

ARCHITECTURAL PORTFOLIO



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01 SOLAR DECATHLON

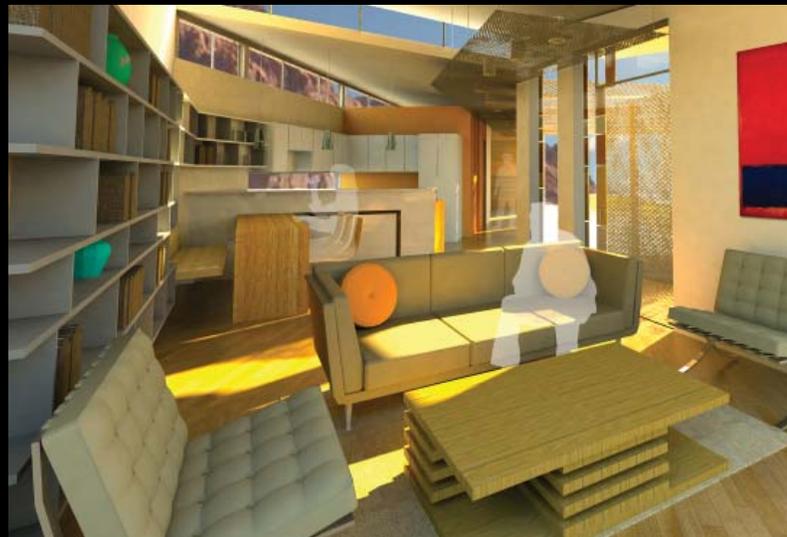
Studio AAE 480 | Fall 2011
Studio AAE 480 Class

The Autonomy House is currently a contender for the 2013 Solar Decathlon Competition. The Autonomy House is designed to be independent, self-reliant and energy producing. The house utilizes the desert's powerful sun to generate electricity through the photo voltaic panels and a solar thermal system will provide radiant heating and the house's supply of hot water. The house's sustainable characteristics allow it to be off the grid and make it an ideal residence for a rural vacation home or an urban setting. Careful consideration has been taken to make sure the house has a low heat load and utilizes natural methods of conditioning and lighting the space. High clerestory windows, shading, evaporative cooling, and cross ventilation have all been incorporated within the design. The house is intended to compliment the Mojave Desert, fitting seamlessly into its surroundings with little impact on the environment. The house isn't purely characterized by its sustainable qualities as the experiential qualities of the house are quite potent. Residents and guest experience the sound of trickling water, the smell of native plants and the vivid panoramic view of the landscape. The movable screens respond to seasonal differences providing shade when desired and they also mimic the canopy of a native mesquite tree. The interior is designed to be flexible and multi-functional. The dining table can be slid out to accommodate six people and then retracted under the counter to provide more floor space.

This project was a class effort. I assisted in researching building systems and materials, designing the exterior skin and the interior spaces.



