

TRAILRIDGE SCHOOL

Waukee, Iowa



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Built on education
architects + engineers



1. EXECUTIVE SUMMARY

Trailridge School is a purposefully designed, future ready learning environment developed by Waukee Community School District in response to sustained and predictable enrollment growth within one of Iowa’s fastest growing and most diverse metropolitan regions. Serving a community shaped by the convergence of agricultural heritage, suburban expansion, and global connectivity, the project advances the district’s mission to prepare every student for success beyond high school through intentional, student centered facility design.

Located on a 76 acre master planned campus adjacent to the district’s northern high school, Trailridge School is the first of three planned educational facilities, anchoring a cohesive 6–9 campus that also includes a future middle school and a district wide natatorium. Rather than a stand alone capacity solution, the campus is envisioned as a civic and educational hub that supports shared resources, strengthens community identity, and adapts alongside long term growth.

The building is organized into small learning communities that function as academic and social home bases, ensuring every student is known, supported, and challenged during critical middle to early high school years. This organizational model promotes belonging, strengthens relationships, and enables team teaching, interdisciplinary instruction, and differentiated learning. Centralized media, creative, technical, wellness, and commons spaces extend learning beyond traditional classrooms, encouraging collaboration, exploration, and authentic application of knowledge.

Clear separation between public and academic zones enhances safety, operations, and community access, while a central circulation spine and abundant natural daylight support intuitive wayfinding and student well being. Color coded learning communities reinforce identity, equity, and ease of navigation for a culturally diverse student population.

Trailridge School reflects responsible stewardship and innovation through proactive planning, flexible design, and measurable sustainability outcomes. Energy modeling and lifecycle analysis achieved a verified 33% reduction in Energy Use Intensity compared to a code compliant baseline, generating operational savings that can be reinvested in student programming.

More than a building, Trailridge School is an active partner in teaching and learning and one that fosters equity, adaptability, collaboration, and long term educational excellence while serving as a lasting civic anchor for an evolving community.

2. SCOPE OF WORK & BUDGET

OWNER Waukee Community School District	GRADES SERVED 9th Grade	CONSTRUCTION COST \$ 49,700,000
SITE AREA 76 Acres (Entire complex serving two schools and natatorium)	STUDENT CAPACITY 1000 Students	CONSTRUCTION COST PER SQUARE FOOT \$ 261 / SF
BUILDING AREA 190,500 SF	SQUARE FEET PER STUDENT 190 SF / STUDENT	OCCUPANCY DATE August 2023



3. SCHOOL & COMMUNITY RESEARCH AND ENGAGEMENT

COMMUNITY CONTEXT

The district serves the City of Waukee and significant portions of three first-ring suburbs, West Des Moines, Urbandale, and Clive, forming the rapidly evolving western edge of Iowa’s capital city. What were once four distinct rural communities have, over a relatively short period of time, become integral components of a growing metropolitan region. Their parallel histories of transition, from agrarian towns to thriving suburban cities, have produced a shared identity rooted in growth, adaptability, and ambition. This collective evolution defines the school community more than any municipal boundary. The district exists within a unique threshold condition: between Iowa’s agricultural heritage and an increasingly urban, globally connected economy. Designing learning environments in this context requires more than simply responding to enrollment growth, it demands facilities that unify diverse histories, foster shared ownership, and reinforce a sense of place for a community still actively forming its identity. Metropolitan Des Moines’ role as an international center for insurance and financial services has made this area a destination for families from across the globe. Students in the district represent more than 22 countries, making the community among the most culturally diverse in the state. This confluence of cultures, sustained population growth, and geographic transition creates a fertile environment for innovative educational design, one where schools function not only as places of learning, but also as civic anchors that support connection, inclusion, and long-term community resilience.

