

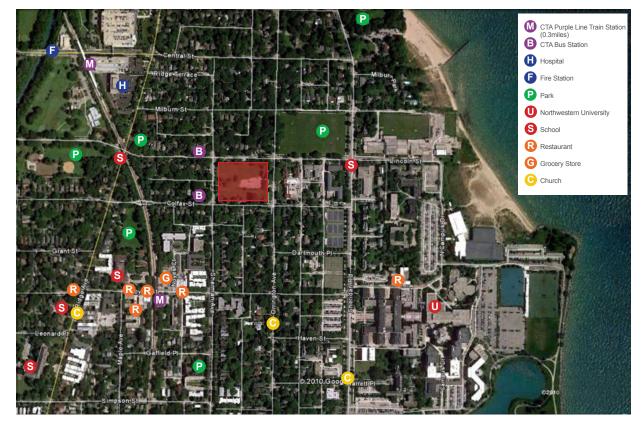






URBAN HYBRID HOUSE and its application in a block context

The aim of this project is to develop a cluster of hybrid designed to produce energy and reduce resources consumption in comparison to the houses surrounding it. The project goals are to demonstrate performance improvement. Maximize sun exposure and the interaction between the houses and its gardens. To raise awareness that it is possible to live in a more environmentally friendly unit without hardship is another purpose of the project.

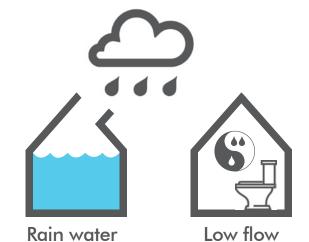


To analyze the house performance, another house with the same area and typical building material was modeled to enable results comparison. In terms of energy consumption the reduction is 40% and in terms of water conservation the reduction is 35%. Each house is collecting 65,000 gallons of water and is producing 29,000 kwh per year.

