Lake Alice Ecological Park

School of Landscape Architecture
Senior Capstone Project
for
Lindsey M. Gibbs
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Acknowledgments

I wanted to say thank you to all the people who helped me get to this point in my school work. So many people have been so helpful and I could not have done it without them. Thank you so much to my Grandmother who watched my son while I was at school, to my fiance’ for putting up with me after pulling all-nighters, my parents for words of encouragement, to all the Landscape Architecture faculty who helped me on my way with this project, especially my advisor, Les Linscott, and Erik Lewis and Dr. Gail Hansen de Chapman for their help and insight.
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LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, Fl

Location within Alachua County
The Lake Alice Basin at the University of Florida
1.0 PROJECT INTRODUCTION

◊ Project Description
◊ Goals & Objectives
**Project:** Lake Alice Ecological Park will be a botanical and teaching park located in the northwest portion of the Lake Alice basin

**Client:** This is a hypothetical project, however, I have been communicating with Erik Lewis at the UF planning department on campus, as well as Dr. Gail Hansen de Chapman

**Summary of Work:**
- To educate the public about ecological issues
- To provide recreational opportunities
- To reduce run-off into Lake Alice
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at the University of Florida, Gainesville, FL
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at the University of Florida, Gainesville, FL

Project Value:
This project will better the community of Gainesville, by working with sensitive ecosystems and unique plant palettes.

The design of Lake Alice Ecological Park will allow the public to become informed about pertinent issues affecting the lake and its inhabitants.

Major Issues:
Currently, as well as in the past, one of the major issues has been the high nutrient load in Lake Alice. According to the Gainesville Sun, Lake Alice is currently designated as a storm water retention area so it is not held to the same water quality standards as other water bodies by the EPA. In an article from January of 2010 by Thomas Stewart, Mark Clark, a professor, said that one of the primary sources for Lake Alice’s sometimes green tinge is the athletic fields, especially Florida Field.

In 2009 Lake Alice was 23 times over the limit set by the EPA for phosphorus (Stewart 2010). To combat the algal blooms which can be detrimental to not only the health of aquatic organisms but can also cause asthma in people, UF manages the algae with Copper Sulfate (Stewart 2010).
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Introduction

Goals:

1. Create an educational environment for adults and children
   - Objective: add interpretative signage
   - Objective: Design an environmental teaching facility on the shore of Lake Alice

2. Make a safer Lake Alice area
   - Objective: Make road crossings safer
   - Objective: Make trailheads and parks more visible
   - Objective: Increase cross usage to increase traffic in secluded areas

3. Improve public awareness about Lake Alice water issues
   - Objective: Put signage along the Lake shore about water quality issues

4. Increase recreation opportunities
   - Objective: Create a more extensive hiking trail and boardwalk network
   - Objective: Increase connectivity from Lake Alice recreation to other recreational complexes
   - Objective: Create recreation opportunities for children, not just for college students
History of Lake Alice

◊ Originally the area is home to Native Americans. In the Gainesville area, this is the Potano people of the Timucua tribe.

◊ The University of Florida is founded in 1905 and began classes in 1906.

◊ Initially, the Lake Alice basin was used to stable mules.

◊ A small sink existed in 1938.

◊ In the 1940’s water is diverted from campus to flow into Lake Alice causing flooding of the area.

◊ In the 1950’s water from air conditioners is diverted to lake Alice causing more flooding and the dry wells are drilled to remediate the problem.

◊ In the 1960’s water hyacinth and red maple spread throughout the site.

◊ 1970’s and 80’s are spent trying to control the water hyacinth invasion.