SCHOOL DISTRICT OVERVIEW

Waukee Community School District is the third-largest school district in Iowa, serving more than 14,000 students across a 55-square-mile area that includes Clive, Urbandale, Waukee, and West Des Moines, along with open-enrolled students from surrounding communities. For more than two decades, the district has experienced an average annual enrollment increase of nearly 500 students, growth that is both sustained and predictable, yet demands continual reassessment of facilities, boundaries, and instructional delivery models. The district’s leadership has consistently taken a proactive approach to planning, scaling its infrastructure thoughtfully while preserving educational quality and equity. With more than a century of service, Waukee CSD has built a reputation for academic excellence, maintaining a 98% graduation rate and sending more than 89% of its graduates on to postsecondary education. These outcomes reflect a district-wide culture centered on engagement, relevance, and student success. At the core of this success is a clearly articulated mission: partnering with families to prepare every student for success beyond high school. Facilities play a critical role in advancing this mission. Every building is expected to support engagement, adaptability, and community connection, ensuring that the physical environment enhances learning rather than limits it.

*Inspiring Learners Who Feel Valued,
Challenged, And Prepared To Embrace
Tomorrow’s Opportunities*



PROJECT GENESIS AND PLANNING FRAMEWORK

Continued enrollment growth, combined with the opening of the district's second high school in 2021, required a comprehensive reconsideration of attendance boundaries and facility capacity across the district. Detailed demographic studies and long-range enrollment projections confirmed the need for two additional attendance centers to relieve pressure and maintain balanced utilization at all grade levels.

At the outset, the district operated under a split middle-grade configuration, with two 6–7 buildings and two 8–9 buildings. Initial planning for the new facilities followed this model to ensure near-term capacity relief. However, as growth trends became clearer and planning advanced, the district made a strategic decision to return to a more unified and flexible organizational structure. Upon completion of construction, the district transitioned to four 6–8 middle schools and two 9th-grade buildings, an approach that better supports curriculum continuity, student belonging, and long-term adaptability.

To serve the district's northern high school, a large parcel adjacent to the campus was acquired and envisioned not as a stand-alone project site, but as a cohesive educational complex. The master plan accommodates two new middle schools alongside a centrally located natatorium designed to serve the entire district. Positioned at the northern edge of Waukee, the site was rapidly surrounded by new residential development, transforming the campus into a focal point of an emerging community.

The result is a layered, future-ready campus that responds to growth while reinforcing district identity. More than a capacity solution, the project establishes a civic presence; one that anchors development, supports shared district resources, and reflects the values of a community committed to collaboration, inclusivity, and educational excellence.



4. PHYSICAL ENVIRONMENT

SITE MASTERPLAN

As the first of three planned buildings on the 76-acre site, Trailridge School is intentionally positioned to engage the adjacent future school, forming the foundation of a cohesive campus that will ultimately serve all students in grades 6 through 9. The site design anticipates this long-term vision, establishing shared infrastructure and spatial relationships that promote connectivity and efficiency.

The site’s primary entrance features a roundabout that efficiently directs traffic to both current and future buildings, improving circulation and minimizing congestion during peak arrival and dismissal times. Retention ponds are thoughtfully integrated along the main drive, reinforcing a natural aesthetic while managing stormwater. These landscape elements soften the site’s edge, creating a welcoming transition to the surrounding neighborhood and enhancing the campus’s environmental character.

Athletic fields are located at the northern portion of the site to maximize shared use between Trailridge School and the future 6–8 building. Vehicular drives and dedicated bus lanes are carefully separated to reduce conflicts and prioritize student safety. A network of pedestrian walkways connects all campus facilities, enabling safe and convenient access between buildings and promoting ease of movement throughout the site.

BUILDING LAYOUT

Trailridge School is organized into smaller learning communities to foster positive student interactions, strengthen relationships, and support a sense of belonging. The overall plan clearly distinguishes academic areas, designed

as more private and secure, from the building’s public and shared spaces, which are anchored by a central rotunda at the main entry.

