BEST PRACTICES MANUAL FOR DEVELOPMENT *in Coastal Louisiana*

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TODAY

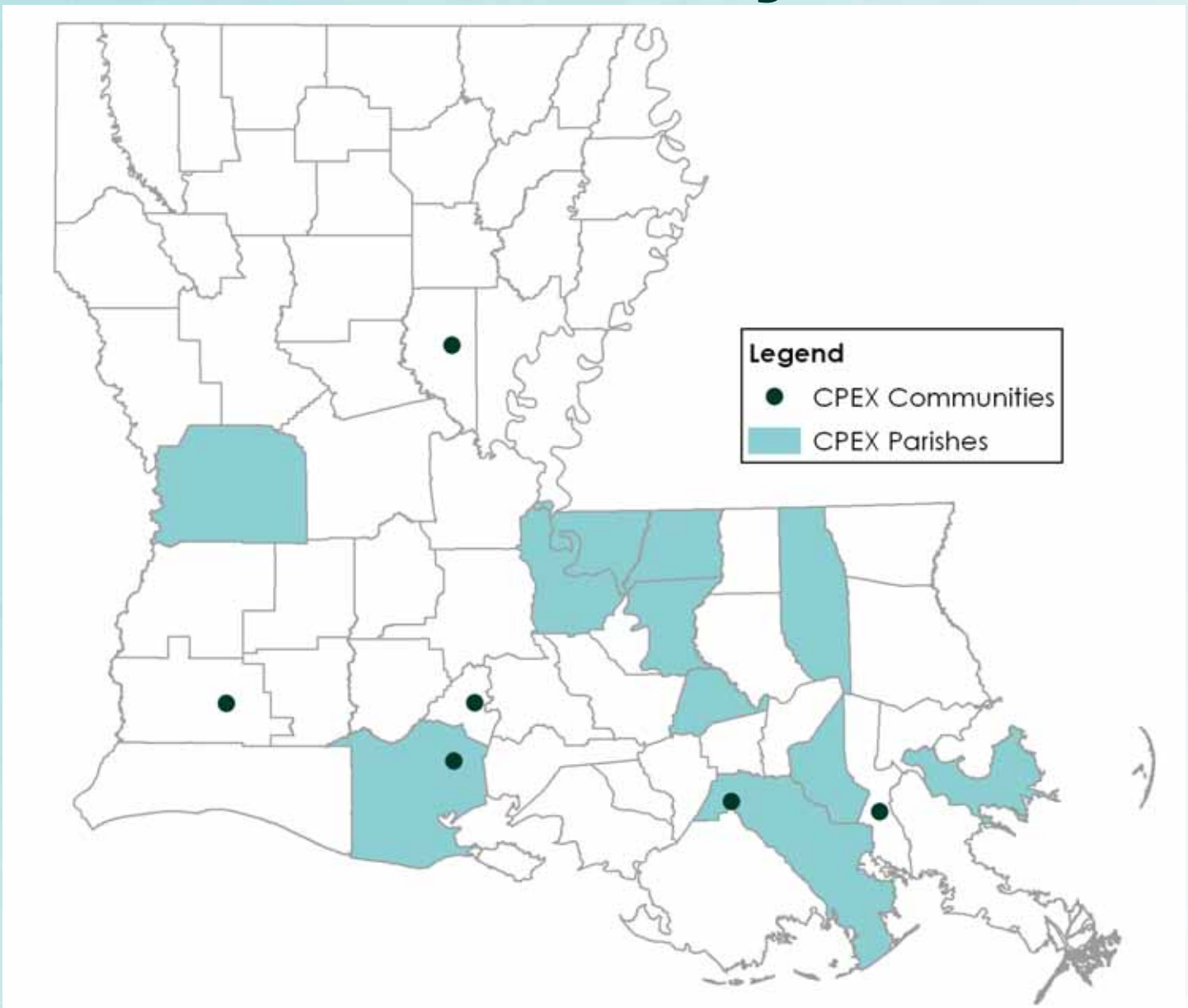
- Best Practices Manual for Development in Louisiana
- Louisiana Coastal Land Use Toolkit
- Activity Overview

Who is CPEX?

Every Community in Louisiana made extraordinary through planning excellence.

CPEX helps create highly functional, equitable communities throughout Louisiana that capitalize on their unique qualities through community-driven planning and implementation.

CPEX Community Planning

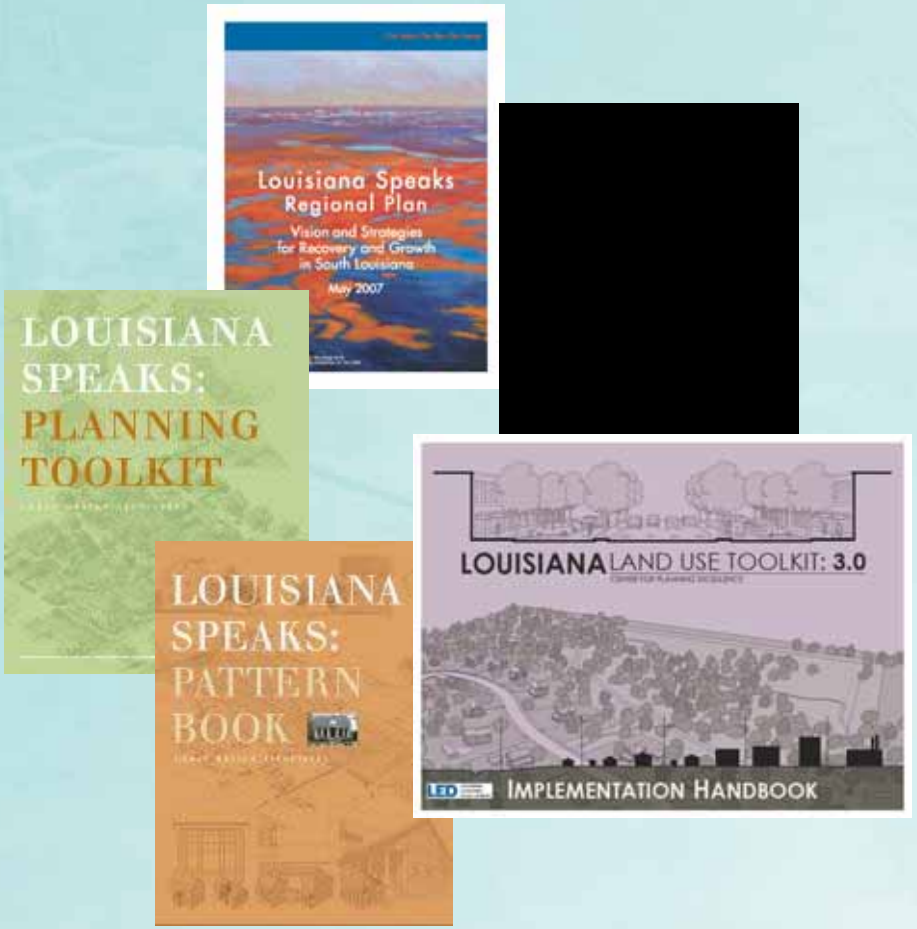


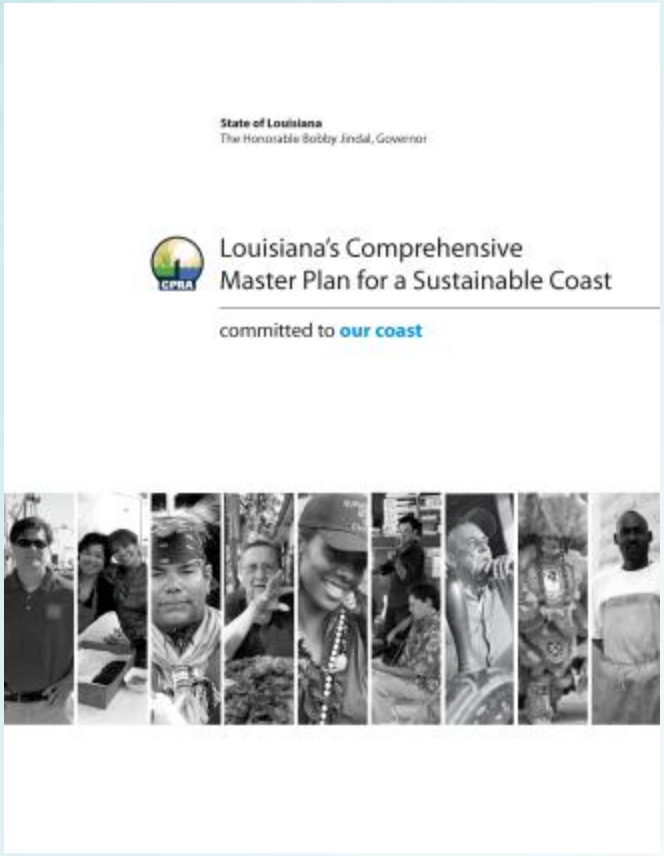
Louisiana Speaks Regional Plan

- 50-year guide for growth and development
- 35 coastal parishes
- Largest community outreach effort in U.S. History (*27,000 citizens)*
  - Surveys – 2,500+
  - Workshops – 1,000+
  - Regional Polling – 23,000+
- Engaged people in choices and consequences

Introduction

Building on Existing Work





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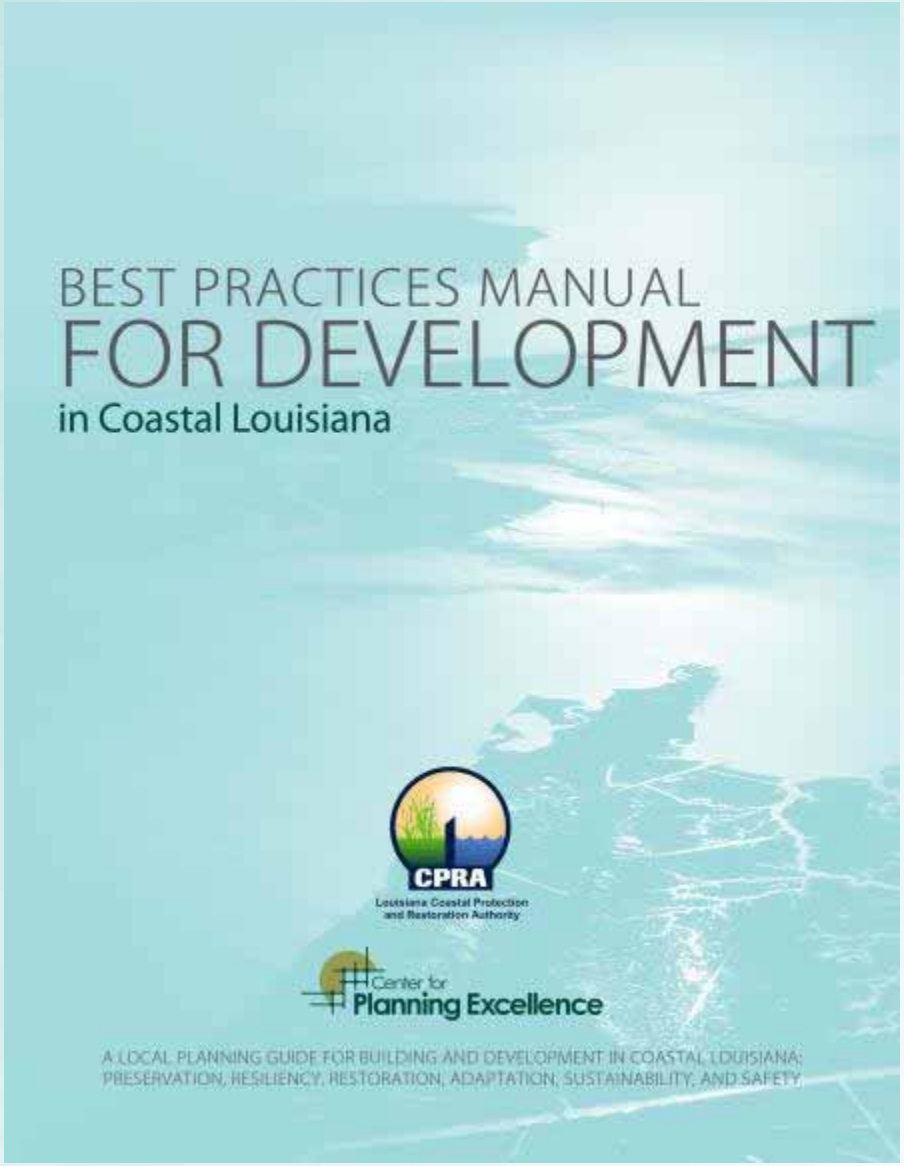
Coastal Workshop

THE MANUAL



Key Objectives

- Creating a New Regional Resource
- Understanding Coastal Louisiana
- Compiling Current Relevant Data
- Providing Relevant Strategies
- Providing Planning Tools

Living with Water

Living with Water

- Capitalize on Louisiana's abundance of water
- Emerging need for synergy between resources
- Reduce risks by applying informed design solutions

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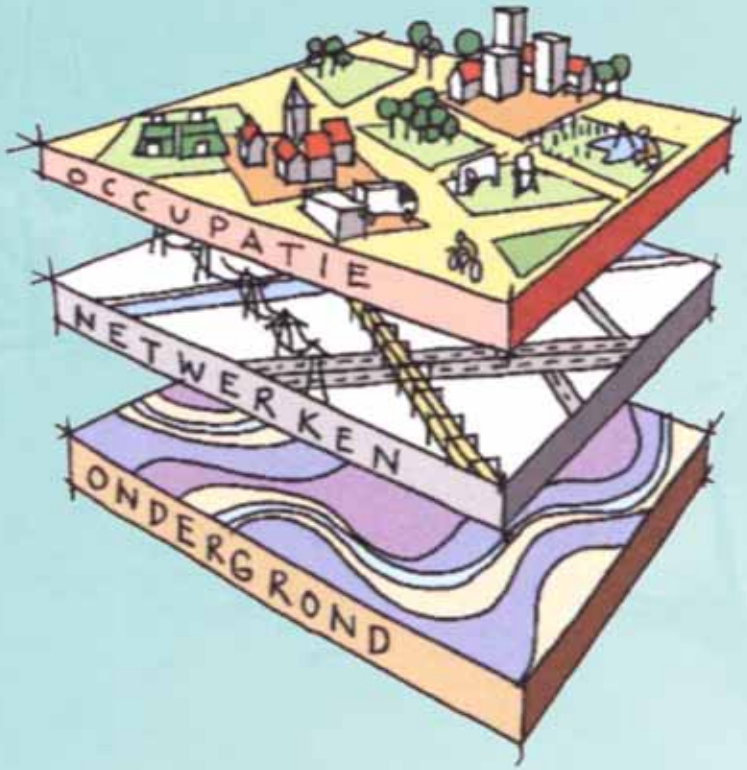
LOOKING TO WATER ABROAD

Looking to Water Abroad

Rhine River Delta



BEST PRACTICES

- Conduct cost-benefit analysis before building in flood-prone areas.
- Innovative use of spatial planning for water storage, water plazas, green roofs.
- Systematically increase flood protection in areas protected by levees.
- Secure fresh water supply.

Looking to Water Abroad

Nile River Delta

BEST PRACTICES

- Slowly release water during dry season.
- Implement an integrated decision support system to manage River water.
- Use waters as means of transportation.
- Rotate seasonal planting of crops in relation to flooding patterns.

Looking to Water Abroad

Mekong River Delta

BEST PRACTICES

- Disaster-resistant house design and provision of wind/storm buffers.
- Explore benefits of “Living With the Flood” for farming and restoration.
- Cluster residential development on raised mound foundations.
- Implement land use strategies.
- Adapt and diversify farming practices to work with seasonal flood cycle.
- Create demonstration sites as educational sessions for citizens.

Looking to Water Abroad

Parana River Delta

BEST PRACTICES

- Explore affordable alternatives to levees in rural and agricultural areas to preserve the natural functions of flooding (sediment deposition, nutrient recharge).
- Elevate homes well above the expected flood height.
- Adapt ways of life to accommodate occasional floodwaters, using floating stores and water-based transportation.

Looking to Water Abroad

Venice, Italy

BEST PRACTICES

- Balance innovative design and limited environmental impact through a systems approach.
- Demonstrate water as an asset with a unique system of canals that add charm and serve as a transportation network.
- Accommodate floodwaters through structural and behavioral adaptations.
- Elevate walkways allowing for “business as usual” in flooded urban areas.

Looking to Water Abroad

Kristianstad, Sweden

BEST PRACTICES

- Perceive water in the area as a resource to be purposed in a way that preserves its intrinsic values.
- Conservation and restoration of sandy grasslands and wetlands as a main focus.
- Focus on education of the general public while promoting conservation and eco-tourism.
- Demonstrate how to approach the challenges of combining conservation and development through the Biosphere Reserve.

Looking to Water Abroad

Bangladesh

BEST PRACTICES

- Public education programs.
- Low-tech adaptive building strategies.
- Adaptive agriculture that works with increased salinity levels.
- Climate adaptation as a National development strategy.

Looking to Water Abroad

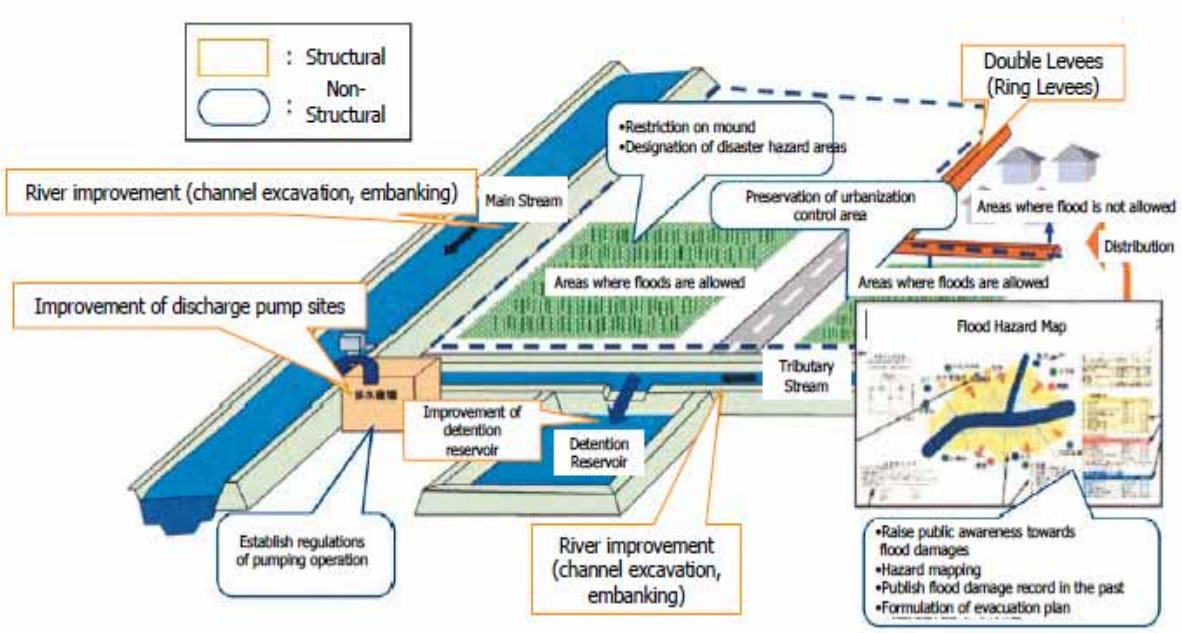
Jakarta, Indonesia

BEST PRACTICES

- Planning for upper watersheds.
- Land use regulation to preserve spatial planning, water supply, food protection, and local economic development.
- Improved maintenance of waterways and urban water infrastructure.
- Public education, disaster planning and emergency drills.

