



2021 LE Solutions Award

Juanita High School

Lake Washington School District

Kirkland, WA

01 EXECUTIVE SUMMARY

Juanita High School is an educational design solution that replaces an existing high school facility, originally built as an open school concept, to meet the needs of today's diverse learning and adapts to the needs of future generations. This high performing facility reflects district educational goals while also lowering operational cost and meeting strong sustainable design benchmarks.

The new high school provides flexible, innovative learning environments that enhance an existing flourishing program. It is designed with a sophistication that is meant to convey respect for all students and staff, encouraging and supporting them to achieve success. Organized around a central student courtyard, public spaces and learning environments fluidly interconnect as a way of creating an awareness of the whole, enhancing the cultural life and work of the students.

GOALS:

- 21st century learning spaces
- Cultivate community
- Healthy, adaptable, activated environment

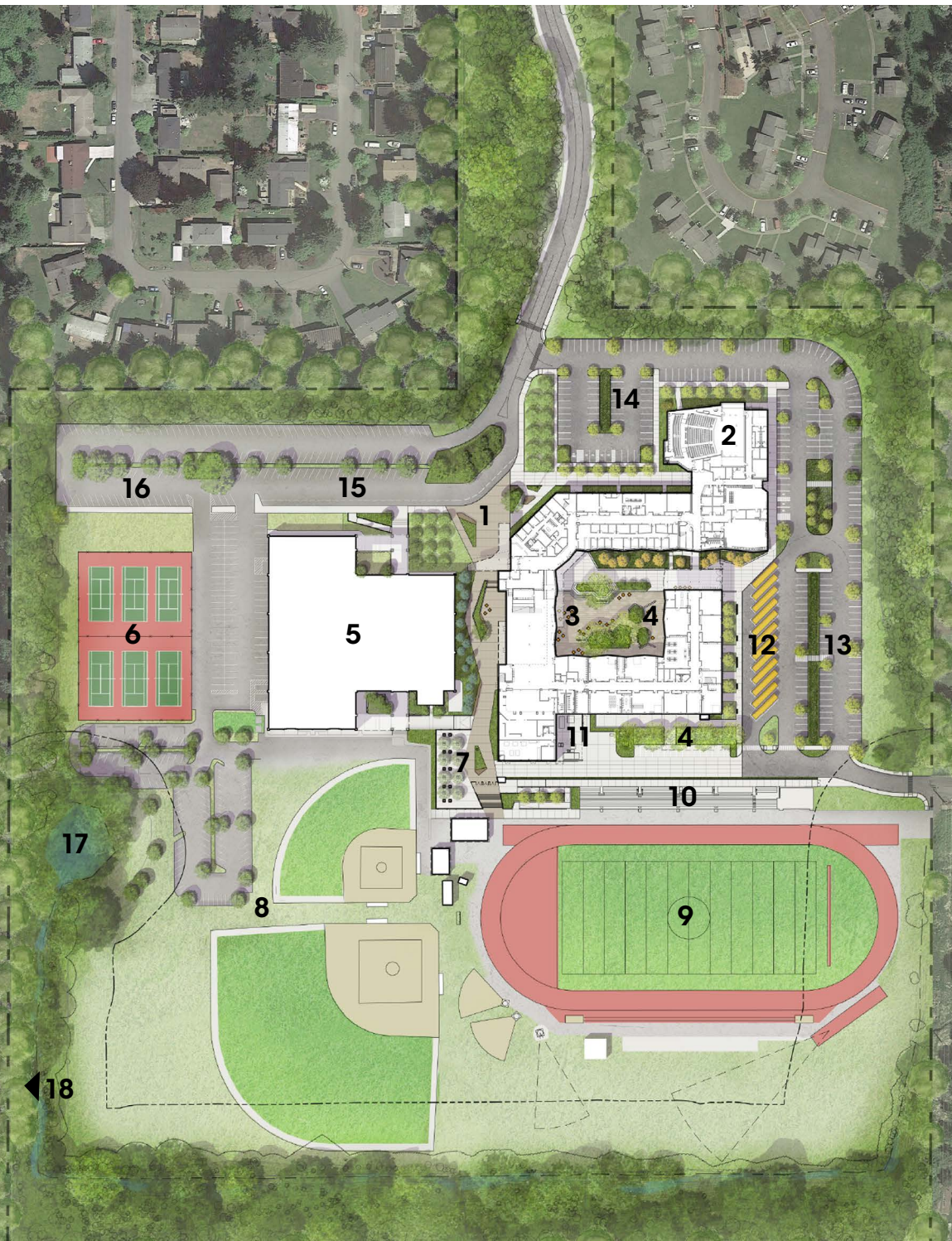
OUTCOMES:

- Shared learning spaces, STEM & STEAM classrooms
- Site & building organization
- Courtyard & connections to nature



The school wraps the student courtyard, creating a central orientation for daily activity.

02 SCOPE & BUDGET



The Lake Washington School District is a high performing district serving several suburban cities east of Seattle. It is one of the fastest growing areas in the region and has experienced a large influx of new families, adding over 1,000 students every year, resulting in overcrowding. Accompanying this is a surge in the number of minority students, with now more than 100 languages spoken in District homes. With the student population growth came a rise in the number of students qualifying for free and reduced lunches.

In 2016, the District passed a capital bond campaign to reduce overcrowding and enhance student learning environments. Scaling back from an earlier plan to replace the entire campus, the scope for Juanita High School:

- Engaged the community to create a vision for a new high school facility.
- Developed a long-range master-plan for campus improvements, including replacement or renovation of the existing outdoor sports facilities, pool and field house.
- Designed and built a replacement facility for the academic and performing arts building.
- Designed for a phased construction to allow the existing program to remain on-site throughout the construction process.
- Developed a cohesive and meaningful place for learning and growth.

- 1 Entry Plaza
- 2 Performing Arts Center
- 3 Student Plaza
- 4 Outdoor Learning areas
- 5 Existing Field House & Pool
- 6 Tennis Courts
- 7 Sports Plaza
- 8 Existing Ball Fields
- 9 Existing Track & Field
- 10 Existing Stadium
- 11 Service
- 12 Bus Drop-off
- 13 Staff Parking
- 14 Visitor Parking
- 15 Auto Drop-off
- 16 Student Parking
- 17 Wetlands
- 18 Juanita Creek & wetland preserves

Location : Kirkland, WA

Building Area : 217,000 SF

Site Area : 42.72 acres

Student Capacity : 1,800

Grades Served : 9-12

Occupancy Date : September 2019

Project Delivery : GCCM

Final Construction Cost : \$106 M

Construction Type: Type II-B

Predicted EUI : 19.6 pEU

03 SCHOOL & COMMUNITY ENGAGEMENT

Juanita History

Juanita High School is the last of the District's four comprehensive high schools to be upgraded. The original facility was designed in the late 1960's, opening in 1971 around the concept of open classrooms. The 'Juanita concept' embraced innovative educational concepts, like respect for the student, mastery learning, performance based learning, credit for work completed, individualized instruction, and the development of lifelong learning skills.

