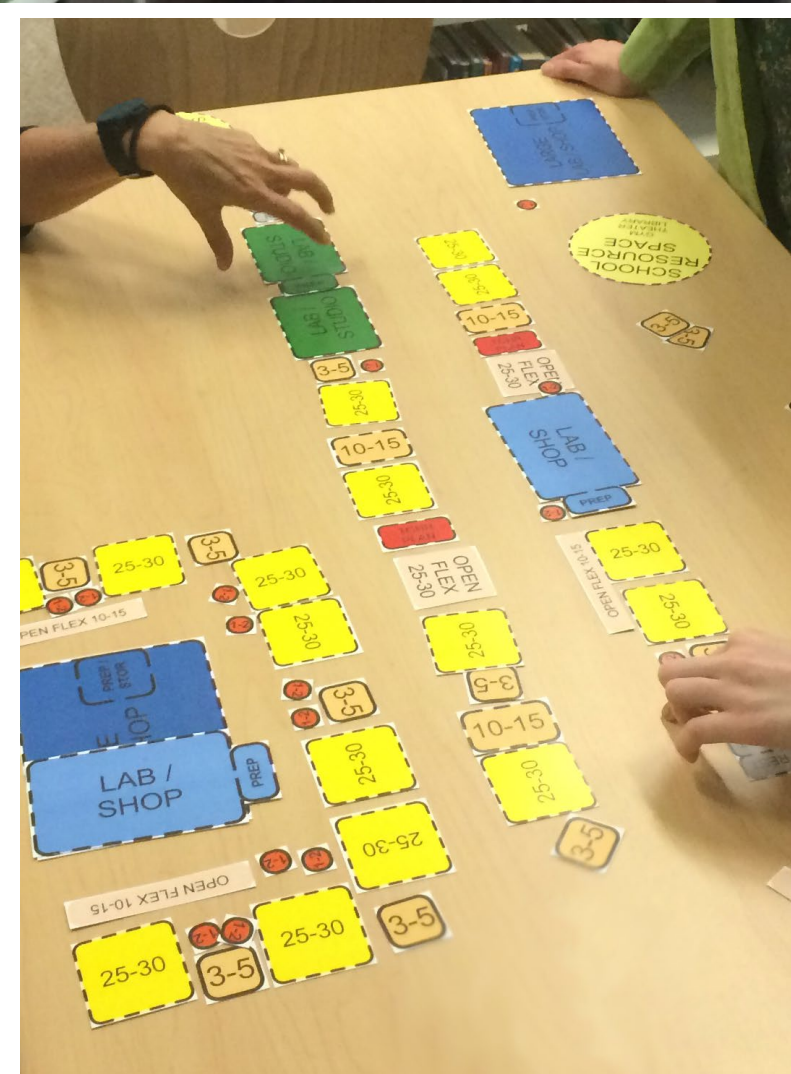
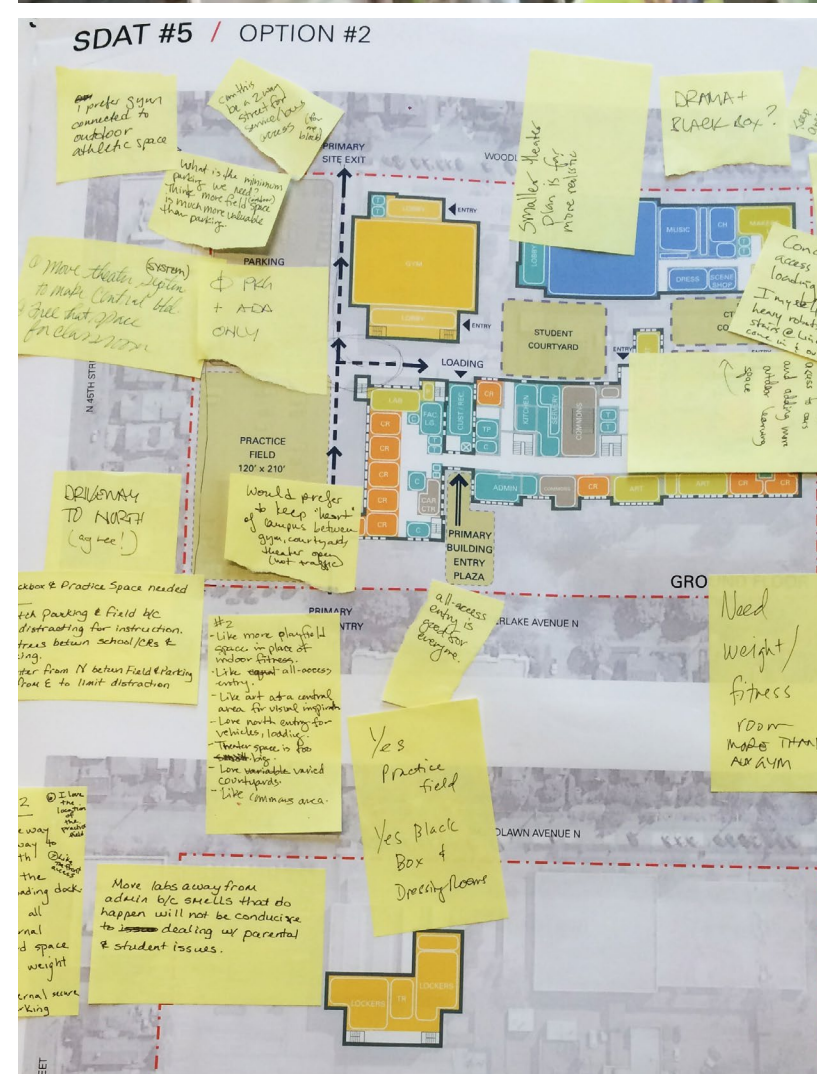
Following the SDAT process, stakeholders at the district level were consulted. During design, the incoming Lincoln High School principal helped integrate the final design with the pedagogy. The Principal and Assistant Principal were indispensable contributors, shaping the adaptable and flexible project-based learning program before knowing the incoming student body was. At the end of the design process, the incoming Lincoln High School principal created a curriculum centered around project-based learning. The administration worked with future staff and students to build the educational delivery that was flexible and met the learning needs of all students. Parallel to the district level involvement, coordination with alumni helped the design team maintain the integrity of Lincoln's past. The school's

alumni group is 400 strong and so active that the Seattle Times recently published an article where they shared some of these former students' fondest memories of their high school days. The revitalization of the school has now reinvigorated this group and given them their alma mater back. Recognizing their dedication, Lincoln staff dedicated a classroom to the Lincoln Lynx Alumni Association for their collection of class annuals and newspapers.