SPECIAL FEATURES

Water Conservation

• Energy Production



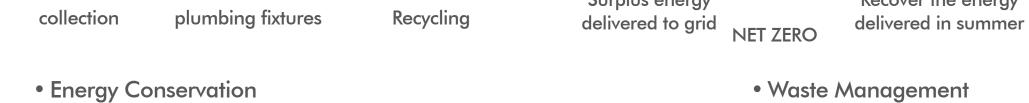
Water

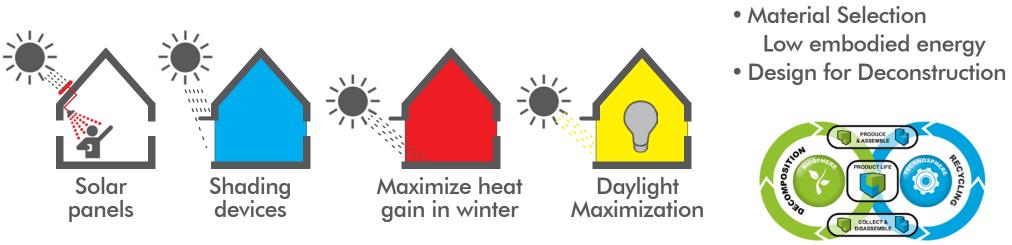


Surplus energy

Recover the energy

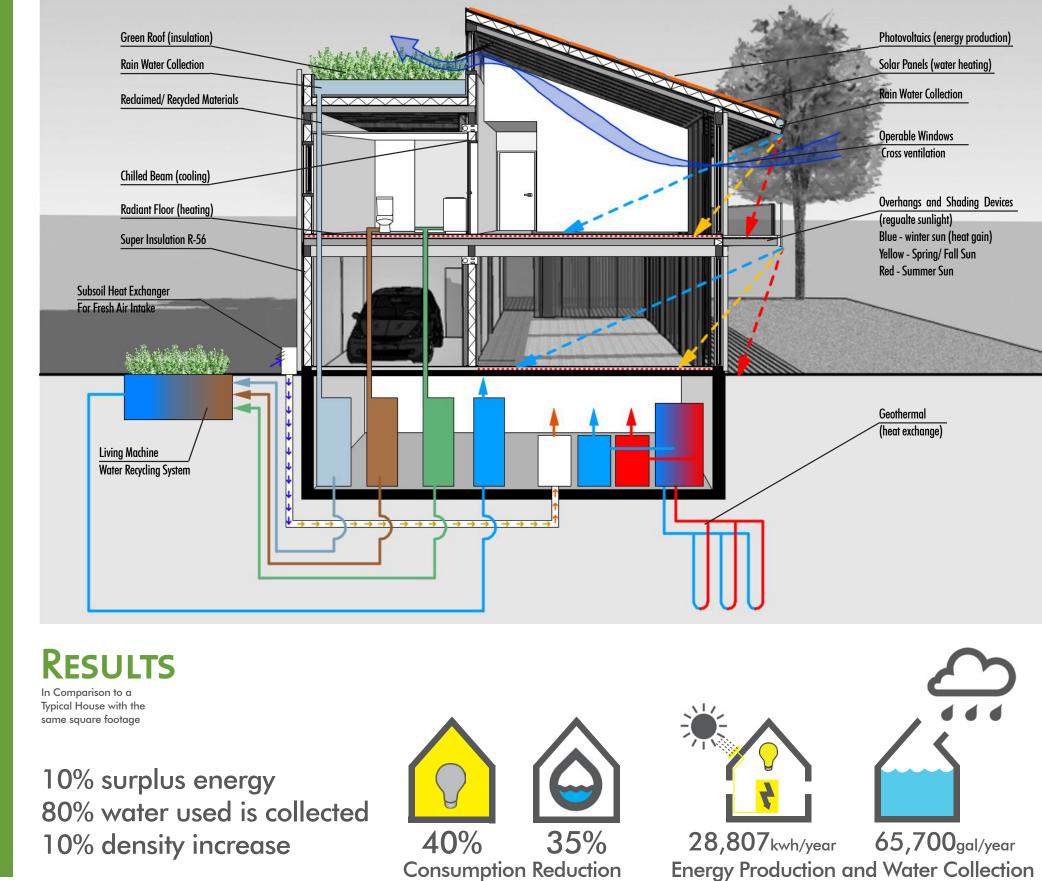
















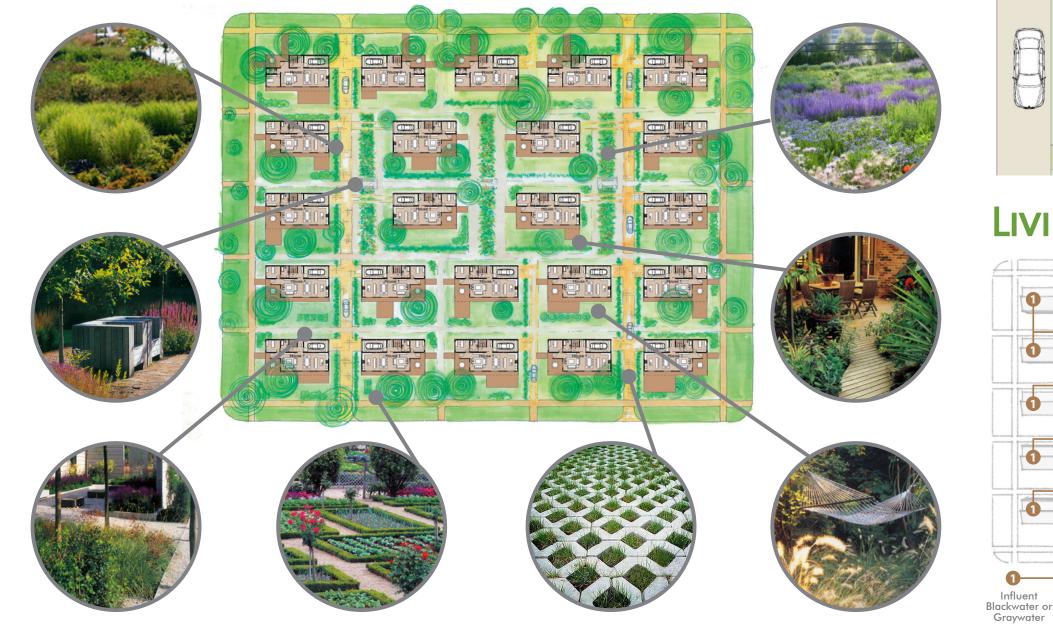
Sections



10% density increase

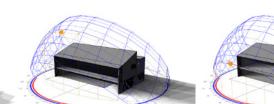
SITE Shadow Range Summer Site Organization Living Machine Shadow Range Spring/Fall Pedestrian pathways Vehicular pathways Lot subdivision Shadow Range Winter

LANDSCAPE STRATEGY









Winter

Spring/ Fall

Floor Plans

Summer

Influent

Tank

Tank

underground



Tidal Flow Wetlands

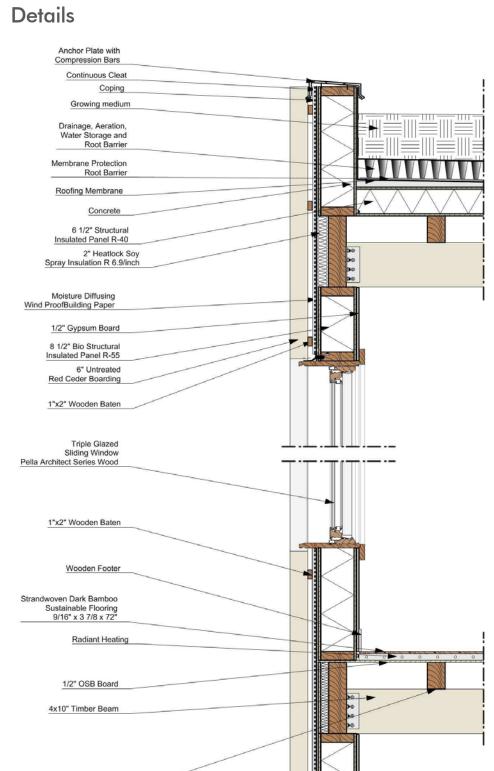
Vertical Flov Wetlands





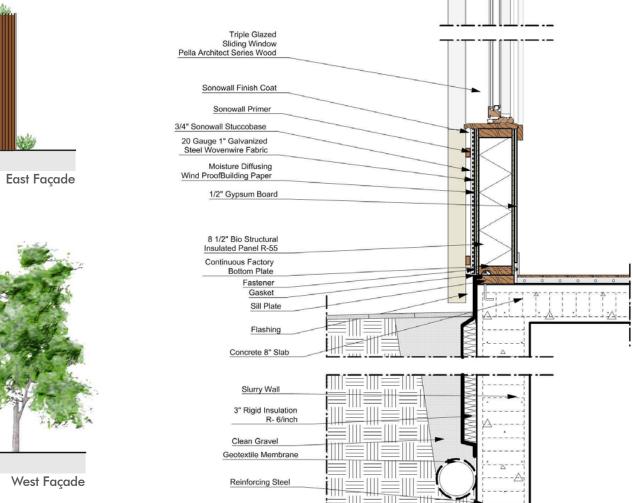






4x6" Timber Joist





North Façade

BEATRIZ MACHADO

ARCH 593 - MASTERS PROJECT - PROF: DIRK DENISON