

2016 Exhibition of School Planning and Architecture

Northwood Elementary School

Mercer Island School District
Mercer Island, Washington

Northwood Elementary School



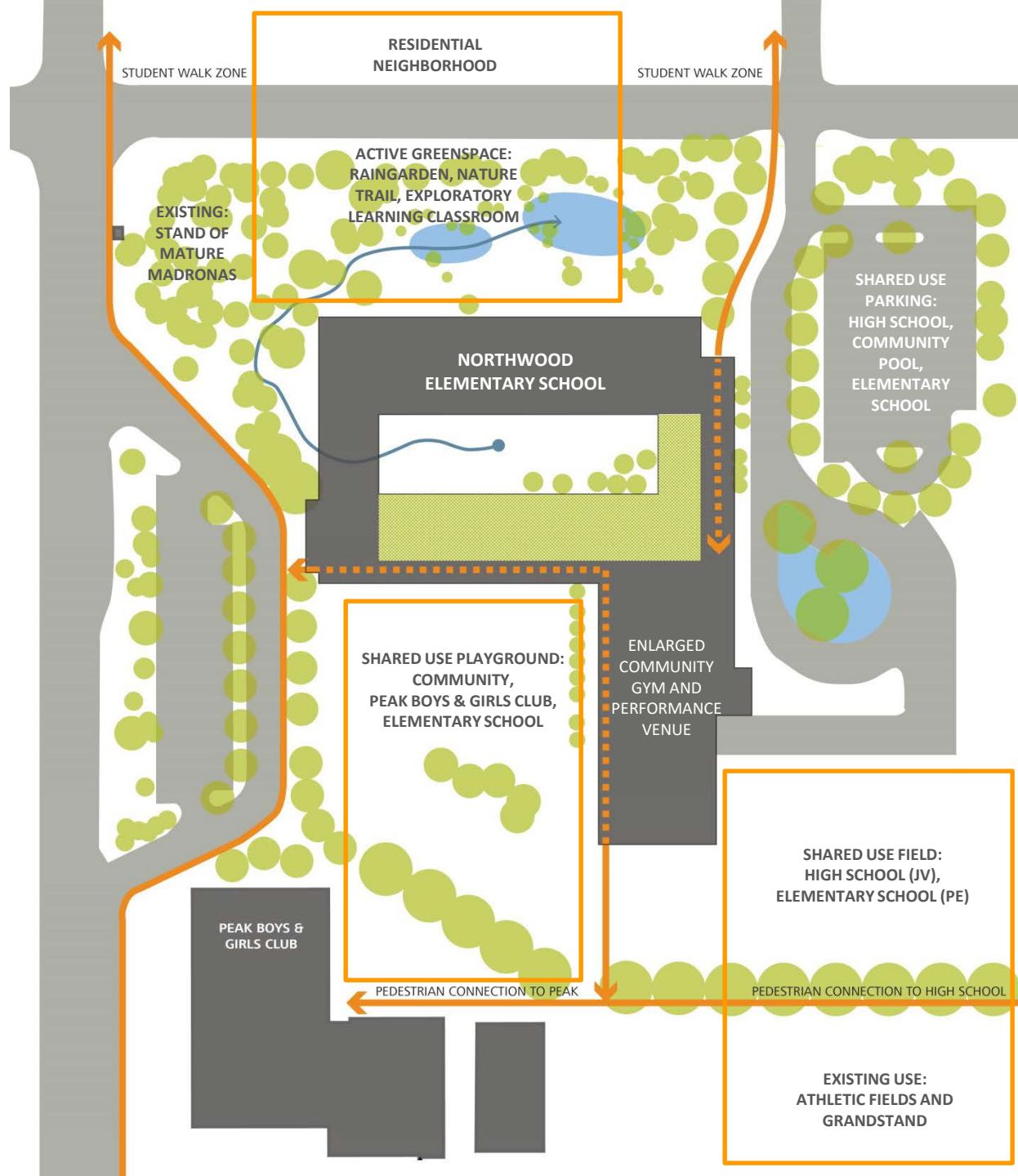
Northwood Elementary School



Designing for Partnerships

Community Environment

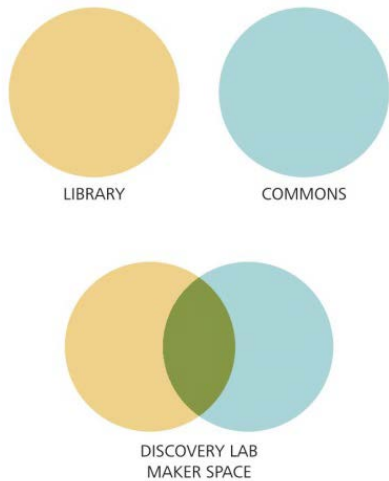
Occupying approximately 9 acres of a 43 acre district-owned shared-use site, the school is designed to enhance partnership opportunities for the enrichment of both community and education. This is achieved through a carefully crafted site strategy, a sensitive building massing, the programming of interior and exterior learning spaces, and the development of a new curriculum that embraces the site amenities and shared resources. Existing site partners include the island's only high school and alternative high school, the school district administration, the island's only public pool, the Boys and Girls Club, and athletic fields.



Designing for Community

Community Environment

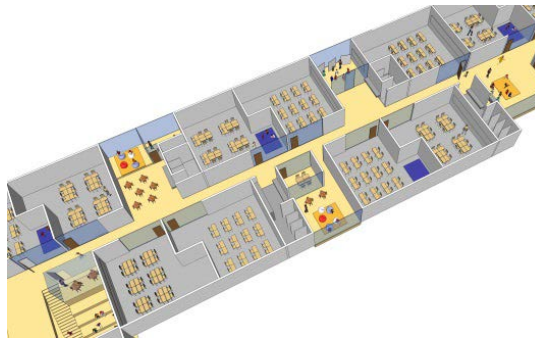
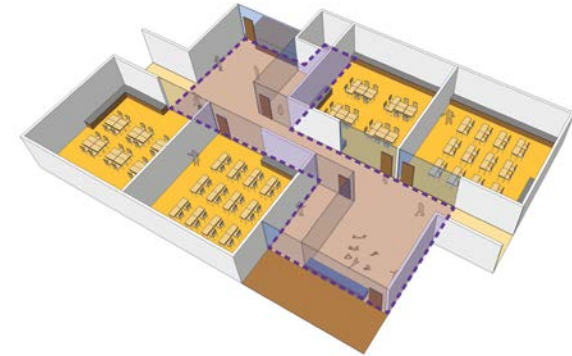
The library and gym were both identified as important places for learning and community, so both have been fundamentally reconceived to address 21st century learning. The library becomes the information center and the gym the cultural center of the school. By taking down both the walls and distinction between the library and the cafeteria to form a series of three interwoven, flexible, differentially sized spaces, the library is an active learning commons for students to access information, technology and making space, not a quiet house for books. Similarly, by expanding both the concept and size of the elementary gym, it is a venue for performance and a partner in the drive towards community health.



Facilitate Learning Everywhere

Learning Environment

The Mercer Island School District embraces the vision that all students will thrive in the cognitive, digital and global world while sustaining their passion and inspiration for learning. Pivotal to meeting this vision are facilities that offer personalized learning environments that are responsive to students' strengths, needs, learning styles, interests, passions and affinities. Further, continuity and flexibility were found to be paramount in their ability based learning program. L-shaped classrooms are clustered in pairs to maximize ownership and function of resource-rich shared learning and small group spaces. Continuity and flexibility are created by nesting the paired classrooms and flexible learning spaces along a continuum, both breaking down scale and maintaining a strong relationship between pairings to the larger school community.



Create a Network for Learning



Flexible learning spaces are not designed to be one size fits all; pushing differentiated learning to the next level and encouraging collaboration.