Initial enrollment at Lincoln began with freshman and sophomores for the 2019-2020 schools year. A Lincoln Student Design Team was formed with incoming sophomores from four surrounding high schools. These students worked together over the 2018-2019 school year to lay the groundwork for the formation of the Lincoln Associated Student Body (ASB). The group met on a regular basis to plan future community-building activities for all Lincoln students, wrote an interim constitution, created a budget, and worked to establish the foundations of a positive climate and culture within the building.

Important design decisions were shaped through the lens of today's students. For example, early in the design process, members of a local high school LGBTQ club weighed in on gender-neutral bathroom design discussions.

The engagement process did not end when construction was complete. Prior to the beginning of the 2019-2020 school year, the design team provided an in-depth tutorial on the building the staff were to inhabit. A User's Manual outlined the history of the building, provided instructions on new building features, an instructional overview of all indoor spaces, and how to report any building issues.



CHALLENGES

Dormant for nearly 40 years, Lincoln was without an existing student body and staff. This prompted the design team to get creative. Forming the appropriate SDAT was a crucial first step. Including teachers from other districts, Lincoln alumni, and students from other schools helped discern what a successful comprehensive high school would entail.

A relatively new high school in a residential neighborhood raised concerns with the Wallingford community. Roads adjacent to the school were recently upgraded to encourage more pedestrian and bike traffic versus vehicle traffic. The design team made a specific effort to avoid imposing on these new green roads by avoiding them completely.

VALUE OF THE PROCESS

Historic schools are important landmarks that represent civic investments and inspire community pride and public participation. They are the neighborhood schools you can walk to. The revitalization of schools like Lincoln enliven their surroundings and serve as community anchors. Lincoln is now a hub for the people who live and work in the Wallingford neighborhood, as well as for those who teach and learn there.

Situated at the gasket of the 1907 main building and the 1914 addition, a glass insert denotes the new, ADA accessible entry to the school (left image). The original entrance was restored and is used as an alternate entry point (right image).





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Thank you for preserving my school
and making it still look like Lincoln. I
will always greatly appreciate that.

– Shelagh Bradley
Lincoln High School Alumni, Class of 1969

*Formerly a study hall, the new
fitness center is adorned with details
from the original design.*

EDUCATIONAL ENVIRONMENT

21st Century Learning Within in a Historic Building

The primary challenge for the new design was modernizing the historic campus to meet the needs of the districts newly established educational specifications. This centered on flexible, personalized, learning environments that are organized in integrated academic neighborhoods rather than the traditional departmental ‘bells and cells’ model.

The adapted site specific ed spec was tailored during the SDAT process where the team outlined the critical attributes the modernized facility should have. These were centered around the following established Guiding Principles for the school:

LEARNER-CENTERED ENVIRONMENT

- + Long-term flexibility, loose fit, long life
- + Welcoming, accessible, and inclusive
- + Spaces that encourage collaboration for students and staff
- + School safety for all students and staff
- + Personalized spaces with a variety of shapes and sizes
- + Cohesive campus that is organized to support educational needs.
- + Supports calm and productivity
- + Indoor/outdoor connections

PERSONALIZING ENVIRONMENT

- + Welcoming, accessible, and inclusive
- + Personalized spaces with a variety of shapes and sizes
- + Cohesive campus that is organized to support educational needs
- + Supports calm and productivity

PROGRAM ADAPTABILITY

- + Long-term flexibility, loose fit, long life

COMMUNITY CONNECTIONS

- + A campus that is organized to support educational needs

- + Indoor/outdoor connections
- + Preserve/respect/highlight historical context while incorporating
- + 21st Century learning design principles
- + Respond to community needs and the dense urban context

AESTHETICS

- + Durability and maintainability
- + Indoor/outdoor connections
- + Preserve/respect/highlight historical context while incorporating
- + 21st century learning design principles
- + Respond to community needs and the dense urban context

SAFETY

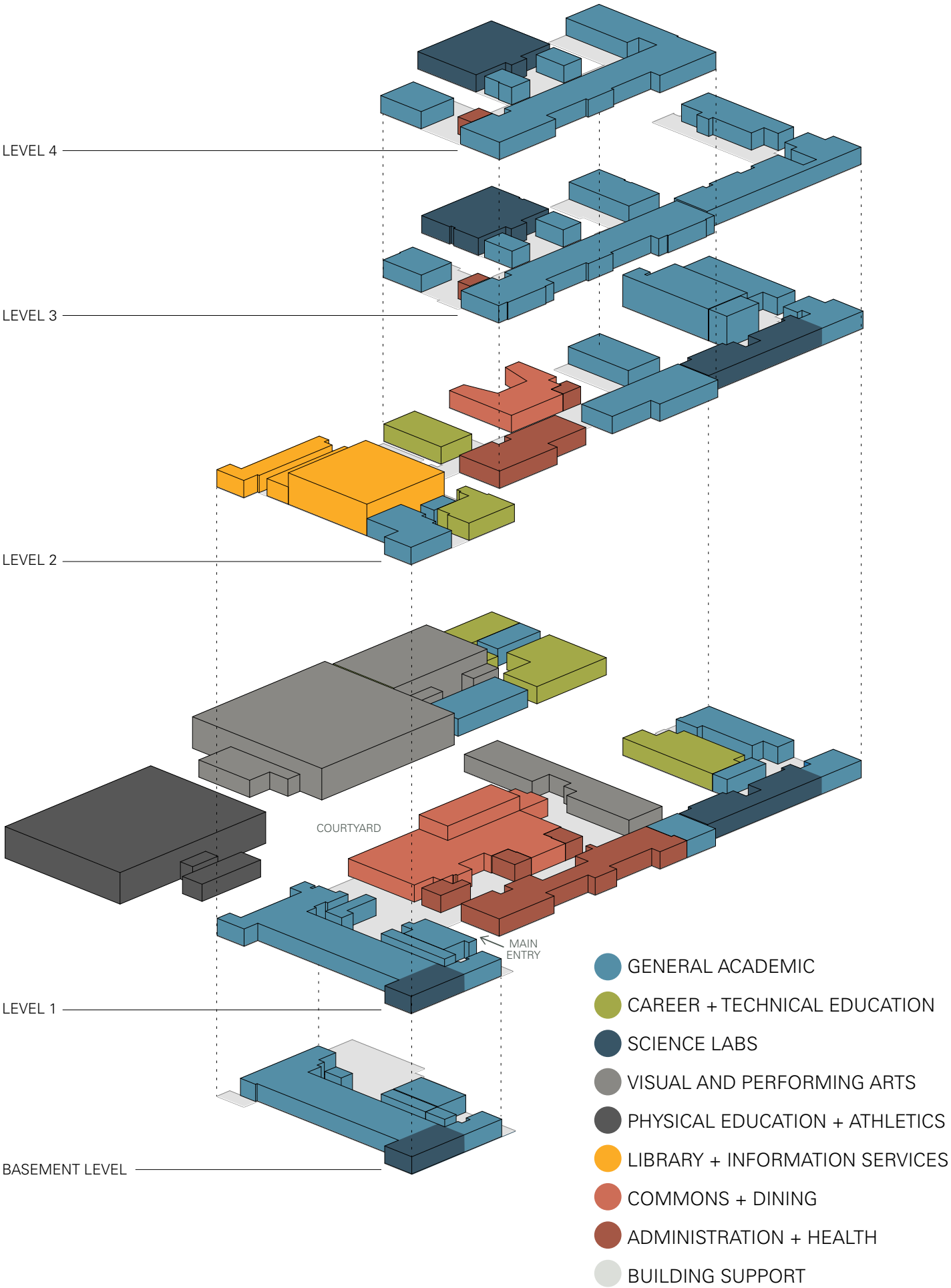
- + School safety for all students and staff
- + Cohesive campus that is organized to support educational needs
- + Supports calm and productivity
- + Respond to community needs and the dense urban context

