



Yangzhou is a historic city in Jiangsu province, China, located at the intersection of the Yangtze River and the Beijing-Hangzhou Grand Canal. The city has a rich cultural and architectural heritage, including many well-preserved gardens, temples, and historic buildings. The Yangzhou Canal is an integral part of the city's history and identity, having been a major transportation route since ancient times. The canal spans over 170 kilometers and connects Yangzhou to other major cities in the region.

However, despite its historical and cultural significance, the Yangzhou Canal has been subjected to decades of pollution and environmental degradation. Industries located along the canal have dumped large amounts of acid and other pollutants into the water, leading to severe water quality issues and ecological damage. The pollution has also had significant impacts on public health, with many residents suffering from waterborne diseases and other health problems.

In recent years, there has been a concerted effort to mitigate the pollution in the Yangzhou Canal and restore its ecological health. This has involved a range of measures, including the installation of wastewater treatment facilities, the closure of polluting industries, and the implementation of strict regulations on industrial and agricultural practices. In addition, there have been efforts to raise public awareness about the importance of preserving the canal and the need for sustainable development in the region.

CONCEPT: AGRI-TOURISM

This agri-tourism design concept revolves around showcasing and promoting sustainable production field methods to visitors. Our goal is to provide an immersive experience that highlights the importance of environmental preservation, while also allowing guests to witness the methods and processes that lead to sustainable food and product production.

Through our design, we aim to create a connection between visitors and the natural environment by providing hands-on experiences and education about sustainable practices. We believe that by showcasing these methods, visitors will gain a greater appreciation for the environment and be inspired to incorporate sustainable practices into their daily lives.

Our design concept includes features such as guided tours, workshops, and interactive exhibits that highlight the various stages of sustainable production, from planting and harvesting to processing and packaging. We also prioritize the use of renewable energy sources, such as solar and wind power, and encourage the use of environmentally-friendly transportation methods for visitors.



DESIGN INTENT

REGENERATIVE OBJECTIVES



Design strategies for sustainable living, including the use of renewable energy, water conservation, and waste reduction, to create a more sustainable and resilient community.



Design strategies for renewable energy, including the use of solar, wind, and hydro power, to create a more sustainable and resilient community.



Design strategies for water conservation, including the use of rainwater harvesting, greywater recycling, and xeriscaping, to create a more sustainable and resilient community.



Design strategies for carbon footprint reduction, including the use of low-carbon materials, energy-efficient buildings, and sustainable transportation, to create a more sustainable and resilient community.



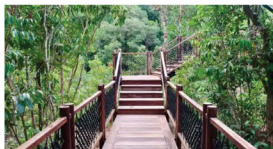
Design strategies for community and social responsibility, including the creation of public spaces, community gardens, and social enterprises, to create a more sustainable and resilient community.

CASE STUDIES

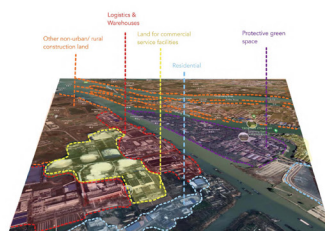
Kampong Sella, Cambodia | SHINTA MINA WILD RESORT



Son La, Vietnam | MOC CHAU DAIRY COMPLEX



SITE ANALYSIS LAND USE MAPS



PROGRAMMING OF SURROUNDING AREAS NEAR AGRI FIELDS



CURRENT LAND USE MAP OF AREAS NEAR AGRI FIELDS



FUTURE LAND USE MAP SURROUNDING AREAS NEAR AGRI FIELDS

GRAND CANAL 揚州 YANGZHOU

Cultivate! Restorative Eco-Lodge Resort An immersive agricultural experience on the Grand Canal



MASTER PLAN



legend

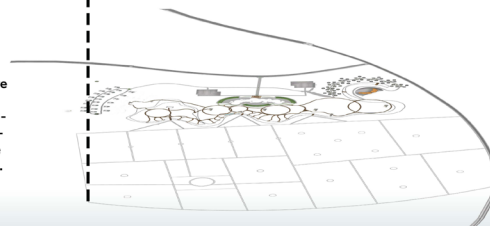
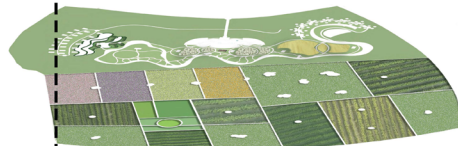
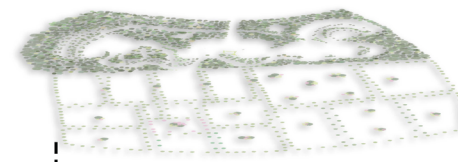
- 1-entrance
- 2-check-in
- 3-green roof hotel
- 4-open-air bungalows
- 5-cotton production fields
- 6-barley production fields
- 7-rice paddy villas
- 8- eco-dome camping site + rec. area
- 9-rock meditation garden
- 10 u-pick agri-fields
- 11- west end parking
- 12- east end parking

vegetation - When designing a regenerated sub-tropical forest, it is essential to choose a diverse range of tree species to create a balanced ecosystem. Other species that may be included in such a forest could include the eucalyptus tree, the acacia tree, and the mahogany tree, among others. By carefully selecting and planting a diverse range of species, a regenerated sub-tropical forest can provide a range of ecological, social, and economic benefits to local communities .

water- Creating a man-made river with a water collection and filtration system can provide numerous benefits to a resort design, particularly in mitigating polluted water. One major advantage is the opportunity to restore degraded waterways or create new aquatic habitats that can support a range of plant and animal species. This can enhance the resort's aesthetic appeal and create unique recreational opportunities for guests, such as kayaking, fishing, or swimming. In addition, a well-designed water collection and filtration system can help to mitigate polluted water sources by filtering out contaminants and pollutants, thereby improving the quality of the water. A man-made river can also serve as a sustainable water source for irrigation or other uses, reducing the resort's reliance on traditional water sources and promoting conservation.

regenerative land-uses- Poor soil can be challenging to work with, but there are several choices that can be made to mitigate the issue. One solution is to use cover crops, such as legumes, that can help fix nitrogen in the soil and improve soil structure. Another option is to use compost or other organic fertilizers to replenish the soil's nutrients. In addition, crop rotation can be used to reduce soil erosion and help improve soil fertility. The use of agroforestry practices, such as planting trees alongside crops, can also improve soil quality and provide additional environmental benefits, such as carbon sequestration. Ultimately, regenerative land use choices that focus on poor soil mitigation can help to restore degraded land, promote sustainable agriculture, and support local communities.

circulation- Circulation decisions in the design of an eco-resort are essential as they determine how people move through and interact with the resort's spaces. Effective circulation design can contribute to the overall guest experience, provide accessibility, ensure safety, and promote sustainable practices. Factors that influence circulation decisions in an eco-resort include the resort's location, topography, climate, and sustainability goals. For instance, paths may be designed to follow natural contours, minimizing the impact on the environment, while allowing guests to enjoy the natural beauty of the site. Ultimately, the goal of circulation decisions in an eco-resort is to provide an enjoyable, safe, and sustainable guest experience that integrates with the natural environment.



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An immersive agricultural experience on the Grand Canal



PLANT PALETTE FOR CULTIVATION + SITE PLANTINGS



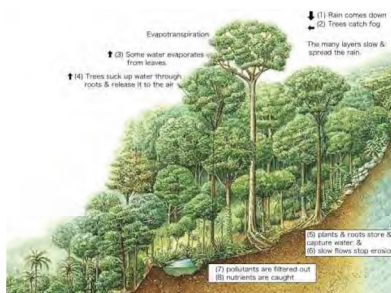
Hardiness zone	
below -45.5	below -50
-45.5 to -40.0	-50 to -40
-40.0 to -34.5	-40 to -30
-34.5 to -28.9	-30 to -20
-28.9 to -23.4	-20 to -10
-23.4 to -17.8	-10 to 0
-17.8 to -12.3	0 to 10
-12.3 to -6.7	10 to 20
-6.7 to -1.1	20 to 30
-1.1 to 4.4	30 to 40
4.5 and above	40 and above
Mean annual minimum temperature (°C)	Mean annual minimum temperature (°F)
0 10 20 30 40 50	32 50 68 86 104 122
Isobars: 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300, 2350, 2400, 2450, 2500, 2550, 2600, 2650, 2700, 2750, 2800, 2850, 2900, 2950, 3000, 3050, 3100, 3150, 3200, 3250, 3300, 3350, 3400, 3450, 3500, 3550, 3600, 3650, 3700, 3750, 3800, 3850, 3900, 3950, 4000, 4050, 4100, 4150, 4200, 4250, 4300, 4350, 4400, 4450, 4500, 4550, 4600, 4650, 4700, 4750, 4800, 4850, 4900, 4950, 5000, 5050, 5100, 5150, 5200, 5250, 5300, 5350, 5400, 5450, 5500, 5550, 5600, 5650, 5700, 5750, 5800, 5850, 5900, 5950, 6000, 6050, 6100, 6150, 6200, 6250, 6300, 6350, 6400, 6450, 6500, 6550, 6600, 6650, 6700, 6750, 6800, 6850, 6900, 6950, 7000, 7050, 7100, 7150, 7200, 7250, 7300, 7350, 7400, 7450, 7500, 7550, 7600, 7650, 7700, 7750, 7800, 7850, 7900, 7950, 8000, 8050, 8100, 8150, 8200, 8250, 8300, 8350, 8400, 8450, 8500, 8550, 8600, 8650, 8700, 8750, 8800, 8850, 8900, 8950, 9000, 9050, 9100, 9150, 9200, 9250, 9300, 9350, 9400, 9450, 9500, 9550, 9600, 9650, 9700, 9750, 9800, 9850, 9900, 9950, 10000	

sub-tropical forest:

A subtropical forest is a type of forest that is characterized by high levels of rainfall and temperatures that remain relatively warm throughout the year. These forests are found in regions that are situated between the tropics and temperate zones and are often characterized by a diverse range of plant and animal species.