Looking to Water Abroad

Japan



BEST PRACTICES

- Use multipurpose retarding basins.
- Establish easements to accommodate retarding basins.
- Integrate levees into city development patterns.

- Implement a strategically integrated combination of structural and nonstructural measures as comprehensive disaster mitigation measures.
- Develop national policies that integrate climate change considerations and water resource management into design, land-use policies, building codes and insurance.

Looking to Water Abroad

Queensland, Australia

BEST PRACTICES

- Build above specific flood levels for habitable rooms.
- Build road evacuation routes above flood levels.

- Maintain local floodplain processes including water storage and flows; river discharge and capacity; banks of river, streams and water bodies protected from erosion.

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COASTAL LOUISIANA

Coastal Louisiana

History of Land Use and Development

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Economic Conditions

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Environmental Conditions

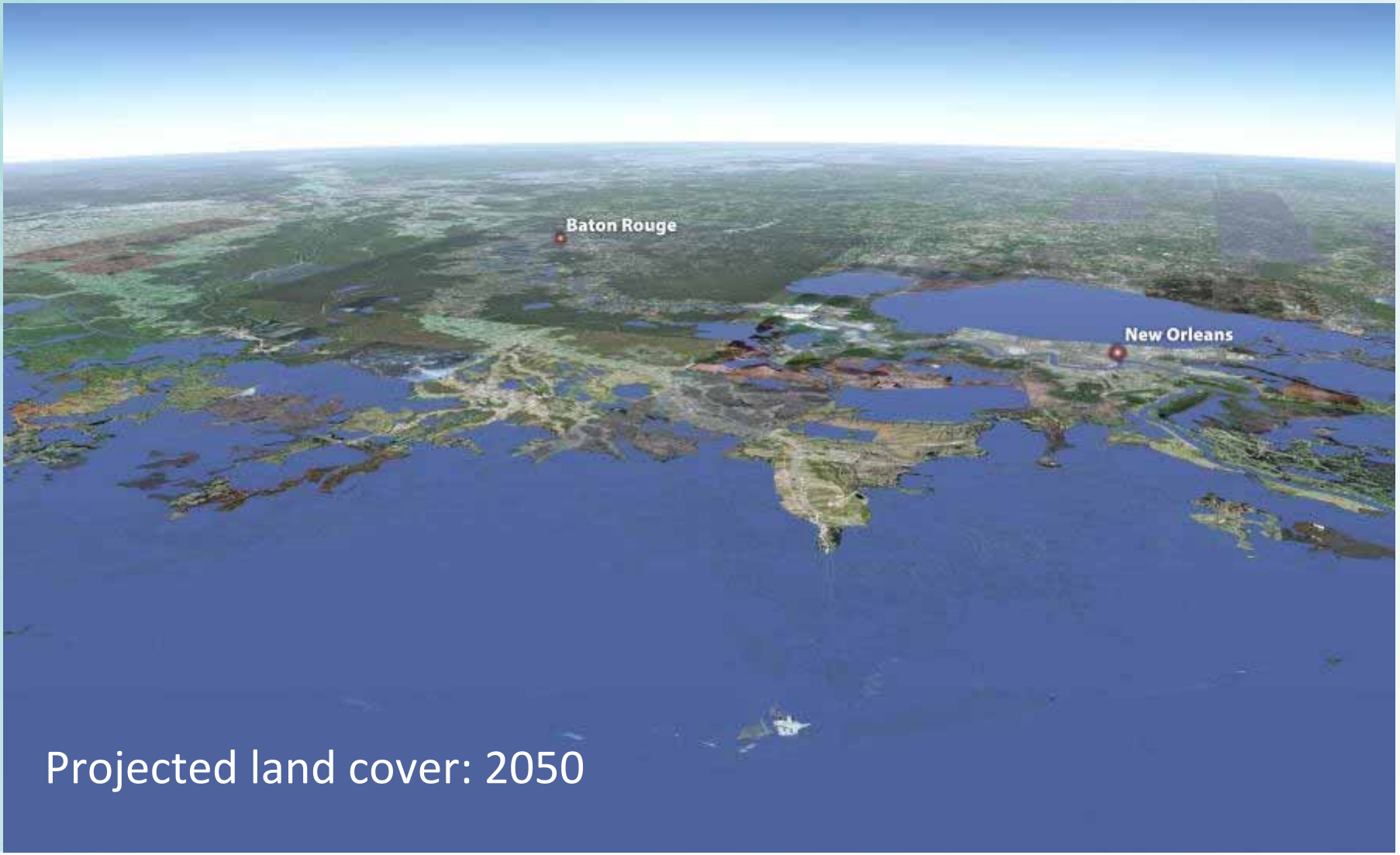
Historic land cover: 1932

Coastal Louisiana

Environmental Conditions

Coastal Louisiana

Environmental Conditions

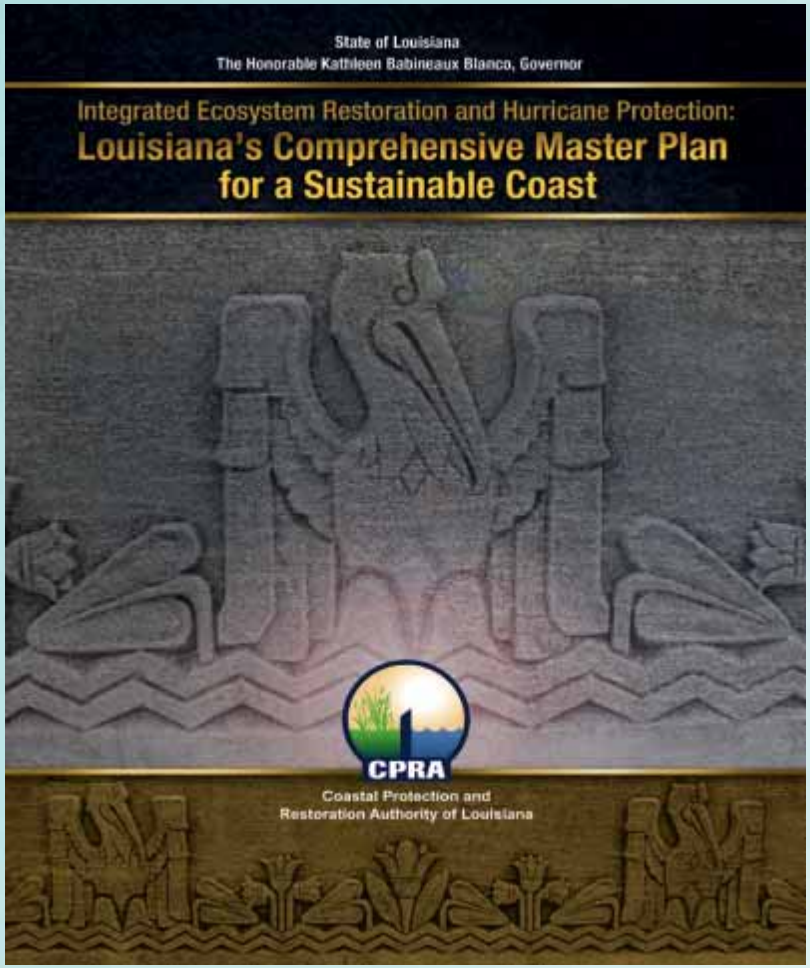


Projected land cover: 2050

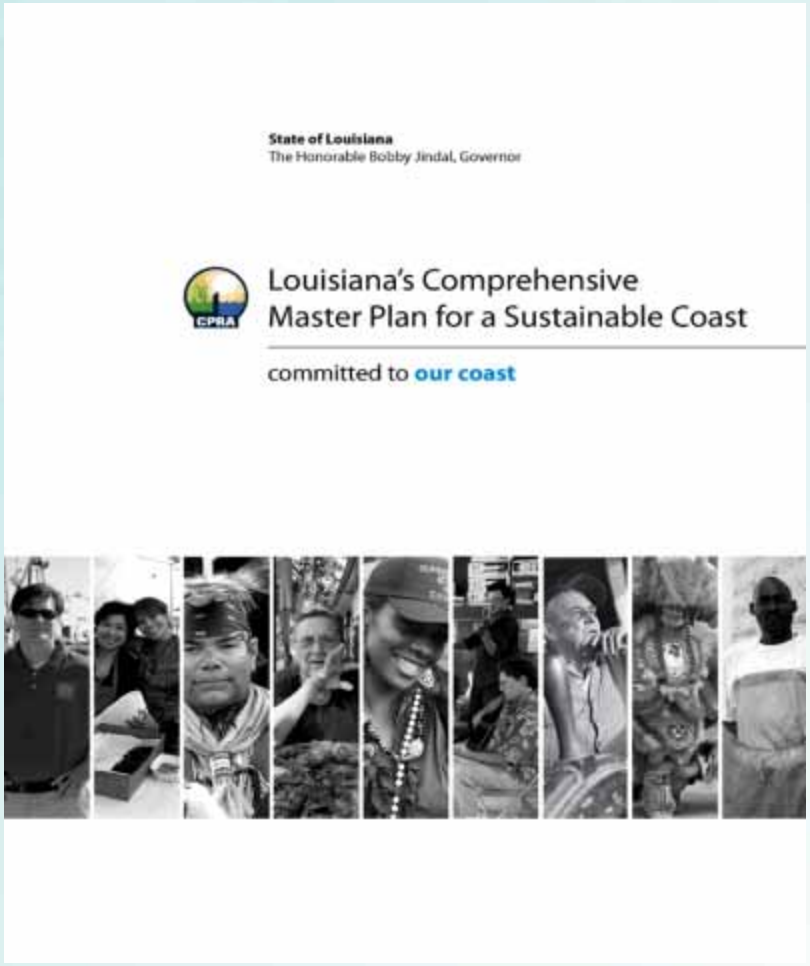
Coastal Louisiana

Current Restoration Efforts

2007



2012 Update



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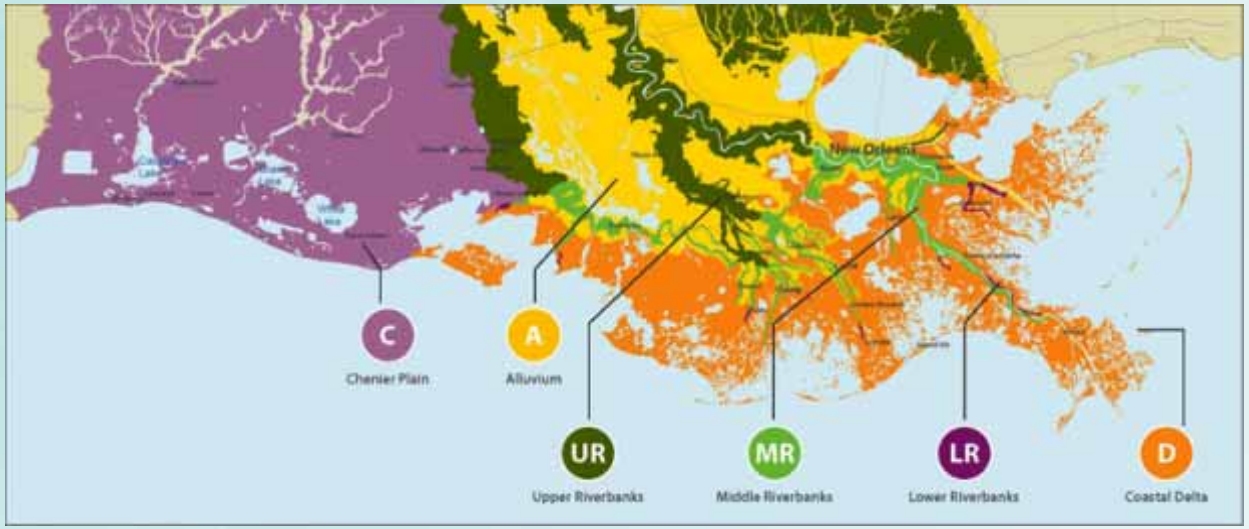

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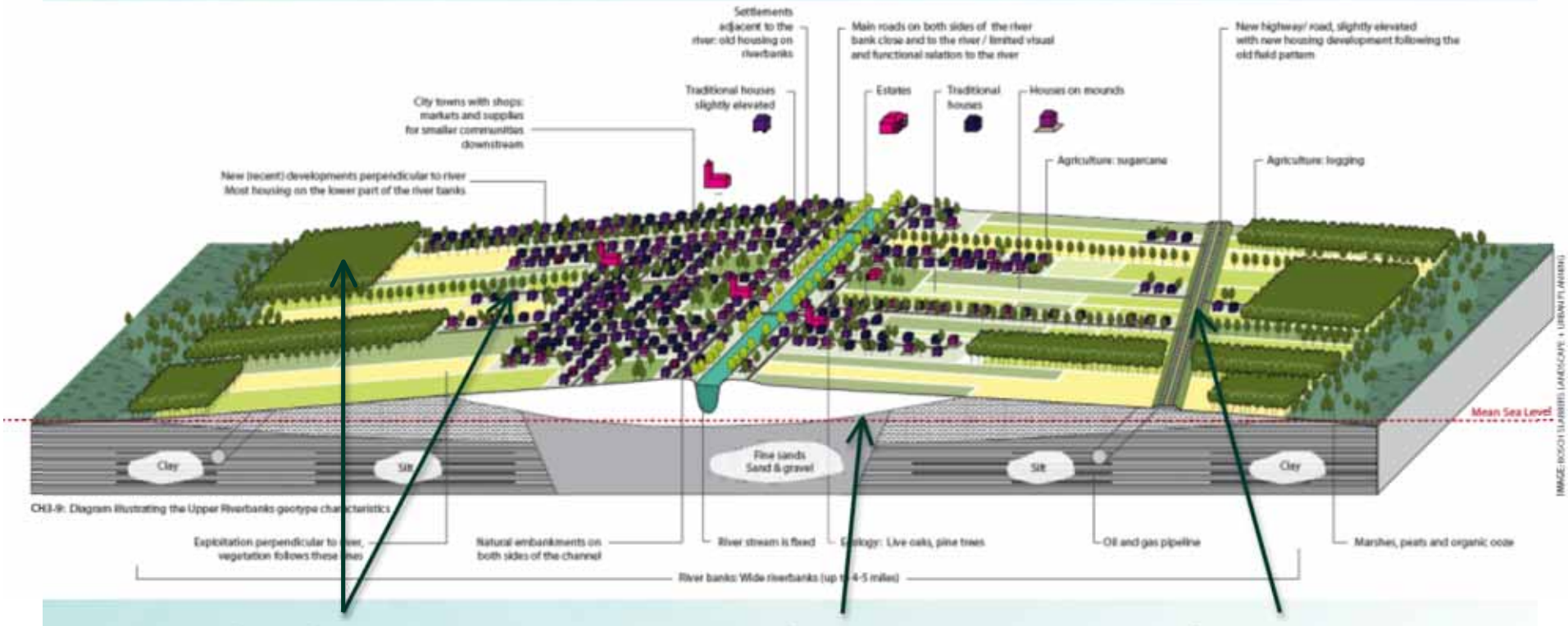
UNDERSTANDING GEOTYPES