◊ Today: water quality is still an issue and nutrient levels are much higher than is healthy due to run off from fertilized sports fields which causes algal blooms.
1.0 Case Studies

- Xochimilco Ecological Park
- Naples Botanical Garden
- Crosby Arboretum
Crissy Field
Green Cay Wetlands
Phytoremediation
xochimilco ecological park: mexico city, mexico

Flower covered trellises and agricultural plots

A plan of Xochimilco Ecological Park by Grupo Desino Urbano headed by Mario Schjetnan from 1993

A chinampa
xochimilco ecological park: mexico city, mexico

◊ Xochimilco was originally a series of lakes that filled the Mexico Valley. The Aztec people lived on an island in the middle of the lake surrounded by chinampas, or artificial islands.
◊ Chinampas were used by the Aztecs to raise crops and animals.
◊ In 1987 Xochimilco was declared a world heritage site.
◊ In 1993 a clean up of the site and a redesign by Grupo Diseno Urbano headed by Mario Schjetnan began.
◊ The chinampas were re-established and used for agriculture again.
◊ Solar fields power water circulation and agricultural operations and visitors can ride though canals on boats called trajineras.

Relevance:
Xochimilco Ecological Park celebrates previous uses of the land, which I would like to do at Lake Alice. There were water quality issues at Xochimilco but they were overcome.
Xochimilco also offers many opportunities for recreation like boat rides, walking, and wildlife watching. I may not be able to include boat rides at Lake Alice, but other program elements similar to Xochimilco are possible.
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Case Studies

Naples Botanical Garden: Naples, FL
Naples Botanical Garden: Naples, FL

The Naples Botanical Garden was founded in 1993 by 8 Naples residents. In 2000 176 acres was purchased which is home to 7 different ecological communities.

The land that was purchased was full of exotic invasives, but it has been transformed into gardens, and a 90 acre nature sanctuary that includes walking trails, a boardwalk, lakes and wetlands, a 33 acre pine flatwoods preserve, a rookery island, and a birding tower. This preserve provides a habitat for many species including the bald eagle, otters, and gopher tortoises.

Relevance:
The Naples Botanical Garden is not only a great example of a beautiful botanical garden, but it is also a habitat.

The boardwalks and paths that take you through the constructed wetlands move through several ecosystems, which is similar to what the design of Lake Alice Ecological Park aims to accomplish.
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Case Studies

Crosby Arboretum: Picayune, MS

The Pincote facility at the Crosby Arboretum
Crosby Arboretum: Picayune, MS

The Crosby Arboretum was dedicated to the memory of L.O. Crosby Jr., who was a prominent forestry figure in his time. Upon his death, his family decided to turn their family’s strawberry field into what is now the Crosby Arboretum. The construction began in the early 1980’s and was finished by 1987, and teamed with the university of Mississippi in 1997 for research and for the purpose of adding to its resources.

The Arboretum has over 300 species of plants and also manages 7 other natural areas totaling in over 700 acres. There are several trails that the public can take at the 64 acre pinecote facility that showcase the 3 unique ecological communities located within the Arboretum. The Pinecote facility won an asla award for its ecologically mindful design.

**ECOLOGICAL COMMUNITIES EXHIBITED:**

**SAVANNA** - A GRASSLAND WITH SCATTERED TREES.

**WOODLAND** - A WOODLAND THAT WAS LAST BURNED IN 1982.

**AQUATIC** - PINECOTE PAVILLION LOCATED ON A SMALL POND IN THIS COMMUNITY. AIA AWARD RECIPIENT.

**TRAILS:**

ARRIVAL JOURNEY • SLOUGH JOURNEY • POND JOURNEY

PITCHER PLANT BOG • ROSS HUTCHINS JOURNEY

WOODLAND JOURNEY • ED BLAKE JOURNEY

WILLIAM BARTRAM JOURNEY • CHILDREN’S JOURNEY

BILL CIBULA JOURNEY • NORTH SAVANNA JOURNEY

SOUTH SAVANNA JOURNEY • ETHNOBOTANY LOOP

**Relevance:** This type of botanical garden should be a model for the design of Lake Alice Ecological Park.
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Case Studies

Crissy Field: San Francisco, CA

Crissy Field shown as an Army air base circa 1921

Crissy Field shown with children and families today.
Crissy Field: San Francisco, CA

Historic uses: Crissy Field was originally filled in for a race track in 1912 and later became an airfield in 1920. After 1936 it became derelict.