In order to thrive, subtropical forests require a healthy ecosystem that supports a range of plant and animal life. This includes healthy soil, adequate water resources, and protection from human encroachment and habitat destruction. However, many subtropical forests around the world have been degraded or destroyed due to human activities such as deforestation, pollution, and urbanization.

A regenerative design can help to reconnect people back to nature by restoring and preserving the natural systems and processes that support a healthy ecosystem. This can involve a range of strategies, such as restoring degraded land, promoting sustainable land use practices, and protecting wildlife habitats.



regenerative sub-tropical palette

herbs:

lavender
oregano
sage
rosemary

flowers:

abelia,
evergreen daylilies,
lantana,
mexican petunia,
deciduous:
asters
peonies
perennial varieties:
dahlias
deciduous daylilies
canna lilies
hardy geraniums,
hibiscus,
salvia, and
yarrow
coneflowers
hydrangeas

fruits:

blackberries,
blueberries,
cantaloupe,
grapes,
watermelon

trees:

american persimmon
crape myrtle
cypress
dogwood
fig
juniper
oak
queen palm
southern magnolia
bamboo

vegetables:

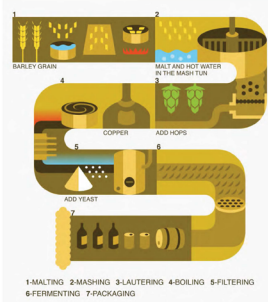
beans
beets
brussels sprouts
cabbage
carrots
cauliflower
corn
cucumber,
kale
lettuce
onions
squash
tomatoes

production fields:

cotton
barley
rice

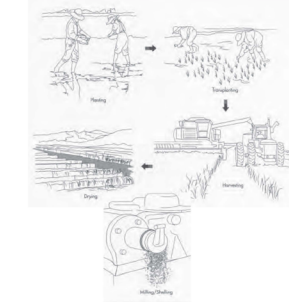


PRODUCTION FIELD METHODS



barley production: The process typically begins with selecting the right variety of barley for the specific growing region and climate. Once planted, the barley crop requires regular watering, fertilization, and pest management to ensure optimal growth and yield. When the barley has matured, it is harvested and cleaned, and then sent to a malting facility where it is steeped in water to initiate germination. This process activates the enzymes in the barley that will be needed later to convert the starch into sugars for the malted beverage.

After germination, the barley is dried and roasted to stop the germination process and create the desired flavor and color profile for the malted beverage. The resulting malt is then sent to the brewery or distillery, where it is mixed with water and other ingredients to create a range of different malted beverages, such as beer, whiskey, and malted milkshakes.



rice paddy production: This method of cultivation has been used for thousands of years and is especially common in parts of Asia, such as China, Japan, and India. Rice is a staple food for millions of people around the world, and rice paddies are an important source of income and food security for many rural communities.

There are several benefits to rice paddy cultivation. One of the main advantages is that it can help to conserve water resources by reducing the amount of water needed for irrigation. The flooded paddies provide a natural source of water, which can be replenished through rainfall, and the water is then recycled through the soil, reducing the need for additional irrigation.

Rice paddies also promote biodiversity, as the flooded fields provide habitat for a range of aquatic and terrestrial species. In addition, the cultivation of rice paddies can help to prevent soil erosion and improve soil fertility, as the flooded fields help to reduce the impact of heavy rainfall and retain nutrients in the soil.



farm to fork: Farm to fork is a concept that involves the direct connection between food producers and consumers. In this model, food is grown, processed, and distributed locally, with minimal intermediaries between the farmer and the consumer. The benefits of farm to fork are numerous, and they range from health and environmental benefits to economic and social benefits.

Overall, the benefits of farm to fork are numerous and far-reaching. From promoting healthier eating habits and sustainable growing practices to supporting local economies and communities, farm to fork systems offer a range of benefits that can help to create a more sustainable and equitable food system.

GRAND CANAL 揚州 YANGZHOU

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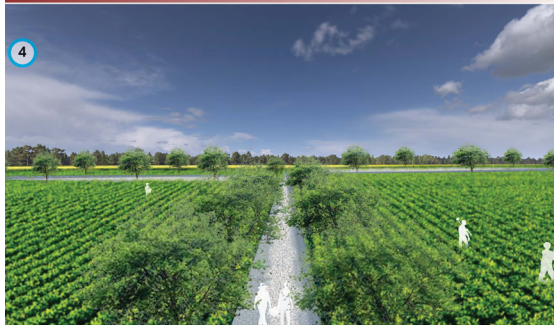
ZOOM IN 1: ENTRANCE, GREEN ROOF HOTEL + OPEN-AIR BUNGALOWS



ENTRANCE



U-PICK FIELDS



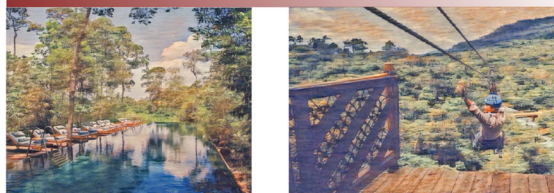
COTTON PRODUCTION ON-SITE



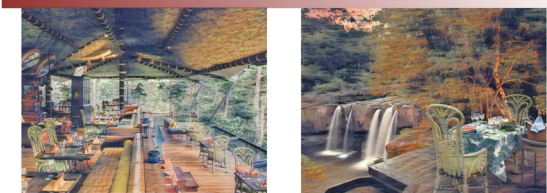
JADE RIVER BUNGALOWS



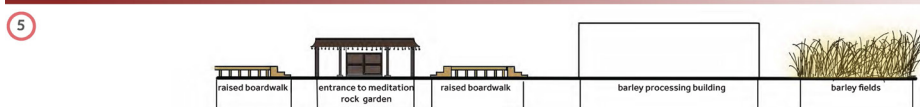
OUTDOOR ACTIVITIES



INDOOR/OUTDOOR DINING



MEDITATION ROCK GARDEN SECTION



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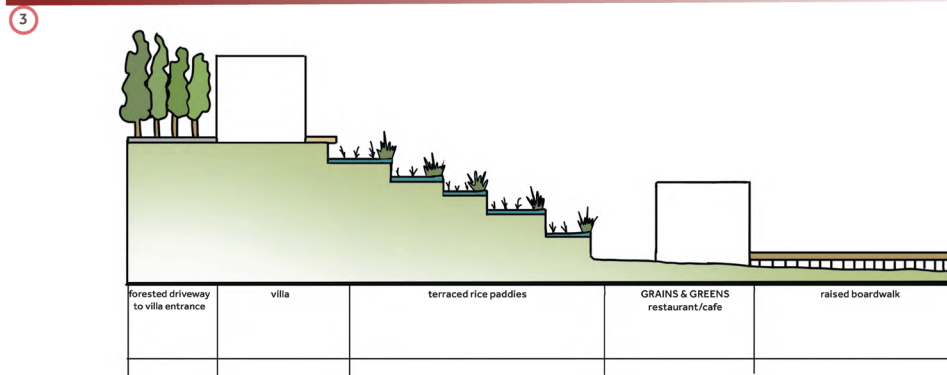
ZOOM IN 2: ECO-SPHERE CAMPING SITE + AMENITIES



ZOOM 3: HARVEST HEIGHTS VILLAS + RICE PADDIES



RICE PADDY VILLA SECTION



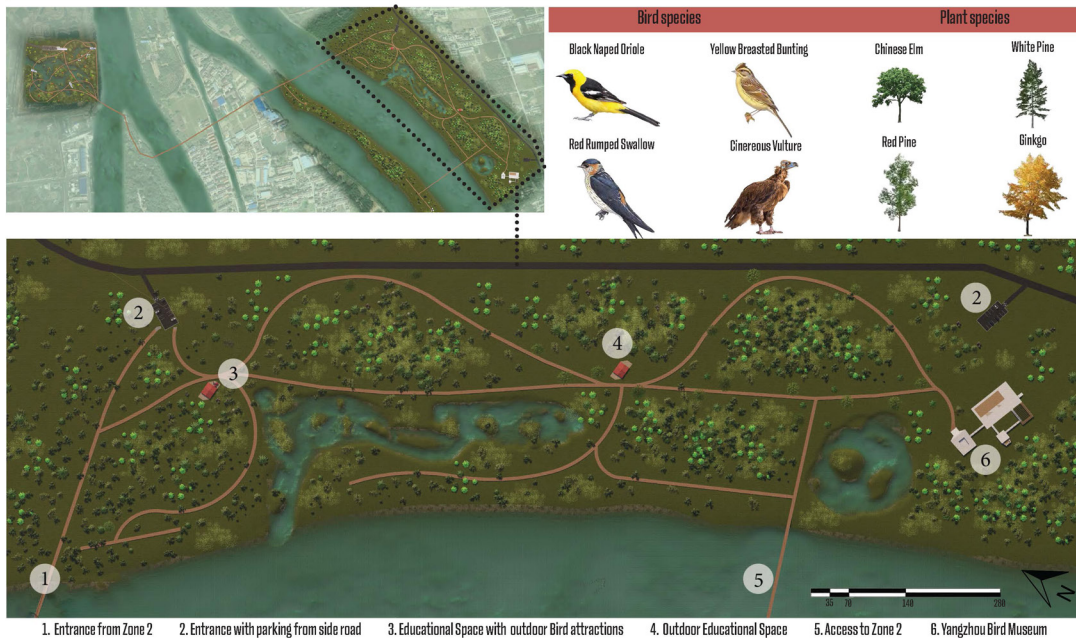
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Habitat Restoration

