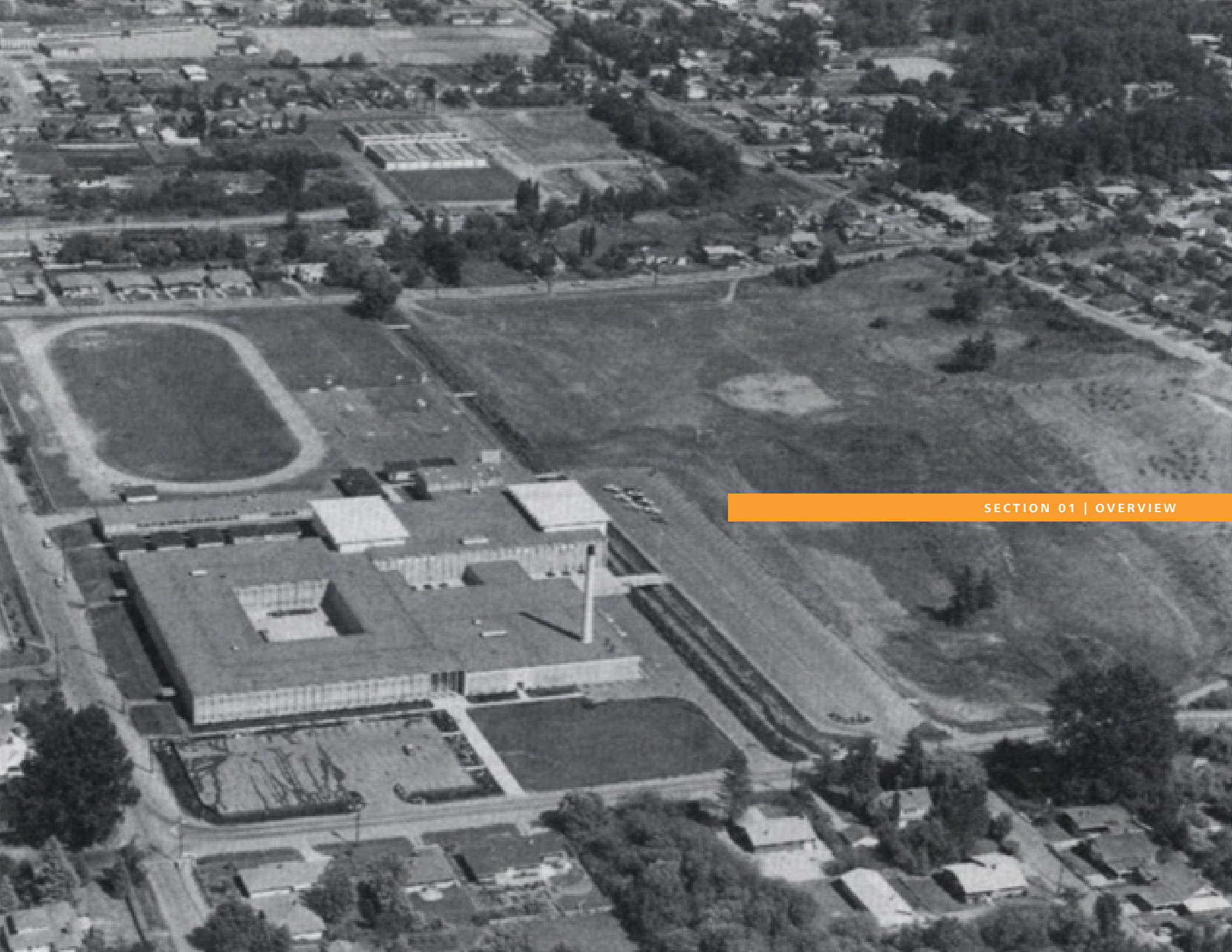
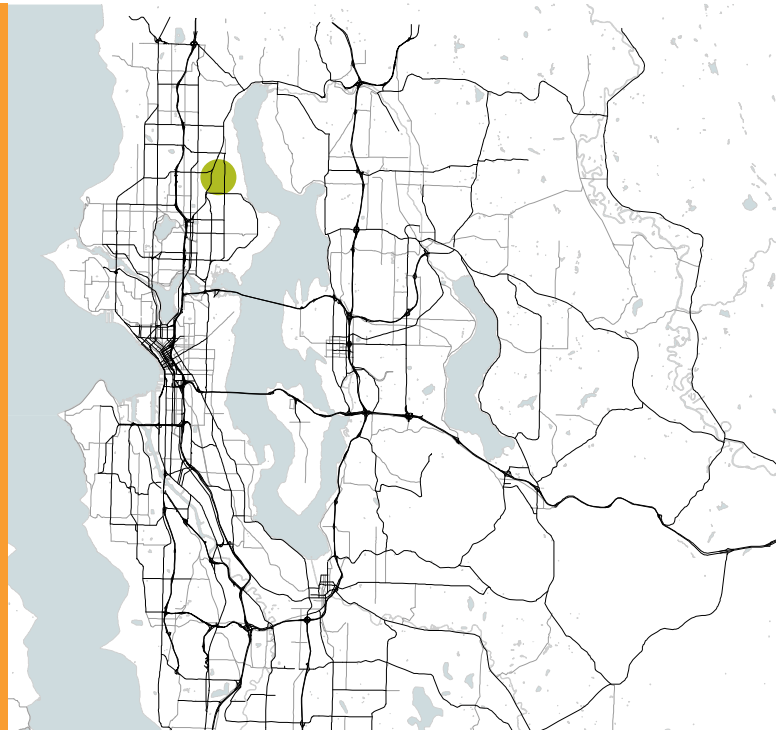
Nathan Hale High School
Seattle Public Schools
Seattle, Washington
CEFPI MacConnell Award Submittal



SECTION 01 | OVERVIEW

Ensuring that ALL students shall become honorable, thinking, skillful citizens.

Nathan Hale High School
Mission Statement



Nathan Hale High School was originally constructed in 1962. The 18.1 acre site was formerly part of a large dairy farm and is located in northern metropolitan Seattle. Thornton Creek, a salmon-bearing riparian corridor, runs west to east through the site and has an environmentally protected wildlife habitat designation.

Named after the American Revolutionary War hero, who proclaimed, "I have only one life to lose for my country," Nathan Hale has assumed independence as a school-wide theme. The student body is at liberty to pursue diverse fields of study. Current curriculum includes project-based instruction in all grades. A unique program for ninth graders connects English, history, science, and math into two academies with a 20:1 student | teacher ratio.

Hale is also unique for its radio station, the only one operating at a Seattle public school. Broadcasting at 89.5FM, KNHC went on the air in January 1971. The format at KNHC has changed over the years. Today it is known for "Seattle's Hottest Music."