The open concept facility was designed as a large 18' high open space surrounded by an auditorium, music area, science rooms, CTE program spaces, and the main office.

Eventually, in the 1980's, partitions were erected, creating a 'rabbit warren' of rooms with very few windows, ineffective mechanical systems, and difficult wayfinding. Despite a compromised educational facility, over the life of the school, staff and students have managed to sustain a vibrant and high performing Juanita High School community with a strong sense of community.

The opportunity for the design team was to work with the school community to craft a new school that supports a renewed vision for innovative education and especially connect the school to the beautiful natural wooded areas that grew around the original building.



The Vision

There was a strong feeling in the Juanita community that planning their new school around the District's vision for high-performing 21st century schools was simply not enough. They envisioned a new school facility designed to fundamentally strengthen their vital community, while also integrating the exciting opportunities provided by the District's educational vision.

Additionally, Juanita High School has several special programs that function as schools within the larger school:

- *Futures*: program for at risk youth with over 50 homeless students.
- *Transitions*: a comprehensive special education program.

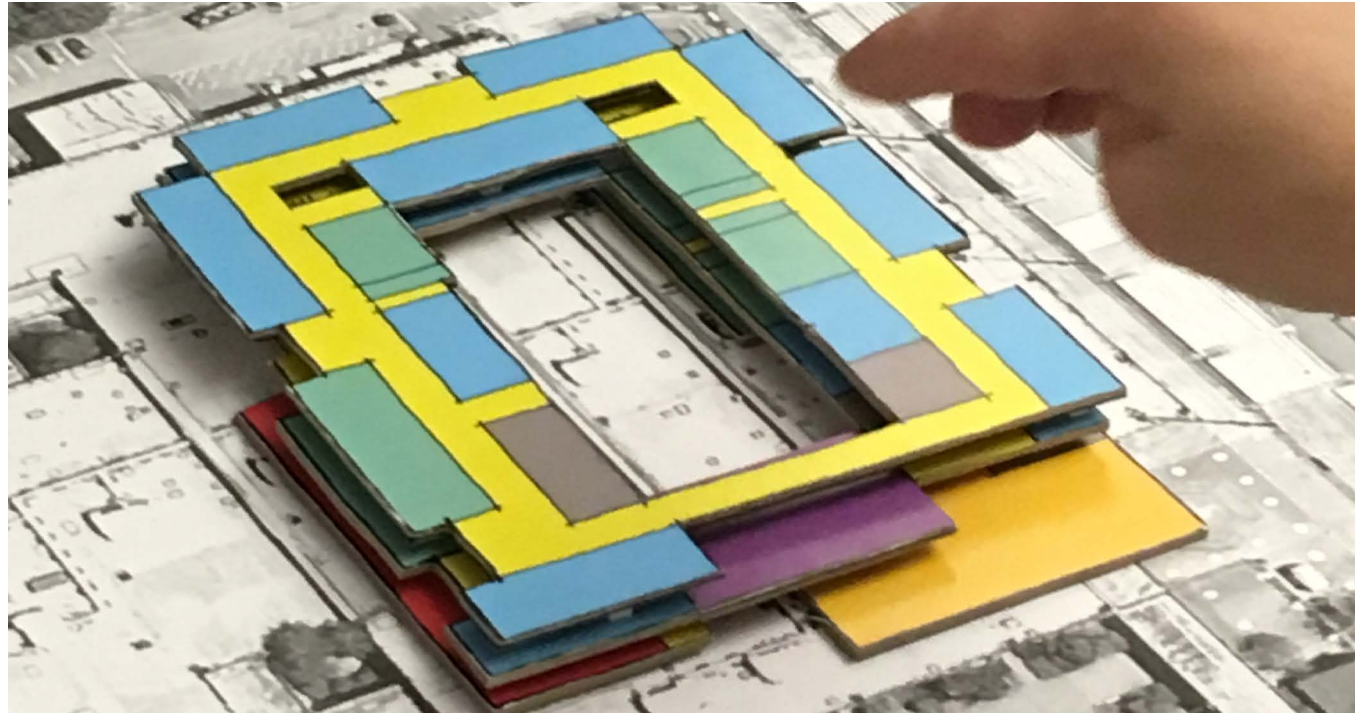
The new Juanita High School building provides students in these programs a new home, designed to be readily accessible to the exterior, function independently, and to be an integral part of the larger school.

Planning Process

The district and the design team worked hand-in-hand with the School Construction Input Team (SCIT) that included students, school staff, parents, community representatives, principals, and District staff. SCIT assisted in formulating a design that reflects the community and school's culture, representing the Juanita culture to the design team, establishing design objectives, and assisting the design team explore design opportunities and optimal space adjacencies.

Multiple meetings with the SCIT identified project goals and frameworks, mapped out site resources, tailored and confirmed program areas, and tested a wide range of building and site organizations before arriving at a preferred solution.

Additional student engagement exercises were held to listen to how the students see their school, themselves, and their learning experiences.



Early in design our team worked with stakeholders to explore design opportunities and spatial adjacencies



Guiding Principals

- Welcoming / Safe
- Cultivate Community
- Culture / Pride
- Long / Healthy Building Life
- Activated Environments
- Easily Navigable
- Student Life Integrated into School Day
- Healthy Environment



The clear & welcoming entry plaza at JHS invites students & community members alike onto the campus upon arriving at the site.

On the following page are the key project challenges.

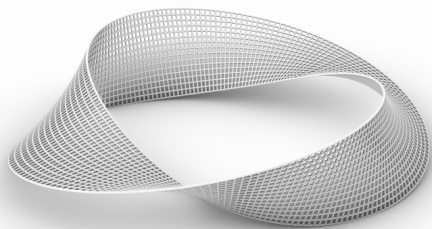
Challenge 1

Provide a new home for a tight knit high school community to foster and grow their strong spirit and identity while lowering the district's operational cost.

By listening to the community's values, the importance of visual connections, places to pause and extend learning, and choice in movement became key drivers in the development of this facility. Thus, the school is organized around a new central student courtyard with an emphasis on human scaled in indoor and outdoor public spaces. This enhances personal experiences and sense of connectedness within the school community and surrounding wooded landscape. The student commons bridges between the stadium gym plaza and the central student courtyard, connecting it visually and physically to these outdoor social

spaces. The overall sophistication of the design conveys the community's aspiration for the students. Inspiring them to think larger about their abilities and prospects for the future- in this proper new home for Juanita.

Leveraging the opportunities that accompany a new facility for learning, goals for building performance were established as well. Basic sustainable design principles of Reuse, Recycle and Reduce were key filters in the design that also served to lower the operational costs of the high school.



The building circulation was designed to embody the character and feeling of a Mobius strip, the simplest non orbital surface.