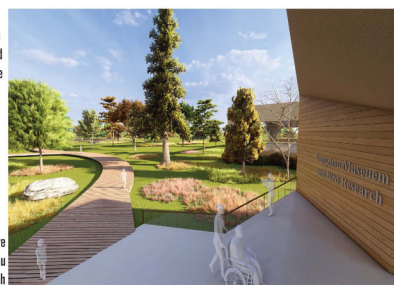
A Regenerative Bird Sanctuary and
Biodiversity Educational park Along the Grand Canal

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Zone 3: Educational Space and Museum



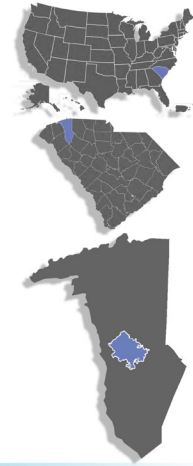
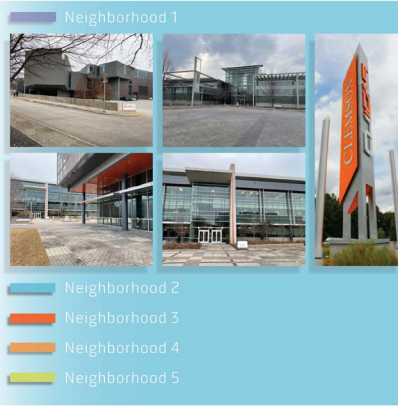
Perspective A: The perspective shown to the left is of an outdoor bird space meant for bird handlers to show off trained birds. A great place to bring a class and give educational lectures.



Perspective B: The perspective shown to the right is of the Yangzhou Museum and Bird Research



Perspective C: The perspective shown above is of the covered classroom space. This is a great event space for guests and teachers, along with a great backdrop view of the Grand Canal.



EXISTING CONDITIONS

NATURAL SYSTEMS

BUILDING PROGRAM

AXONOMETRIC DIAGRAM (PROPOSED)

LAND USE DIAGRAM

BUILDING PROGRAM DIAGRAM

COMMUNITY ENGAGEMENT

LIKES

- OPEN SPACE AND PLACES TO SIT
- LOCATIONS FOR EATING
- NATURAL BEAUTY OF THE LAUREL CREEK
- WALKING TRAIL
- GREEN ROOF



DISLIKES

- LARGE, UNUSED PLOTS OF OPEN, BARREN SPACE
- LACK OF TRAILS AND PLACES TO WALK
- GREEN ROOF IS UNUSED AND IS NOT PUBLICIZED
- NOISE POLLUTION
- LACK OF BOTANICAL GARDEN

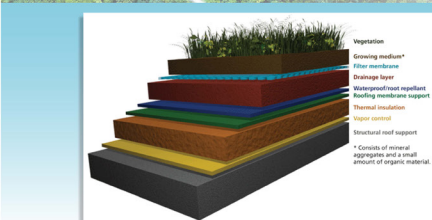


MASTER PLAN

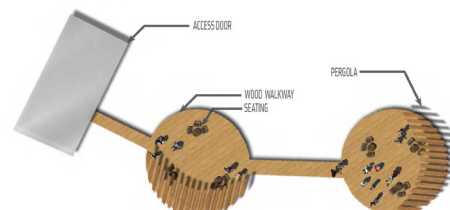
CORE CONNECTION PARK



GREENROOF



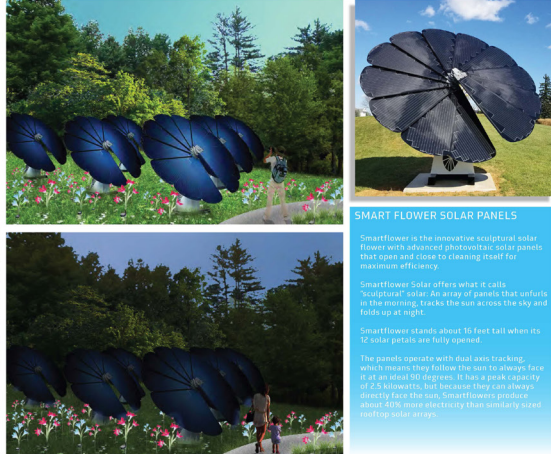
LOCATION ON SITE



SWAMP RABBIT PLAZA



SMART FLOWER PERSPECTIVES



TRAIL PERSPECTIVE



TERRACE PERSPECTIVE & SECTIONS



MOBILITY



AUTONOMOUS CAR STATION



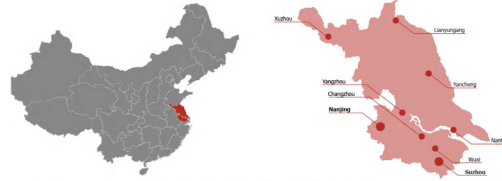
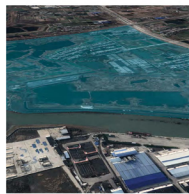


SITE INTRODUCTION

This is a scenic site located in the city of Yangzhou, China. This unique area encompasses a unique integration of agriculture, wetlands, and residential areas, providing a glimpse into the city's rich culture and natural heritage.

The canal has been a vital part of Yangzhou's economy serving as a hub for transportation of goods. The surrounding agriculture land has supported the city's ag-based economy with crops such as, rice, wheat, and soybeans. The wetlands provide an important habitat for wildlife and also serve as flood control systems.

In addition to the natural attractions, the rich culture and heritage is showcased very strongly throughout the neighborhoods, with markets and other small businesses.



1 The Grand Canal

The Grand Canal is one of the world's longest manmade waterways. Running over 1,100mi.

Was originally created to transport goods and troops throughout the Sui Dynasty empire.

The canal has played a vital role in the city's development as a major hub for trade and transportation of goods, such as, silk, tea, and rice. Today, visitors of the canal can see remnants of the ancient canal system, including stone bridges, water gates, and old warehouses.



2 Wetlands

Wetlands are an essential aspect of Yangzhou's ecosystem. They play a huge role in supporting biodiversity and regulating the local climate.

With the city being located at the intersection of the Yangtze River and the Grand Canal, it provides a unique environment for wetlands to thrive.

The wetlands in Yangzhou are being threatened by urbanization and pollution. With efforts being made to protect these wetlands and the wildlife that thrives inside these ecosystems.



3 Residential

Residential areas are an integral part of the city's social and cultural fabric. They provide homes and serve as centers of community life.

These areas are usually characterized by a mixture of traditional and modern architecture, with high-rise apartments, townhomes, and courtyard style multifamily complexes.

Most residential areas have small shops and businesses throughout which provide rich and unique culture to the city and neighborhoods themselves.



4 Agriculture

Agriculture has played a major role in the economy and culture of Yangzhou. The location of the city making it a natural hub for transportation of agricultural products to markets throughout China and beyond.

The fertile land in and around the city has made the location ideal for growing items such as, rice, wheat, soybeans, and vegetables.

Agriculture still plays a major role in the culture and economy of the city.



- Protecting and restoring the existing natural wetlands.
- Protecting/revitalizing the water's edge of the grand canal.
- Creating new forms of wetlands.
- Protecting natural wildlife and creating new bio



ENVIRONMENTAL RESPONSIBILITY

CULTURAL VITALITY

ECONOMIC HEALTH

- Creating a new resort to attract tourist in to Yangzhou.
- Creating jobs for residents in the city of Yangzhou, leading to increased income and economic growth.
- Local sourcing of foods, products, and services



- Promoting local culture through foods, design, tours, and performances.
- Supporting local artist and artisans to help provide entertainment and foods for the resort itself.
- Cultural exchange, the resort can facilitate between visitors and local communities with immersive experiences about beliefs, customs, and ways of life.



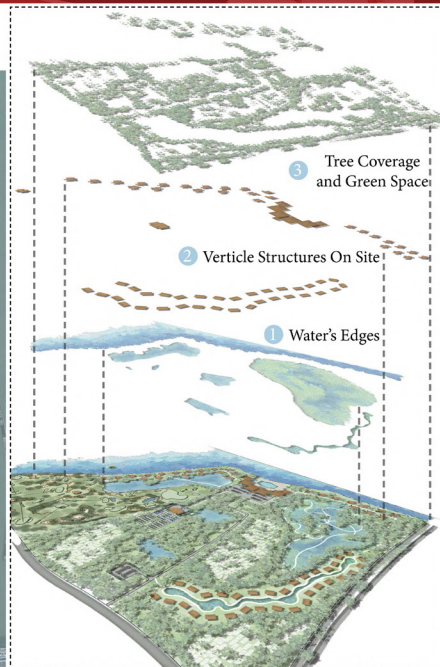
Design Statement

A sustainable and eco-friendly oasis on the Grand Canal, designed to seamlessly integrate with the natural environment. From our various lodging styles including waterfront villas, tree house villas, and the grand canal suites hotel, to our par 3 golf course, Marsh Walk, and other on-site amenities, we prioritize both luxury and sustainability. Our lush plantings and constructed wetlands provide a habitat for a variety of wildlife, while our waste bunker areas and use of natural grasses help maintain the delicate balance of the ecosystem. We aim to provide a unique and immersive experience for our guests, allowing them to connect with nature and gain a deeper understanding of the environment.

- Infrastructure development surrounding the resort, adding roads, utilities, and transportation all leading towards increasing infrastructure.
- Environmental preservation which attracts more visitors to the area which in return would add more revenue flowing into the economy of Yangzhou.
- Economic diversification.