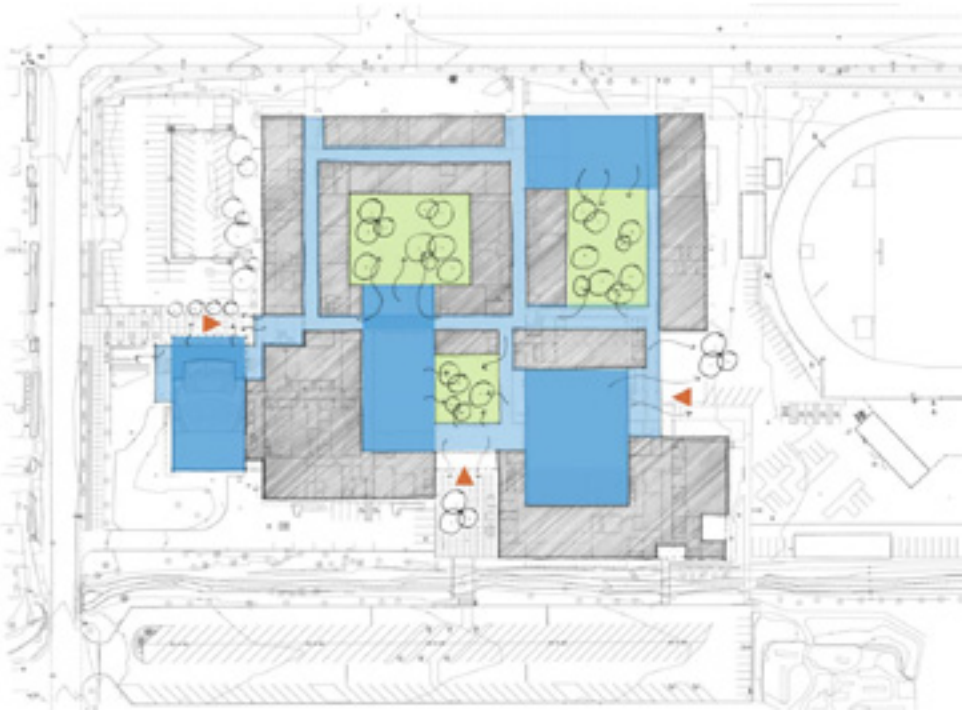
Nearly twenty years ago, the principal at Nathan Hale envisioned a school that could be a more humane place for students to learn and grow. Given the realities of an aging school, the transformation of the school environment began in the design of the educational program and the philosophy of the school rather than in the bricks and the mortar of the building. The staff was encouraged to think what might be possible in the school in one year, five years and ten years. Entering the Coalition of Essential Schools (CES) came next, and the staff began to design a high school model along the coalition principles of decency and trust, personalization, collaboration, equity and democracy. Socratic seminars, exhibitions of student work and teachers as coaches and students as workers soon became the experiences all students shared in common.

The first opportunity to embody CES principles in the built environment of the school came with the design of the new Performing Arts Center in 2003. A strong bond was forged between the design team and Nathan

Hale staff in a process driven by shared values. Less is more, students and their work as inspiration for the building, and the goals of the school shall apply to all students became guiding principles for the design. The ground work was in place for a partnership that would continue through the modernization of the entire building.

Design work for a comprehensive modernization to the building began in 2007 as part of the locally funded Building Excellence Program of Seattle Public Schools. Today, the philosophy of the school is made tangible in the clear walls ready for student work and in the multiple spaces for exhibitions and gathering of students, families and staff. The light now prevalent in the halls, courtyards and classrooms along with the transparency of the building itself is an expression of CES values and grounded in a commitment to a vision that began two decades earlier.

SECTION 02 | EXECUTIVE SUMMARY



Nathan Hale High School is a progressive, public high school known for its collaborative, presentation-based curriculum.

The project consists of a 14,500 square-foot addition and approximately 204,000 square-feet of extensive facilities and infrastructure upgrades to the existing pre-cast and cast-in-place concrete building built in 1962-1963. The modernization of the building and campus was guided by principles established collaboratively by the school district, the community and the design team.

The design approach was to create a start-of-the-art teaching facility that puts student life at the center of the school, respects the existing structural rhythm, allows the building to breathe fresh air and daylight, and provides innovative venues for small group learning that responds to the need for multiple, concurrent teaching spaces without significantly increasing the overall building footprint. The existing building is clearly organized and has a strong structural rhythm, both foundations of design that the modernization sought to build upon. Introduction of views to the exterior, limiting dead end hallways and introducing natural light from above improve the hallway experience and further encourage use of this space for teaching and presentation. Views between learning spaces and common spaces encourages strong student teacher connections, makes learning visible and reinforces the sense of a whole school working towards a common goal. Multi-use spaces for collaboration, flexible teaching and learning stations for groups of varying sizes and areas that allow for personalization are all included in the design to maximize issues of flexibility and ensure that this educational facility will meet the needs today and into the future. Finally the building supports the unique educational pedagogy of the Nathan Hale Community built on trust, equity and collaboration.

A strong sense of community is an integral part of the culture at Nathan Hale High School. To engage the connection with the greater public community, the modernization increased the transparency of the building and improved community access to all public spaces where they benefit from easy, and separate exterior access to encourage continued use of shared facilities and services during non-school hours.

Go Raiders!

SCOPE

The Nathan Hale High School Modernization presented an opportunity for the team to re-imagine teaching and learning. Prior to this project, Hale's vibrant, project-based educational program was challenged with a dilapidated, dark and disconnected building. There was potential on many levels: to push the boundaries of school building design with visionary users, great architectural bones and an alignment of values.

SEATTLE PUBLIC SCHOOLS BOND GOALS (2007)

:: New gymnasium and new cafeteria
:: Exterior renovation, new roof, new energy-efficient windows
:: Technology access and upgrades for classrooms
:: Structural remediation to address seismic risk
:: Air and water quality upgrades, new fire alarm and sprinkler system
:: A design that facilitates small learning communities
:: ADA accessibility

STAKEHOLDER GOALS

The planning process was guided by goals established collectively with students, staff, families, community, school district, and design team through interactive workshops.

:: Improve surrounding community, community connections
:: Design that supports adolescent life and learning "Put Student at the Center"
:: Flexible facility
:: Welcoming, safe, accessible school
:: Aesthetically pleasing design
:: Green School
:: Minimize construction impact

Working with the stakeholders, we reallocated bond funding from a major facelift with minor interior improvements to a complete modernization and reorganization by stripping the building back to the structure and prioritizing impacts to educational program. This strategy allowed us to fulfill budget and programmatic parity requirements, and also educators' dreams.

Though a complex, multi-phased project, the continuity of staff throughout the design and construction process allowed

the entire project team to work collaboratively toward a consistent vision. Goals and objectives established with all stakeholders early in the process served as a consistent standard to inform decisions impacting quality, cost and schedule.

BUDGET

The initial project scope and schedule developed in 2006 for Nathan Hale High School called for a limited renovation of classroom finishes and systems while the building occupants were relocated to an interim facility, in one construction phase. In early 2007 the Owner experienced significant cost impacts due to unprecedented hyper-inflation of construction costs and lack of competition. Local inflation was estimated between 8% and 20% per year.

In response, the Owner and project team developed a strategy to accelerate the schedule by two years and commence construction in summer 2008 instead of summer 2010. The Owner's interim facilities were not available, so the team, including the School Design Team, developed a phased schedule to complete the project while the campus remained fully operational over 30 months of construction.

The effort was split into two separate projects with multiple sub-phases to accommodate 1,200 students, faculty and staff and maintain ongoing operations at the school. While the project involved complex phasing, the completed design manages to weave all the phases into a seamless experience.