The large forum stair, finished with reclaimed wood, connects the Commons to the Library on the second floor.

Challenge 2

Integrate District's vision for innovative 21st Century learning into a new facility representative of Juanita's unique culture.

The School District's vision for Innovative 21st Century Learning focuses on core values around Innovation, Well-being, and Equity.

The design team wove these values into a unique facility that is reflective of the strong Juanita High School community.

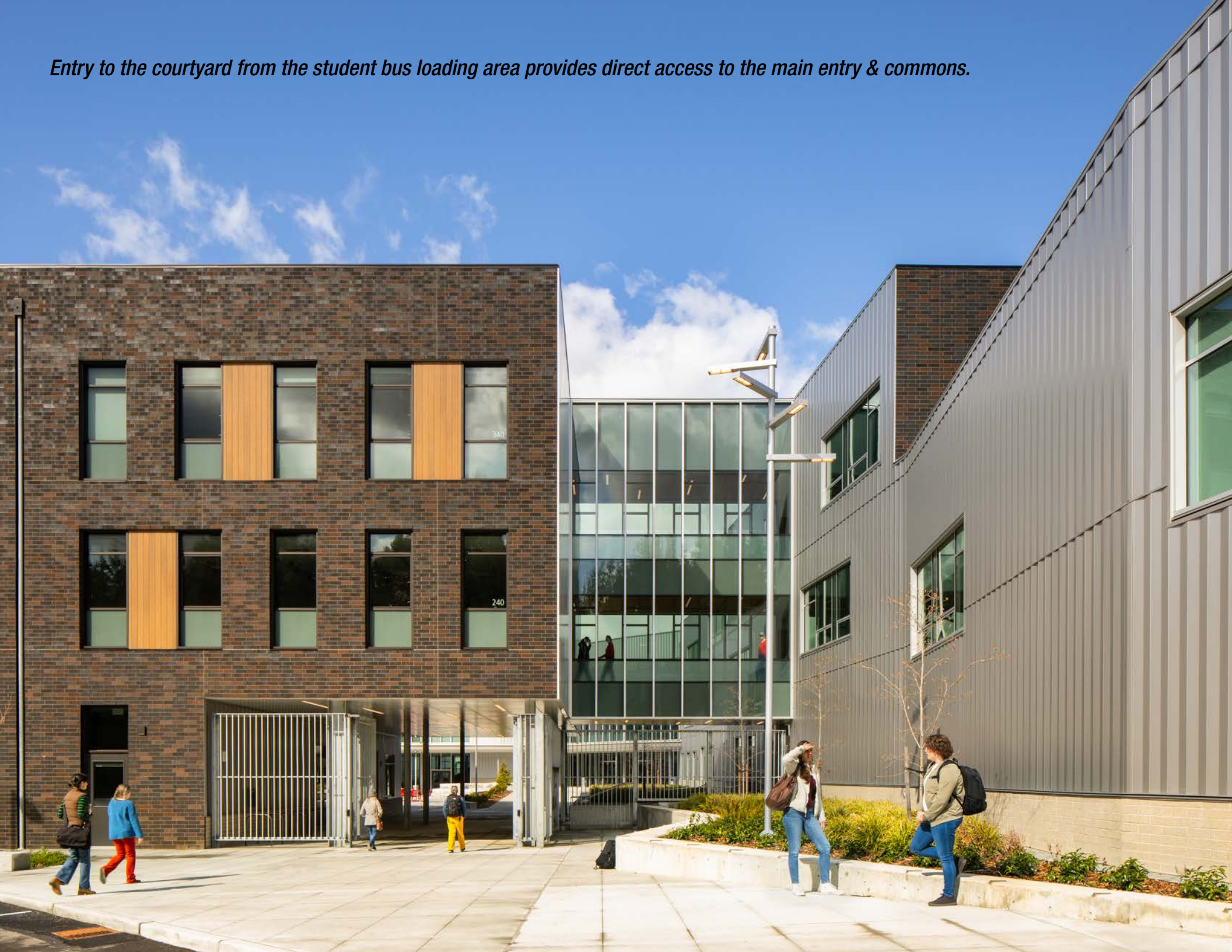
Innovative learning environments are realized in classroom groupings that include studio spaces supporting hands on learning, with overhead power, access to water, and flexible space. Hands on learning is also further supported distributed science rooms for interdepartmental collaboration, food science, the fine arts, computer science and maker spaces.

Supporting student health and well-being - visual connections between spaces are emphasized including connections between third floor hallways and the library space on the second floor, classroom groupings prioritize visual connections to other learning spaces, and administrative areas are located to welcome and connect throughout the school day.

Equitable experiences are prioritized throughout, an example includes how the design provides a similar arrival experience for all students regardless of whether they arrive by car, bus, bike or foot - all begin and end their day traveling through the courtyard and commons where they have access to food, academic support, social spaces, and quiet study areas.



Entry to the courtyard from the student bus loading area provides direct access to the main entry & commons.



Challenge 3

Re-imagined Future: Changing the Mascot

With the growing diversity of the student population, there was pressure put on the district to change the mascot from the “Rebels” to a mascot that could represent everyone in the student body.

Integrus was already creating environmental graphics for the new school, and were brought in to collaboratively design the new mascot and school identity: *The Ravens*. The district and students wanted something that was “fierce” and a mascot that they would be proud to wear.

Providing not only a graphic that they could embrace, but a family of graphics that all worked together but gave the school flexibility in using the graphics. This allowed individual sports teams and other

school entities to have their own graphic, but a graphic that still worked with the overall school identity. The original rebel shield and “J” graphic was important as a bridge between the old and the new and incorporated into the new graphic.

Some members of the community advocated for the mascot to look Native American. It was felt this was the wrong direction because the **NCAI** (National Congress of American Indians) states that they view Indian motifs in sports mascots as harmful and intolerant. Making sure that all members in the community were heard, educational graphics were created within the school that describe the Raven and its connection with Native Culture.



Original Mascot Graphic



Challenge 4

Revitalize high school campus while maintaining continuity of programs while students remain on site.

A major challenge was to maintain continuity of the high school program on-site while also building the new facility within the footprint of the original school.

Following the goals set in the master plan, the funding for a new high school building provided the opportunity to begin the process of creating a new human, scaled campus strengthening linkages to the community and the site.