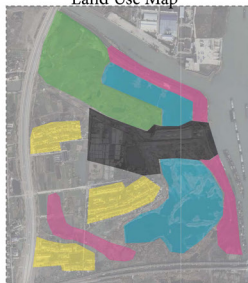
DESIGN INTRODUCTION



Legend

- 1 The Sandbox Short Course
- 2 North Side Water's Edge Villas
- 3 Racquet Park
- 4 Grand Canal Suites Hotel
- 5 Resort Guest Parking
- 6 Existing Buffered Residential
- 7 Marsh Walk
- 8 South Side Water's Edge Villas
- 9 Tree House Villas

Land Use Map



- Ex. Residential
- Resort Lodging
- Resort Hotel
- Wetland
- Golf Course

PRECEDENT INSPIRATION



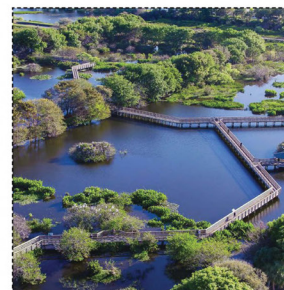
The Cradle at Pinehurst, NC
-Large natural waste bunker areas.

- Open fairways "one cut" throughout course.
- Lots of undulation throughout fairways and greens.



Kiawah Island Resort, SC
-Golf resort on water's edge.

- Known for sustainable golf course designs.
- Different styles of lodging on same resort.
- Hotel arrangement focusing out onto the water.



Wakodahatchee Nature Wetland, FL

- Long winding raised boardwalks.
- Created over a natural existing wetland.
- Enhancing the natural space to create a better environment for native species of animals.

GRAND CANAL 揚州 YANGZHOU

YANGZHOU WATERFRONT RETREAT: BRIDGING NATURE AND LUXURY

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Patrick Gregory
Dr. Nassar
Urban Design
Spring 2023

THE SANDBOX SHORT COURSE

Legend

- ① Comfort Station
- ② Waste Bunker
- ③ Existing Pond
- ④ North Side Water's Edge Villas
- ⑤ The Grand Canal
- ⑥ Fairway
- ⑦ Green
- ⑧ Bunker
- ⑨ Tee Box



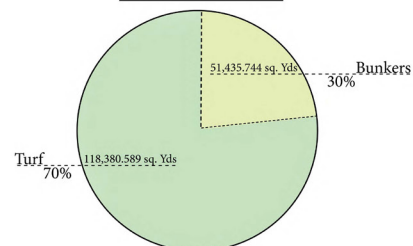
The Sandbox is a 10 hole Par 3 short course. The course is a walking-only experience that is designed to provide a challenging yet sustainable golfing experience for players of all skill levels. The course is designed with sustainability in mind, featuring waste bunker areas filled with natural grasses and bio islands that provide habitats for various species of birds and other wildlife.

As you make your way through the course, you'll encounter stunning views of the Grand Canal and the surrounding natural landscapes, all while being immersed in the sights and sound of local flora and fauna.

So whether you're a seasoned golfer looking for a new challenge or just starting out, our 10-hole short course is the perfect way to experience the beauty and sustainability of our eco resort in Yangzhou.



Turf to Bunker Ratio



Having waste bunkers are important for the sustainability aspect. Using natural grasses and plant species that require less maintenance an irrigation. Reduces overall water usage and maintenance cost. The waste bunker areas also promote biodiversity and support the natural ecosystems. Additionally, the waste bunkers are able to add strategy for the user and make the course more difficult for players.



Common Kingfisher



Chinese Pond Heron



Damselfly



Chinese Peacock Butterfly



Bermuda:
Warm season grass, known for durability and able to withstand heavy foot traffic. Drought-resistant and able to grow in different soils. Used on greens and tees.



Zoysia:
Warm season grass that is well suited in hot humid climate. Drought-resistant and can thrive in variety of soils. Low maintenance and can be mowed at very low heights. Used for fairways.



GRAND CANAL

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YANGZHOU WATERFRONT RETREAT:

BRIDGING NATURE AND LUXURY

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Dr. Nassar
Urban Design
Spring 2023

N. SIDE WATER'S EDGE VILLAS

Legend

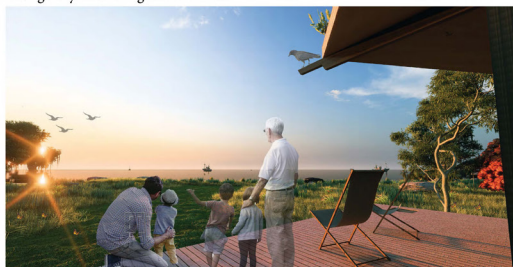
- ① Comfort Station
- ② Waste Bunker
- ③ Existing Pond
- ④ North Side Water's Edge Villas
- ⑤ The Grand Canal
- ⑥ Fairway
- ⑦ Green
- ⑧ Bunker
- ⑨ Tee Box



The waterfront villas alongside the Grand Canal offer a unique and luxurious living experience in harmony with the surrounding natural environment. Each villa features a planting buffer along the canal, which not only adds to the aesthetic appeal of the property but also attracts a variety of wildlife. There is also dense plantings around the villas to provide a sense of seclusion and privacy.

The villas are strategically positioned across the pond from our par 3 course, offering spectacular views of the course and surrounding landscape. With green roofs, the villas blend seamlessly into the surrounding environment, minimizing their impact on the environment and promoting sustainability.

Whether you're looking for a serene peaceful retreat or an active and adventurous lifestyle, our waterfront villas offer the perfect balance of luxury and sustainability, providing a truly unique living experience in one of the most beautiful and ecologically diverse regions of China.



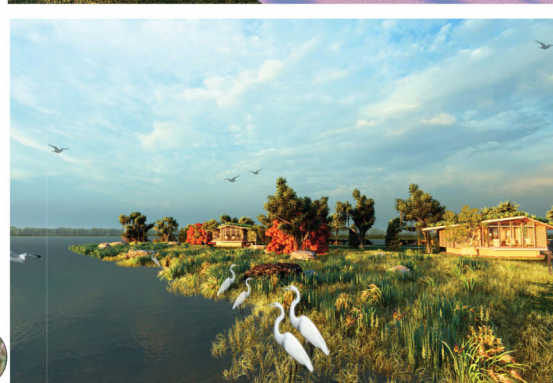
Trees



Birds and Insects



Grasses and Flowering Plants



Sodded Golf Cart Parking

Water's Edge Villa

Native planting lawns

GRAND CANAL

揚州

YANGZHOU

YANGZHOU WATERFRONT RETREAT:

BRIDGING NATURE AND LUXURY

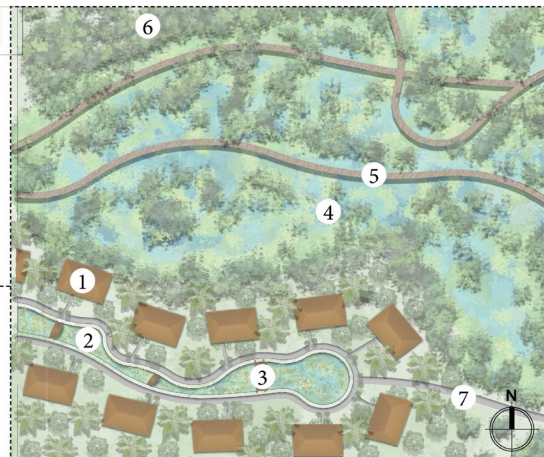
WDS
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Patrick Gregory
Dr. Nassar
Urban Design
Spring 2023

TREE HOUSE VILLAS

Legend

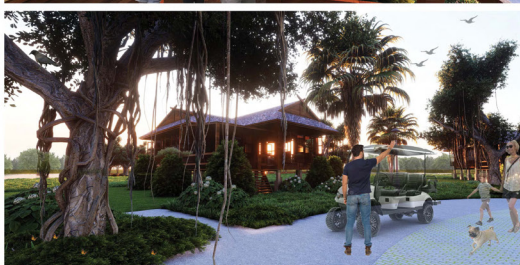
- ① Tree House Villa
- ② Constructed Wetland
- ③ Existing Pond
- ④ Bridge to Cross Wetland
- ⑤ Revitalized Wetland
- ⑥ Raised Boardwalk
- ⑦ Connection to S. Side Villas
- ⑧ Residential Tree Buffer



Introducing the Tree House Villas - a unique lodging experience in our eco-resort on the Grand Canal. These villas are designed with sustainability and community in mind. Raised on stilts, they offer a spacious and comfortable living environment while also preserving the natural landscape and providing habitat for local wildlife.

Located on either side of a constructed wetland, the Tree House Villas offer stunning views of the natural surroundings. The wetland is carefully designed with natural plantings to attract a variety of wildlife, including birds and small mammals. Accessible via a pedestrian path and bridges, the wetland boardwalk offers a relaxing and educational experience for guests.

In addition to the wetland, there is a golf cart road that circles the area, allowing guests to easily explore the resort. The community-oriented design of the Tree House Villas encourages social interaction and a sense of belonging. Whether you're looking to connect with nature or with other guests, the Tree House Villas offer a unique and unforgettable experience.



