This portfolio is meant to be viewed as a spread face booklet. Please set you acrobat viewer by following these steps:

Left click on the menu “View” -> “Page Display” -> “Two-up”

Thank you.

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IN THE ENVIRONMENT


EVERYTHING YOU CAN IMAGINE IS REAL.
- Pablo Picasso (1881 - 1973)

Over the years, I have learned that I still need to learn. The ideas and understanding of the environment I call home, is infinitely changing and evolving. Each new idea springs forth the next dozen and the next dozen from there, forever creating an internal drive for more and more knowledge and exploration. Within the following pages, I will begin to take you through my journey of understanding and continued enlightenment.

-Charles Cartwright, MLA & MCRP-

Table of Contents

"THERE IS ONLY ONE ADMIRABLE FORM OF THE IMAGINATION: THE IMAGINATION THAT IS SO INTENSE THAT IT CREATES A NEW REALITY, THAT IT MAKES THINGS HAPPEN.

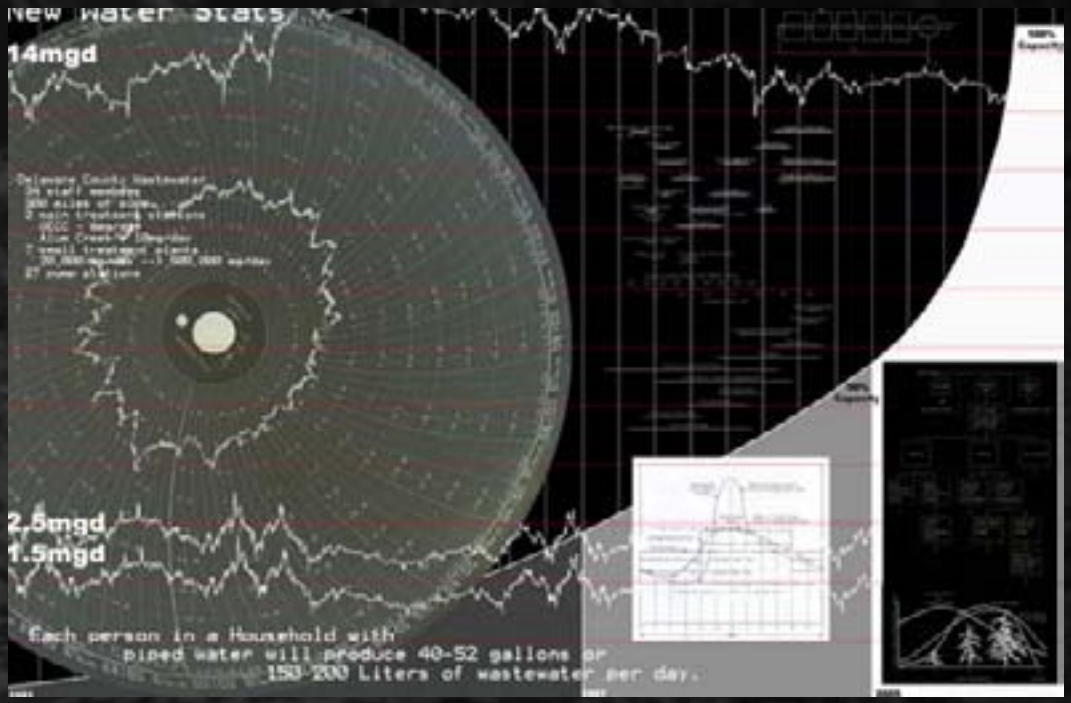
- Sean O'Faolain (1900 - 1991) writer

DESIGN

The process of design today is one of great challenges, blending a heterogeneous mix of people, materials, environment, technology, and art to form one homogeneous solution. My design sensibility goes one-step further into the exploration of how these elements, and considering the different design disciplines of Landscape Architecture, Urban Planning, and Architecture meld into an environment inspiring the inhabitant to question the old ideals of our built world.

Wastewater Cliffs

As part of an exploration of a “Land Machine”, I explored studied usage and processes of the Olentangy Environmental Control Center, a wastewater management plant, in central Ohio. Plants such as these remediate human by-product re-engineering and chemically treating the influence allowing the effluence to travel back into the natural water system. Any remaining solids can be reused for fertilizer. I proposed that the reuse of old quarries, because of difficulty of rehabilitation and large amount of energy required to remediate, would be an ideal setting to create a new style and methodology for wastewater treatment plants.



Right : Image maps derived from processes and information found at the OECC

The project is an environmentally sustainable plant that can be used for teaching waste management processes as well as how biologics can help remediate human by-product. The beginning process would remain primarily containerized, due to bacterial and aeration processes tight tolerances before cascading down to a settling pond and into the natural filtration strips. Before being pumped back into another quarry, the water passes through a dual function bridge that serves as a pedestrian walkway down into the settling and filtration areas. A UV irradiation system then removes any remaining protein-based viruses. The path from the bridge traverses through the site to allow interested parties a tour of the facility while giving them informational pedestals describing how each step of the process works.

This project is currently being recreated as an interactive teaching environment.

PineHaven

PineHaven

The Pinehurst area is home to over 42 separate golf courses located in central North Carolina. The surrounding area outside of the city is primarily cul-de-sac subdivisions, that are not representative of the historical or environmental needs of the area. The Pine Haven project was developed in response to these needs. The design is a hybridization of historical neighborhoods and green cities, with an emphasis on walkability. This area has a high rainfall and low water retention, due to the sandy clay soil base. It is important to develop a system of basins to retain water for use in the public greenways and to aid in lower volumes of potentially harmful storm water runoff. The small town center is a mix of residential amenities and commercial offices, tailored to travelers that frequently do business in the area and/or commercial groups that research golf technologies. The site is meant to be expanded to the north, east, and west as land is acquired and the needs of the area grow.

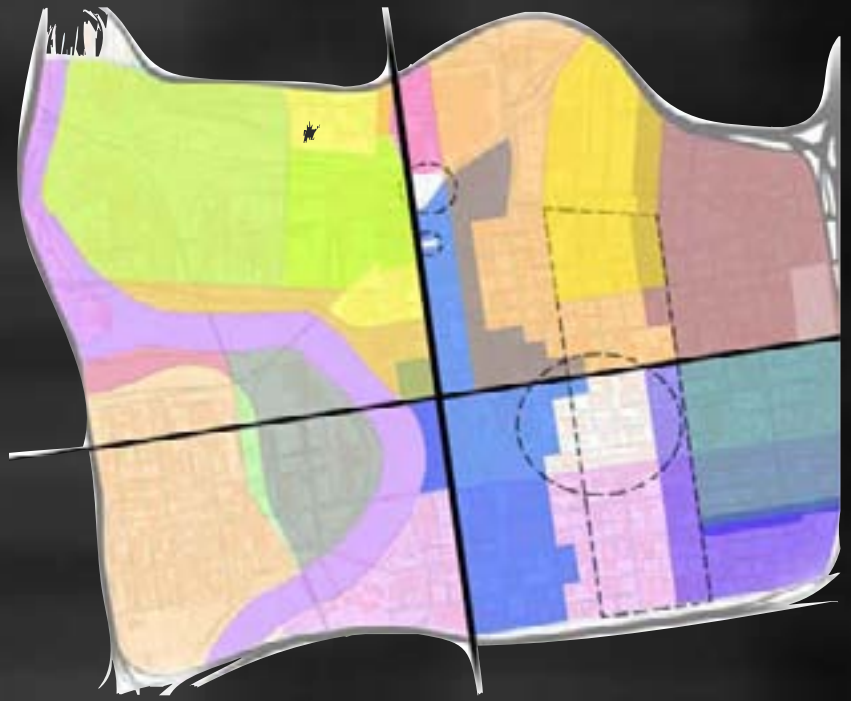
Right: Analysis of current and historical precedent, site conditiona and location.

Top Right: Entry Plaza for the Community Park
Above: Rendered Site/Development Plan
Left & Right: Interior Public Greenways