COLLABORATION

- + Welcoming, accessible, and inclusive
- + Spaces that encourage collaboration for students and staff

SUSTAINABILITY

- + Long-term flexibility, loose fit, long life
- + On time and on budget
- + Durability and maintainability



Transformative Education

General building considerations were identified in order to provide a modernized facility that meets as much of the Educational Specification's requirements as possible within the existing building and site constraints. Since there was no staff or program in place at Lincoln, the design direction focused on providing a flexible school that could accommodate multiple program delivery models. The Educational Specifications program was organized in four primary categories: General Academic Neighborhoods, Specialized Academic Neighborhoods, Learning Support, and Building Support.

SUPPORTING A VARIETY OF LEARNING AND TEACHING STYLES

Project-based learning was defined as the preferred model of instruction. This dynamic classroom approach encourages students to actively explore real-world problems and challenges and acquire a deeper knowledge. This transformative education begins with curiosity, engagement, and wonder. Students engage with authentic problems that develop critical thinking and prompt the development and application of their knowledge and skills in all disciplines - language arts, mathematics, science, social studies, and the arts - with meaningful career and technology connections and innovations.

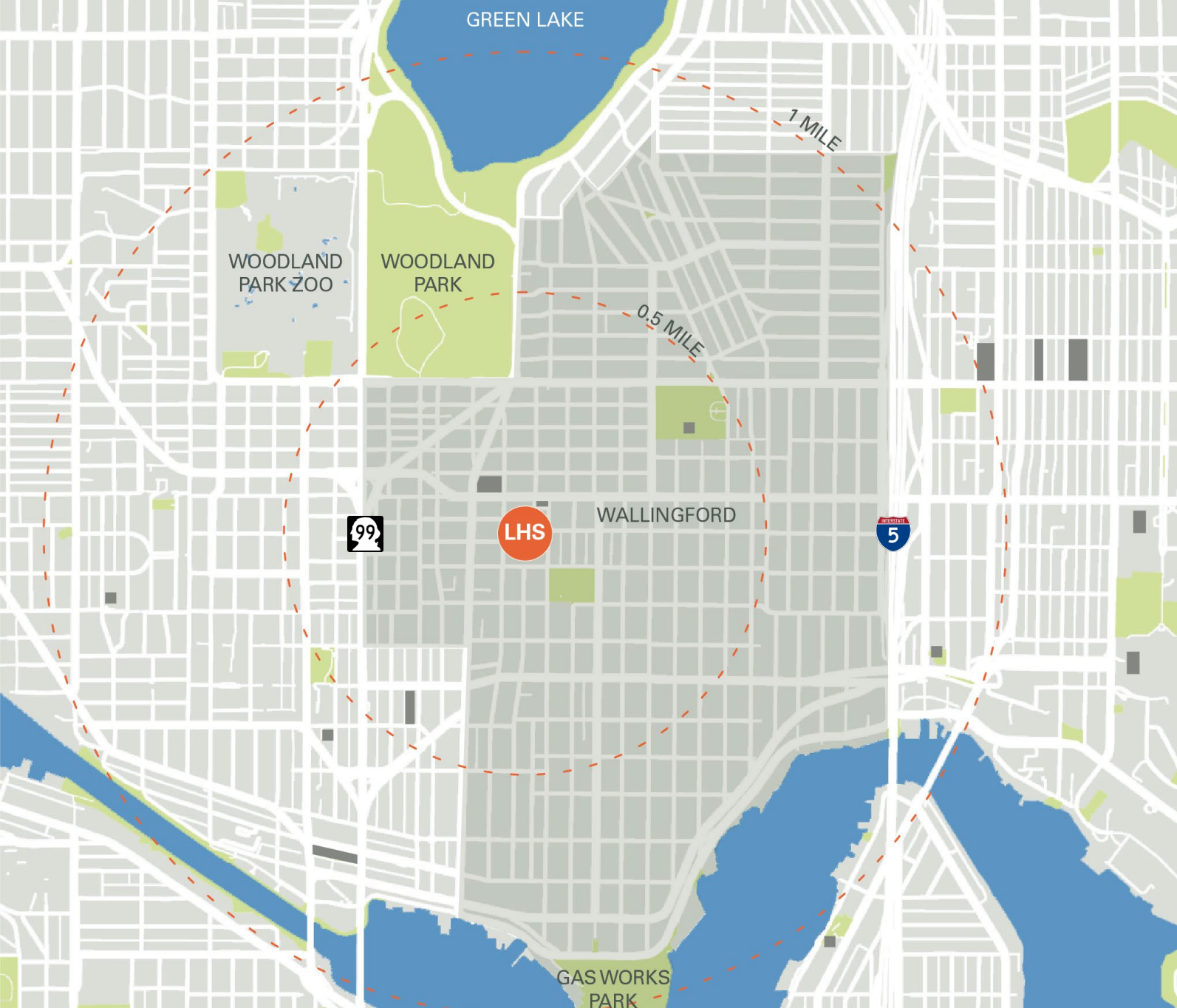
AN ADAPTABLE AND FLEXIBLE ENVIRONMENT

Meeting the needs of 21st century teaching and learning within early 20th century school buildings is not a simple task. Balancing educational demands for personalized academic neighborhoods with adaptable, integrated settings supporting project-based learning within a rigid, unreinforced masonry structure far from life safety, seismic, energy, or accessibility code compliance takes commitment.

