Landscape Adaptation: Green Urbanism in the Face of Climate Change

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COLLECTIVE LANDSCAPES:
APPROPRIATING, ADAPTING AND CREATING THE CITY
MONTREAL - APRIL 19-20, 2013
Beyond reasonable drought
Photographs of a Changing Land and its People
Many Australian Photographers Group

Foreword by Don Watson
design cities and urban landscapes resilient to change
continue to design cities and urban landscapes to better support life
1. INVENT CONCRETE SOLUTIONS
2. COMPLEXITY TRUMPS EFFICIENCY
3. COMMUNICATION
REGIONAL SCALE
THE DELTA AND THE BAYOU
The Transformation of the River: From Flux to Control
The Transformation of the River: From Flux to Control
The Mississippi Delta: Land Loss Since 1930

LSU Coastal Sustainability Studio
The Mississippi Delta: Threats to Communities and Infrastructure

LSU Coastal Sustainability Studio
Managing the Mississippi: From Flood Control to Controlled
Managing the Mississippi: Flood Control that Compliments Restoration
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The Mississippi Delta: Pulsed Sediment Release Calculations LSU Coastal Sustainability Studio
The Mississippi Delta: Using the River to Rebuild the Delta

LSU Coastal Sustainability Studio
Rebuilding a Robust Coast
Building on the Urban Edge: Compression of Vital Wetland
Goals

- A balanced, regenerative ecosystem
- Intelligent storm protection
- Productive innovative economy
- Dynamic and sustainable community
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Design Process Stage 3: Intensity
Design Process Stage 4: Scenarios
The Lower 9th Ward: Change Scenarios

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Design Process Stage 4: Scenarios: Farming the 9th Ward
Design Process Stage 4: Sustainable Clustering

Primary Actions

Four Block Cluster

Optimal Arrangement for one block Cluster: 9 homes

Treatment Wetland
Farm
Compost
Solar Array

Make it Right

Design Process Stage 4: Sustainable Clustering
Design Process Stage 5: Vision

Housing and Neighborhoods  The Productive Landscape  Recreation  Industry and Jobs  Wetland regeneration

Scenario 3

Scenario 2

Scenario 1

Design Process Stage 5: Vision
The Lower 9th Ward: Envisioning a Resilient Future

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Community Farming
The Lower 9th Ward: Levee Housing

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The Lower 9th Ward: Wetland Park

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METROPOLITAN SCALE
VACANCY AND STORMWATER
LANDSCAPE AND PLANTING STRATEGIES
MATERIALS

ELEMENTS OF YOUR GARDEN

PLANTS

GARDENING ADVICE

Consider listening to the radio for helpful gardening tips with Dan Gill, a seasoned horticulturist, this Saturday morning 7-9 a.m.

FENCES

MIST CONTROL

Organic predators, beneficial bugs, and plants can all contribute to pest control. Avoid using chemical pesticides on your lawn and garden to ensure the health of your family and your local environment. Ladybugs and praying mantis are beneficial bugs that eat pests. Milkweeds, basil, nasturtium, and chrysanthemums are plants for repelling pests. You can make your own organic pesticides using ingredients from your pantry, such as garlic, pepper, and citrus.
PAVING & SURFACES

STAPLE MATERIALS

- Rock: A versatile choice for paving and surfacing, rock is available in various sizes and colors. It is naturally durable and can be cut to fit any shape.

- Gravel: This material is inexpensive and widely available. It is effective for leveling the ground before laying rock or asphalt.

- Brick: Bricks are a traditional choice for paving and can add aesthetic value to a garden. They are durable and easy to maintain.

- Concrete: A popular choice for paving, concrete is durable and requires minimal maintenance. It can be poured into any shape.

- Rubber: Recycled rubber mulch is a soft and comfortable surface for walking. It is durable and safe for children and pets.

- Wood: Wood chips and mulch can be used for a natural look. They are soft and quiet underfoot.

- Plastic: Plastic mulch is a lightweight option that can be laid directly on soil to control weeds and retain moisture.

- Glass: Crushed glass can be used for a unique and reflective surface. It is sturdy and easy to maintain.

- Artificial Grass: This is a cost-effective and maintenance-free option. It can be used to create a green surface and is ideal for high-traffic areas.

- Pavers: Pavers come in a variety of materials and designs. They are easy to install and provide a hard surface for walking.

- Artificial turf: This is a cost-effective and maintenance-free option. It can be used to create a green surface and is ideal for high-traffic areas.

- Wood chips: Wood chips are a natural and soft surface that is eco-friendly.

- Ceramic tiles: These are a permanent and stylish option that can add to the aesthetic of the garden.

- Metal: Metal tiles are a durable and long-lasting option. They are easy to maintain and come in various colors.

- Brick: Bricks are a traditional choice for paving and can add aesthetic value to a garden. They are durable and easy to maintain.
COMPOST & SOILS

Fertilizers are a mixture of nitrogen, phosphorus and potassium that provide nutrients for plant health and growth. Fertilizer is professionally used on lawns 1-3 times per year, applied no more than 1 lb per 1,000 square feet. Choose a lawn fertilizer that is low in phosphorus or organic so as not to pollute waterways.