Tree House Villa

Golf Cart Circulation

Pedestrian Circulation

Crossing Bridge

Constructed Wetland

MARSH WALK

Legend

- ① Tree House Villa
- ② Constructed Wetland
- ③ Existing Pond
- ④ Bridge to Cross Wetland
- ⑤ Revitalized Wetland
- ⑥ Raised Boardwalk
- ⑦ Connection to S. Side Villas
- ⑧ Residential Tree Buffer

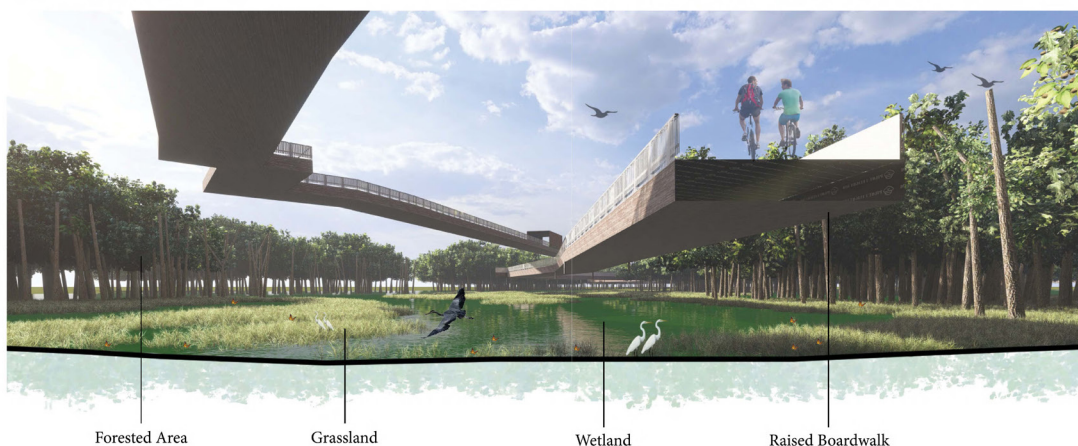
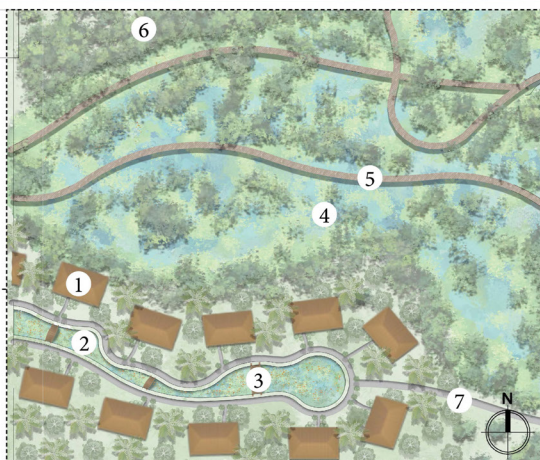


Introducing Marsh Walk - a revitalized wetland area in our eco-resort on the Grand Canal. Formerly an undeveloped marshland, this area has been carefully designed to preserve and enhance the natural ecosystem while also providing a unique and educational experience for guests.

The Marsh Walk features raised boardwalks at different heights, offering visitors an immersive and interactive experience of the natural environment. As you stroll through the wetland, you'll have the opportunity to observe a variety of local wildlife, including birds, fish, and reptiles.

Designed with both aesthetics and education in mind, Marsh Walk offers a relaxing and informative experience for guests of all ages. Whether you're looking to connect with nature, learn about the local ecosystem, or simply enjoy a peaceful walk, Marsh Walk is a must-visit destination in our eco-resort.

Come experience the beauty and wonder of the Marsh Walk and discover the incredible diversity of Yangzhou China's natural environment.



GRAND CANAL 揚州 YANGZHOU

YANGZHOU WATERFRONT RETREAT: BRIDGING NATURE AND LUXURY

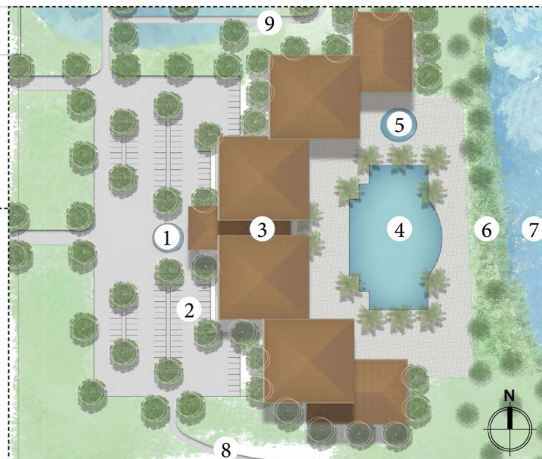
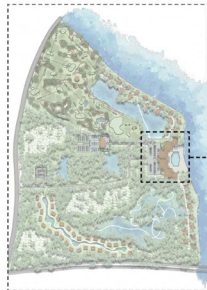
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Urban Design
Spring 2023

GRAND CANAL SUITES HOTEL

Legend

- ① Entrance Fountain
- ② Parking Lot
- ③ Hotel
- ④ Pool
- ⑤ Hot Tub
- ⑥ Canal Edge Planting Buffer
- ⑦ Grand Canal
- ⑧ S. Side Water's Edge Villas Connector
- ⑨ N. Side Water's Edge Villas Connector

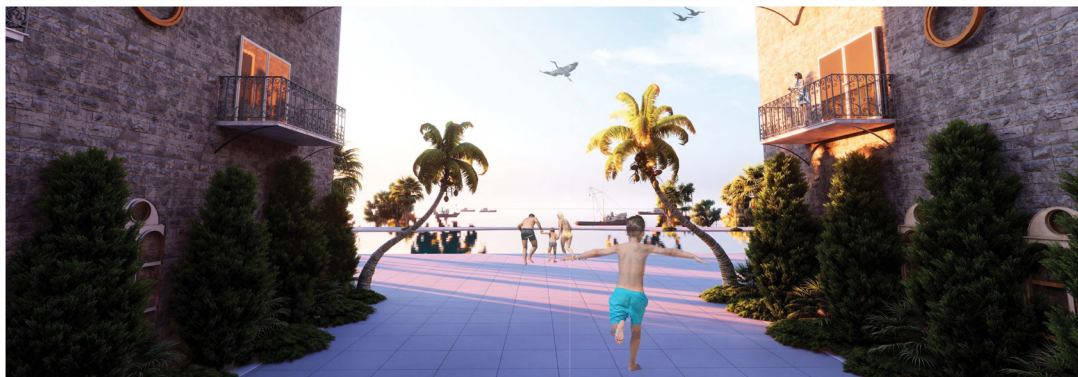
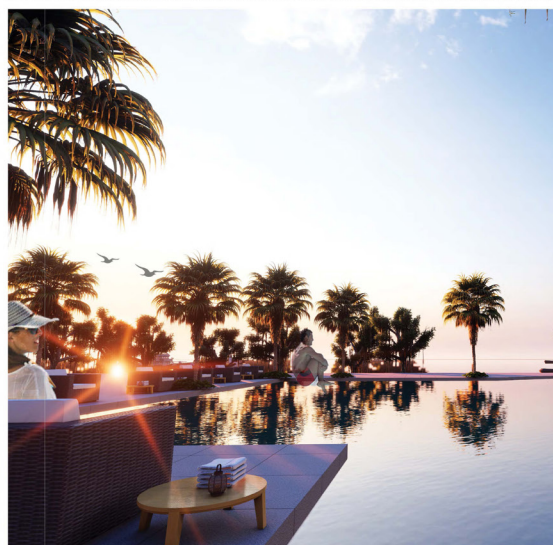


Introducing the Grand Canal Suites Hotel - the crown jewel of our eco-resort on the Grand Canal. As the centerpiece of our resort, the Grand Canal Suites Hotel offers luxurious and spacious accommodations for guests looking for a truly unforgettable stay.

The hotel's prime waterfront location provides stunning views of the Grand Canal, with a large pool and patio area serving as the centerpiece of the hotel's design. Two wings extend from either end of the pool area, offering guests a range of stunning views and accommodations.

Each room features a private balcony, providing guests with breathtaking views of either the Grand Canal or the surrounding resort. The hotel is also the central hub of our resort, where guests first check in and receive their complimentary golf cart, which is required for getting around the resort.

Our indoor amenities include a range of dining options to suit every taste and occasion, from casual poolside dining to gourmet fine dining experiences. Guests can also enjoy a fully-equipped gym, and for those looking for indoor entertainment, we offer a range of options, including a game room and a cinema room for movie nights. And if you're looking for a more relaxed way to spend your day, the hotel's covered back porch provides the perfect spot for outdoor seating for both the restaurant and lounging.



Relaxation

Recreation

Rejuvenation

LARC 4540 URBAN DESIGN STUDIO

BLA



Co-Tech Hub Technology Neighborhood IV



Clemson University International Campus for Automotive Research (CU-ICAR) is a campus in Greenville, South Carolina. It is divided into five 'neighborhoods', only neighborhood one is currently complete. Technology neighborhood one has focuses on the manufacturing of car prototypes, automotive research, and the automotive business. This project focuses on how to integrate student-business relationships into a college campus while also engaging and giving back to the surrounding community.

Community Engagement

A survey was conducted to understand what the users of Technology Neighborhood I thought of the existing campus. There were a total of 48 respondents and these were the results.

When given a map and asked for spaces they enjoyed using, respondents noted areas with a variety of seating, for instance in front of the cafe, and near forested and vegetated areas. Many noted how they enjoyed taking walks near the woods to take a break from work. Next, they were asked about areas they disliked and many pointed to planted areas that were overgrown or closed off from interaction. Lastly, correspondents were asked where they saw potential on the campus. They looked at many of the 'disliked' areas with ideas of outdoor seating, nature trails, and small plazas.

After, correspondents were asked to describe what they liked and disliked about two precedent pictures (right). In precedent A, some characteristics often noted was the abundance of shade, curvilinear structures, various seating options and the abundance of vegetation. In precedent B, people liked the alternate energy sources, large open spaces, water feature, and mixed material paving.

The feedback from the community engagement was taken into consideration when design the site.



Green dots represent spaces that participants enjoyed interacting with.