As a result of our strategic programming, we were able to meet the scope needs as well as budget goals. The design team was able to successfully integrate modern programming in a historic building, upgrade mechanical electrical systems that meet current code requirements, and design with flexibility for an expanding student capacity.

Small learning commons adjacent to classrooms allow for small group collaboration or focused independent study sessions (top). The Maker's Space (aka the Fab Lab) is equipped with movable tables and pendant drop outlet boxes that allow creativity to take place anywhere within the space (bottom).





COMPLETE AFTER PHASE 1

- 1 MAIN ENTRY
- 2 COMMONS
- 3 LIBRARY
- 4 COURTYARD

TO BE COMPLETED IN PHASE 2

- 5 GYMNASIUM
- 6 AUDITORIUM
- 7 PERFORMING ARTS / MUSIC / CTE



PHYSICAL ENVIRONMENT

SITE CONTEXT

The Lincoln High School site is located at the heart of Seattle's Wallingford neighborhood. Wallingford was first established in the early 20th century in parallel with the growth of the University of Washington. The neighborhood saw its greatest boom during the 1920s, where many of its character-defining bungalows and box house residences were built. It has continued to grow to present day and remains largely a residential neighborhood with commercial cores at 45th Avenue North and Stone Way North. Today, its unofficial boundaries are located at Interstate 5 to the east, Lake Union to the south, Highway 99 to the west, and 60th Avenue to the North.

Lincoln's immediate surroundings are diverse and possess many of the amenities considered ideal for a high school campus. The site can easily be accessed by public transportation and by public automobiles from outside of the neighborhood through the use of Highway 99, six blocks to the west and Interstate 5, 14 blocks to the east.

Community resources within walking distance of the site include three public parks inside a seven-block radius. These parks house various ballfields, tennis courts, playgrounds, a wading pool, golf facilities, the neighborhood farmers market, walking paths, community gardens, a skate park, and other outdoor facilities. Additional community resources within close proximity include schools, the Wallingford Public

Library, the Wallingford Boy's and Girl's Club, Solid Ground, and the Wallingford Center (local mall).

SITE OVERVIEW

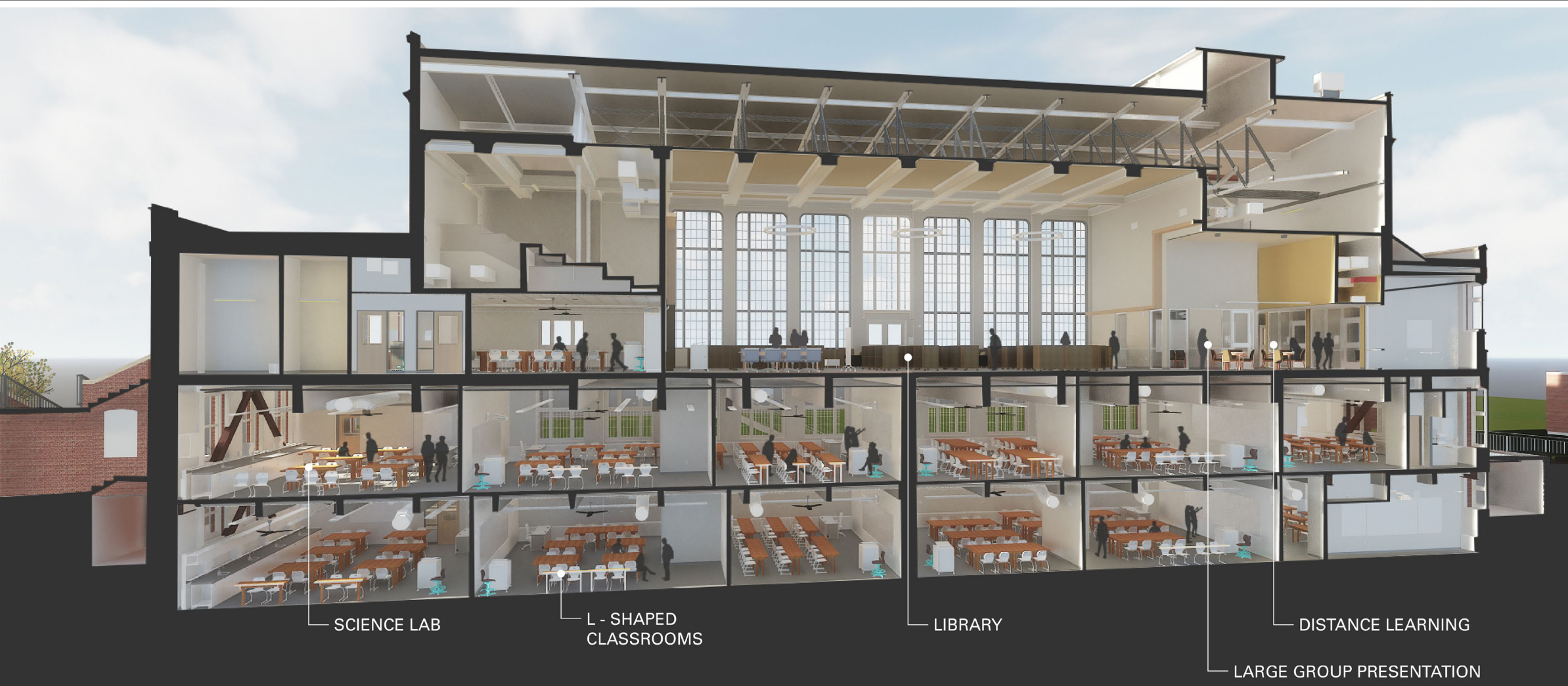
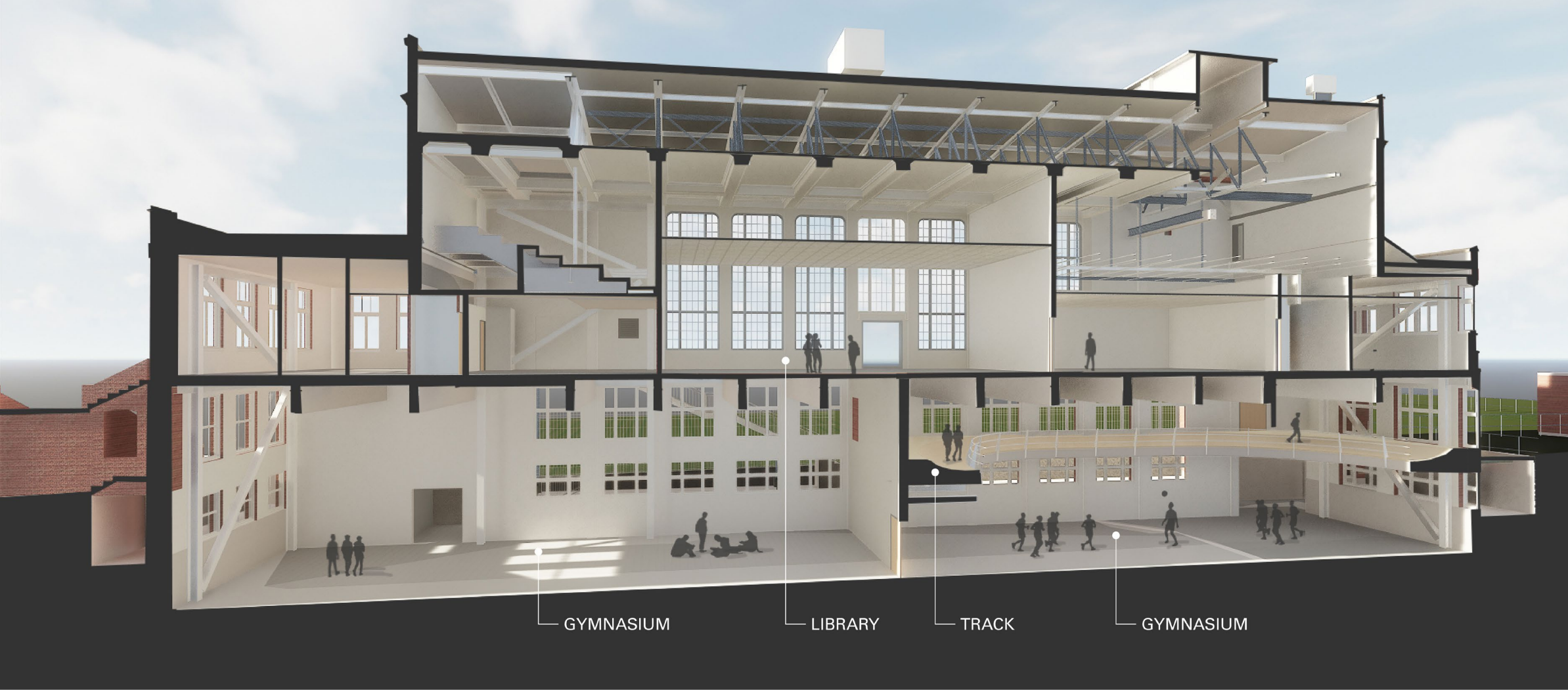
The Lincoln High School campus is comprised of five primary buildings; three connected buildings on the west side of the site and two on the east. At the heart of the campus is a warm, safe, secure courtyard serves as a social space, presentation space, breakout learning space, and an accessible means of circulation between the different buildings. Directly adjacent to the courtyard is the new commons, which accessible through a roll up door, connecting the indoors to the outdoors.

