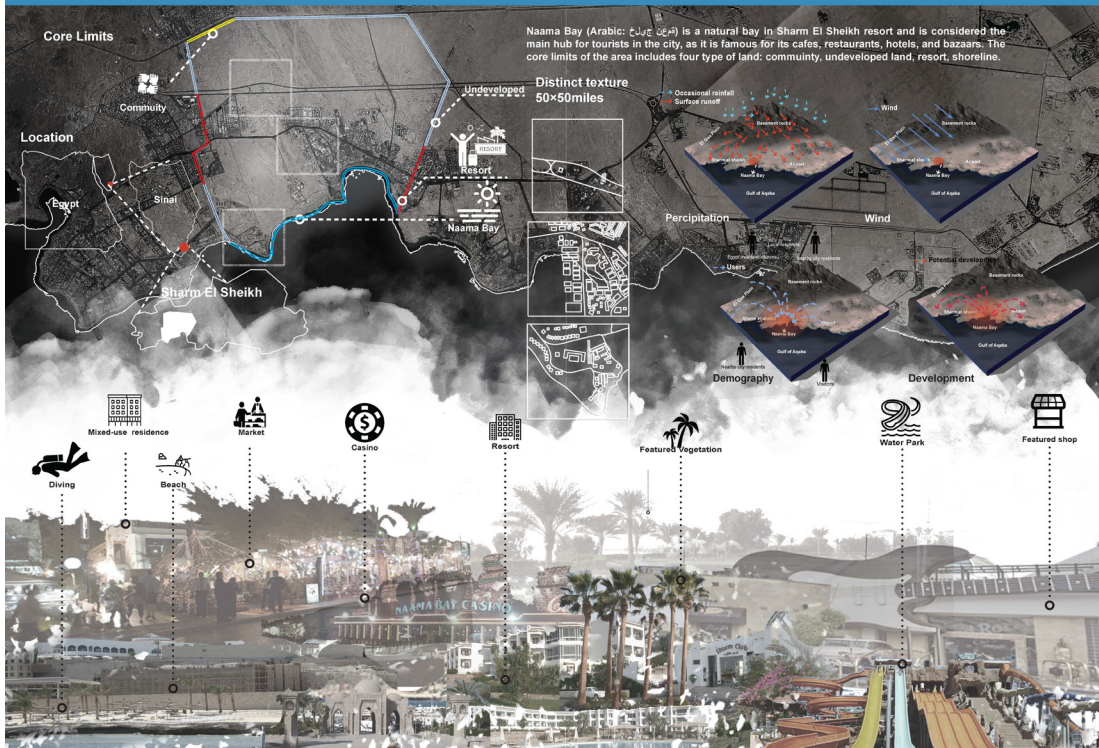


Naama Bay Nature Museum “Droplet in the Desert”

Sharm El Sheikh, Egypt
Sustainability, Education & Vibrancy



SWOT

Strengths:

- There exists full touristic resources in the Naama Bay area

Weakness:

- The development focuses recreational activities on the bay area
- Exists large vacant spaces

Opportunities:

- Large potential users from the Bay area
- Create economic opportunity for surrounding areas
- Large amounts of vacant spaces

Threats:

- Flash flooding

Environmental Strategies

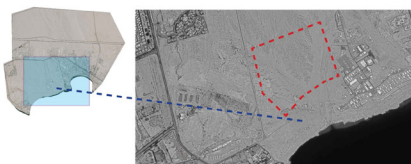
1. Utilize infill opportunities to conserve natural resources.
2. Encourage people to protect the environment, enhance the awareness of sustainability
3. Connect environment issues with people's participation.
4. Create interactive activities and spaces with environmental elements.

Economic Strategies

1. Build more bus stations, public spaces, traffic infrastructures, expand the duration in a commercial place
2. Invest in expanded transit networks and service frequency.
3. Exploit vacant space and expand traffic circulation
4. Invest in biking and walking infrastructure to improve active transportation options.
5. Invest in transportation demand management programs such as carpool/vanpool, carshare, and parking supply management.

Social Strategies

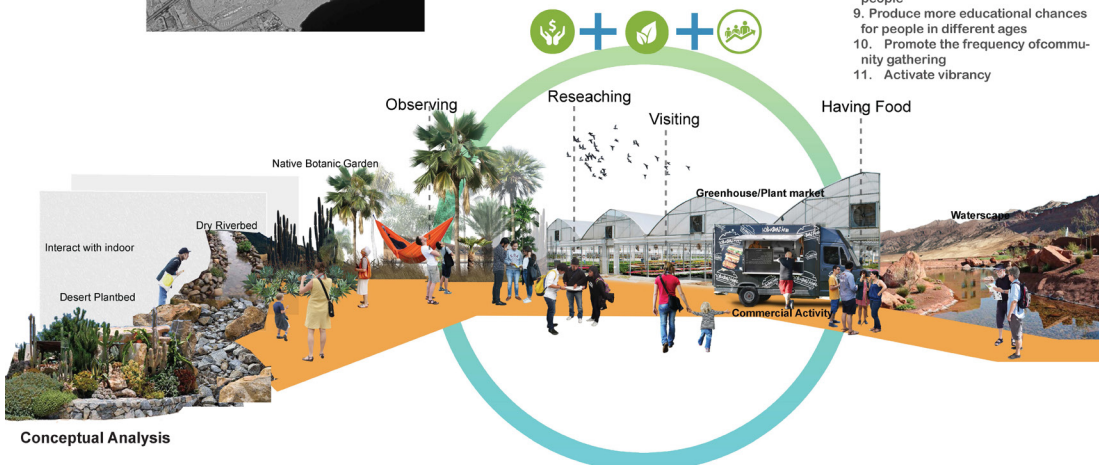
1. Build some participation landscape
2. Meet the demand of family activities.
3. Promote spatial community concentration such as build public exhibition.



Except the tourism hub along the shoreline, Nature Museum would be a new landmark in the western side. The desert landscape is very unique and could be displayed with landscape design in outdoor area and interior, like native botanic garden, greenhouse, waterscape, dry riverbed, etc.

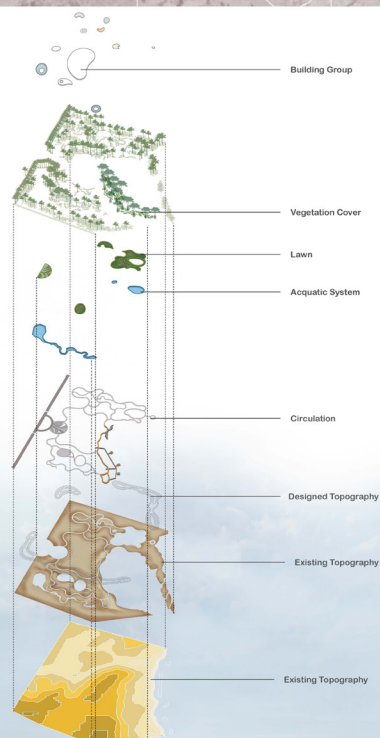
Project Goals

1. Improved Public Health
2. Increased Accessibility to Daily Destinations
3. Natural Resource Conservation
4. Social Equity
5. Lower Building Energy and Water Use
6. Economic Opportunities
7. Strengthen public participation
8. Meet the demand of different types people
9. Produce more educational chances for people in different ages
10. Promote the frequency of community gathering
11. Activate vibrancy



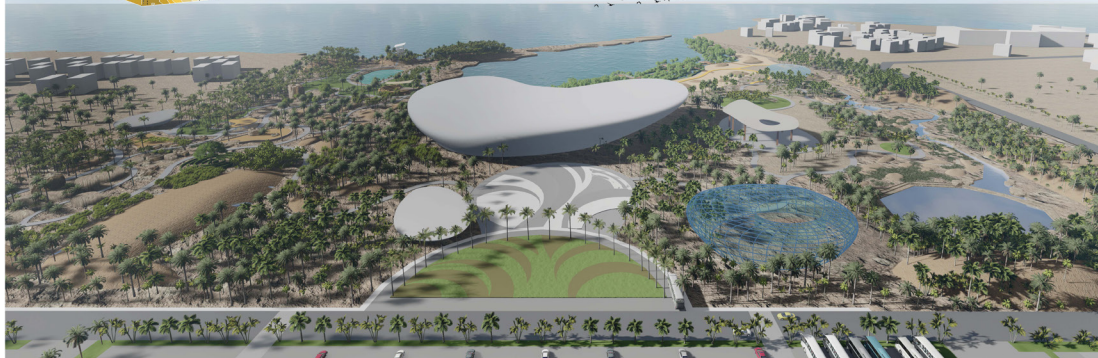
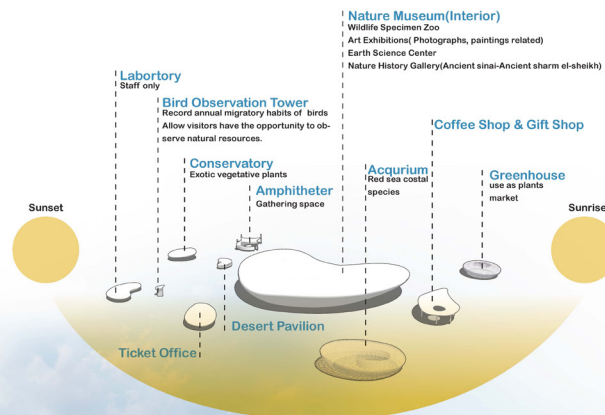
Naama Bay Nature Museum “Droplet in the Desert”

