

ACADEMIC WORKS

MLA Thesis: Coastal Protection As Urban Landscape

Campus Masterplan

Art / Design School

Highway Patrol Station

Puppet Theater

Vertical Park Shell

Three Landscapes—Inverted World

Context

Location

Urban

Hulhumalé, Maldives

Urban

Show Low, Arizona

Suburban

Atlanta, Georgia

Rural

Whiskey Bay, Louisiana

Urban

Hong Kong

Urban

Atlanta, Georgia

Suburban

Tucson, Arizona

**PROFESSIONAL WORKS**

“City of Dreams” Casino / Hotel Development

Hard Rock Hotel

Army Design Guide - Fort Stewart

Army Design Guide - Fort Shafter

Chinese University of Hong Kong - Campus Development

Wuhan Residential Development

Urban

Macau, China

Urban

Macau, China

Suburban

Fort Stewart, Georgia

Suburban

Honolulu, Hawaii

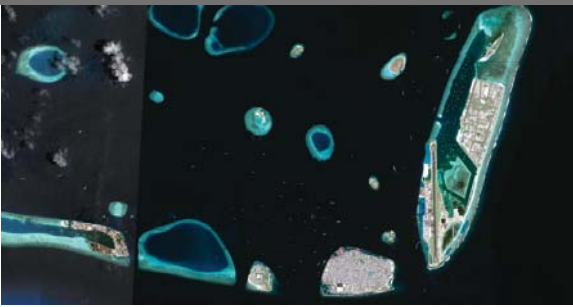
Urban

Hong Kong

Suburban

Wuhan, China



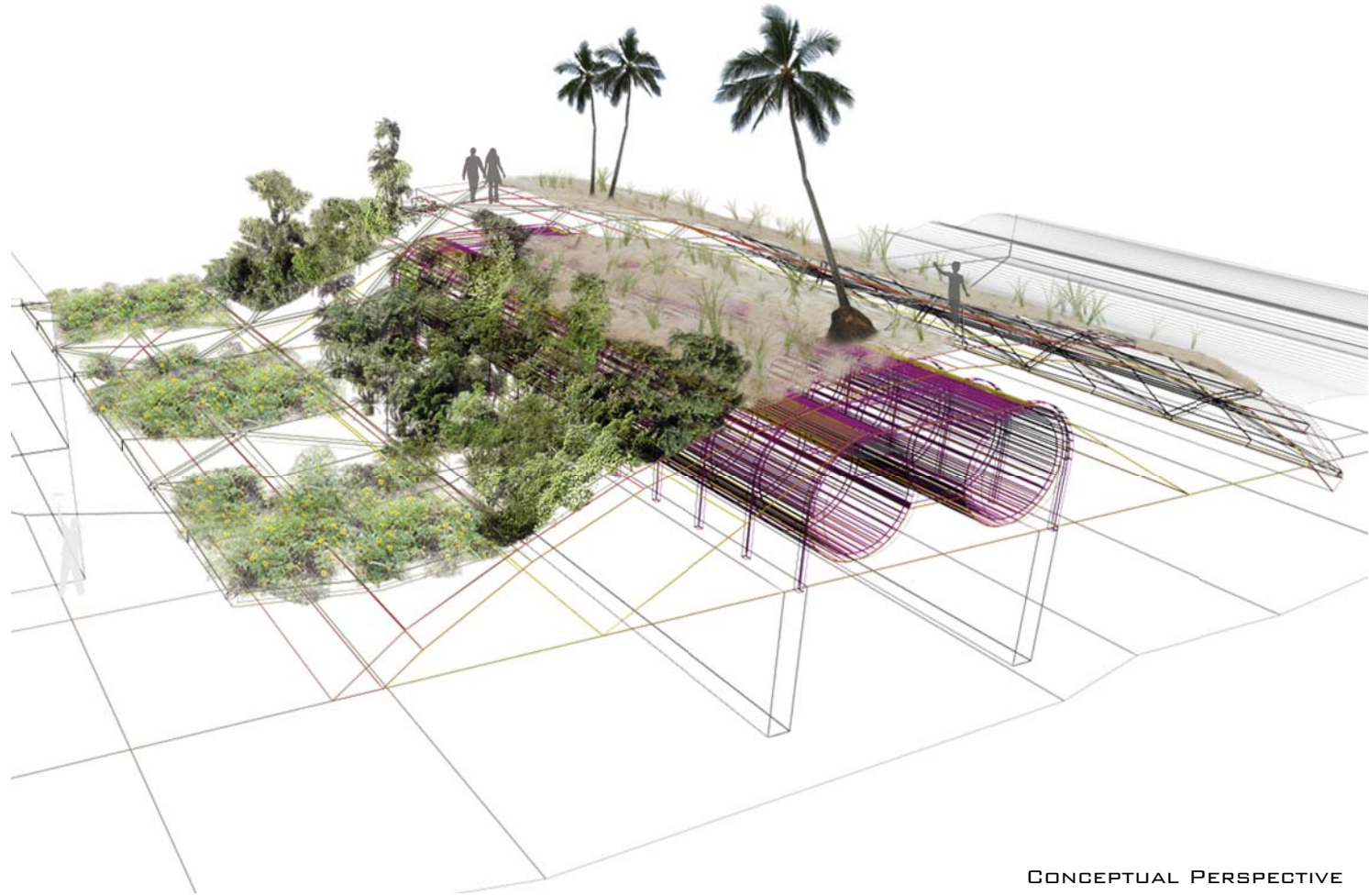


**PROJECT: COASTAL PROTECTION
AS URBAN LANDSCAPE (THESIS)**

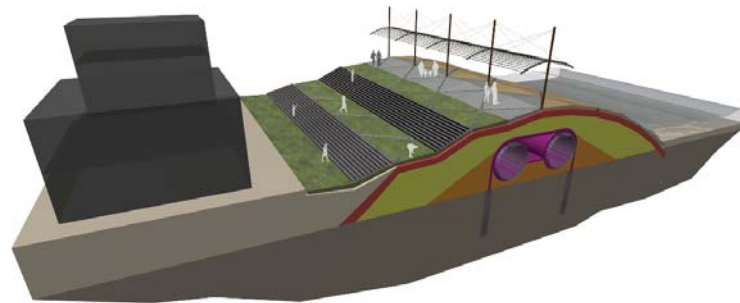
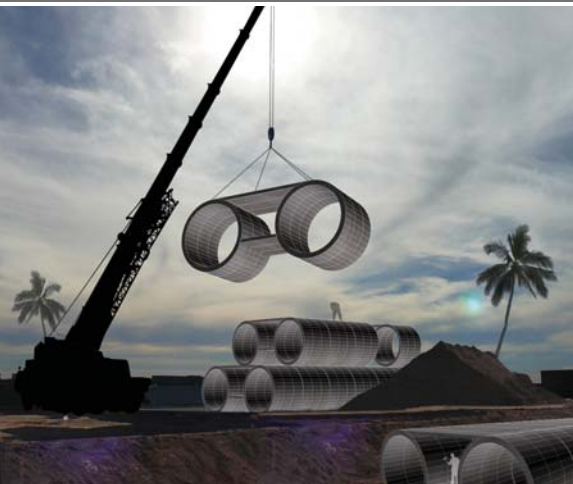
Project Brief: Design a landscape that will ensure Maldives's survival beyond the 21st century.

Location: Hulhumalé, Maldives Type: Individual
Context: Urban Academic

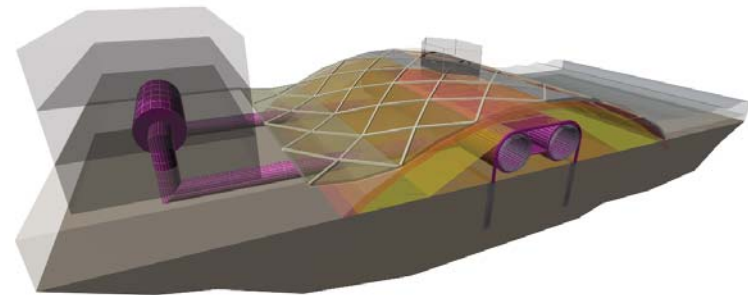
This report proposes encircling the island in a large, continuous seawall that will protect against tsunamis as well as future rising of the ocean. Current trends in coastal protection favor more permeable systems that work with nature instead of against it. Nevertheless, seawalls remain a powerful option in extreme situations where valuable land is in imminent danger, such as Hulhumalé Island in the Maldives. This design attempts to take what otherwise would be an engineering problem and approach it from the perspective of architecture, landscape architecture and planning, which means to solve a number of key problems at once. The surface design addresses two goals: (1) Protect the people of Maldives (2) Create positive synergies between the urban environment and the adjacent protective structures, beyond simply holding back water.



CONCEPTUAL PERSPECTIVE



WALL SECTION - CIVIC



WALL SECTION - INDUSTRIAL



WALL SECTION - OPEN SPACE



WALL SECTION - COMMERCIAL SPACE



OPEN SPACE

+



RESIDENTIAL

+



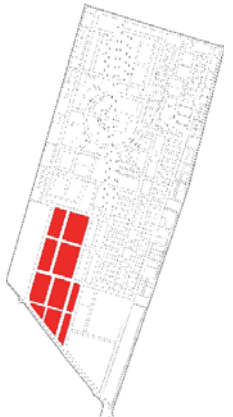
COMMERCIAL

+



INSTITUTIONAL

+



INDUSTRIAL

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EXISTING ZONING



OPEN WALL

+



RESIDENTIAL WALL

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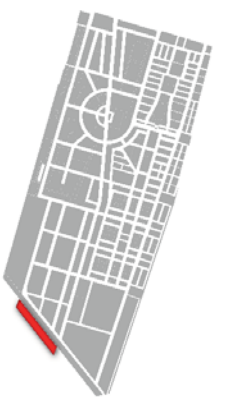
COMMERCIAL WALL

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INSTITUTIONAL WALL

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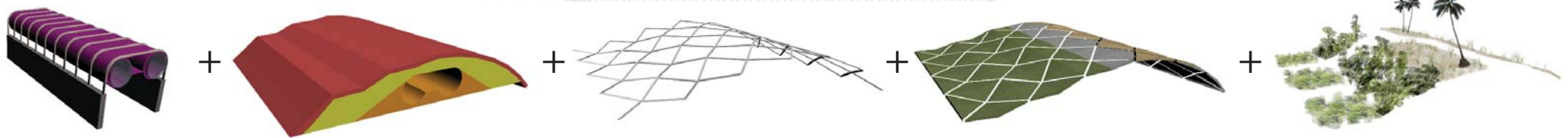
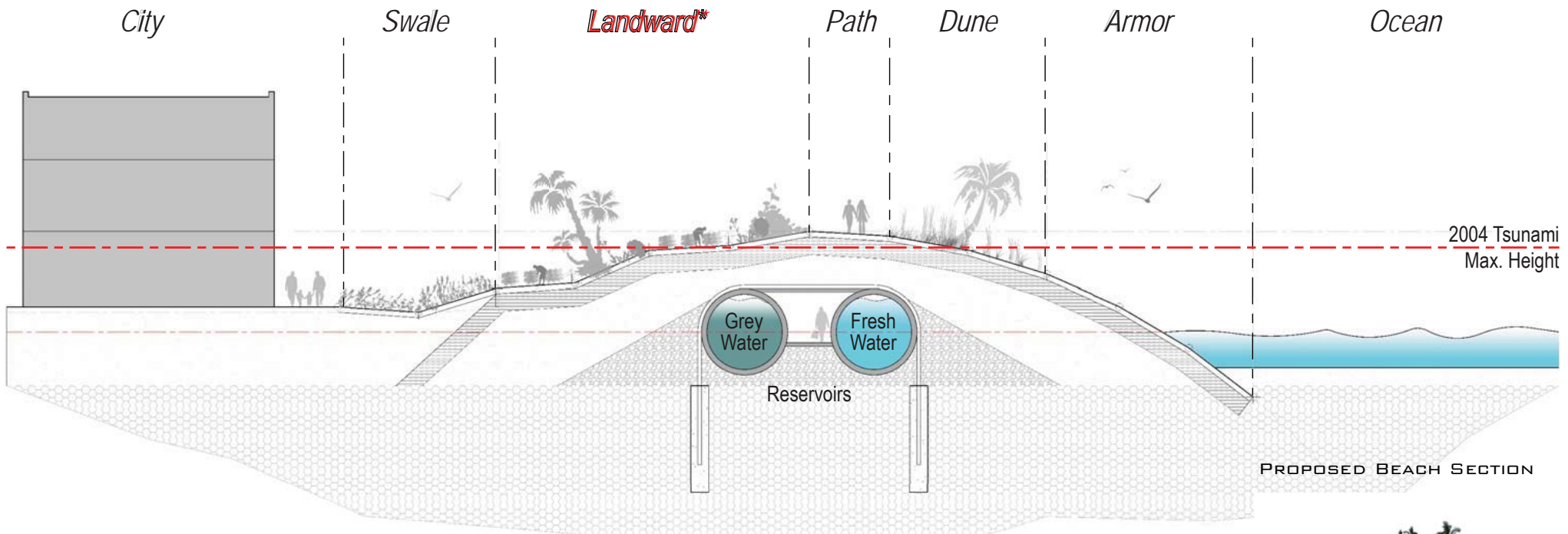