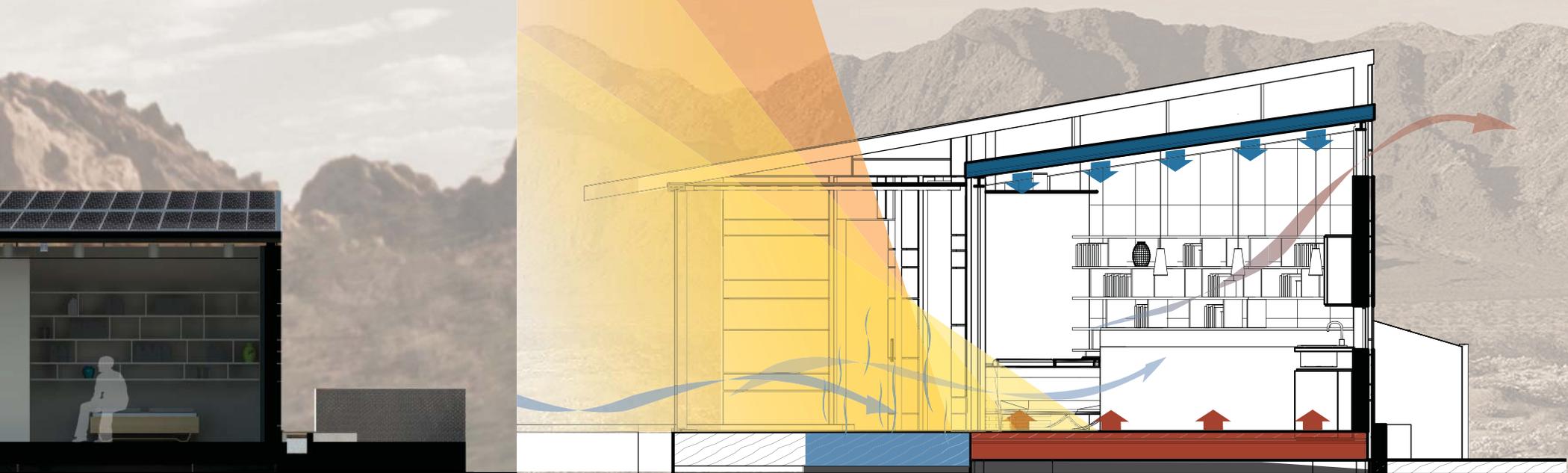
SECTION PERSPECTIVE



INTERIOR PERSPECTIVE



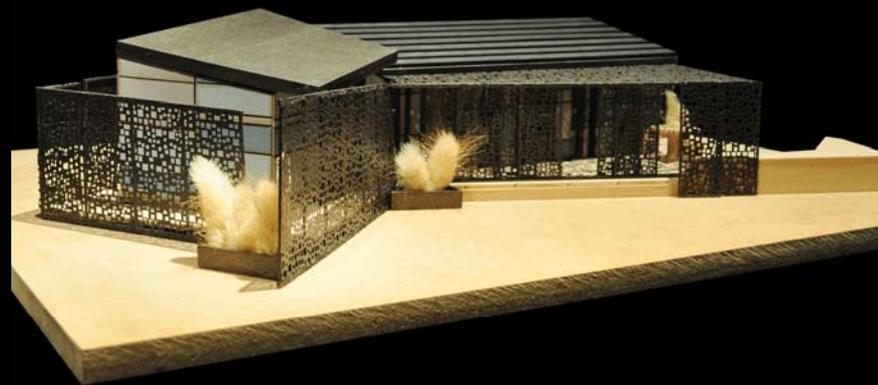
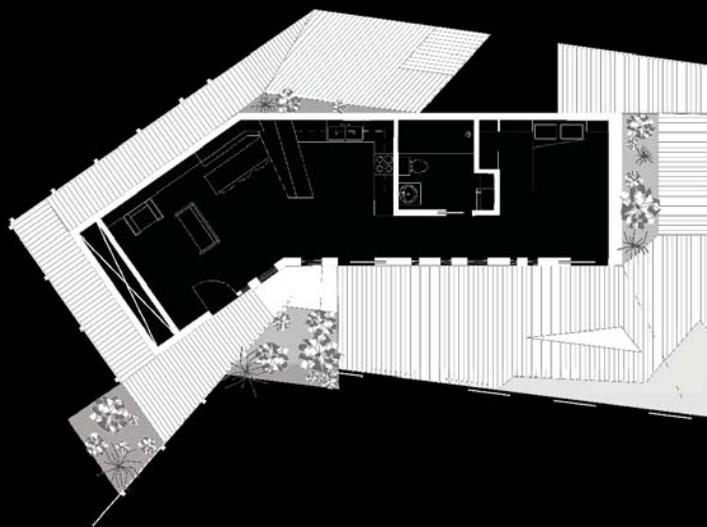
EXTERIOR PERSPECTIVE



