

2015 Exhibition of School Planning and Architecture

Mercer Island Elementary School No. 4

**Mercer Island School District
Mercer Island, Washington**

Mercer Island Elementary School No. 4



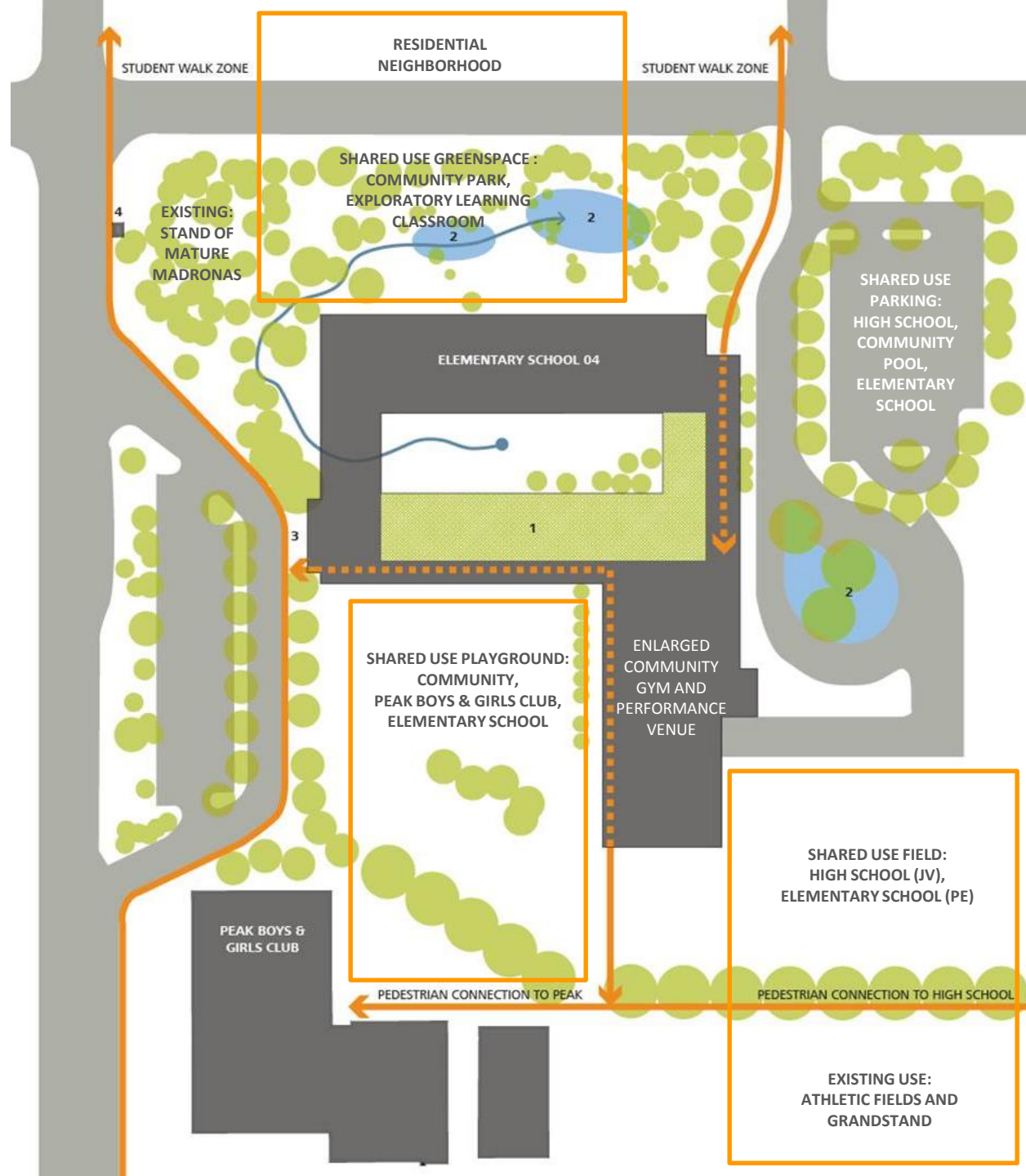
Mercer Island Elementary School No. 4



Designing for Partnerships

Community Environment

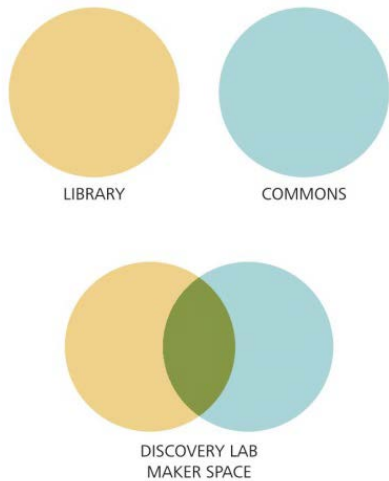
Occupying approximately 9 acres of a 43 acre district-owned shared-use site, the school is designed to enhance partnership opportunities for the enrichment of both community and education. Existing site partners include the island's only high school and alternative high school, as well as district administration, with immediate on-site neighbors being the island's only public pool, Boys and Girls Club and athletic fields. Symbiotic partnerships were identified during the planning process. These partnerships became foundational for the siting, design and program of both interior and exterior learning spaces in the new school, as well as the developing curriculum, encouraging enriched cooperation and shared use for and by all partners.