INDUSTRIAL WALL

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WALL ZONING



RESERVOIR

- Double conc. core
- Anchored to coral substrate

INNER FILL

- Red = Clay
- Yellow = Sand
- Orange = Gravel

REINFORCEMENT

- Concrete beams
- Concave surface for drainage

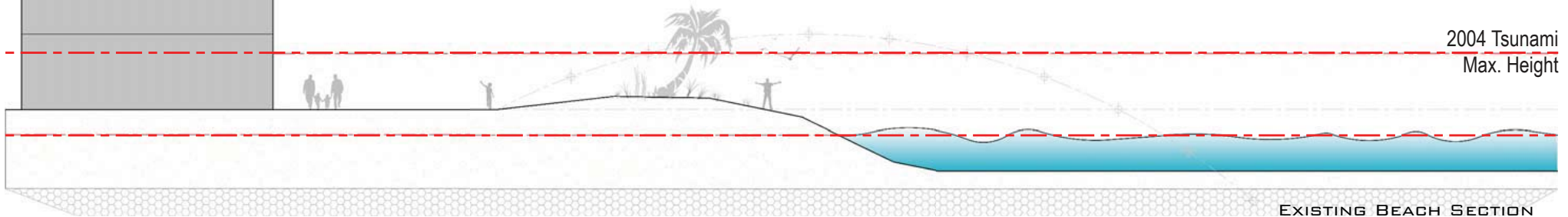
SURFACE

- Modular Surface
- Allows for variety of materials

VEGETATION

- Sea-facing zone
- Land-facing zone
- Swale zone

Hulhumalé was chosen as the site for three reasons: First, literature regarding Small Island Developing States indicates that the presence of an international airport makes this island one of the most favorable for future economic feasibility. Second, this island will soon be settled with a rather dense urban population, yet lacks serious coastal protection from tsunamis as well as future rising oceans. Third, the fact that only a small fraction of the island has been developed, allows for greater flexibility to incorporate coastal protection into its urban fabric.

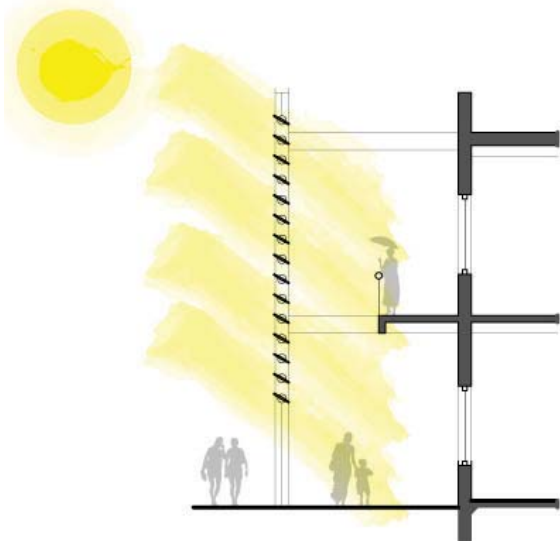
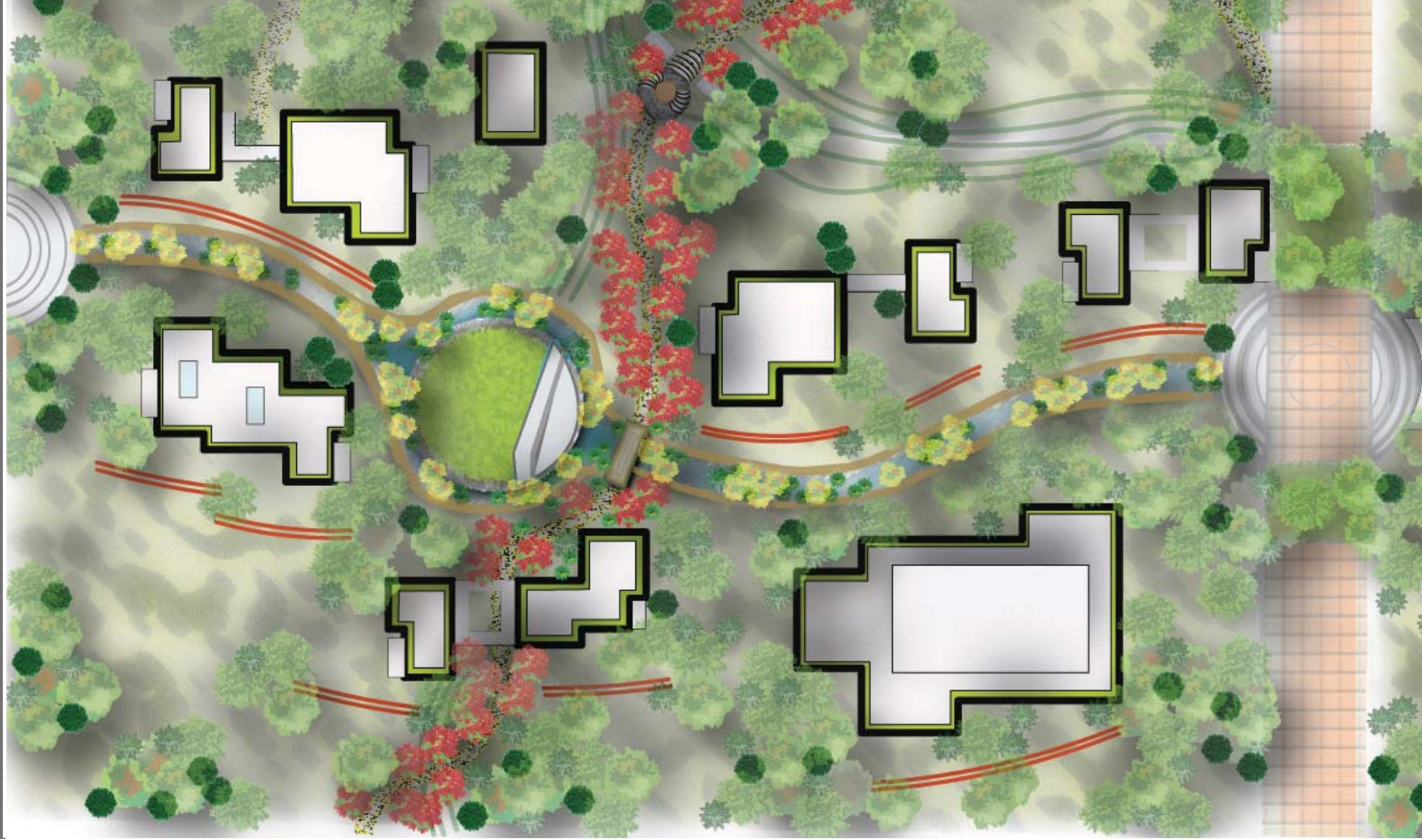


PROJECT: COLLEGE CAMPUS MASTER PLAN

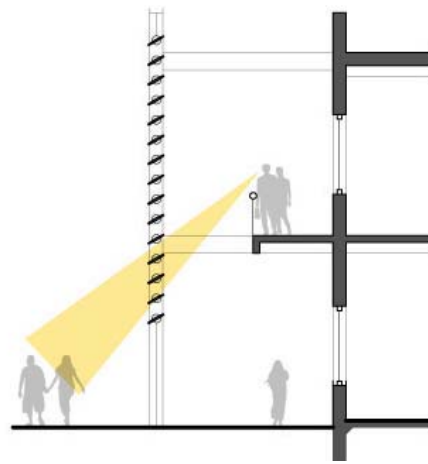
Project Brief: Design a masterplan for a new college campus on an empty site within a small town's downtown, and create both architectural and landscape concepts that are relevant in the future, while being sensitive to the town's traditional characteristics.

Location: Show Low, Arizona **Type:** Group Academic
Context: Urban

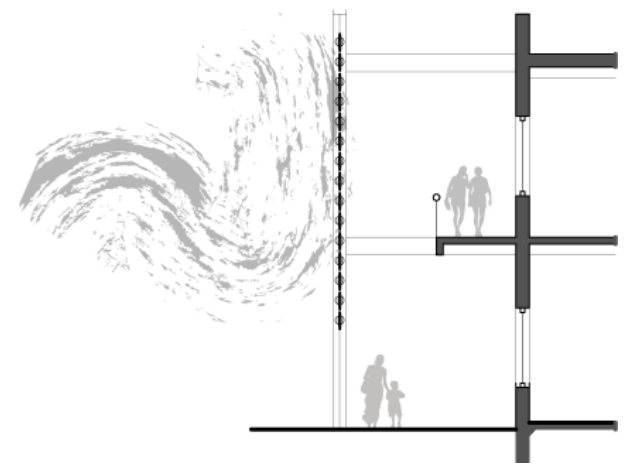
This concept's aim is to fully integrate architecture with landscape, humans with their environment, and the campus with downtown. Nature is an integral part of the masterplan in a number of ways. The proposed site is quite forested, acknowledging the character of the nearby national forest. Secondly, "The Clearing" within the forest canopy forms the campus' new main gathering space. A newly-constructed central creek captures runoff as it becomes a consistent visual element. Finally, a ribbon of maple trees extends north towards the main street. Citing uncertain budgeting, the building forms are based on a structural module that promotes phasing and flexibility, allowing opportunities to grow quickly or modestly. These modules were pulled apart to allow for breezeways and trees near the building centers and key exterior spaces along the edges.



Screens @ 60° for Sunlight. In Winter, south-facing screens rotate to take advantage of passive solar heating that reduces energy loads for heating the building. Any increased construction costs would pay for themselves with long-term energy savings.