A Contemporary School Woven into a Historic Fabric

Modern schools have specific needs that don't always fit easily within the existing historic fabric. In addition to preserving character-defining spaces, successful school planning must adapt to the nuances of the historic building. At Lincoln, north (1914) and south (1930) wings were added to the original (1907) high school that were contextual, albeit different interpretations of the initial design. These sequential additions added complexity to the adaptive reuse. Not only did the new spaces need to meet 21st century learning standards, they also needed to fit seamlessly within the distinct characteristics of the three wings of the building.

One of the real challenges of the project was how to insert the additional program area the new 21st century ed spec required in contrast with the traditional model. The design team came up with creative solutions to solve how the additional program was inserted within the existing fabric of the landmarked school.

Before the renovation, the buildings' myriad renovations resulted in poor circulation and limited classrooms (above). By converting the gyms into classrooms, the building is ready to accommodate 1,600 students (below).



21st Century Learning Model in a Historic Framework

Lincoln’s traditional building design was developed around a direct instruction model. Traditional school building designs fall far short when evaluated against the goals of departmental 21st century teaching and learning in which teachers facilitate, rather than direct. The renovation was an opportunity to reconfigure Lincoln from the dominant teacher-centered educational paradigm to a more student-centered one.

The new integrated academic neighborhoods created a learning environment that created multiple teaching and learning opportunities of all scales, provided flexible breakout spaces, and reduced the scale of the academic environment with in the school.