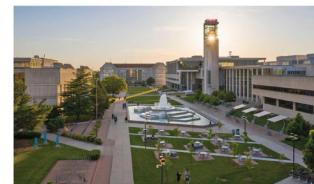
Red dots represent spaces that participants didn't like interacting with or did not find visually appealing.



Yellow dots represent spaces that participants thought had potential for improvement or areas that they wanted to interact more with.



Precedent A

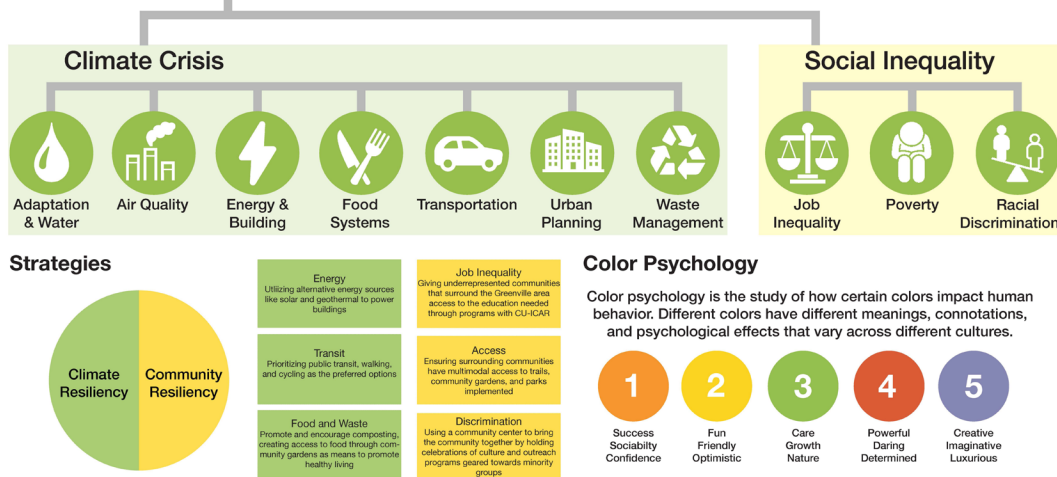


Precedent B

Concept:

The Green New Deal

The Green New Deal is an opportunity to address the climate and inequality crises and ensure that everyone, everywhere can thrive for generations to come. We need to protect our communities and our ecosystems from climate change, secure a just transition away from fossil fuels, and build equitable and sustainable economies.



Kayla Grooms

Spring 2022

LARC 4540

Professor Nassar

Master Plan

Legend:

- 1 Forested Area
- 2 Parking Lot
- 3 Interface Plaza
- 4 Recreational Lawn
- 5 Riparian Garden
- 6 Multi-purpose Center
- 7 Career Center and Development Building
- 8 Educational Building
- 9 Cafeteria
- 10 Corporate Office B
- 11 Manufacturing Building
- 12 Corporate Office D
- 13 Corporate Office E
- 14 Bike Shelter
- 15 Bus Shelter
- 16 Laurel River Trail
- 17 Birding Platform
- 18 Sculpture Trail
- 19 Exercise Heart
- 20 Bike Trail
- Bus Stop

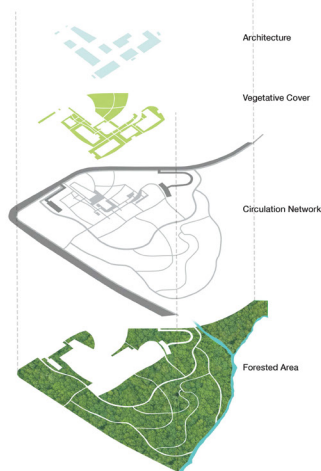


Site Circulation



There are three main modes of transportation supported through this site. On the outermost layer, is vehicular travel. Public bus routes would follow along the Western edge of the site and stop in two separate spots. These bus spots would have sheltered seating and lighting available 24/7. Along the edges of the campus, there are two parking lots available for use. The second mode of transportation includes biking, electric biking, and scooters. Biking trails are pushed to the outside of the campus to account for pedestrian safety. There are four available bike shelters along the perimeter of the campus for easy storage and convenient access. The last mode of transportation used in this design is walking. The campus was designed with the principle of the "15 Minute City" in mind, and accounted for how long it takes to walk through the campus and the topographical changes throughout the site.

Land Use Analysis



Building Program Analysis



Natural Systems Diagram



At both entrances to the site, there is a sheltered bus stop, bike shelter, and parking lot. Easy access and drop off allow for quick, easy transportation to and around the site. At each bike shelter, electric bikes are available for check out for all users. This helps connect the campus to the Swamp Rabbit trail, with consideration to the Laurens Road extension. These bike shelters are made of recycled wind turbines. The Multi-use building allows user access to the green roof. The green roofs on the buildings help educate users of its overall benefits and also help regulate building temperature. Solar panels on the roofs offer an alternate energy resource.



Perspective A: Site entrances will feature bus stops, covered bus shelters, and covered bike shelters.

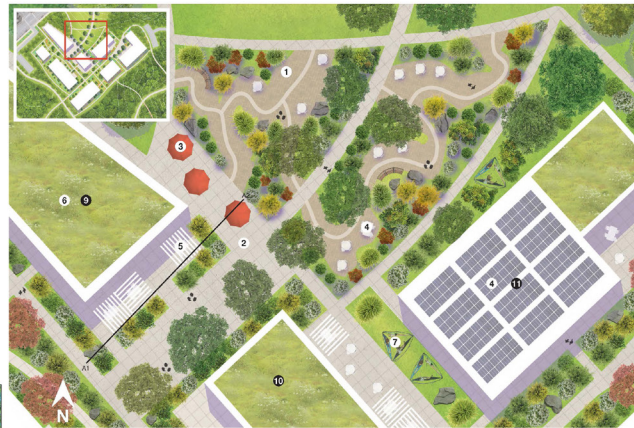
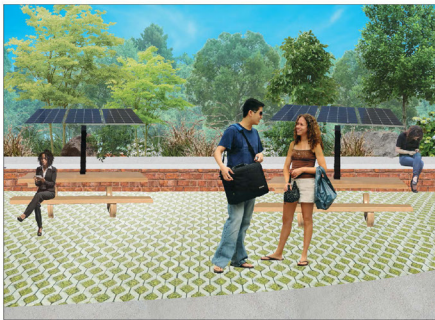


Perspective B: Site entrances will feature bus stops, covered bus shelters, and covered bike shelters.

Interface Plaza Detail

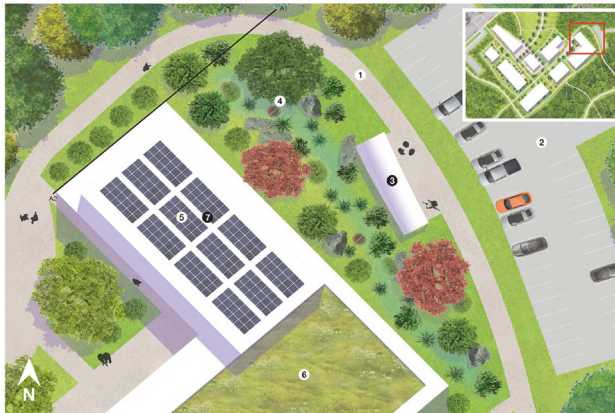
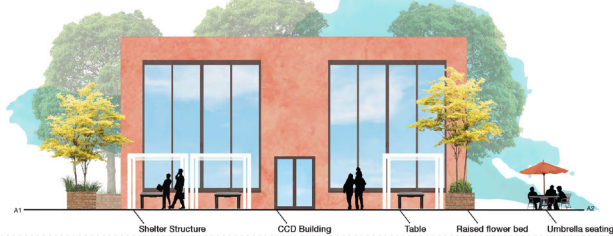
Legend:

- 1 Permeable Paving
- 2 Concrete Paving
- 3 Shaded Seating
- 4 Solar Tables
- 5 Shade Structures
- 6 Green Roof
- 7 Hammock Stations
- 8 Solar Panels
- 9 Career Center and Development Building
- 10 Cafeteria
- 11 Corporate Office B



The Interface Plaza is designed to encourage interaction, collaboration, and ... With open spaces, abundance of seating, and ... It is designed to also work as a potential event space to help connect with the surrounding community. With this in mind, it helps bring people together and expose them to different cultures and lifestyles.

Permeable paving is used throughout the site to help mitigate the amount of hardscape within the plaza but also add structure to the ground. It creates an interesting experience and help engage users to explore the area. There is a plethora of seating throughout to accommodate to different needs and offer variation throughout the space. Some examples of the seating includes, covered seating, open seating, hammock seating, and seating with solar panels to allow users to charge devices while outdoors. The shade structures also used to help differentiate between formal spaces and informal spaces. Buildings throughout this campus are topped with green roofs to help with thermoregulation and solar panels for alternate energy purposes.



Riparian Garden Detail

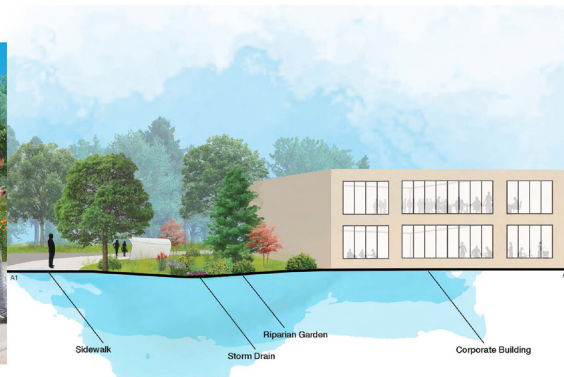
Legend:

- 1 Concrete Paving
- 2 Parking Lot
- 3 Bike Shelter
- 4 Storm Drain
- 5 Solar Panels
- 6 Green House
- 7 Corporate Office E

The Riparian garden filters runoff in a riparian corridor. Plants within the corridor help filter out toxic chemicals to help clean water, which then flows into a drain at the lowest point in the corridor where it then transported through underground pipelines to be filtered and dispersed, then processed throughout the site.