Sharm El Sheikh, Egypt
Sustainability, Education & Vibrancy



The Nature Museum is designed as a new landmark in Sharm El Sheikh, growing unique plants, landscapes and covering the city's nature history. The huge museum will show all of the native plant species of Egypt in a series of created, naturalistic habitats from the deserts to the rich cloud mangrove habitats. The site will also present the wild exhibition and the many ways that people plants plants in Sharm El Sheikh.

With this concept, the Naama Bay Nature Museum will allow visitors to experience the flora and vegetation of Sharm el sheikh while learning about the diversified plantings species, rich nature ecosystem, and legendary hospitality of the country.

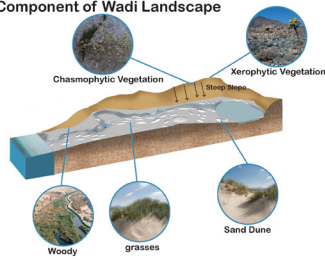


Wadi Landscape Area

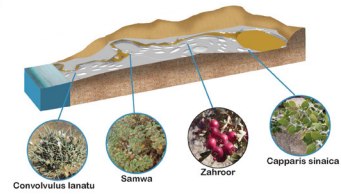


- ① Aquarium
- ② Wadi Landscape
- ③ Sand Dune
- ④ Coffee Shop & Gift Shop
- ⑤ Nature Museum (interior)
- ⑥ Palm Tree Trail
- ⑦ Greenhouse
- ⑧ Shellwall
- ⑨ Pathway

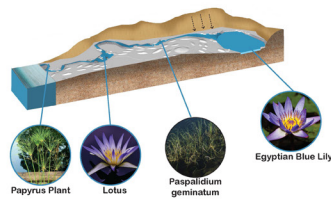
Component of Wadi Landscape



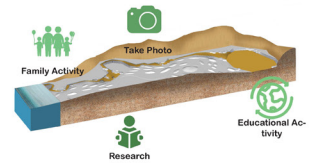
Dry Planting Material in Wadi Landscape



Aquatic Planting Material in Wadi Landscape



Activity in Wadi Landscape



Sharm El Sheikh is typical desert landscape city. To provide a new sensory experience, this site is designed as a wadi landscape, which refer to a dry (ephemeral) riverbed that contains water only when heavy rain occurs. The components of Wadi Landscape contains woody vegetation sand dunes with surrounded grasses, display a refreshing waterscape in Sharm El Sheikh. In the main part of the waterscape area, aquatic planting material are essential when heavy rain occurs, present a diversified landscape compared to dry weather.

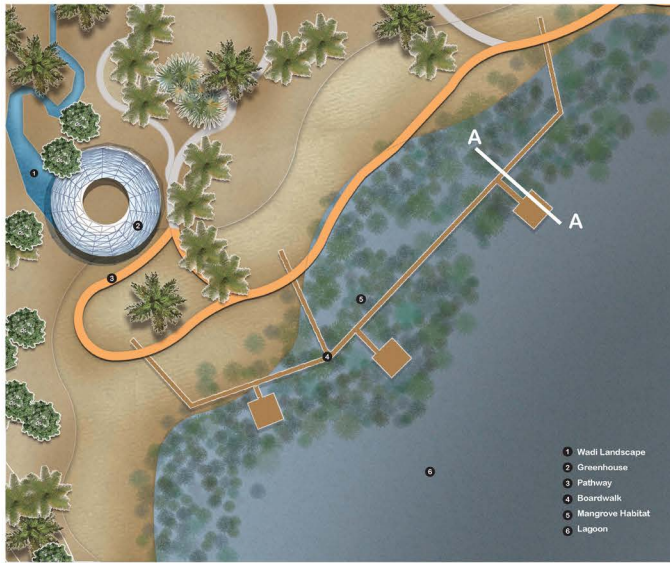
With the main concept, combine desert climate, native plants and topography, this area would provide the visitor a rich experience when they are wandering around wadi landscape area.



Naama Bay Nature Museum “Droplet in the Desert”

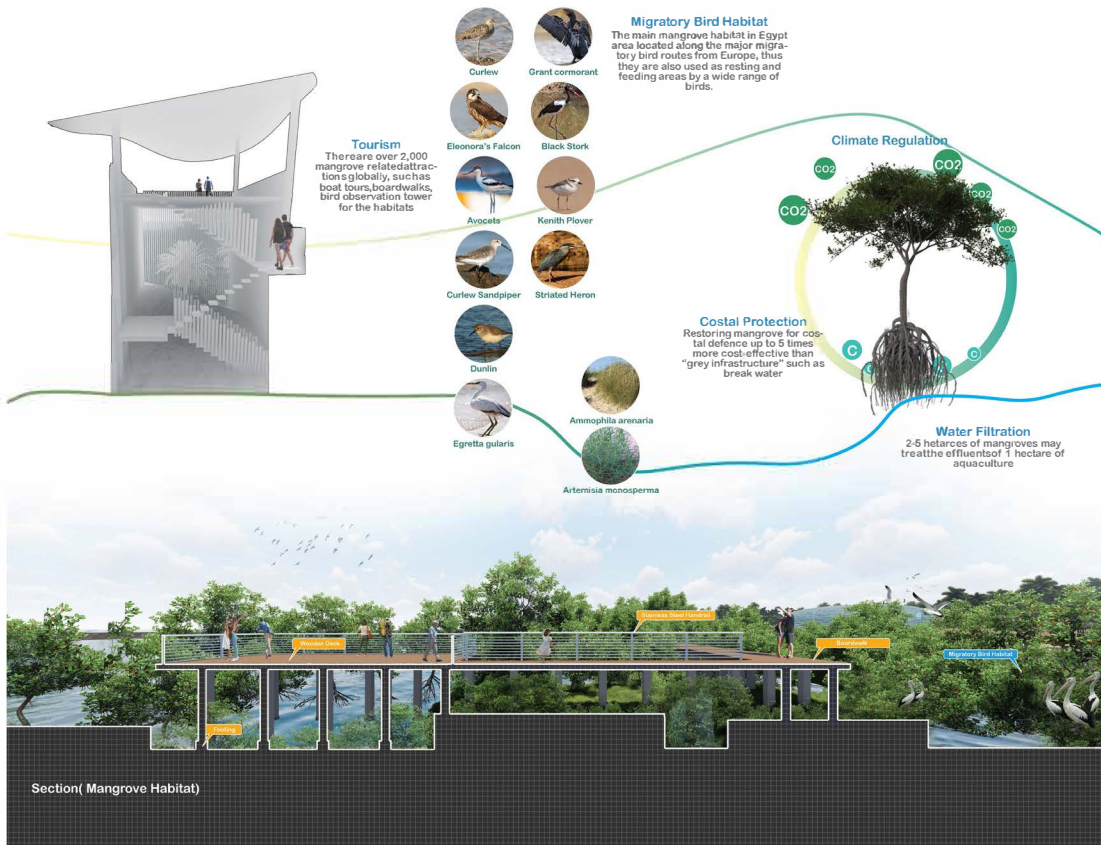
Sharm El Sheikh, Egypt
Sustainability, Education & Vibrancy

Waterfront Area



Mangrove is a shrub or small tree that grows in coastal saline or brackish water. The mangrove habitat area will provide livelihoods a new refreshing forest in Naama Bay. The entire eco-system will attract migratory birds to build a new habitats and make the habitat more sustainable.