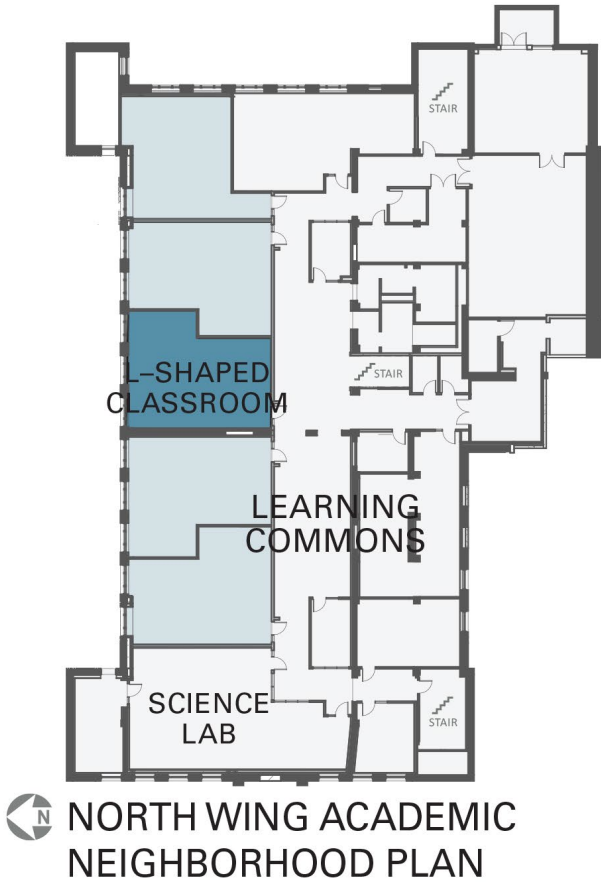
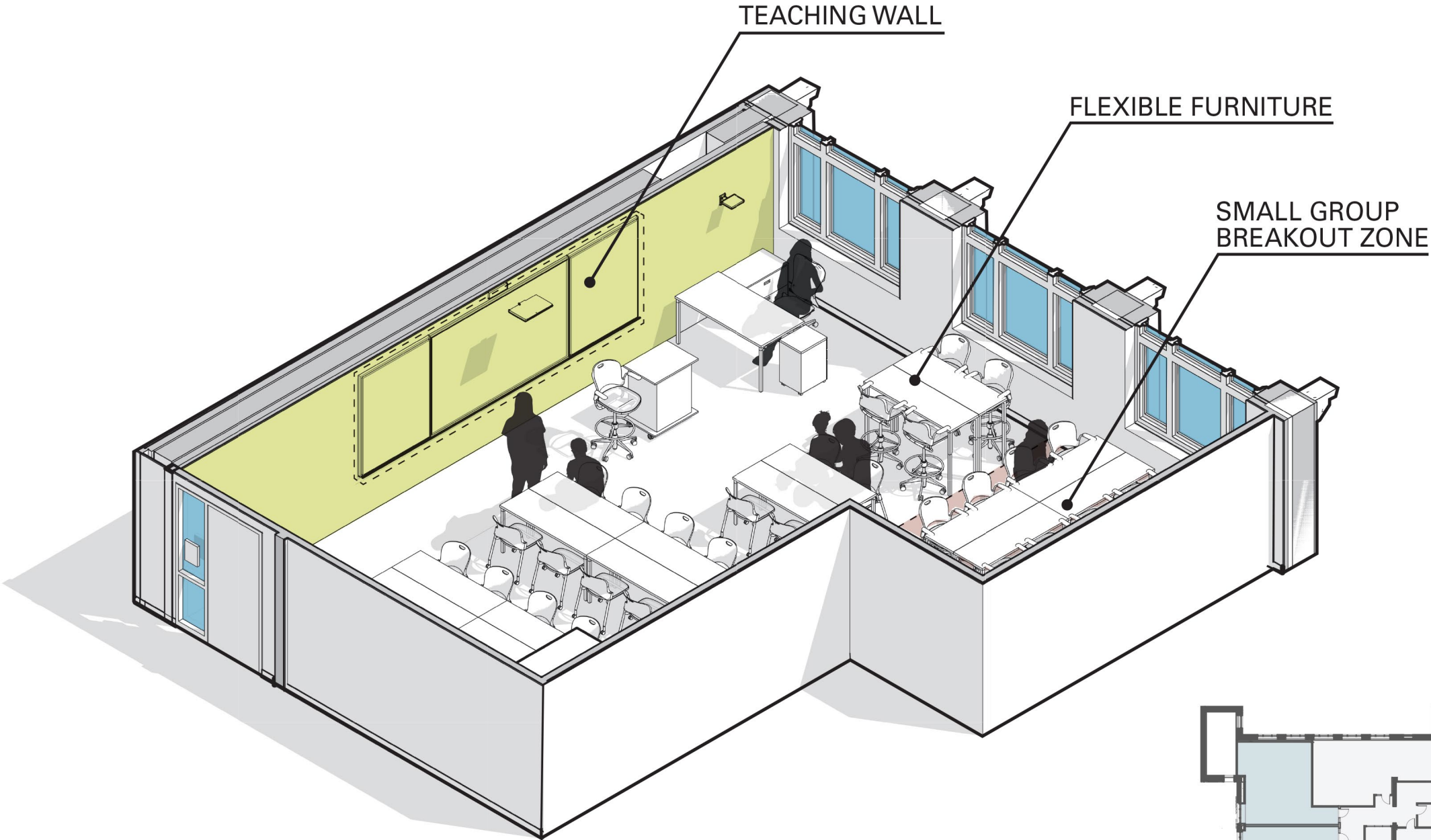


The “bells and cells” model in traditional schools resulted in a more rigid pedagogy.