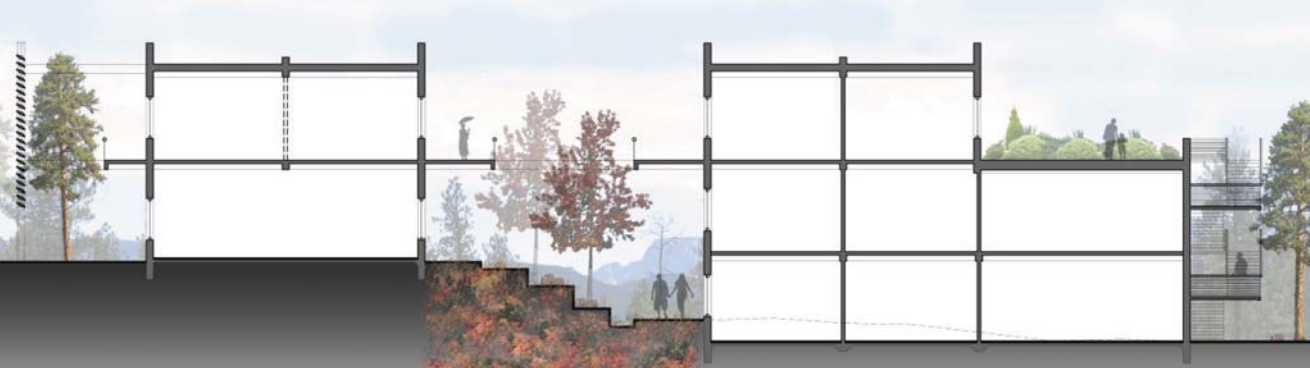
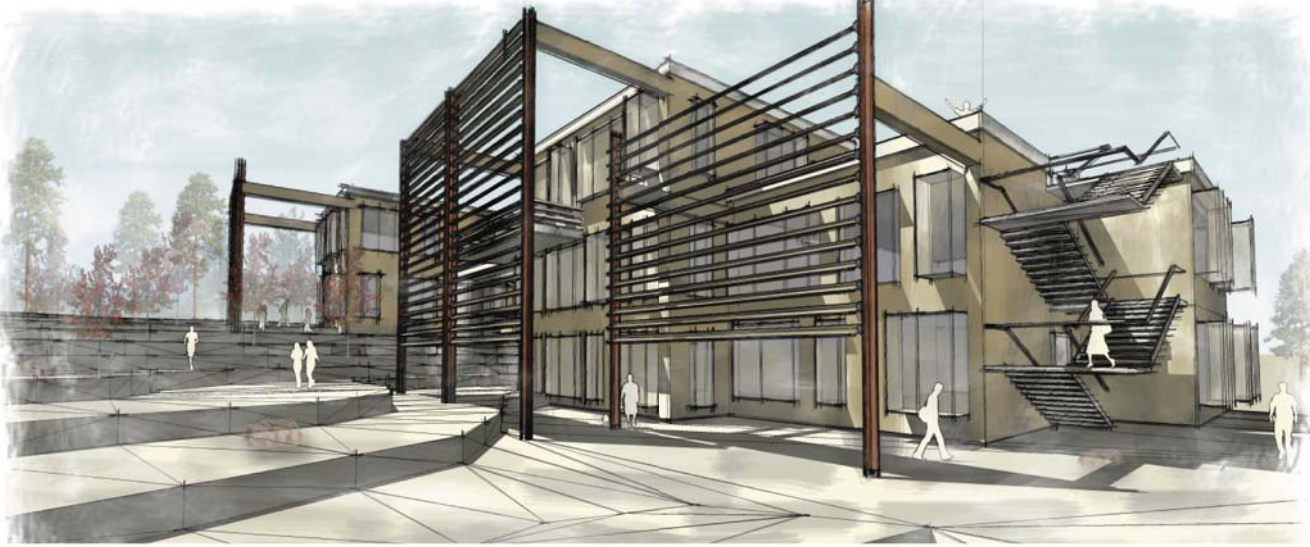
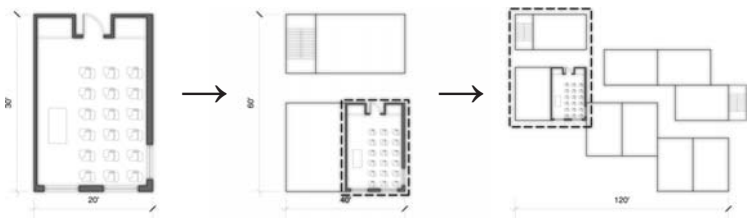


Screens @ 120° for Views. This standard rotation allows upper floors to view the creek and the rest of campus, thereby creating a connection with the ground level. At the same time, this orientation helps shade the building and reduce energy loads.

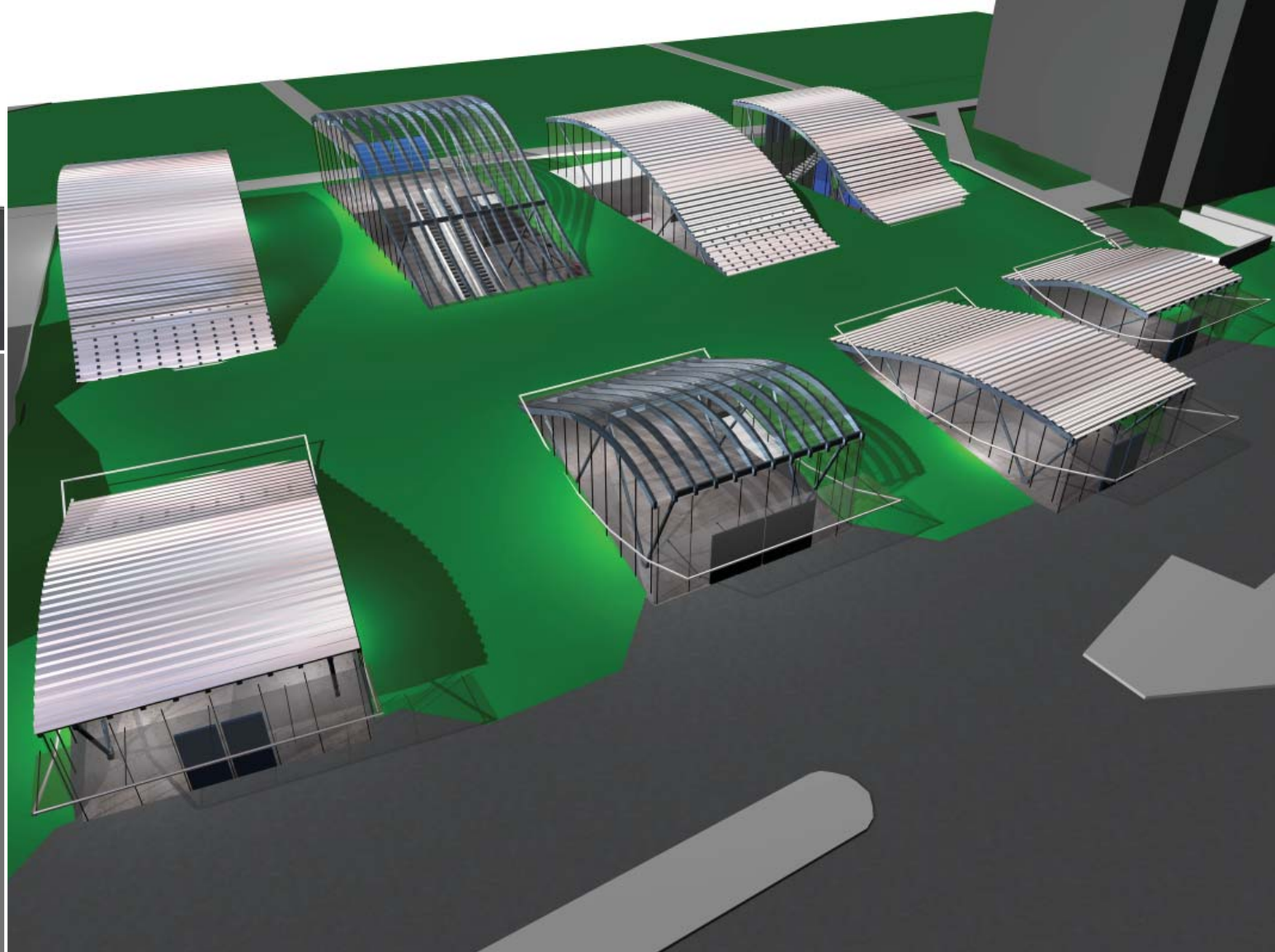
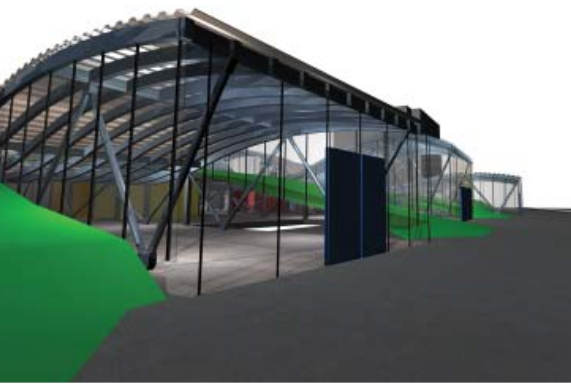


Screen @ 180° for Wind Barrier. In Springtime, screens rotate to block harsh winds to allow visitors to enjoy balconies. The screens may be motor-driven, operated via push-button controls on the balcony, or in adjacent classrooms.

Micro / Macro Modularity - The building forms revolve around primary 20' x 30' classroom modules (below) for 18 students. Some classrooms are separated by a retractable wall that allows them to combine into a larger 30' x 40' classroom that can accommodate 40 students. All buildings shown in this master plan result directly from the interplay and staggering of the standard modules, allowing maximum views towards the campus' central creek.



SEMINAR BUILDING



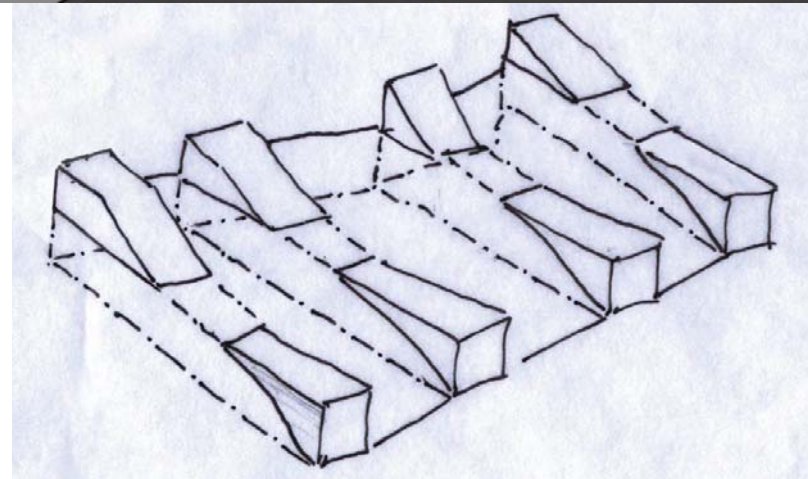
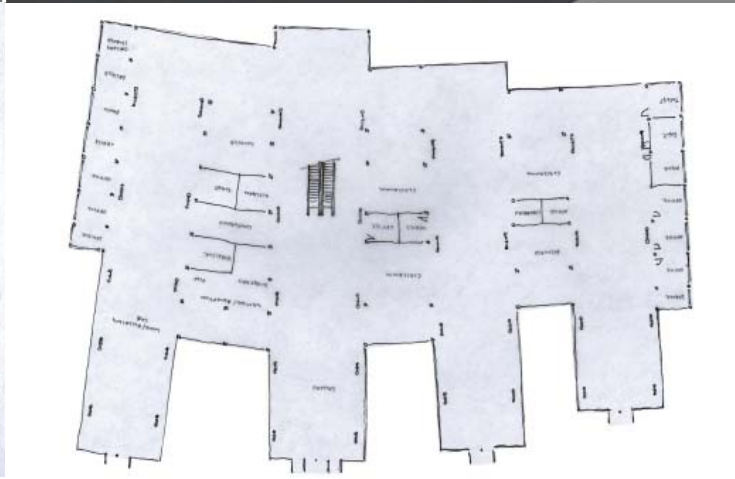
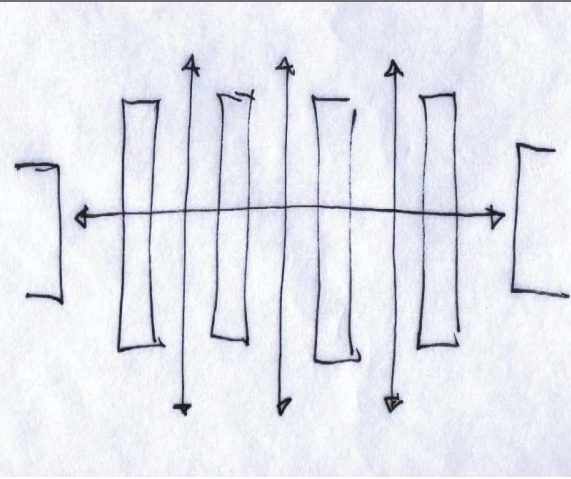
PROJECT: ART/DESIGN SCHOOL