The bird observation tower is designed for visitor to have a higher view to see the whole nature museum and mangrove habitat, in the same time, users could enjoy observing and learning diversified bird species.



Botanic Exhibition Area



Botanic Exhibition Area aims to build a rich desert landscape area, to provide visitors a fabulous experience in this area. It will contain Rock Garden, Cactus Garden, Mountain Woodland Garden, Herb Garden, Native Flora Garden, Children Adventure Garden, etc.

Those Garden will highly promote the accessibility of daily activities, like make an adventure route for children, even for adults. Organize family activities like photoing, drawing will also intrigue vibrancy in the area and the city. Showing the rich plant species in Sharm El Sheikh will enhance visitors' awareness to protect the environment and be passionate about it.



- 1 Amphitheater
- 2 Cactus Garden
- 3 Mountain Woodland Garden
- 4 Desert Pavilion
- 5 Conservatory
- 6 Rock Garden
- 7 Children Adventure Garden
- 8 Herb Garden
- 9 Native Flora Garden



Perspective from Cactus Garden to Woodland Woodland Garden



Perspective from Woodland Area to Amphitheater



Perspective from Desert Pavilion to Rock Garden



Perspective from Children Adventure Garden to Cactus Garden

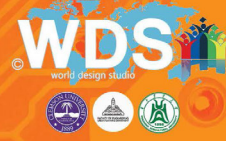


Section (Cactus Garden)

Rachael Jackson

Energy Innovation Park CU-ICAR

Beyond Sustainability: Regenerative Design Technology Campus 3

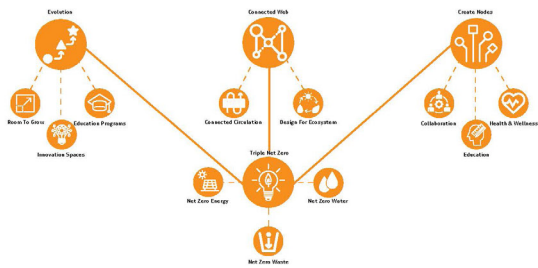


Community Engagement Feedback
During our Community Engagement Survey we got a lot of feedback from employees and students on the existing campus. Through this feedback it became clear there is a need for play and relaxation, outdoor work spaces, and more connection to nature. The existing campus is lack in green space, nature trails and color within its architecture as most materials are monochrome brick.

What Is Beyond Sustainability: Regenerative Design?

Design that seeks to transform human communities into living systems enablers. They help lay foundations for the ongoing evolution of natural and social systems, enabling them to increase in viability and health as the world changes. Instead of designing for sustainability with solar panels, green spaces, and the like, regenerative design designs for the entire ecosystem by taking into account the environment around it and providing specific programs for its users including stormwater management, native species and landscape systems by means of a connected web of systems.

Concept Principles



Master Site Plan: an overall view of the programming and character of the site with a section cut through the middle

Legend

1. Tenneco Manufacturing Center
2. Office
3. Easler Hall College of Energy
4. Bentzen Energy Innovation Lab
5. Agave Cafe
6. Parking Garage
7. Retail
8. Biofuel Production Terraces
9. Enzo Testing Center



Landuse Diagram



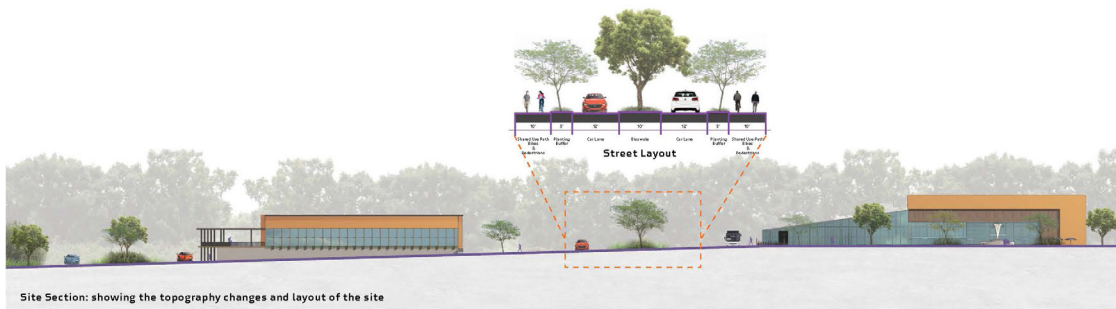
Open Space Diagram



Natural Systems Diagram



Circulation Diagram



Site Section: showing the topography changes and layout of the site

Energy Innovation Park CU-ICAR

Beyond Sustainability: Regenerative Design
Technology Campus 3



Felix Alternative Energy Plaza



Felix Alternative Energy Plaza Plan: a zoom in on the professional offices on campus with their green roofs and green space in between.

Legend

1. Manufacturing Education Center
2. Tenneco Manufacturing Center
3. Edmond Solar Lounge
4. Sopko Solar Office
5. Summit Solar Office
6. XL Renewables Office
7. PetroSun Office
8. Bioswale
9. Bike Share & Bus Stop

The Felix Alternative Energy Plaza will host all professional offices on site focusing on alternative energy. There will be 4 offices with green roofs and a light manufacturing office within education center for visitors and a green house solar lounge for students and employees to use as a coworking space. A plaza and open green field is in the center for the students

or employees to work and relax in. Circulation to the plaza is by foot and the side walks, by car by parking in the parking garage across the street or by bus or bike with each station being a short walk away.



Section through the Felix Alternative Energy Plaza: Cutting through the site topography and Solar Lounge



Perspective of the Sopko Solar Office: students and employees can come to the Solar Lounge to work in a biophilic environment with a view into the Tenneco Manufacturing Center.

Easler Bentzen Education Plaza



Easler Bentzen Plaza Plan: zoom in on the education area for the education and lab buildings, green space for students to relax in, and a fountain for students to sit and dip their feet in.

Legend

1. Easler Hall College of Energy
2. Bentzen Energy Innovation Lab
3. Agave Greenhouse
4. Fountain Plaza
5. Terraced Walkway

The Easler Bentzen Education Plaza will host the education buildings on site including the Bentzen Energy Innovation Lab and Agave Greenhouse. There are 4 types of greenspace for students to relax in: a green roof on top of the education building, green courtyard in between the education building and lab, by the fountain in the center of the plaza or on the terraces leading down to the swamp rabbit trail.



Perspective of the Easler Bentzen Education Plaza: A greenspace in between the education and office buildings where students and employees can work outside or meet up with friends by the fountain.



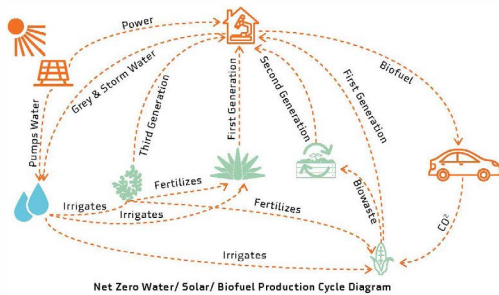
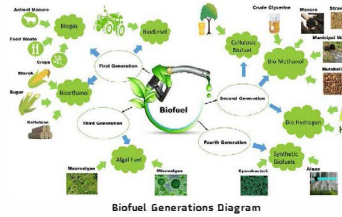
Rachael Jackson

Energy Innovation Park CU-ICAR Beyond Sustainability: Regenerative Design Technology Campus 3



Enzo Performance Testing Track

The Enzo Performance Testing Track will allow CU-ICAR to test their cars produced by students. Self-driving armored vehicles for the Army, and bring in the public to go kart on the weekends. The track will have two overlooks at the Testing Center as well as the Agave Cafe for the public to watch as the cars go by while enjoying a cup of coffee. The track will surround the agriculture terraces and be visible from its walkway as well. The Track and Testing Center will be used to test handling, sound, and self-driving performance rather than speed of the vehicles. The Track has more than one path in order to customize the experience of testing different paths. For example one could test the straight forward perimeter on the track or cut through the smaller curves to shorten the track length.



Perspective of Agave Cafe over looking the Performance Testing Track while CU ICAR tests their cars while visitors have lunch.

Track Uses



Perspective of Performance Testing Track used for locals to visit campus and go kart on the weekends



Energy Innovation Park CU-ICAR

Beyond Sustainability: Regenerative Design
Technology Campus 3



Biofuel Production Terraces



Biofuel Production Terraces & Performance Testing Track Enlarged plan: home to the production of algae, corn, agave and solar power as well as the testing track and center.