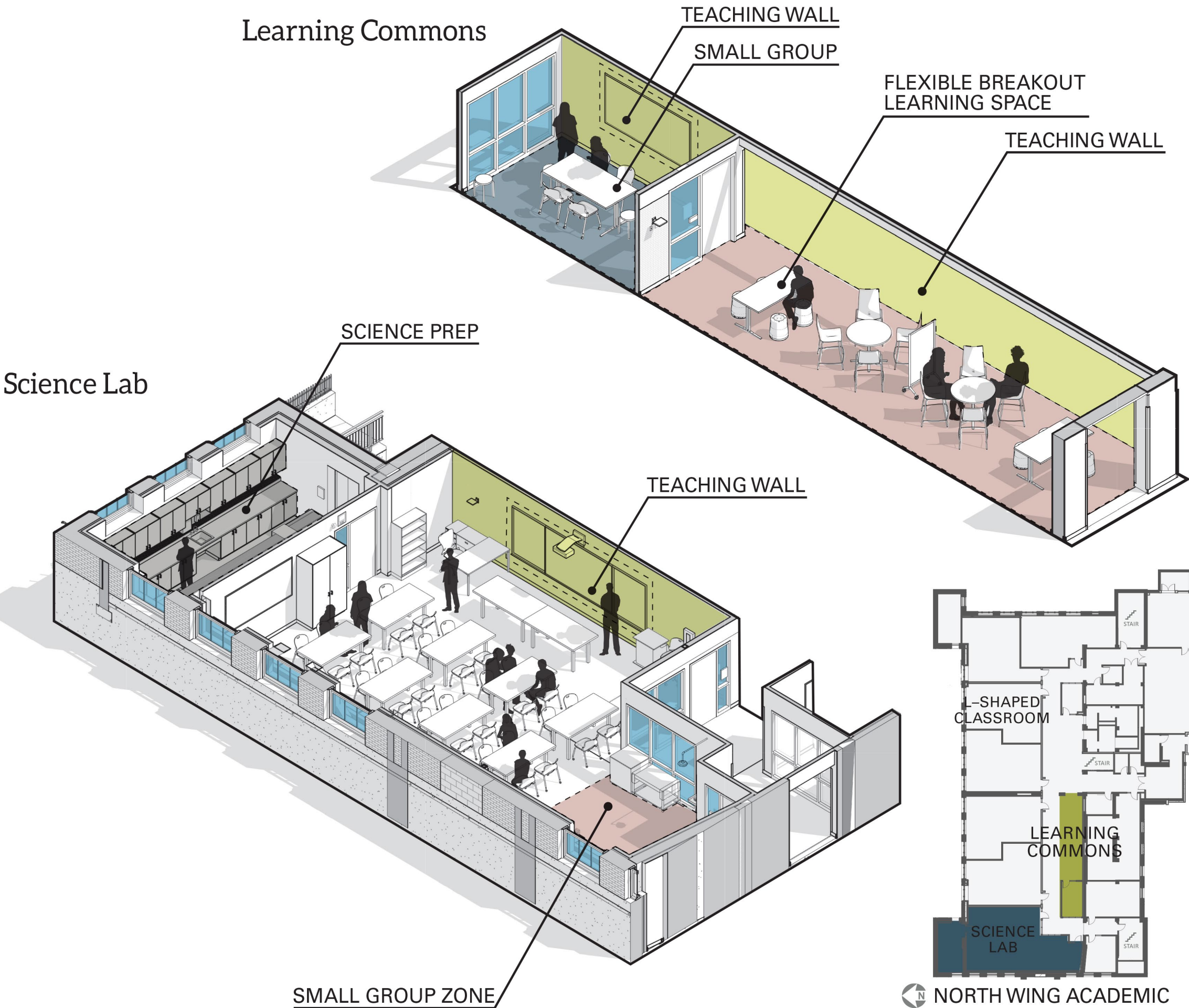
L-Shaped Classrooms

The L-shaped classroom is designed to accommodate small learning groups and various activities, while still allowing a single teacher to be able to manage the space. Markerboards at the front of the classroom allow for direct instruction and tackboards at the back are intended for breakout space. The classroom has two locations for the teacher desk, one at the front teaching wall of the classroom and the other located in the back. Each classroom is outfitted for 32 students at paired desks and includes 12 standing-height desks and adjustable-height stools.



Flexible Adjacencies

Small learning spaces adjacent to classrooms and labs provide opportunity for small group break out sessions. These customized learning spaces are perfect for 2-4 students. This adaptable environment allows students to choose the best format for their educational journey. Three different science labs were designed to accommodate biology, chemistry, and physics. The physics lab illustrated to the right has perimeter counters with sinks that the student desks can abut in front of to create lab stations. A metal support channel is provided at the ceiling for physics experiments. The student's desks and chairs can be moved back into the center of the room for direct instruction or test taking. The teacher has a demo table at the front of the classroom and is adjacent to a prep area designed to accommodate materials storage, clean up, and lesson prep.

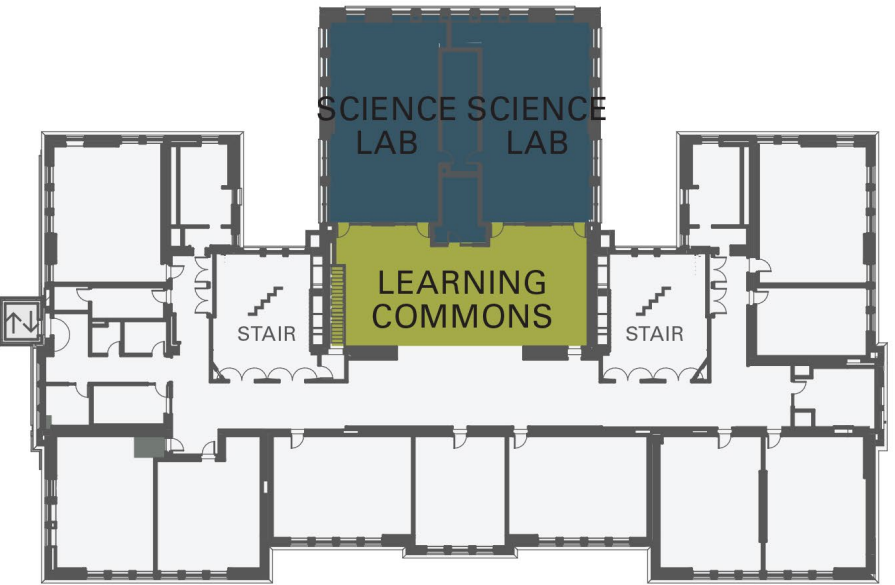
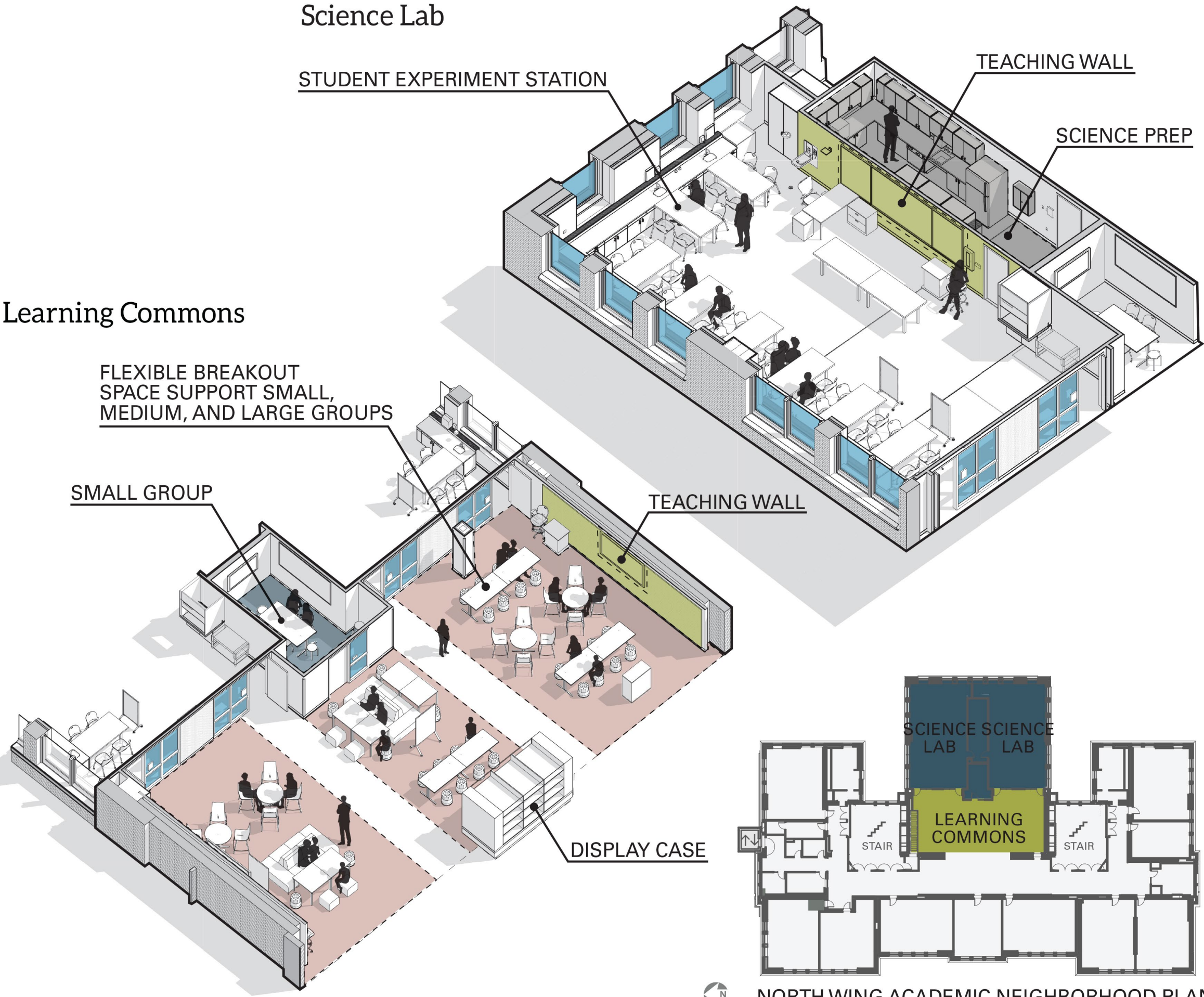