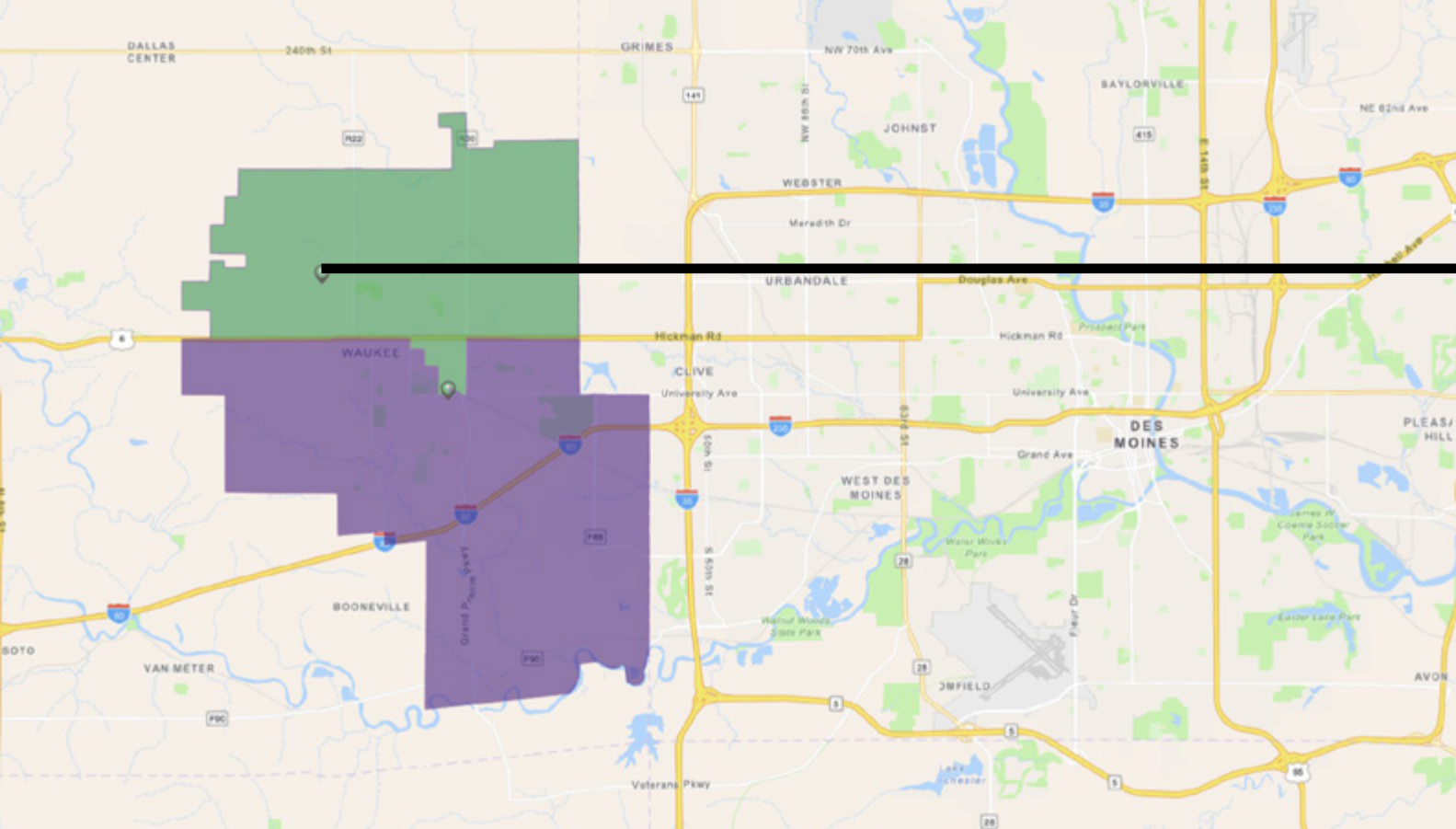
This organizational strategy breaks down the building’s larger footprint into more approachable scales while also establishing controlled security zones that can be isolated in the event of an emergency. Learning communities extend from the rear of the building along a central circulation spine, creating clear wayfinding and a coherent internal structure.

On the opposite side of the circulation spine, the front of the school serves as its public face, housing shared “specials” and common functions accessed by all students. These include administrative offices, the cafeteria, gymnasium and athletic facilities, as well as music spaces that support extended daily use. This arrangement balances accessibility with acoustical and operational efficiency.

Throughout the building, common areas and learning environments are enriched by abundant natural daylight, enhancing comfort, focus, and overall well-being for students and staff. Collaborative learning spaces and flexible furnishings are integrated throughout to support differentiated instruction, research-based learning strategies, and student choice, encouraging learners to take ownership of their educational experience.

The interior finishes and color palette are carefully selected to create a calm and focused learning atmosphere while reinforcing wayfinding and community identity. Each learning community is color-coded, with these hues expressed in architectural finishes and accent lighting, strengthening visual identity and supporting student orientation within the building.