Designing for Community

Community Environment

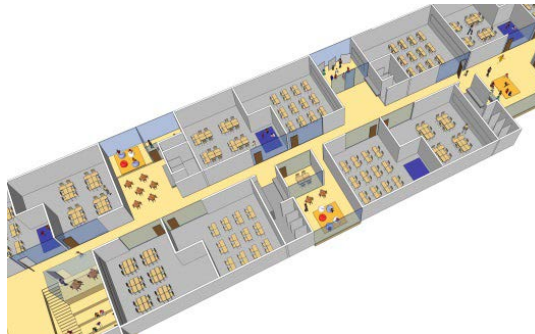
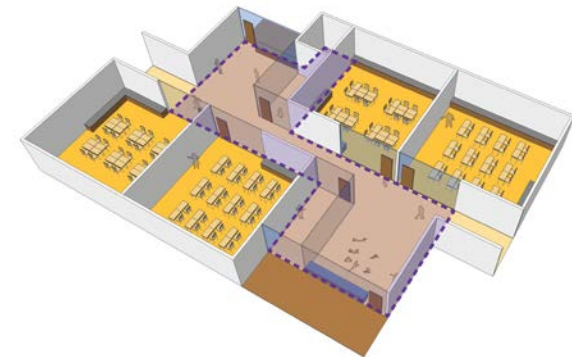
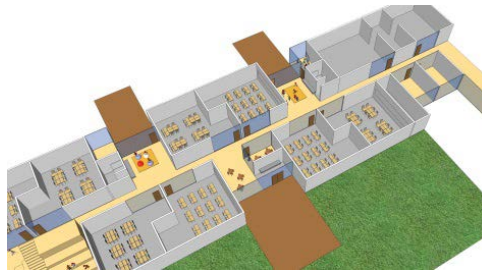
The library and gym both were identified as important places for learning and community, so both have been reconceived from the roots to address 21st century learning. The library becomes the information center and the gym the cultural center of the school. By taking down both the walls and distinction between the library and the cafeteria to form a series of three interwoven, flexible, differentially sized, fluidly connected spaces, the library will be an active learning commons for students to access information, technology and making space, not a quiet house for books. Similarly, both the idea and size of the elementary gym is enlarged into a hub of culture; becoming both 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