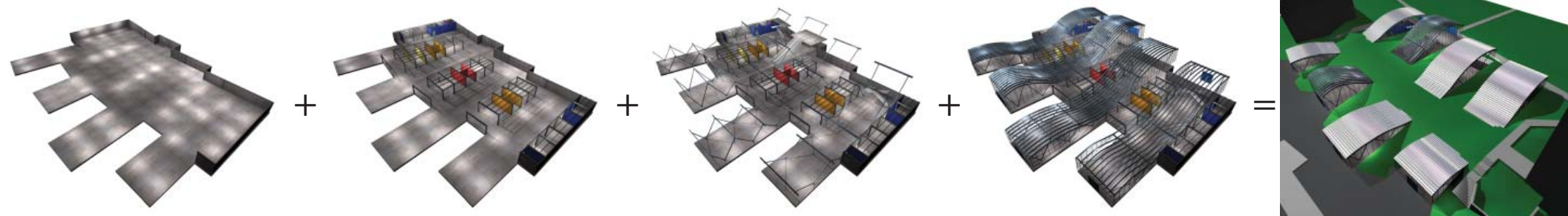
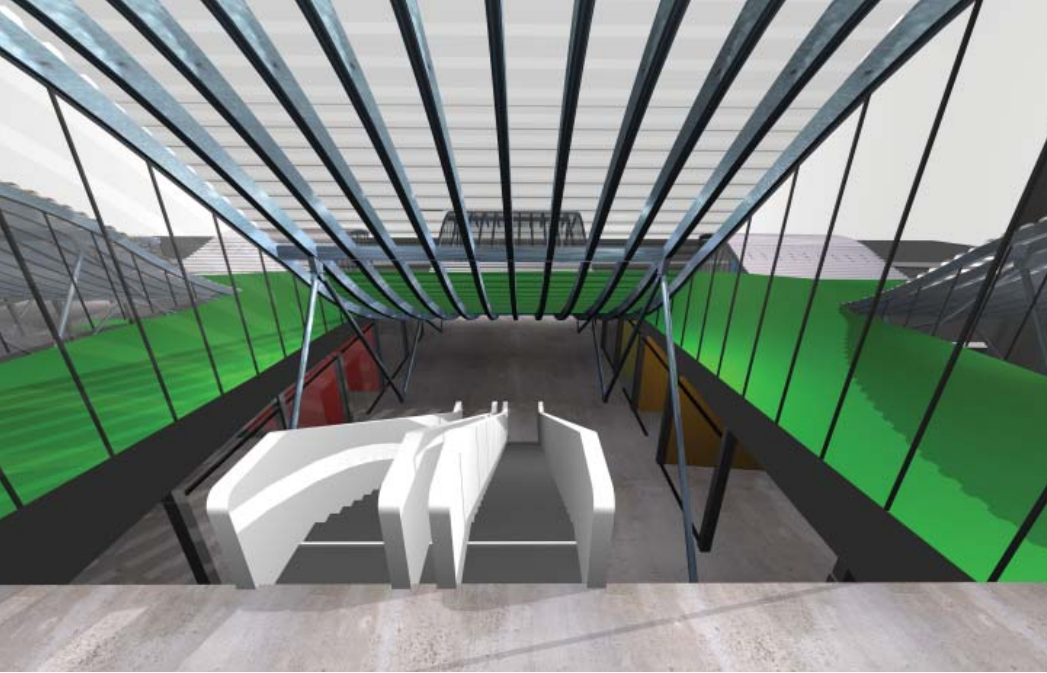
Project Brief: Design an art/design school at a specified location on a private university. Provide enough studio space and other spaces that support a fully functional design school.

Location: Atlanta, Georgia
Context: Suburban

Type: Individual
Academic

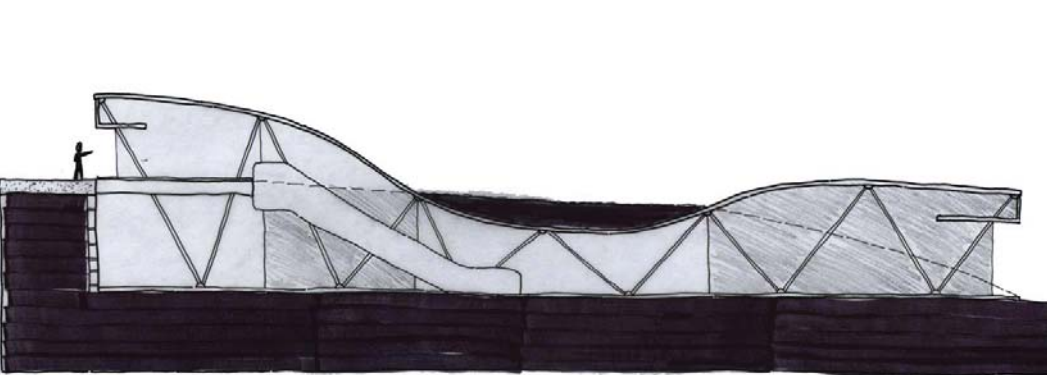
It is always a great challenge for a building to add respectfully to its site and its landscape. This design's form acknowledges this site's pre-existing use as a student corridor for walking between the campus' main parking lot and the campus center. There are four undulating structural bays which house two distinct functions: three bays are large studio spaces while the fourth is designated for public use.

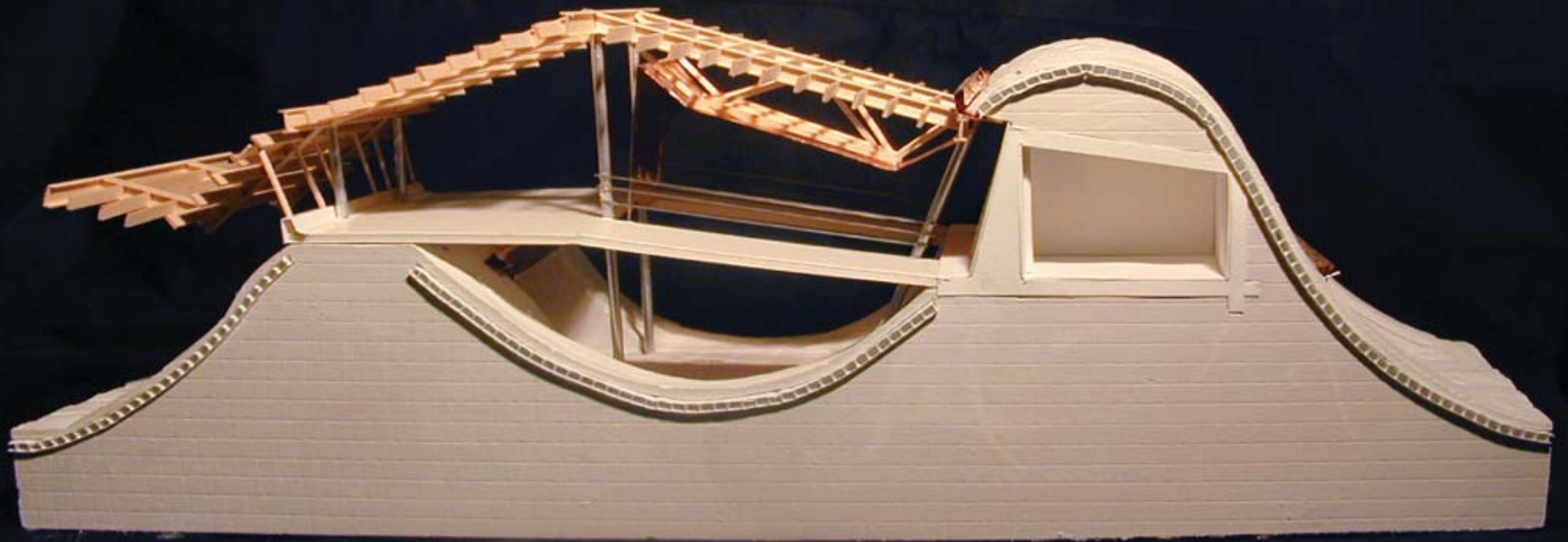




The undulations allow ample amounts of natural light into the studio spaces, creating a more pleasant working environment. The public bay is an exhibition space as well as an interior public corridor. The escalator within this area is an urban device facilitating travel up and down the hill. Between the main bays are secondary programmatic spaces such as offices, classrooms, and restrooms.

This building's design intends to have a close, dynamic physical relationship to the landscape. The undulations are based on the original topography and are meant to express the site's kinetic energy without smothering or dominating in the manner of a typical slab-on-grade building.



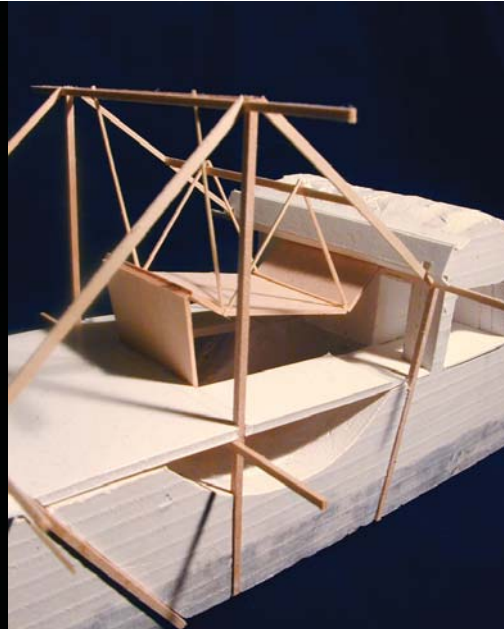
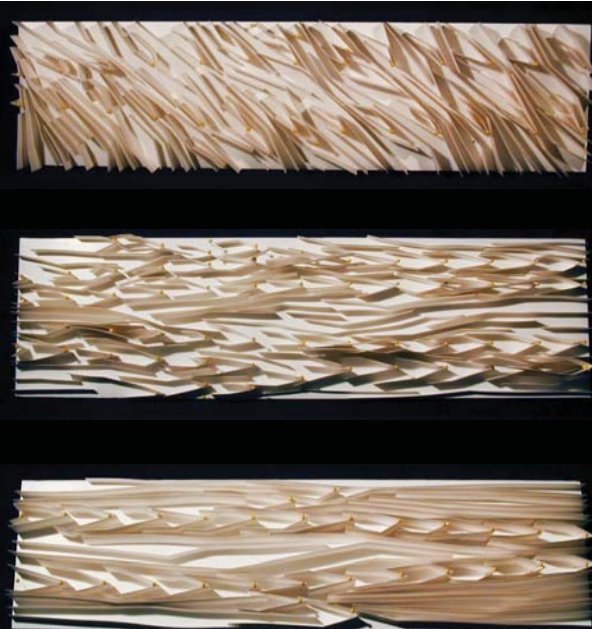