ENVIRONMENTAL DIAGRAM



FLOOR PLAN

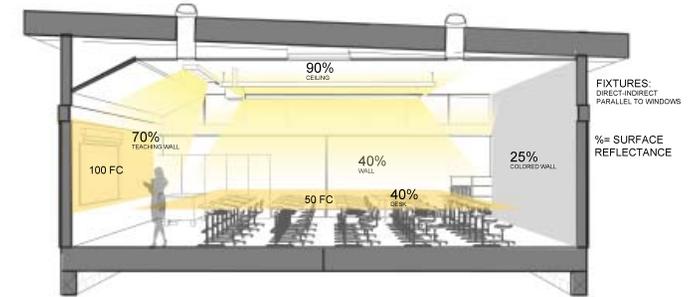
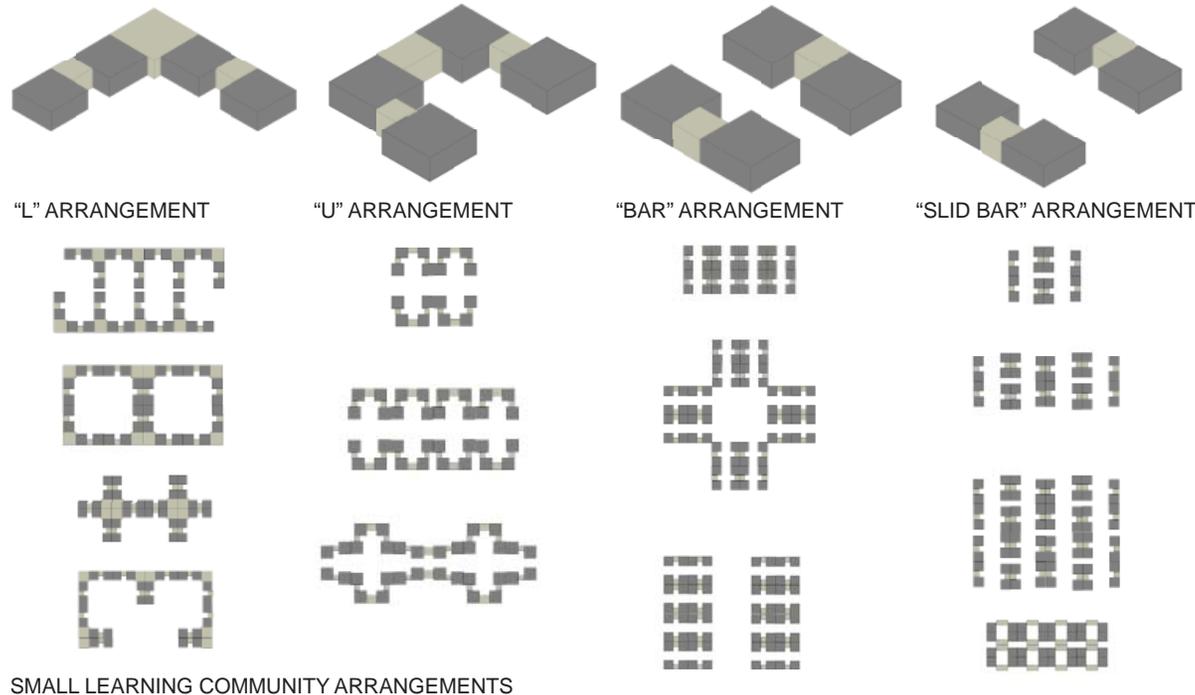