LOCATION

Located just a few blocks northwest of the new high school, the Trailridge Campus serves the northern half of the district. The campus brings together Trailridge School for ninth-grade students, North Middle School serving grades 6–8, and the central Waukee Natatorium, which supports aquatic programming for all 14,000 students across the district. Positioned at the transition between an agricultural landscape and a rapidly growing suburban context, the site functions as a natural buffer. While long-term municipal planning will eventually surround the campus with residential streetscapes, the site is intended to remain a significant greenspace within the neighborhood, characterized by lower-scale buildings and a pedestrian-oriented environment.







FIRST FLOOR PLAN



SECOND FLOOR PLAN

5. EDUCATIONAL ENVIRONMENT

The school provides opportunities for students to grow academically, socially, and emotionally while exploring their passions to help shape a strong sense of identity. This student-centered learning environment is intentionally designed to support both curriculum delivery and meaningful human connection, ensuring every learner is known, supported, and challenged.

SUPPORTING THE CURRICULUM

The educational environment is purposefully aligned to support a rigorous, cross-curricular curriculum. The building is organized into six distinct educational learning communities that serve as the foundation of each student's day. These learning communities function as “home bases,” where interdisciplinary teams collaborate to deliver curriculum in an integrated and cohesive way. By breaking down traditional subject silos, students experience learning that is connected, relevant, and contextualized.

Beyond the learning communities, student interaction expands through centrally located media, creative, physical, and technical education spaces. These shared environments encourage authentic application of knowledge, students may research and collaborate in media spaces, prototype solutions in technical labs, express learning through creative arts, or reinforce wellness and teamwork in physical education areas. This spatial organization reinforces curriculum goals by allowing learning to extend naturally beyond the classroom and into purpose-built environments.

SUPPORTING A VARIETY OF LEARNING & TEACHING STYLES

The environment is intentionally inclusive of diverse learning and teaching styles. Trailridge creates smaller learning communities within the context of the larger facility, giving students greater opportunity to build relationships, participate actively, and engage at their own pace. These close-knit communities support visual, auditory, kinesthetic, and collaborative learners by offering varied settings for instruction, discussion, independent work, and group problem-solving.

Team-teaching within each community allows educators to employ multiple instructional strategies, from direct instruction and guided practice to inquiry-based learning and project-based experiences. Students benefit from choice-driven learning opportunities, small-group instruction, and individualized support, ensuring that teaching methods can adapt to developmental needs, strengths, and interests.