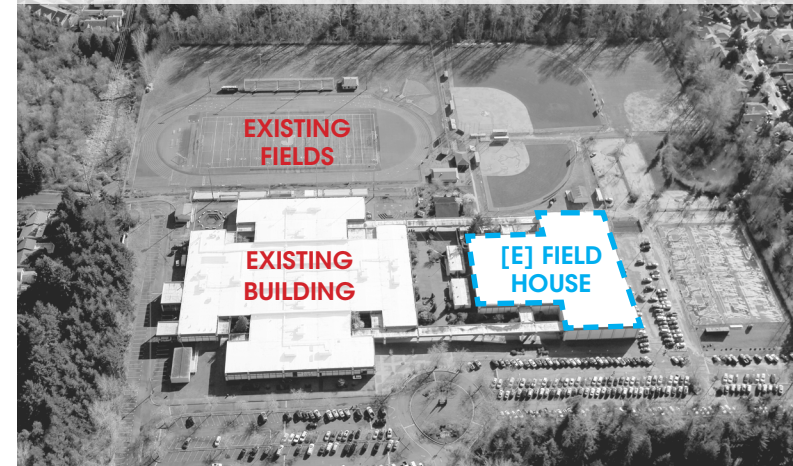
Phased construction on an occupied site often leads to a campus that is

disconnected and does not provide a welcoming and unified community presence. With the courtyard design, a thoughtful placement of the theater, and new school building, relative to the existing athletics building, a cohesive campus was developed. One that used building placement to facilitate the required phased construction and ultimately result in human scaled outdoor learning and gathering spaces such as the central courtyard, entry plaza, and theater entry. Creating a school that is both connected to the surrounding wooded environment and able to create a new cohesive vibrant hub for learning.



Aerial photo showing completed high school **AUG 2020**

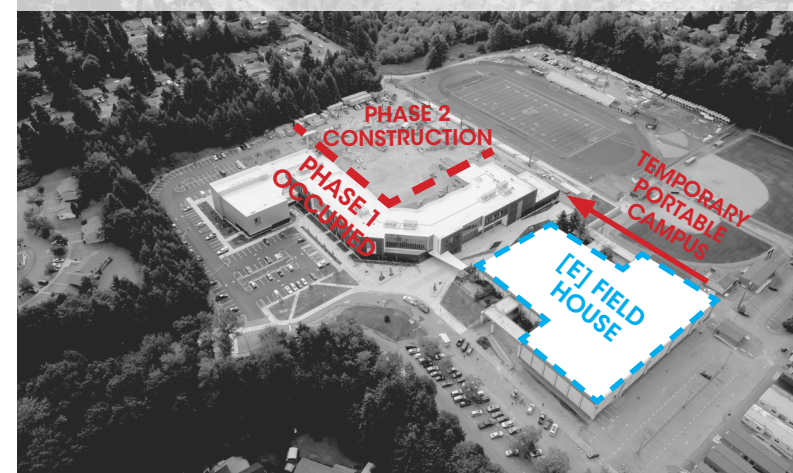
MAY 2017 Aerial photo of existing building & field house occupied



JUL 2019 Aerial photo showing phased construction with existing bldg occupied



AUG 2019 Aerial photo showing phase 1 completed



04 EDUCATIONAL ENVIRONMENT

Educational vision & goals

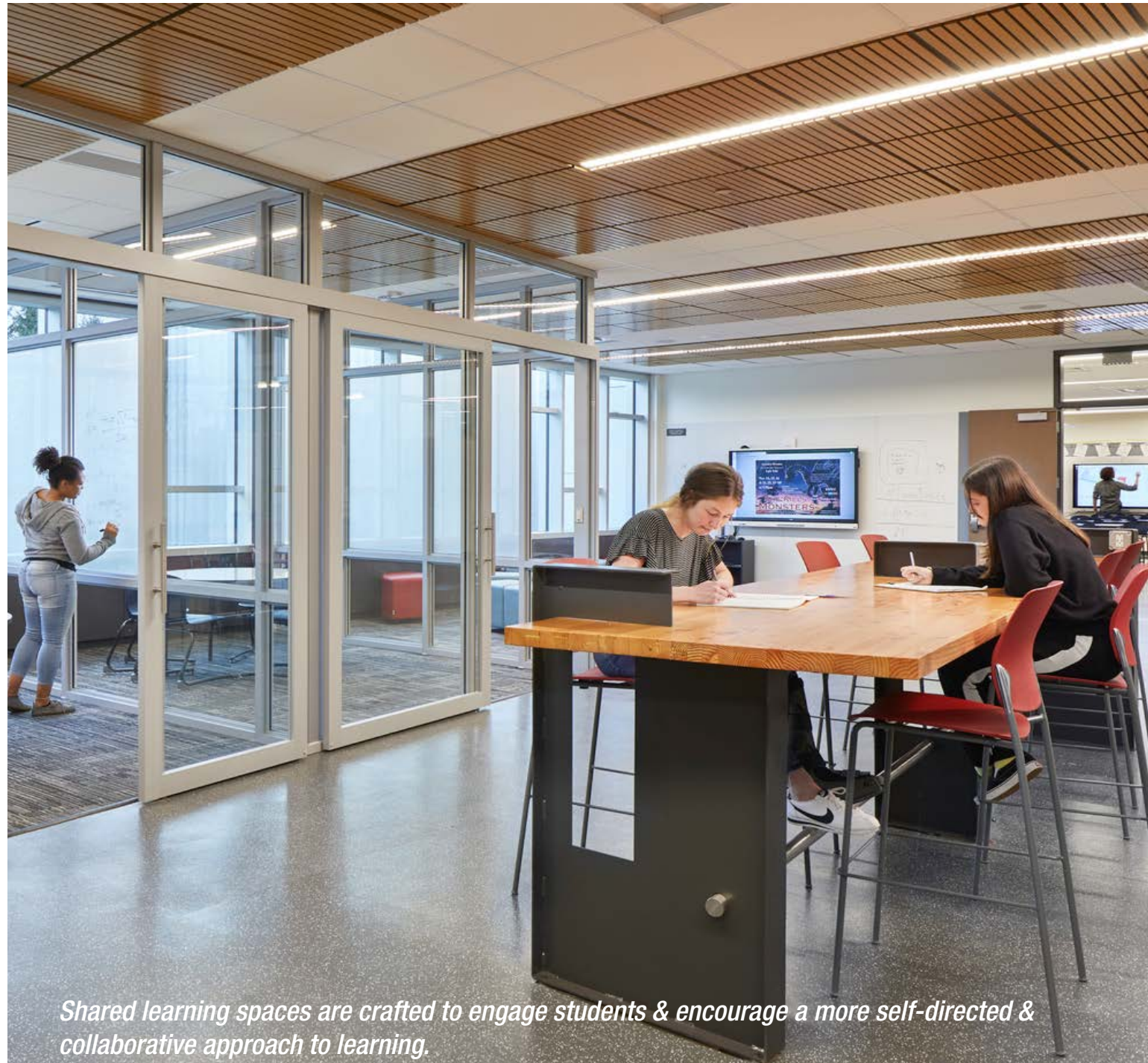
In the initial visioning for the project, a fresh look was given to the District's educational specifications, involving them to their new 2020 Vision and to the specific needs of Juanita. The design explored new curriculum and pedagogy models as programs, such as, nursing, legacy CTE, and autotech moved off-site.

