

**Company Name:** Tectonica Management Inc.

**Project Name:** Discover Montessori School

**Project Value:** \$9,000,000.00

### ***The Vision***

Discover Montessori School started with a goal of becoming an example of how an environmentally sustainable campus can be a creative, inviting, inspiring and wondrous space for children to learn. They wanted to show that a zero carbon approach can be affordable, replicable, and sustainable for generations to come.

### ***The Project***

Located at 3460 Jingle Pot Road in Nanaimo, BC, the Discover Montessori School project consists of the renovation of a 4300 square foot existing building and construction of a new 12,000 square foot single story school. The farm-based school is built on Agricultural Land Reserve property and the rural location did not allow for municipal water supply. It is the first school in BC to rely solely on reclaimed rainwater augmented by trucked in water for its potable water source and irrigation. The school is also plumbed for grey water recycling for future use. To align itself with the fundamental principles of Montessori philosophy, the project emphasized environmental sustainability and targeted the Canada Green Building Council Zero Carbon Building Standard.

The project incorporated low carbon construction, a high performance building envelope, an energy efficient HVAC system and an integrated solar energy generation system. Minimal use of concrete in the construction of the foundation and light wood frame construction enabled the project to reduce its carbon footprint by approximately 45% compared to a baseline of typical construction. A heavy timber canopy and reclaimed Douglas fir exterior cladding were incorporated to emphasize the low embodied carbon aspects of the project.

The new building construction features nine spacious classrooms, each with access to outdoor, enclosed decks and play spaces situated to enhance the connection to the natural surroundings. Two offices, a boardroom, storage space and multiple washroom locations for convenient access from all classrooms complete the layout. The layout of the school allows for separate wings for preschool and elementary classrooms.

The existing building was renovated to include an electrical room, water treatment room, accessible washrooms, a classroom and a multipurpose room. This building also houses the main kitchen for the school and is a separate space for the middle school students. The concept of tying the interior spaces into the natural environment is continued in these learning areas with direct access to outdoor decks and green spaces.

The parking lot design and landscaping follow the net zero approach and focus of the school to provide connections to the environment and productive farming. Minimal decorative plantings with low water demand and swales to manage run-off were installed. Edible gardens where students learn about and participate in real farming practices continue to be developed.

Discover Montessori School was awarded the BC Embodied Carbon Award 2023 - Large Buildings Award BC.