



Muckleshoot Tribal School

MUCKLESHOOT INDIAN TRIBE :: AUBURN, WASHINGTON

The Tribe's previous school was a collection of portables and aging buildings. High school drop-out rates, and the fact that many of the Tribe's students were choosing to attend other schools in the region, led to plans for a new K-12 campus endowed with a strong sense of cultural identity.

Creating a strong sense of community and cultivating traditional teachings were key design goals. Organized as a village, the buildings were inspired by the simple forms of the cedar longhouses characteristic to the Puget Sound region. The four buildings house elementary, middle, and high school programs, as well as a shared gym, dining and performance spaces. As students grow older, they move counter-clockwise around the campus, until their graduation ceremony, and the campus cycle begins again. Two walkways under cedar canopies connecting the buildings are finished to evoke the character of the Green and White Rivers, the two rivers that help define the identity of the Muckleshoot. Throughout the campus, students are consistently connected to the art and culture that also define the identity of the Muckleshoot Indian Tribe.

Access to daylight, views to native landscaping and 100% outside air support connections to the exterior environment from all occupied spaces.

Skylights and daylight-filled corridors bring natural light into teaching spaces, typically from two sides.

The Pacific Northwest climate averages maximum temperatures at 45° to 75°F. Outdoor temperatures and humidity levels from late spring through early fall are generally within acceptable indoor comfort conditions, creating an ideal opportunity to provide natural ventilation and passive cooling.

Operable aluminum clad windows and ceiling fans combined with roof ventilation chimneys allow the buildings to breathe and their occupants to control the temperature and air movement.

During cooler months, the buildings are heated by fin-tube radiators. A heat recovery ventilation system activated by CO2 sensors harvests warmth from exhaust to provide 100% outside air.

The narrow floor plan allows the majority of windows to be placed on the north and south facades, where solar heat gain is easier to mitigate.

Windows on the south are protected by a combination of overhangs, interior light shelves, and sun shading louvers. Eaves at the lower overhangs are built from translucent polycarbonate panels, allowing light to pass through and diffuse into the spaces. These strategies combine for a nearly 50% energy savings over conventionally designed buildings.

During the school year, the site receives an average of 4" of rain per month, however, outdoor temperatures remain moderate. Deep overhangs extend to provide generous covered outdoor areas for learning, play and dining, even during the rainiest times of year.

Raingardens provide the primary means for treating stormwater flowing from the roofs and paved areas, maximizing groundwater recharge and water quality filtration, while minimizing evapo-transpiration and discharge rates.

Energy Use Intensity:
74 kBtu/SF/yr

Percent CO2 Reduction:
46%

Energy Star Design Rating:
94

Annual Savings Statistics
(compared to an average building EPA Rating of 50):

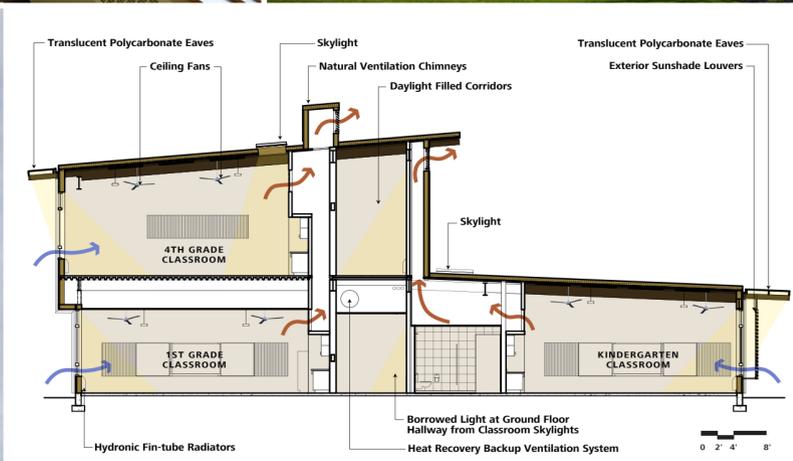
Energy Savings:
146,300,000 kBtu

CO2 Savings:
281 Metric Tons CO2

Building/Space Type:
K-12 School

Total Gross Floor Area:
114,191 SF

Occupancy:
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