Long term flexibility

With an eye toward creating a 100 year high school facility, having a large variety of lab-sized spaces goes a long way toward long term flexibility, allowing the program to evolve over time without necessitating extensive renovation. Science labs are located together on two floors on the south wing, but also integrated within four learning suites so that both departmental and inter-disciplinary collaboration can happen simultaneously.

A sense of place & community

Extensive windows provide ample daylight and views outward to the community and the natural wooded perimeter surrounding the site. Much attention was given the scale of the spaces, as well as crafting the built elements to suggest an inviting atmosphere of scholastic endeavor. Interior glazing provides the essential visual connections from each classroom to the shared areas, increasing their utilization.



Shared learning spaces are crafted to engage students & encourage a more self-directed & collaborative approach to learning.

Learning Suites- facilitating 21st century learning

Each of the seven academic learning suites are designed for an integrated, interdisciplinary curriculum. The learning suites are designed to facilitate self-directed learning, allowing for more extensive hands-on, project-based, and cooperative learning experiences. Organized with four classrooms set on the courtyard and two flexible lab-sized project classrooms on the exterior perimeter, central shared areas function as hubs for each learning suite. This supports a more independent and collaborative learning activities, as well as a more social environment appropriate for high school.

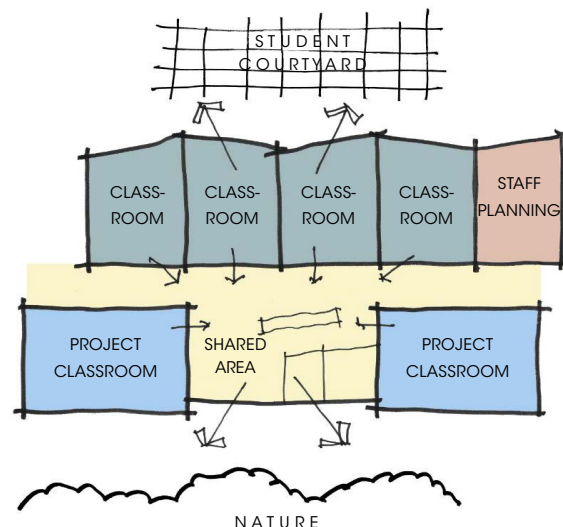
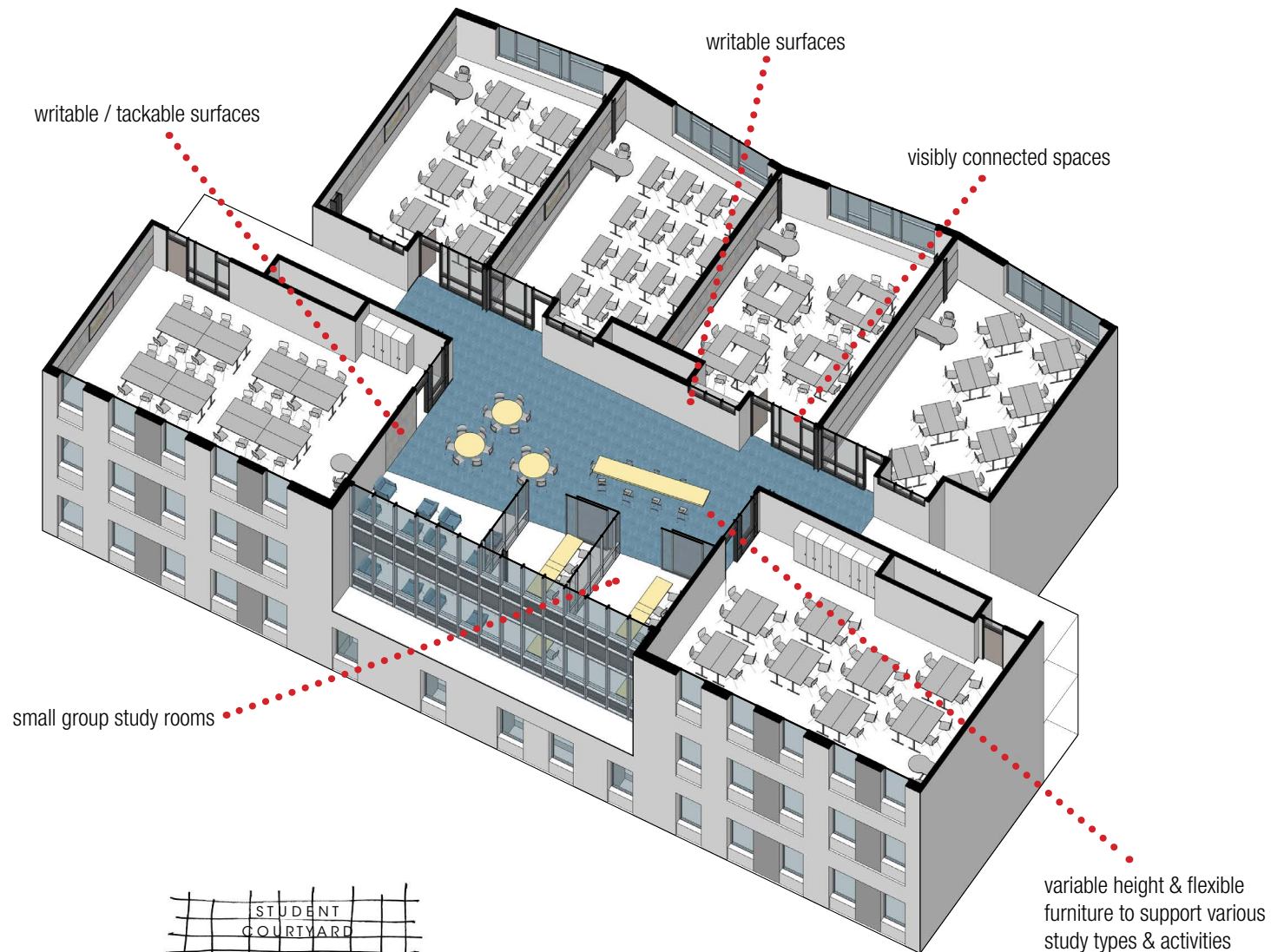
Designed with flexibility and variety in mind, the shared areas have both fixed and movable furniture, with small group areas designed for student use, access to infrastructure and surfaces that support student-led learning.

Personalization

Plenty of tackable surfaces throughout the school and whiteboards invite students to personalize their home and help to create a culturally responsive climate in the school.

Staff Collaboration

Each learning suite is provided with a staff planning room with a workstation for each teacher, a coffee area, and a telephone room for private communication.



Interconnected Learning Experiences

Public spaces throughout the school are interwoven vertically and horizontally around the school, orienting students and connecting in a such a way that student life is integrated into school day. This provides places to inspire self-directed learners and student teams outside of the traditional, formal teaching spaces.