Take Learning Outside

Physical Environment

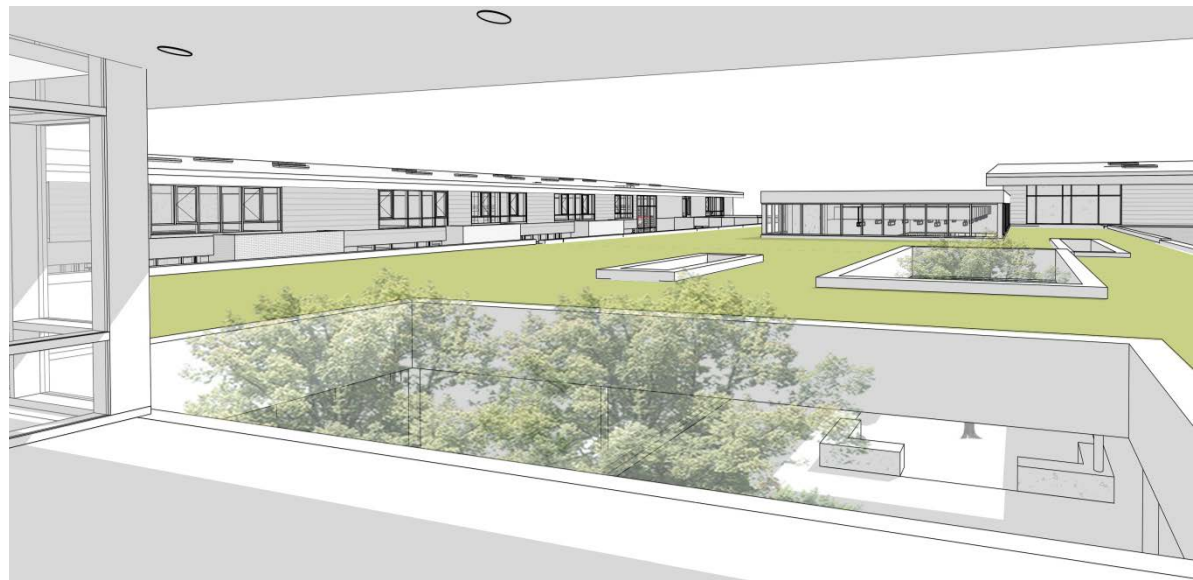
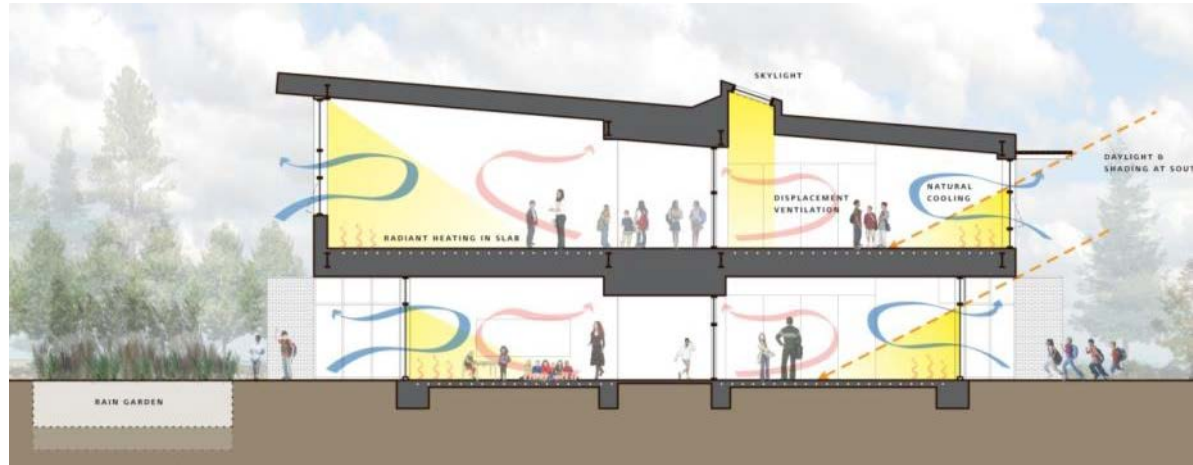
In response to the Next Generation Science Standards and project based learning, the curriculum and the facility are designed to intentionally blur the line between inside and outside. All flexible learning spaces are connected to exterior project spaces on the ground level. In addition, the art/science lab boundary is breached by throwing open a large roll-up door and expanding into a covered outdoor exploratory lab that becomes both home base and the launch-pad for experiments taking place along a trail of naturalized learning stations in the northwest corner of the site. On the second floor, an enlarged flexible learning space is designed as an open science lab and is visually connected to a roof-top weather station encircled by green roof plantings.