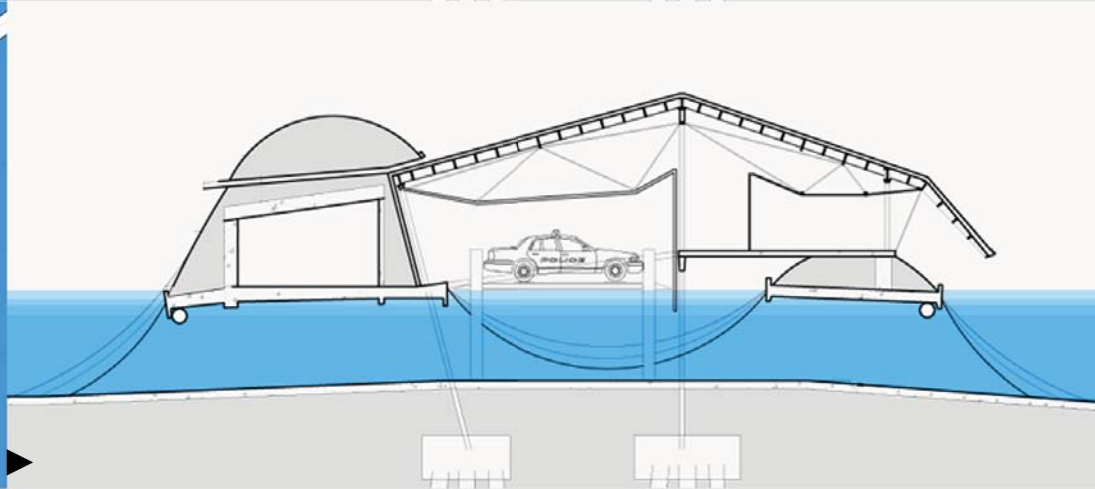
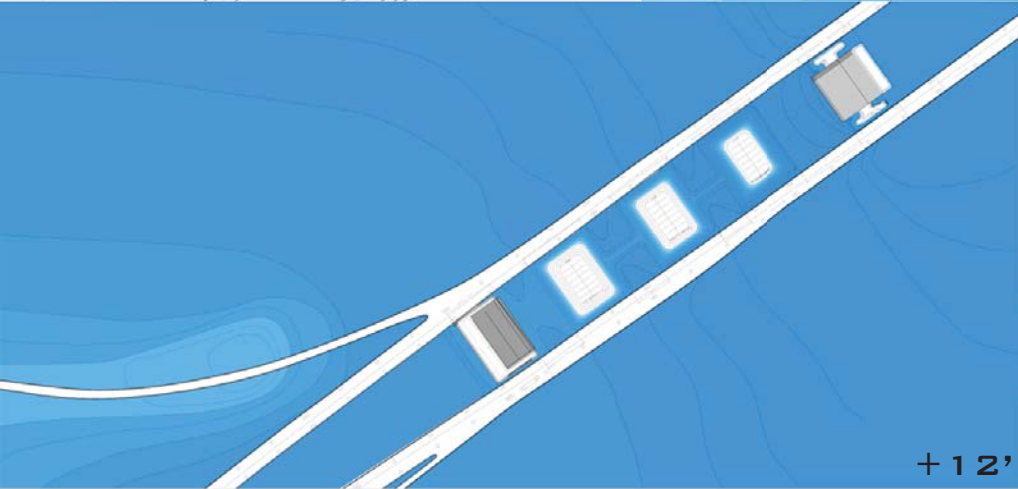
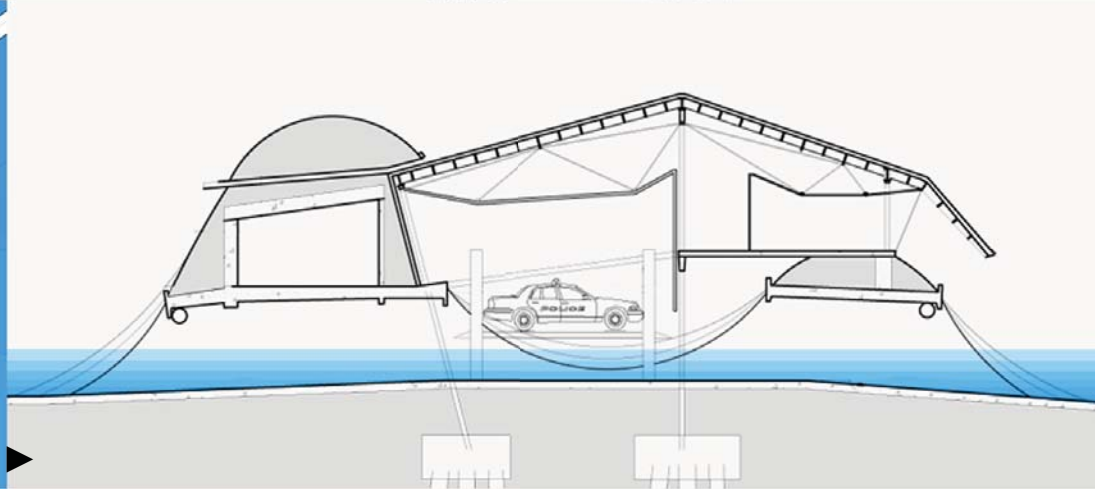
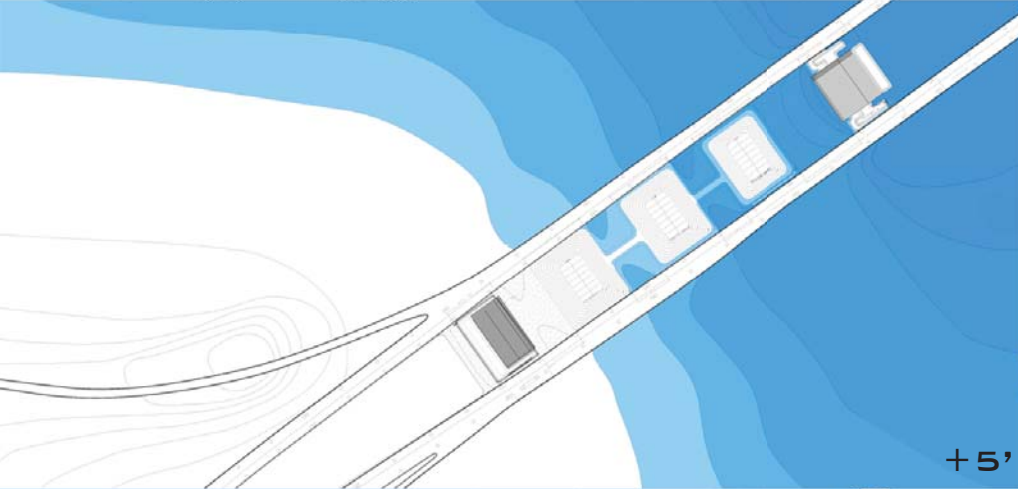
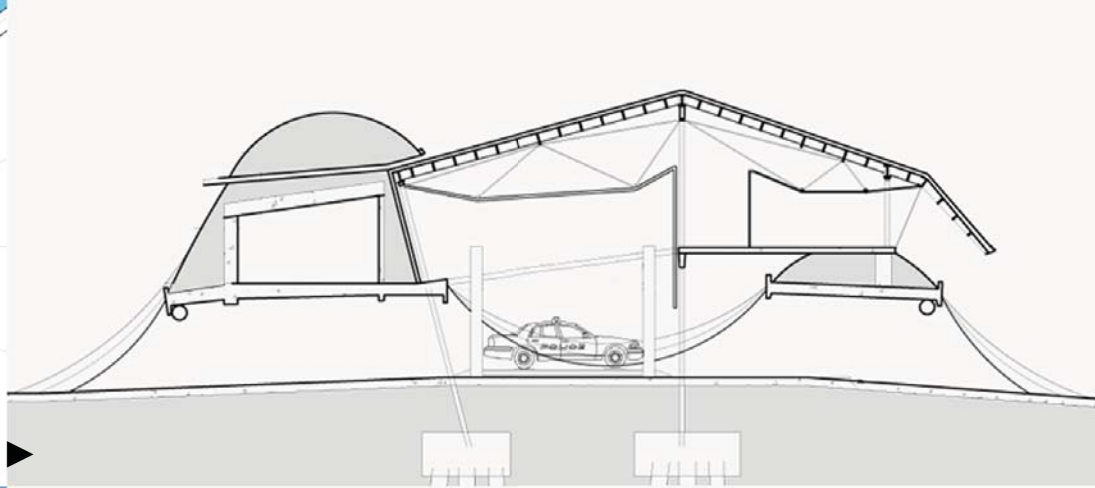
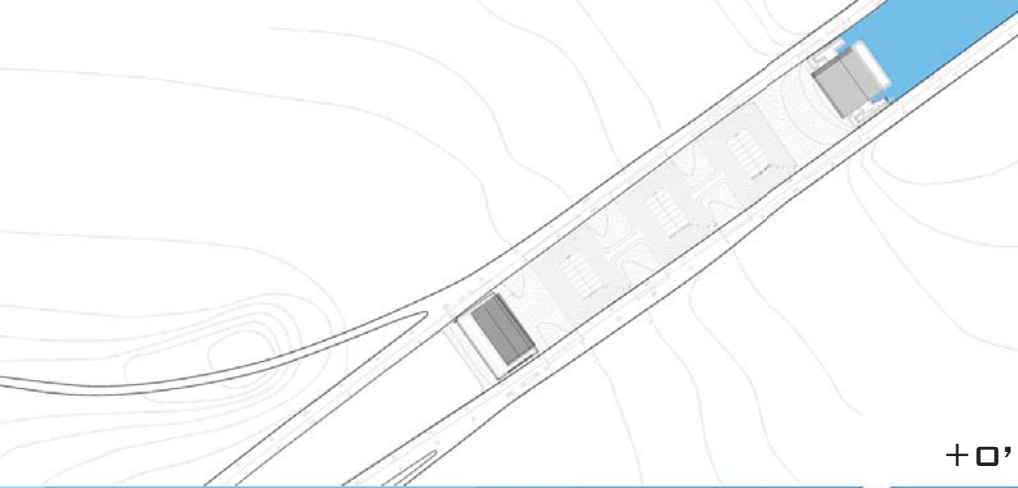
PROJECT: HIGHWAY PATROL STATION

Project Brief: Design a joint State Trooper Highway Patrol Station and a boating facility for the Louisiana Department of Wildlife and Fisheries at Whiskey Bay, a point along I-10 in the Atchafalaya Swamp, halfway between Baton Rouge and Lafayette.

Far removed from any town, this station becomes an outpost of law and order in the wilderness. In the spirit of Louisiana's Native Americans, the design is a series of five large earth mounds. The western mound houses the highway patrol station while the eastern mound, set at the end of a canal, houses the boat docks. All finished floor elevations are based on the fifty year flood plain. The central three mounds become areas of refuge for automobiles during flood events— islands. Before a storm isolated residents in the surrounding countryside may park their cars atop the mounds so that state troopers can guard against looting.

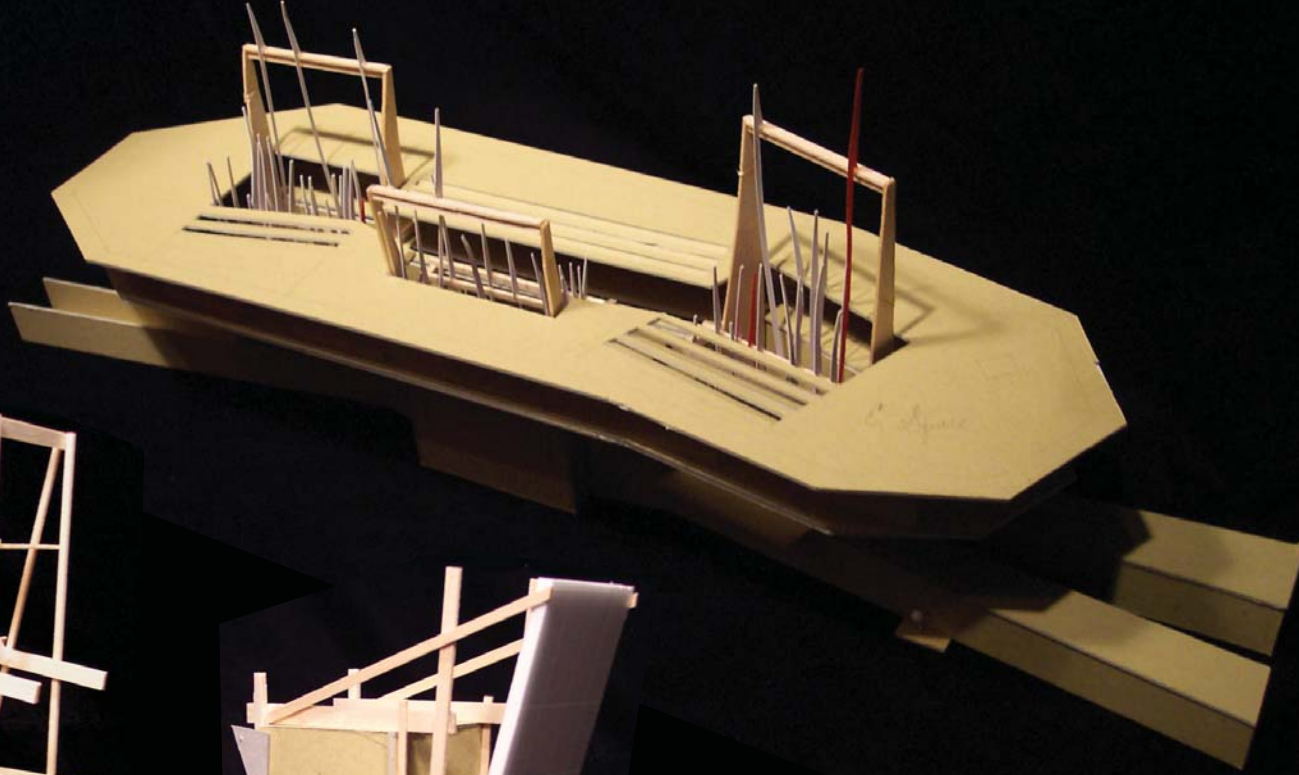
Location: Whiskey Bay, Louisiana Context: Rural Type: Academic, Individual





Using the imagery of wind and water, the entire project developed out of advanced metaphors of vortex, vacuum, and refuge. Concept models were developed during site investigations when insects used bridge pilings to hide from the prevailing winds.

Adding further to the metaphor, the law enforcement functions fill and kind of "power vacuum" of this frontier landscape during natural disasters. Ironically, these observations were validated when Hurricane Katrina struck the area nine months after this design's completion.