Understanding Geotypes

Geotype



CH3-9: Diagram illustrating the Upper Riverbanks geotype characteristics

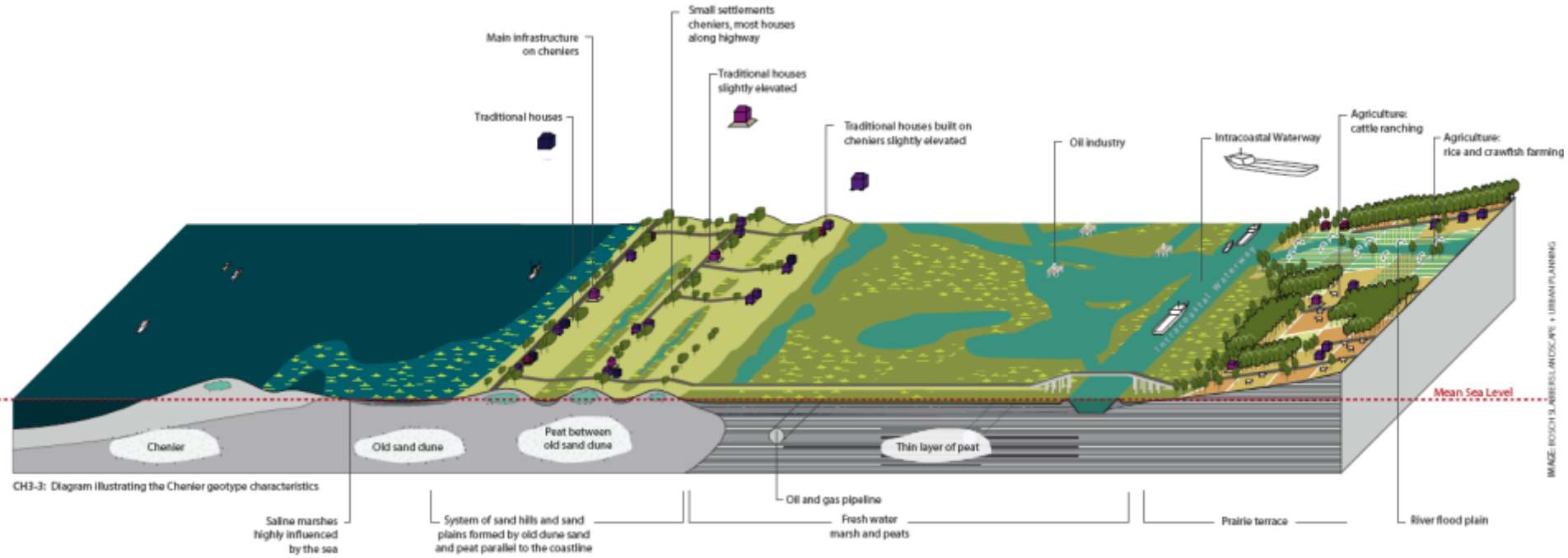
Land and Water Use

Natural Layer

Infrastructure

Understanding Geotypes

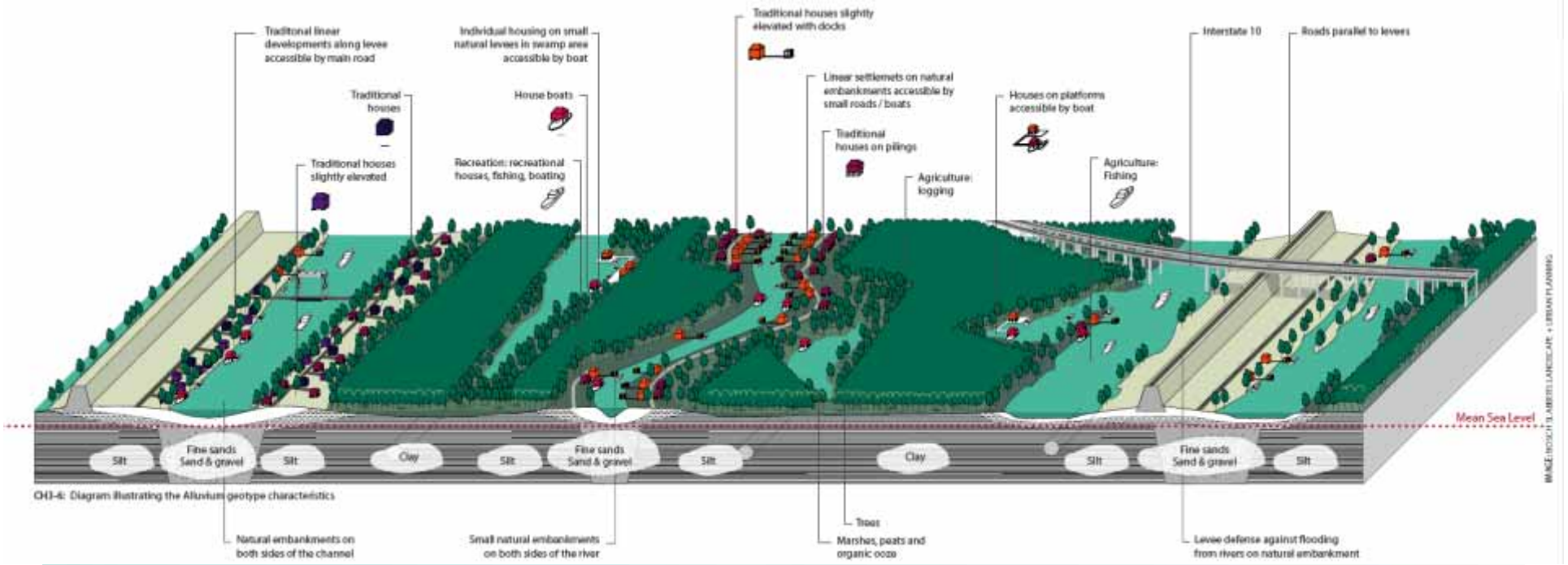
Chenier Plain



CH3-3: Diagram illustrating the Chenier geotype characteristics

Understanding Geotypes

Alluvium



CH3-6: Diagram illustrating the Alluvium geotype characteristics

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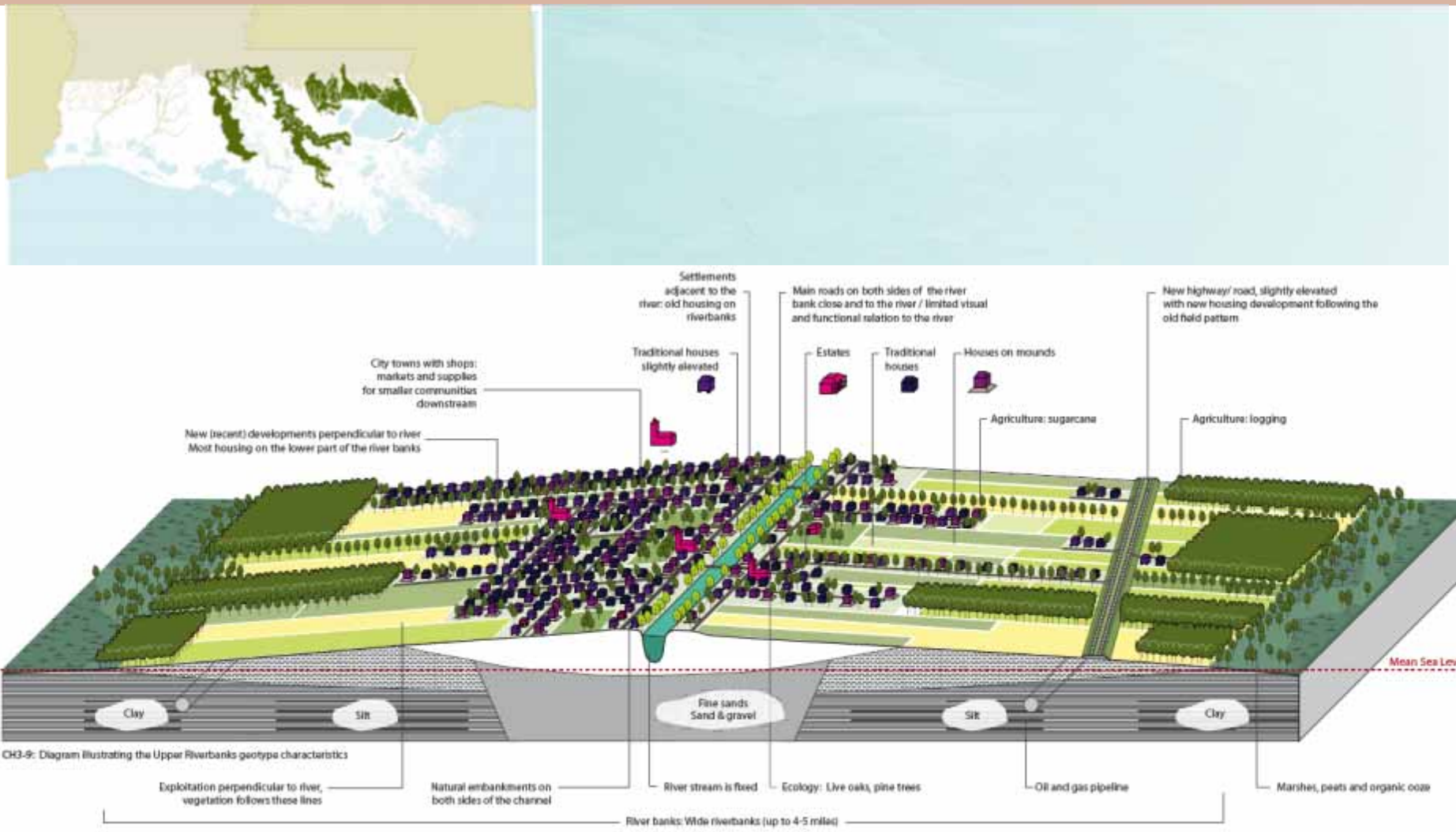
Understanding Geotypes

Upper Riverbanks



CH3-9: Diagram illustrating the Upper Riverbanks geotype characteristics

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Understanding Geotypes

Middle Riverbanks

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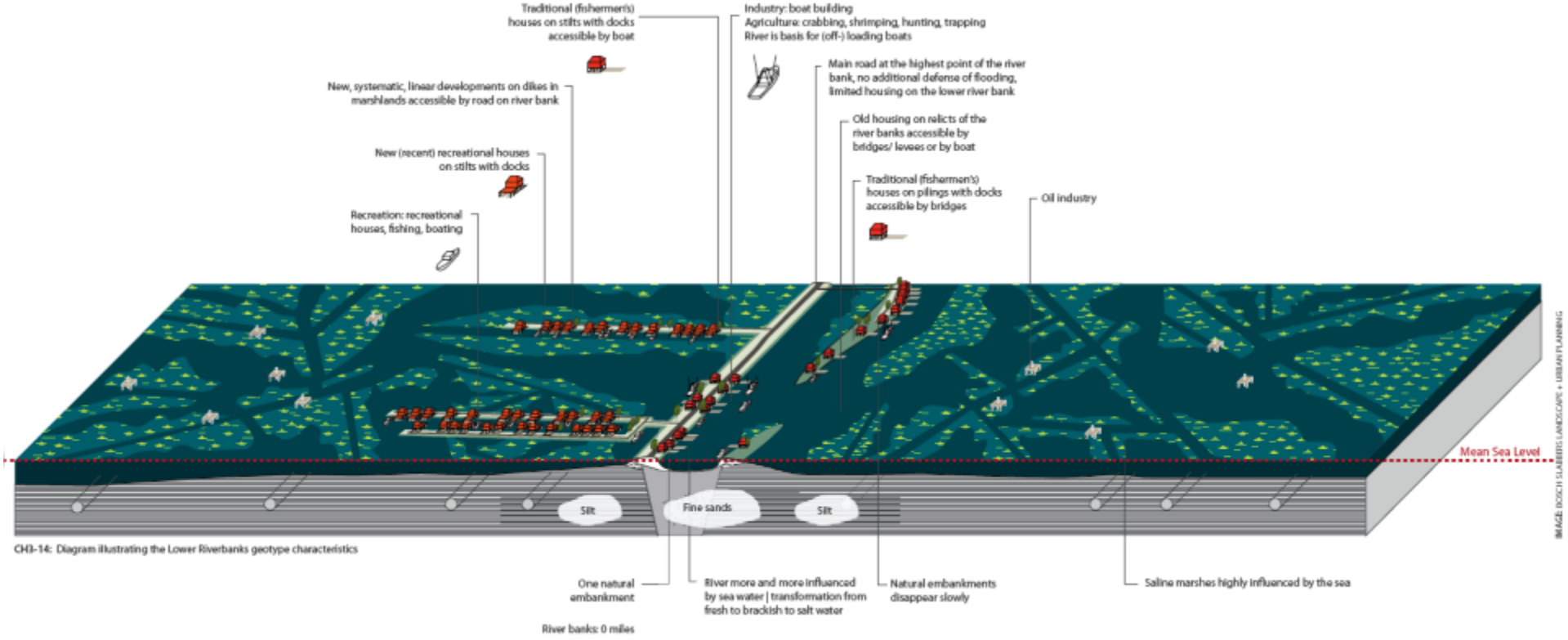
Understanding Geotypes

Lower Riverbanks

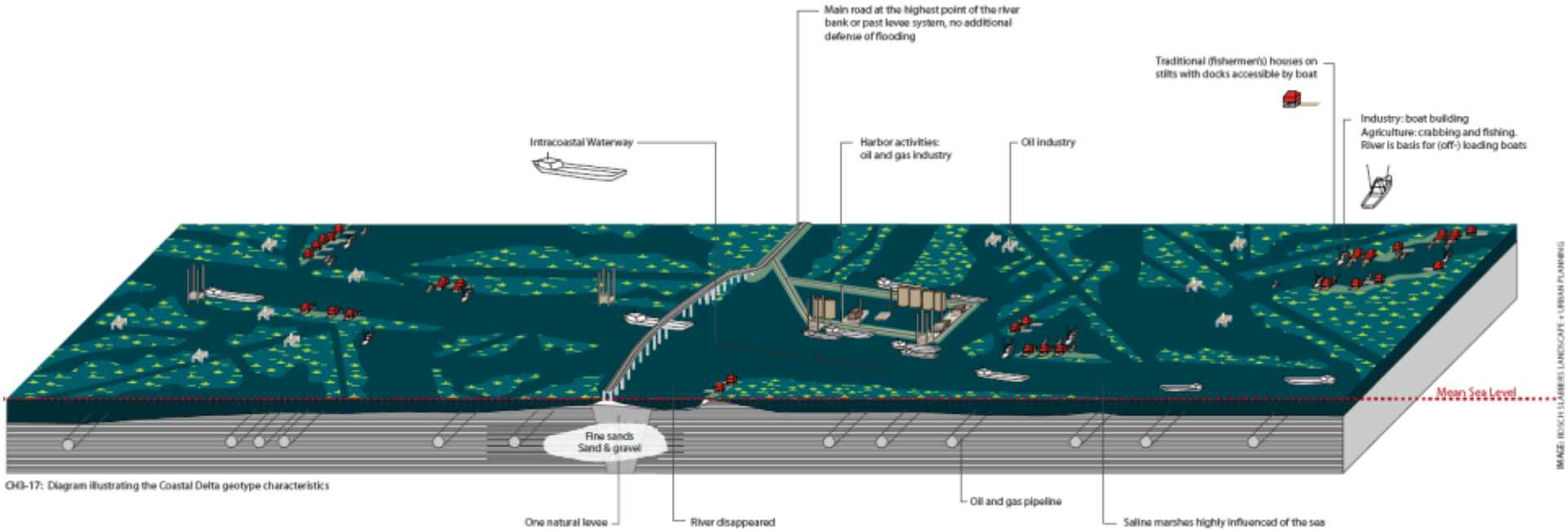


CH3-14: Diagram illustrating the Lower Riverbanks geotype characteristics

IMAGE: BOSCH SLABBERS LANDSCAPE + URBAN PLANNING

Understanding Geotypes

Coastal Delta



CHB-17: Diagram illustrating the Coastal Delta geotype characteristics

IMAGE: BOSCH SLABBERS LANDSCAPE + URBAN PLANNING

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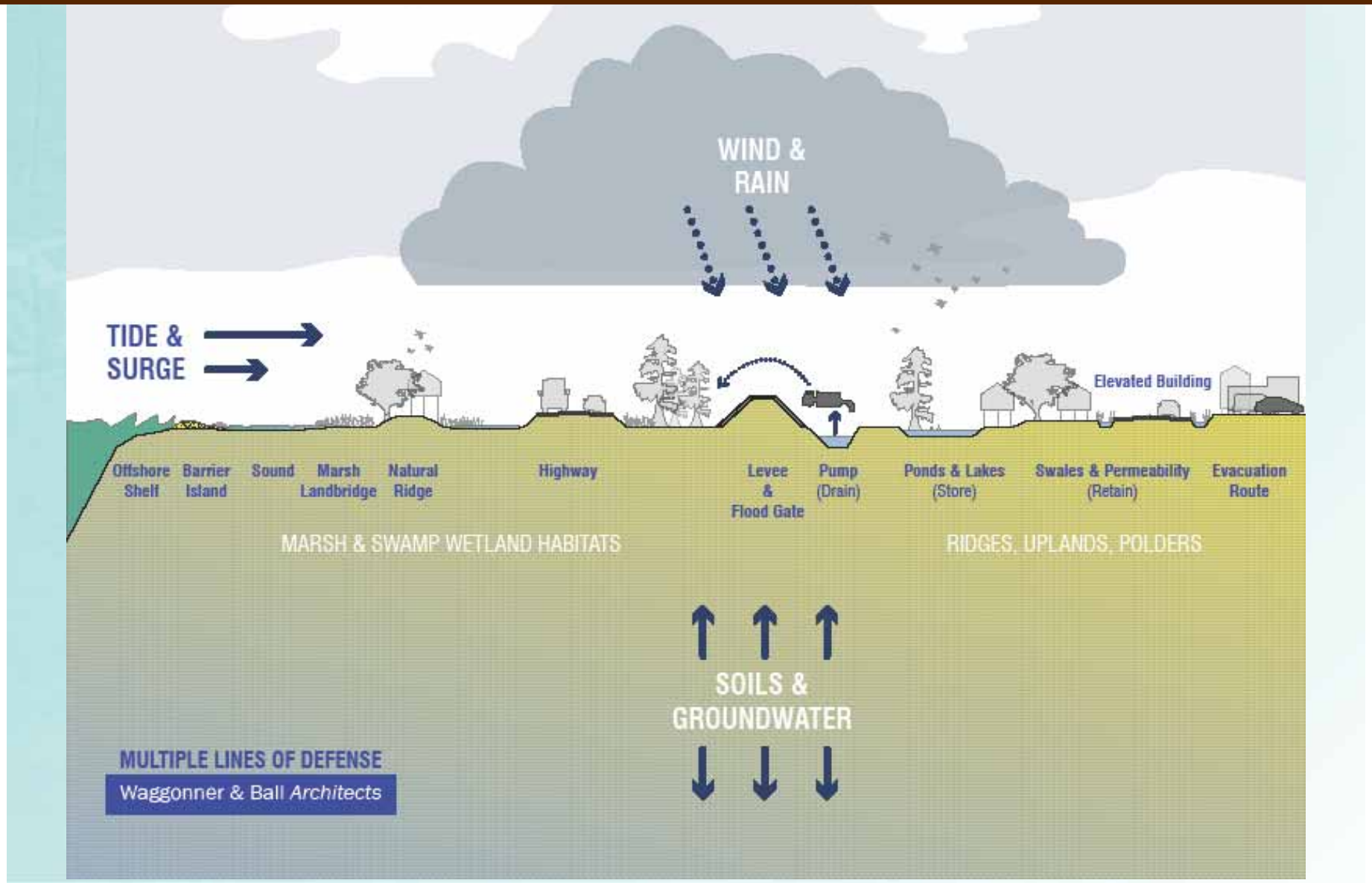
STRATEGIES AND BEST PRACTICES

