



giving back

giving back: a guide for adaptive reuse of borrow sites in
jefferson, orleans, plaquemines, and st. bernard parish, louisiana



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a guide for adaptive reuse of borrow sites in jefferson, orleans,
plaquemines, and st. bernard parish

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Summer 2011

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The English language has numerous and curious terms for physical features on the land. Their origin is lost to most of us, often seemingly composed of random arrangement of words resulting in colorful-sounding terms. One wonders what was the inspiration or circumstance that led to their being. Skid row is one of the terms whose origin dates back to the early days when one or several of the main streets of Seattle, Washington was used to transport or skid logs to be milled. Hogback and glacial erratic also come to mind. Borrow pit is a

“Borrow suggests that something will be taken away to be returned in a short time or in the future”

particularly curious term, not as colorful as others but curious in terms of the dictionary meaning of the two words: borrow and pit and to the application of the resulting

term for describing the gaping, sometimes extensive holes in the earth’s surface that pock mark acres upon acres of our landscape. These borrow sites are where construction contractors or property owners mined gravel, clay, and other road building and construction materials to be transported by truck or other modes of conveyance to other locations for purposes of building up a site, laid as a base for roads, building foundations, or specialized infrastructure projects such as levee or dams.

What is particularly curious about the word choice “borrow” in the term borrow site or borrow pit is the dichotomy between intent of the action (the taking of material) and the dictionary meaning of the word. Borrow suggests that something will be taken away to be returned in a short time or in the future: far or near. In fact when material is taken from borrow sites, there is no

intent to return or give back. Thus our landscapes, particularly those along highways, large construction sites such as long distance oil pipelines, and in and around urban areas are replete with gaping holes of all sizes, dimensions, and depths left to survive in the landscape.

There are a considerable number of borrow sites to be found in the parishes surrounding New Orleans. Of particular interest in this report are the borrow sites found or proposed in Plaquemines, St. Bernard, Orleans East, and Jefferson Parishes. Most of the already mined sites are as they were left as the last truckload of material was taken away: “borrowed”. In the case of the older sites, native as well as non-native plant species have established as volunteers over much of the sites. Some retain standing water, some times more or less fresh and other instances are salty.

The objective of this report is to accomplish several goals:

- Serve as a model process for identifying the potential of existing borrow sites located in parishes surrounding Metropolitan New Orleans, and understand their potential for being transformed to meet the urban fishing, recreation, and educational needs of surrounding communities.
- Demonstrate the potential of one of these sites for being restored so as to improve wildlife habitat and increase bio-diversity at the same time be improved for recreational fishing, nature study, and some outdoor recreation uses such as trails, picnicking, and bird watching. There is also the potential that efforts could contribute to improved water quality as well as improve the visual character so as to become a better neighbor to communities adjoining the abandoned or idle borrow sites.

introduction

1

- Suggest guidelines that could be used in the future to guide mining operations in the close out phase that would leave a site in a more favorable condition to facilitate later recreation and other uses or environmental

“identifying the potential of existing borrow sites located in parishes surrounding Metropolitan New Orleans

goals. A further objective of this report is to stimulate interest in conducting a more comprehensive and detailed effort such as a Guide to Borrow Site Planning for Realizing Public Benefits and Environmental Enhancement. This is the larger ambition of this report.

subject area



borrow site and habitat diagramming

The diagramming portion of this project examines design strategies and considerations that support the overall goals of creating wildlife habitat and urban fishing destinations at various borrow sites within the study area.

fisheries and wildlife considerations

Design considerations for the sites consist of three main components: **1.** the sculpting of the borrow pit itself to include modifying slopes and varying water depths, **2.** preserving and enhancing the surrounding vegetation to achieve diverse wildlife habitat, and **3.** introducing opportunities for visitors to utilize the site for educational and recreational purposes. The illustrative diagram on the following pages examines all three components, citing research conducted by the US Army Corp of Engineers and Bayou Sauvage National Wildlife Refuge.

animal and plant distribution by water depth

Nearshore habitat is critical to the success of a post disturbance landscape of borrow pits. By sculpting the edges of borrow sites to provide for varying water depths, the riparian edge can provide a fertile habitat for both native plant species and wildlife. This diagram on the following pages breaks down both the flora and fauna distribution across varying water depths.