PROJECT 01

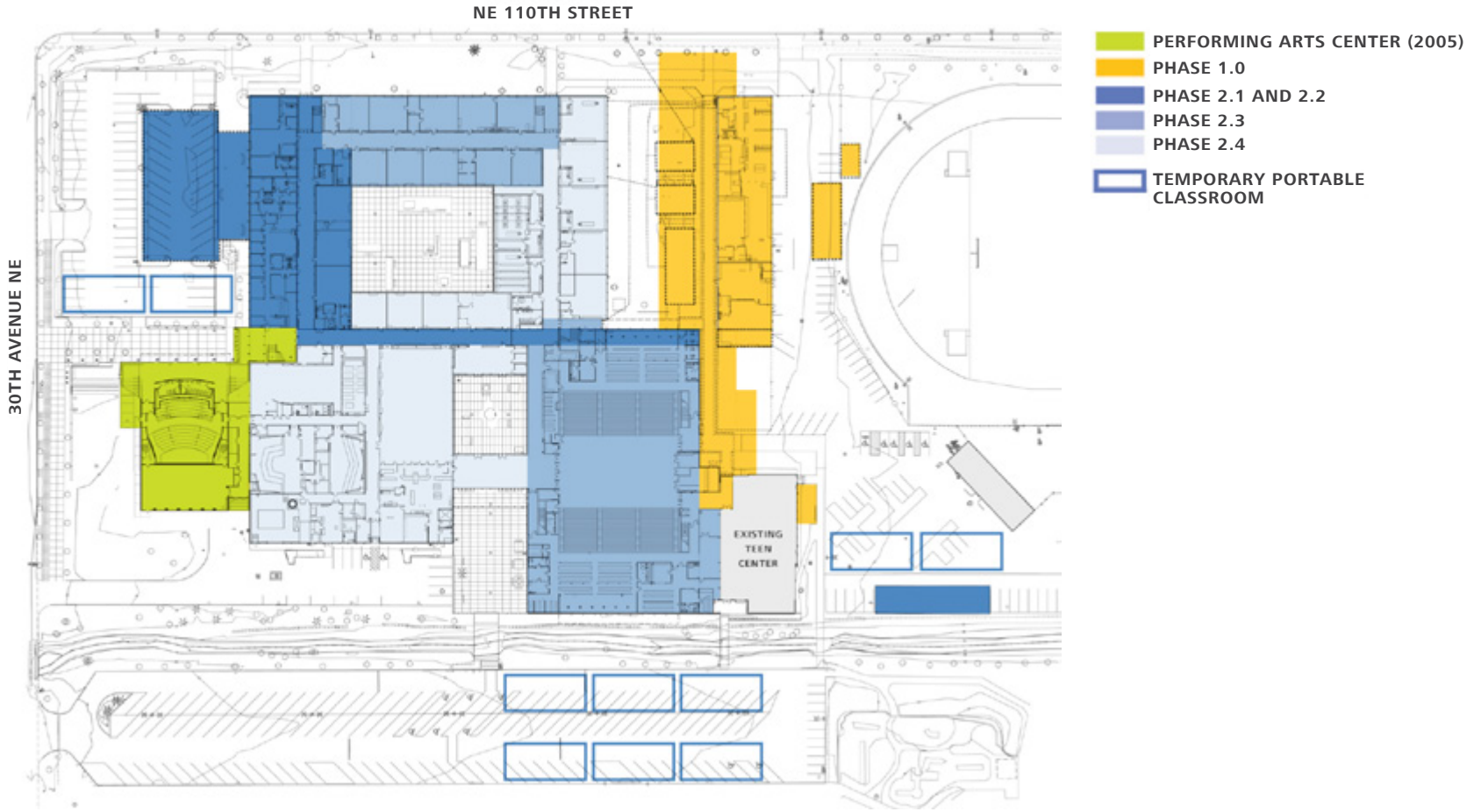
:: Substantial Completion: September 2009
:: Modernization: 13,000 sf
New Construction: 14,500 sf
:: Construction Cost: $10.6 million

PROJECT 02

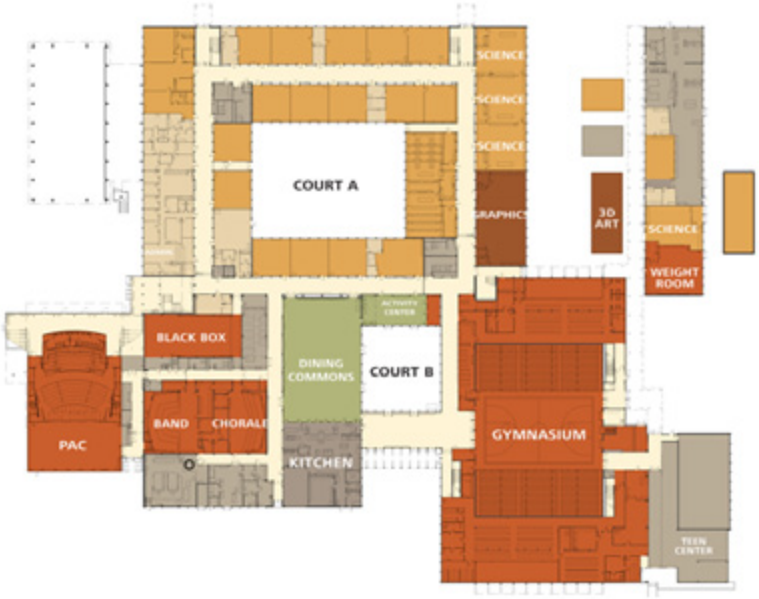
:: Substantial Completion: July 2011
:: Modernization: 191,000 sf
:: Construction Cost: $44.8 million

PROJECTS 01 + 02 (COMBINED)

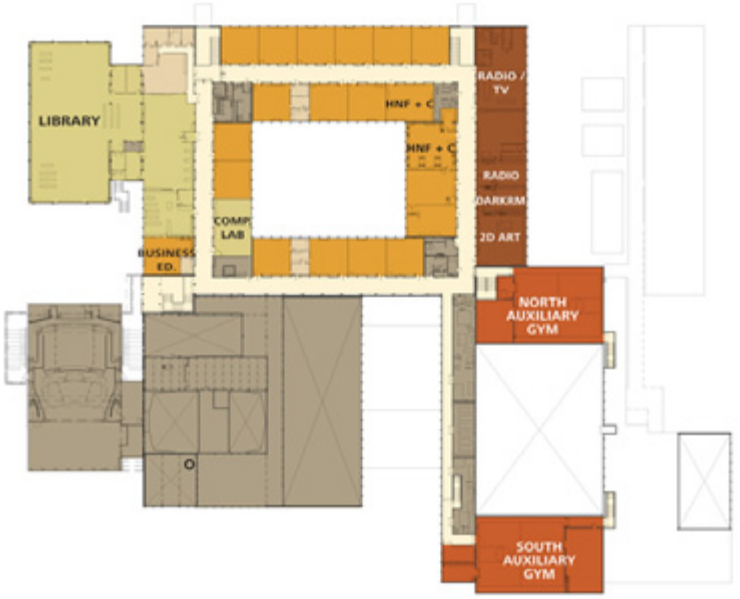
:: Modernization: 204,000 sf
:: New Construction: 14,500 sf
:: Construction Cost: $55.4 million
:: Total Project Construction Budget: $56.2 million