Legend

1. Biofuel Terraces and Walkway
2. Recycling Collection Center
3. Biofuel Silo
4. Betzens Energy Innovation Lab
5. Agave Greenhouse
6. Solar Terraces
7. Algae Pond
8. Retainer Pond
9. Enzo Testing Center
10. Enzo Performance Track

The Biofuel Production Terraces will be the home to the corn fields, algae ponds, and solar farm for the site. The biofuel produced and researched at the Betzens Energy Innovation Lab will help power the needs of the site as well as the vehicles produced by CU-ICAR. The Terraces will have a walkway cutting through them in order to provide a path for visitors to traverse and students to access the fields as needed.

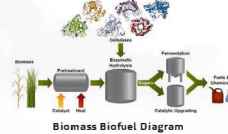
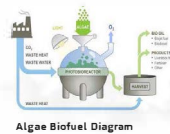
The Betzens Energy Innovation Lab will host a Clemson Chemical Engineering Graduate program focusing on research of biofuels. The lab will host an agave greenhouse and recycling collection center for recycling all waste produced on campus. The Building will collect grey water and stormwater run off in order to irrigate all crops on site.



Perspective of Biofuel Production Terraces overlooking the Performance Test Track surrounded by the corn fields and solar panels



Biofuel Production Terraces Callout: a closer look into the experience of the Biofuel Production Terrace Walkway through corn and solar panels, overlooking the testing track.



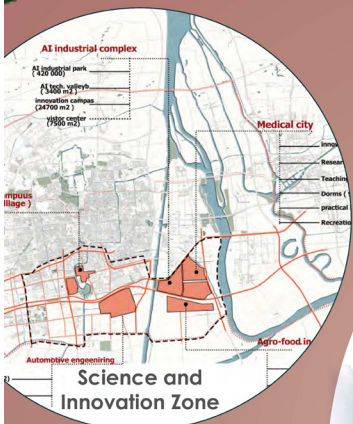
GRAND CANAL

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YANGZHOU

YANGZHOU'S NEW MEDICAL DISTRICT: RESTORING URBAN HEALTH AND COMMUNITY

WDS
world design studio



The science and innovation district is an extension of the New Yangzhou masterplan across the river. During the midterm charrette, the international design team identified 7 project sites and proposed 5 projects based on the principles of innovative cities.

What defines a Science and Innovation City?

A city that is active in the exploration of new ideas to generate techniques, products, and processes

Life Science and Health

Energy and Clean Technology

Transportation

Agri-food Innovation



CONCEPT ECO-REGENERATIVE HEALTHY CORRIDOR

Ecological
Design mimics, supports, and restores environmental ecology to create habitat, sequester carbon, remediate pollution and disaster, and improve environmental issues.

Regenerative
Design goes beyond the zero-impact goals of sustainability to reach a positive-impact design. Clean and renewable energies, best stormwater management practices, green roofs, and other methods contribute to a resilient community.

Healthy City Design aims for healthy people, healthy buildings, and healthy landscape. It extends to both the wellbeing of the natural environment and covers the physical, emotional, and mental health of people. The city itself becomes like a whole living organism.

Yangzhou has many vital corridors which extend regionally and locally. The Grand Canal and Yangtze River have deep hydrological, cultural, and economical value. Yangzhou's local canal system, roads, and transit affects the flow of people and resources within the city.



MEDICAL CAMPUS: URBAN AND SITE ANALYSIS

Site Analysis

Existing:
industrial
Area: 380 acres
Design: innovation,
research, labs, learning
hospital, dorms, recreation



GRAND CANAL

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YANGZHOU

YANGZHOU'S NEW MEDICAL DISTRICT: RESTORING URBAN HEALTH AND COMMUNITY

PROJECT GOALS

Healthy City and Ecology: To weave together environmental health and human well-being through healthcare services, regenerative green space, walkability, and habitat revitalization.

Current Issues: To understand Yangzhou's successes and challenges in addressing health for its residents and incorporate their goals for environmental and human well-being.

Human Scale: To retain the human scale and livability through sensitive design, mixed use, walkability, signage, building height, streetscapes, and transit.

Connectivity: To connect to the rest of the city through greenways, blueways, and transportation, as well as maintain connections to other proposed zones via the proposed industrial and green corridors.

Regenerative Design: To incorporate regenerative methods, clean technologies, and remediate brownfield and water pollution on the site.

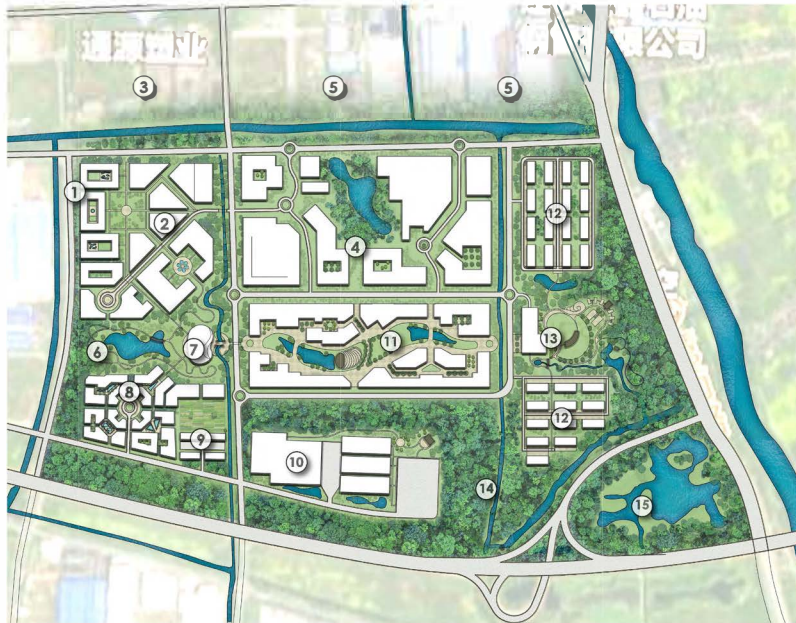
Vivacity Health District at Valley Ranch
Site: 300 acres
Includes: hospitals, medical offices, retail, hotels, high-density residential
Team: Perkins and Will
Completion: 2019

Zhengzhou Linkang Biopharmaceutical Park
Site: 100 acres
Includes: Research & Development, exhibition center, public square
Team: WSP and HKS
Completion: 2018

Baton Rouge Health District
Site: 1,000 acres
Includes: medical offices, green space and public square
Team: Perkins and Will and HKS Architects
Completion: 2019

CASE STUDIES

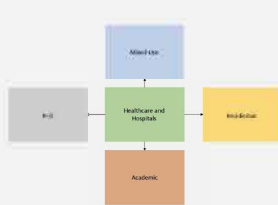
YANGZHOU HEALTH DISTRICT MASTERPLAN



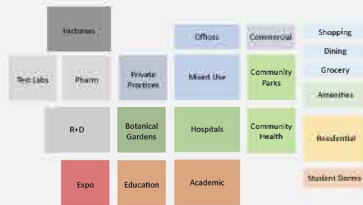
LEGEND

1. academic dormitories
2. academic buildings
3. expansion zone for future academic buildings
4. hospital campus
5. expansion zone for future hospital campus
6. botanical gardens
7. exhibition center
8. research campus
9. pharmaceutical test fields
10. biomedical factories
11. mixed-use commercial district and offices
12. residential apartments
13. community center, clinic, and sports park
14. woodland
15. existing pond

PROGRAM DIAGRAM



MACRO-PROGRAMMING: The general categories for health districts were inspired by the international charrette and case study research.



MICRO-PROGRAMMING: The categories were divided into detailed program uses, with particular attention paid to the layout, transition, and proximity.



HYDROLOGY AND FLORA



CIRCULATION AND ACCESS



PROJECT STATEMENT

China is home to a vast number of species, a great number of which are threatened or endangered. The exhibition center and botanical garden display a small piece of this rich biodiversity, connecting visitors to the natural landscape. The gardens emphasize the importance of ecosystems services through areas such as the pollinator gardens. Local plant palettes are also represented.

The exhibition center and gardens also create an intersection between health (research campus), innovation (academic campus), and nature, which is especially prominent in the bio-health gardens. This section blends medicinal, agricultural, and other beneficial plants.