The Park: The park was built with help from Evelyn and Walter Haas Jr. fund and the San Francisco community. 34.4 million dollars was raised to construct the park, the 70 acres of asphalt and concrete that was once an air strip was removed, and volunteers planted native plants throughout the park and along the shoreline. The end product was a new 100 acre national park. Crissy Field’s grand opening was May 6th, 2001.

Activities: Crissy Field center environmental education center offers programs for children and families, as well as youth jobs.

Relevance:

Crissy Field is relevant to the design of the Lake Alice Ecological Park because of its programming that includes environmental education.

One of the main goals of the design of Lake Alice Ecological Park is to educate the public about the lake Alice basin and the environment, and an environmental education facility would be an excellent element for me to add to my design.
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Case Studies

Green Cay Wetlands: Palm Beach County, FL

Views of the 1.5 mile green cay wetlands board walk and the 9,000 square foot wetlands education facility.
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Case Studies

History:
Green Cay Wetlands was originally open prairie that was developed into green cay farm, which grew bell peppers, and was owned by Ted and Trudy Winsberg.

Park: Green Cay was created to treat the treated waste water from Palm Beach County, which can total several millions per day. 86 different species of vegetation are used to treat the reclaimed water. Green Cay is meant to mimic a natural Everglades ecosystem.

Activities: At Green Cay there is a 1.5 mile board walk that runs throughout the wetland, a chickee hut on exhibit, and a 9,000 sq ft nature center. The nature center contains a turtle pond exhibit, a frog habitat, educational murals, an alligator hole, and a model of a wetland.

Relevance:
Green Cay Wetlands is a relevant project to the design of Lake Alice Ecological Park because of its treatment of highly nutrient loaded waters. Lake Alice currently has a problem with high nutrient levels and treatment with vegetation through phytoremediation is a feasible option.

Green Cay also features a very large educational facility, which is an element will be incorporated the design for Lake Alice.
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Case Studies

Phytoremediation: Different types

**PHYTO VOLATILIZATION:**
Some plants take up volatile contaminants and release them into the atmosphere through transpiration. The contaminant is transformed or degraded within the plant to create a less toxic substance before and then released into the air.

**PHYTO DEGRADATION:**
Plants take up and break down contaminants through the release of enzymes and metabolic processes such as photosynthetic oxidation/reduction. In this process, organic pollutants are degraded and incorporated into the plant or broken down in the soil.

**PHYTO EXTRACTION:**
Plants take up contaminants - mostly metals, metaloids, and radionuclides - with their roots and accumulate them in large quantities within their stems and leaves. These plants have to be harvested and disposed as special waste.

**PHYTO STABILIZATION:**
Some plants can sequester or immobilize contaminants by absorbing them into their roots and releasing a chemical that converts the contaminant to a less toxic state. This mechanism limits the migration of contaminants through water erosion, leaching, wind, and soil dispersion.
Phytoremediation: what is it?

Definition of phytoremediation

From cpeo.org:
“a bioremediation process that uses various types of plants to remove, transfer, stabilize, and/or destroy contaminants in the soil and groundwater”

Plants essentially have the ability to pick up certain compounds out of the soil. Different plants are better at picking up some compounds than others.

Poplar trees have been most studied and have been used by the air force to remove trichloroethylene from ground water. Poplar trees are also able to keep herbicides and pesticides from groundwater.

In Chernobyl, Russia, sunflowers were able to remove radioactive contaminants from pond water.

Plants with shallow root systems can be used to treat surface contaminants while trees can treat contamination deeper in the soil.

Sounds great! what’s the catch?

There is one limitation with phytoremediation: the plants can not be left on site to decompose once they have taken up the contamination. If they are left to decompose, the contaminant will simply leach back into the soil. The only exceptions are plants that actually metabolize toxins, which is called phytodegradation.

Relevance to Lake Alice Ecological Park?