NE 110TH STREET
30TH AVENUE NE
EXISTING TEEN CENTER
PERFORMING ARTS CENTER (2005)
PHASE 1.0
PHASE 2.1 AND 2.2
PHASE 2.3
PHASE 2.4
TEMPORARY PORTABLE CLASSROOM

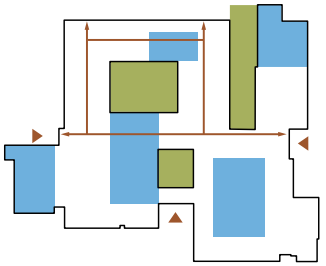
2007
Q1 Q2 Q3 Q4
2008
Q1 Q2 Q3 Q4
2009
Q1 Q2 Q3 Q4
2010
Q1 Q2 Q3 Q4
2011
Q1 Q2 Q3 Q4
SD
P1 DESIGN
P1B
P1A CONSTRUCTION
P2 DESIGN
P2.2 CONSTRUCTION
P2.3 CONST.
P2.4 CONST.
P2.5 CONST.
P2 CLOSEOUT



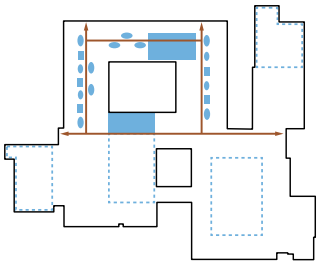
FIRST LEVEL FLOOR PLAN (BEFORE MODERNIZATION)



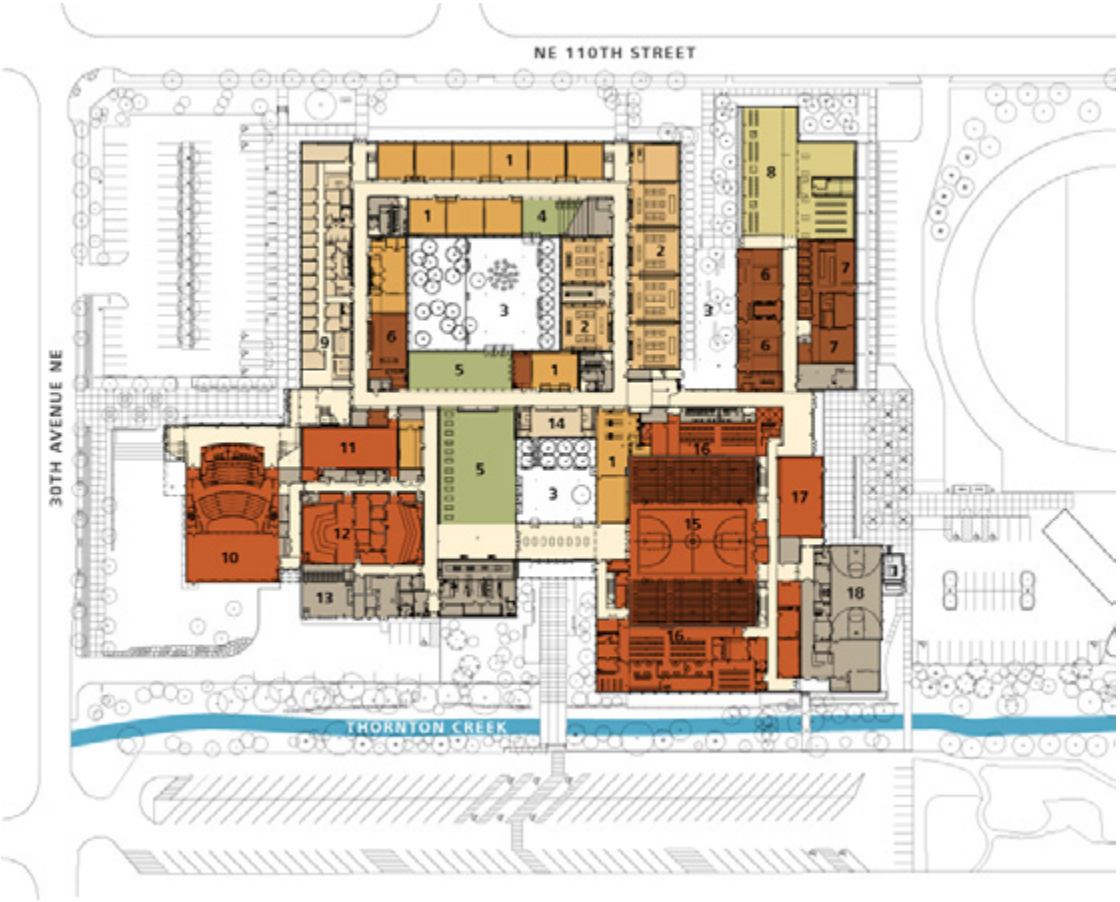
SECOND LEVEL FLOOR PLAN (BEFORE MODERNIZATION)



LARGE SCALE COLLABORATIVE LEARNING



SMALL SCALE COLLABORATIVE LEARNING



FIRST LEVEL FLOOR PLAN

1 Classrooms
2 Science
3 Outdoor Courtyards
4 Forums
5 Commons/Student Activity
6 Art
7 Radio/TV
8 Library Resource Center
9 Admin/Student Services
10 Performing Arts Center (PAC)
11 Black Box
12 Band/Choir
13 Service
14 Faculty Lounge
15 Gymnasium
16 Locker Rooms
17 Fitness Center
18 Teen Center

SECOND LEVEL FLOOR PLAN

1 Classrooms
2 Science
3 Business Education
4 Forum
5 Computer Lab
6 Gymnastics
7 North Auxiliary Gym
8 South Auxiliary Gym
9 Wrestling

SECTION 04 | COMMUNITY ENGAGEMENT PROCESS

"Our new school is a perfect example of how well the architects listened to the users."

Tina Tudor, Educator, Nathan Hale High School

VISIONING PROCESS

The Stakeholder's Group, a planning committee comprised of students, school and district staff, teachers, community members, parents, and consultants, convened in 2007 with the stated purpose of developing guiding principles for the modernization. These principles provided a solid conceptual foundation, and helped guide decisions implemented by the School Design Team (SDT), informed the development of educational specifications, and provided preliminary direction for the design team. Throughout the design process, the SDT met regularly with the design team to further refine project goals and organizational concepts for the modernization of Nathan Hale. The SDT represented the school's diverse users, provided guidance and discussion on issues shaping the design and served as the conduit through which information moved between the design team and the broader school. This process was vital to keeping the design moving forward; it helped reinforce that all input was heard and considered, it made clear why decisions were being made, it created consensus and an understanding around why the project evolved as it has.

In addition to the larger SDT group, meetings to provide direction for project development and design approval occurred between the design team and district administrative staff, including but not limited to the Instructional Department Leaders, the district's Building Excellence Program and Project Management, the Seattle Schools Oversight Committee and various school board members.

Further, multiple program related interviews with departmental staff from the site were conducted. These meetings provided a venue for specific needs, concerns or observations to be shared with the design team, as well as allowed the design team to get to know the Nathan Hale community personally.

All of the input regarding pedagogy, space requirements and adjacencies provided to the design team by the SDT, in conjunction with administrative staff from the school district worked to define the final design.