Lift Park District

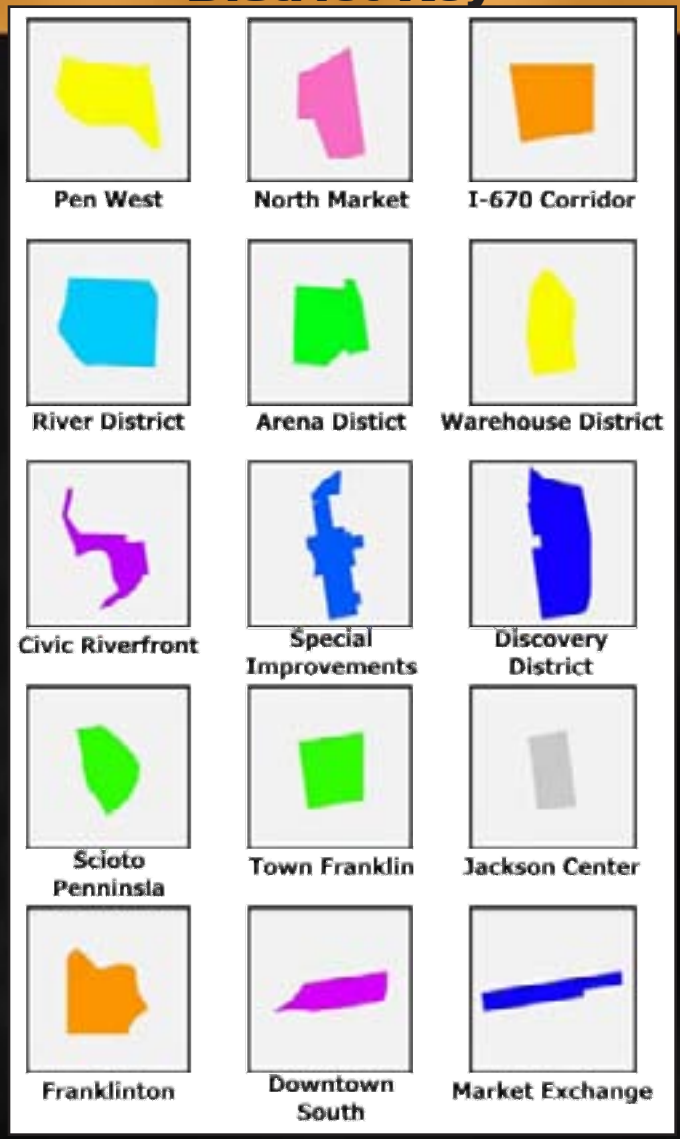
In the Master Plan of 1809 for Columbus, Ohio, there was a large green space set aside for a centralized park. Over time, the swampland that had been on the site was purchased and converted into surface parking lots and commercial businesses. To better facilitate the revitalization of the downtown in-line with the mayor's goals to increase the house stock by 10,000 units, a new district will be created that incorporates a Park and mixed-use development.

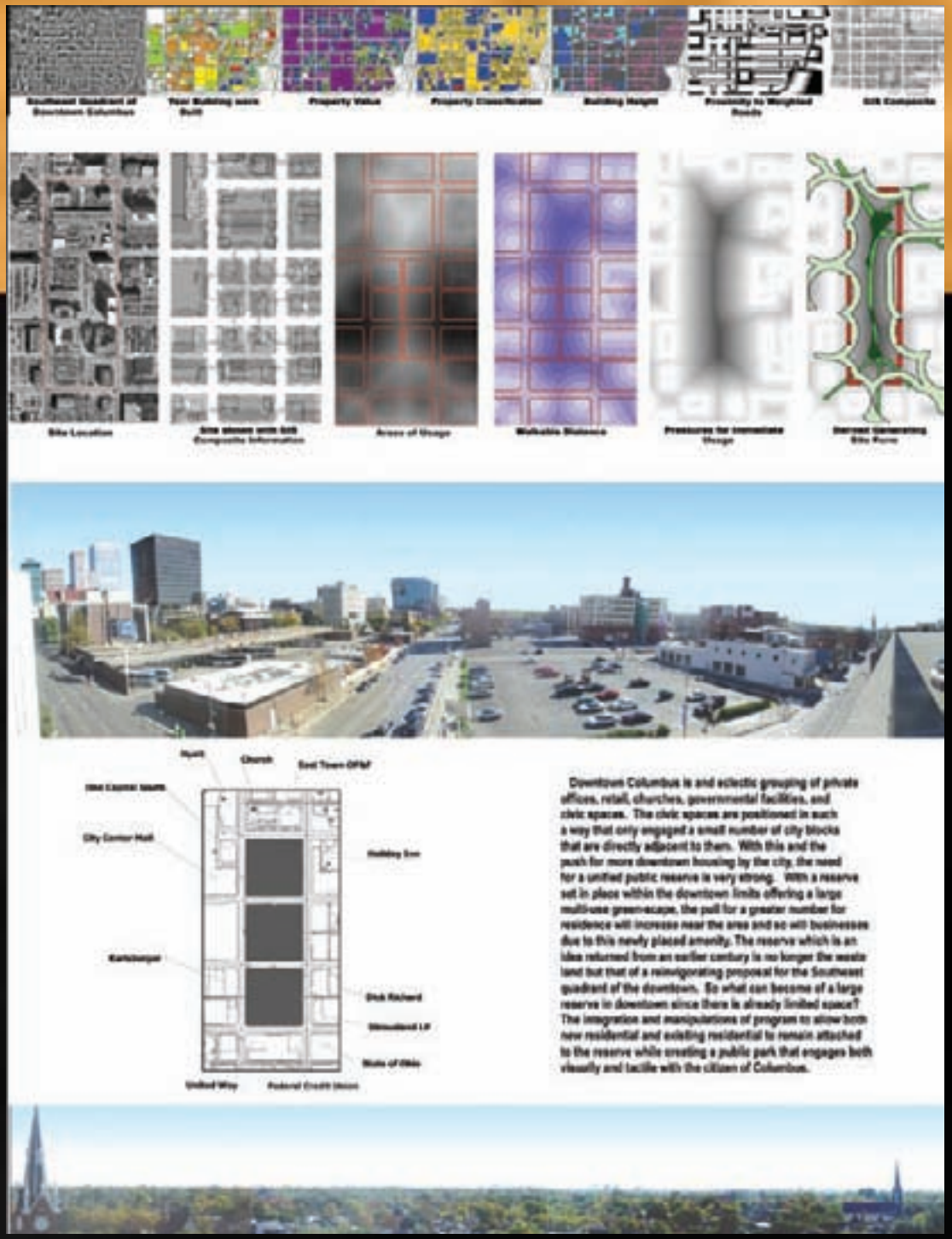
The inception of Lift Park District was created and defined using GIS tools, which specifies the land-uses, as well as shapes the terrain, and green roofs. This was my first attempt at developing a process of data driven design within an urban landscape project.

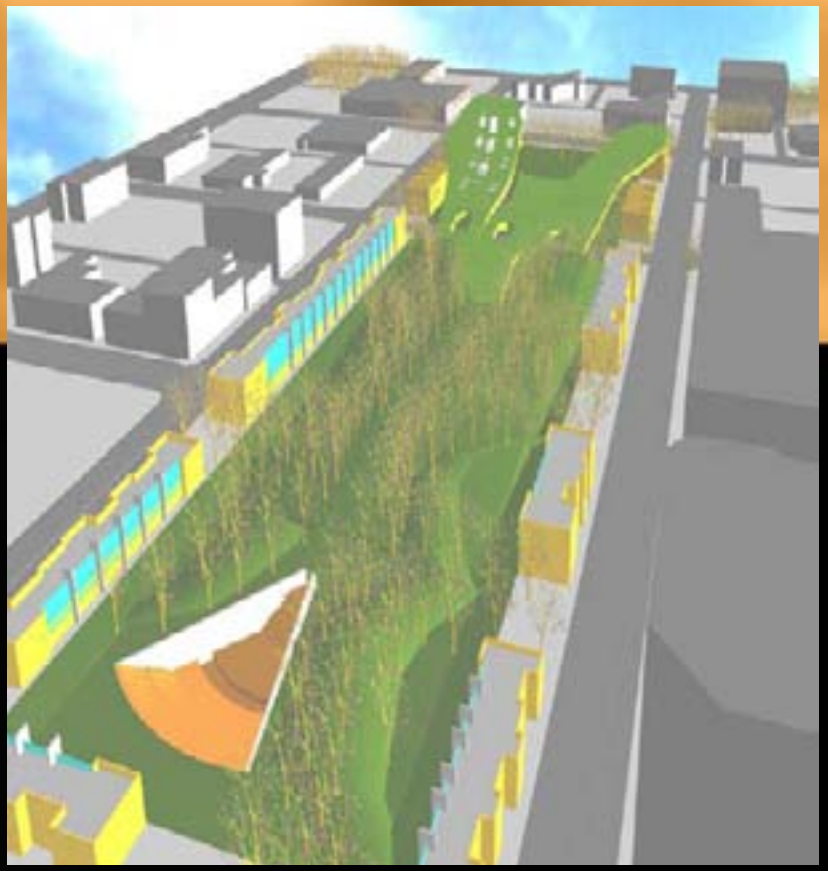


District map of Downtown Columbus showing the density and overlay of all the districts