Lake Alice currently has a high level of nutrients such as nitrogen and phosphorus and employment of a phytoremediation program on the lake could be beneficial to the water quality.
3.0 Site Analysis

Analysis
◊ Expanded Context
◊ Immediate Context

Synthesis
◊ Opportunities
◊ Constraints
**Site Inventory and Analysis: Expanded**

<table>
<thead>
<tr>
<th>Expanded Context</th>
<th>Immediate Context</th>
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<td>♦ Land Usage Map</td>
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<td>♦ View sheds</td>
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<td>♦ Key Intersections</td>
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</tbody>
</table>
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Site Analysis

Site Inventory and Analysis: Expanded

Expanded Context

◊ Land Usage Map
◊ Cultural Resources
◊ Environmental Resource
◊ Roadways

Land Usage for the Lake Alice and the Expanded Context of the University of Florida.

Immediate Context

◊ Land Usage Map
◊ Cultural Resources
◊ Environmental Resources
◊ Soils
◊ Topography
◊ View sheds

Land usage is broken down into

◊ Housing
◊ Recreation
◊ Academic
◊ Offices and Support Structures
◊ Conservation
◊ Labs
◊ Other (not specified)
Site Inventory and Analysis: Expanded

all of the current land uses at the university of florida
LAKE ALICE ECOLOGICAL PARK
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Site Inventory and Analysis: Expanded

Site Analysis

Land Use: Housing
Land Use: Recreation
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Site Analysis

Site Inventory and Analysis: Expanded

Land Use: Academic

Land Use: Offices and Other Support Structures
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Site Inventory and Analysis: Expanded

Site Analysis

Land Use: Conservation

Land Use: Labs
SITE INVENTORY AND ANALYSIS: EXPANDED

Land Use: Other / Not Specified
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Site Inventory and Analysis: Expanded

Cultural resources for UF expanded context

- Reitz Union
- “The swamp”
- Gyms
- O’Connell Center
- Baughman Center
- Plaza of the Americas
- Libraries

UF Cultural Resources for Expanded Context
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at the University of Florida, Gainesville, Fl

Site Inventory and Analysis: Expanded

environmental resources
for UF expanded context

◊ Lakes
◊ Creeks
◊ Wetlands
◊ Open Space
◊ Fields
◊ Gardens
◊ UF Medicinal Garden
◊ Ficke Garden
◊ Bat House
Site Inventory and Analysis: Expanded

UF Important Roadways and Intersections
Site Inventory and Analysis: Immediate

Immediate context

Land usage in the surrounding context of Lake Alice, the Medicinal Gardens, and Wetlands

Land usage is broken down into:
- Housing
- Recreation
- Academic
- Offices and Support Structures
- Conservation
- Labs
Site Inventory and Analysis: Immediate

Immediate context surrounding Lake Alice, the Medicinal Gardens and the Bat House
LAKE ALICE ECOLOGICAL PARK
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Site Analysis

Site Inventory and Analysis: Immediate

Land Use: Housing

Land Use: Recreation
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Site Analysis

Site Inventory and Analysis: immediate

Land Use: Academic

Land Use: Offices and Other Support Structures
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Site Analysis

Site Inventory and Analysis: Immediate

Land Use: Conservation

Land Use: Labs
Site Inventory and Analysis: Immediate

Land Use: Other / Not Specified
Site Inventory and Analysis: Immediate

Immediate Context:

Resources for the Lake Alice immediate context

Cultural Resources for the Lake Alice Area immediate context

◊ Bat House
◊ Lake viewing and Info Kiosk
◊ Baughman Center
◊ Medicinal Gardens
◊ Student Garden Plots
◊ Baby Gator
◊ IFAS, USDA, Fifield Hall
Site Inventory and Analysis: Immediate

Cultural resources
Site inventory and analysis: Immediate

Immediate Context:

Environmental resources for Lake Alice and Immediate Context

◊ Creeks
◊ Lakes
◊ Open Spaces
◊ Linkages
◊ Wetlands
◊ Gardens
  • Ficke Gardens
  • Medicinal Gardens
  • Student Gardens
Site inventory and analysis: Immediate

Environmental resources for the Lake Alice immediate context
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at the University of Florida, Gainesville, FL

Site Analysis

Site inventory and analysis: Immediate

Immediate Context:

Significant Topography

Look for things like

◊ Steep slopes
◊ Depressions
◊ Sink holes
◊ Mounds
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Site Analysis

Site inventory and analysis: Immediate

Topography map for the Lake Alice Basin
Site inventory and analysis: Immediate

Soils for the immediate context of Lake Alice

Each soil corresponds to a different ecosystem and helps to inform land uses as well as plant palettes.
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Site Analysis

Site Inventory and Analysis: Immediate

PLANTS BY HABITAT AREA

- **FRESHWATER MARSH**
  - cordgrass, sedges, niaudia, dotted smartweed, arrowheads, pickerelweed, reedmace, spikerush, bullrushes, bladderpod, common reed, coreopsis, glasswort, seashore dropseed, sea purslane, and water primrose

- **UPLAND MIXED FOREST / MESIC HAMMOCK**
  - southern magnolia, pignut hickory, sweetgum, Florida maple, devil's walking stick, American hawthorn, redbud, flowering dogwood, Carolina holly, American holly, eastern hop hornbeam, spruce pine, lobolly pine, live oak, and swamp chestnut oak, among others. Other typical plants include gum bumesa, hackberry, persimmon, red cedar, red mulberry, wild olive, redbay, laurel cherry, black cherry, bluff oak, water oak, cabbage palm, basswood, winged elm, Florida elm, sparkleberry, Hercules' club, slippery elm, beautyberry, partridgeberry, sarcopilla vine, greenbrier, frilliums, beach drops, passion flower, bedstraw, strawberry bush, silverbell, cattail sedges, fringe tree, horse sugar, white oak, and black gum.

- **MESIC FLATWODS**
  - longleaf pine, slash pine, wire grass, saw palmetto, gallberry, St. John's wort, dwarf huckleberry, fetterbush, dwarf wax myrtle, staggerbush, blueberry, gopher apple, tarflower, bog buttons, blackroot, false foxglove, white-topped aster, yellow-eyed grass, and grassy flat

- **BOTTOM LAND FOREST**
  - water oak, live oak, red maple, sweetgum, lobolly pine, white cedar, cabbage palm, diamond-leaf oak, southern magnolia, lobolly bay, swamp Tupelo, spruce pine, American beech, dogwood, willow, willow dogwood, Florida elm, willow oak, and American hornbeam

- **BASIN MARSH**
  - common reed, panica, cut grass, southern watergrass, wassom, Spanish needle, red oak, salt marsh, American lotus, water primrose, arrowhead, coastal plain willow, saltbush, elderberry, spikerush, knotweed, bullrush, and dog tertiary

- **EMERGENT AQUATIC / MARSH LAKE**
  - spikerush, yellow-eyed grasses, St. John's wort, chainfern, coastal plain willow, maidencane, wax myrtle, water primrose, floating heart, butterbush, fire flag, pickerelweed, arrowhead, bladdeworts, butterbush threeway, toothache grass, star rush, bulrushes, sawgrass, and nut sedge
Site inventory and analysis: Immediate