Healthy Building Healthy Planet

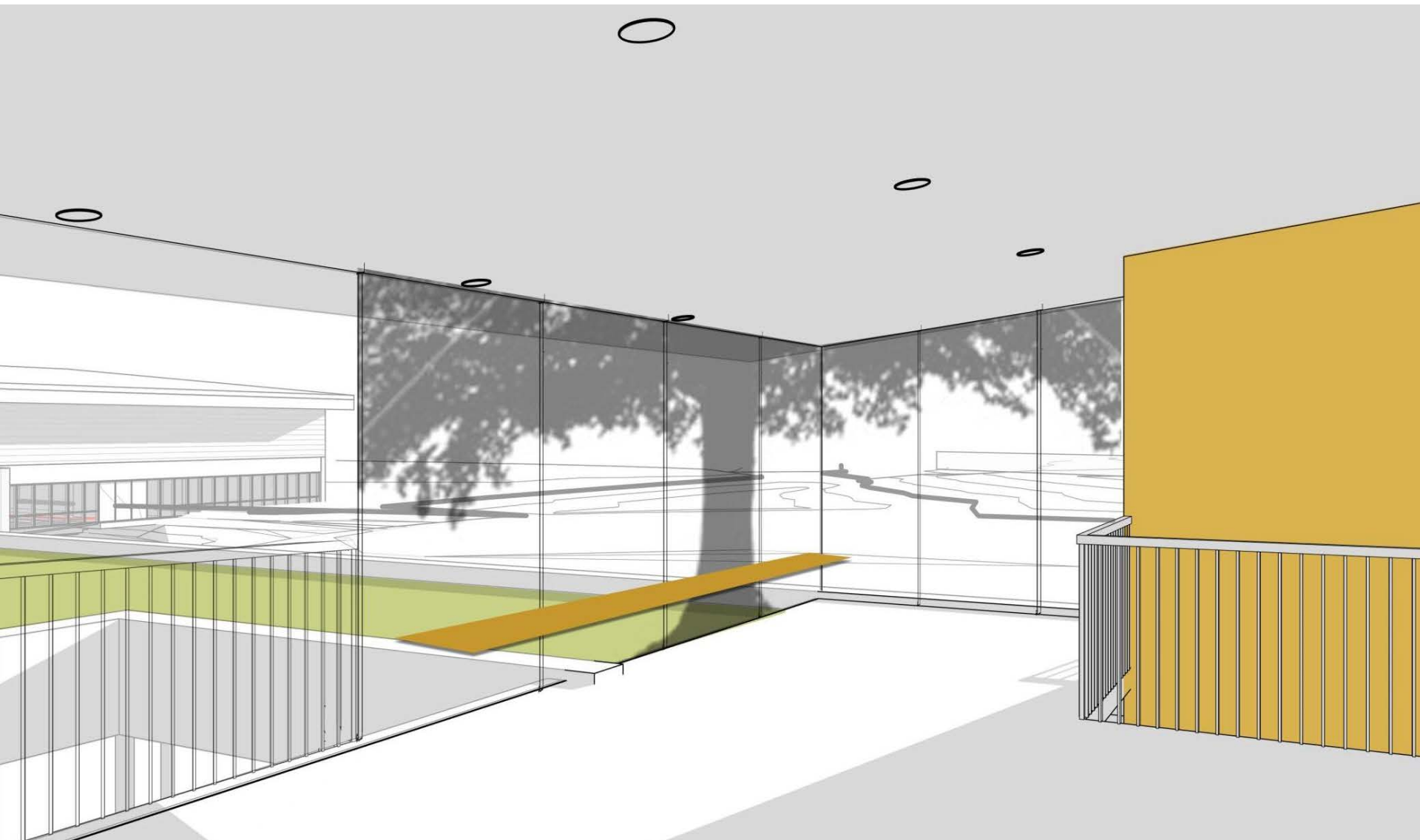
Physical Environment

Sustainable priorities were established by community ethos, district principles and in partnership with new curriculum to support the Next Generation Science Standards. These include: outdoor education spaces; storm water infiltration in bio-retention areas; preservation of wooded areas; porous paving; natural cooling; natural daylighting; high performance windows; maximized glazing; low-flow fixtures; visible hand washing; bottle filling stations; food composting; heat recovery; a hybrid heating system consisting of a large air to water heat pump with a small electric boiler to cover the peak heating loads and morning warm up; a 99KW solar array and radiant floors throughout.