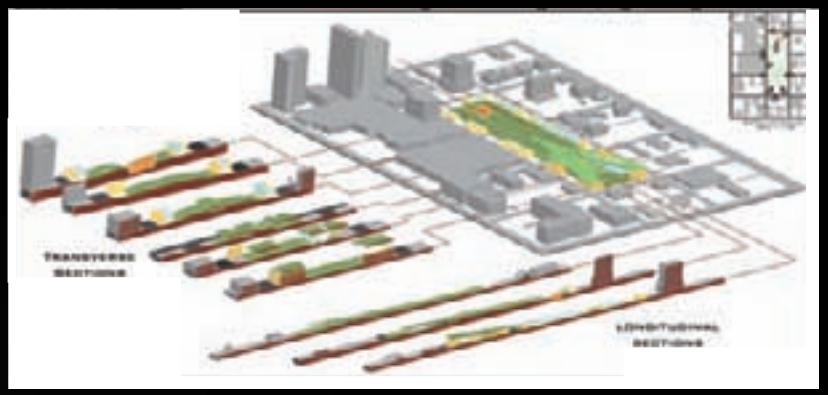
Downtown Columbus District Key





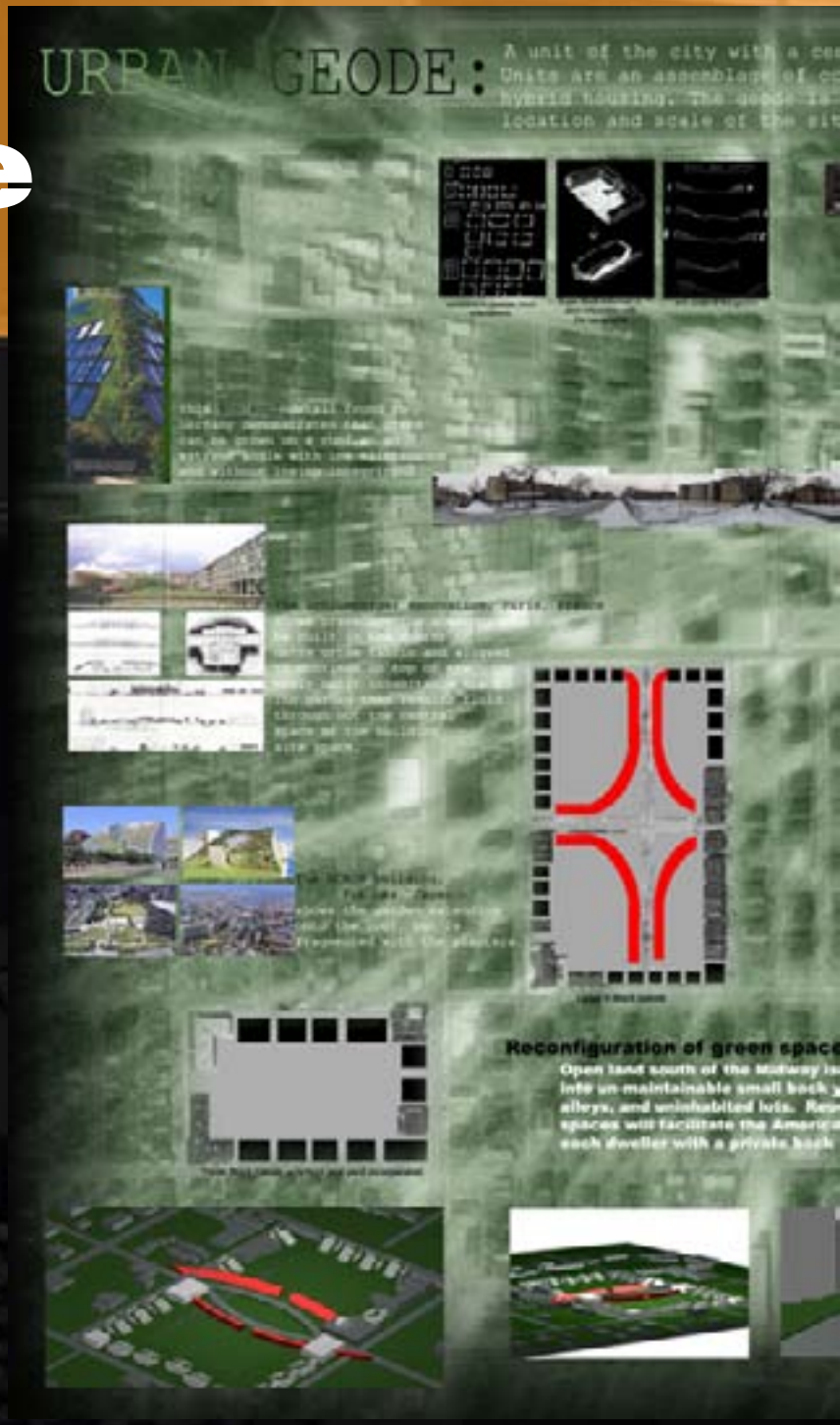


Left : Analysis board of the area that derived the site
Above: Perspective of the project looking South East
Below: Axonometric & sections of the site



Urban Geode

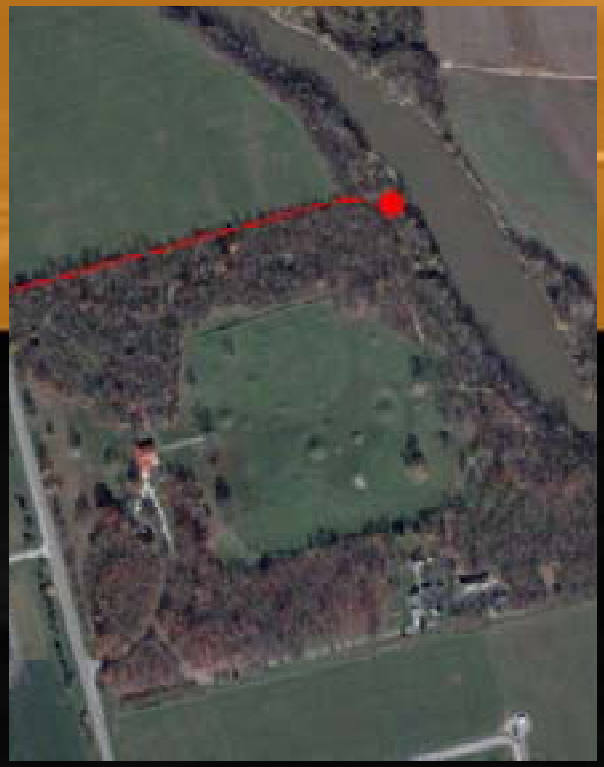
In southern Chicago, immediately south of the University of Chicago, I proposed a precedent project that could expand and morph based upon what site was chosen elsewhere in the area. The idea was to take the long tradition of parks, parkways and open spaces and integrate them into city blocks. By doing this, instead of creating more large open parks, smaller more private parks could allow for more defensible space. This will also provide an increase in living health within the dense apartments. Instead of creating a monolithic building surrounded by space, the idea is to increase the height of the building one more story around the perimeter. The next step is to mix the residence so that there are multiple incomes and family sizes, while pulling the green space up onto the building's roof to engage the residents into a interaction of both private and public space. By leaving the buildings with their own entrances and with accessibility to the street, the increase density can appear to be dispersed when inside the block's green space. If a larger number of blocks were chosen that are contiguous, the central areas of those blocks would become a mix of commercial and public service areas, allowing a walkable neighborhood. The project to the left is an example of such a condition.



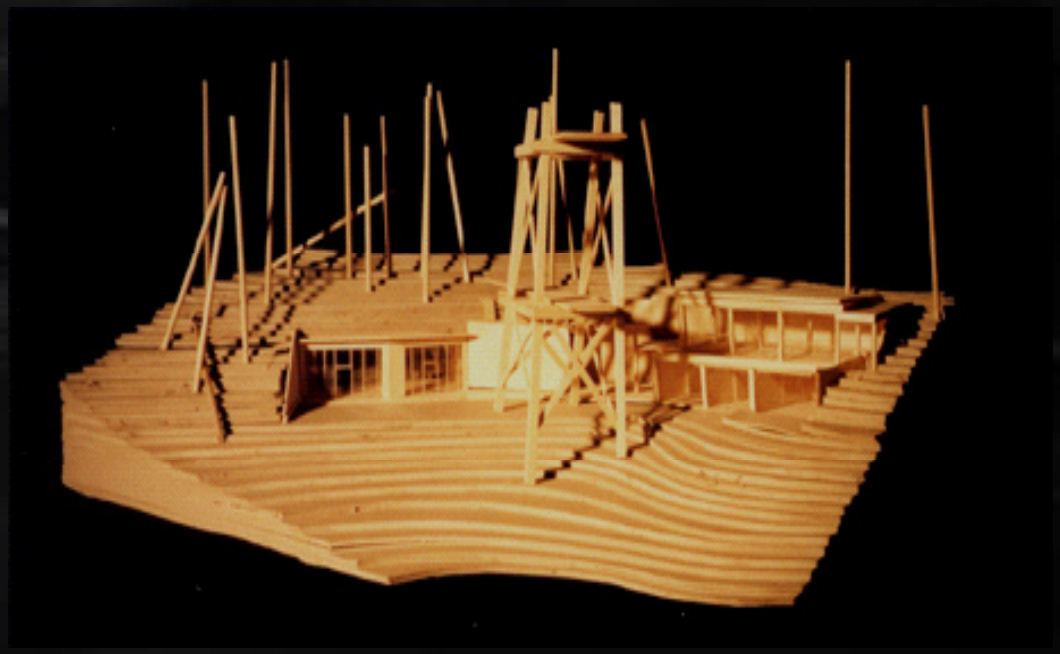
Right : Presentation board for the Urban Geode Project


HYBRID HOUSING
A new residential building type that is formed by combining the familiar South Shore walk up apartments with terraced housing to develop a new section strategy. This hybridized housing is mixed-income so that wealthier renters subsidize lower income renters making it an affordable place to live. Combining these two different economic conditions blurs the boundary that is currently evident in the South Shore neighborhood just south of the Midway and niversity of Chicago.
within the urban fabric:
currently fragmented
rds, side yards,
rganization of these
n Dream providing
yard and shared garden.
The exterior of the apartment buildings blend into the existing urban fabric but leave a large enough spaces between them for pedestrian access to the garden from the Midway, 56th St, and Woodward Ave.