- **ANIMALS BY HABITAT AREA**
  - **FRESHWATER MARSH**
    - cricket frog, pig frog, leopard frog, American alligator, eastern mud snake, banded water snake, striped swamp snake, great blue heron, great egret, snowy egret, little blue heron, tricolored heron, black-crowned night-heron, yellow-crowned night-heron, northern harrier, aplomado falcon, raccoon, and river otter.
  - **UPLAND MIXED FOREST / MESIC HAMMOCK**
    - slaty-backed heron, Cope's gray heron, banded kingfisher, box turtle, eastern kingbird, black-bellied vireo, Bachman's sparrow, cotton rat, cotton mouse, black bear, raccoon, gray fox, bobcat, and white-tailed deer.
  - **MESIC FLATWODS**
    - oak hickory, little grass squirrel, narrowmouth snake, black racer, red rat snake, southeastern king snake, brown-headed nuthatch, pine warbler, Bachman's sparrow, cotton rat, cotton mouse, black bear, raccoon, gray fox, bobcat, and white-tailed deer.
  - **BOTTLE LAND FOREST**
    - barred solonander, milk salamander, three-lined salamander, wood salamander, five-lined skink, ringneck snake, gray rat snake, eastern king snake, cottonmouth, wood duck, red-tailed hawk, turkey, yellow-billed cuckoo, black-capped chickadee, great-horned owl, rufous-sided towhee, occidental flycatcher, pileated woodpecker, henni thrush, ceanothus warbler, osprey, gray heron, flying squirrel, raccoon, mink, gray fox, bobcat, and white-tailed deer.
  - **BASIN MARSH**
    - two-banded gecko, lesser siren, greater siren, cricket frog, green treefrog, bullfrog, pig frog, leopard frog, alligator, eastern mud snake, green water snake, banded water snake, striped swamp snake, black swamp snake, great blue heron, great egret, snowy egret, little blue heron, tricolored heron, bald eagle, and northern harrier.
  - **EMERGENT AQUATIC / MARSH LAKE**
    - pickerel, lesser siren, greater siren, cricket frog, green treefrog, bullfrog, pig frog, leopard frog, alligator, eastern mud snake, banded water snake, green water snake, striped cypress snake, black snake, American bittern, least bittern, green heron, great egret, snowy egret, little blue heron, tricolored heron, green heron, black-crowned night-heron, white ibis, great blue heron, bald eagle, northern harrier, king rail, Virginia rail, rose, limpkin, long-billed marsh wren, yellowthroat, red-winged blackbird, hoo-ooedACKER, and Florida water rat.
Site inventory and analysis: Immediate

Lake Alice view sheds
From viewing area east from Baughman Center east, from Village Drive south, and from the marsh looking north.
Program user groups

Adults
- Mentally/Physically Disabled
- College students
- Senior citizens

Children
- Infant
- Older Teens

Families
- Mixed ages and abilities

Classes
- similar ages and abilities

First time visitors
- Mixed ages and abilities
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL
Program User Groups

This chart shows users noted at Lake Alice or users who could potentially utilize Lake Alice Ecological Park matched up to possible recreation uses. This informed the design elements of Lake Alice Ecological Park to make as many accessible options as possible for the most user groups.
## Program User Groups

<table>
<thead>
<tr>
<th>Uses</th>
<th>Senior Citizens</th>
<th>College Students</th>
<th>Physically / Metally Disabled</th>
<th>Infants</th>
<th>Older Children Teens</th>
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LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Site Synthesis

OPPORTUNITIES AT LAKE ALICE

1. The current medicinal gardens is an ideal for a botanical garden / teaching area because of its central location between hort and core campus.

2. Potato people archeological sites provide an opportunity for education and interpretation.

3. Various areas around the lake area ideal vantage points and should be capitalized on.

4. The bat houses provide an excellent draw for people which creates an opportunity to create an activity hub.

5. Entry onto museum from Sw 25th street offers an opportunity to create a gateway into UF from Sw 2nd Ave.

6. Picke gardens could potentially extend into a trail connection through the marsh to the medicinal garden.

7. Assorted hort and USDA buildings could become a complex for life sciences due to proximity to wetlands.

8. Opportunity for preservation of wetlands areas to create habitat for animals.


10. Due to poor road crossing conditions on museum road, there is an excellent opportunity for the creation of a better crossing environment between the bat houses and lake alice, and harmonious woods and the medicinal garden.
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Site Synthesis

CONSTRAINTS AT LAKE ALICE

1. Potano People Archeological sites are sensitive and caution must be exercised during design and construction phases.
2. Islands with thick vegetation block views.
3. No development can take place in close proximity to the bats for the health of people and the bats.
4. Ficke Gardens is an existing area that must be designed around.
5. Horticultural buildings are very spread out over a lot of developable land.
6. Development on wetlands should not happen or be kept to an absolute minimum to preserve habitat and water recharge.
7. Dry wells are an eyesore that are necessary for current operations at the waste water treatment facility.
8. Museum Road intersects site and creates unsafe road crossings.
9. Low, marshy land and soil limits the types of structures that can be placed in the medicinal gardens.
4.0 CONCEPTS