Inspiring Life-long Learners

The Career Center is located front and center at the main student and public entrance and adjacent to the Commons, making a statement of valuing all students and supporting their post their post graduation ambitions. Open and welcoming, the Career Center helps them prepare for a career or higher levels of education.

Fundamental to integrating a more comprehensive STEAM-oriented approach, many adaptable lab-sized learning spaces for hands-on, project-based learning are available throughout the school for more subject areas. These spaces are integrated within the core of the seven learning suites, making them readily accessible to all students.

Specific STEAM-focused labs are featured on the ground level, taking advantage of their location to connect to complementary outdoor learning areas accessed through garage doors.

The new school is designed to inspire students & encourage them to take ownership to achieve success as life-long learners.



The inviting, student-friendly Career Center is located right at the main public entrance & adjacent to the Student Commons



05 PHYSICAL ENVIRONMENT

Sanctuary in the Trees

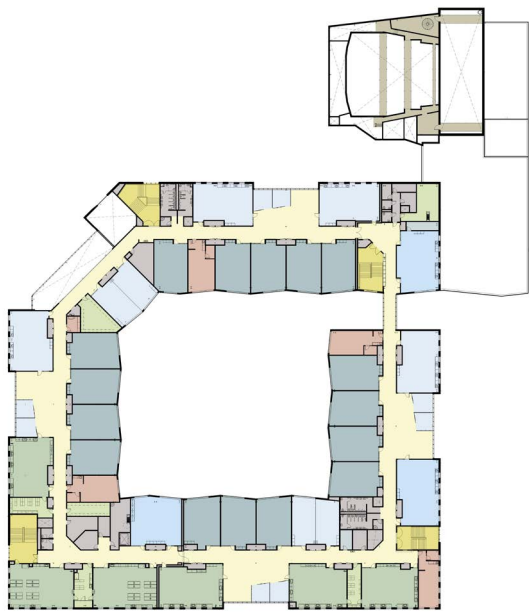
Situated in Kirkland, Washington, a suburban area northeast of Seattle, the site itself feels removed from its surrounding development, located in a regional greenbelt, which is part of a remnant web of native northeast landscape. Ringed by substantial mature wooded buffers, immediately east of the site is an extensive wetlands system feeding Juanita Creek which runs along the southern edge of the property. The main access to the site is from a major arterial, proceeding through a tunnel of trees, giving a feeling of leaving the busy suburban traffic behind.

A significant aspect of the project was integrating the new school facility with the beautiful natural setting surrounding the site. The new building establishes strong indoor/outdoor connections, creating linkages with strategically placed openings and human-scaled plazas stimulating a vibrant hub of activity.

Center for the Community

Budget limitations prohibited renovation of the indoor / outdoor athletic facilities and remedial work within the stream buffers. Instead new development focused within the immediate campus area, developing exterior plazas to welcome in the community, and setting the stage consistent with the master plan for a major renovation and addition to the existing fieldhouse and pool.



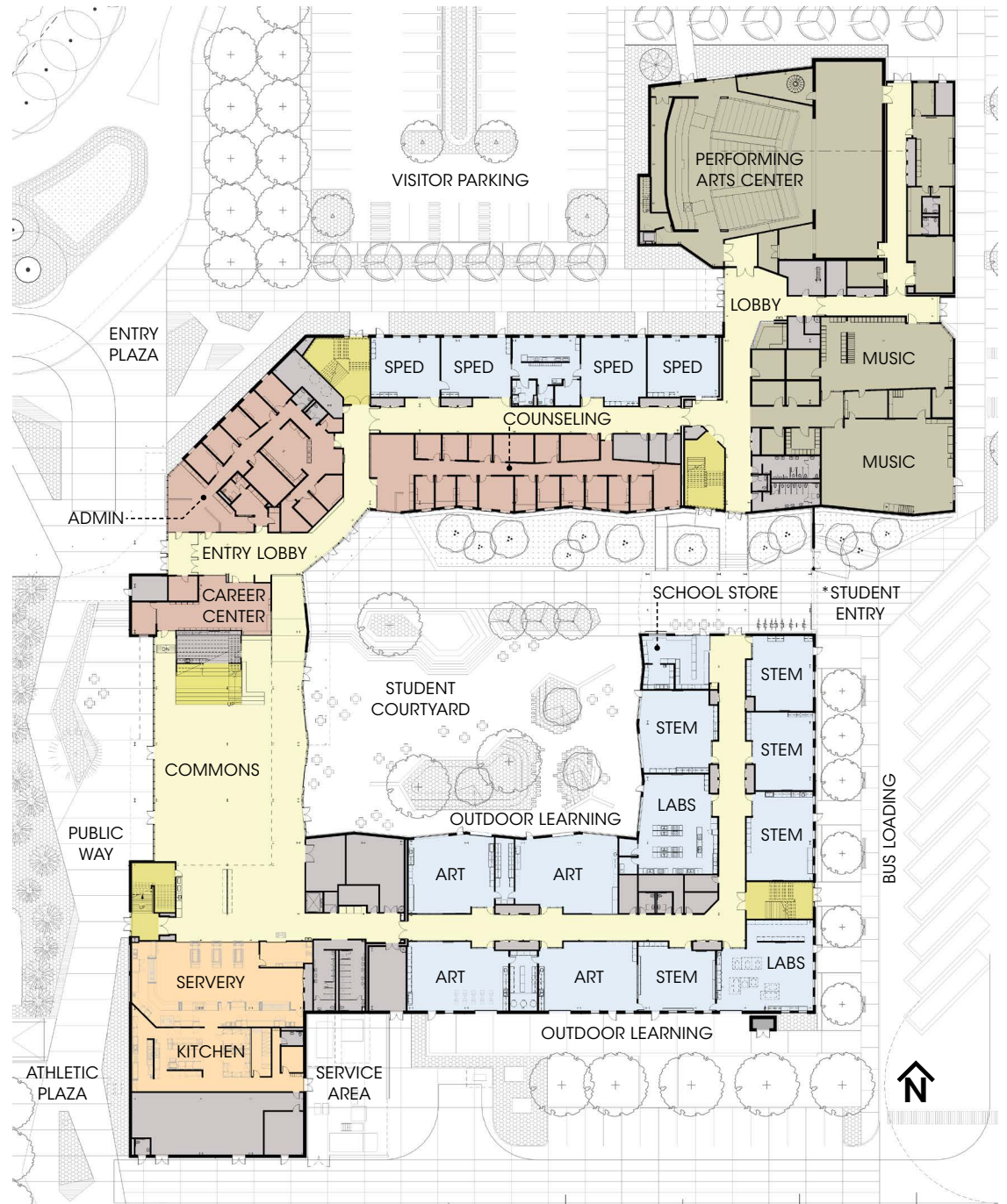


third floor plan



second floor plan

The building configuration provides a continuous flow of movement around the central courtyard, helping with wayfinding and more importantly, strengthening a sense of school community



first floor plan



Student Courtyard: the power of place

The three-story building surrounds the central student courtyard, the focal point and center of orientation. Circulating around the school, there are many moments of visual connection, directly into the courtyard and through the teaching spaces, which strengthen the sense of interconnection for students and teachers.