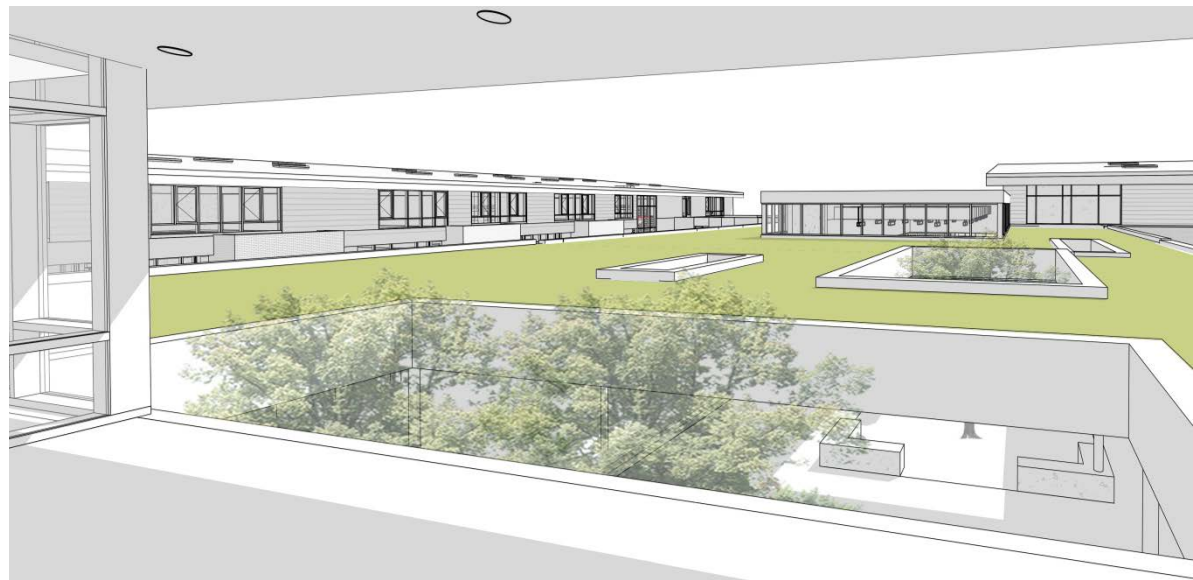
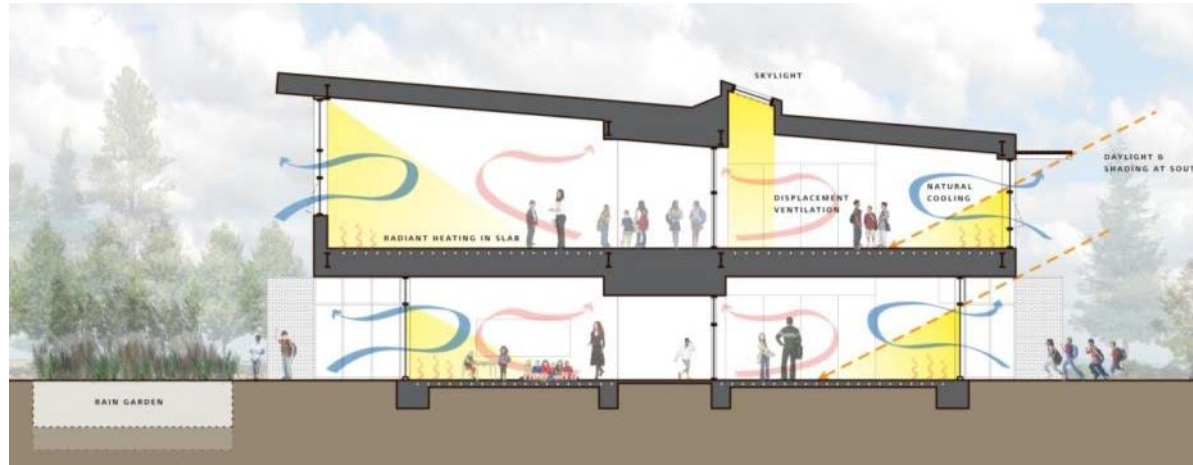
In response to the Next Generation Science Standards and project based learning, the curriculum and the facility are being designed to intentionally blur the line between inside and outside. All flexible learning spaces are connected to exterior project spaces on the ground level. In addition, the art/science lab boundary is breach able 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 connected to a roof-top patio green-house encircled by green roof plantings, and solar panels.