Habitat Buffer

Excavation of borrow pits is typically disruptive to wildlife as a result of clearing, grubbing, and stripping remove vegetative cover. Leaving existing woody and brushy vegetation along the edges of borrow sites provides cover that increases wildlife and aesthetic value in and around the site.

Edge Vegetation

A slope of 4:1 is gradual enough for wildlife and livestock to traverse. Slopes of about 10:1 provide ample shallow area for bass, bluegill, and other sunfishes to spawn and for wading birds and shoreline birds to feed. Design features that increase the length of shoreline relative to surface area benefit fisheries and wildlife by increasing the amount of near shore area or edge.

Fishing

Borrow pit excavation must exceed 4 foot maximum depth to retain water during dry periods. Maximum depths of 7 to 10 feet are recommended as they are optimal for fish and fishing and overlap the optima for wildlife (4 to 10 feet). Ideally, the mean depth should exceed 4 feet and the base should be a 25:1 bottom slope. Surface area of the borrow pit should be at least 10 to 25 acres for adequate fishing.*

preserve

attract



feral hogs



rabbits



yellow-billed cuckoo



common yellow-throat



common moorhen



green heron



black-necked stilt



mottled duck



large mouth bass



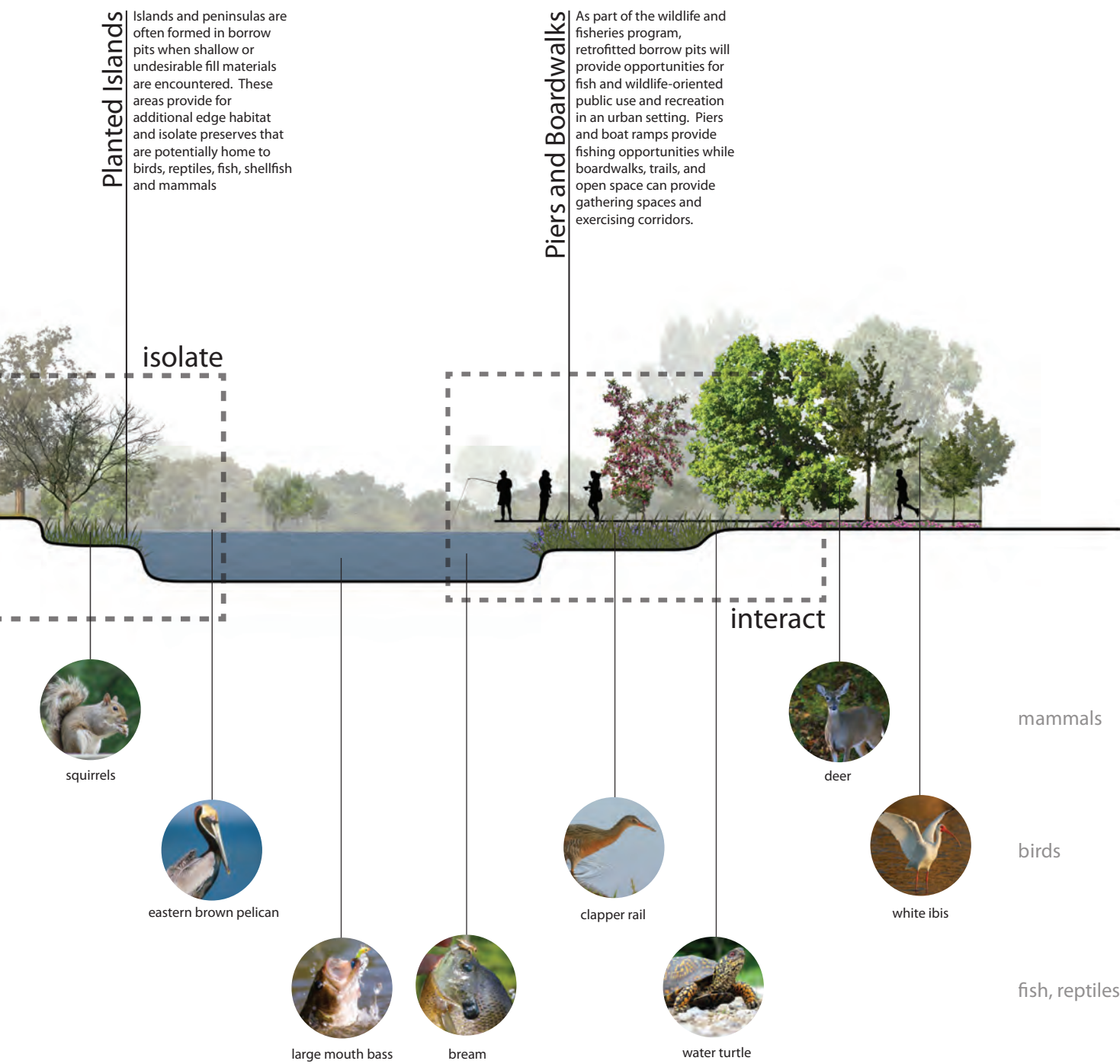
water turtle



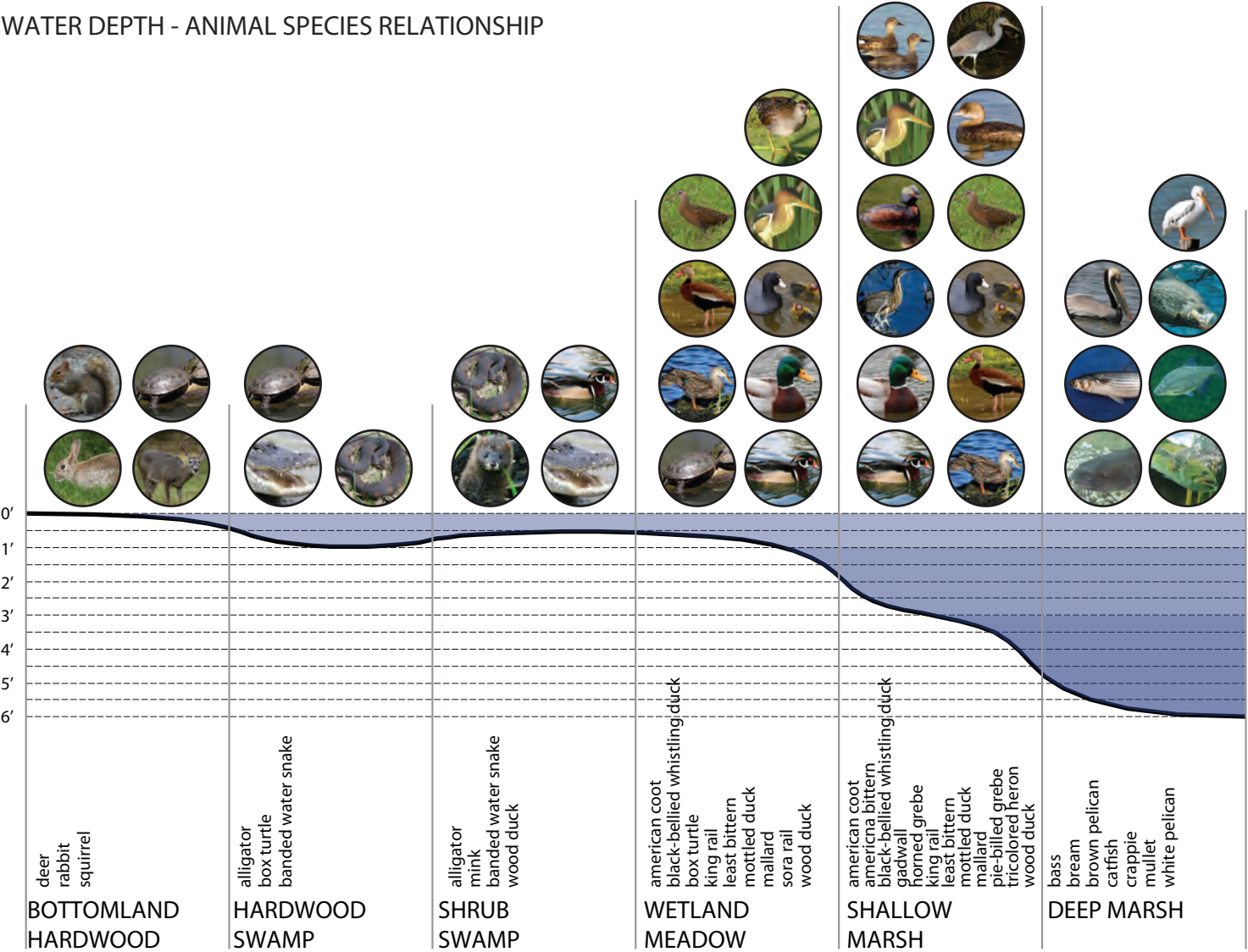
great egret

*source:
us army corp of engineers
mississippi river commission
bayou sauvage national wildlife refuge