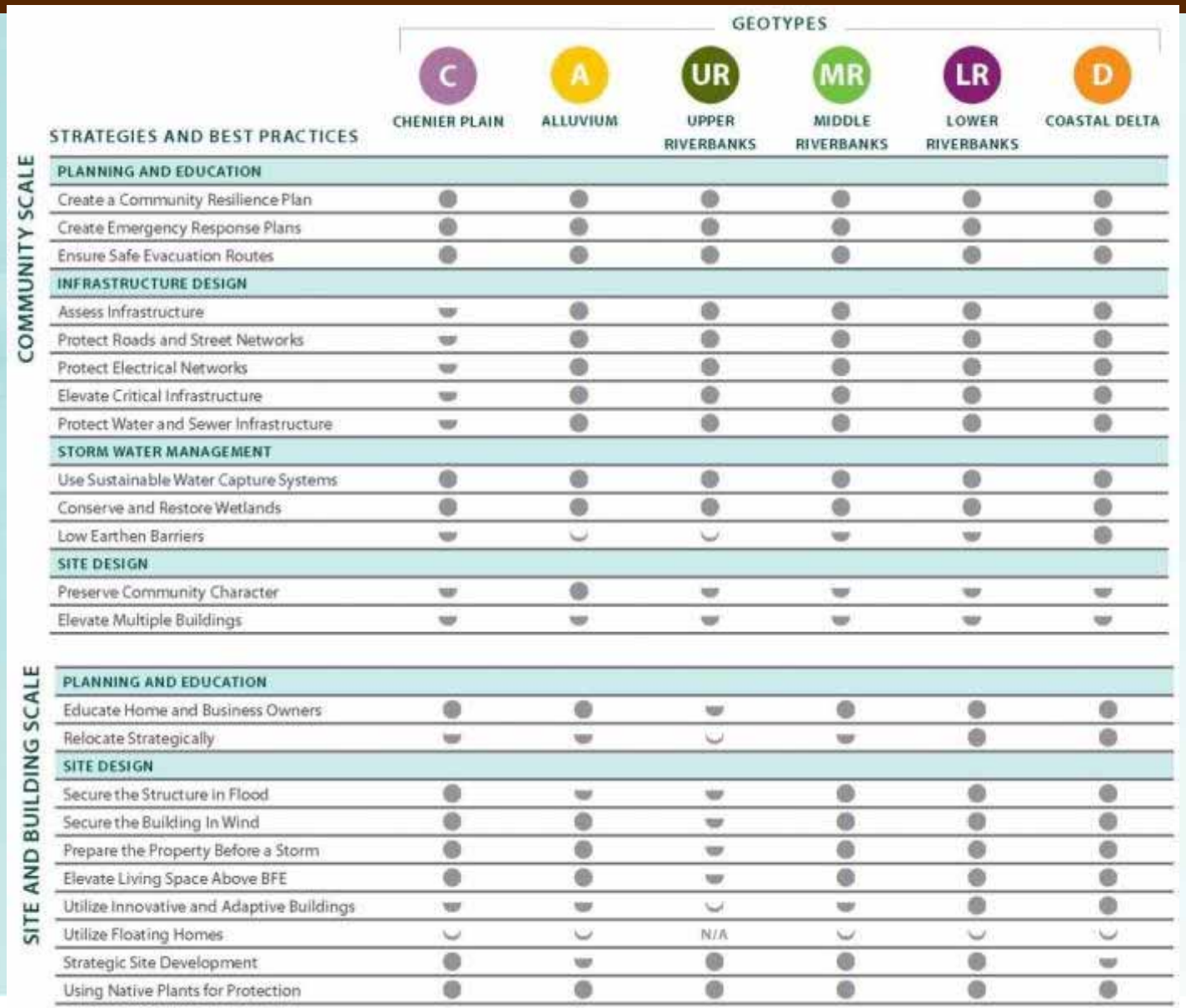
Strategies and Best Practices

Multiple Lines of Defense



Strategies and Best Practices

Geotype Matrix

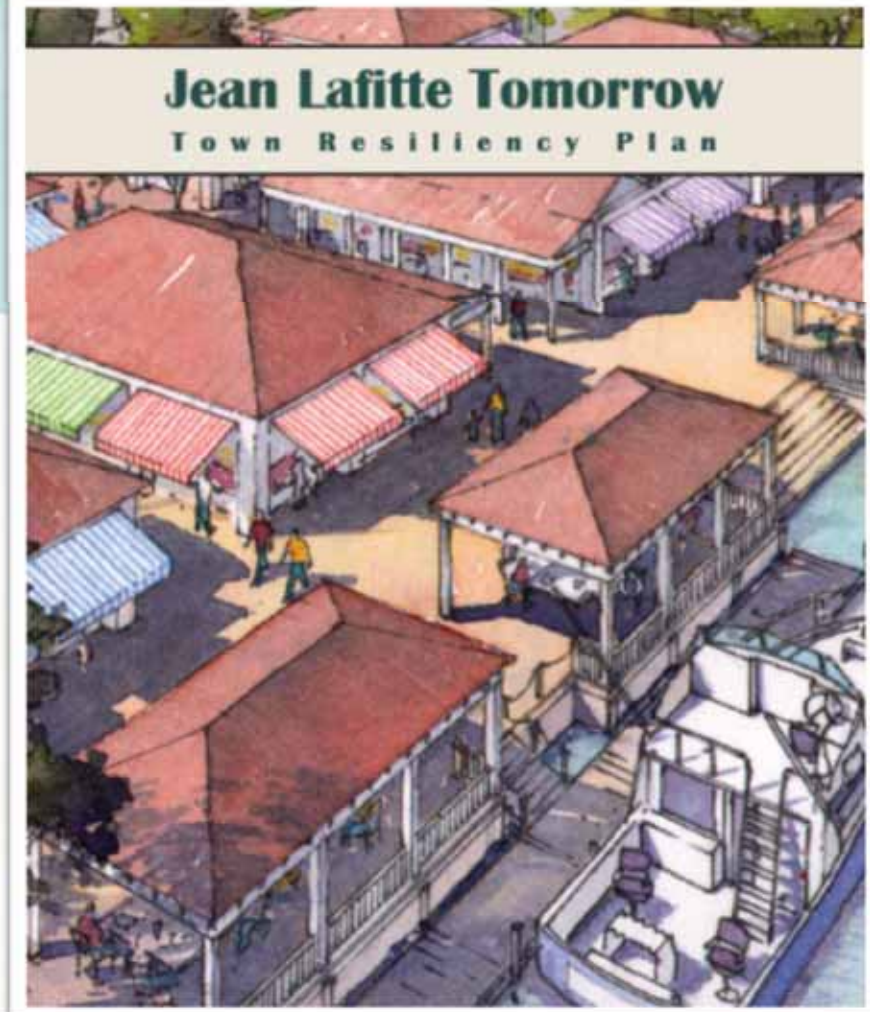


	STRATEGIES AND BEST PRACTICES	GEOTYPES C CHENIER PLAIN	A ALLUVIUM	UR UPPER RIVERBANKS	MR MIDDLE RIVERBANKS	LR LOWER RIVERBANKS	D COASTAL DELTA
COMMUNITY SCALE	**PLANNING AND EDUCATION**						
	Create a Community Resilience Plan	●	●	●	●	●	●
	Create Emergency Response Plans	●	●	●	●	●	●
	Ensure Safe Evacuation Routes	●	●	●	●	●	●
	INFRASTRUCTURE DESIGN						
	Assess Infrastructure	◡	●	●	●	●	●
	Protect Roads and Street Networks	◡	●	●	●	●	●
	Protect Electrical Networks	◡	●	●	●	●	●
	Elevate Critical Infrastructure	◡	●	●	●	●	●
	Protect Water and Sewer Infrastructure	◡	●	●	●	●	●
	STORM WATER MANAGEMENT						
	Use Sustainable Water Capture Systems	●	●	●	●	●	●
	Conserve and Restore Wetlands	●	●	●	●	●	●
	Low Earthen Barriers	◡	◡	◡	◡	◡	●
	SITE DESIGN						
	Preserve Community Character	◡	●	◡	◡	◡	◡
	Elevate Multiple Buildings	◡	◡	◡	◡	◡	◡
SITE AND BUILDING SCALE	**PLANNING AND EDUCATION**						
	Educate Home and Business Owners	●	●	◡	●	●	●
	Relocate Strategically	◡	◡	◡	◡	●	●
	SITE DESIGN						
	Secure the Structure in Flood	●	◡	◡	●	●	●
	Secure the Building In Wind	●	●	◡	●	●	●
	Prepare the Property Before a Storm	●	●	◡	●	●	●
	Elevate Living Space Above BFE	●	●	◡	●	●	●
	Utilize Innovative and Adaptive Buildings	◡	◡	◡	◡	●	●
	Utilize Floating Homes	◡	◡	N/A	◡	◡	◡
	Strategic Site Development	●	◡	●	●	●	◡
	Using Native Plants for Protection	●	●	●	●	●	●

Strategies and Best Practices

Create a Community Plan

		C	A	UR	MR	LR	D
●	*Essential*						
◒	*Encouraged*						
◡	*Optional*						
N/A	*Not applicable*						



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Strategies and Best Practices

Create Emergency Response Plans

		C	A	UR	MR	LR	D
●	*Essential*						
◒	*Encouraged*						
◡	*Optional*						
N/A	*Not applicable*						

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Strategies and Best Practices

Ensure Safe Evacuation Routes

	C	A	UR	MR	LR	D
● *Essential*						
◒ *Encouraged*						
◡ *Optional*						
N/A *Not applicable*						

Strategies and Best Practices

Assess Infrastructure

●	*Essential*	A UR MR LR D
◒	*Encouraged*	C
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

Protect Roads and Street Networks

- Essential
- Encouraged
- Optional
- N/A Not applicable

A UR MR LR D

C

Strategies and Best Practices

Protect Electrical Networks

●	*Essential*	A UR MR LR D
◒	*Encouraged*	C
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

Elevate Critical Infrastructure

●	*Essential*	A UR MR LR D
◒	*Encouraged*	C
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

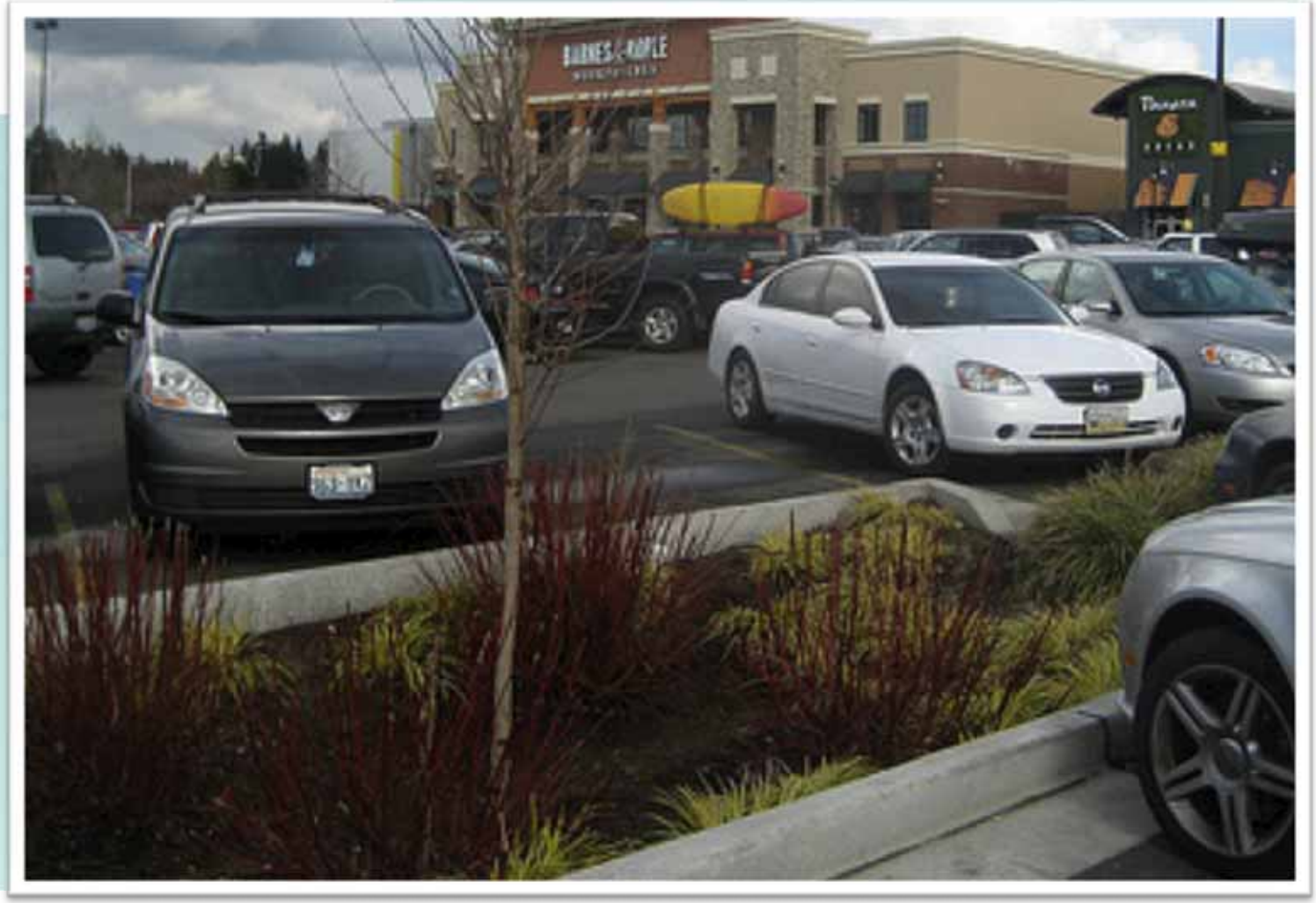
Protect Water and Sewer Infrastructure

●	*Essential*	A UR MR LR D
◒	*Encouraged*	C
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

Use Sustainable Water Capture Systems

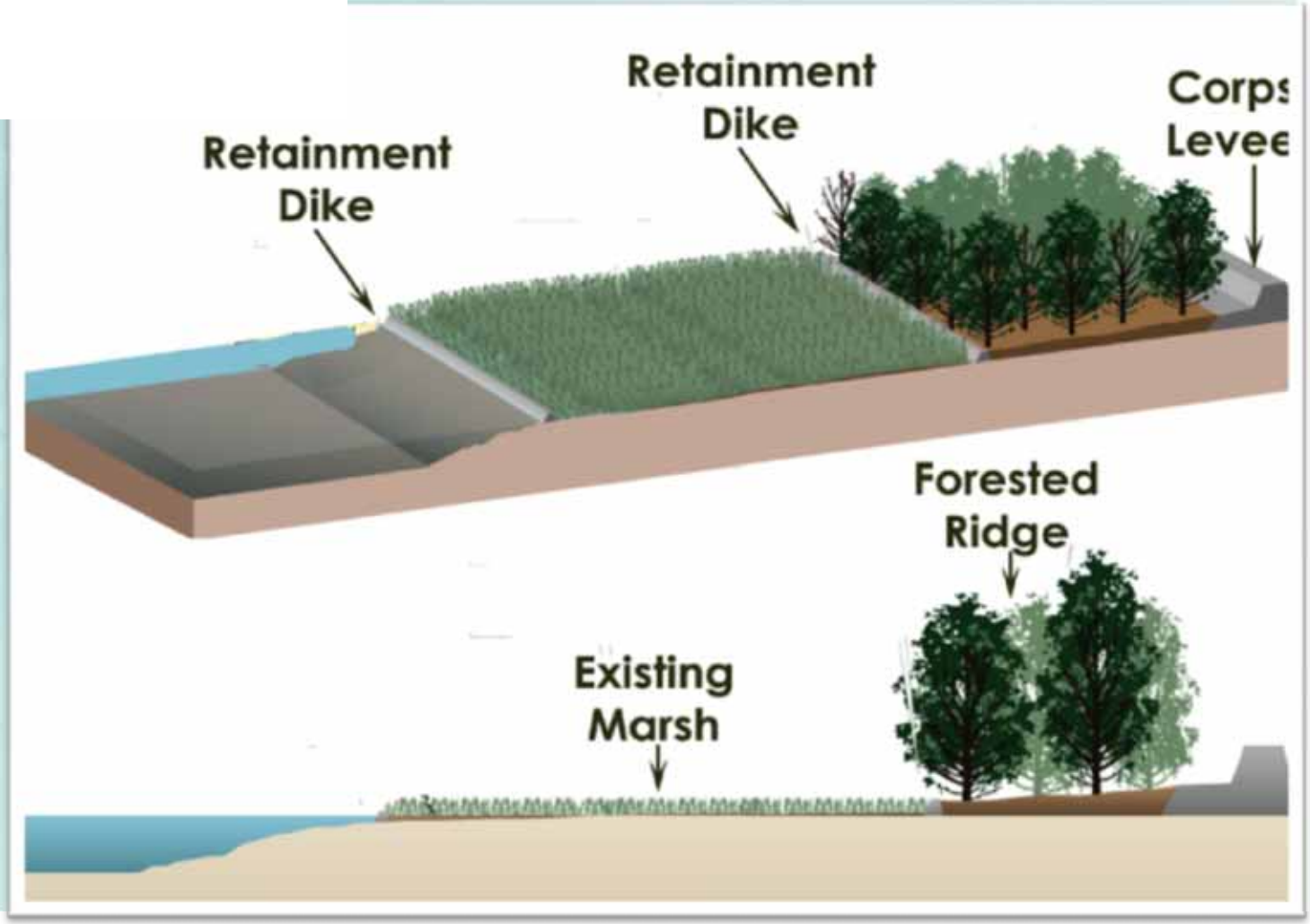
		C	A	UR	MR	LR	D
●	*Essential*						
◒	*Encouraged*						
◡	*Optional*						
N/A	*Not applicable*						



Strategies and Best Practices

Conserve and Restore Wetlands

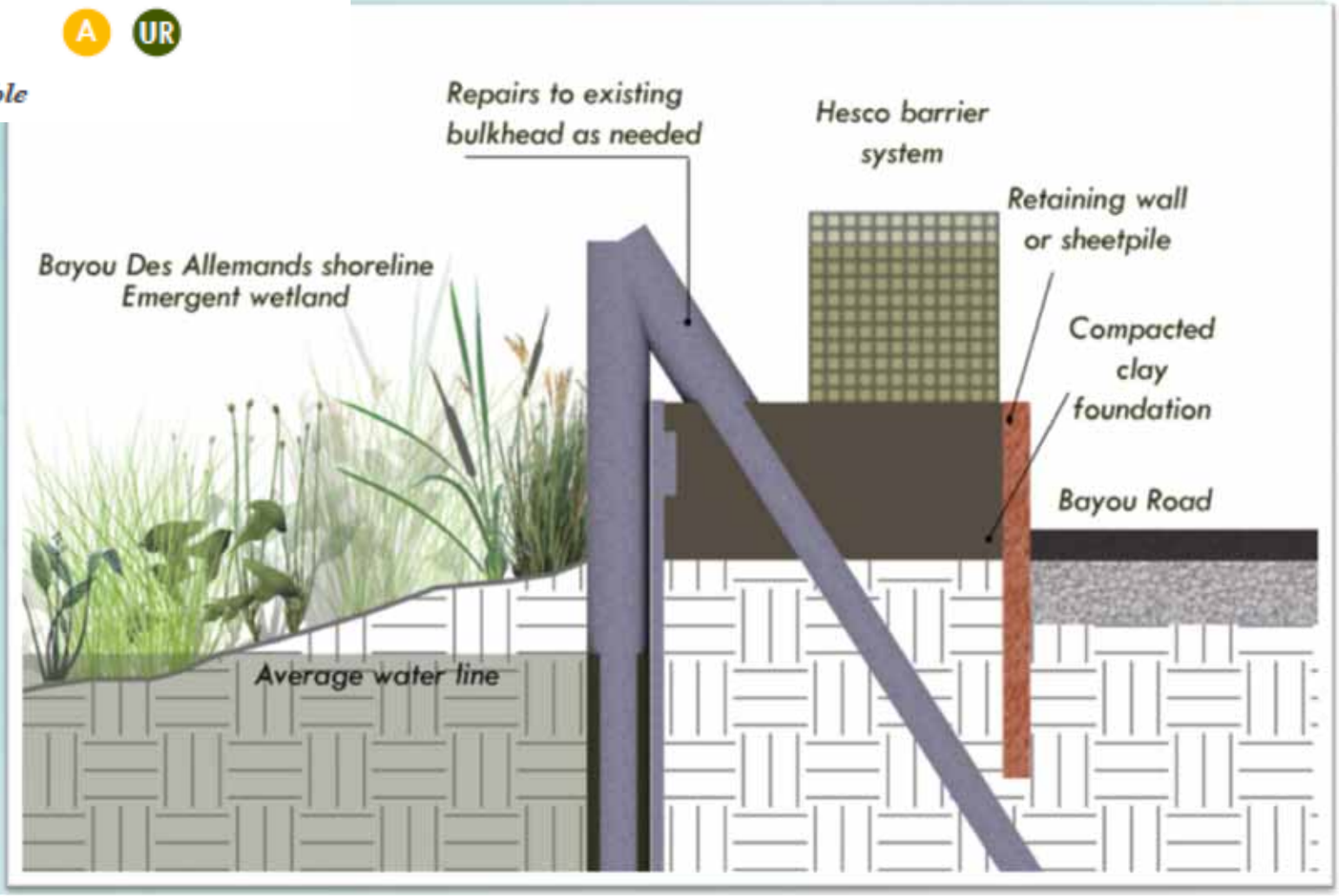
	C	A	UR	MR	LR	D
● *Essential*						
◒ *Encouraged*						
◡ *Optional*						
N/A *Not applicable*						