MODEL PHOTO

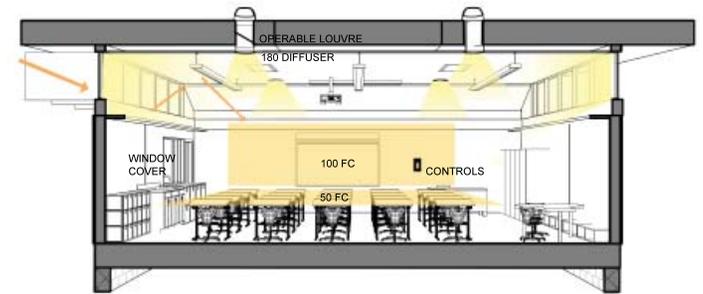
02 CUSTOM MODULAR CLASSROOM

Studio AAE 482 | Spring 2012
Individual Assignment

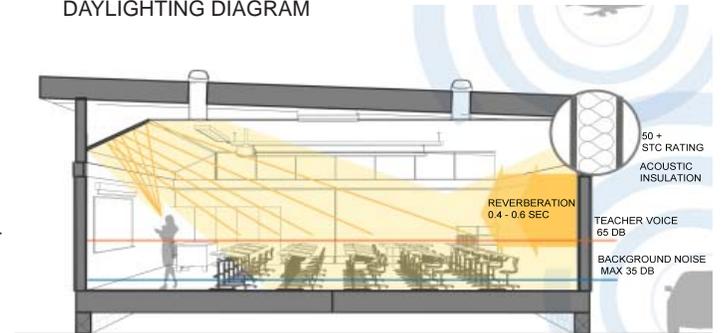
Modular classrooms are in high demand as schools in the Southwest have rapidly expanded, but they are often less than ideal. The design of the project strives to provide an efficient, high performance, yet customizable solution for modular classrooms that redefines how people perceive them. A high performance classroom requires careful consideration of the lighting, acoustics and environmental qualities. Additionally, experiential qualities are important and are implemented through features such as reading nooks, view windows and small gardens. The classrooms can be expanded through the use of an enhancement modular that supports a specific learning objective in that classroom. A small learning community is typically a clustering of four classrooms and it is a proven layout for creating community and reliability among students. This design explores various small learning community layouts that could be expanded to create an entire school if needed. The social platform, is a central component in all of the small learning community designs. I have designed it as a raised platform grid that could then receive various “snap-in” panels that feature different components depending on the needs of the particular school. Additionally, the rain screen exterior envelope adds an additional degree of customization. The panels can feature different colors, materials and kinetic activities to enhance school pride as well as create a look that is unique to that school.