This contributes to establishing the courtyard's strong presence.

In the courtyard, open to the bus loop on the northeast quadrant, the human-scaled articulation provides an inviting sense of place with many varied opportunities for students to gather. The main entry lobby

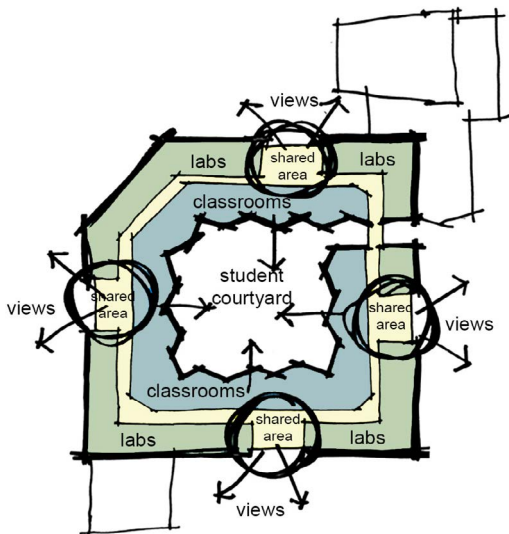
and Commons have direct connections to the courtyard, linking the public front of the building to this vital center of the school. Outdoor learning areas are provided outside the art classrooms in the southeast quadrant of the courtyard, and the school store is located under the covered entrance way from the bus drop-off.

***Providing a vibrant home
for informal learning,
outdoor socializing,
eating, large group
gatherings, outdoor
learning, presentations &
performances.***

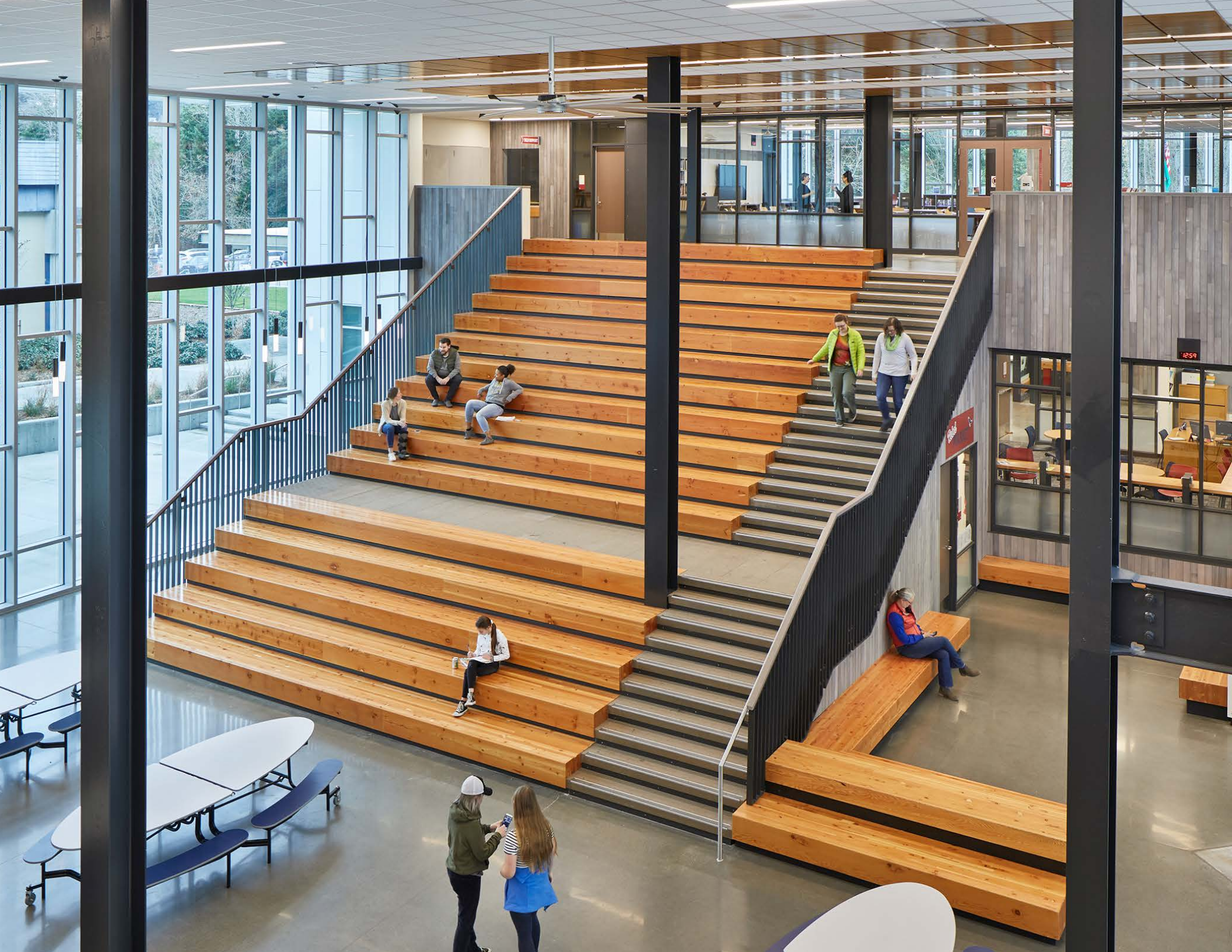


Heart of the School: inspiring the life of the student

Designed as the heart of the school, the Commons provides a vibrant home for informal learning, indoor and outdoor socializing, eating, large group gatherings, presentations and performances. Located adjacent to the main entry, it is intimately connected to the student courtyard with garage doors that open-up for large community events and bring in fresh air. The Commons is well daylit with large glazed areas and connected to the second floor library with a large forum-style seating area, which also serves as an additional informal student gathering space. The two primary interconnected two-story spaces of the Commons and the Library are linked together as a way to vertically connect all three floors of the school.



The Commons & the adjoining outdoor spaces are crafted with a variety of settings to allow each student to find their own space for themselves & their friends.



Connections & Wayfinding

Through the visioning process there emerged a strong belief that the Juanita community is one of feeling connected and the new facility needed reflect that principle. Design concepts with the school as a combination of 'dead end' wings were rejected in favor of a continuous loop that creates a sense of the larger school community:

- Wayfinding: always knowing where you are
- Rich variety of programs visible
- Sense of sharing work and success
- Public spaces that fosters both gathering and learning

Equitable Experiences

- Arrival: whether by bus, car, or dropped off by parents, all students arrive in the main entry
- Reinforcing connections: continuous circulation patterns the encourage interaction and engage between and among students
- Walls of the school are canvas for student expression, creating a more culturally responsive environment



06 RESULTS OF THE PROCESS & PROJECT



Juanita High School partially occupied the first phase of the completed building in the fall of 2019 and had six months of in-person classes before the world-wide pandemic resulted in its use being suspended for thirteen months. Yet in its initial six months, the design of the facility was extremely well received by its community, the staff and students.