Academic Clusters

Myriad arrangements of academic neighborhoods meet the same program requirements. The large learning commons are located in the center of the building in order to provide access to the broader student population. These spaces are large enough to accommodate two full classrooms. The furniture is flexible and varied to provide small group soft seating, small group work tables, and large group work tables. Mobile marker boards offer additional flexibility to be able to break down the size of the space and make learning happen anywhere.

Distributed learning commons spaces are meant to support the differentiated teaching and learning styles within the school. Not every student reaches their full potential in a traditional direct-instruction format and these learning commons provide a flexible opportunities for individual and online learning, small group work, performance, large group gathering, and public presentations. Situated at the heart of each academic neighborhood, students are encouraged to utilize these spaces.

Learning Commons



NORTH WING ACADEMIC NEIGHBORHOOD PLAN



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I love the new building. It has all of the great features of a modern high school while preserving the eclectic elements that make Lincoln unique.

— Liam Stevenson
Lincoln High School Student

This large learning commons draws daylight from adjacent classrooms into hallways and is equipped with adjustable and flexible furniture provide opportunities for learning to happen everywhere.

Sustainability

ABOVE AND BEYOND SUSTAINABLE FEATURES

The most sustainable building is an existing one. Studies have shown that rehabilitation and retrofitting of existing structures results in fewer carbon emissions over the life of the building when compared to new construction. This was certainly the case for Lincoln. The Life Cycle Assessment for Lincoln showed a 65% reduction of embodied carbon compared to a complete replacement. This is almost 80% less than the Carbon Leadership Forum’s baseline for schools. This reduction can equal 20 years or more of operational carbon impacts.

Historic windows were replaced, creating a tighter building envelope. Airlock entries were installed to conserve heat and LED lighting was installed throughout the entire campus. Healthy materials were a priority. As a result, out of six possible points all six were achieved in Washington Sustainable Schools Protocol (WSSP) for Low-Emitting Finishes. Healthy materials included a dedicated outdoor air system (DOAS) that delivers highly efficient heating, ventilation, and air-conditioning. The combined mechanical and electrical upgrades within the building envelope upgrades resulted in an EUI of 35, which is 54% below the AIA 2030 Commitment baseline. The building is performing equal to or better than a newly constructed building despite being a historic renovation.



The secure courtyard serves as a social space, presentation space, breakout learning area, and an accessible means of circulation between buildings.

Embracing Historic Details in a 21st Century School

In the original 1914 auditorium, which later became a library, two-story tripartite windows were revealed and replaced, and the original plaster ceiling details revitalized.





RESULTS OF THE PROCESS AND PROJECT

SUCCESSFUL INTEGRATION OF 21ST CENTURY LEARNING IN A 20TH CENTURY BUILDING

Meeting the needs of 21st century teaching and learning within early 20th century school buildings is not a simple task. Balancing educational demands for personalized learning neighborhoods with adaptable, integrated settings supporting project-based learning within a rigid, unreinforced masonry structure far from life safety, seismic, energy, or accessibility code compliance takes commitment. The design team took this challenge head on, creating an adaptable school that encourages high level thinking skills, fosters inquisitive minds, and inspires creativity.

THOUGHTFUL INTEGRATION OF HISTORIC ELEMENTS

Across the country, school districts take the path of demolition of heritage schools because “it’s easier and cheaper.” Seattle Public Schools, in partnership with the citizens of Seattle (and the Landmarks Board) chose to pursue a more comprehensive approach. The outcomes, which invariably involve compromise, provide outstanding learning settings while instilling pride in the preservation of our community landmarks. Wherever possible, the design team uncovered and highlighted elements of the original building, revealing authentic details.

POST OCCUPANCY EVALUATION

Both the architect and the district are planning to do a Post Occupancy Evaluation (POE) once a full school year is completed. Given recent events with COVID-19, this has been pushed to Fall 2020. This conversation will be expanded to accommodate repercussions of the pandemic. What would a hybrid learning environment look like? Currently, Lincoln’s library has a designated distance learning space to support rural America. This in combination with existing flexible academic neighborhoods - the school is preemptively prepared for these unforeseen circumstances.

The architect’s POE survey, run through UC Berkley’s Center for the Built Environment, will focus on the learning

environment, indoor air quality, and the thermal comfort of occupants. The data gathered provides important information for national studies, particularly on certified green schools. The survey can show the connection between teacher satisfaction and well-being and high performance features such as proper daylighting, classroom thermal controls, air quality, and acoustics.

The north façade glimmers with light from the revitalized library and the new classrooms beneath it, which previously housed a gym and elevated running track.