Strategies and Best Practices

Build Low Earthen Barriers

●	*Essential*	D
◒	*Encouraged*	C MR LR
◡	*Optional*	A UR
N/A	*Not applicable*	



Strategies and Best Practices

Educate Home and Business Owners

		C	A	MR	LR	D	UR
●	*Essential*	●	●	●	●	●	
◒	*Encouraged*						●
◡	*Optional*						
N/A	*Not applicable*						

Strategies and Best Practices

Secure the Structure in Flood

		C	MR	LR	D	A	UR
●	*Essential*						
◒	*Encouraged*						
◡	*Optional*						
N/A	*Not applicable*						

Strategies and Best Practices

Secure the Building in Wind

- *Essential* — C A MR LR D
- *Encouraged* — UR
- *Optional*
- N/A *Not applicable*

Strategies and Best Practices

Prepare the Property Before a Storm

●	*Essential*	C MR LR D
◒	*Encouraged*	A UR
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

Utilize Innovative and Adaptive Buildings

●	*Essential*	LR D
◒	*Encouraged*	C A MR
◡	*Optional*	UR
N/A	*Not applicable*	

Strategies and Best Practices

Utilize Floating Homes

●	*Essential*	C A MR LR D
◒	*Encouraged*	UR
◡	*Optional*	
N/A	*Not applicable*	

Strategies and Best Practices

Use Native Plants

		C	A	UR	MR	LR	D
●	*Essential*						
◒	*Encouraged*						
◡	*Optional*						
N/A	*Not applicable*						

Strategies and Best Practices

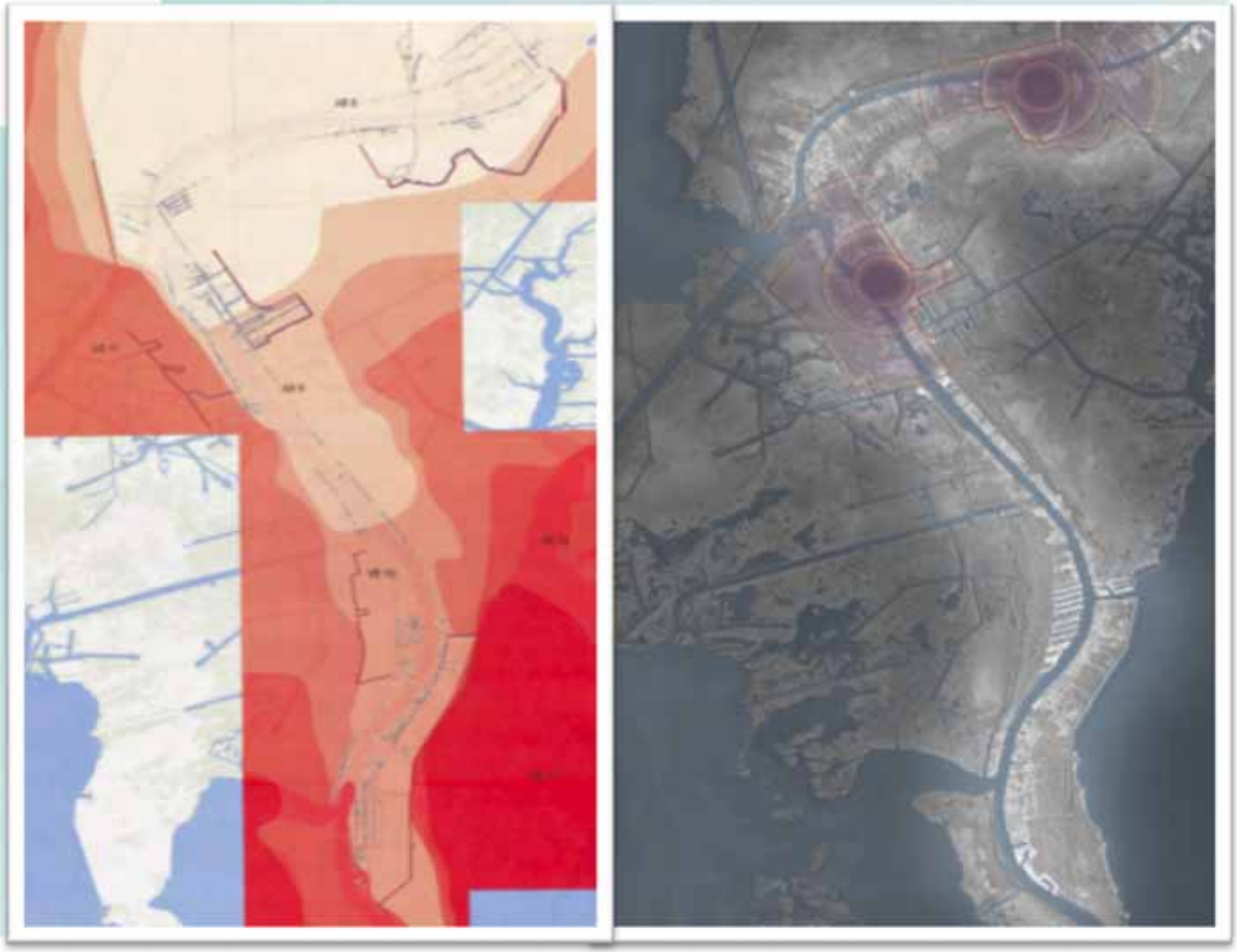
Elevate Living Space above BFE

		C	A	MR	LR	D	UR
●	*Essential*	●	●	●	●	●	
◒	*Encouraged*						●
◡	*Optional*						
N/A	*Not applicable*						

Strategies and Best Practices

Strategic Site Development

●	*Essential*	C UR MR LR
◒	*Encouraged*	A D
◡	*Optional*	
N/A	*Not applicable*	



Strategies and Best Practices

Relocate Strategically

●	*Essential*	LR D
◒	*Encouraged*	C A MR
◡	*Optional*	UR
N/A	*Not applicable*	

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STRATEGIC IMPLEMENTATION

Strategic Implementation

Need of Up-to-date Data

WHAT KINDS OF GIS DATA ARE AVAILABLE?

DATA TYPE	AGENCY	ONLINE?
REFERENCE LAYERS		
Aerial photography	Communities, Esri, Geocomm.com	Sometimes
Transportation network (road, railroads, airports)	Communities, State, Esri	Yes
Parcels	Communities	Sometimes
Urbanized areas	Communities, Census TIGER Files	Yes
POLITICAL		
Zoning	Communities	Sometimes
Land use	Communities	Sometimes
Political boundaries	Communities, Census	Yes
Population (historic, present, forecasts)	US Census, State	Yes
LOCAL, PARISH AND STATE PLANNING		
Louisiana Speaks (2007)	Louisiana Statewide Data Catalog	No
Parish plans	Communities	Yes, if applicable
Transportation plans	State, Communities	Yes
Coastal Master Plan	OCPR, DNR "SONRIS"	Yes
Coastal resilience	Coastal Resilience Gulf of Mexico Decision Support Tool	Yes
Hazard mitigation	State, Communities	Yes
Levees (large and small scale)	OCPR, DNR "SONRIS"	Yes
Planned and completed state and federal restoration projects	OCPR, DNR "SONRIS"	Yes
NATURAL SYSTEMS		
Land cover	Atlas	Yes
Rivers and waterways	FEMA, LOSCO	Yes
Advisory Base Flood Elevations (ABFEs)	FEMA	Yes
Floodplains/DFIRM (where available)	FEMA	Yes
Land loss	USGS	Yes
Geology	USGS	Yes

The information in this chapter represents data and resources available at the time of this publication. Please note new resources and updated data may become available.

Implementation Requires Up-to-Date Data

Federal, State and Regional Data

The Federal, State and local agencies listed at left have gathered data about coastal conditions, building requirements, existing and proposed structures, and environmental and water management practices. Because integrated water management is important, it is critical that governmental agencies and non-governmental organizations share data with each other, as well as coordinate within jurisdictions. Sharing data ensures that coastal users have consistent access to the most current and best available data.

Community-Level Data

Because coastal Louisiana is a dynamic, changing area, access to the latest and most comprehensive geospatial data sets is crucial to informed decision-making and planning. Data sets useful for community planning come from a variety of government agencies and departments. Collecting and sharing data represents a major undertaking but should be of principal importance for communities. A Geographic Information System, or GIS, is a computer-based system that organizes, stores, analyzes and presents geospatial data. It is an efficient way for communities to collect and share data sets such as existing land uses and parcel-level data including real market value, transportation networks and environmental constraints.

Planners, developers and community advocates can use this data to see how their current land use patterns interact with potential hazards and projected population changes. They can make informed decisions about future policies based on objective criteria, for example environmentally sensitive areas and areas where business clusters could best take advantage of transportation corridors.

Strategic Implementation

Coordination Across Scales

FEDERAL, STATE AND LOCAL AGENCIES INVOLVED IN COASTAL DEVELOPMENT

Overseeing coastal development and water management is a shared responsibility among federal, state and local governments. Many agencies at all three levels of government have roles in managing water and coastal development. In addition, non-governmental organizations and private landowners and businesses are involved with managing Louisiana's coastal communities and natural areas. (Please note, this is intended to be a comprehensive list of federal, state and local agencies, however, there may be additional agencies and organizations not listed here that participate in coastal development.)

OTHER ORGANIZATIONS INVOLVED IN COASTAL DEVELOPMENT:

NGOs:

America's Wetlands
Audubon Society
Barataria - Terrebonne National Estuary Program
Center for Planning Excellence
Coalition to Restore Coastal Louisiana
Ducks Unlimited
Environmental Defense Fund
Lake Pontchartrain Basin Foundation
The Nature Conservancy
National Wildlife Federation
Restore or Retreat

Key Institutions:

Sea Grant
LSU Ag Center Cooperative Extension
LSU
UNO CHART
Tulane

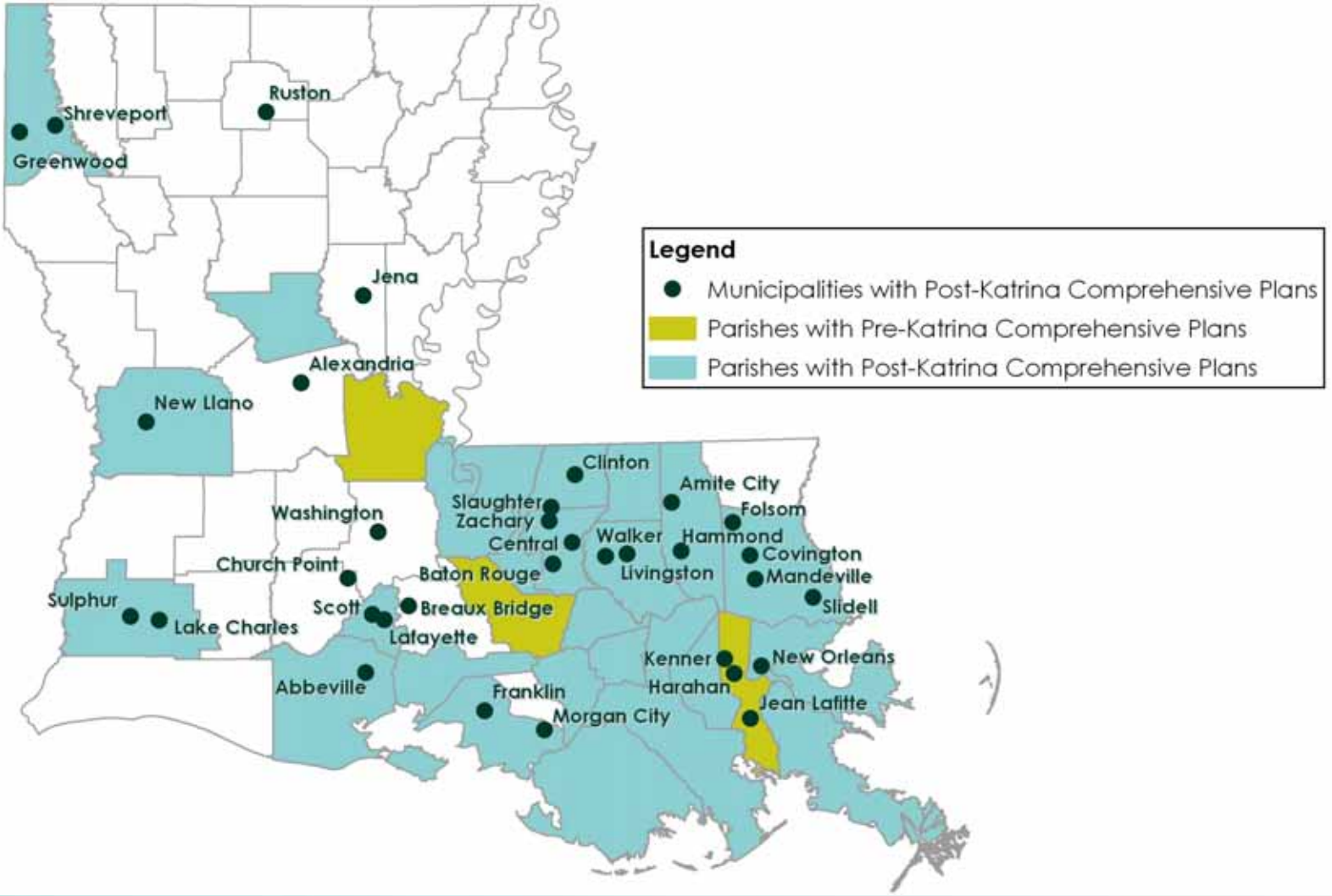
Strategic Implementation

Understanding of Regulatory Framework

AGENCIES	ACT, REGULATION, OR PROGRAM
FEDERAL AGENCIES	
Department of Agriculture:	
Natural Resources Conservation Service	
Department of Commerce:	
National Oceanic and Atmospheric Agency (NOAA)	• Coastal Zone Management Act
NOAA Weather Service and River Forecast Center	
Department of Defense:	
U.S. Army Corps of Engineers	
Department of Homeland Security:	
Federal Emergency Management Agency (FEMA)	• National Flood Insurance Program (NFIP)
U.S. Coast Guard	
Department of the Interior:	
U.S. Bureau of Reclamation	
U.S. Fish and Wildlife Service	• Coastal Barrier Resources Act
U.S. Geological Survey (USGS) Wetlands Research Center	
Council on Environmental Quality	
U. S. Environmental Protection Agency (EPA):	• Clean Water Act: National Pollutant Discharge Elimination System (NPDES); Section 404 (permits administered by US Army Corps of Engineers) • Gulf of Mexico Program
STATE AGENCIES AND ENTITIES	
Governor's Office of Coastal Activities	
Coastal Protection and Restoration Authority (CPRA)	• *Louisiana's Comprehensive Master Plan for a Sustainable Coast*
Department of Environmental Quality	• State stormwater management program
Department of Wildlife and Fisheries	
Department of Natural Resources (DNR)	• Louisiana Coastal Zone Management • Coastal Use Permit Program
Department of Health & Hospitals	
Department of Transportation and Development	
Department of Insurance	
Economic Development	
Department of Agriculture and Forestry	
Department of Culture, Recreation and Tourism	
Department of Public Safety	• Louisiana Uniform Construction Code
NATIVE AMERICAN TRIBES	
Federal and State recognized Native American Tribes	
REGIONAL AND LOCAL AGENCIES	
Regional Planning Districts Levee Districts Parish Governments Municipal Governments	• Parish or Municipal Comprehensive Plans* • Parish or Municipal Zoning Code* • Parish or Municipal Subdivision Regulations* • Parish Coastal Zone Management Programs* • Parish or Municipal Building Code * if applicable

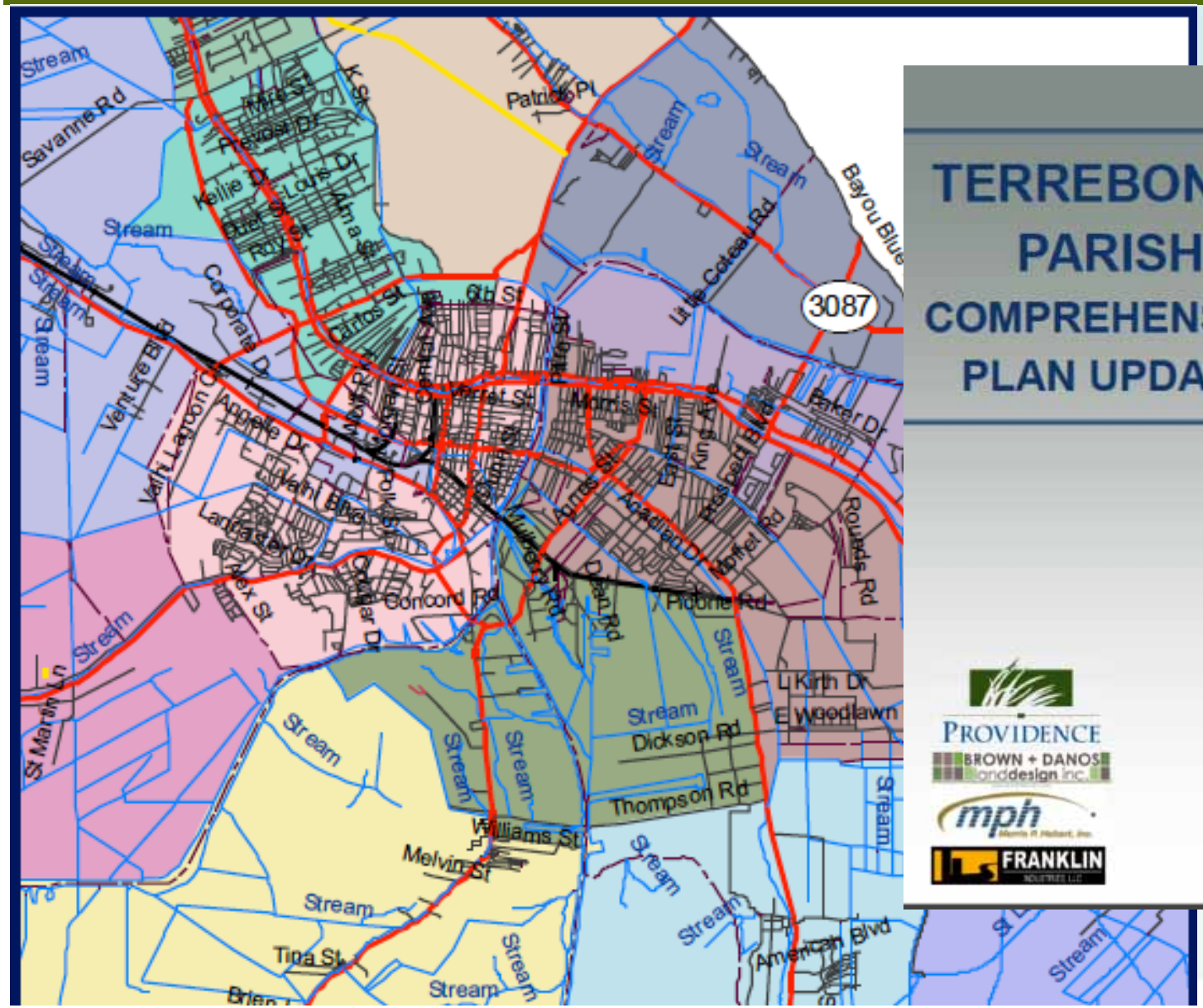
Strategic Implementation

Need a Plan



Strategic Implementation

Need of a Plan



Coastal Workshop

LOUISIANA COASTAL LAND USE TOOLKIT

Louisiana Coastal Land Use Toolkit

Local Ordinance Implementation

Chapter 7

LOCAL ORDINANCE IMPLEMENTATION

This chapter provides an overview of the local ordinances available in the Coastal Louisiana Land Use Toolkit. These ordinances can help communities with the implementation of many of the strategies found in this Best Practice Manual. These ordinances touch on a wide array of development regulations including zoning, subdivision, stormwater management, hazard mitigation and natural resource protection specifically designed for coastal communities.