CASE STUDIES

DETAILED PLAN: EXHIBITION CENTER AND BOTANICAL GARDEN

LEGEND

PERSPECTIVE 1: RIPARIAN GARDEN

PERSPECTIVE 2: BIO-HEALTH GARDEN

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YANGZHOU

WDS

world design studio

YANGZHOU'S NEW MEDICAL DISTRICT: RESTORING URBAN HEALTH AND COMMUNITY

Molly Foote | Spring 2013 | LARC 8520 | Dr. Hongbin



PROJECT STATEMENT

The mixed use district serves as the heart of the project through its capability to house diverse amenities and public spaces. The ground floor acts as commercial space, containing shops, restaurants, groceries, and entertainment. The upper floors house offices spaces.

The spine of the mixed-use district consists of a curvilinear, recessed park. An amphitheater is placed to overlook the lakes, as are several bridges. The whole area is defined by public art, street trees to improve climate and air quality, and rain gardens to filter runoff from buildings. The entire space is walkable, with parking garages accessible from the main roads.



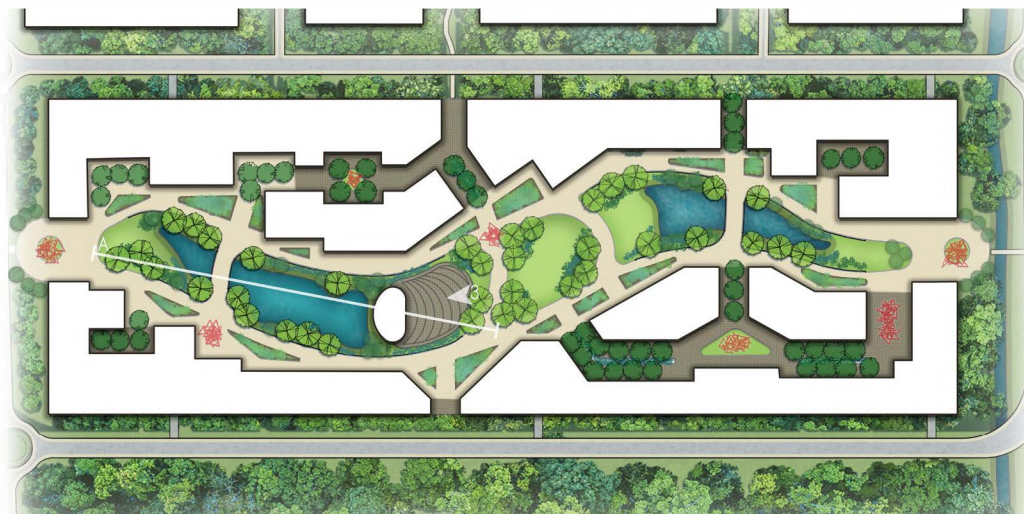
Riverside in Greenville, South Carolina



Jinqiao Mixed-Use District, Shanghai, China

CASE STUDIES

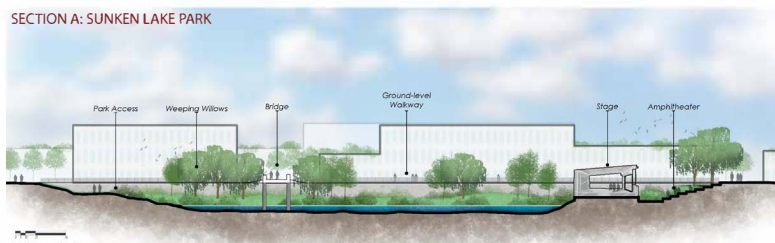
DETAILED PLAN: HIDDEN LAKE MIXED-USE DISTRICT



LEGEND

1. west plaza entrance
2. riparian gardens
3. sunken lake park
4. arched bridge
5. rain gardens
6. public art installations
7. amphitheater and stage
8. event lawn
9. east plaza entrance

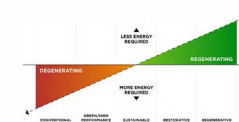
SECTION A: SUNKEN LAKE PARK



REGENERATIVE DESIGN

Regenerative Design is a proactive design strategy which builds upon sustainable design and utilizes ecosystem biomimicry to:

1. improve human and environmental health
2. renew and produce clean energy and materials
3. cultivate resilient, diverse communities

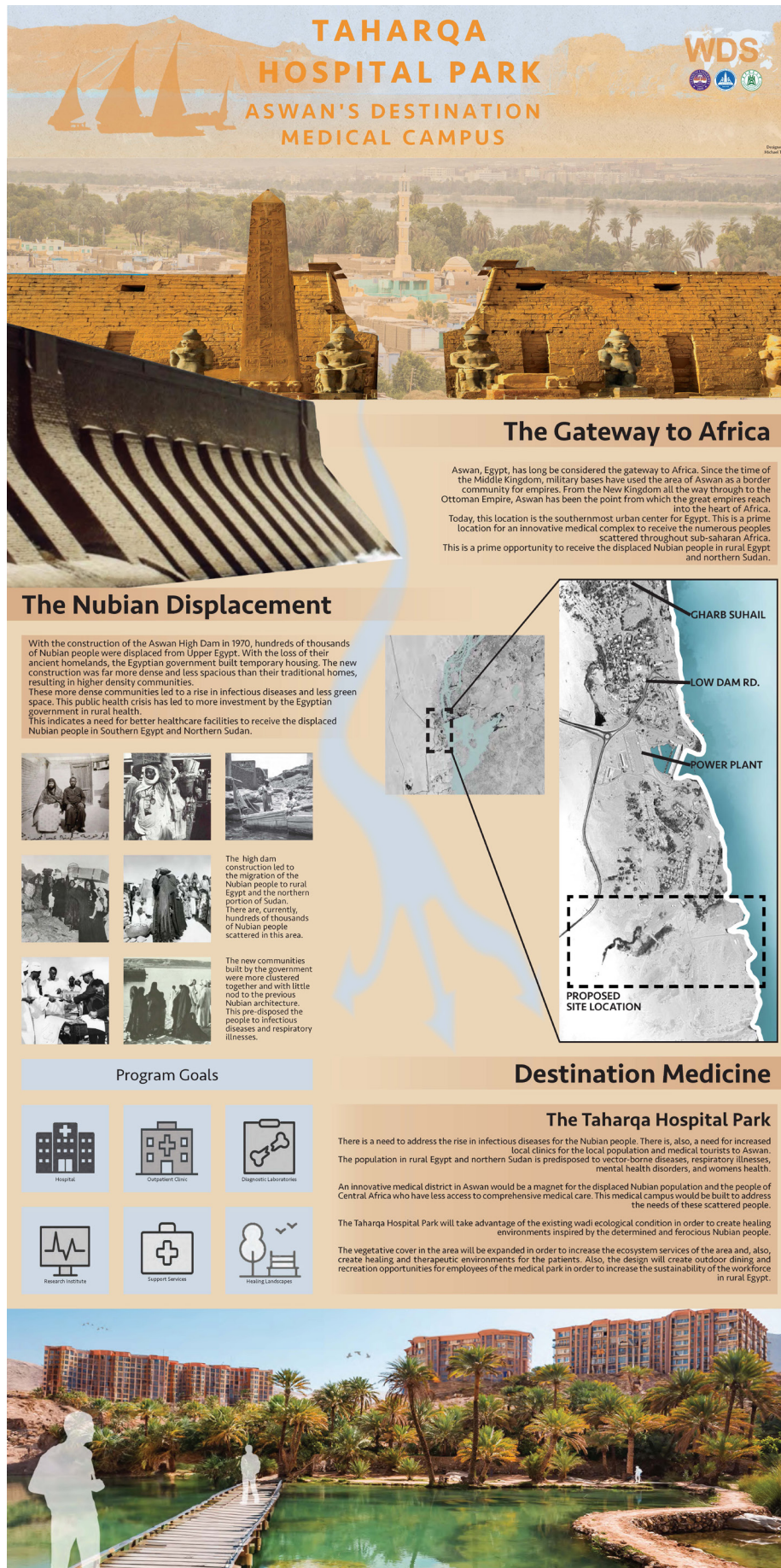


PERSPECTIVE 3: AMPHITHEATER AND SUNKEN LAKE PARK



Principles and Application

Healthy	 Walkability	 Bioremediation
Productive	 Clean Energy	 Urban Agriculture
Resilient	 Green Stormwater Management	 Sense of Place