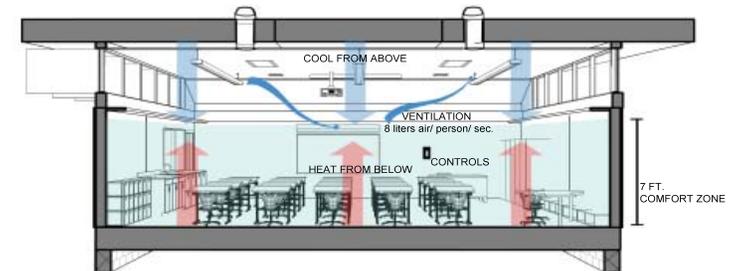
ARTIFICIAL LIGHTING DIAGRAM



DAYLIGHTING DIAGRAM



ACOUSTIC DIAGRAM



ENVIRONMENTAL DIAGRAM

CLASSROOM ENHANCEMENT MODULES



ART ENHANCEMENT



NUTRITION ENHANCEMENT



READING ENHANCEMENT



STEM ENHANCEMENT

WALL PANELS

COLORFUL



Trespa



Cedar Siding



Perforated Metal



Cement Board



Structural Acrylic



14 g Hot Rolled Steel



Baltic Birch



Corrugated Metal



Gabion Panel

KINETIC



Green Wall



Display



White Board



Chalk Board



INTERACTIVE WALL SYSTEM



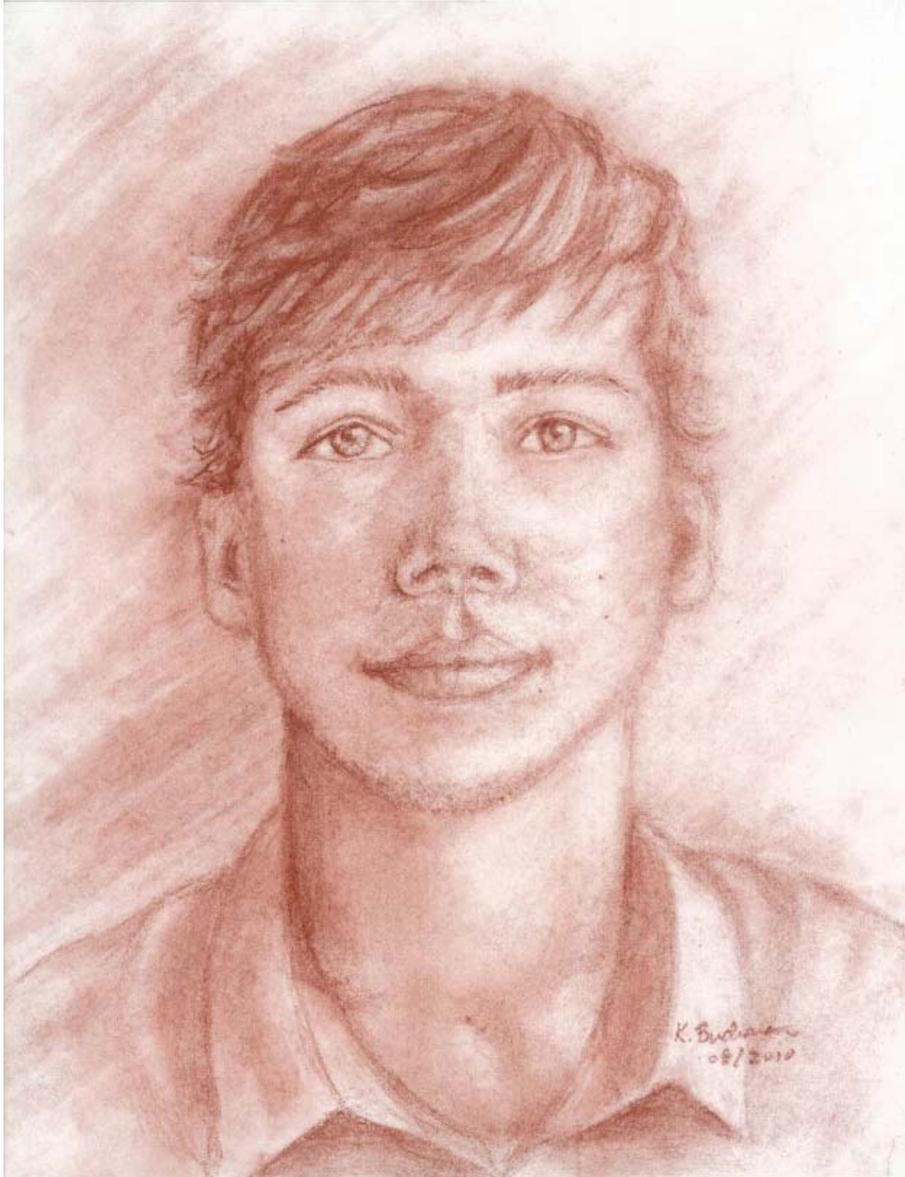
INTERIOR CLASSROOM PERSPECTIVE - LEARNING STATIONS



EXTERIOR PERSPECTIVE

03 ART WORK

Personal Interest Projects | 2010-2012



LIFE DRAWING



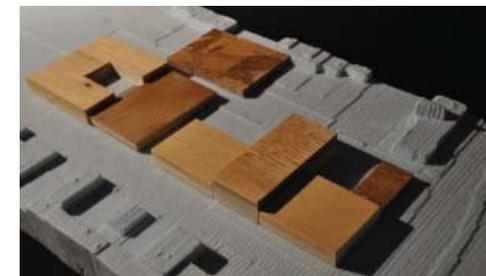
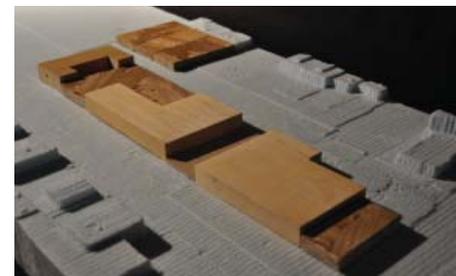
PHOTOGRAPHY

04 CITY IMPACT CENTER

Studio AAE 382 | Spring 2011
Team Assignment

The City Impact Center includes a variety of services sponsored by a local Las Vegas church with the intent of strengthening the community and helping those in need. The concept for the new City Impact Center facility is Ecumenical. This specific word is related to the Christian faith, meaning: fostering Christian unity throughout the world, yet it also has a universal definition, meaning: a mixture of diverse elements or styles. Combined, these definitions create an ideal vision for the City Impact Center; a mixture of diverse elements that unite to create a powerful impact on the community which will stimulate social change. This mixture is parallel to the multiple services offered at the City Impact Center, and they possess much more potential when in collaboration. The various elements include: elderly housing, homeless housing, after-school program, daycare, free health clinic, food bank and thrift store.

The design was a collaborative effort between myself and two other team members. I was responsible for the 3D model, the drawings, renderings, and assisting with the various models.