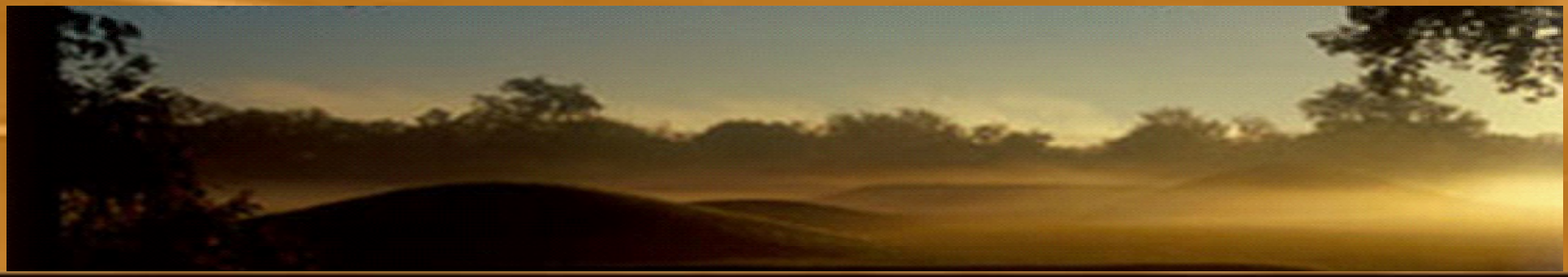
Archeologist's Dream

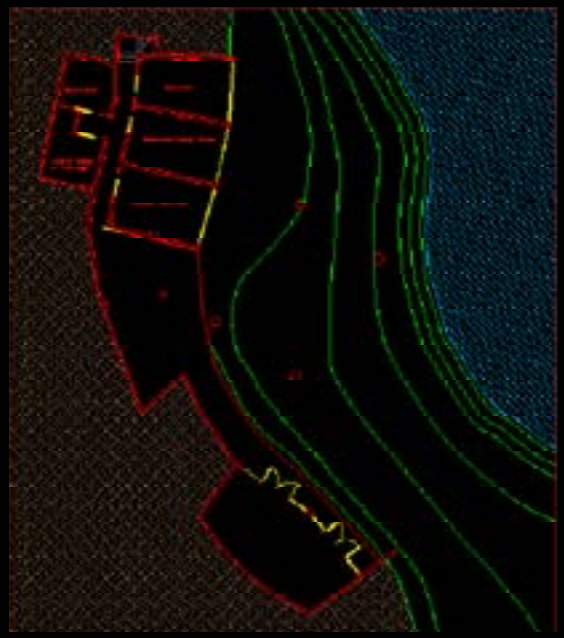


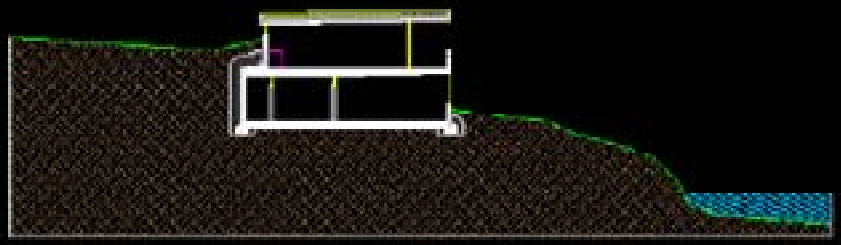
This residence is designed to blend in with nature as well as reflect the timelessness of history and the coming future. The location and form of the building/bridge/observation tower was set to be in line with a historical path from the burial mounds of Mound City and the fortification mounds in Newark, Ohio, just outside its perimeter. A mile-wide pathway was discovered after remote sensing images showed a pair of straight distinct earthen mounds between the two locations. The bridge portion is meant to symbolize the loss of the path and the Hopewell culture, while the observation deck gives a perfect view back into Mound City. The house is designed as a symbiotic blend of building and nature, to minimize damage while improving the potential lifestyle of the residences and their workshop. The house was scrutinized using LEED standards to reduce the ecological footprint and potentially drop the house completely off the local municipality's systems.

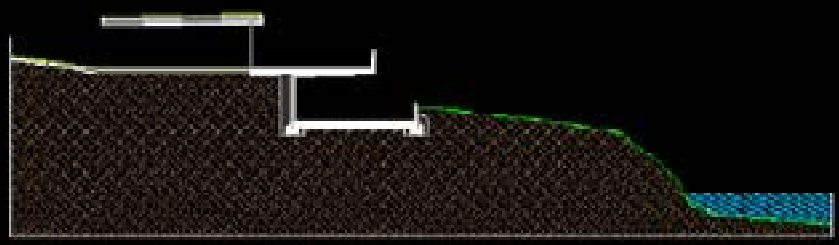


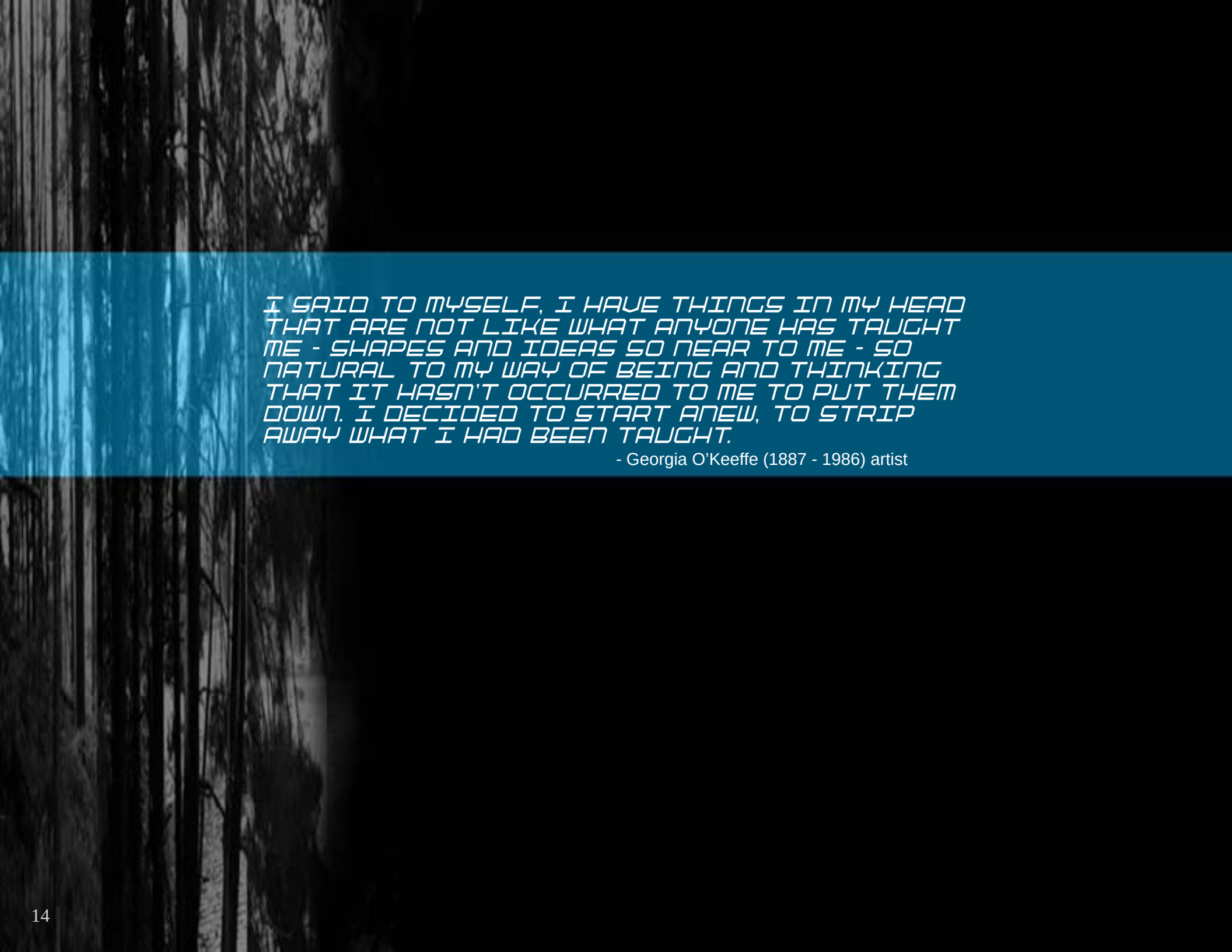
Images:
This page top : Aerial Image of Mound City and site location
This page Bottom: Project model
Opposite Page in order from top to bottom: Photo of Mound City by the National Park Service, roof plan, first floor plan, lower level plan, and two sections through the residence.











I SAID TO MYSELF, I HAVE THINGS IN MY HEAD THAT ARE NOT LIKE WHAT ANYONE HAS TAUGHT ME - SHAPES AND IDEAS SO NEAR TO ME - SO NATURAL TO MY WAY OF BEING AND THINKING THAT IT HASN'T OCCURRED TO ME TO PUT THEM DOWN. I DECIDED TO START ANEW, TO STRIP AWAY WHAT I HAD BEEN TAUGHT.

- Georgia O'Keeffe (1887 - 1986) artist

RESEARCH

Many designers simply sit down with a client, discuss their ideas, and presuppose a model of the perfect solution for this individual challenge. It is my belief and contention that a plethora of information and conversations are required to create an intelligent, articulate, comprehensive plan for any project. To effectively understand the needs of a user, it is important to discover and analyze what is effecting their environment and how they perceive that environment.