TAHARQA HOSPITAL PARK

ASWAN'S DESTINATION MEDICAL CAMPUS



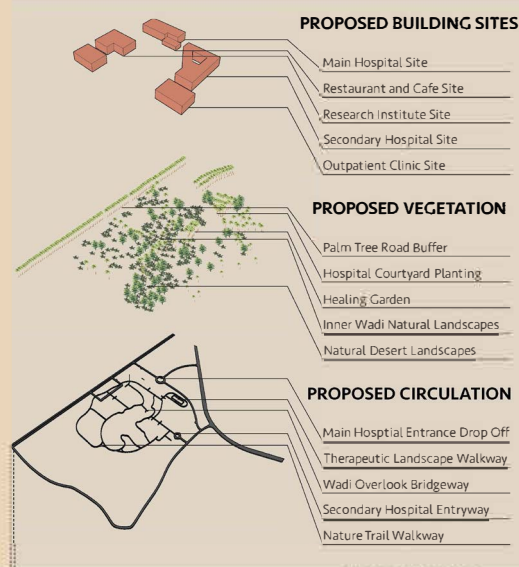
Master Plan

Health, Wellness, Social Connectedness

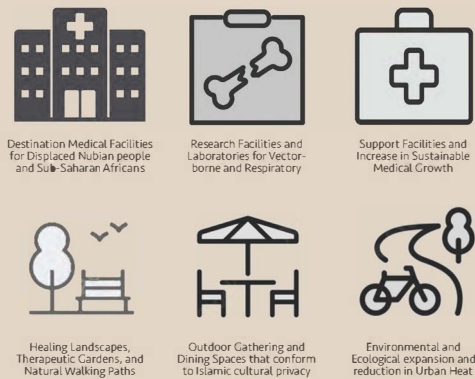


Key

- | | | | |
|---------------------------------------|---|------------------------------------|------------------------------------|
| 1 Main Entrance | 6 Inner Courtyard | 11 Outdoor Terrace | 16 Main Circulation Path |
| 2 Taharqa Memorial Hospital Site | 7 Southern Egypt Regional Hospital Site | 12 Bridge Nexus Point | 15 Research Institute Building One |
| 3 Kushite Restaurant and Cafe | 8 Parking Area | 13 Nubian Wadi Nature Trail System | 16 Outdoor Terrace Lounge Area |
| 4 Nubian Shield Therapeutic Landscape | 9 Parking Area | 14 Wadi Pond Oasis Site | 19 Research Institute Building Two |
| 5 Sustainable Water Fountain | 10 Rural Egypt Outpatient Clinic Site | 15 Nubian Wadi Overlook Point | 20 Parking Area |



Design Goals

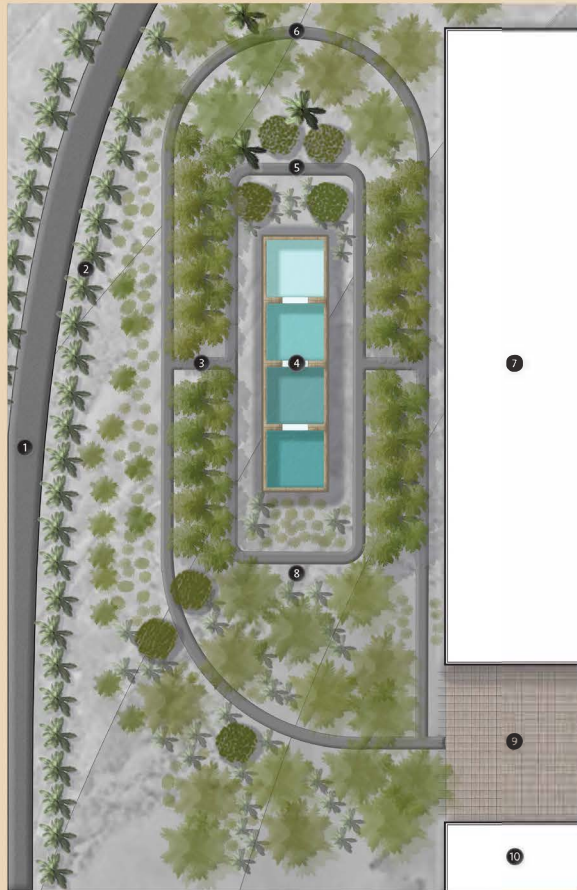


Design Solutions

Emergent, Surgical, OB-GYN, Infectious Disease Facilities → 1,125,000 sq. ft. Hospital, 1,500 Beds

Nubian Shield Therapeutic Garden

A Healing Landscape Inspired by History



The Nubian Shield Therapeutic Garden

Healing Landscapes and Therapeutic Gardens are defined by several factors outlined by different theories. In this area, these elements are achieved while, simultaneously, designing for cultural and historical factors.

The main feature of this space is the sustainable water fountain. Its geometric shape, utilization of sound, and granite aesthetic, speaks to the Islamic design principles, healing landscape theories, and the Nubian heritage respectively. All while creating a sustainable water feature in a desert environment.

The planting palette in this area utilizes native species of palms, cactus, grasses, and succulents, but does so using hide-and-reveal tactics to draw the user further in to the space.

The design of the pathways is used to draw the user further and further into the space. Also, the pathway is relatively flat to allow for wheelchair accessibility to promote independent usage by many and all patients.

Key

- 1 Healthcare Boulevard
- 2 Row of Date Palms (*Medemia argun*)
- 3 Inner Pathway Connection
- 4 Sustainable Water Feature
- 5 Inner Pathway Circle
- 6 Outer Pathway Circle
- 7 Southern Egypt Regional Hospital
- 8 Water Fountain Seating Area
- 9 Pergola Covered Relaxation Area
- 10 Taharqa Memorial Hospital

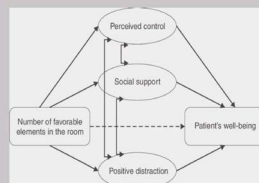
SCALE 1/16" = 1'-0"



The Kaplan and Kaplan Attention Restoration Theory

The design of this landscape addresses this theory in the following ways:

- Pathway curvature prevents the user from seeing the extent of the pathway, drawing the user further and further into the space.
- Pruned and manicured cactus plants increase landscape fascination effect.
- Sound of water cascading through the sustainable water fountain draws the user further and further into the space.
- Walking further out from the hospital buildings and trees hiding the buildings within the space bring out feelings of freedom and escape.



The Ulrich Stress Reduction Theory and Prospect-Refuge Theory

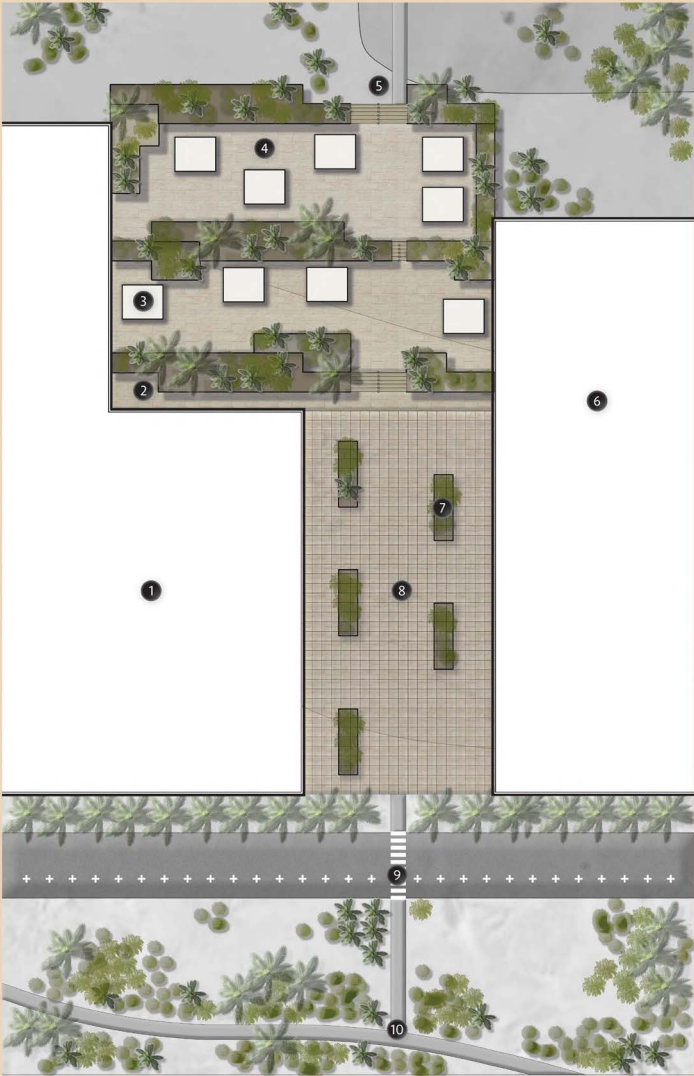
The design of this landscape addresses these theories in the following ways:

- Access to natural spaces increases positive distractions and increases overall patients well-being. Pathways use hide and reveal tactics.
- Ratio between paved surfaces and naturalized conditions is favorable for overall patients well-being.
- Benches facing out from the buildings, but protected from behind by dense trees allows for prospect refuge. View from benches faces horizon instead of buildings.
- View of horizon from the inner circular area increases feeling of freedom and escape from medical stresses. Overall reduction in stress for patients.