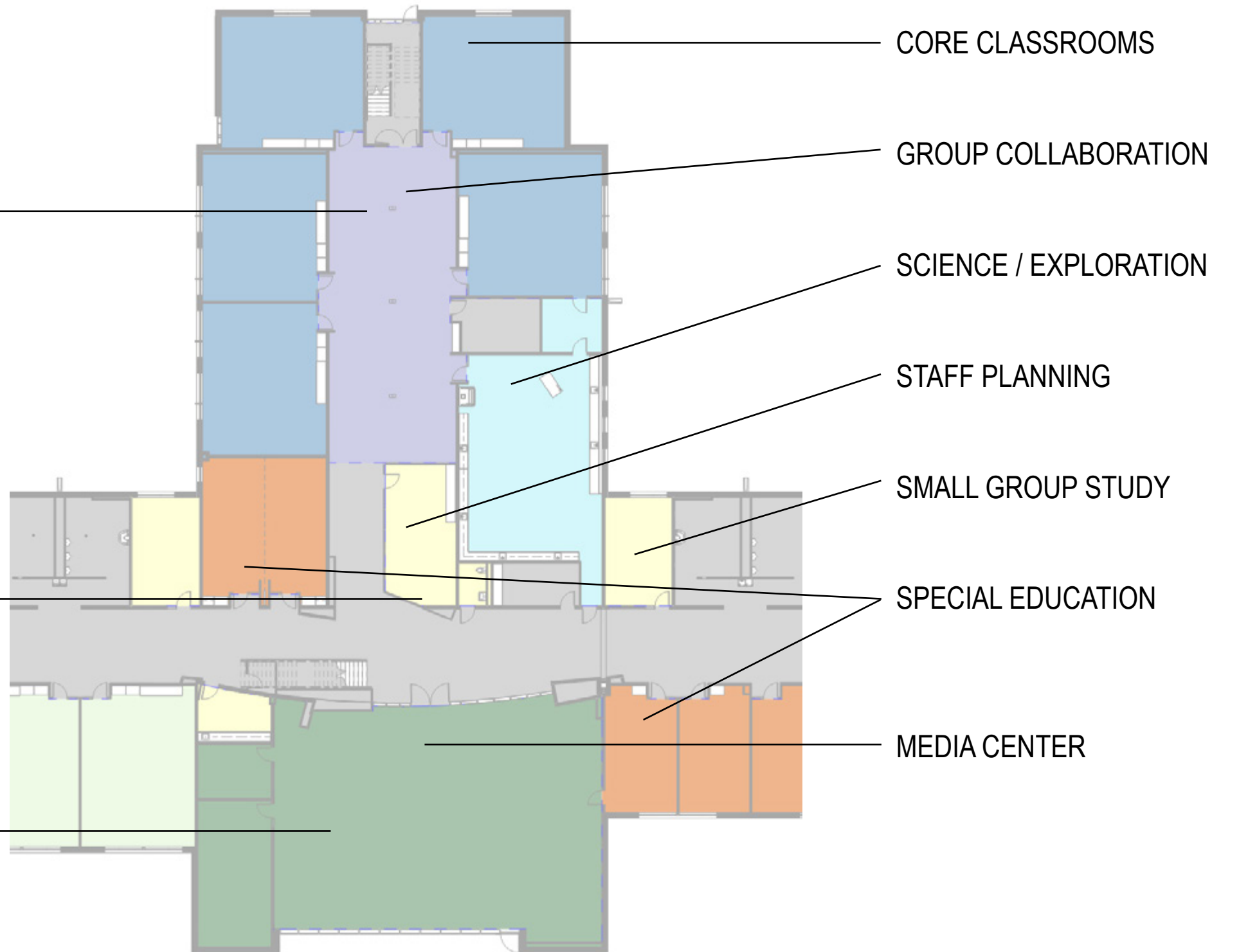
INNOVATION IN EDUCATIONAL DESIGN

The innovative nature of the environment lies in its combination of scaled learning communities, shared central resources, and student-driven flexibility. By blending the intimacy of smaller learning communities with access to robust, centralized learning destinations, the school supports both belonging and exploration. Students remain grounded in a supportive home base while being encouraged to expand outward, interact with diverse peers, and engage in authentic, interdisciplinary learning.

This approach reflects a forward-thinking model of education; one that recognizes learning as dynamic, social, and deeply personal. The environment not only supports academic achievement, but also fosters collaboration, creativity, independence, and lifelong learning skills. Through intentional design and student-centered planning, Trailridge's educational environment serves as an active partner in teaching and learning, rather than a static backdrop.













Waukee Core Values

We believe in keeping students our priority.

We approach our work with an open, curious mindset, committed to learning and relentlessly focused on our students' needs and interests. We make decisions and measure progress based on how well we are supporting our staff and improving outcomes for our students. Our passion for the success of our students motivates us to do what is needed to accomplish our goals.

We believe in equity and belonging.

We believe that equity and inclusion in our schools will require a healthy culture based on a foundation of dignity and belonging. We strive to build partnerships and community within these beliefs. We seek to affirm uniqueness and difference, create a culture of acceptance and growth, amplify student voice, & support the social-emotional needs of students.

We believe in developing people.

We know that we are only as strong as our team and that as each person develops as a learner and a leader, our district becomes stronger. We are committed to investing in the development of our people through coaching, feedback, and training, as well as by fostering an environment that encourages personal development and professional growth. We believe that by supporting the growth of our team members will we all achieve our maximum potential.

We believe in integrity.

We strive to do the right thing, recognizing that what is right is not always what is easy. We operate with respect and kindness and are honest, transparent and responsive in our communication and actions. We collaborate openly and hold ourselves and each other accountable.

We believe in joy.

We see our work as much more than a job and we are here because we love what we do. We take pride in doing great work and celebrate our collective and individual successes. We cultivate positive relationships, express gratitude, and support and uplift one another.

We believe in inclusivity.