On a parallel track with the educational specifications development, the design team developed relationship diagrams, preliminary planning and massing concepts, and presented them to the SDT and district staff for review and discussion.

At key junctures, the design team went back to the entire Nathan Hale community seeking broader guidance around several key decisions the School Design Team was working with, and to report the status of the design, worked with student groups and presented progress to the district Oversight Committee. For Nathan Hale community engagement was much more than meetings to present the project, but rather were focused on including the community in the educational process. Community connection at Nathan Hale is not just about sharing fields and resources, but also about establishing strong, lasting links among all the stakeholders throughout the community.

The design represents the synthesis of a process to translate programming and planning concepts into an architectural design direction for the modernization of Nathan Hale High School.

GUIDING PRINCIPLES

TO FOSTER THE CONNECTION WITH THE GREATER PUBLIC COMMUNITY

A strong sense of community is an integral part of the culture at Nathan Hale. This is fostered by providing improved community access to all public spaces with easy, and separate exterior access to encourage use of shared facilities and services during non-school hours. With its adjacency to existing community recreational activities, the school is optimally located as an important hub for the surrounding community. The new building arrangement offers the library, gymnasium and PAC for after school programs and community uses; in addition these spaces provide an abundant foyer and reception area to the existing auditorium. The design responds to the strong school community within the building by reinforcing positive relationships with the students, staff and community. This is achieved by placing the student owned commons at the heart of the facility and by building an additional forum that creates visual connections between the first and second levels.

TO CREATE A HIGHLY COLLABORATIVE ENVIRONMENT THAT SUPPORTS ADOLESCENT LIFE AND LEARNING

The design provides visual transparency between learning spaces and common spaces, encouraging collegiate communication among the staff and students. Shared areas for small group learning have been developed along the main circulation pathways joining individual classrooms providing opportunities for informal meetings and lively interaction, as well as supporting project-based learning. General classrooms are designed for maximum flexibility. An intentionally non-clustered classroom layout provides opportunities for integrated curriculum without segregating academies from the larger student population.

TO PROVIDE A FLEXIBLE FACILITY

This is achieved through well defined boundaries and edges, and clear differentiation between public and private spaces. Within the school, a visually open environment with clear wayfinding allows for passive supervision of the learning spaces and shared areas. Display, exhibition of student work and a variety of spaces for performance and presentation help to celebrate the student while providing a flexible environment that reinforces the educational mission at Nathan Hale.

TO PROVIDE A SAFE LEARNING ENVIRONMENT

It was important that the entrance to the building have a welcoming design that is reflective of Hale's open philosophy. The atmosphere should be welcoming, comfortable and accessible, fostering a sense of inclusion and belonging. The building's organization

allows public entry from each side. Primary visitor and student entries from the north and the west have direct supervision from administration or faculty areas reinforcing a sense of security for the students and staff. A redesigned central spine visually reconnects all other entries from the south and east. Within the school, a visually open environment allows for passive supervision of the learning spaces and shared areas. Other features include: appropriate interior and exterior lighting, key card access points, signage, pedestrian and vehicular separation, security office,monitoring cameras, fire safety systems, and emergency power supply.

TO CREATE AN AESTHETICALLY PLEASING DESIGN

Equal importance was placed on functionality and beauty to reinforce positive relationships between students, staff and community while encouraging student ownership and pride. The following goals describe the desired aesthetic:

:: Clean lines and planes
:: Lightness
:: Bold grace
:: Flowing
:: Simple
:: Northwest feel
:: Connection to nature
:: Ability to see the sky

Material choices, spatial arrangements, and landscape design respond to aesthetic goals throughout the campus. Lightfilled, open spaces for collaboration, flexible teaching and learning stations for groups of varying sizes and areas that allow for personalization are all included in the design to maximize issues of flexibility and humanity, equally. Views into commons, classrooms, shared learning areas and forums make learning visible and reinforce the sense of a whole school working together as an education community.

TO BUILD A GREEN SCHOOL

The site and the building incorporate high performance design strategies and create visible opportunities for the building to act as a teaching tool for good stewardship and environmental responsibility. The design team engaged both the district and the site in a discussion (eco-charrette) to help articulate and prioritize 'Green Goals' that should be included in the modernization. Goals discussed included:

:: Outdoor learning opportunities
:: Student environmental stewardship
:: Celebration of water
:: Efficient use of water
:: Natural ventilation

Thornton Creek is an essential aspect of the local ecosystem and was protected and improved through planning. Goals identified by the Stakeholder's Group with regard to Thornton Creek included:

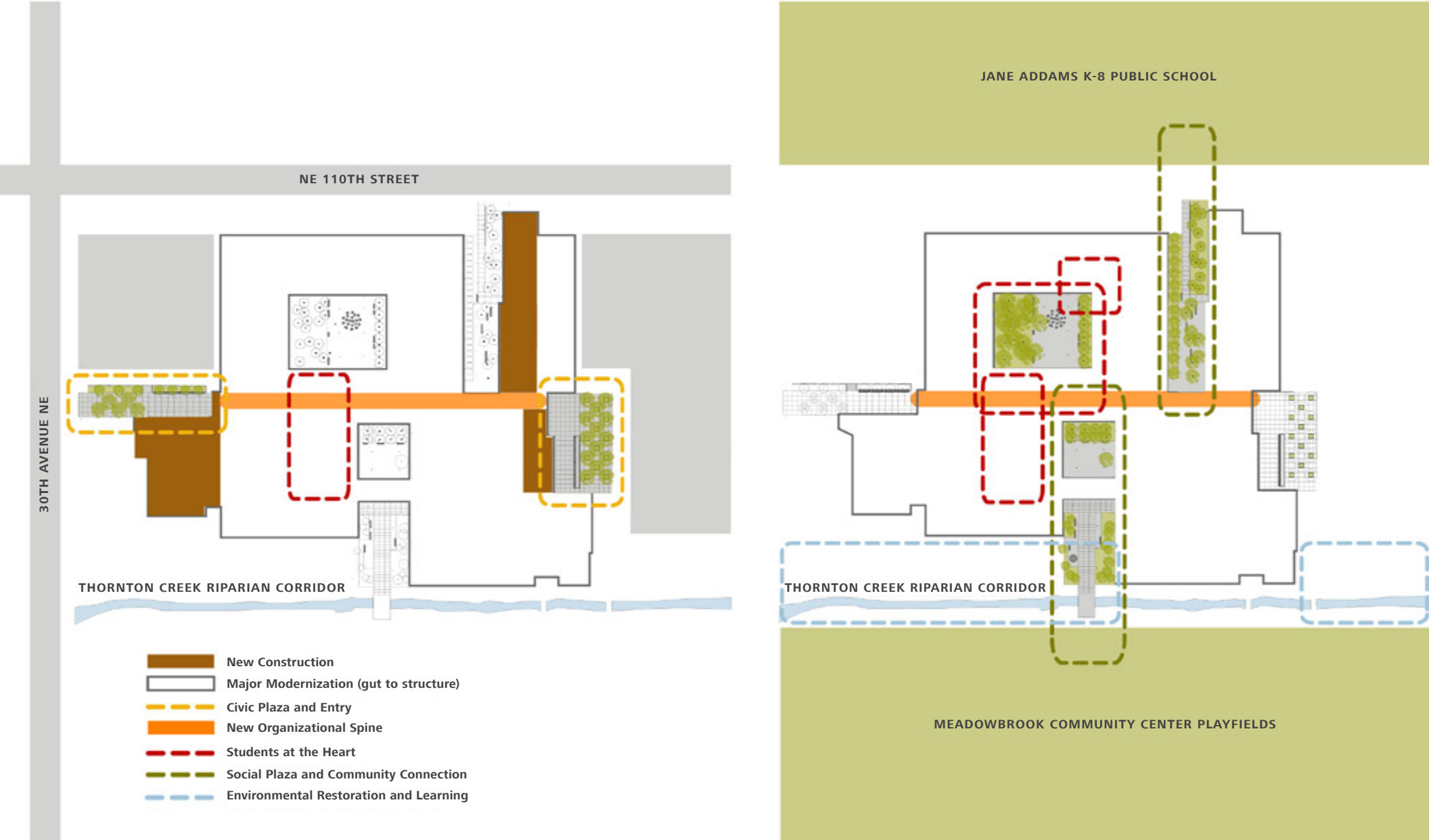
:: Water table monitoring
:: Access for science classes
:: Community asset