Outdoor Terrace Lounge Area

A Space to Dine, Relax, and Enjoy



Outdoor Terrace Lounge Area

The Egyptian government's investment in healthcare in Southern Egypt has proved to be unsustainable. This is due to Egyptian doctors not having comfortable living and working conditions.

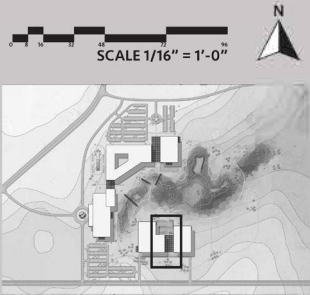
This outdoor terrace looks to address these doctors' desires to have comfortable working and recreational conditions. By providing outdoor lounge area between the two research institute buildings, employees will have readily accessible outdoor space to utilize during breaks and meals.

Islamic culture tends to prefer more private and intimate spaces; therefore, the design of this area is terraced into three distinct areas with smaller areas created by the design and shape of the raised planters.

The location of this terrace is important because it faces the Wadi and will be primarily in the shade of the research institute buildings for the majority of the day. The tiered structure of the terrace will allow the user to have a nearly uninterrupted view of the natural Wadi, which will help to decrease the stresses of the working conditions.

Key

- 1 Research Institute Building One
- 2 Upper Terrace
- 3 Covered Cabana
- 4 Lower Terrace
- 5 Walkway to Main Circulation Pathway
- 6 Research Institute Building Two
- 7 Planter
- 8 Pergola Covered Relaxation Area
- 9 Parking Spaces
- 10 Main Circulation Pathway



Responding to Climate The design of these terraces allows the buildings to shade the area for the majority of the day.	Cultural Privacy The design, shape, and height of the planters creates private areas for people to dine, relax, and enjoy.	Design for Growth The available space surrounding the area allows for the potential of adding terraces to complement with growth.	Maximize Sustainability Utilizing the buildings shade and the existing topography maximizes the sustainability of this site.	Water as a Resource Using the sights and sounds of water as an agent of healing while doing so in a sustainable way in the desert climate.	Urban Heat Island Increasing the amount of green covered and decreasing the amount of paved surface in sunlight to reduce UHI.
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TAHARQA HOSPITAL PARK ASWAN'S DESTINATION MEDICAL CAMPUS



Nubian Heritage Wadi Site Plan A Space of Physical, Mental, and Cultural Healing



Key

- | | |
|---------------------------------|--------------------------------|
| 1 Bridge Connection | 6 Boardwalk Crossing |
| 2 Constructed Wetland Condition | 7 Bridge Connection |
| 3 Wetland Viewing Platform | 8 Walkway to Outpatient Clinic |
| 4 Bridge Connection | 9 Boardwalk Crossing |
| 5 Main Walkway Nexus Point | 10 Cactus Garden |

The Nubian Heritage Wadi

The central feature of the Hospital Park is centered around this natural Wadi. The Wadi environment is a unique feature of desert topography and is championed by this design. A nature trail will wind through the wadi, seeing several different type of ecosystems and allowing the user to experience the full power of the healing properties of nature. Sound, Scent, Sight, Touch, maybe taste!



Nubian Wadi Nature Trail



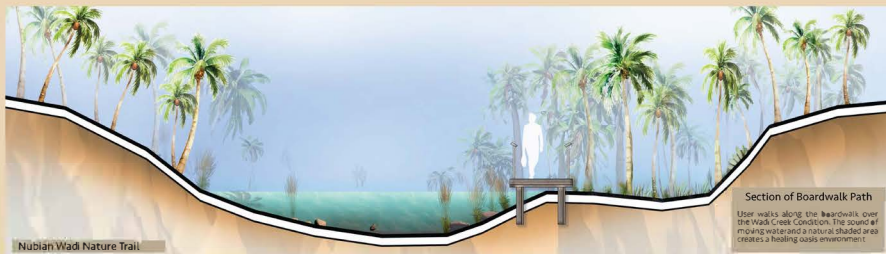
Constructed Wetland Area



Nubian Wadi Nature Trail



Wadi Pond Oasis Site



Nubian Wadi Nature Trail

Section of Boardwalk Path
User walks along the boardwalk, over the Wadi's wet condition. The sound of moving water and a natural shaded area creates a healing oasis environment.

Sharm El-Sheikh International Port, El Hadaba



Sustainable Tourism + Sustainable Development

Introduction:

Located on the tip of the Sinai Peninsula, as it juts into the Red Sea, Sharm El-Sheikh, Egypt is a minor tourist destination for Europeans and Egyptians. Known for its attractive scuba diving coves, picturesque nature reserves, and other outdoor recreational activities, Sharm El-Sheikh offers luxurious beach life accommodations. Although the sea facing resorts offer grandeur expected with a lavish holiday in the sun, the cruise ship and ferry port lack refinement and infrastructure.

Aim and Objectives

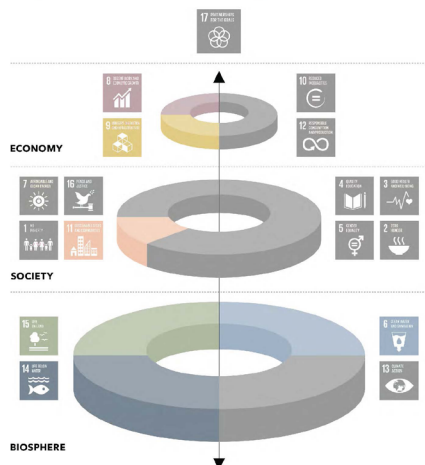
In support of the Sustainable Development and Sustainable Tourism initiative that the Arab Republic of Egypt backs, I propose expansion and improvement of the port area. In furthering the development of Sharm El-Mina Port, Sharm El-Sheikh will reach their goal of becoming a global touristic center, as well as an environmental location for a variety of sustainable tourist and economic activities, by 2045.

Design Concept

Taking into consideration six of the seventeen Sustainability Development Goals, produced by the United Nations, the International Port will focus on life on land; decent work and economic growth; industry, innovation and infrastructure; sustainable communities; clean water; and life below water.



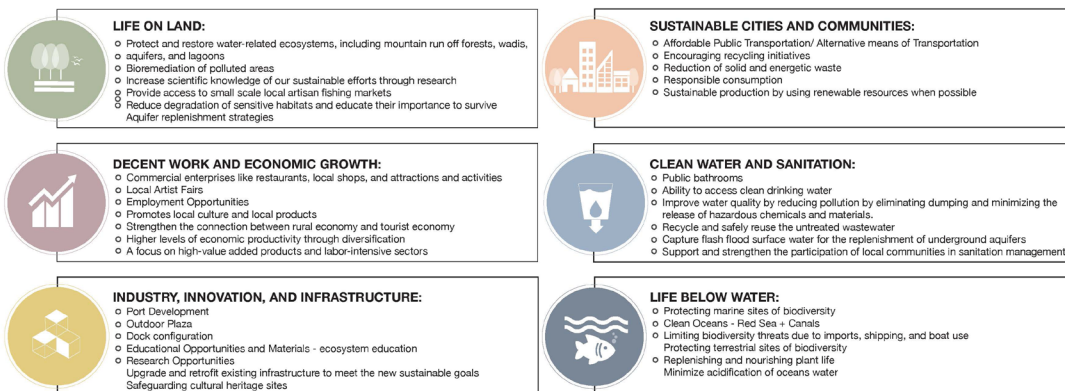
Layers of Sustainability



Sustainable Development Goals



Sustainability Objectives

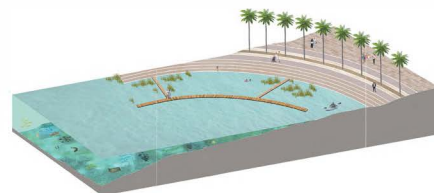
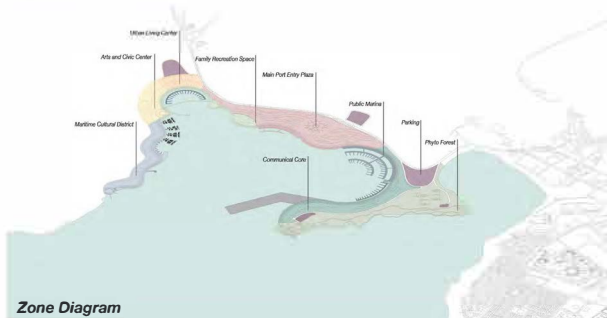


Sharm El-Sheikh International Port Area



In the Sharm El-Sheikh International Port Area, five cores and 4 subcores exist. These mixed-use five core areas include a maritime cultural district, an arts and civic center, a commercial district, a communal core for local residential entertainment, and a phytoremediation forest. The four subcores include an urban living center with luxury apartments, a family recreational space, a public marina for days trips and boat access, and various parking locations for visitor convenience.