EXTERIOR PROCESS RENDERING



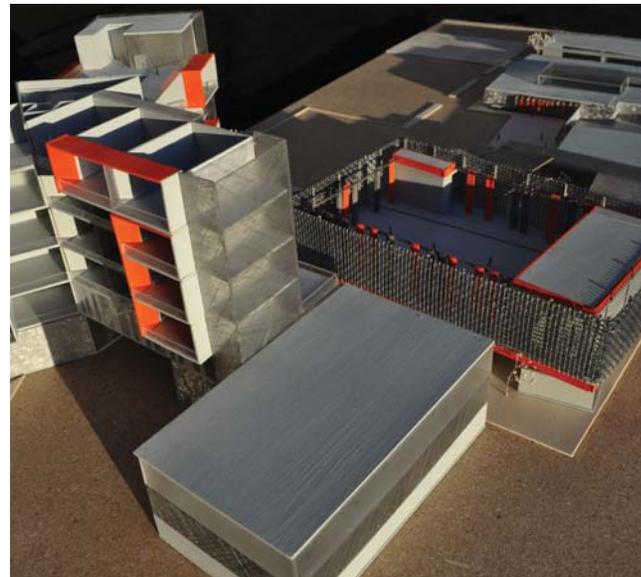
EXTERIOR PERSPECTIVE



DAYCARE PERSPECTIVE



FINAL MODEL PHOTOS



AFTER-SCHOOL PROGRAM PERSPECTIVE

05 OVERTON PAVILION

Studio AAE 380 | Fall 2010
Individual Assignment





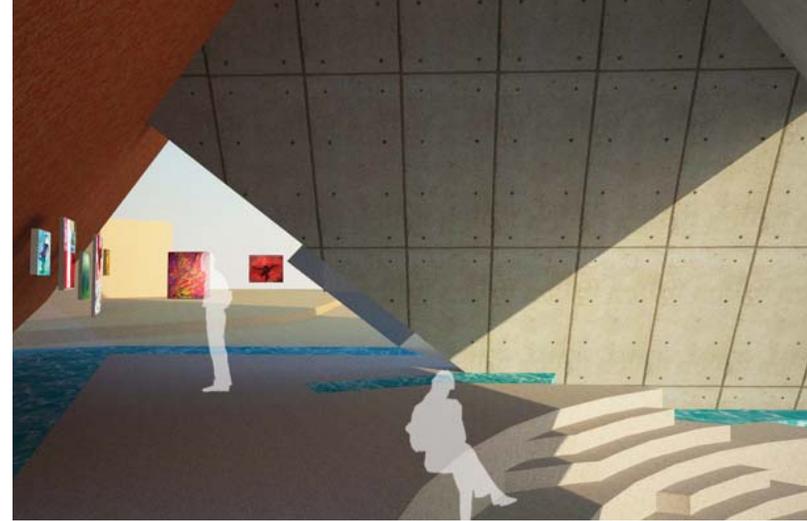
POTTERY

WATERCOLOR

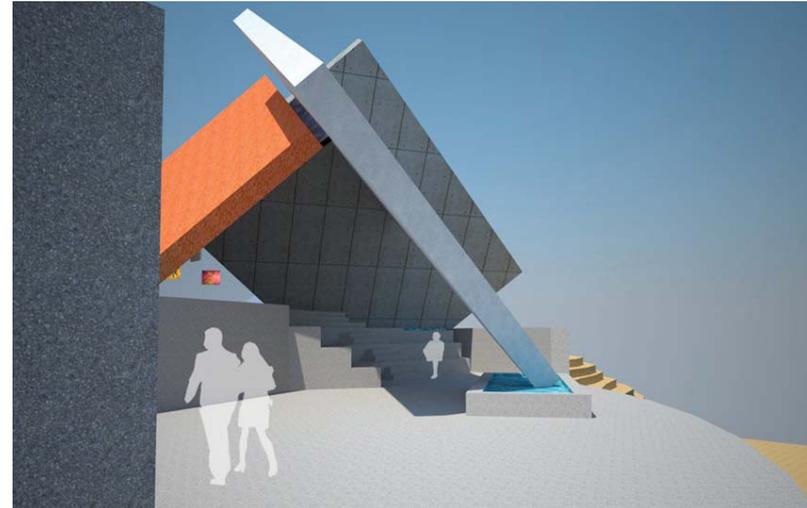


CHARCOAL - WATER REFLECTION

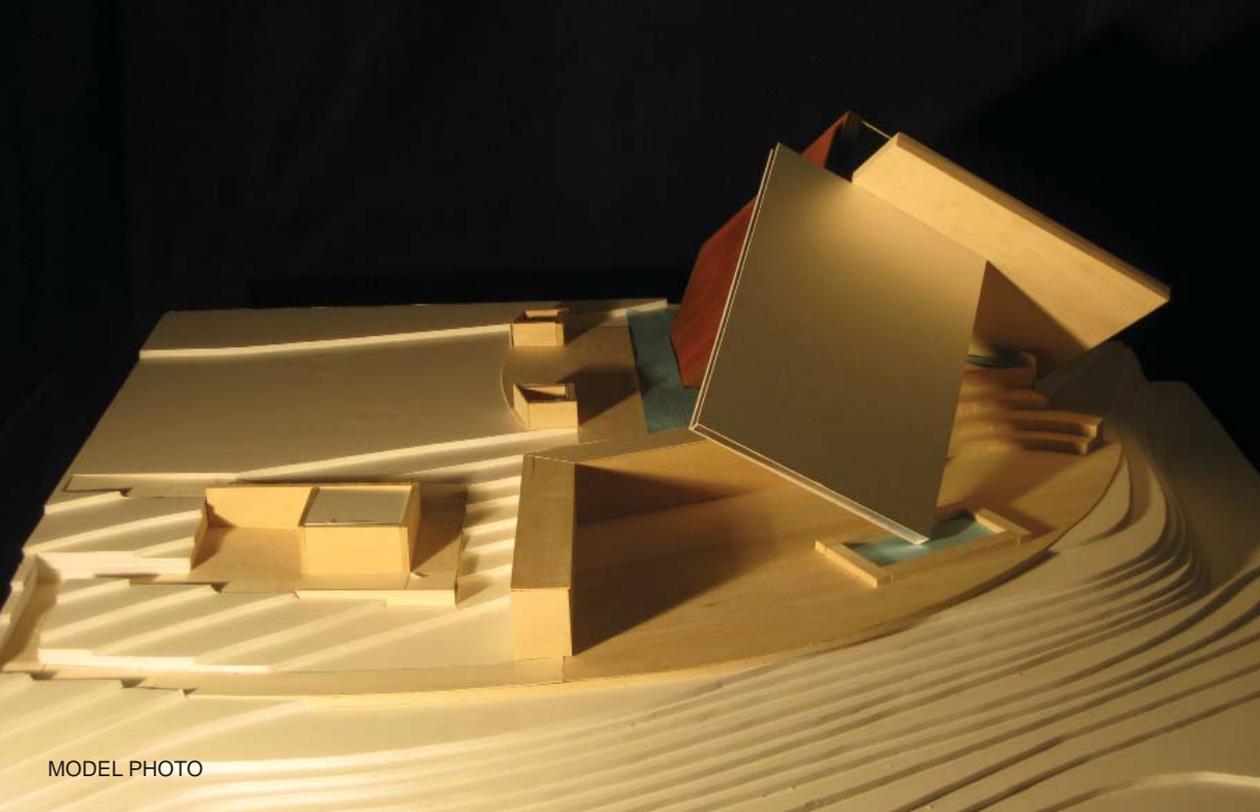
The Overton Pavilion is designed to be a poetic addition to the Lost City Museum. The Lost City Museum is located in Overton, Nevada and houses Anasazi Native American artifacts that would have been forever lost due to the filling of Lake Mead. Programmatically, the pavilion is required to incorporate indoor and outdoor spaces as well as support the museum's community art program that is ill fit in the current facility. Zinc and Corten steel reflect the desert's silver skies and burnt-orange landscape. The strong geometric form is inspired by the geometric designs present in the Anasazi pottery and artifacts. The pavilion offers a unique retreat from the desert climate and the water serves to both cool and guide users through the pavilion. It is embedded within the landscape and fully reveals itself after users traverse a winding path that allows them to enjoy the landscape and view outdoor artifacts. The design focuses on the poetics of the passage of time which is articulated by the shadows and reflections present as the sun hits the pavilion during different times of the day.