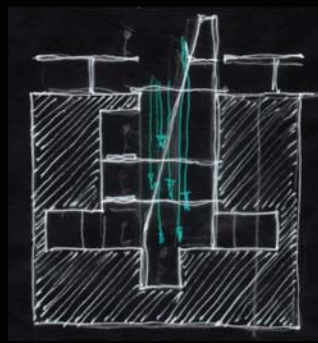
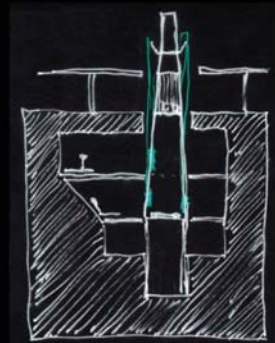
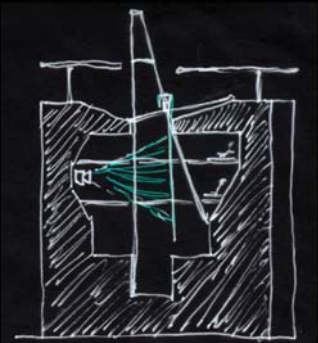


PROJECT: PUPPET THEATER

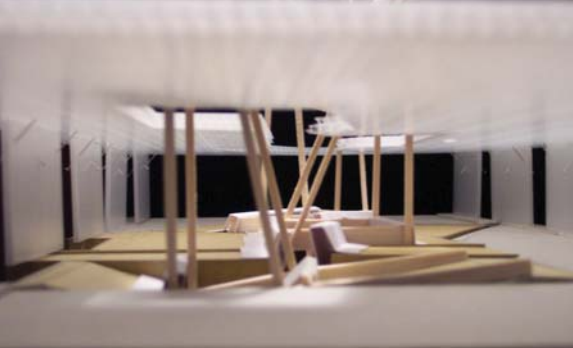
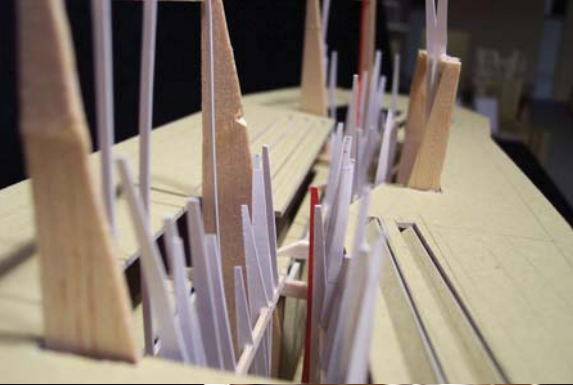
Design Brief: Choose among any of the central district's subway stations to be the site of a performance space of an unspecified type.

Location: Hong Kong
Context: Urban

Type: Individual
Academic



This design, first and foremost, reconsiders drama as a performance within its three historical elements: (1) an actor independent of a chorus (2) an element of conflict conveyed through dialogue (3) a non-participatory, emotionally involved audience. The design draws upon this definition to create the design elements, and begins blur distinctions between actor, chorus, and audience. In this case, the commuter's loss of connection with the natural world becomes the metaphorical conflict.



The original site was a long underground tunnel used daily by thousands of commuters. Underground, they spend many hours per week disconnected from the outside world. The site's general habits include: walking in single file, following signs, obeying pre-recorded audible announcements, and being pulled along by various escalators and autowalks.

Puppet theaters are an acknowledgement of historical Chinese entertainment found in southern China. The performance and the theater itself physically lie suspended within a newly excavated crevice (or aperture"), creating a unique vantage point. From below, the backdrop is the sky whereas from above, the performance backdrop is the mechanical flow of commuters on autowalks. The juxtaposition of stringed puppets above and the regulated flow of business commuters below, of course, is somewhat satirical.

This design is actually a series of theaters for three different types of puppetry: traditional puppets, shadow puppets, and large human-sized puppets. Drama's history is an evolution rooted in religious ritual. Perhaps a more relevant issue in contemporary society concerns ritual and habit. One is a recurrent, often unconscious pattern of behavior acquired through frequent repetition, while the other is a prescribed order of symbolic actions

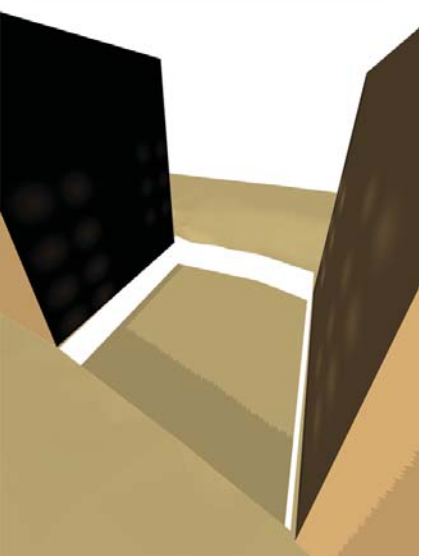
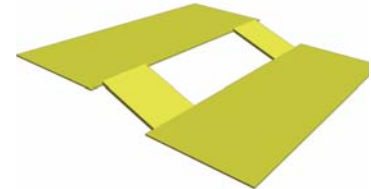
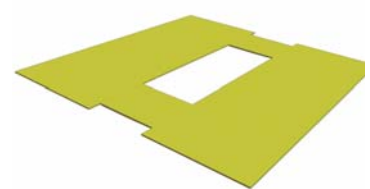
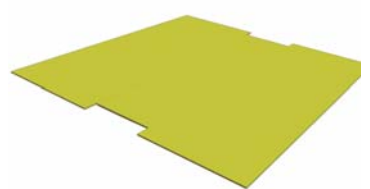
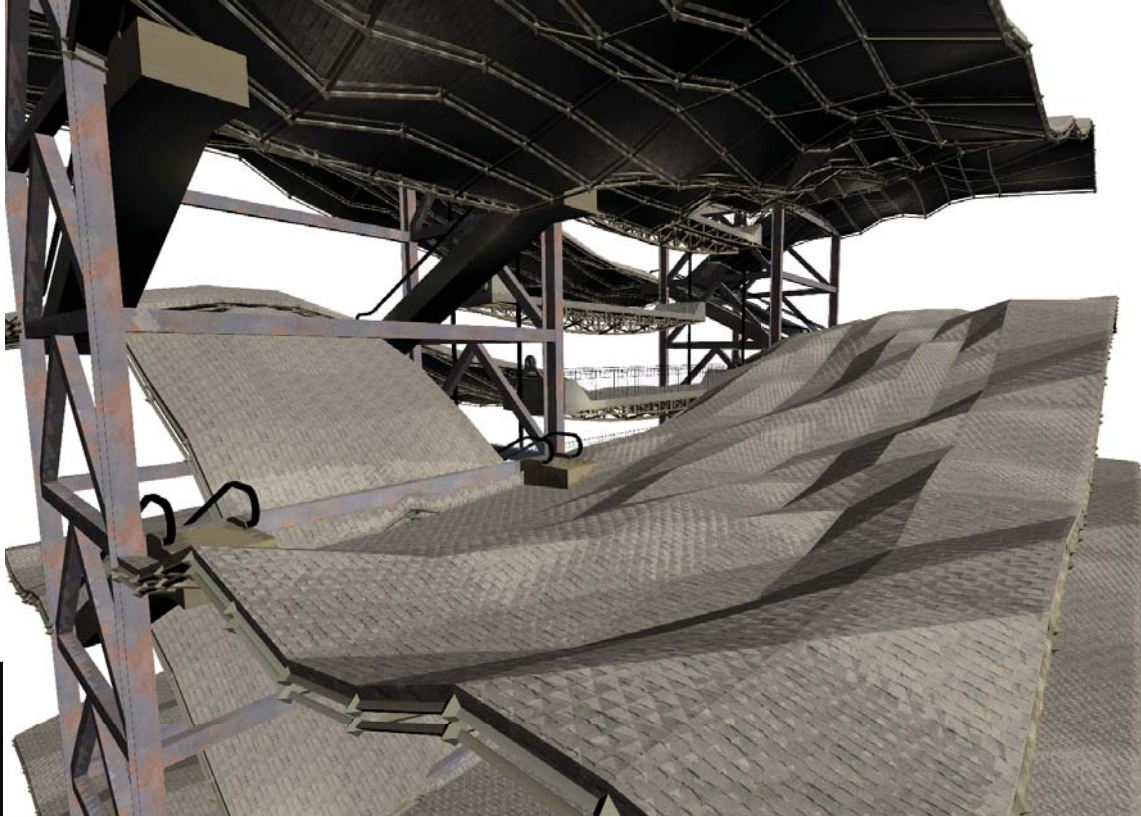
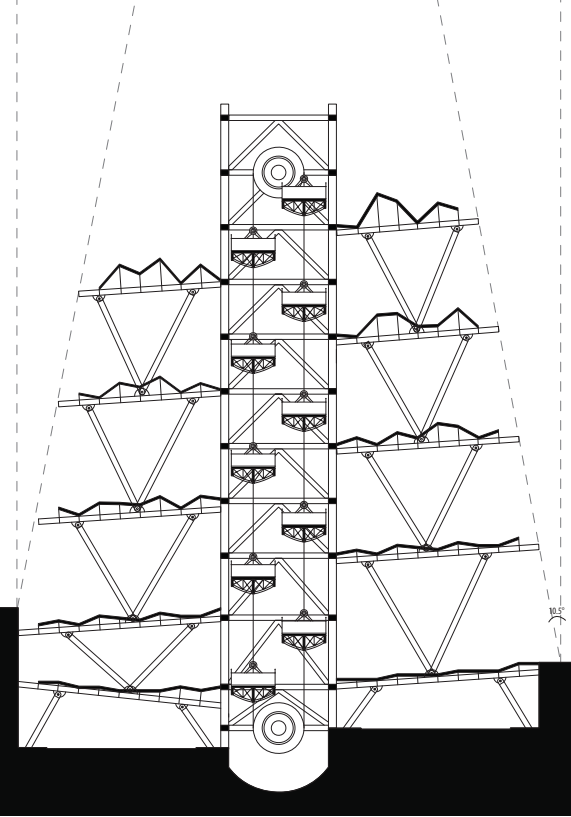
**PROJECT:
VERTICAL PARK SHELL**

Design Brief: Create a 2.5 acre park on a 0.5 acre site in Buikhead's entertainment district.

Location: Atlanta Type: Individual
Context: Urban Academic

How can a vertical park cease to be building-like? This design critically explores a park's necessary components--sunlight, fresh air, plant materials--nature. In the context of cities treating terrains like a floor, this design explores how to treat a floor like a terrain.

This overall design evokes recollections of past landscapes that have long since disappeared. The floors represent a gradations of human-induced erosion, with the highest floor representing the most ancient, rugged terrains, where visitors must move about on their hands and knees.



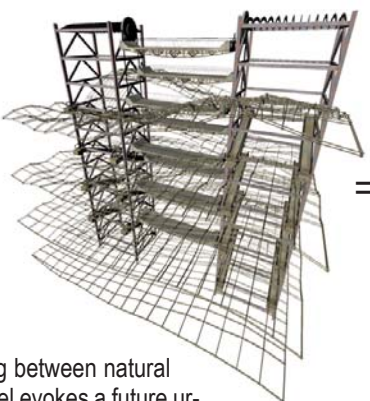
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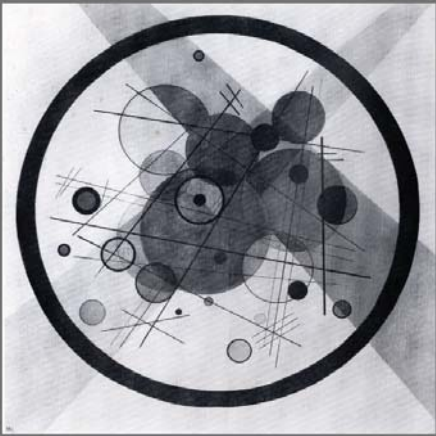
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The ground floor represents the present day as it connects with the street, negotiating between natural ruggedness and the smooth surfaces needed for vehicles. Finally, the underground level evokes a future urban landscape, a completely flat surface, where people are propelled by wheels and skates--predicting a future in which cities flattening out all remaining natural "imperfections."



PROJECT:
THREE LANDSCAPES
—INVERTED WORLD

Project Brief: Use a self-selected painting as basis for garden design set within the vicinity of downtown Tucson.