TO MINIMIZE CONSTRUCTION IMPACT

All Nathan Hale High School students and staff remained on site during the 30 month construction period. Recognizing the impact of the construction process on students, staff and families, the design team worked closely with the users, district, contractor and entire design team to minimize the negative effects by phasing construction. For example, by including the new addition in early phasing provided on-site surge space. Similarly the team initiated conversations with the SDT regarding temporary accommodations and brought contractors to the table early. Open and honest communication with the school community, neighbors and families before and during construction were crucial, as was taking advantage of the summer months for intense construction efforts.

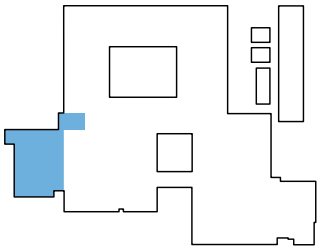
COMMUNITY HUB

Family and community involvement is integral to the culture at Nathan Hale High School and an organizational practice of the Coalition of Essential Schools. To engage the connection with the greater public community, the modernization improved community access to all public spaces where they benefit from easy, and separate exterior access to encourage continued use of shared facilities and services during non-school hours. The existing Performing Arts Center [PAC] lobby was extended into a major east-west spine and culminates in a new lobby and exterior plaza to the east, strengthening the connection between the fields and the school.



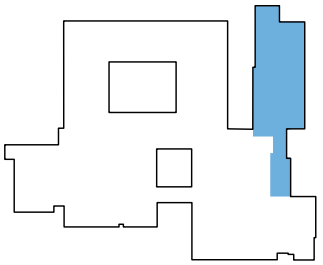
CELEBRATION OF THE ARTS

Completed in 2005, the Performing Arts Center features a traditional 450-seat theater, the project features multiple, flexible venues that support the school's need for concurrent teaching spaces, including two interior forums for smaller-scale intimate presentations, one exterior forum and a sloped lawn for events "in the park."



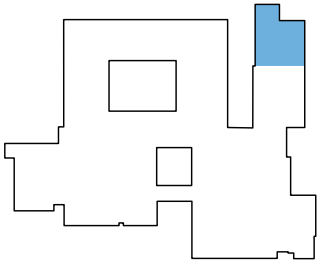
CONNECT CAMPUS

The library and arts addition at the east wing joined the former shop and main school buildings, and was sited to form a new common exterior gathering plaza. Located at the north end of the addition, the new library serves as a beacon to the community.



WELCOME COMMUNITY

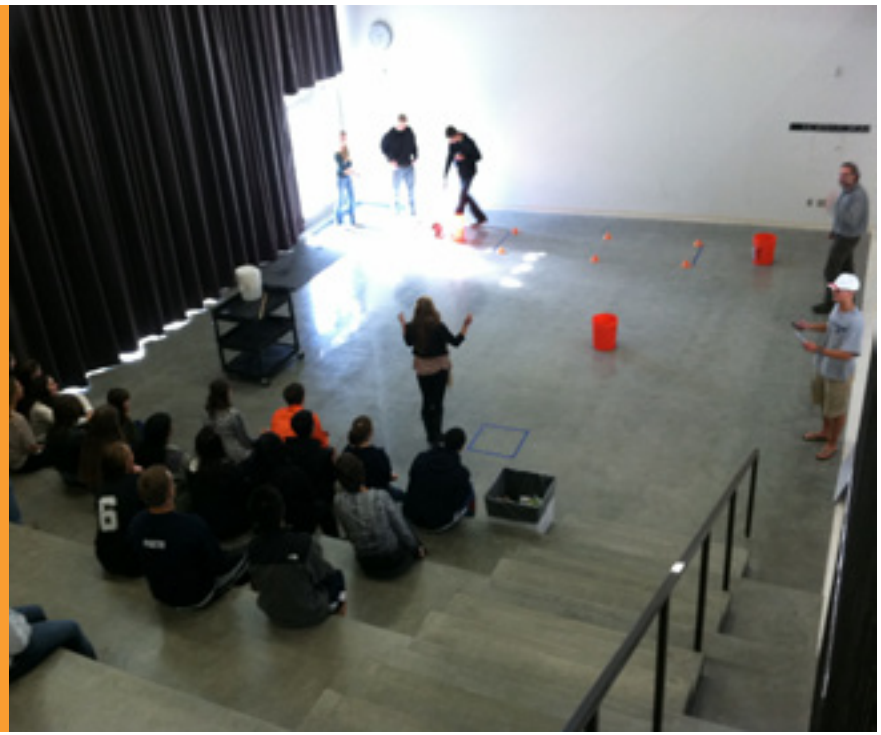
As A glass box that develops transparency similar to the lobby of the Performing Arts Center, the library reinforces the strong connection between the school and the community and invites public participation in the educational process as well as becoming a community resource after school hours.



HALE
XC

"We celebrate the completion of what is truly a remarkable transformation. The school now physically supports and embodies the same Coalition of Essential Schools' principles that our staff and students live out each day."

Rob Beem, Nathan Hale High School Foundation President



STUDENT AT THE CENTER

Nathan Hale High School embodies the concept that project-based learning is about creating connections at multiple scales: school-to-community, space-to-space, and face-to-face. Socratic seminars, exhibitions of student work and teachers as coaches and students as workers are experiences all students share. Nathan Hale High School embodies the Coalition of Essential Schools (CES) principles and project-based learning by creating and connecting spaces to allow educational opportunities to occur everywhere, support a range of learning styles, and blur the line between social and educational spaces.

The design re-imagines the Commons as a place for community and celebration, and charges it to become an informal presentation and academic space. Addressing the users' desire to create a strong student community on campus, a new forum and double-height student activity center were created. These student gathering spaces allow for visual interconnectivity, allow daylight to penetrate the deep building footprint and provide additional venues for performance-based learning.