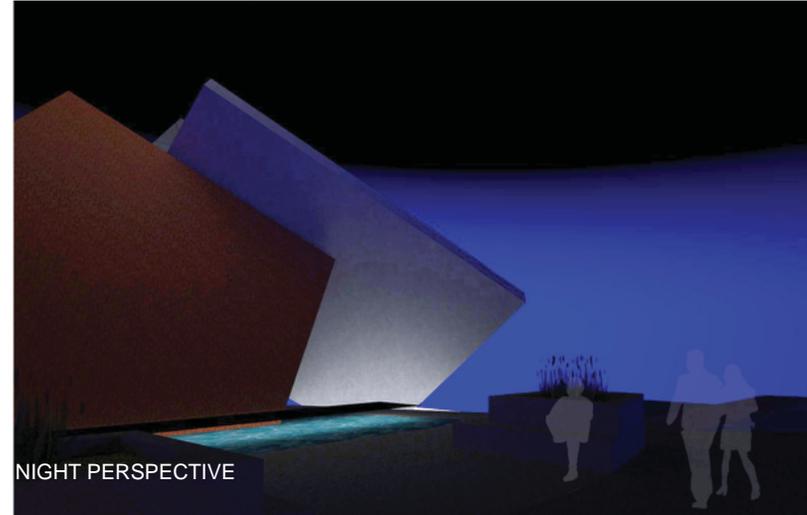
INTERIOR PERSPECTIVE



EXTERIOR PERSPECTIVE



MODEL PHOTO



NIGHT PERSPECTIVE

06 WATER STREET REVITALIZATION

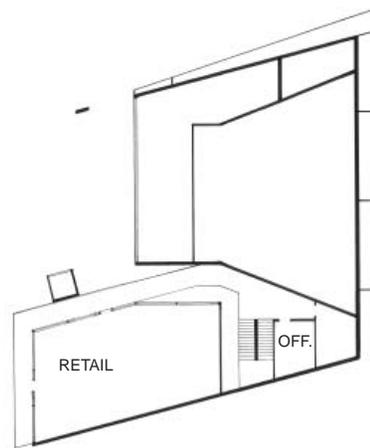
Studio AAE 282 | Spring 2010
Individual Assignment



This studio project focused on revitalizing the unique downtown Water St. district located in Henderson, NV. The Water Street district offers a small town feeling juxtaposed against bustling Las Vegas, Nevada. The area is quite eclectic, peppered with single-family residences, schools, retirement homes, small casinos and Art-Deco style buildings. The purpose of the project was to design a public-use building that would assist in the revitalization of Water Street by bringing life, character and an attraction, unique from the Las Vegas strip, to the somewhat sleepy area. Transparency is the main concept employed in the design which allows interaction between private and public spaces. The various programmatic spaces include a small theatre, cafe and retail space; attractions enjoyed by all ages and demographics. The back wall of the theatre is a glazed canvas system that engages the public by revealing stage lights and shadows. The first floor plaza and top story patio offers the flexibility of hosting a variety of community events, like farmers' markets, and additionally offers a dramatic view of the Las Vegas valley.



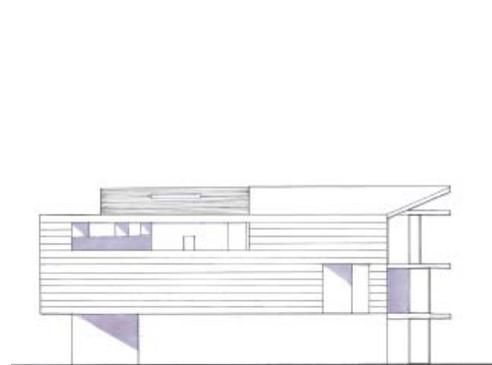
FIRST FLOOR



SECOND FLOOR



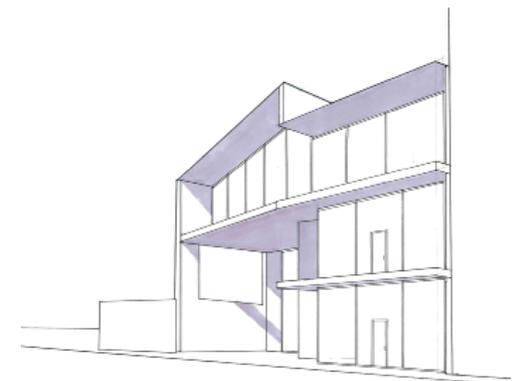
THIRD FLOOR



NORTH ELEVATION



PERSPECTIVE 1



PERSPECTIVE 2