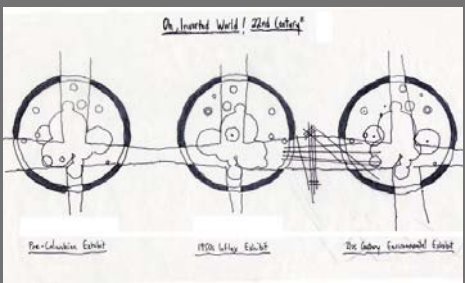
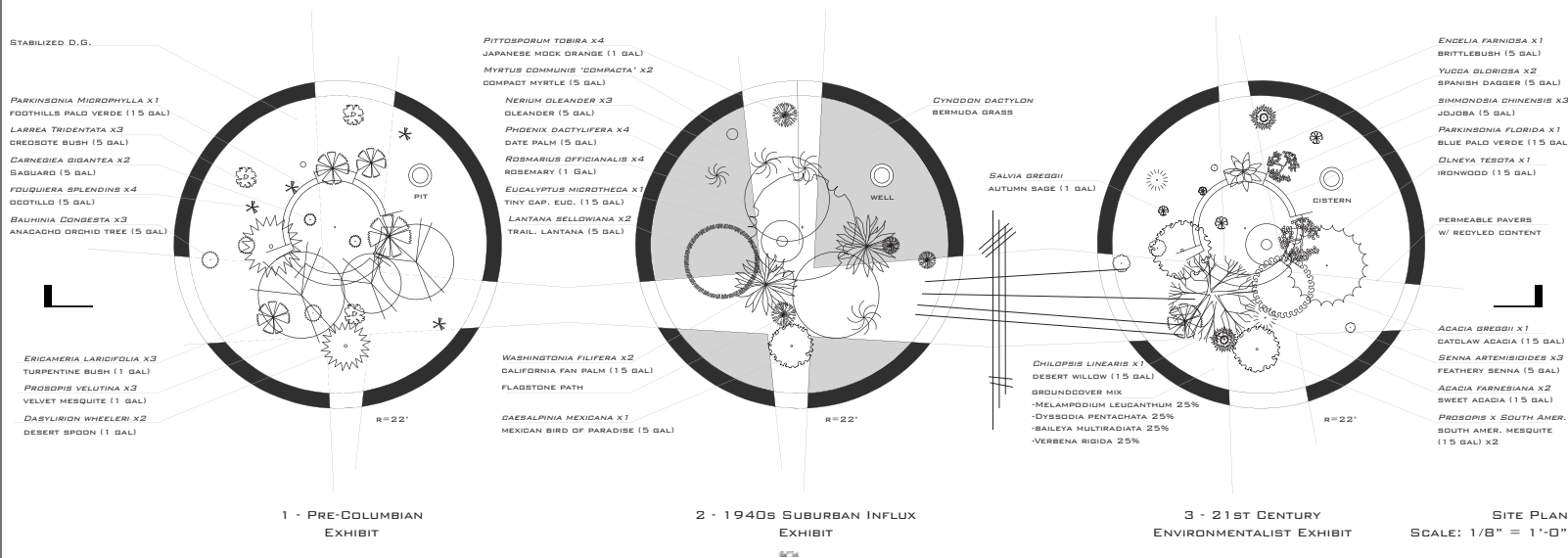
Location: Tucson, Arizona Type: Individual Academic
 Context: Suburban

This design is based on Kandinsky's "Kreise Im Kreis" meaning "Circles Within Circles." These three gardens attempt to tell the story of Tucson's urban desert landscape, from the perspective of over one hundred years in the future.

First, "Pre-Columbian" desert exhibit is full of ancient, native plants, relatively untouched by human interference. Second, the "1940s Suburban Influx" exhibit that highlights Tucson's golden age of economic growth, characterized in water-intensive, tropical plants. Third, the "21st Century Environmentalist" exhibit, marks present-day attempts to return to its natural aesthetic heritage. Finally, beyond the walls is a 22nd Century naturalistic dystopia in which invasive African exotics have displaced most native habitat.



PERSPECTIVE



PROJECT: CITY OF DREAMS

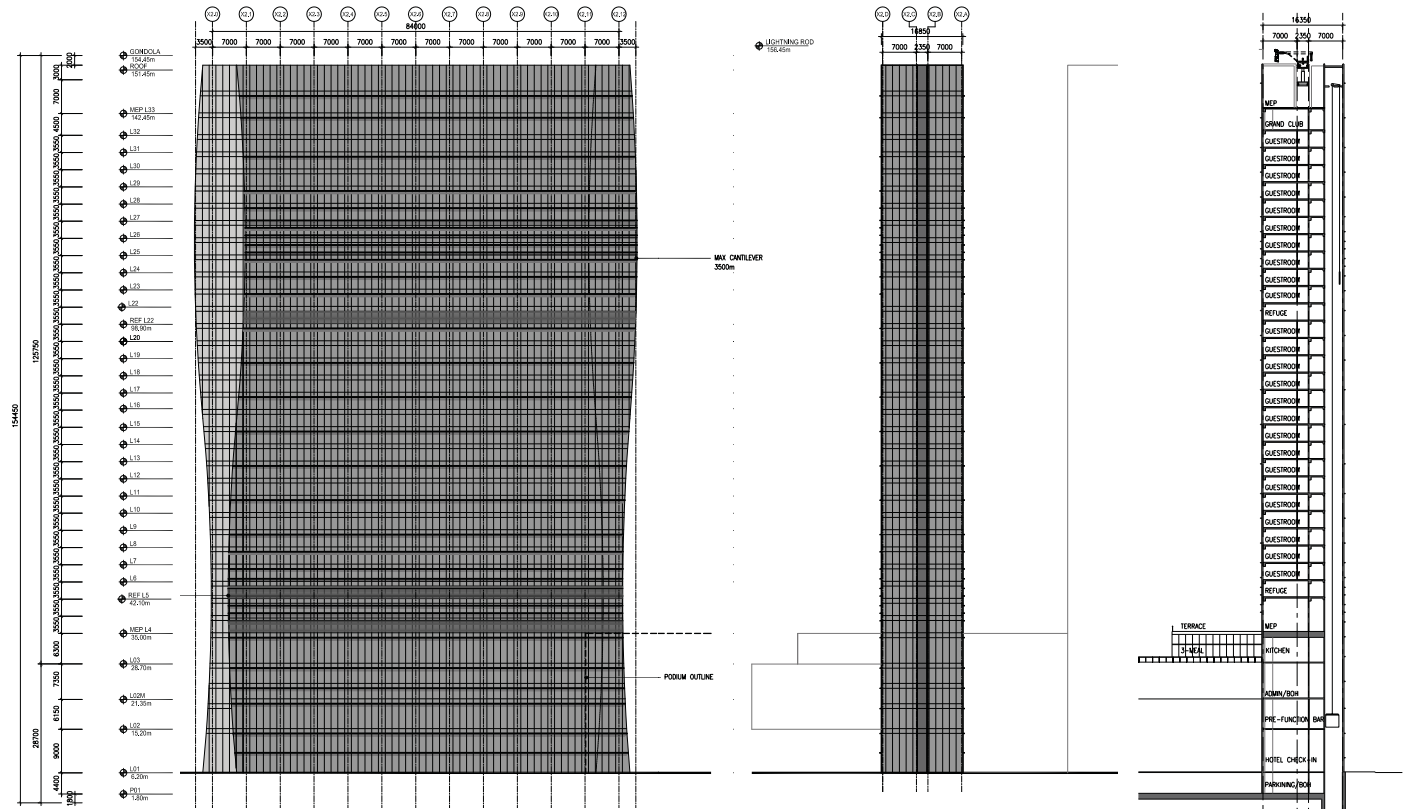
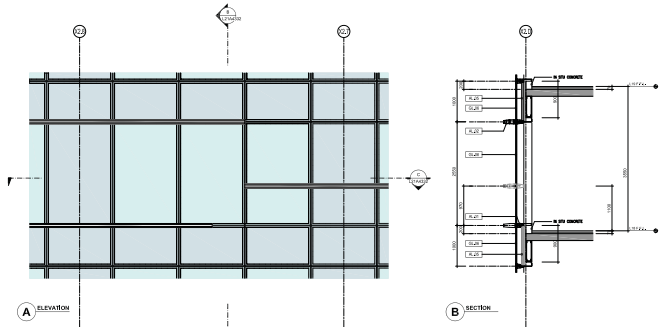
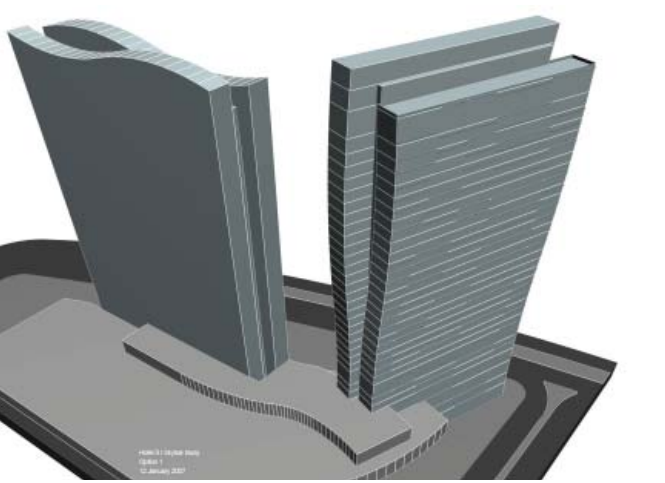
Location: Macau, China
Context: Urban

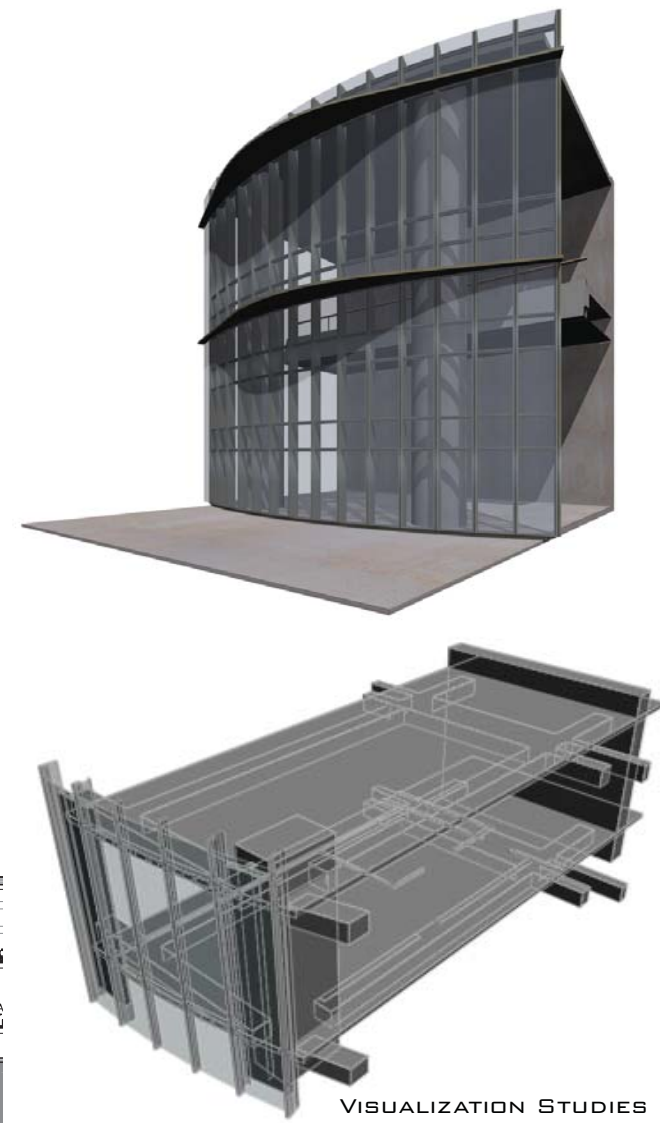
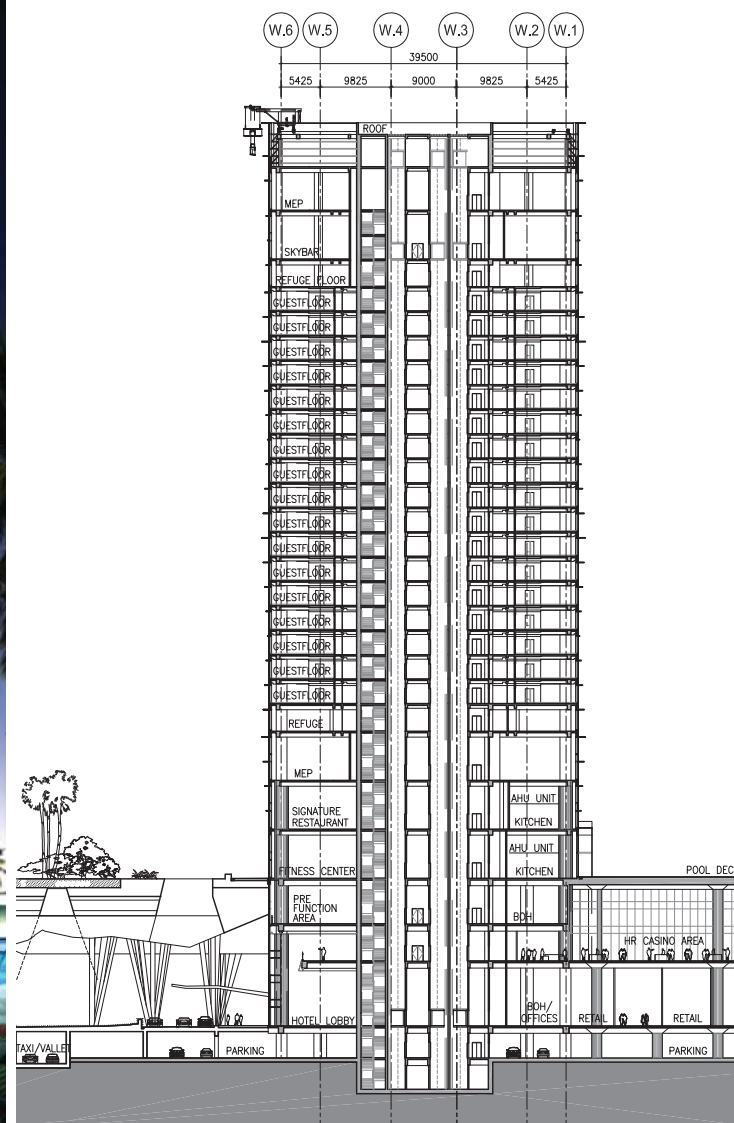
Type: Group
Professional