Perspective of Riparian Garden





Technology Neighborhood 2

Greenville, South Carolina



CONCEPT: The **Green New Deal** is an opportunity to address the climate and inequality crisis and ensure that everyone, everywhere can thrive for generations to come. We need to protect our communities and our ecosystems from climate change, secure a just transition away from fossil fuels, and build equitable, sustainable economies.

5 Technology Neighborhoods



ANALYSIS TAKEAWAYS

- Air quality and water quality are held to high standards, which Greenville meets
- Strengthens sense of community, connectivity
- Trail Path is already set
- Taking advantage of the various types of soils and their benefits like time to warm up, how well they hold water, and how they hold nutrients

COLOR PSYCHOLOGY

Color psychology is the study of how certain colors impact human behavior. Different colors have different meanings, connotations, and psychological effects that vary across different cultures.

Each proposed neighborhood is going to fit under one of these 5 colors. The neighborhood's characteristics and programming will determine which color represents it the best. The color given will then be used physically in the design process.



COMMUNITY ENGAGEMENT

1. What outdoor spaces on campus do you think work well and why?
 - Cafe area- only place on campus that works well as an outdoor space
 - Only place where students interact with each other and hang out at is the area in front of the cafe- people don't really hang out on campus they usually just come and go where they area going
 - Likes the natural woods around the campus and the modern feel of the campus
 2. What outdoor spaces don't work well on this campus?
 - Small, 2 seating areas
 - Small footpath, hard to go around - no pathway
- Wasted space - can be put to use



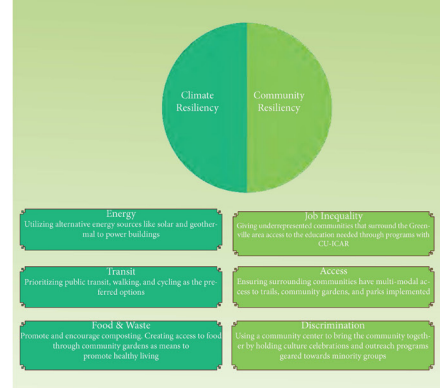
CLIMATE CRISIS



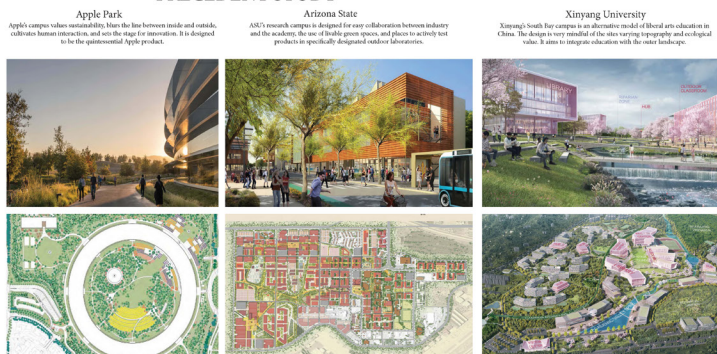
SOCIAL INEQUALITY



DESIGN STRATEGIES



PRECEDENT STUDY



TAKEAWAYS

- Enhance Green**
The projects come from a range of different climates and settings. When people walk from building to building, there need to be trees, greenery, and ideally free to no cars.
- Identify Recreation**
Recreation is crucial to giving life to a college or corporate campus. Trail systems, sports fields, gardens and parks are all a major focus in the precedent projects.
- Connectivity**
Circulation is a key focus for all projects. There is a strong desire for people to jump into each other, and for there to be choices for different groups to collaborate.
- Places to Innovate**
There should be unique places for CU-ICAR students to be able to do real world testing. Maybe like a street for testing off-road vehicles, or a track for testing speed.
- Inward Focus**
Each campus is organized with architecture on the outside and with landscaping on the interior. Motorized vehicles are intentionally not present.

JAMARI EVANS

MASTER PLAN



LEGEND

1. Swamp Rabbit Trail
2. Collaboration Trail
3. Swamp Rabbit Grocery Store
4. Mari's Pizza Palace
5. Dre's Bike Shop
6. Collaborative Community Center
7. CU-ICAR Multi-Purpose Center
8. Outdoor Gym
9. Basketball Courts
10. Tennis Courts
11. Office Building 1
12. Office Building 2
13. CU-ICAR Merchandise Store/Library
14. Collaboration Plaza
15. Outdoor Art Gallery
16. Protected Wetland
17. Forested Area

This hub focuses on building relationships between students and the community through the celebration of culture, showcasing of diversity, and by promoting outdoor engagement.

DESIGN GOALS



Air Quality

Climate changes can make it more difficult for communities to maintain the air quality that protects human health and the environment.



Food Systems

By improving how food is produced, processed, transported, and consumed, it can help foster a more sustainable and healthy lifestyle. Food marketing can be used to encourage and inform the public of the benefits while also addressing food loss and waste.



Racial Discrimination

Racial discrimination is the prejudiced treatment of an individual based on the color of their skin or their racial or ethnic origin.

LAND USE PLAN

- Commercial
- Institutional
- Educational/Community



CIRCULATION PLAN

- Collaboration Trail
- Swamp Rabbit Trail
- Pedestrian Circulation
- Vehicular Circulation



OPEN SPACE NATURAL SYSTEMS PLAN

- Open Grass Area
- Laurel Creek
- Forested Area



COLLABORATION STATION



Plan view showing an enlargement of the Collaboration Station.

LEGEND

1. Swamp Rabbit Trail
2. Swamp Rabbit Grocery Store
3. Mari's Pizza Palace
4. Dre's Bike Shop
5. Benches
6. Tables & Chairs
7. Triangle Shade Sail
8. Stone Pathway
9. Stone Steps



Perspective A: Shows the side of Mari's Pizza Palace. The open space on the right is for anyone to come and sit. Also view the Swamp Rabbit Trail.

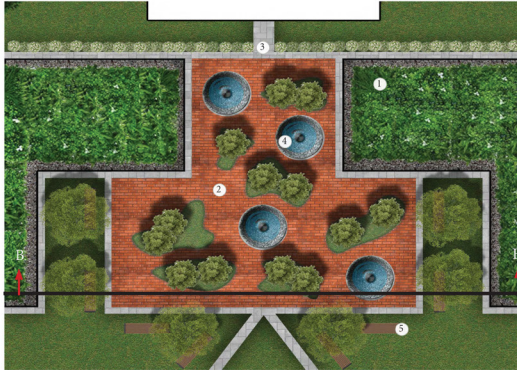


Section B: Shows the Swamp Rabbit Grocery Store, Mari's Pizza Palace, and Dre's Bike Shop. Going along the travel you are able to access each one of these places.

JAMARI EVANS

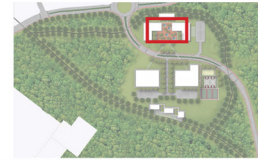
Technology Neighborhood 2

COLLABORATION PLAZA



Plan view showing an enlargement of the Collaboration Plaza.

- LEGEND
1. Green roof
 2. Brick Platform
 3. Stone Pathway
 4. Water Fountain
 5. Benches



Perspective C: Shows the Collaboration Plaza during the day. The benches offer enough seating for multiple people to sit.



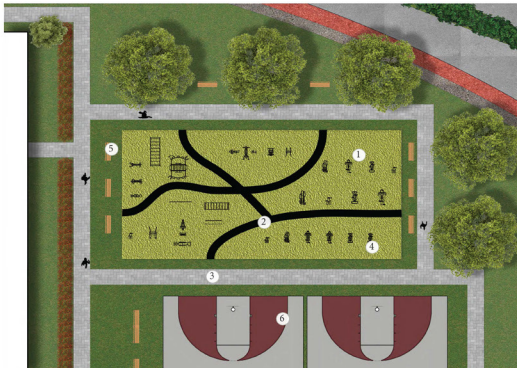
Section Elevation B-B

Section E: Shows Office Building 1, CU-ICAR merchandise store/library, and Office Building 2.



Perspective D: Shows the Collaboration Plaza at night. The water fountain can also be used as a seating area.

CU-ICAR OUTDOOR FITNESS

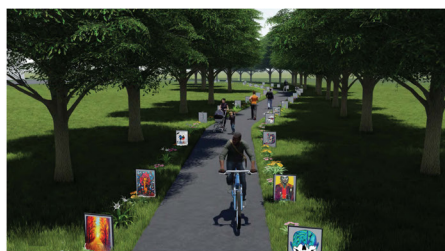


Plan view showing an enlargement of the CU-ICAR OUTDOOR FITNESS.

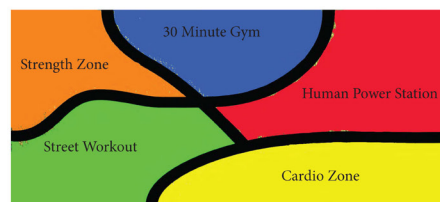
- LEGEND
1. Recycle Rubber
 2. Gym Pathway
 3. Stone Pathway
 4. Gym Equipments
 5. Benches
 6. Basketball Courts



Perspective F: Shows CU-ICAR Outdoor Fitness. The outdoor gym allows individuals to work out, and doing so creates energy.



Perspective G: Shows the trail and the outdoor art gallery. The pathway allows people to see the artwork made within the community.