Regulations as a Coastal Development Best Practice

The most direct path to the implementation of any plan—hazard mitigation, comprehensive or small area plan—is through the adoption of regulations. Effective development regulations must closely track the vision established in the plan and respond to the unique tolerances of each community. When properly written and enforced, development regulations can increase predictability and certainty, which has the effect of reducing risk from both economic and natural hazards. Reduced risk makes it easier for people to invest in your community.

The call for coastal communities to adopt modern development regulations is not new. The *Louisiana Speaks Regional Plan*, as well as CPRA's *Louisiana's Comprehensive Master Plan for a Sustainable Coast* both call for coastal communities to adopt and enforce development codes as non-structural tools to protect natural lines of defense and reduce the risks associated with hurricanes and storm induced flooding.

Further, many of the strategies in this Manual are enhanced by locally adopted ordinances that either mandate or set standards for how the strategies are conducted. Tools such as stormwater management, elevation of structures, natural resource protection or strategic site development are most effective when the community commits to using these tools together. The local ordinances are like the conductor in the orchestra, they keep everyone playing from the same page to ensure that the entire community benefits.

1 + **2** + **3** + **4**

Adopting a Comprehensive Plan | **Mapping the Toolkit** | **Customizing the Toolkit** | **Adopting & Administering the Toolkit**

CH7-1: The Louisiana Land Use Toolkit: Implementation Handbook guides communities through the development regulation process.

What are Development Regulations?

Development regulations cover many of the topics essential to resilient coastal development patterns. They provide the framework for how a community is organized and set the standards and rules that shape the built environment. This framework often takes the form of zoning districts, subdivision regulations and development standards.

In November of 2010, the Center for Planning Excellence (CPEX) released the Louisiana Land Use Toolkit. The goal of the Toolkit was to provide local governments with a set of Louisiana specific model development regulations as a free resource. The Toolkit is supportive of community's planning goals and growth management strategies and allow a community to precisely tailor the regulations to meet their needs.

The Coastal Louisiana Land Use Toolkit was created in 2011 to address the unique needs of coastal communities. The Coastal Toolkit operates using the same framework as the original, but is specifically tailored to help coastal communities better live with water by responding to the specific regulatory needs local governments along the Louisiana coast.

Like the original Toolkit, the Coastal Toolkit may be adopted incrementally or combined to create a complete development code. For example, a community may choose to adopt the full Coastal Toolkit or only select ordinances (flood damage reduction, stormwater management or natural resource protection). This flexibility allows communities to build their regulations up to their level of comfort.

LOUISIANA LAND USE TOOLKIT: IMPLEMENTATION HANDBOOK

The Implementation Handbook was written to help communities use the Louisiana Land Use Toolkit to generate more resilient and sustainable development patterns. It walks communities step-by-step through the plan preparation, rule calibration and ordinance adoption process. The Handbook builds from the lessons learned in implementing the Louisiana Land Use Toolkit in communities across Louisiana.

The Handbook explains why and how designated growth sectors and context areas help communities get the right rules in the right places. It uses Louisiana specific case studies to guide communities through the adoption process and uses graphic examples to show how many common developments are built using the rules in the Toolkit.

The Coastal Toolkit is organized on the same themes and principals as the original Toolkit and coastal communities thinking of adopting new development regulations are strongly encouraged to download this free resource for review. www.landusetoolkit.com

CH7-2: The Implementation Handbook for the Louisiana Land Use Toolkit is a helpful resource for communities updating their development regulations.

Louisiana Coastal Land Use Toolkit

Overview

Model "Smart Growth" Development Code

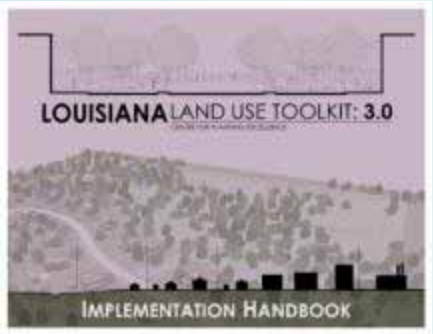
- Context-Based: Right Rules Right Place
- Form-Based Elements: Building Types

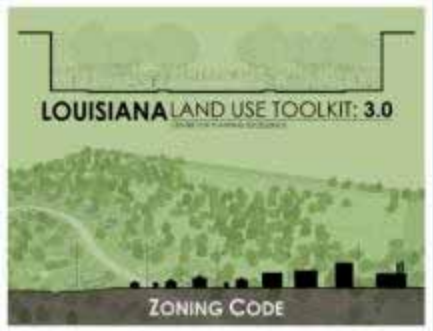
For Jurisdictions with Limited Capacity

- Easy & Affordable to Administer
- Flexible, can be used in multiple locations, big & small

Can Adopt the Entire "Toolkit" or Adopt Chapters to Meet Local Needs

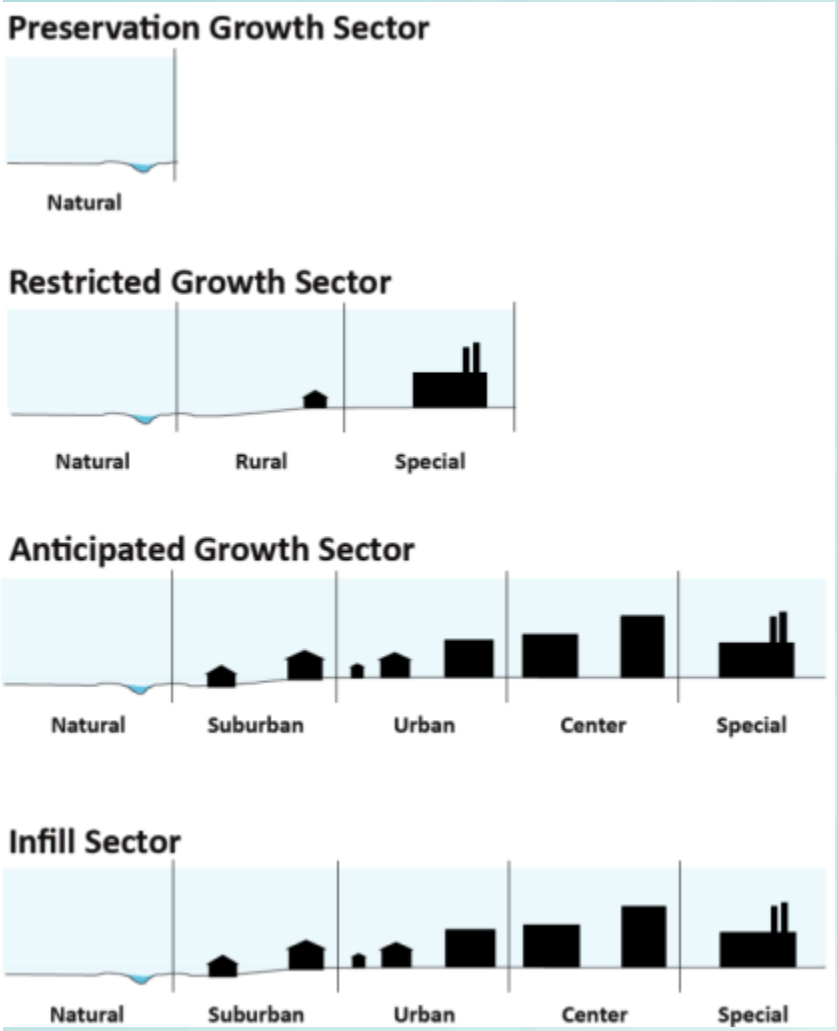
- Zoning
- Subdivision
- Development Standards
- Complete Development Code





Louisiana Coastal Land Use Toolkit

Applies Context as an Organizing Principle



- Six context areas
- Work within the regional growth sectors
- Establish the existing and planned community character

Building Types for Application at the Site Level

Farm Lot
A large lot designed to accommodate agricultural and residential uses. A farm lot may have multiple structures including a farm house, barn, workshop, or other accessory structures, provided the lot maintains low building coverage. A farm lot may also be used to accommodate other uses with large areas of open space.

Single-Family House
A building type containing one principal dwelling unit typically located on a single lot with private yards on all four sides. Single-family house also includes modular or manufactured homes.

Attached House
A building type containing two principal dwelling units on a single lot with private yards on all four sides. Each unit has its own external entrance. Units can be located on separate floors, side by side, or back-to-back. Often called a duplex.

Row House
A building type consisting of three or more attached structures. Each structure shares a common side wall. Each structure may contain up two principal dwelling units which may be stacked vertically. Each unit has its own external street facing entrance.

Apartment
A building type containing three or more dwelling units consolidated into a single structure. An apartment contains internal common walls. Dwelling units within a building may be situated either wholly or partially over or under other dwelling units. The building often shares a common entrance. Primary entrances are prominent and street facing.

Building Types for Application at the Site Level

Single-Story Shopfront
A building type intended primarily for large format single-story retail. Storefront windows are provided to encourage interaction between the pedestrian and the ground story space. Primary entrances are prominent and street facing.

Mixed Use Building
A building type intended for ground floor commercial uses with upper-story residential or offices uses. Windows are provided on the ground floor to encourage interaction between the pedestrian and the ground story space. Primary entrances are prominent and street facing and are spaced at regular intervals along the street edge.

Industrial
A building type intended primarily for industrial, manufacturing and employment uses. To the extent possible, building entrances should face the street. Ground floor transparency is limited due to the intensive nature of the work inside. May include bay doors for vehicles.

Civic
A building type containing community or public uses that serve the surrounding community. Civic buildings are usually sited adjoining or surrounded by civic spaces or they provide a visual landmark by being placed at the axial termination of a street.

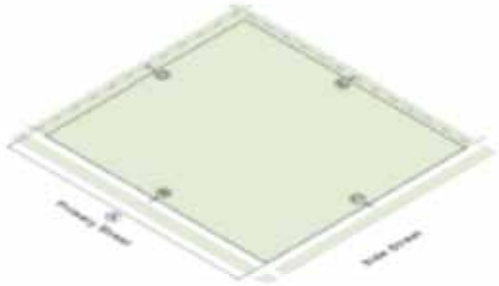
Open Lot
An open lot is designed to accommodate open space or natural areas worthy of preservation. An open lot is intended primarily to provide for public or private open space. Open lots may also be used to accommodate uses with large areas of open space and low building coverage.

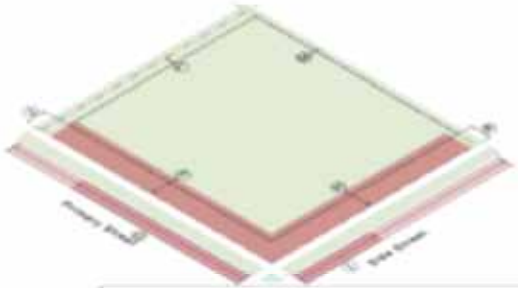
Louisiana Coastal Land Use Toolkit

Typical Building Type Spread

6.2.5 Mixed Use Building

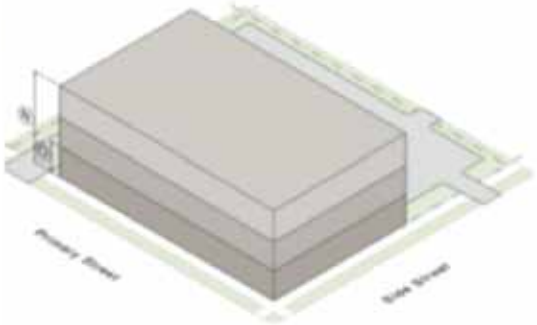
A building type intended for ground floor commercial uses with upper story residential or offices uses. Windows are provided on the ground floor to encourage interaction between the pedestrian and the ground story space. Primary entrances are prominent and street facing and are spaced at regular intervals along the street edge.





	U-MX-3	U-MX-5	U-MS-3	U-MS-5	U-SI
Lot					
Area (min square feet)	6,500	6,500	2,500	2,500	6,500
Building coverage (max)	70%	70%	85%	85%	70%
Ⓑ Width (min)	65'	65'	25'	25'	65'
Structure Setbacks					
Ⓒ Primary street (min)	0'	0'	0'	0'	0'
Ⓒ Side street (min)	0'	0'	0'	0'	0'
Ⓔ Setback abutting a RS- district (min)	15'	15'	15'	15'	20'
Ⓔ Setback abutting any other district (min)	0' or 5'	0' or 5'	0' or 5'	0' or 5'	10'
Ⓔ Setback abutting alley (min)	5'	5'	5'	5'	5'

Build-to Area	
Ⓕ Primary street	
Ⓖ Building facade area (min % of	
Ⓗ Side street bui	
Ⓘ Building facad area (min % of	
Parking Setbac	
Ⓙ Primary street	
Ⓚ Side street set	
Ⓛ Setback abutti	
Ⓜ Setback abutti	
Ⓝ Setback abutti	



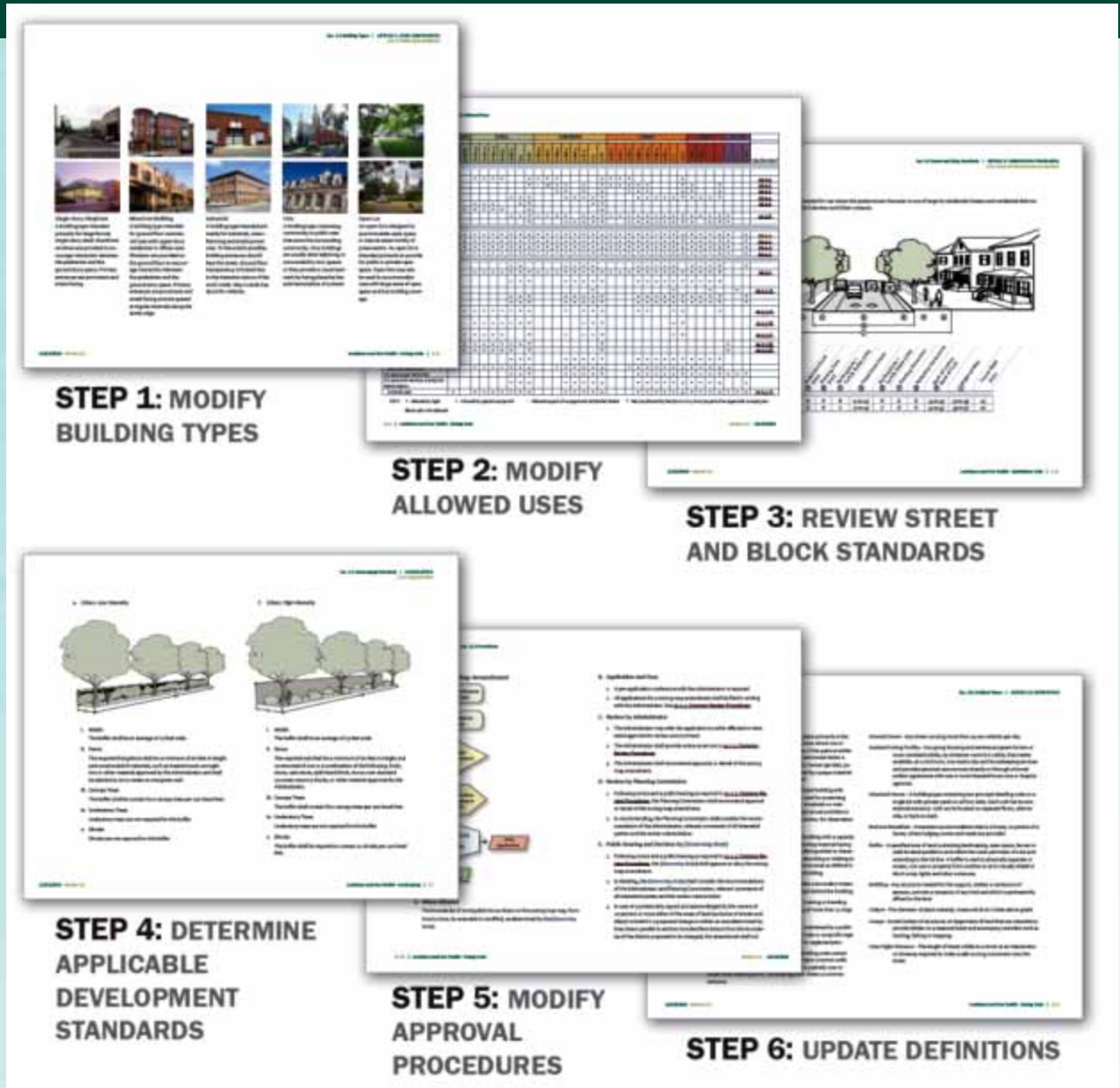
	U-MX-3	U-MX-5	U-MS-3	U-MS-5	U-SI
Height					
Ⓝ Stories (max)	3	5	3	5	5
Ⓝ Feet (max)	45'	70'	45'	70'	70'
Ⓞ Ground story height (min)	12'	12'	12'	12'	12'
Bulk Plane					
Bulk Plane abutting RS- district (1:1 above 40')	yes	yes	yes	yes	yes

	U-MX-3	U-MX-5	U-MS-3	U-MS-5	U-SI
Transparency					
Ⓟ Ground story (min)	55%	55%	65%	65%	40%
Ⓠ Upper story (min)	20%	20%	30%	30%	20%
Ⓡ Blank wall area (max)	30'	30'	25'	25'	30'
Building Entrance					
Ⓢ Street facing entrance required	yes	yes	yes	yes	yes
Ⓣ Entrance spacing (max)	100'	100'	75'	75'	150'
Building Mass					
Ⓤ Building length (max)	300'	300'	225'	225'	300'
Building Elements Allowed*					
Gallery, awning	•	•	•	•	•
Double gallery	•	•	•	•	•
Porch, stoop					
Balcony	•	•	•	•	•

*See Sec. 4.4. Building Elements, for specific building element requirements

Louisiana Coastal Land Use Toolkit

Calibrate the Toolkit



STEP 1: MODIFY BUILDING TYPES

STEP 2: MODIFY ALLOWED USES

STEP 3: REVIEW STREET AND BLOCK STANDARDS

STEP 4: DETERMINE APPLICABLE DEVELOPMENT STANDARDS

STEP 5: MODIFY APPROVAL PROCEDURES

STEP 6: UPDATE DEFINITIONS

Coastal Workshop

COASTAL TOOLKIT IN PRACTICE

Coastal Toolkit in Practice

Ordinances in Toolkit

- Flood Damage Prevention
- Stormwater Management and Natural Resource Protection
  - Tree Preservation
  - Burrow Pits
  - Outdoor Lighting
  - Street and Alley Standards
  - Historic Preservation
  - Etc.