Healthy Building Healthy Planet

Physical Environment: Community Porch



Healthy Building Healthy Planet

Physical Environment: Community Playground



Healthy Building Healthy Planet

Physical Environment



Mercer Island School District's Green Goals:

Seek opportunities that are practical and responsible

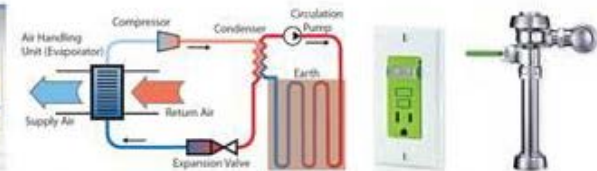
Select measures with proven high performance results

Achieve visible learning opportunities for students and faculty



ENERGY

- Hybrid geothermal heating system
- Radiant floors
- Displacement air ventilation
- Solar hot water
- Balanced daylighting
- High efficiency LED light fixtures
- Green plugs
- Energy monitoring with online display
- High performing building envelope



WATER

- Rain water harvesting and cistern
- Grey water plumbing system
- Demonstration composting toilet
- Green roof
- Visible hand washing
- Bottle fillers



SITE

- Capturing views to nature
- Exterior learning spaces
- Improving pedestrian/bicycle connections
- Traffic dispersment
- Shared on-site parking
- Minimizing impervious surfaces
- Rain water collection
- Gardens
- Geothermal wells
- Dark sky



MATERIALS

- Local and natural materials
- Durable non-toxic materials
- Longevity of style and color
- Student and community art
- Tackable wall surfaces
- Minimizing dirt collection and maintenance

HEALTH

- Walkability
- Exterior play areas
- Daylighting
- Operable windows
- Visible hand washing with foot controls
- Air hand dryers
- Bottle fillers
- Sensory-controlled spaces
- Acoustical separation between teaching spaces

CURRICULUM

- Flexible learning spaces that support
- Next Generation Science Standard integration
- Visible rain water cistern
- Demonstration composting toilet
- Gardening

1 SITE DIAGRAM

- 1 Green Roof
- 2 Raingardens
- 3 Bike Racks
- 4 Metro Stop

Communal Vision

Planning Process

Committed to addressing education needs along with the moral development of each student, planning for the new school began in partnership with the community during a year-long pre-bond planning and community outreach process. When asked what success looked like during an image exercise, ideas surfaced that included the words: radiant, in balance, sustaining, individualized and innovative. Similarly, when asked to describe the ideal learning environment, qualities included serene, enticing, collaborative, relational, open-to-nature, comfortable, exploration, and aspirational. Consensus was held around the following goals:

Improve Learning

Focus on Community

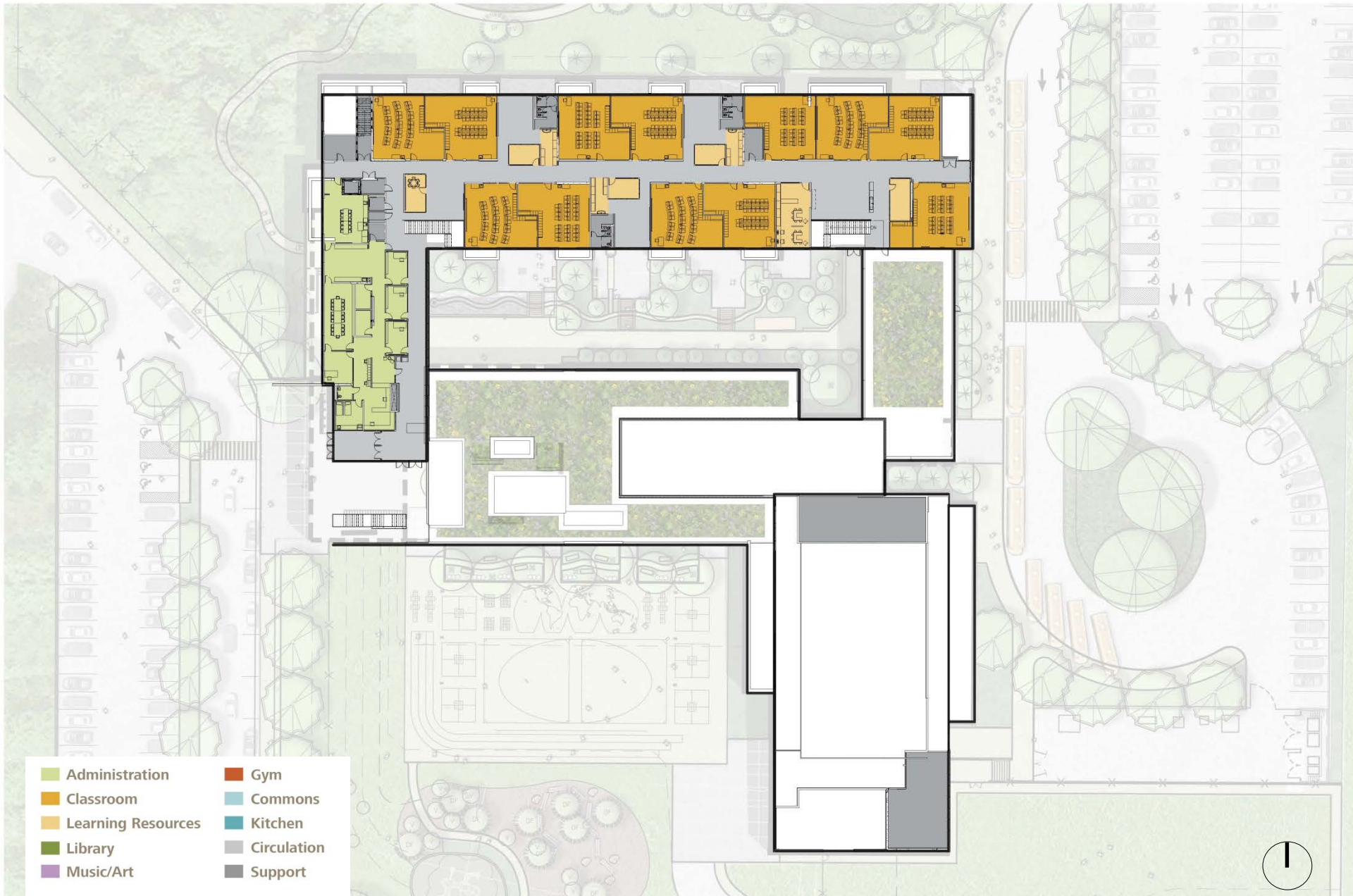
Be Responsible

Educate/Engage the Whole Child

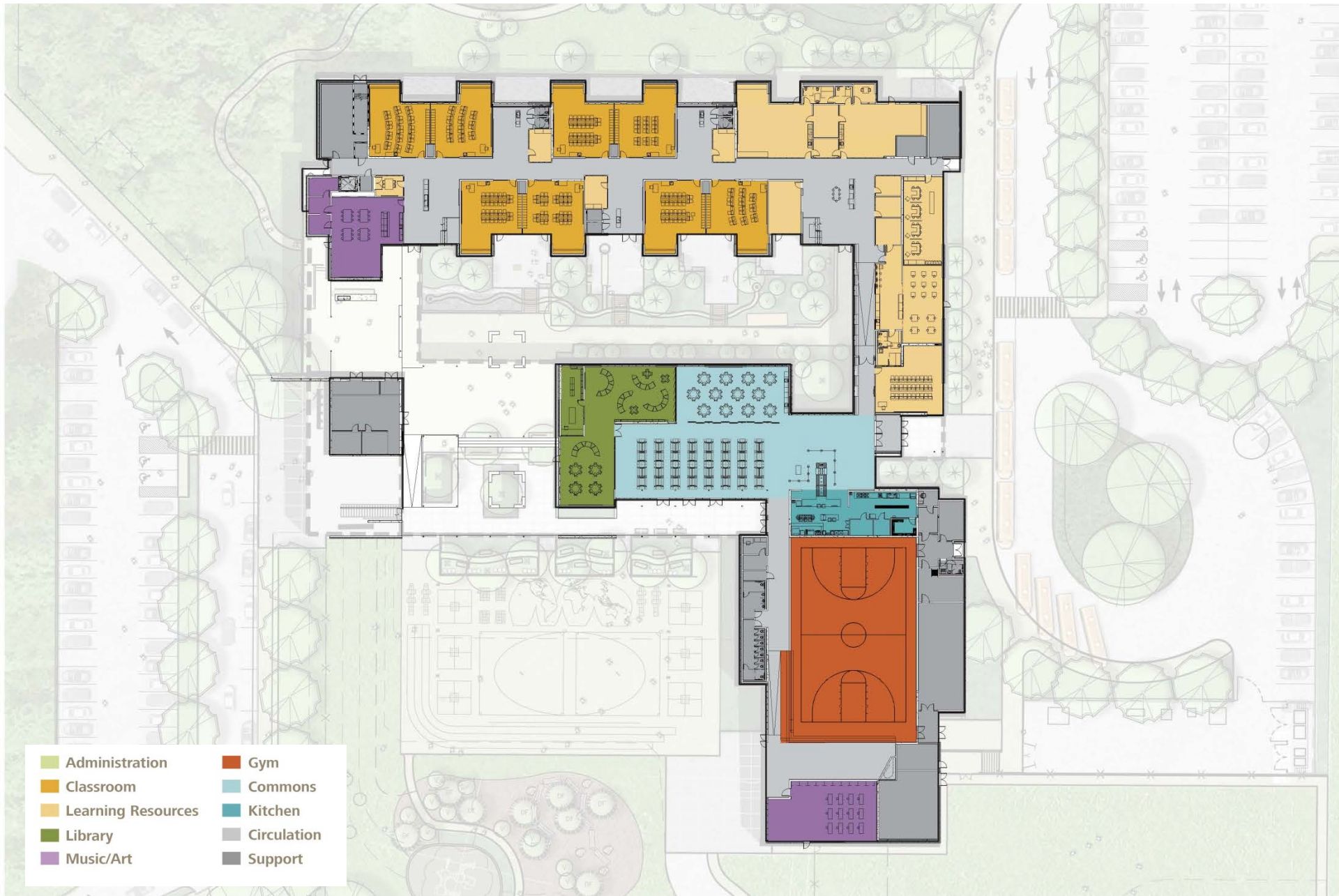
Facilities in Support of Pedagogy



Upper Level Floor Plan



Lower Level Floor Plan



Exhibition of School Planning and Architecture

Project Data

Submitting Firm :	Mahlum
Project Role	Architect
Project Contact	Rebecca Hutchinson
Title	Architect
Address	71 Columbia, Floor 4
City, State or Province, Country	Seattle, WA, USA
Phone	(206) 441 - 4151

Other Firm:	Not Applicable
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other Firm:	Not Applicable
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other Firm:	Not Applicable
Project Role	General Contractor
Construction Firm	Bayley Construction
Title	
Address	8005 SE 28th Street
City, State or Province, Country	Mercer Island, WA 98040
Phone	(206) 621-8884

Exhibition of School Planning and Architecture

Project Details

Project Name	Northwood Elementary School
City	Mercer Island
State	Washington
District Name	Mercer Island School District
Supt/President	Dr. Gary Plano
Occupancy Date	Fall 2016
Grades Housed	Developmental PK, K - 5 th Grade
Capacity(Students)	480-550
Site Size (acres)	9
Gross Area (sq. ft.)	77,000
Per Occupant(pupil)	160-140
gross/net please indicate	Gross
Design and Build?	Low Bid
If yes, Total Cost:	\$28,000,000 Construction Cost
Includes:	Building and Site Development
If no,	
Site Development:	
Fixed Equipment:	
Other:	
Total:	