Perception of Productive Land-uses

By: Charles Cartwright, Lisa Cutshaw, & Tristan McMannis

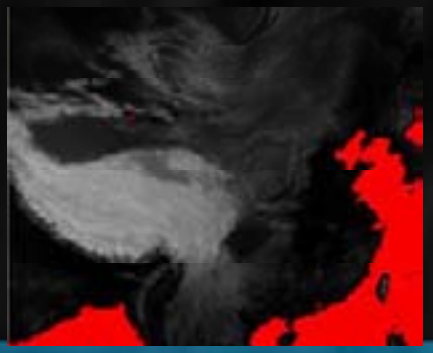
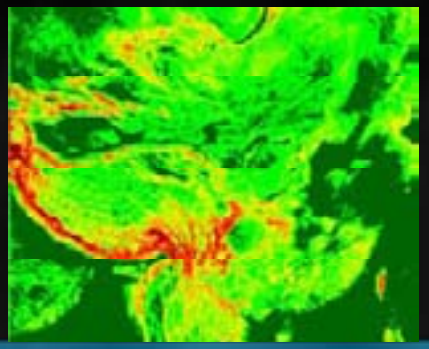
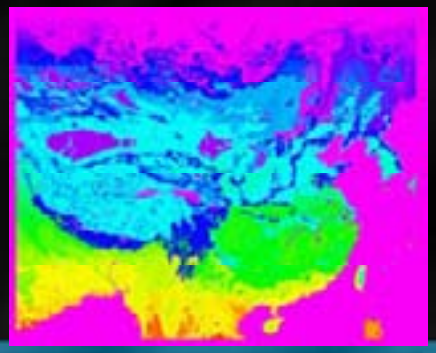
Published and presented at Edra37: Beyond Conflict

The above images are examples of manipulated images from survey #2

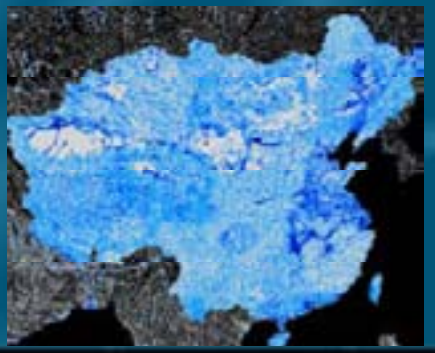
Abstract: This research sought to determine the public perception of productive land uses and the visual characteristics or variables which affect those perceptions. It also sought to test the integration elements utilized in the spring studio such as public participation, signage, presence of art, façade treatment, color, and age. The objective was achieved through the development and administration of two surveys at two different times. The first survey was administered to a) determine possible biases on the part of the participants; b) gauge general perception across the spectrum of productive land use, c) determine a threshold along a gradient of productive land uses whereby one-half are perceived negatively while the others are perceived in a positive manner; and d) determine visual characteristics which may affect

The above images are examples of images from survey #1. The large numbers are the user rankings of preference, 10 Being the highest preference and 1 being the lowest.

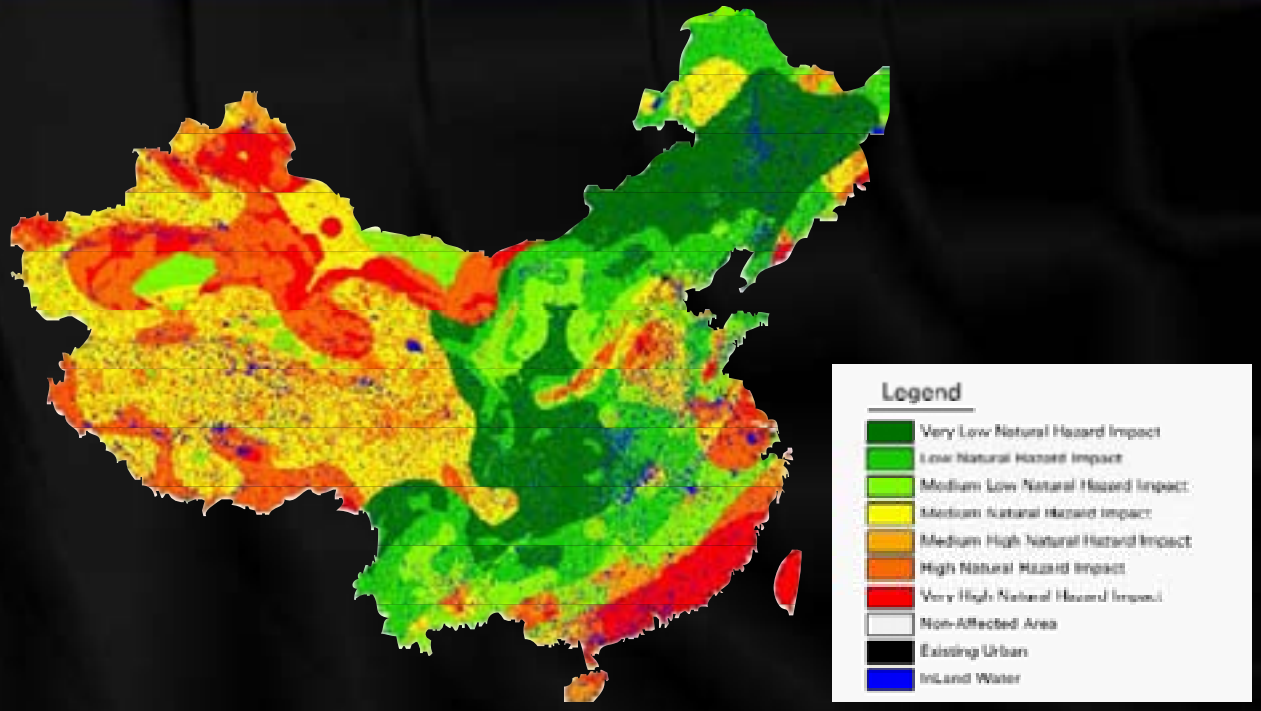
perception, which was to be studied in the second survey. The second survey gauged the affect of certain variables identified by the first survey through research and group consensus on the perception of productive land uses. The results of these surveys were intended to develop design implications/guidelines for future productive land use design. The perceived possible benefits of this research are the improved understanding of productive land use in the design profession, and improving the visual aesthetics of these endeavors which are a cornerstone of our society. The results of our surveys indicated that four categories of productive land uses comprise those productive land uses which are perceived negatively. The categories identified as defined by our study included mining/extraction, power generation, processing/ refinement, and associate power infrastructure or transmission. Another result of our surveys leads to the affirmation of the initial postulate that capitalist endeavors are a valued component of our society. We also determined the affect of: signage (type/amount of info), the presence of art, integration of public use, and surficial treatment of facilities (color, material, and apparent age) on public perception which then led to the proposal of design guidelines for these sites and future research inquiries.

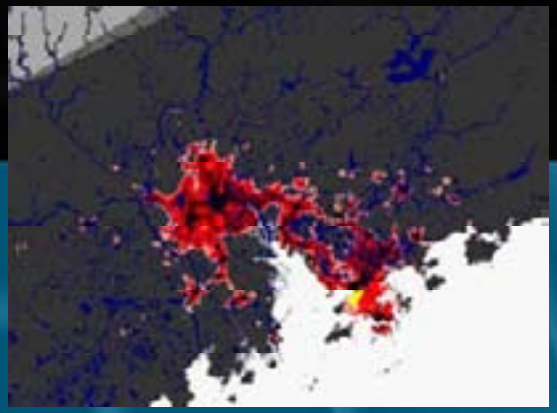

China 2050

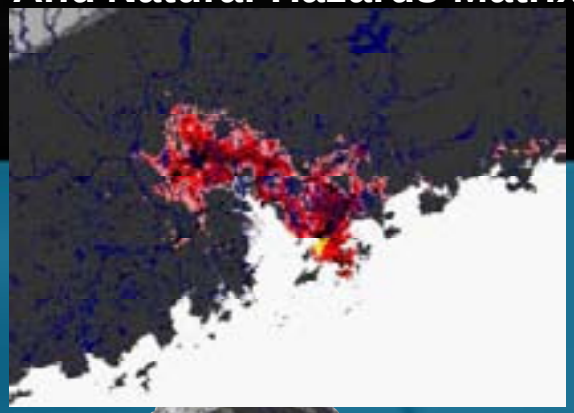
As part of a larger study to define environmental conflict within a growing China, myself and Tristan McMannis created an analysis of natural hazards that threaten civilization in economic loss and loss of life. Categories such as slope failure, monsoons, earthquakes, floods, and drought were examined to determine the areas of highest risk. Above are images representing some of the different categories used to create the final hazards map shown to the right. Each category was weighted based upon the potential frequency and severity of potential damage.