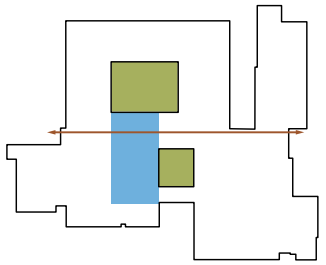
FACILITATE LEARNING EVERYWHERE

Collaboration areas for groups of varying sizes were developed along the main circulation spines to create opportunities for independent study, one-on-one learning, and personalization. These dynamic multi-use spaces build in rich opportunities for learning, exhibition of student work, and provide flexibility for current and future educational trends.

Excitement for learning and exploration is amplified now that the environment is a part of the process and empowers the development of genuine personal relationships. Visual connections between the common spaces, classrooms, and shared learning areas reflects the strong student-staff connection, makes learning visible and reinforces the sense of a whole school working towards a common goal.

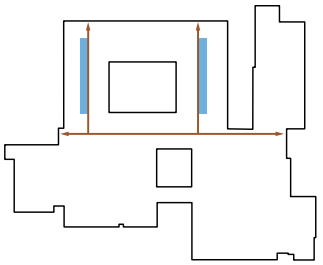
REINFORCE POSITIVE RELATIONSHIPS

The expanded Commons and new double-height student activity center are dynamic spaces for gathering, sharing, and learning and address the users' desire to create a strong student community on campus.



FACILITATE LEARNING EVERYWHERE

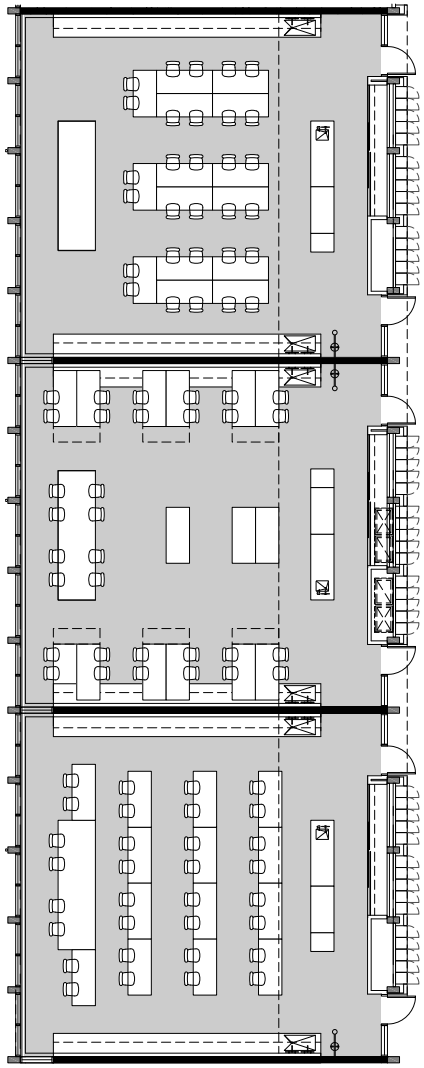
Shared areas for groups of varying sizes were developed along the main circulation spines. More than circulation, the hallways provide opportunities for informal meetings and project-based learning.



FOSTER CREATIVITY AND INQUIRY

The science department challenged the design team to create innovative spaces that support collaborative, hands-on, inquiry-based learning and support a curriculum that varies from semester to semester.

Custom designed mobile worktops and storage units with epoxy countertops and casters allow teachers and students to re-configure their labs daily, if desired, to support experimentations, student presentations and lectures, small and large group seminars, etc.



KNHC RADIO STATION

The previously vacant shop became the new home for KNHC, previously housed for 40 years in converted classrooms. Students are immersed in the entire broadcast industry from production and on-air announcing to marketing and public relations. The facility includes professional on-air studios, production rooms, a live performance studio and a dedicated classroom.

FOLLOWING PAGE: KNHC Control Room

"I LOVE walking to my classroom each day – enjoying the integration of outside/inside. There is a certain lightness of being, now."

Ted Lockery, Educator

RESPECT EXISTING STRUCTURE

Prior to the modernization, the 1960's high school pre-cast and cast-in-place concrete structure was inwardly focused, dark, and did little to support the educational philosophy built on the Coalition of Essential Schools principles of decency, trust, personalization, collaboration, equity and democracy.

The existing building is clearly organized and has a strong structural rhythm the modernization design sought to take advantage of this without significantly increasing the overall building footprint. Low ceilings and some floor plates were removed to express the structure and bring added volume to teaching and common spaces. Exterior precast concrete panels were carved away to allow the building to breathe fresh air and daylight.

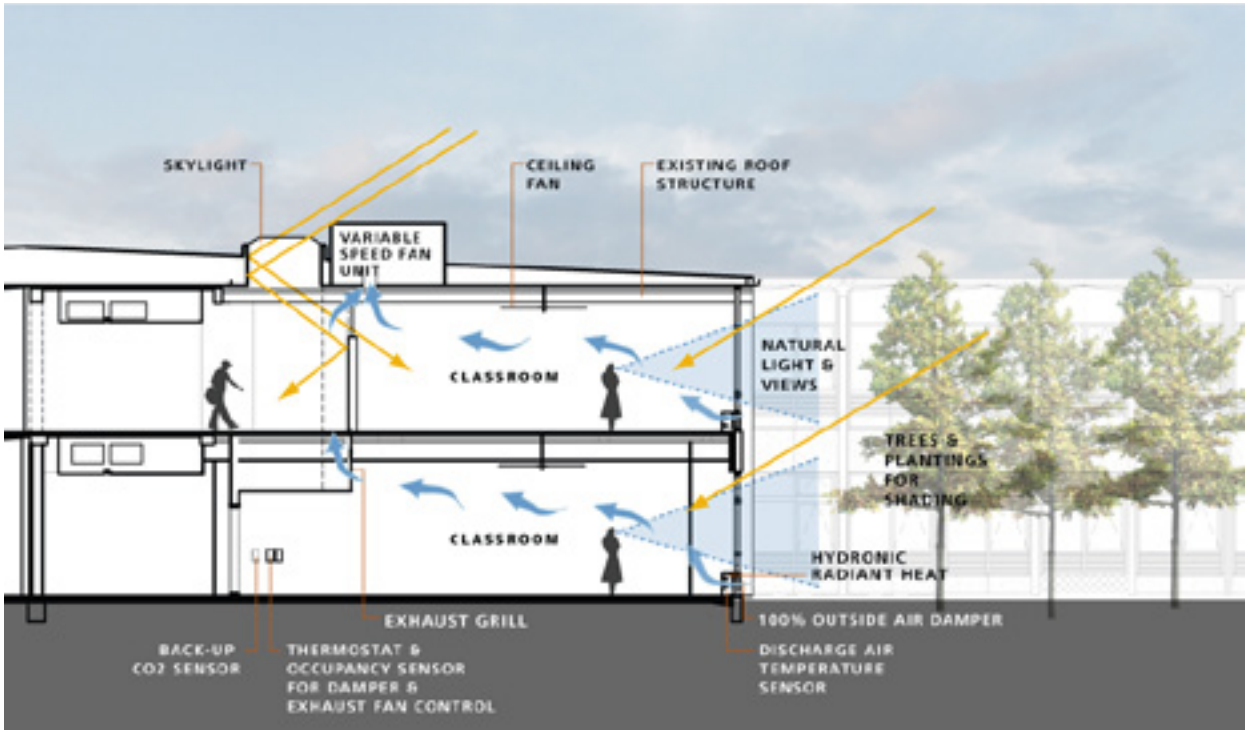
ALLOW BUILDING TO BREATHE AIR AND DAYLIGHT

Where the courtyards were previously overgrown and unused, now they provide integral visual and physical connection to the outdoors and clarify wayfinding. Transparency between the building and site strengthens the connection to the surrounding natural environment. Landscape design of the once underutilized courtyards brings Thornton Creek, a riparian corridor bisecting the site, to the heart of the school and reconnects awareness of this natural resource and habitat. The design of inner courtyards provides balance between areas for larger community gatherings, with areas for quiet educational pursuit.

