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A design that teaches others

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TRILOGY
ARCHITECTURE URBAN DESIGN RESEARCH

If you have ever watched a disaster movie where a giant asteroid is hurtling toward the earth, bringing with it death and destruction to all mankind, you know what happens. Almost no one believes the warnings until they can see the danger with their own eyes, and by then of course it's too late. So it is with life, where today's climatologists are confronted with continuing public skepticism in response to their dire pronouncements on the negative effects global warming will have on our planet's health by the end of the 21st century.

Is this too extreme an analogy? The intergovernmental Panel on Climate Change (IPCC) released a report in 2007 affirming humanity's role in climate change. So here's a question for you. What if the skeptics are right and these twenty-five hundred scientists from around the world are all wrong?

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What if six hundred million people living in the world's coastal regions do not have to be relocated in the next thirty years. What if thirty percent of all species are not at risk of extinction? Does that mean then that oil isn't running out, that air pollution isn't reaching toxic levels, and more people are not starving due to the world population demands on diminishing food supplies? Are all those reports wrong also? Because if we believe any of the above, we should understand that something serious needs to be done – regardless of global warming concerns – to preserve the quality of life not only for our children but their children as well.

This is the message our schools have been teaching since the 1970's, but it is obvious that the message hasn't yet sunk in (see asteroid skepticism above). Educating our children about our planet is a good idea, but if seeing is believing, then maybe we should consider that the next generation of school buildings such as the Redding School of the Arts can serve as potent educational tools for our teachers to utilize in their lesson plans on how to preserve our planet. Buildings are too rarely designed to take the environment into consideration, as historically this just hasn't ranked highly with the world's builders. Deforestation, depletion of natural resources, and contamination of the air and water are the result.

So how does a building become a teacher?

Trees are more important than we realize.

A simple decision to plant more trees can result in a huge benefit to the earth's environment. Trees in our developments are too often sacrificed in the name of "efficient" site usage, being relegated to the parking lot or along the street. The McConnell Foundation has made the unusual commitment to buffer the school from the street by almost six hundred feet, half of which is reserved for an existing stand of trees, the other half by a parking lot that is designed around existing trees. New trees will be planted at the rate of one per two automobiles with the intent to create a true shade canopy in the near future. And these trees not only look good, they absorb CO₂ and stabilize the soil.

Net- zero is a term with which we should all become familiar.

We are attempting to create as close to a net – zero building as possible, where the energy consumed is equal to or less than the energy generated. It all starts with a design that takes advantage of our climate instead of working against it. Placing the building on the site so that the majority of windows face toward the north maximizes natural light into the classrooms while avoiding excessive glare and heat gain is an easy choice. Allowing windows to open to exterior galleries, creating cross ventilating fresh air breezes during moderate days certainly helps. By using sophisticated lighting controls that sense how much artificial light is needed, this school expects to reduce its energy use more than 90% below what is used in a typical building of the same size. Creating energy is the next step. We will utilize a lot of the sun and a little of the wind to generate 100% of our energy, thus showing how energy independence can be accomplished on a small as well as large scale.

Water is important to our thinking as well. In India and China, wells are now being drilled to over a mile deep to reach aquifers, and the situation is becoming worse each year. It is only a matter of time until we will be talking about water prices in the same way as we now discuss gas. Our school makes this point through an extensive underground water storage system to collect and store enough winter rainfall for the majority of the summer season's irrigation needs. This can only be accomplished because we will use water wisely through water saving fixtures such as waterless urinals and dual flush toilets, drip irrigation and drought tolerant landscaping.

Go visit a landfill on your next day off.

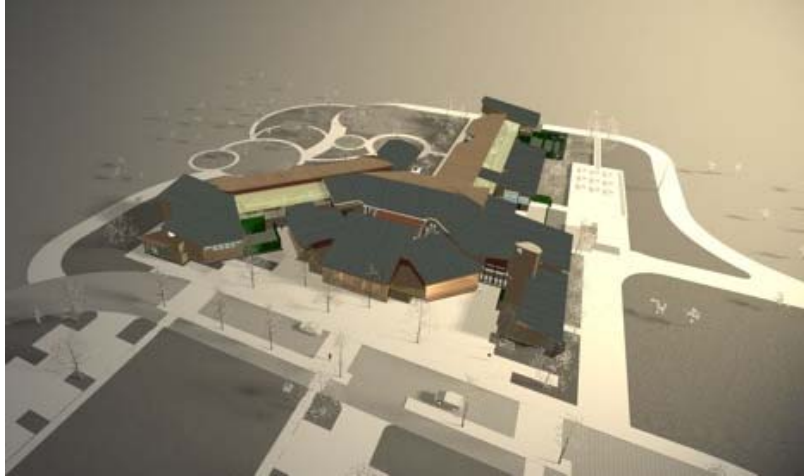
Recycling will be evident everywhere, whether it be through the use of materials during construction, or everyday composting and recycling done by the students and teachers. When was the last time you visited a building where the trash enclosure was a featured element of the project?

We need to leave enough room for gardens.

Is there a more important topic to bring to our schools than how the world can continue to feed its people?

It has been stated that perhaps Americans need to move down the food chain and thus improve our own health in the process. Providing gardens for school children and cooking classes to demonstrate to them how to apply new skills is a very under-the-radar idea, but one that could yield wonderful long term results. And in the process, as a country we may allow the rest of the world to move up the food chain.

In the end, it is the goal that this project achieve the very prestigious designation of LEED platinum, which says to everyone this is a very eco-friendly building. But this is about more than scoring points in the ultimate earth – friendly exam. We are attempting to demonstrate that environmentalism isn't a dirty word, but rather a survival tool. And that planting trees and eating right are as important as solar panels and geothermal heat pumps. Imagine a building that has no negative effect on the environment – now that is a story worth telling.



This piece is one of three series articles that will be featured on DesignShare in coming months.

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