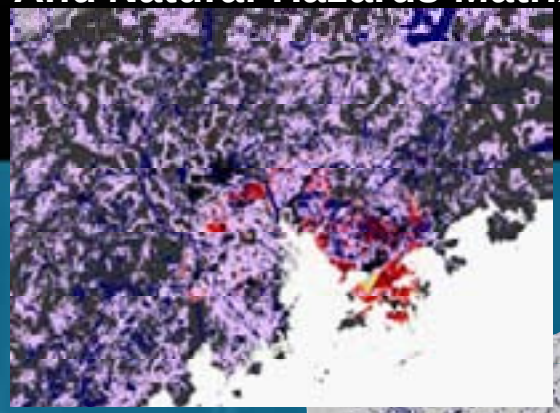
Guangzhou:
“Pure” Development
And Natural Hazards Matrix



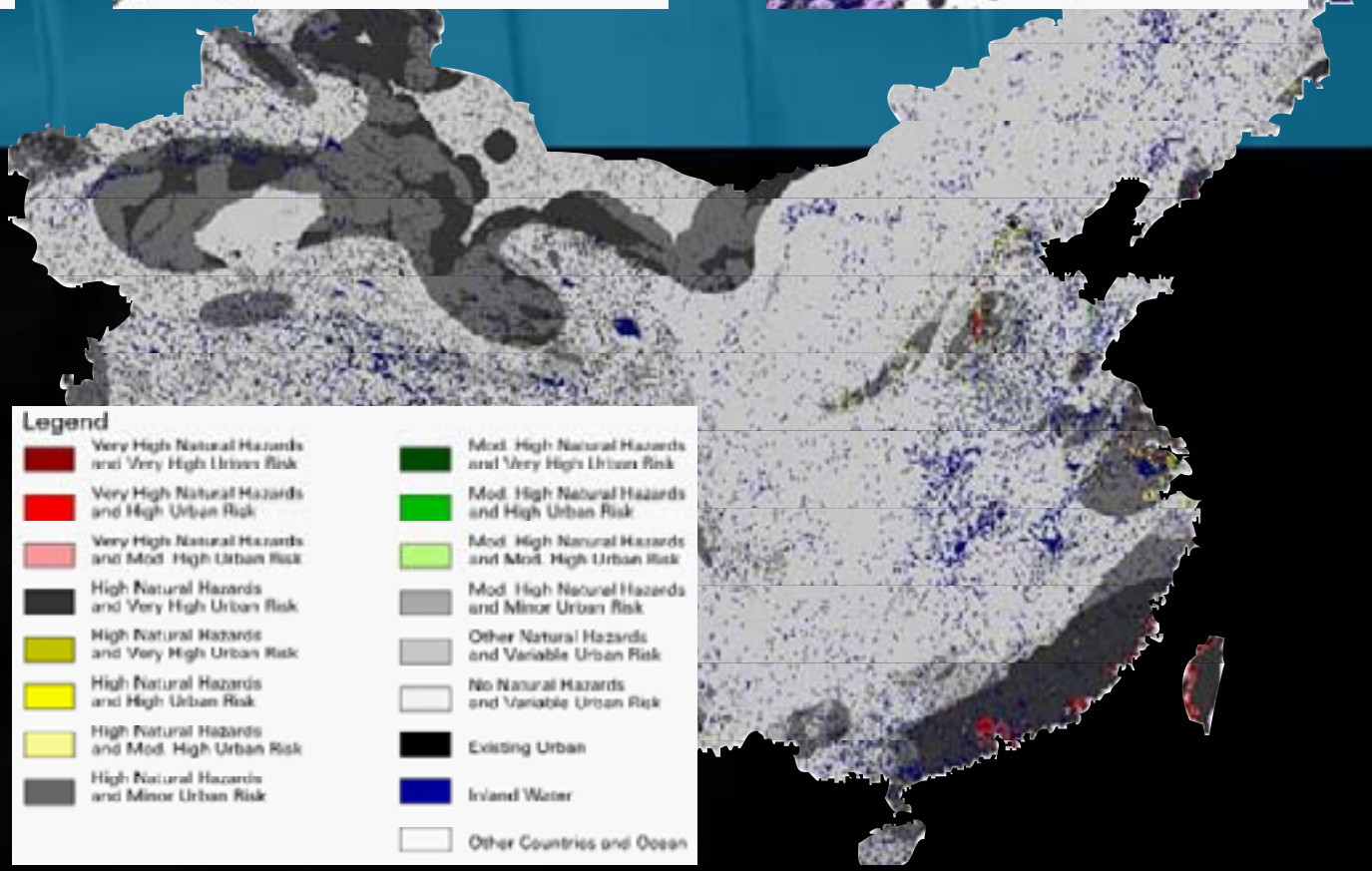
Guangzhou:
Least Cost Roads
And Natural Hazards Matrix



Guangzhou:
“Green” Development
And Natural Hazards Matrix



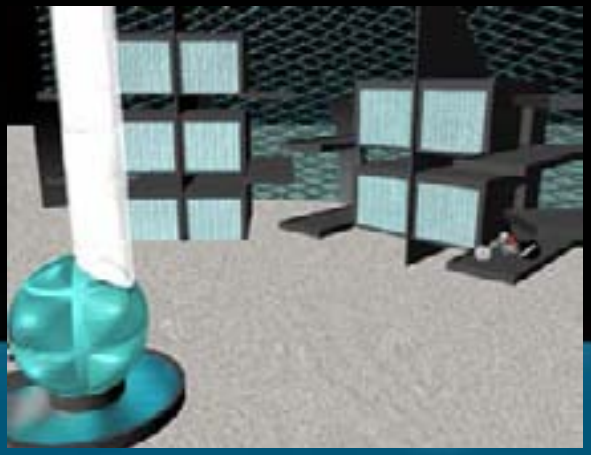
These images are showing the interaction of urban areas and their risk of natural hazards per the location. Above are enlargements of Gaungzhou, which like many of the densely urbanized areas of China, fall within a high risk zone for damage by natural hazards. The final image in the series shows how by protecting areas of intrinsic or “Green” values, the urbanization of a high risk zone could be reduced and redirected to a better suited locations.



Other Research

Immersive Experiential Design

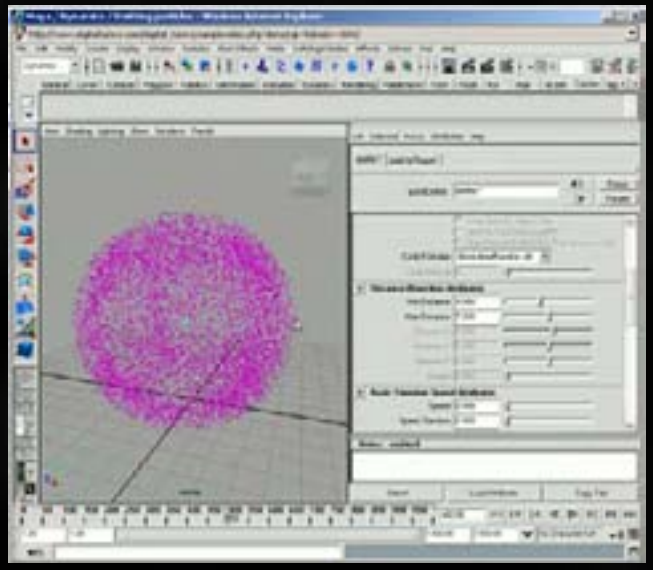
I am currently researching and exploring different technologies that will lead to a new interactive design methodology. The current tradition of computer-aided design is one that has the designer performing input into the digital world while being removed from it by the computer monitor and the lack of any tactile feedback. The range of information gathering at this stage varies from program specific data to virtual reality, visualization systems and into haptic/force feedback devices. As part of this exploration, I am also learning more about current technologies such as video editing/production, computer gaming design, procedural scripting, BIM, advanced GIS, and animation.



Virtools 3D real-time interactive environments

Web & Graphic User Interface Design for multiple users

http://accad.osu.edu/~ccartwri/



Maya Modeling and dynamics for generating landscapes

The Dynamics of Landscape in Video

http://cwright45.blip.tv/

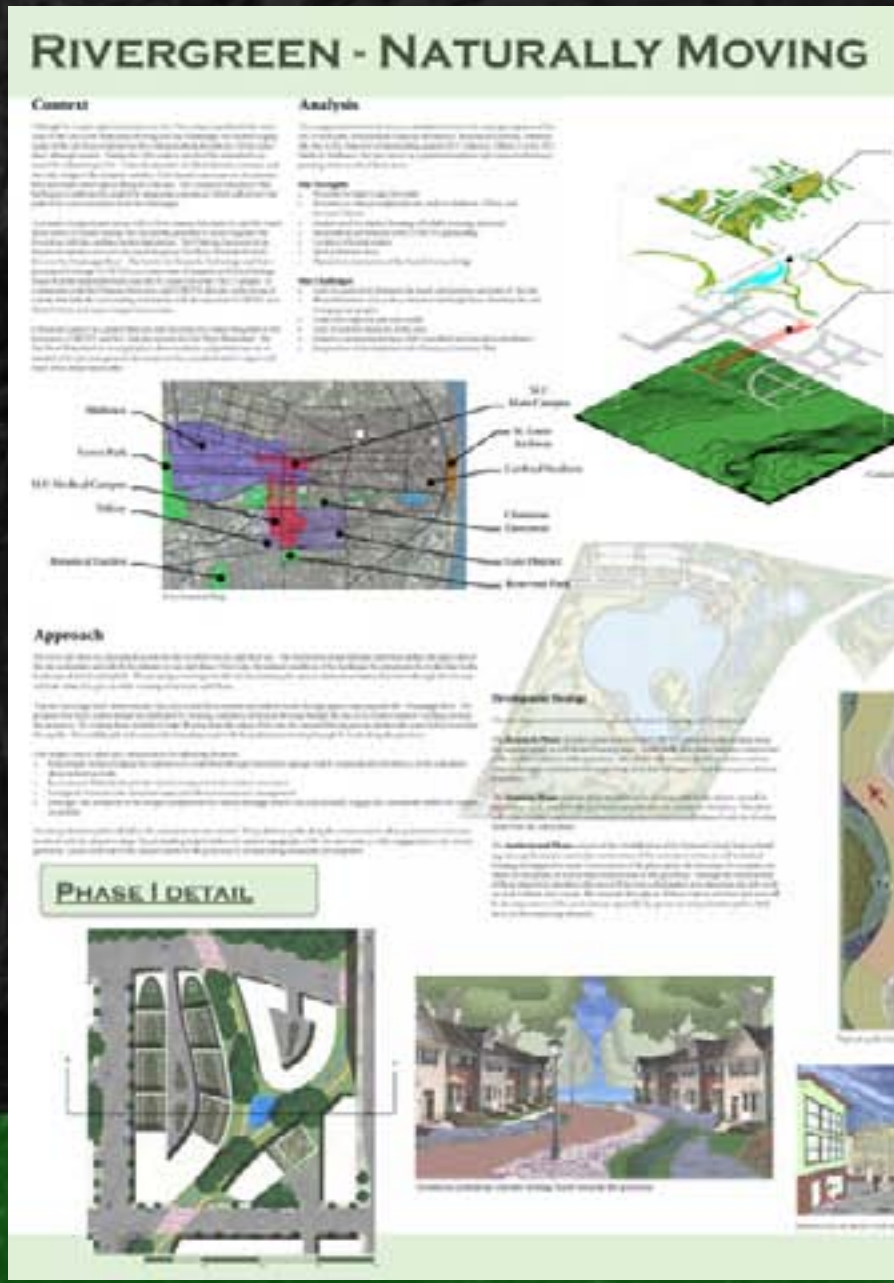
DO SOMETHING. IF IT DOESN'T WORK, DO SOMETHING ELSE. NO IDEA IS TOO CRAZY.