Implementation of Coastal Toolkit will enable communities to rank in 7th place of Community Rating System

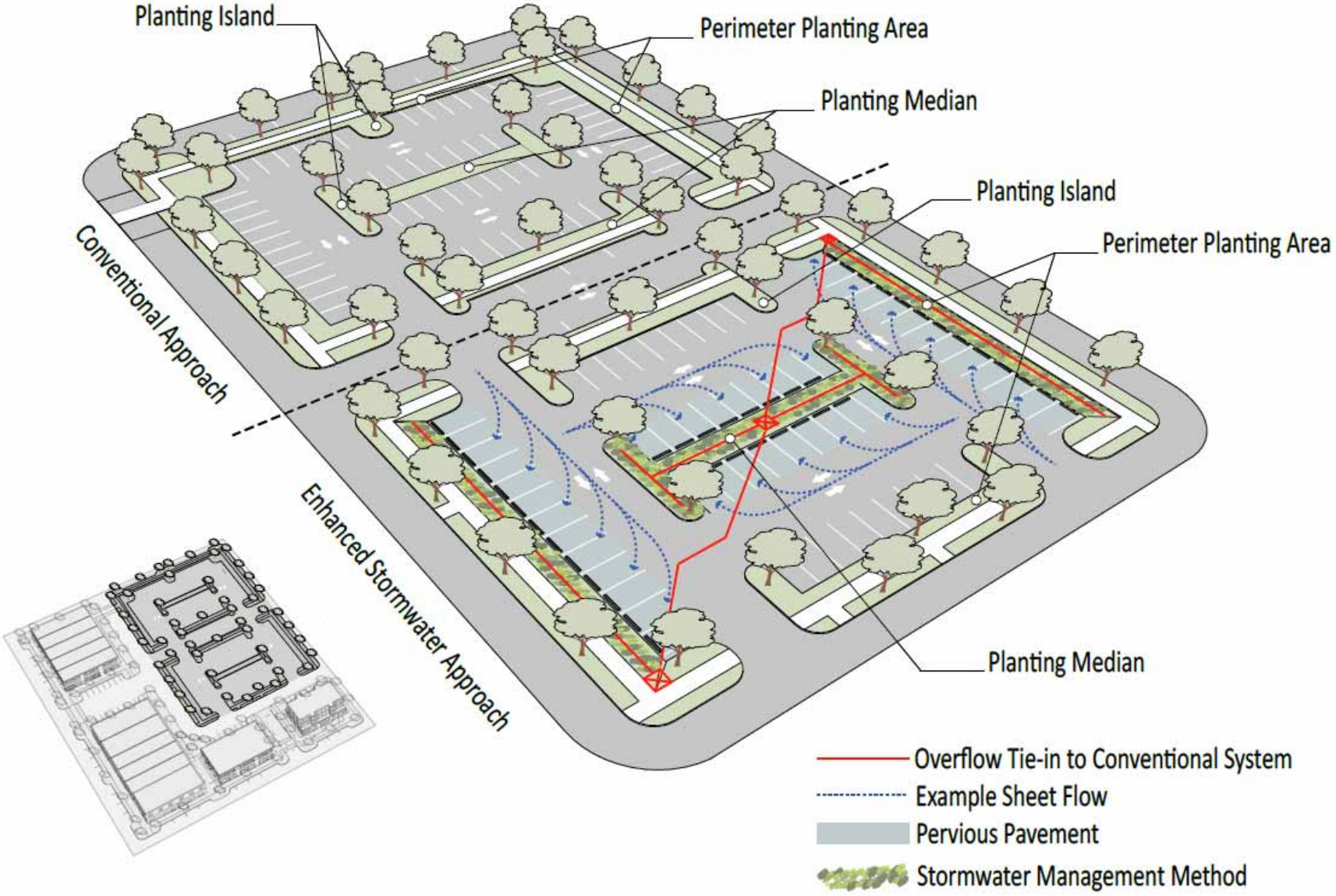
Parking Lot Case Study: Stormwater Impact on Watershed

Coastal Toolkit in Practice

Current Conditions with no regulations

Coastal Toolkit in Practice

Parking Lot Design



Coastal Toolkit in Practice

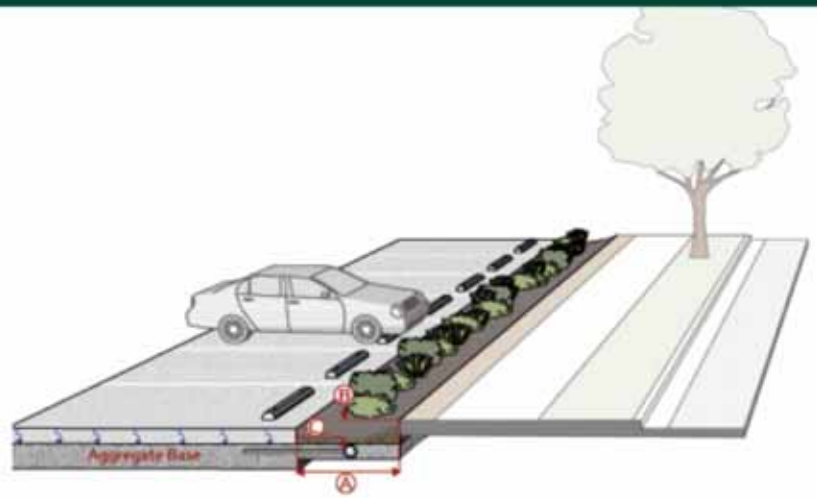
Conventional Approach in Toolkit

Coastal Toolkit in Practice

Enhanced Approach in Toolkit

Coastal Toolkit in Practice

Enhanced Approach in Toolkit

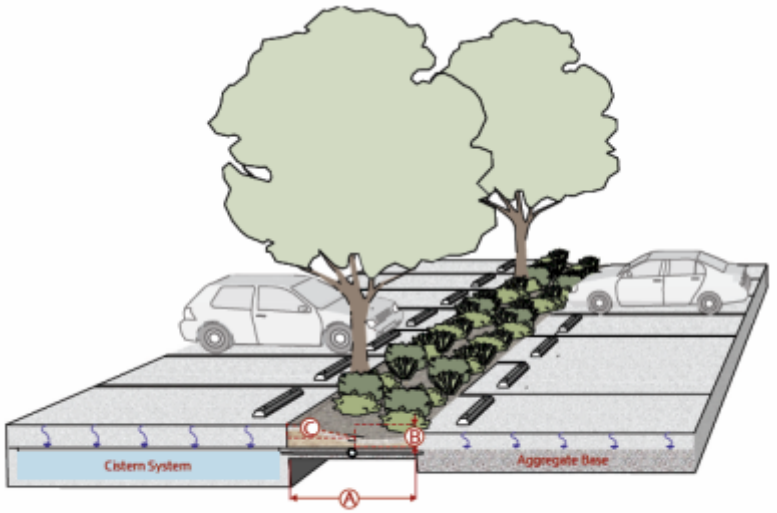


2. Enhanced Stormwater

Dimensions	
Ⓐ Width (min)	6'
Ⓐ Width with adjacent pervious surface (min)	5'
Ⓑ Swale depth (min/max)	6" / 18"
Ⓒ Swale slope (max)	3:1
Plantings	
Shrubs/grasses (min)	1 per 25 sq. ft.
Soils and Drainage	
Planting medium	Amended soil recommended
Stone, mulch or groundcover required	Yes
Sub-structure	Pea gravel
Overflow protection	Underdrain or other approved overflow device required
Paving and Curbing	
Paving	See 2.4.3. Pavement Material
Curbing types	Wheelstops or curbs with gaps
Subsurface Storage	
Pervious Pavement with vault or cistern system	Recommended
Pervious Pavement with aggregate	Recommended

Coastal Toolkit in Practice

Enhanced Approach in Toolkit

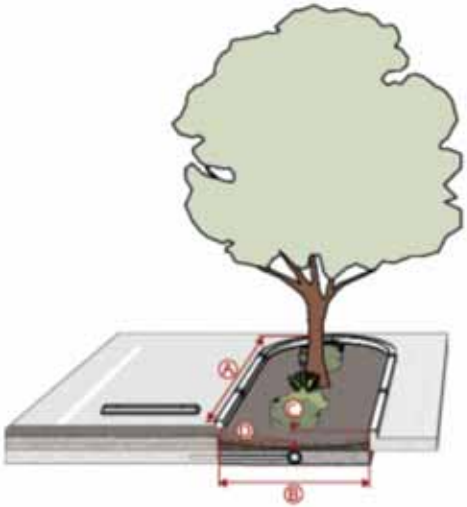


2. Enhanced Stormwater

Dimensions	
Ⓐ Width (min)	8'
Ⓐ Width with adjacent pervious surface (min)	6'
Ⓑ Swale depth (min/max)	6" / 24"
Ⓒ Swale slope (max)	3:1
Plantings	
Canopy trees (min per 100' of length)	3
Shrubs/grasses (min)	1 per 25 sq. ft.
Soils and Drainage	
Planting medium	Amended soil recommended
Stone, mulch or groundcover required	Yes
Sub-structure	Pea gravel
Overflow protection	Underdrain or other approved overflow device required
Paving and Curbing	
Paving	See 2.4.3, Pavement Material
Curbing types	Wheelstops or curbs with gaps
Subsurface Storage	
Pervious Pavement with vault or cistern system	Recommended
Pervious Pavement with aggregate base	Recommended

Coastal Toolkit in Practice

Enhanced Approach in Toolkit



2. Enhanced Stormwater

Dimensions	
Ⓐ Length (min)	16'
Ⓑ Width (min)	6'
Ⓒ Swale depth (min/max)	6" / 18"
Ⓓ Swale slope (max)	3:1
Plantings	
Canopy tree/understory tree (min)	1 / 2
Shrubs/grasses (min)	1 per 25 sq. ft.
Soils and Drainage	
Planting medium	Amended soil recommended
Stone, mulch or groundcover required	Yes
Sub-structure	Pea gravel
Overflow protection	Underdrain or other approved overflow device required
Paving and Curbing	
Paving	See 2.4-3. Pavement Material
Curbing types	Wheelstops or curbs with gaps

Coastal Toolkit in Practice

Adoption Strategies: Communities' Priority

- Safety
- Environmental Protection
- Economic Concerns
- Culture
- Quality of Life

Coastal Workshop

ACTIVITY OVERVIEW

Activity Overview

Instructions for Map Exercise

Activity Overview

Goals for the Workshop

- Experience using building types to create a community
- Discuss challenges of developing in coastal areas
- Explore how different communities can be built using the same basic components and coastal development strategies

Activity Overview

Instructions for Map Exercise

Step 1: Introductions

Step 2: Briefly discuss the neighborhood concept and natural challenges

Step 3: Familiarize your group with the materials

Step 4: Place chips on the map

Step 5: Review the neighborhood you've created and strategies you've used – glue down chips!

Step 6: Finalize your map, name your neighborhood and choose a presenter

Activity Overview

Instructions for Map Exercise

Step 1: Introduce yourself

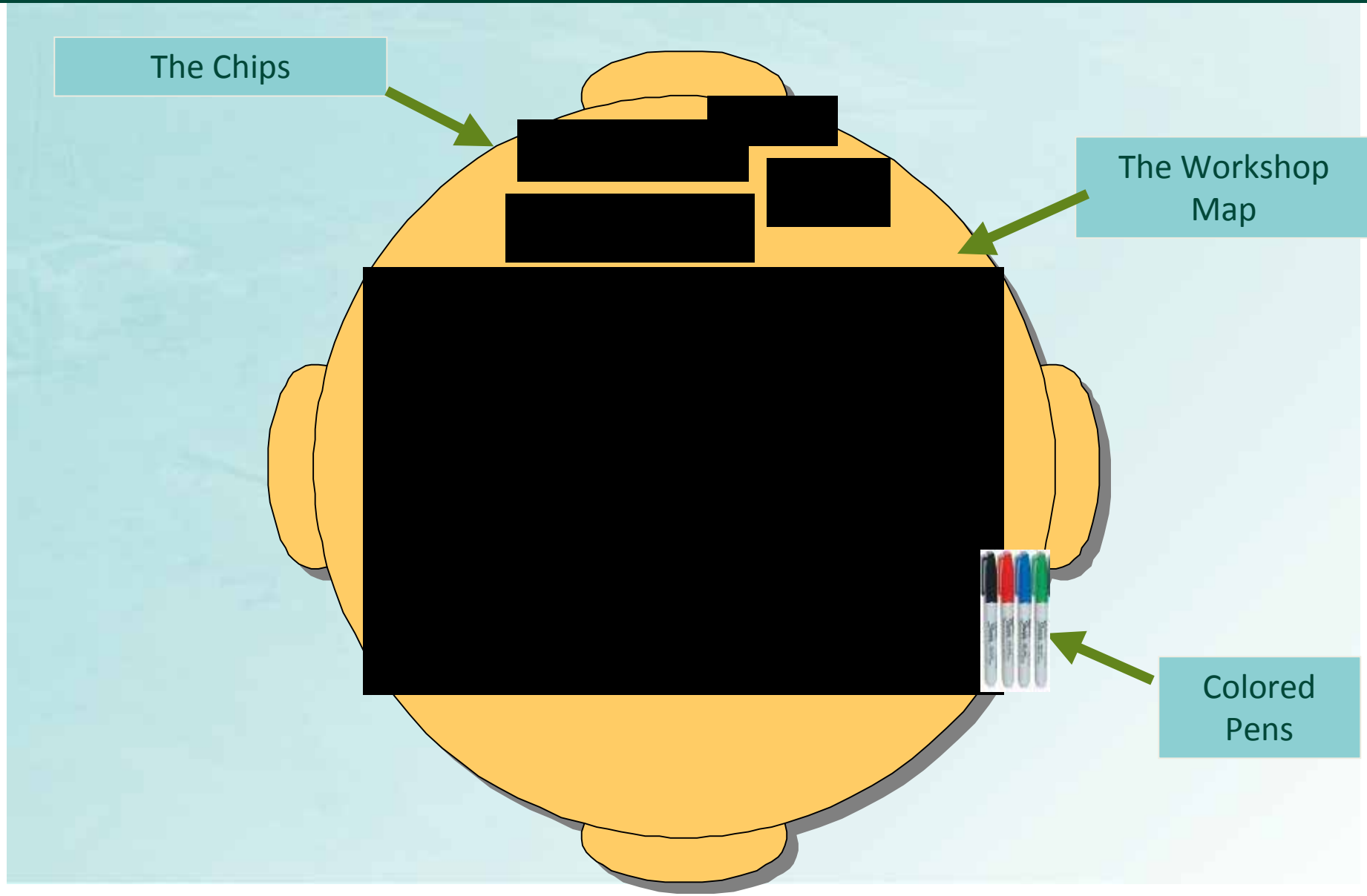
Step 2: Discuss neighborhood concept and natural features

Step 3: Familiarize yourself with the workshop materials

- Goal of the exercise is to create a complete neighborhood using coastal development strategies, as desired
- A complete neighborhood allows: Live - Work - Shop - Play
- A series of neighborhoods makes up a town or city