Key feedback:

- The new school design achieves the right balance between structuring the environment vs. inviting personalization- allowing the spaces to reflect who the students really are
- the outward architectural expression has a public stature that the community appreciates, while the internal courtyard is inviting, light and airy, and a safe and secure space for students throughout the day.

Unintended Results

The adaptable design allowed for the building to successfully support the school's reopening in the Spring of 2021:

- The student courtyard was valuable outdoor space where several tented spaces were created for gathering
- adaptable- the arrangement of staircases in the building corners allowed up and down separation
- The learning clusters' shared areas were able to be utilized as additional classrooms .
- The dedicated outside air system was able to provide additional fresh air to improve healthy air quality

District Goals Met

The sustainable strategies integrated into Juanita High School project have already demonstrated that the school is highly efficient and will make a dramatic impact on lowering the operational needs for this site into the future.



“The daylight throughout the school is so amazing- it’s almost like we don’t need to have any lights on”

- Juanita High School teacher

Environmental Stewardship & Student Wellness

The school district and the community are deeply engaged in ensuring that their schools perform efficiently, protect the health and well-being of current and future students and provide learning opportunities for students around environmental stewardship. The design responds to these goals with a set of robust measures that reduce carbon and operating costs over the life of the building.

The new school has a predicted EUI of 19.6 and is net-zero ready.

This is achieved through passive design strategies which reduce the buildings overall energy demand, coupled with high-performance mechanical systems. Strategies include:

- 100% outside air ventilation system with 90% heat recovery
- Water-to-air heat pump system with ground source geothermal loop
- high performance envelope
- LED lighting with daylighting harvesting

In pursuit of supporting this culture, the design team sought a solution that suggests an affinity between architecture and place, accomplished through an integration of space, light, and material.

The 3-story school reduces the buildings overall footprint, creating space for the addition of the courtyard. The courtyard allows all classrooms to have access to daylight and views while providing all

classrooms with a physical relation to outdoor space.

The defining experience is one of natural light, material texture, and spatial experience. The shifting orientation of the plan around the central courtyard invites light from all directions. Views through and beyond connect interior and exterior environments, blurring physical and virtual boundaries.

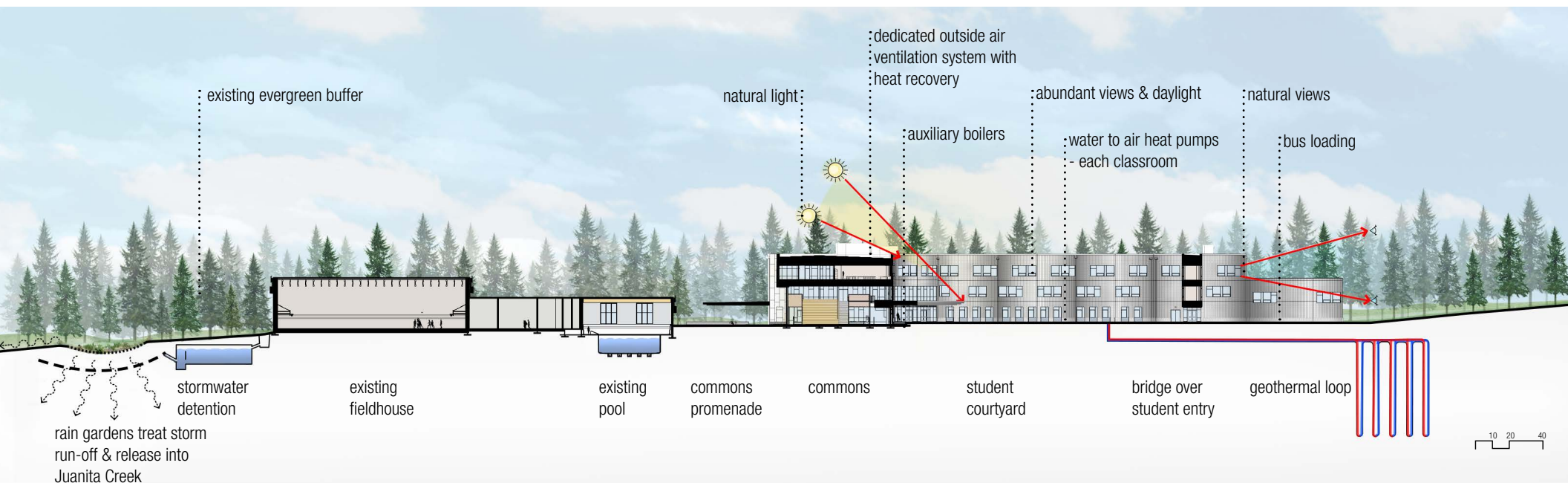
Stewardship

While the limited scope of the project preventative a regenerative approach to the entire site, measures were taken for the project to improve the Juanita Creek and wetland system, including:

- Reduction of impervious surfaces in the areas of development

- Significant storm detention structures to reduce flooding downstream
- Rain gardens to treat storm run-off from paved areas
- Improved student access from the south with new bridge across the creek

The presence of nature is a defining experience of the school, inviting student engagement with the natural world and supporting environmental education. The underlying goal of the design is to inspire students and staff alike toward a full and engaged appreciation of their site and the world beyond.



Materiality

Overall, the goal in the design was to create a sophisticated and dignified high school facility that had a feeling of openness and has a welcoming presence to the community.

Exterior

- Outwardly, the primary material of brick conveys a sense of permanence, reflecting the prominent stature of the high school in the community- a forever home for the Ravens at Juanita High School. Strategic use of wood-grained panels reflects the northwest legacy of living in wooded settings. Large glazed areas express the major public spaces to the community.
- Inwardly, around the student courtyard, the use of light, colored faceted metal siding creates a dynamic backdrop in the center of the school, reflecting changing light and weather patterns.
- The generous use of glazing provides plentiful views, inside and out, which furthers the connection with the surrounding natural environment while also enhancing the sense of community connection.

Interior

For the interior environment, the goal was to emulate a more collegiate educational environment that would inspire students to strive:

- Recycled glulam beams salvaged from the original school convey efficient use of natural resources and reduction of embodied carbon emissions. These messages, built into the very structure of the new school, lay the groundwork further engagement and learning.
- Strategic use of reclaimed wood siding and wood ceilings in the public spaces recalls the materiality of the forest.
- The natural material palette seeks a more direct connection to nature, in contrast to synthetic materials that speak more about separation from nature. Concrete floors with exposed, polished aggregate, suggest direct connection to the material world as opposed to one of layered separation.



"I'm more focused on school in the new building, it inspires me to work a lot harder and to be more successful in my life."

- JHS Student