Jim Hightower, The New York Times, March 9, 1986

COMPETITIONS & OTHER WORK

The following project is a piece created by Charles Cartwright, Vincent Mantero, Leigh Anne Wachter, Jacob Cannon, and Jonathan Meister for the ULI Gerald D. Hines Student Urban Design Competition. The design competition is for a group of graduate students who, being of mixed disciplines, create a design for a large site's redevelopment. The focus of the competition is on sustainability, housing, environment, place making, fiscal responsibility, and development strategies. It is a ten day competition which was judge at the local and then national level. This was the winning local design.

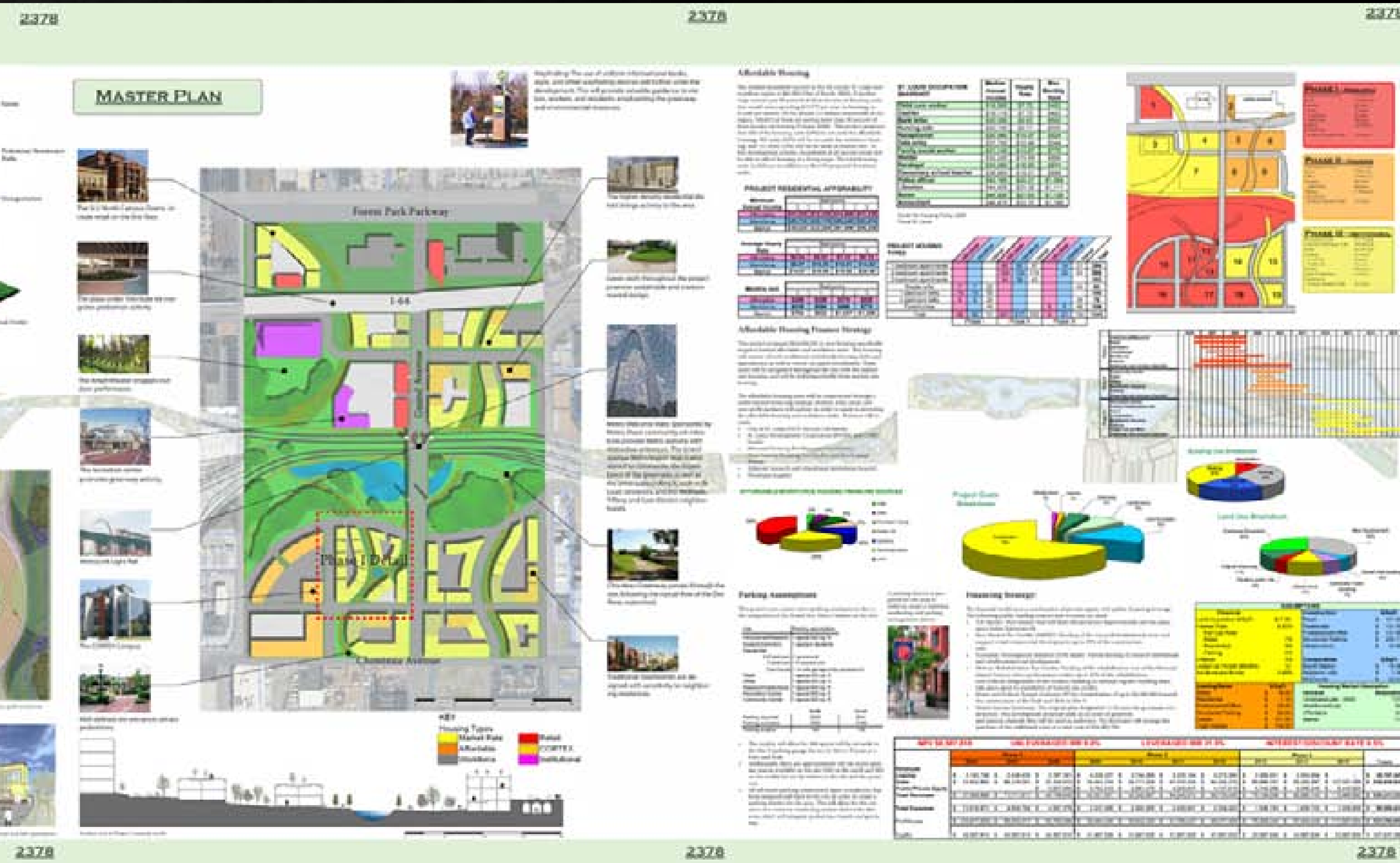
The Project is located in west central St. Louis. The goal was to tie several different areas of urban space together across a transportation corridor for freight trains. In our design we proposed turning the freight corridor into a mixed-use greenway to make our site a nexus of activity for the area. Since the site is flanked by a university, hospital and industry, it is important re-initialize a strong connectivity to the downtown. This site would then become a hub of housing and entertainment serving the surrounding areas. This 3 phase development would have 35% newly built works and increase to 25% of the site as greenways. Overall, the predicted completion date was in 2015, 10 years after ground breaking for $630 million dollars, with an unleveraged internal rate of return at 9%