◊ PROGRAM
◊ CONCEPTS
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

CONCEPTS
Concept 1

- This concept keeps museum road at its normal alignment
- It focuses on creating gateways to lake Alice at Radio/Museum and Village Dr. / Museum Rd.
- It consolidates IFAS buildings on the SW shore
- Creates a trail going through the Medicinal Gardens all the way to the parking garage on Gale Lemerand
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

CONCEPT 1
Concept 2

- This concept re-aligns Museum
- It focuses on creating gateways at Radio Rd./Museum Rd. and Village Dr./Museum Rd.
- Consolidates IFAS buildings at the SW shore
- Creates a trail going through the Medicinal Gardens all the way to the parking garage on Gale Lemerand as well as a boardwalk through the marshes to the field behind Fifield Hall on the south shore
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

CONCEPT 2
Concept 3: Hybrid

- This concept re-aligns Museum
- It focuses on creating gateways at Radio Rd./Museum Rd. and Village Dr./Museum Rd.
- Consolidates IFAS buildings at the SW shore
- Creates a trail going through the Medicinal Gardens all the way to the parking garage on Gale Lemerand as well as a boardwalk through the marshes to the field behind Field Hall on the south shore
- Also creates a boardwalk and lookout in Medicinal Gardens along the marshland boardwalk
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

CONCEPT 3
5.0 DEVELOPED CONCEPTS

◊ Bat house area
◊ Medicinal Gardens
◊ Conceptual plant palettes
Conceptual trail and boardwalk layout
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Bat house area conceptual design

This is a concept of the NW shore of the Lake Alice Basin.

It adds more student gardens, and a path along the northern border of the property, as well as a playground across from the Baby Gator, which will also serve Corry Village too.
LAKE ALICE ECOLOGICAL PARK
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Bat house area conceptual design: plant palette

- Gaillardia spp.
- Cephalanthus occidentalis
- Zamia floridana
- Eragrostis spectabilis
- Canna spp.
- Hydrangea angustifolia
- Ilex vomitoria
- Myrica cerifera
- Rudbeckia fulgida
- Sabal minor
- Sisyrinchium angustifolium
- Tripsacum floridana
- Acer rubrum
- Betula nigra
- Sabal palmetto
- Taxodium ascendens
- Ulmus americana
- Quercus virginiana
Medicinal Garden Area Concept

This concept creates additional parking, improves and adds upon existing boardwalks, add bathroom / interpretation facility, and enhances views.

The concept for the Medicinal Gardens aims to conserve as many trees and wetland area as possible and is more conceptual in nature, as if it were built it would be mainly laid out in the field.

A native plant palette will be used, focusing on plants that are either mesic hammock or marsh plants, showcasing the two ecosystems for the public to explore and learn about.

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CONCEPTS
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Medicinal Garden Conceptual Plant Palette

Cephalanthus occidentalis
Sisyrinchium angustifolium
Iris Virginica
Canna spp.
Nyssa Sylvatica
Myrica cerifera
Itea virginica
Sambucus spp.
Magnolia virginiana
Myrica cerifera
Taxodium ascendens
Baccharis halimifolia
Acer barbatum
Acer rubrum
Ulmus americana
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6.0 MASTER PLANS

◊ BAT HOUSE AREA
◊ MEDICINAL GARDENS
◊ OVERALL MASTER PLAN
◊ GUIDELINES
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Bat house area master plan

- Children's playground
- Expanded student gardens
- Bat houses with vegetative buffer
- Bat viewing with interpretation
- Safe crossing with speed table and median
- Gator viewing and interpretation
- Lake Alice Environmental teaching facility
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at the University of Florida, Gainesville, FL

Bat house area design guidelines

◊ Design with minimal impact on the environment
◊ Use only native and Florida-friendly plant materials to reduce water consumption
◊ Create areas for water retention with the topography to reduce stormwater to Lake Alice
◊ Create areas for safe road crossings
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at the University of Florida, Gainesville, FL