Healthy Building Healthy Planet

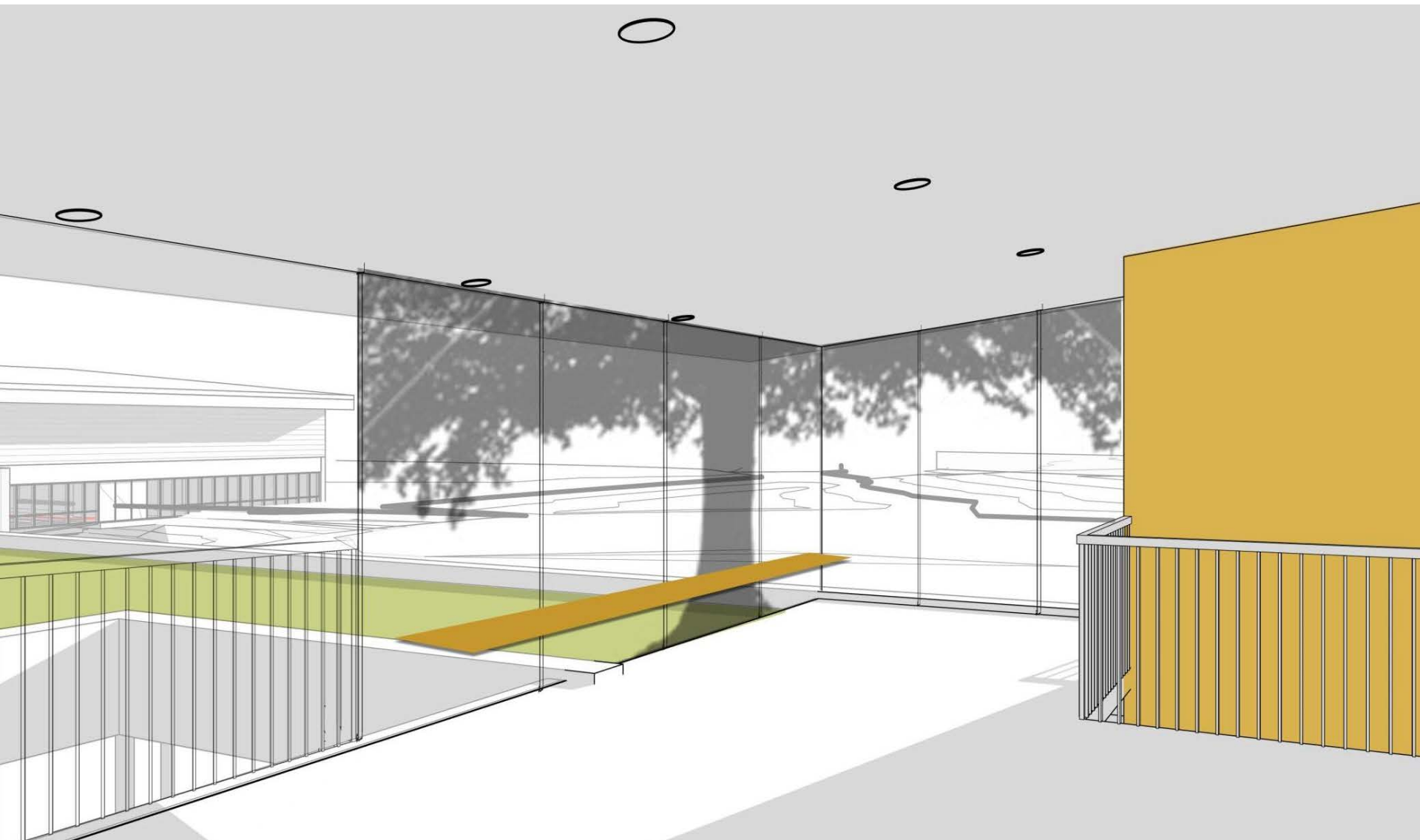
Physical Environment

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; maximizing the benefits of natural daylighting; triple pane windows in rooms with high percentages of glazing; ultra low-flow fixtures; visible hand washing; bottle filling stations; 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; demonstration composting toilets; food composting and radiant floors throughout. The design team is also partnering with a community organization to install a large array of solar panels on the roof.



Healthy Building Healthy Planet

Physical Environment: Community Porch



Healthy Building Healthy Planet

Physical Environment: Community Playground



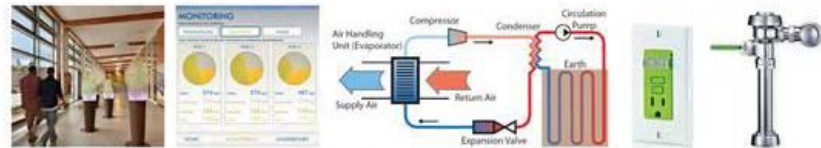
Healthy Building Healthy Planet

Physical Environment



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



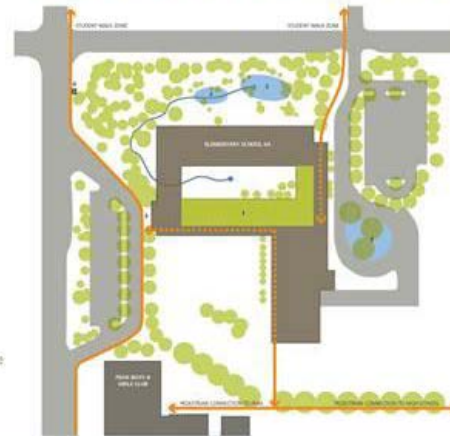
WATER

- 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 dispersement
- 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

SITE DIAGRAM

- 1 Green Roof
- 2 Rain Gardens
- 3 Bike Racks
- 4 Metro Stop

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

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, explorable, 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

The Upper Level Floor Plan illustrates the layout of the school's upper floors. The plan is divided into several main sections:

- Classroom Wings:** The top and bottom wings contain classrooms for 4th, 5th, and 6th grades. The top wing also includes a 'SHARED AREA' and 'STORAGE'.
- Central Corridor:** A wide central corridor provides access to all classrooms and common areas.
- Common Areas:** The plan includes a library, art room, music room, and a large outdoor courtyard with a playground.
- Support Spaces:** Other areas include a health room, reception, and various storage spaces.
- Exterior Features:** The plan shows parking lots, a bus loop, and a north arrow.



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Exhibition of School Planning and Architecture

Project Data

| | |
|----------------------------------|-----------------------------|
| Submitting Firm : | Mahlum |
| Project Role | Architect |
| Project Contact | JoAnn Wilcox, AIA |
| Title | Associate, Project Designer |
| Address | 71 Columbia, Floor 4 |
| City, State or Province, Country | Seattle, WA, USA |
| Phone | (206) 441 - 4151 |

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|----------------------------------|----------------|
| Other Firm: | Not Applicable |
| Project Role | |
| Project Contact | |
| Title | |
| Address | |
| City, State or Province, Country | |
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Exhibition of School Planning and Architecture

Project Details

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|----------------------------------|---|
| Project Name | Mercer Island Elementary School No. 4 |
| 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: | |