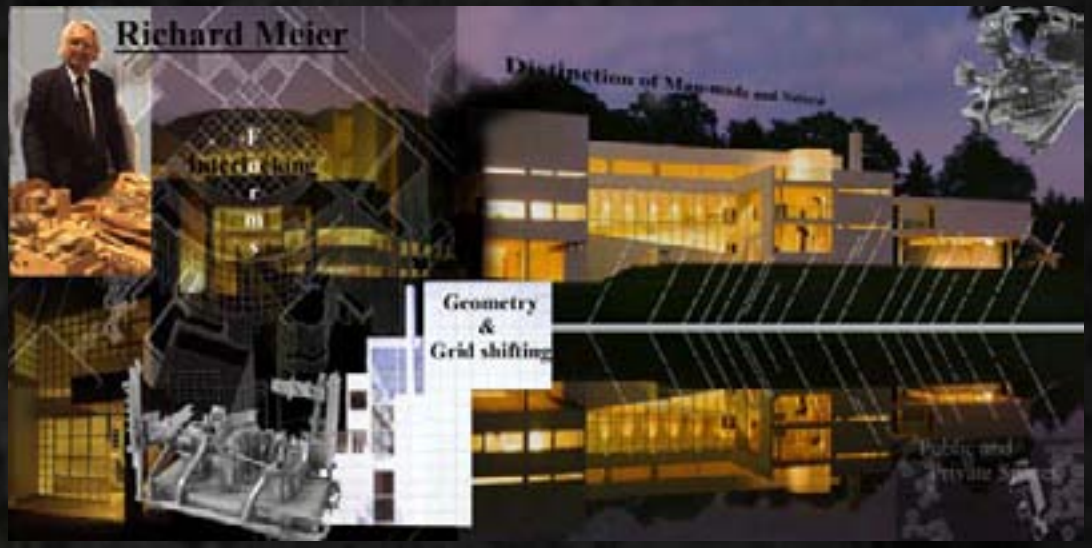


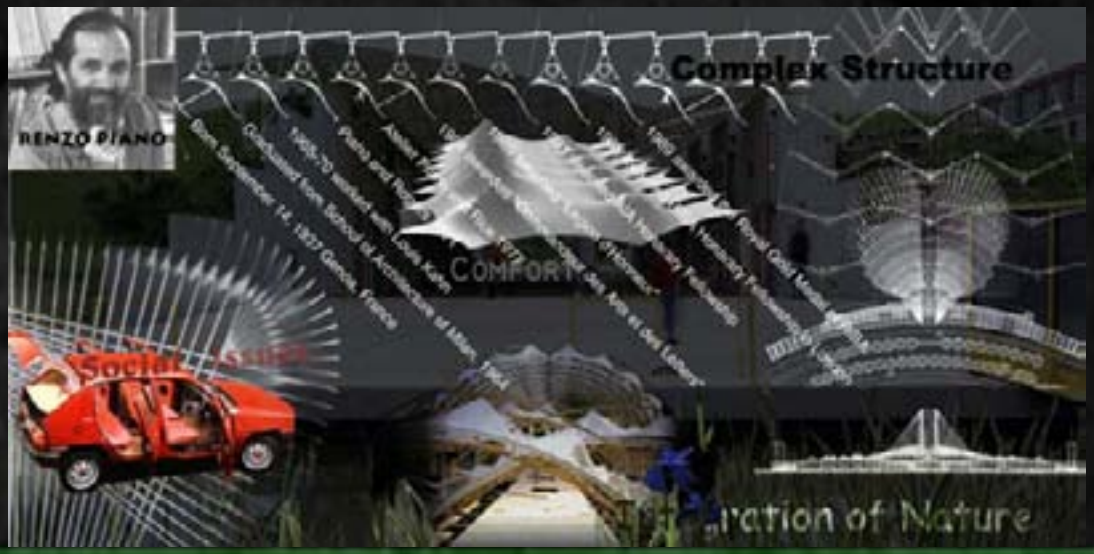
RiverGreen

RiverGreen

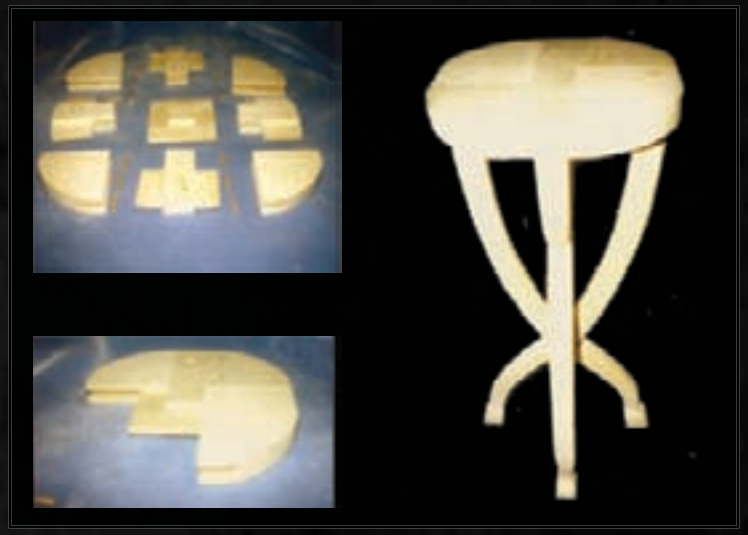
RiverGreen


2378
MASTER PLAN
Forest Park Parkway
I-64
Phase I Detail
Chouteau Avenue
KEY
Housing Types
Market Rate
Affordable
Workforce
Retail
CORTEX
Institutional
Affordable Housing
Affordable Housing Finance Strategy
Parking Assumptions
Financing Strategy





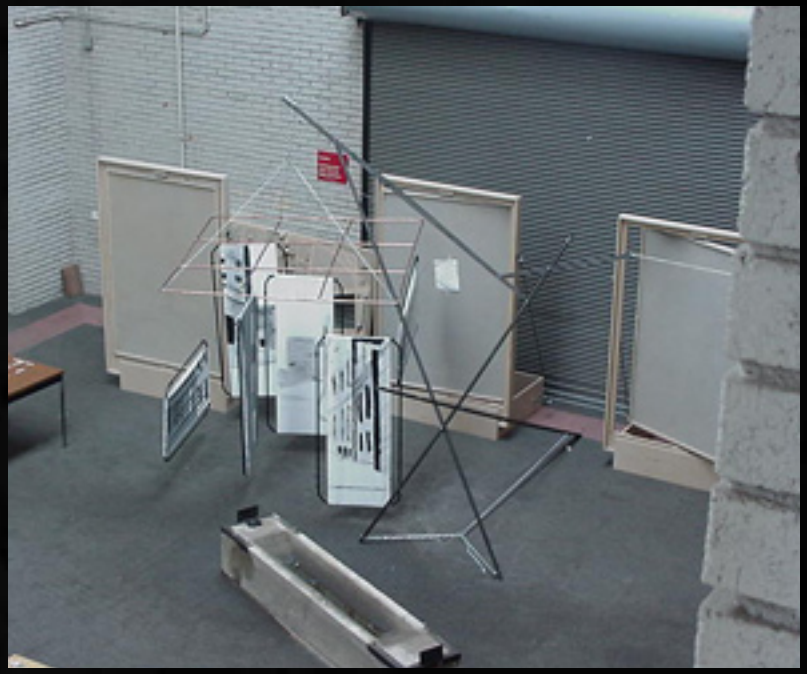
Influences in Wood & Metal:
An understanding of complexity from simplicity

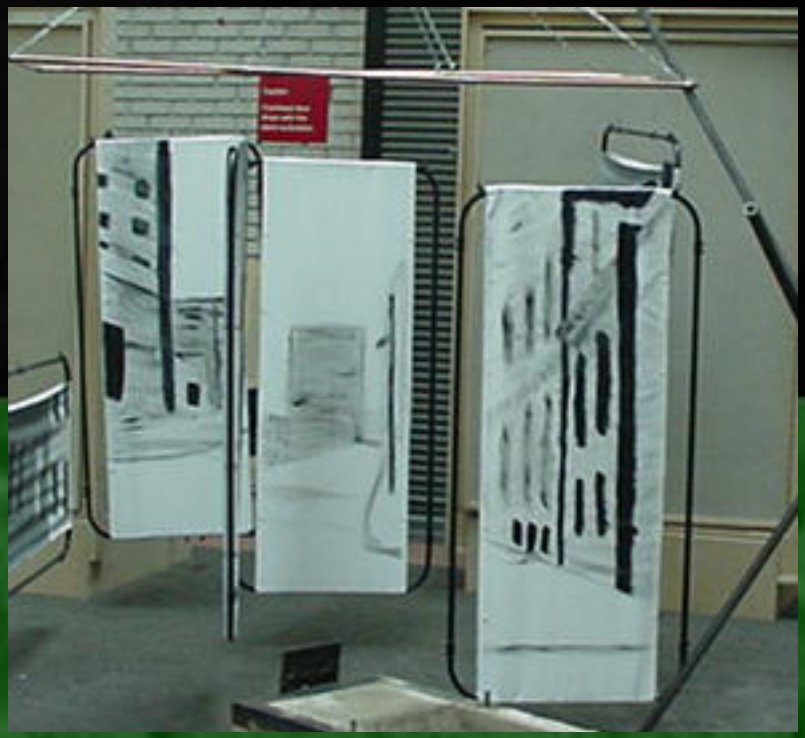


Top Above :
A fabrication project designed to explore complex joinery
Left:
A tensile structure seat made from bent piping and fabric
Far Left:
Graphic designs meant to quickly disseminate information about a lead figure in architecture covering his works, ideology, and design style.

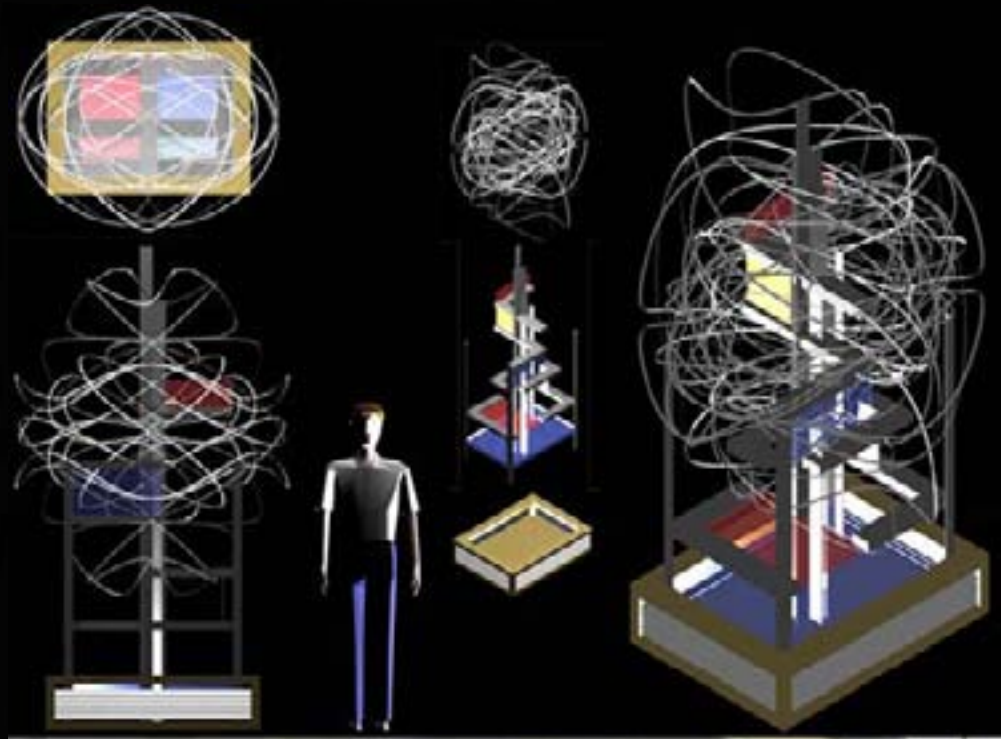
Other Works

Other Works
Other Works





The new “Urban Tree” is a set of explorations into the fabrication of a multiuse structure making analogies to the current vertical elements of the city; antenna, flag & telephone poles, street lamps, etc....



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- Sean O'Faolain (1900 - 1991) writer

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