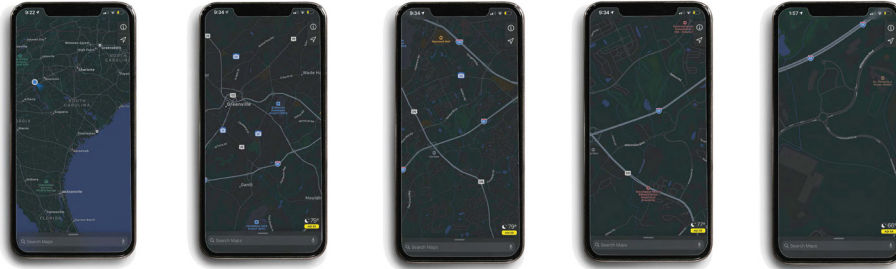


Shows the different workout zones.

JAMARI EVANS



NEIGHBORHOOD 2: HUMAN FACTORS



COMMUNITY ENGAGEMENT

- seating options
- varied experiential areas
- connection to the Swamp Rabbit Trail
- interaction between general public and CU-ICAR
- bus shelter
- trail access
- fountain or water feature
- lively green roofs
- open green space
- line height of looking out over spaces
- concern about allergies
- color is good in limited amounts
- easy mobility is important
- value of shaded areas
- path and trail options
- seating that provides people watching

ECO



PRECEDENT STUDIES

- childcare services
- proximity to transportation
- between buildings pedestrian friendly, while vehicular transportation is kept on outskirts
- provide connections through buildings not just around
- green roofs as an extension of the accessible outdoor realm
- importance of naming of areas and buildings for orienting on the site and increased interaction with the theme
- minimize vertical growth for pedestrian scale
- engage with surrounding community to bring liveliness and community interaction
- provide landmarks for wayfinding
- people moving system that is more efficient than walking but more eco-friendly than cars

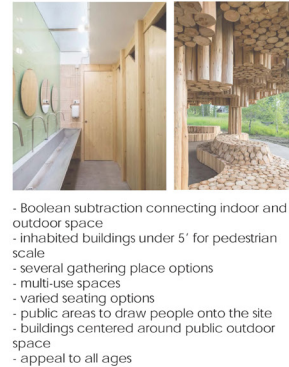
SMART



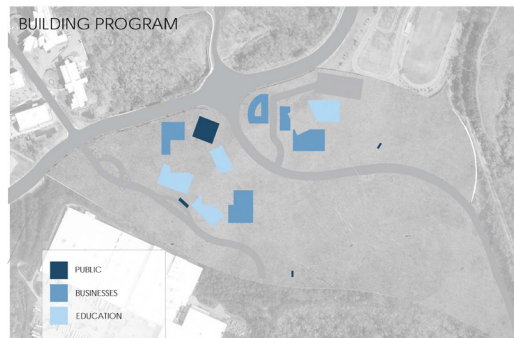
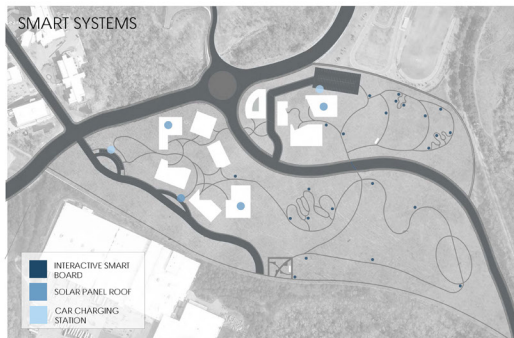
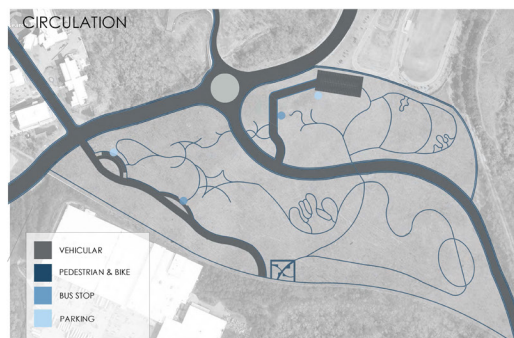
What are Human Factors?

Programmatically, this Neighborhood would be a continuation of research already conducted at CU-ICAR. This neighborhood would provide an extension and a home for the study of human factors in automotive engineering. The focus of this neighborhood is two-fold: the first, to conduct simulation and research into driving itself, the patent law and overall legal side of automotive engineering, and the psychology of the driver. Second, it would be an interactive area for Future Engineers and collaboration with CU-ICAR regulars and the general public. The design of the site is human scale focused and is motivated by the pedestrian scale. The character of the site as a forest will remain and provide a pocket of habitat for woodland creatures as Greenville continues to expand. The buildings are nestled in the forest growth with several trail options with different resting places and interactive garden types and plazas between buildings provide ideal independent working, coworking, restful, and recreational areas.

VIBRANT



- Boolean subtraction connecting indoor and outdoor space
- inhabited buildings under 5' for pedestrian scale
- several gathering place options
- multi-use spaces
- varied seating options
- public areas to draw people onto the site
- buildings centered around public outdoor space
- appeal to all ages





CENTER FOR FUTURE ENGINEERS



Perspective of the Human Factors building showing the placement of the photo space and connection with the building. The photo provides many activity areas and seating options for students, workers, and the public. It also demonstrates the location of the drop-off zone for parents and buses.

The focus of this portion of the site is the idea of the future engineer. It is a collection site for field trips, homeschool groups, and childcare services for workers at CU-ICAR. The most prominent building in this area is the Center for Future Engineers which is designed around a courtyard that houses a safe playground for the children at the childcare center. There is also a public playground for visitors to enjoy. The two gardens in the area of the site are geared towards the children through their interactive and educational qualities.

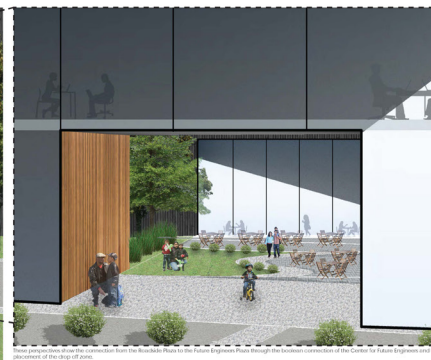
EDUCATIONAL GARDEN



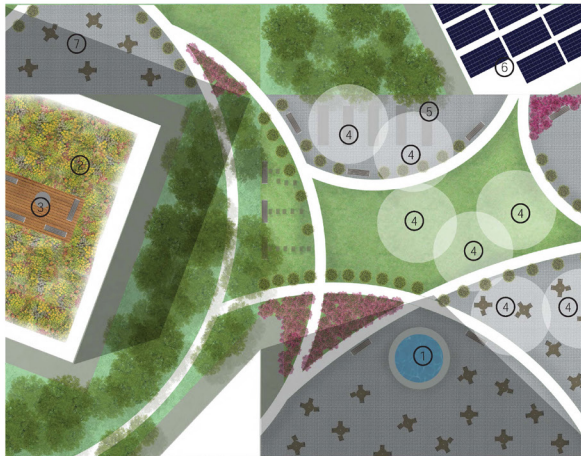
FOOD GARDEN



A section of the Center for Future Engineers, Future Engineers Plaza, and Research Plaza further shows the connection around all three. It also highlights the bridge effect of the Center for Future Engineers which creates a safe area for drop-off.



HUMAN FACTORS HUB



The Human Factors Hub is organized through circulation and divided by different uses. Large gathering tables provide ample space for meetings and large lectures while smaller tables provide lunch and working options. Fabric shade structures organized in a unique way provide shade from the hot sun, but still give opportunities for sunlight. Benches provide quick stopping points for people watching and relaxing break spots. Circulation is defined through different pavers than the rest of the plaza and plantings to guide the path.

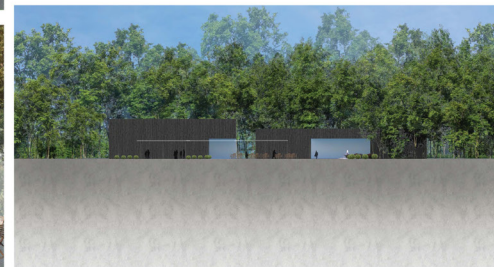
The driving idea of organization for the buildings and plazas is to provide a sense of togetherness for those at CUICAR while maintaining the forest aspect of the site as Greenville continues to expand.



HYPOALLERGENIC GARDEN



Section of the Human Factors Hub showing the variety of the plaza space and connection with the building. The plaza provides many activity areas and working options for students, workers, and the public.



Section of Human Factors Hub showing connection between Human Factors Hub, entrance from the bus stop, and the central plaza area. The building connection is the building with solar which connects the building with the plaza making a vibrant human scale experience.

THE WELL ON THE SWAMP RABBIT TRAIL



Connecting to the Swamp Rabbit Trail is an important opportunity for the Human Factors neighborhood. A design driver was drawing the Public in to share CUICAR in recreation and space to encourage interaction with the research and development done on the site. The Well achieves this through visual interest and an accessible public restroom. There are plenty of resting places for weary walkers and it is a relaxing place to experience for both workers and visitors of the Swamp Rabbit Trail. It would become a destination for those walking and a great place to have lunch for the workers at CUICAR.



Enlarged plan of the well on the Swamp Rabbit Trail shows variety from the well that connects the parking garage, the use of solar panels, and placement of benches that allows for parking but a view of the water and trees.



Section taken from the Swamp Rabbit Trail shows height of trees and height of well as well as the width of walkways for open area into the common crowding.



Section of the well on the Swamp Rabbit Trail shows height of trees and height of well as well as the width of walkways for open area into the common crowding.



Section of the well on the Swamp Rabbit Trail shows height of trees and height of well as well as the width of walkways for open area into the common crowding.