We respect and value the individual differences within our community, recognizing that the genuine embracing of those differences can increase our performance and create a culture in which everyone can (safely/openly) be themselves. We are committed to building a welcoming and encouraging environment that supports all stakeholders, gives them voice, and allows us to learn from one another.

We believe in innovative problem solving.

We seek excellence and learn from our challenges and successes as we evolve beyond the traditional notion of K-12 education. We do not shy away from struggles and are resilient in our approach to problems because we know that effort and perseverance lead to success. We are courageous and intellectually curious in our search for new ways to overcome obstacles and move ourselves forward. We work together, take initiative, and innovate, all in an effort to produce positive outcomes for ourselves, our students, and our community. and our community.



6. RESULTS

Trailridge School advances the district’s educational vision through a student-centered learning environment that integrates academic rigor, social-emotional development, and interdisciplinary instruction. Organized into small, interdisciplinary learning communities, the school ensures that every student is known, supported, and challenged during the critical middle-to-early-high-school years. This model strengthens relationships, fosters belonging, and enables team teaching and differentiated instruction, directly supporting the district’s mission to prepare students for success beyond high school.

STUDENT-CENTERED LEARNING ENVIRONMENTS

Learning communities function as academic and social home bases, providing stability, connection, and continuity. Connected instructional spaces support individual, small-group, and collaborative learning while maintaining visibility and flexibility. Abundant natural daylight, intuitive circulation, and access to shared resources enhance comfort, engagement, and educational outcomes.

Centralized and adaptable spaces, including media centers, technical labs, creative studios, wellness areas, and shared commons, support interdisciplinary learning and curricular integration. These environments encourage collaboration and innovation while allowing the building to evolve alongside instructional practices.

EQUITY, BELONGING, AND INCLUSIVITY

Equity and inclusion are embedded in both the organizational model and spatial design. Smaller learning communities create welcoming environments where students from diverse cultural, linguistic, and socioeconomic backgrounds can form meaningful connections. Clear wayfinding, color-coded communities, and thoughtfully scaled spaces allow students to navigate the school with confidence and dignity.

With students representing more than 22 countries, the design emphasizes shared ownership and student voice. A variety of learning settings, quiet and active, collaborative and independent, supports diverse learning styles and ensures every student feels valued.

SUPPORTING EDUCATORS AND COLLABORATION

Trailridge School recognizes that strong learning environments support educators as well as students. Team-teaching within learning communities promotes collaboration, shared leadership, and professional growth. Dedicated spaces for interdisciplinary planning and informal collaboration support continuous improvement and instructional adaptability, strengthening overall teaching quality.

INTEGRITY, SAFETY, AND STEWARDSHIP

The project reflects integrity through proactive planning informed by long-range demographic studies, enrollment projections, and district wide master planning. Rather than reacting to growth, the district made deliberate decisions that prioritize safety, equity, and educational quality. Campus design incorporates controlled security zones, clear circulation, and separated pedestrian, bus, and vehicular pathways. These strategies enhance safety, operational efficiency, and community trust while demonstrating responsible stewardship of public resources.

INNOVATION AND FUTURE READINESS

Trailridge School exemplifies innovative problem-solving in response to sustained enrollment growth and evolving educational needs. The campus anticipates future growth and instructional change through flexible planning and shared, adaptable resources. By combining scaled learning communities with centralized spaces, the design moves beyond traditional K–12 models toward a future-ready learning environment.

SUSTAINABILITY AND WELL-BEING

Sustainability is a measurable outcome. Through detailed energy modeling and lifecycle cost analysis conducted with the owner and local energy provider, the project achieves a verified 33% reduction in Energy Use Intensity (EUI) compared to a code-compliant baseline. Resulting operational savings allow reinvestment in educational programming.

Natural daylight, warm materials, and welcoming interiors promote well-being, pride, and joy. Shared spaces for learning, creativity, and physical activity foster connection and engagement, reinforcing a positive and inclusive school culture aligned with district values.

VERIFIED SAVINGS OVER CODE LEVEL DESIGN:



Annual Energy Savings 30%



Annual Electrical Consumption 26%



Annual Peak Electric Savings 31%



Annual Gas Consumption 40%



Total EUI Savings (Energy Use Intensity) 33%