Bat house area master plan
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

Bat house area design guidelines

- Design with minimal impact on the environment
- Use only native and Florida-friendly plant materials to reduce water consumption
- Create areas for water retention with the topography to reduce stormwater to Lake Alice
- Design to be laid out in the field to preserve as many trees as possible
- Selective pruning of high vegetation to open up spaces and increase visibility and safety
- Create areas of sun and shade to allow for a wider variety of planting material
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Bat House Area Master Plan
LAKE ALICE ECOLOGICAL PARK  
at the University of Florida, Gainesville, FL

Bat House Area Design Guidelines

- Design with minimal impact on the environment
- Use only native and Florida-friendly plant materials to reduce water consumption
- Create areas for water retention with the topography to reduce stormwater to Lake Alice
- Design to be laid out in the field to preserve as many trees as possible
- Selective pruning of high vegetation to open up spaces and increase visibility and safety
- Create paths and trails that link users to various destinations throughout campus
7.0 RENDERINGS

- Sections / Elevations
- Perspectives
LAKE ALICE ECOLOGICAL PARK
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Sections

SECTION B: 1/16 SCALE
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at the University of Florida, Gainesville, FL

Sections

Sections include the bat house area as well as the north shoreline of Lake Alice

SECTION A: 1/16 SCALE
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Perspectives: Key
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Perspective 1: Village Drive and Museum Road
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Perspective 2: Over marsh boardwalk
Perspective 3: Alligator viewing
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at the University of Florida, Gainesville, FL

Perspective 4: Lake Alice Environmental Teaching Facility
8.0 REFERENCE SOURCES

◊ BIBLIOGRAPHY
◊ PHOTO CREDITS
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

REFERENCES

CASE STUDIES INFORMATION:

XOCHIMILCO ECOLOGICAL PARK:

NAPLES BOTANICAL GARDEN
About the Garden. 2012. Naples Botanical Garden
http://www.naplesgarden.org/about_the_garden.shtml [accessed November 30th, 2011]

CROSBY ARBORETUM

CRISSY FIELD

GREEN CAY WETLANDS
Green Cay Nature Center, 2011. Palm Beach County.

PHYTOREMEDIATION

CASE STUDY PHOTO CREDITS:

XOCHIMILCO ALL PHOTOS:
http://www.gfcactivatingland.org/explore/precedents/xochimilco-ecological-park/

NAPLES BOTANICAL GARDEN map from:
http://www.naplesgarden.org/

CROSBY ARBORETUM ALL PHOTOS FROM:
http://www.crosbyarboretum.msstate.edu/pages/about.php

CRISSY FIELD: photo 1 and 2 from:
www.nps.gov
photo 3 from:
www.parksconservancy.org

GREEN CAY WETLANDS
all photos from:
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PHYTOREMEDIATION:
photo from: www.youarethecity.com
LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

REFERENCES


LAKE ALICE ECOLOGICAL PARK
at the University of Florida, Gainesville, FL

PHOTO CREDITS:

UF Habitat diagram from:
http://www.facilities.ufl.edu/planning/calm/plans/lake_alice/habitat.jpg

Bat House Area Conceptual plant Palette
sourced from:
http://www.floridayards.org/typlants/plantquery.php

Medicinal Garden Conceptual Plant Palette
Sourced from:
http://www.floridayards.org/typlants/plantquery.php

BASE MAP INFORMATION

GIS files from UF planning department
contact: Erik Lewis, Senior Planner

AutoCad base drawings from PPD at UF
website: http://www.ppd.ufl.edu/requests/PPD%20Reference%20Data/Campus%20Maps/Base%20Map/On-Campus%20Maps/Map%20Files/

Archeologically sensitive sites guidelines from uf:
http://www.facilities.ufl.edu/dcs/PDF/Appendix.D.pdf

Campus Area Land Management Plans
http://www.facilities.ufl.edu/planning/calm/plans.php
9.0 APPENDIX

◊ Contacts
◊ Existing Plans
Contacts:

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APPENDIX

Plans

UF Columbarium: Proposed to be built in the near future. Contact: Dr. Gail Hansen de Chapman.