EDIBLE PLANTS

Water & Drainage

Water is essential, especially when your garden is initially planted. Be prepared to water your garden every day until it is first installed. One deep watering (6") is much better than watering several times a day. Avoid planting in the summer (June – September) in New Orleans when it is too hot and in the winter (December – February) when there are possible cold periods.
SAMPLE GARDEN № 1

Lot Size: 3900 Square Feet
Approximate Materials Cost: $25,000 – $35,000

Watching the sun go down from the swing, a good book under a shade tree, the sweet smell of jasmine; some gardens are an everyday oasis.

Visit this garden at:
1379 St Anthony Street
New Orleans LA 70116
SAMPLE GARDEN Nº 2

Lot Size: 1800 Square Feet
Approximate Materials Cost: $5,000 – $15,000

Fresh Creole tomatoes from the garden, bright bouquets of Zinnias, the sound of hammering in the shed; some gardens are a labor of love.

Visit this garden at:
3216 Orleans Avenue
New Orleans LA 70119
SAMPLE GARDEN N° 3

Lot Size: 3000 Square Feet
Approximate Materials Cost: $15,000 – $25,000

Family reunions in the yard, children playing ball, smoke rising from the grill; some gardens bring people together.
city. water. landscape.
strategies for retrofitting infrastructure to manage stormwater
existing drainage infrastructure

San diego Reuse is a stormwater catchment located between West and San diego Reuse. The pumping station drains a catchment area of 8,400 acres, with a pumping station capacity of 10,000 cubic feet per second. This figure represents the drainage capacity of the pumping station. The topography of the ground is from ten feet to eight feet below the local elevation and is a result of the topography of the catchment.

Pumps Station One is located at the intersection of 12th Street and Martin Luther King, Jr. Boulevard. The collector box contains all the Washington campus and the outflow to clackatuck and the main outflow can be found at clackatuck and Brown Avenue. The collector box can be found at the intersection of San diego Reuse and San diego Reuse. The collector box is located under the main bus, required for pump...
COMPLEX INFRASTRUCTURE
TRANSIT, FOOD & STORMWATER
The Greenway will be part of a larger green network
The Baton Rouge Downtown Greenway will be a 2.75-mile multi-use path that connects parks, neighborhoods and attractions. There are almost 40,000 residents who live within a one-mile radius of the greenway.
Opportunities for new and enhanced uses
Expressway Park
Existing Conditions - East Boulevard

East Boulevard currently has two lanes of traffic, one on each side of a 16' median. There are 3 main intersections along East Boulevard in our project area, with the busiest interaction being at Government Street. There are utility poles near the edge of the curbs on both sides of the street.

**Challenges**
- The Government Street intersection is heavily used.
- Driveways enter the street in multiple places.
- Utilities along the edge of the existing curb partially restrict full use of right-of-way.

**Opportunities**
- East Boulevard is a wide road without a high demand for street parking.
- There is typically limited traffic on the roadway.
- The wide right-of-way allows for multiple options.
Proposed - Greenway along Median

This option maintains the use of the existing roadway and adds the Greenway in the median.

Challenges:
Intersection design must be carefully considered

Opportunities:
High Level of Pedestrian and Cyclist Safety
Strong Greenway Identity
Maintains Existing Roadway and Parking
Lower Cost to Implement
North Boulevard and Interstate
North Boulevard
**Existing Conditions - North Boulevard**

North Boulevard has two lanes of traffic and a lane of parking on each side of an approximately 70' wide median. The median is planted with mature Live Oaks and has a brick pathway running between the trees. There are several driveways entering the street on this section of the Greenway.

**CHALLENGES**
- North Boulevard is a main thoroughfare into Downtown
- There is parking along both sides of the street
- The existing median cannot be altered due to the significant Live Oaks in the area

**OPPORTUNITIES**
- North Boulevard is an iconic space
- The wide right-of-way allows for multiple options
- The shade from the trees creates a comfortable space to walk or bike.
**Proposed - Greenway along Median**

This option keeps the existing traffic lanes and parking along North Boulevard. The Greenway will travel along the median.

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**CHALLENGES**
- Proper care must be taken to integrate the Greenway into the existing median while protecting the Live Oaks.
- The intersection crossing in the middle must be coordinated with existing traffic patterns.

**OPPORTUNITIES**
- High Level of Pedestrian and Cyclist Safety
- Use of the iconic trees along the boulevard to strengthen identity of the Greenway
- Keeps existing traffic patterns
urban context viet village

New Orleans, LA

01 Central Business District and French Quarter
02 Viet Village - New Orleans East
03 Lake Pontchartrain
04 Mississippi River
05 Site

Viet Village New Orleans East
labor resources viet village

UNSKILLED VOLUNTEER
- planting trees
- constructing playground equipment
- constructing farm plot fences
- building paths and bridges

SKILLED VOLUNTEER
- clearing the site
- maintaining compost
- constructing boardwalk
- constructing windmill
- constructing market structures

PROFESSIONAL CONTRACTING
- road construction
- soils testing
- water infrastructure construction
- digging reservoirs

COMMUNITY + PROFESSIONAL COLLABORATION
Phase 2: perspective looking toward Market.
DESIGN DETAILS

Water pumped from reservoir to fields via pipes.

Water returned to reservoir and cleansed via bioswale.
Phase 1: perspective of main boardwalk running through farm plots. The Central Reservoir and Community Pavilion are in the distance.
PROGRAM LAYOUT

Site aerial perspective

Livestock Farming

Commercial Farming

Farmer's Market

Community Farming
SITE SCALE
ECOLOGY, WATER & MATERIALS