REINFORCE POSITIVE RELATIONSHIPS

For the users, equal importance was to be placed on functionality and beauty to reinforce positive relationships between students, staff and community and to encourage student ownership and pride. 'Clean lines and planes,' 'lightness,' 'bold grace,' 'flowing,' 'simple,' 'connection to nature' and 'ability to see the sky' describe the users desired feeling of the school spaces.

In response to the dark, dim existing facility, the new color palette reflects light and highlights the vibrancy of the students and their work.



EMBRACE THE SITE

Nathan Hale benefits from an integrated design following principles of resource management and sustainability established by the entire project team, including workshops with the student led Nathan Hale Sustainability Committee.

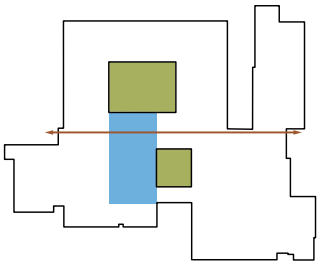
Re-use of existing building shell and structure minimized demolition material to landfills, reduced site disturbance, and limited consumption of new materials. The fan assisted natural ventilation system, a first for the District, is an energy-efficient solution with increased fresh air, reduced mechanical noise, and user control. Ground source heat exchange piping loops through vertical wells to heat and cool the addition. With Thornton Creek as an essential aspect of the local ecosystem, the design decreased 10,000 sf of impervious surface in the riparian management area to create greater access for educational opportunities and community enjoyment. Increased daylighting fills the halls and classrooms, expresses the school's values and provides a healthy inspirational environment.

ENVIRONMENTAL SAVINGS

:: Existing Square Footage of Renovation	204,000 sf
:: Initial Embodied Energy	245,000 million BTUs
:: Initial Embodied Energy Avoided	73,400 million BTUs
:: Gas Equivalency	638,260 gallons of gas

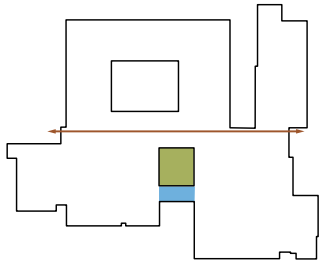
ALLOW BUILDING TO BREATHE AIR AND DAYLIGHT

By increasing the transparency of the exterior elevation, the courtyard becomes an extension of the adjacent Commons, the heart of the Nathan Hale campus.



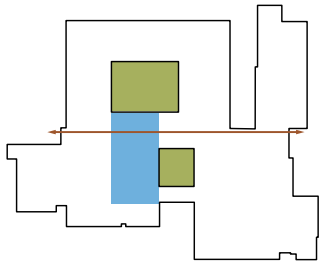
ACTIVATE COURTYARD

Where the courtyards were previously overgrown and unused, now they provide visual and physical connection to the outdoors and clarify wayfinding.

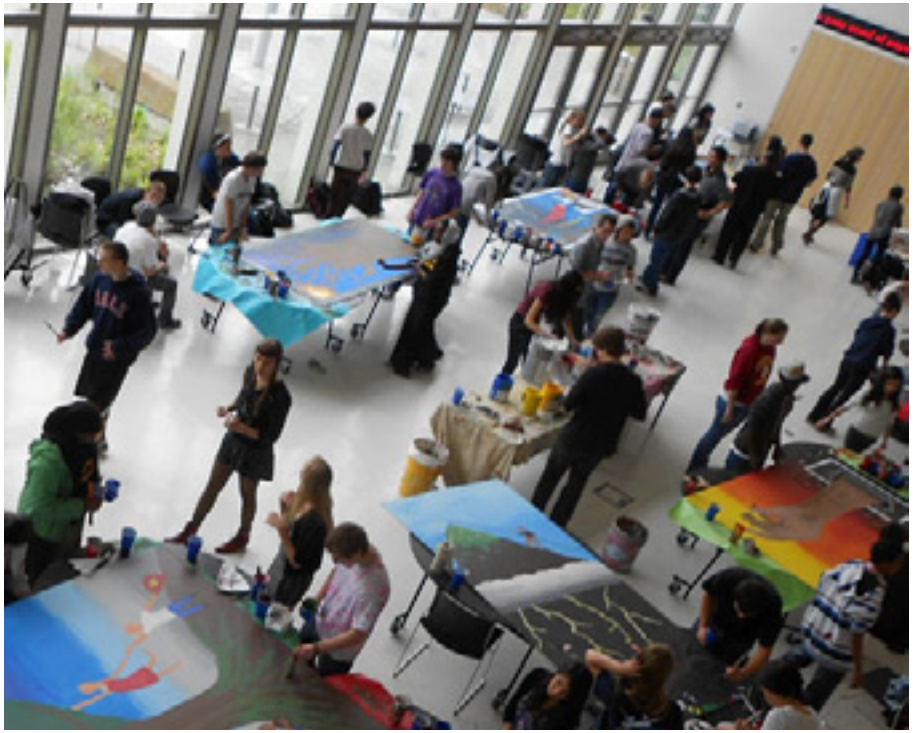


CLARIFY WAYFINDING

The primary organizer of the building is the main east-west pathway. It is the joint between quieter academic spaces to the north, and areas of public gathering to the south; however, more than circulation, it is a space that is or socialization, interaction, learning, listening, connection and gallery.



SECTION 07 | RESULTS OF THE PROCESS + PROJECT



"When I became Principal at Nathan Hale High School in 2009, the District had just started on a phased $86 million renovation of Nathan Hale that would span over three years while the school remained on-site. We welcomed the opportunity to remain in our home and maintain our fundamental academic culture, ensuring that ALL students become honorable, thinking, skillful citizens, but had concerns about the impact of construction and moves on our students and staff. We were fortunate to have a strong, integrated team of professionals dedicated to our project."

Dr. Jill Hudson, Principal Nathan Hale High School

"We have a new and beautifully refurbished campus that is bright, clean, energy efficient, and better supports our daily mission to educate our students and help them become honorable, thinking, skillful citizens."

Carol H. Butterfield, Nathan Hale High School PTSA President

"I have been very impressed with how early and well informed the construction and architectural teams have kept us. I for one really appreciate knowing what is coming down the pike before it hits. It feels to me that they are being very appropriately sensitive to the needs of Hale staff and students."

Larry Uhlman, Nathan Hale High School Educator

"The final product is stunning. The transformation is really amazing. I have walked that property for years and your vision for this project has been spot on. Looking out onto the field, the stream and the surroundings... reminded me of some of this countries' great scholastic campuses. Thank you for your hard work on this project, it is beautiful and you should be very proud."

Thom Head, Nathan Hale High School Neighbor