The City of Dreams was a major hotel/casino development, and part of Macau's bid to become the "Las Vegas of Asia." The site was on a new piece of reclaimed land known as the Co-tai Strip. This development contained four hotels: Hyatt, Grand Hyatt, Hard Rock and Crown Hotel. I was involved in developing two of the project's four hotel towers while working in Arquitectonica's Hong Kong office, for whom I was an assistant project manager. There I created study models, conceptual renderings, and drafted design packages. The Grand Hyatt (far right) has a slender, undulating form with a complex structural system. It features an unique curtain wall system with LED lights embedded in protruding fins, which would later become part of a light show. The "podium" roof became a landscape unto itself and presented its own challenges. This marked the first time in which I closely collaborated with both structural engineers and landscape architects, truly in interdisciplinary fashion. I learned more from this process than any other, making this series of hotels the most important of my career; the goal of which is to be part of future collaborations of equal caliber.



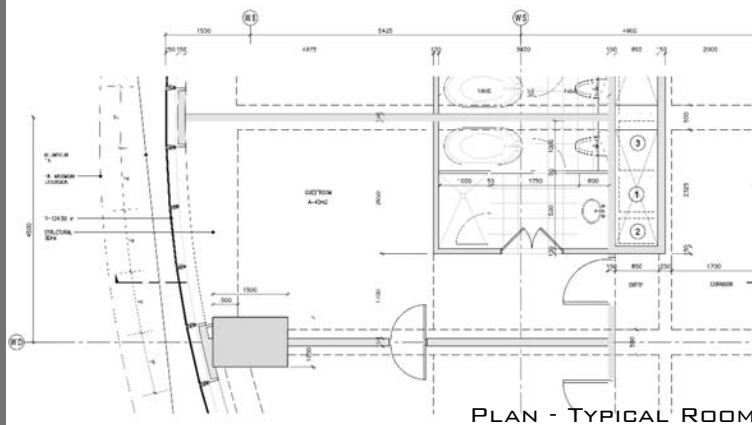
Rendering by Superview Ltd. Copyright Arquitectonica



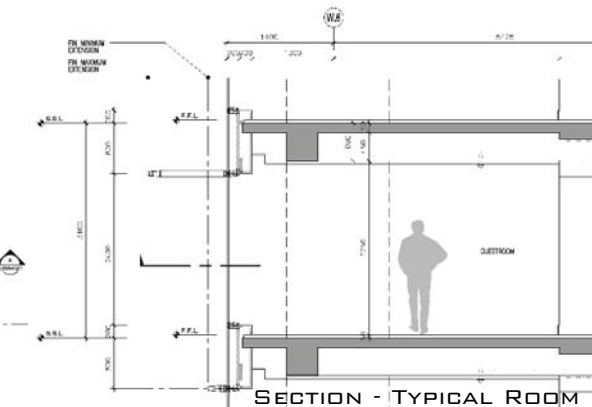


Also part of the “City of Dreams,” the Hard Rock Hotel is a circular building with a square core, which created large variety of room types and sizes. The building concept started with the idea of music playing on spinning records. The undulating fins were an efficient way to imply motion—accentuated by embedded LEDs patterning.

My role in developing the Hard Rock design included drafting, room design, coordinating with structural engineers and assisting with facade design . The most challenging part of this design was incorporating the various structural types along with the complex MEP needs of a large hotel. 3D visualizations helped tremendously in anticipating potential conflicts.



PLAN - TYPICAL ROOM



SECTION - TYPICAL ROOM

**PROJECT:
ARMY DESIGN GUIDE**

Design Brief: Create an architectural design guide for Fort Stewart that will direct the expanding base to develop with a visual consistency.

Location: Atlanta
Context: Suburban

Type: Group
Professional

The intent of Base Alignment and Closure (BRAC) was to pool the Army's resources in a more efficient manner. Some bases closed while others, such as Fort Stewart, experienced expansion.

Our firm was first tasked with identifying an architectural style that not only referenced the pride of the army, but also one appropriate to the local culture and climate. Fort Stewart wished to develop in a manner consistent with "Southern Colonial Revival."

The greatest challenge was adapting a historically-rooted style to building types, such as a tank repair warehouse, that did not exist until relatively recently. In all we identified seven building types that needed documentation: Barracks, COF, Dining Facilities, Fitness Facilities, TEMF, and Headquarters.

Together with Army coordinators we developed a suitable color palette and identified specific Southern Colonial Revival architectural features that could be applied to the buildings, such as vertical windows, quoins, wrought-iron railings, prominent white columns, jack arches, among others.

Knowing our client's cost consciousness, I presented three options of each building based on cost: Basic, Standard and Enhanced. This way the client could rank architectural priorities based on building importance. It was a strategy that worked well.



**PROJECT:
ARMY DESIGN GUIDE**

Design Brief: Create an architectural design guide for Fort Shafter that will direct the expanding base to develop with a visual consistency.

Location: Honolulu
Context: Suburban

Type: Group
Professional

Similar to the Fort Stewart project, our firm was tasked with identifying an architectural style that not only referenced the pride of the army, but also one appropriate to the local culture and climate. This base needed building types similar to Fort Stewart, yet Fort Shafter, differed greatly in terms of geography, landscape, weather, culture and history.

We concentrated on developing textures and a material palette, including volcanic rock that is indigenous to Hawaii. The other key practical concern was the potential for hurricanes and monsoon-like rains that tend to occur. Therefore many buildings feature prominent roof overhangs.



ELEVATION - DAY CARE



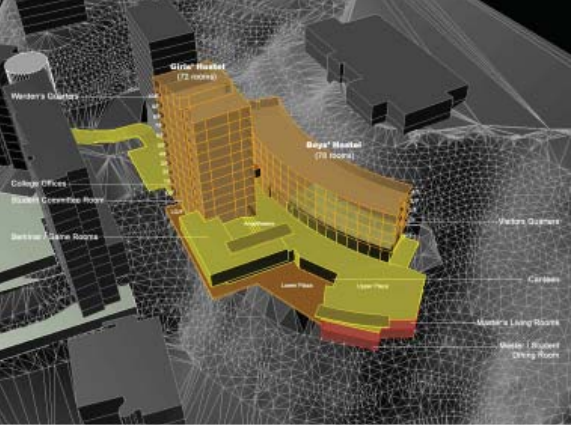
ELEVATION - MAINTENANCE



AIR
TRAFFIC
CONTROL



PERSPECTIVE - CHAPEL



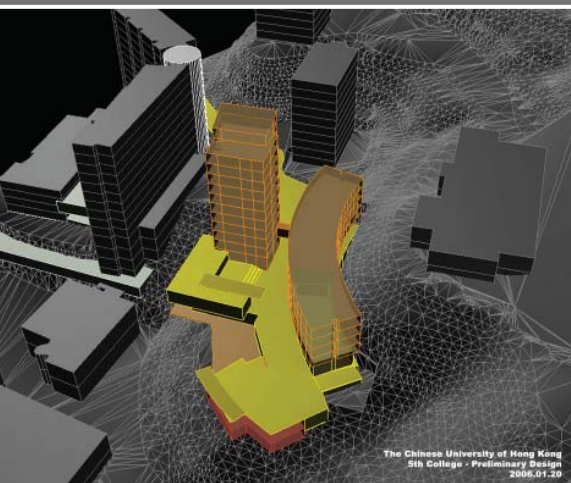
PROJECT: CHINESE UNIVERSITY OF HONG KONG - CAMPUS DEVELOP.

Project Brief: Program, plan and design a new college for CUHK so that the school can increase its admissions while maintaining a high standard of academic excellence.

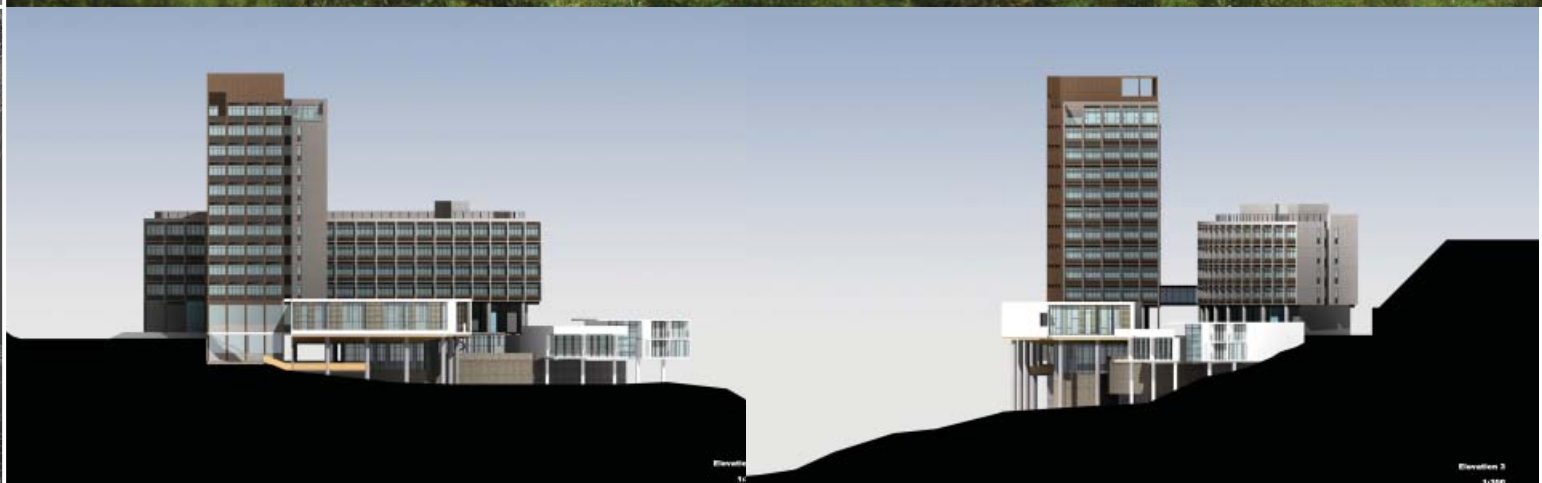
Location: Hong Kong
Context: Urban

Type: Group Professional

This project was to add a fifth college to the university's existing four. CUHK's land charter entitles it to use the entire mountain, yet suitable building sites remain scarce because of difficult terrain. This design has five main components: Boys' Hostel, Girls Hostel, Cafeteria, Seminar Classrooms and the College Warden's House. This dense development is representative of Hong Kong's expectations for any new development, and could perhaps foreshadow the future land needs of other universities worldwide.



The Chinese University of Hong Kong
 5th College - Preliminary Design
 2006.01.20



Elevation 1

Elevation 2



**PROJECT: WUHAN
REDISIDENTIAL DEVELOPMENT**

Project Brief: Plan a new community located on the outskirts of Wuhan, China, which lies along an ancient river

Location: Wuhan, China
Context: Suburban

Type: Group
Professional

From our Hong Kong office, I worked with a Chinese planner who developed the neighborhood layout as well as the mix of building types, which ranged from large single-family houses to multi-family dwellings to dense, high-rise housing. I modeled and designed the building types shown here. This project represented a tremendous educational opportunity to learn aspirations and traditions of modern Chinese families. For example, all families seek to have a prominent view to the south, an auspicious direction in China. Luckily, this need also is energy efficient in terms of beneficial solar heat gain.



东立面

南立面