The maritime cultural district will include a wave organ for musical and recreational use. The main entry plaza will be accompanied by a floating plaza dock for public experiences. The arts and civic center will include a breakwater wall for public traversing.



Program Development

Phyto Forest: Mangrove and Successional Species



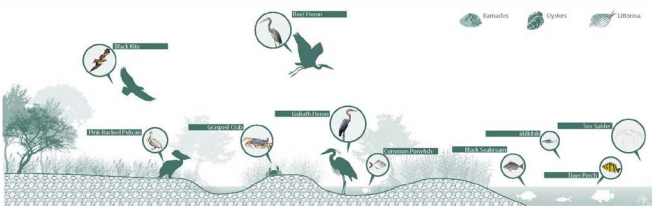
Zoomed Master Plan

The Phytoremediation 'Phyto' Forest, is an enclosed system of boardwalks stretching 1.5 miles full circuit. It includes a small museum for further phytoremediation processes and models for educational purposes. A small cafe accompanies the museum for refreshment needs. At the end of the Phyto Forest trail a small district of cafes, as well as an observatory sit atop the raised elevation. From this vantage point the shop patrons are able to watch the cruise ships arrive and depart, as well as views over Southern Point Park.

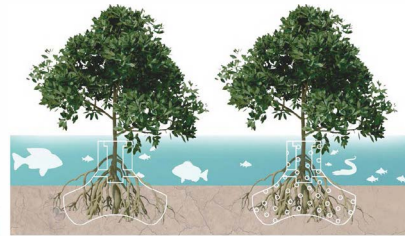
In order to design a phytoremediation forest, an in-depth understanding of the ecosystem was required. TetraPOT will serve as a starting point for the Phyto Forest due to rooting issues when beginning a mangrove forest.



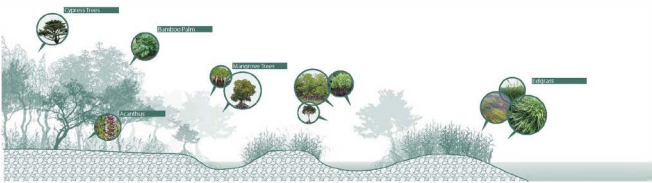
Boardwalk Section
Scale: 3/32" = 1' - 0"



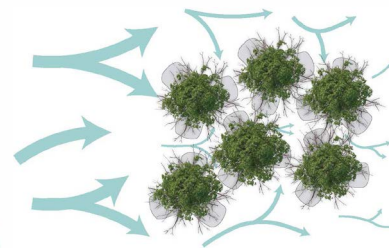
Salt Marsh Wildlife



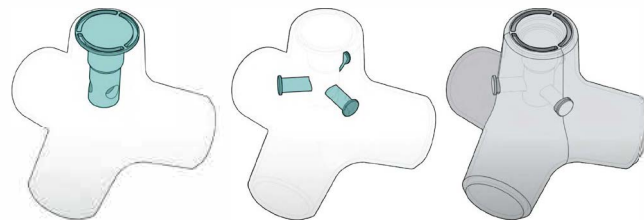
TetraPOT Sectional Diagram



Salt Marsh Successional Species



TetraPOT Plan and Water Flow Diagram



TetraPOT Construction Diagram



TetraPOT Render

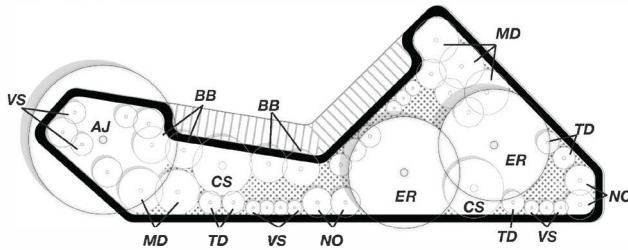
Program Development

Main Entry Plaza and West End Shops



Zoomed Master Plan

The Main Entry Plaza hosts both East End and West End shops and cafes. This outdoor plaza hosts a variety of attractions for tourists. Three models of planter beds with accompanied seating will be placed around the port area, but largely focused in the Main Entry Plaza. This space serves to welcome visitors to Sharm El-Sheikh.



Planter Bed Planting Plan A2



Planter Bed Detail A1



Planter Bed Detail A2



Albizia julibrissin
Silk Tree



Eucalyptus rostrata
River Redgum



Cycas sp.
Sago Palm



Monstera deliciosa
Split-Leaf Philodendron



Bougainvillea glabra
Paperflower



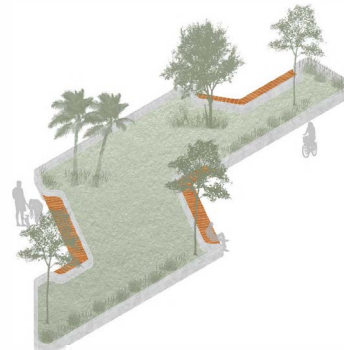
Tasparagus densiflorus
Asparagus Fern



Verbena sp.
Verbena



Nerium oleander
Oleander



Planter Bed Detail A3



Sharm El-Sheikh International Port, El Hadaba



Program Development

Arts and Civic Center Marina



Zoomed Master Plan

The Arts and Civic Center Marina hosts a visual art museum and gallery, a performing arts theater, and an outdoor pavilion. The marina also encompasses both the urban living center with luxury apartments and the family recreational space. A fine dining restaurant sits across from the breakwater wall, which further protects the private marina and provides a pedestrian experience.

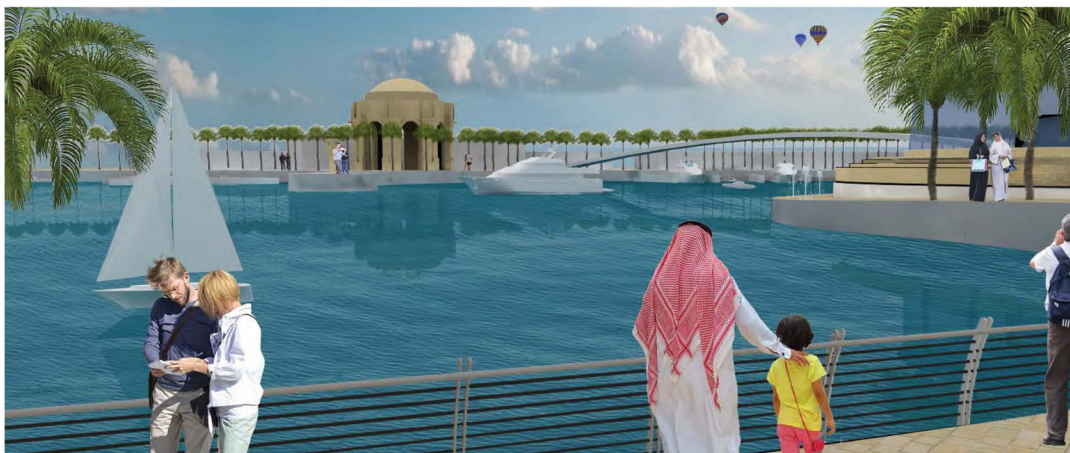
This mixed-use space serves as a hinge for the International Port, connecting the west maritime cultural district to the eastern zones. It is a major node within the site.



Experiential Drawing



Transverse Marina Section
Scale: 1/8" = 1' - 0"



Devon O'Geary LARC 8520 Professor Nassar April 26, 2021