Activity Overview

Instructions for Map Exercise



Activity Overview

Workshop Map

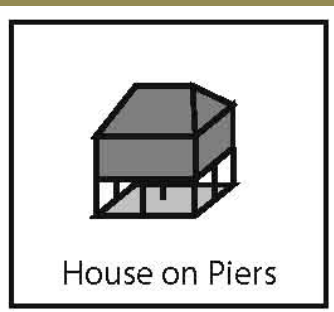
Activity Overview

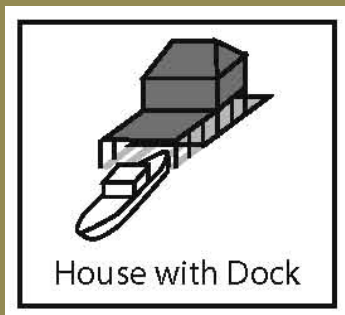
The Game Pieces

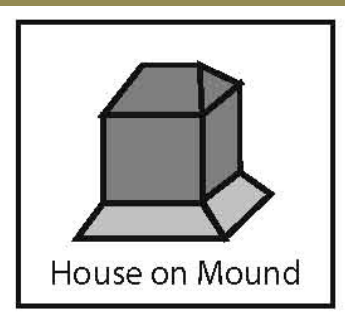
Activity Overview

The Game Pieces

Special Coastal Strategies

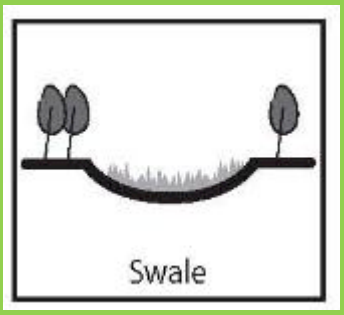

House on Piers

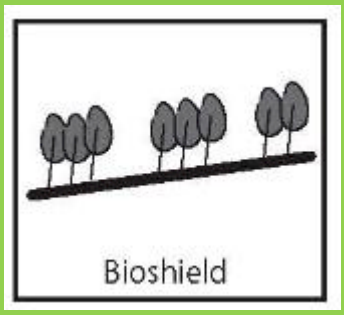

House with Dock


House on Mound


Tree Preservation

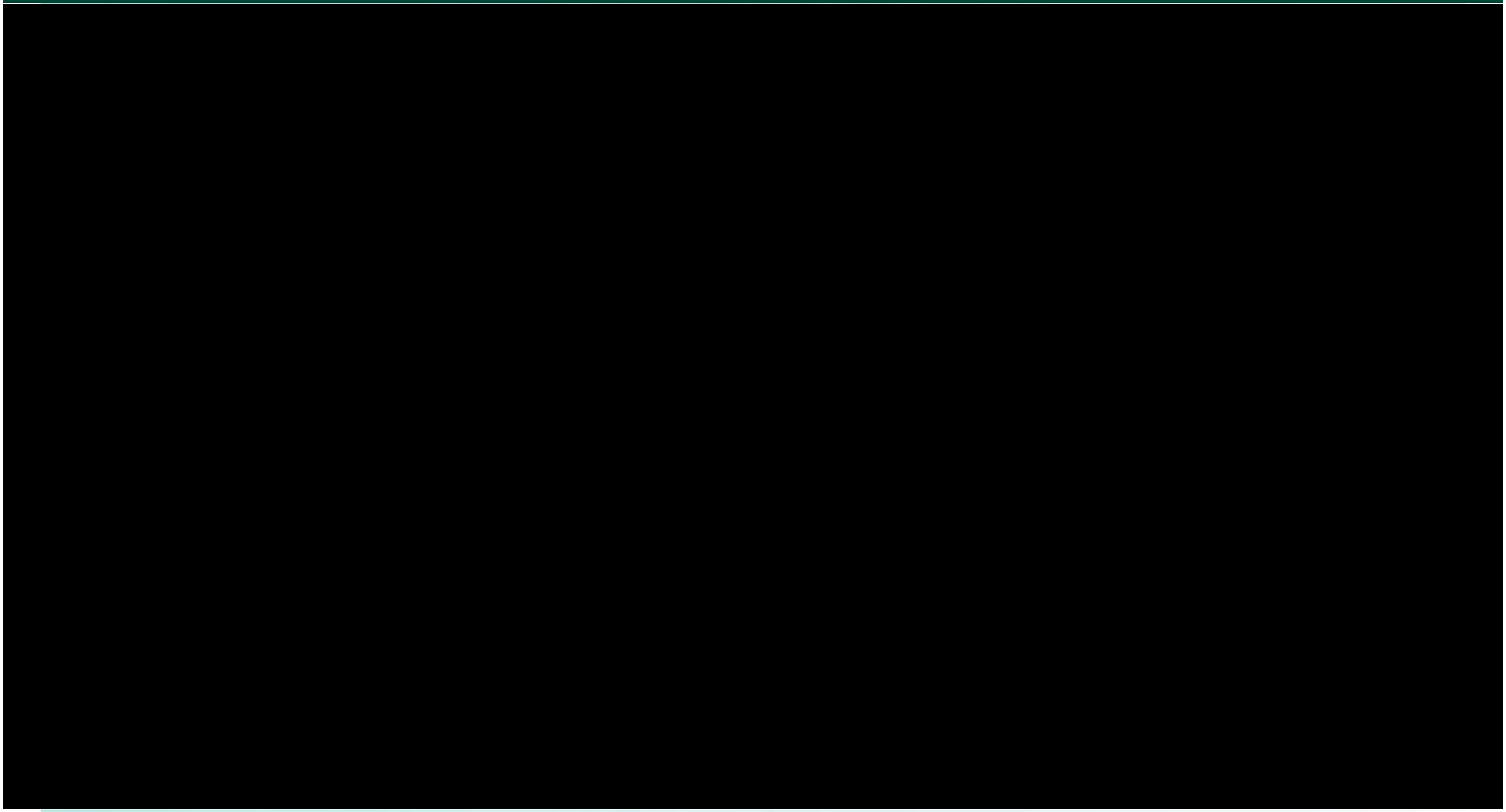

Permeable Pavement


Swale


Bioshield

Activity Overview

Building Type: Single Family

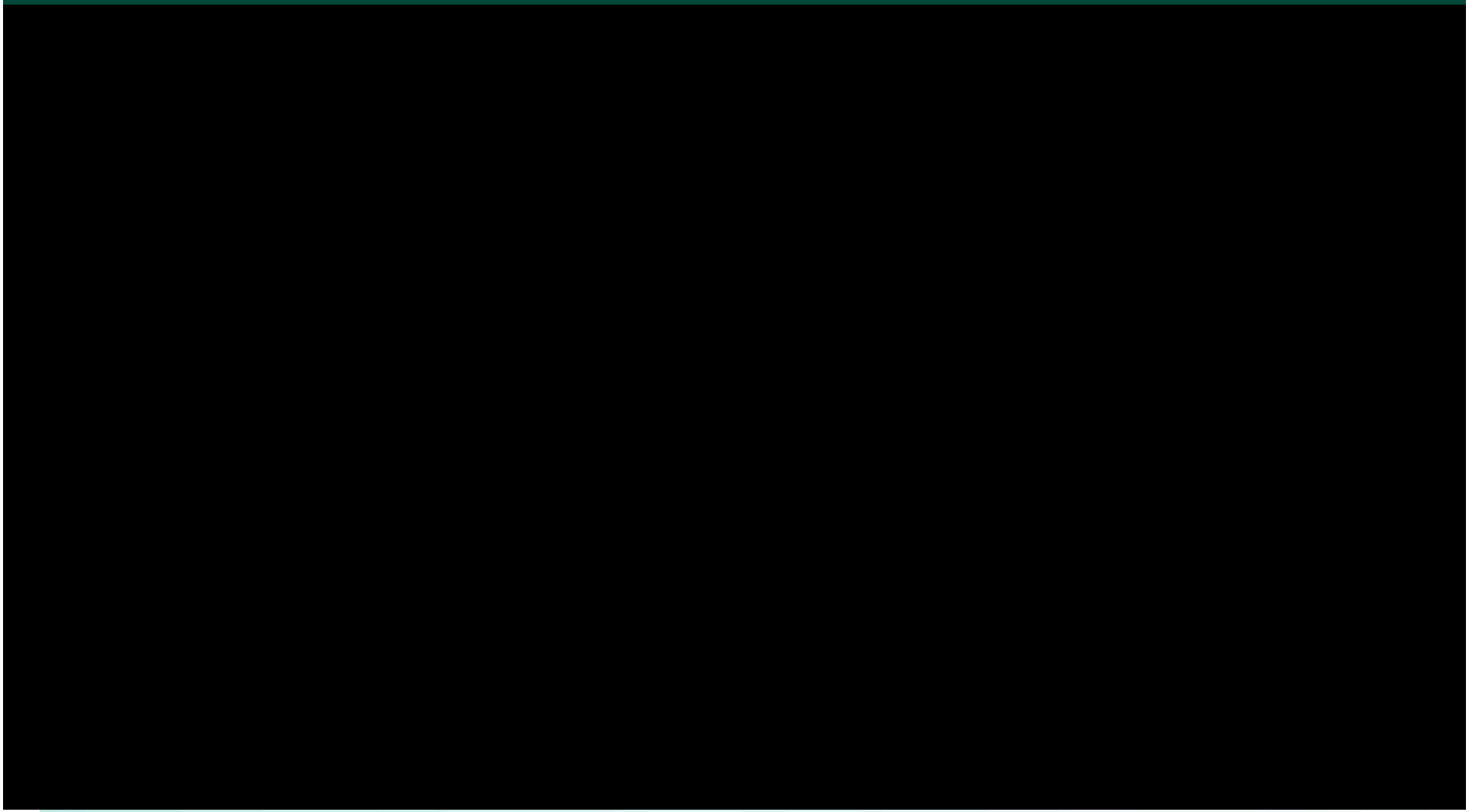


Activity Overview

Building Type: Multi Family

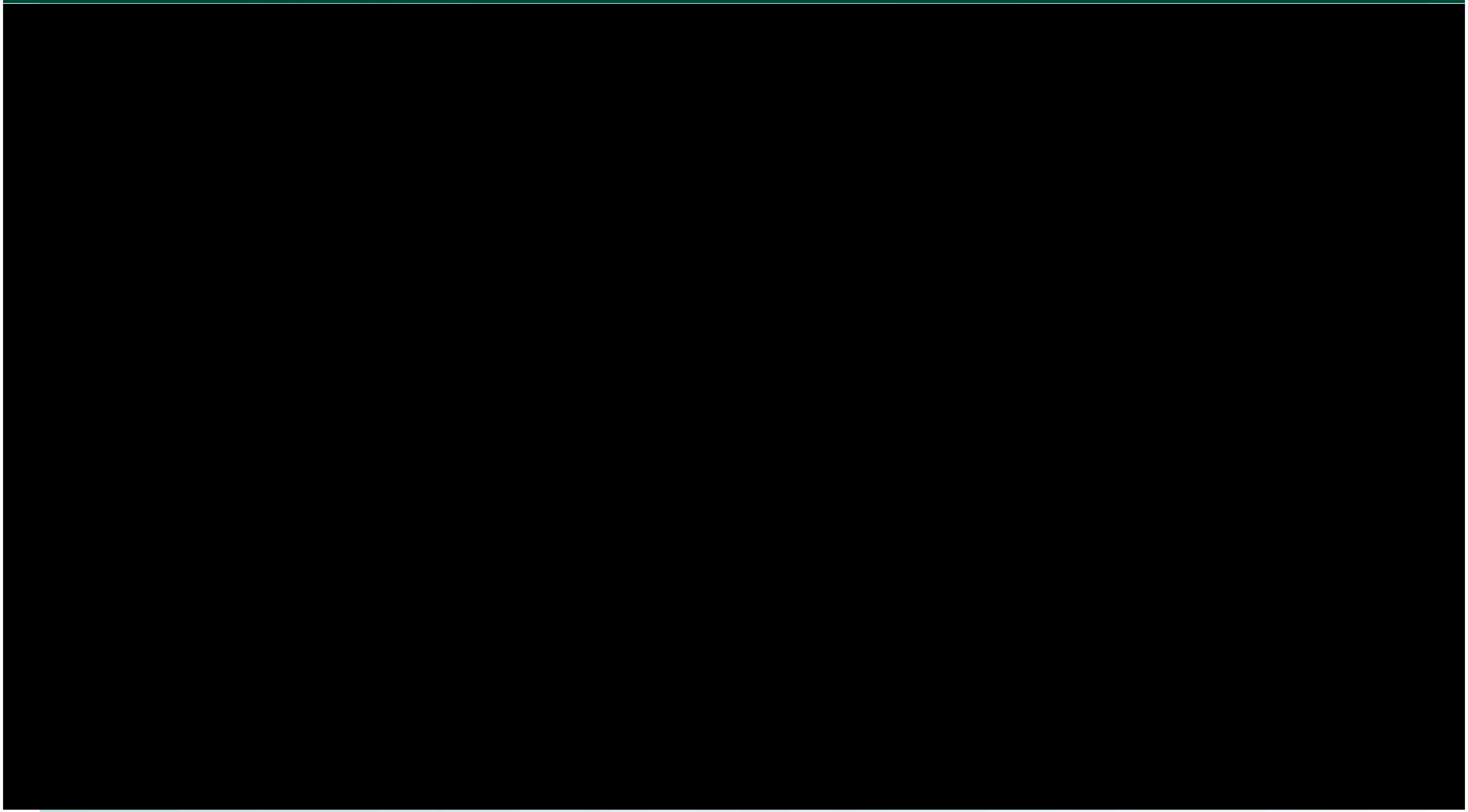
Activity Overview

Building Type: Commercial/Industrial



Activity Overview

Building Type: Civic Open



Activity Overview

Ready? And Plan!

Step 4: Place Chips on the Map

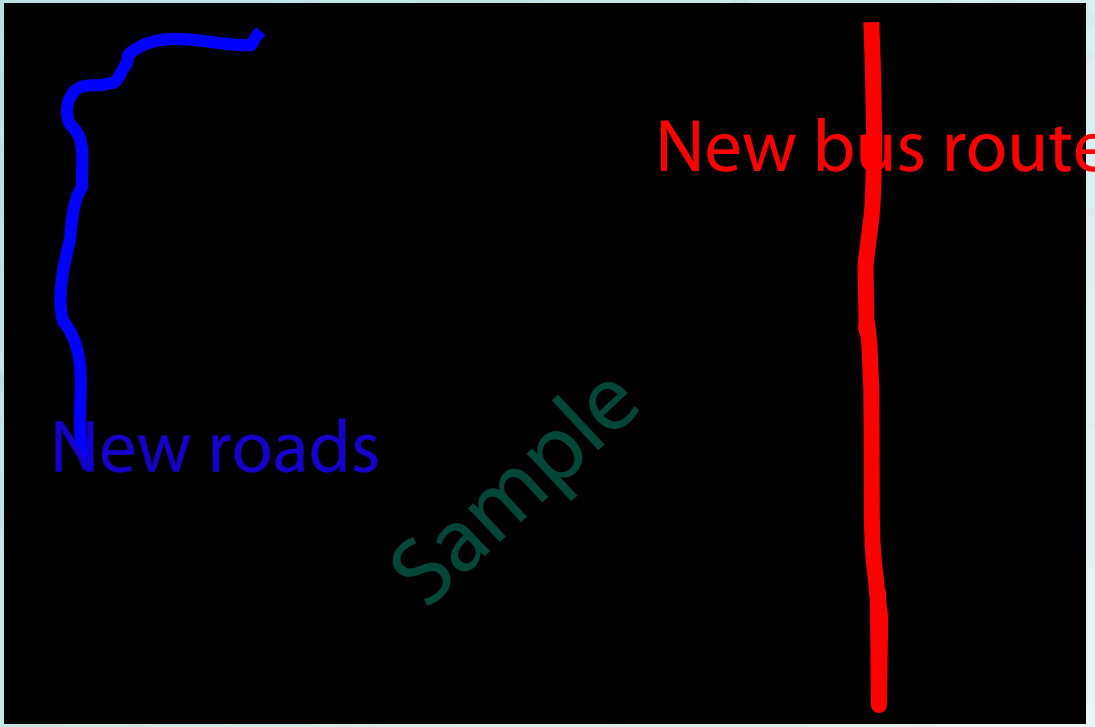
- Place residential, commercial, civic and open lot chips on the map
- Use coastal strategies in environmental areas
- Remember – you are trying to create one complete neighborhood given natural conditions
- Add roads or other features with a marker, if desired

Activity Overview

Ready? And Plan!

Draw Transportation

Roadways & Highways



Bicycle & Pedestrian Networks

Transit

Activity Overview

Ready? And Plan!

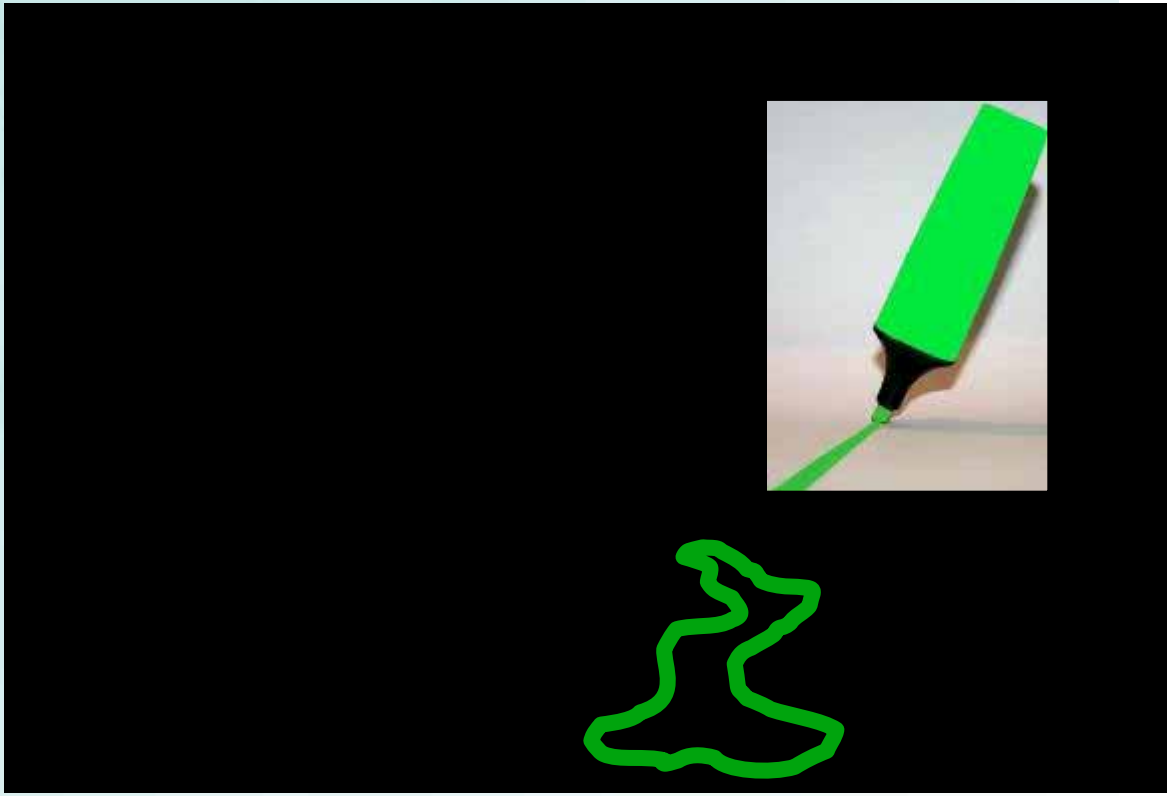
Review the Neighborhood and Choose a Presenter

Activity Overview

Finishing touches

Step 7: Finalize Map, Name Neighborhood and Choose a Presenter

- Make sure all the chips are glued down
- Annotate the map with the markers provided, if desired
- Select a great name for your neighborhood
- Let the facilitators know you are finished



Activity Overview

Presentation

Present Your

- Issues,
- Neighborhood
- & Strategies

Activity Overview

Discussion Topics

- What issues are important given the natural characteristics of coastal areas?
- How do you increase resiliency?
- How do you create neighborhoods that provide residents opportunities to live-work-shop-and play?
- What are the primary concerns of residents living in coastal areas?

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