fisheries and wildlife considerations



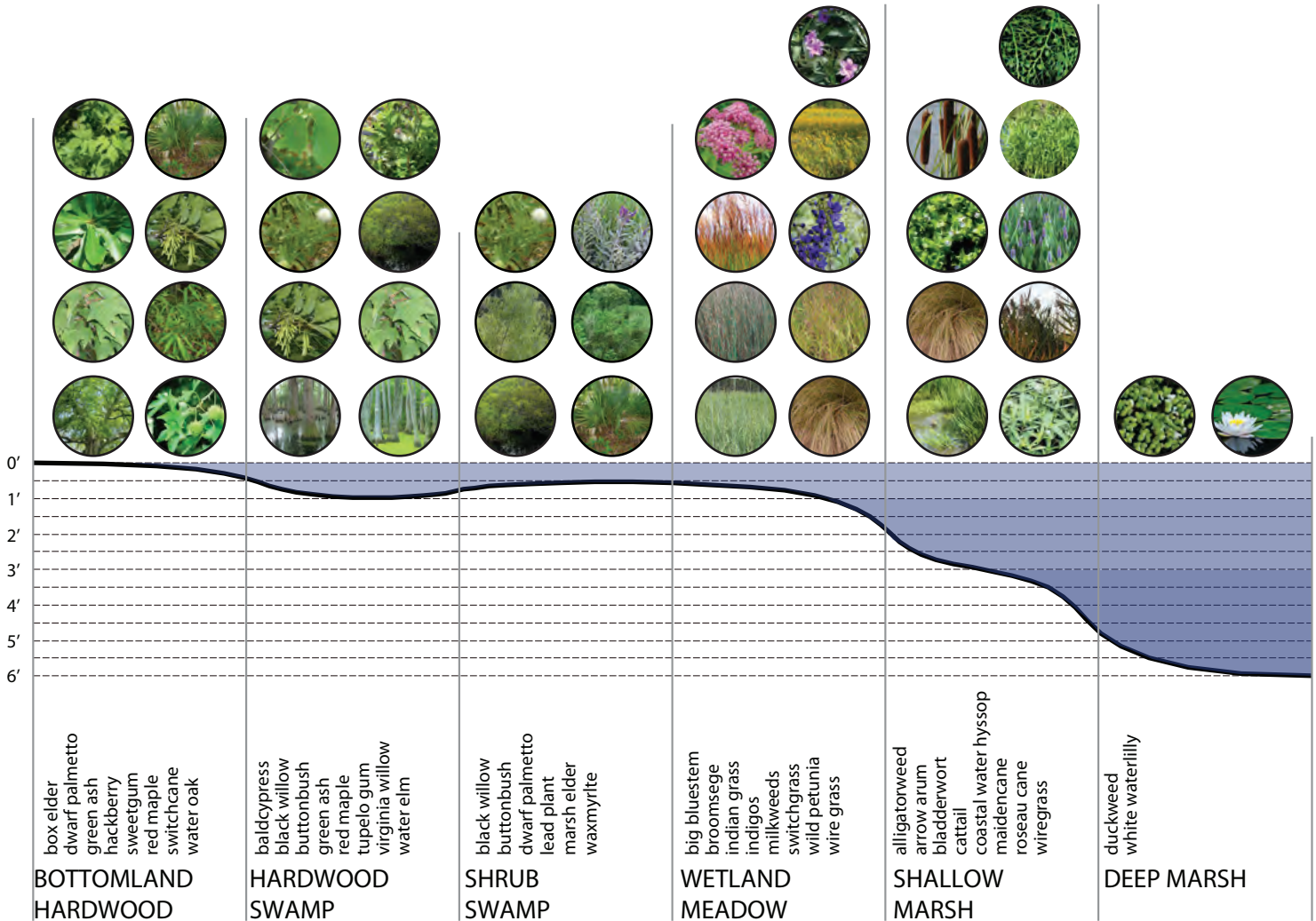
WATER DEPTH - ANIMAL SPECIES RELATIONSHIP



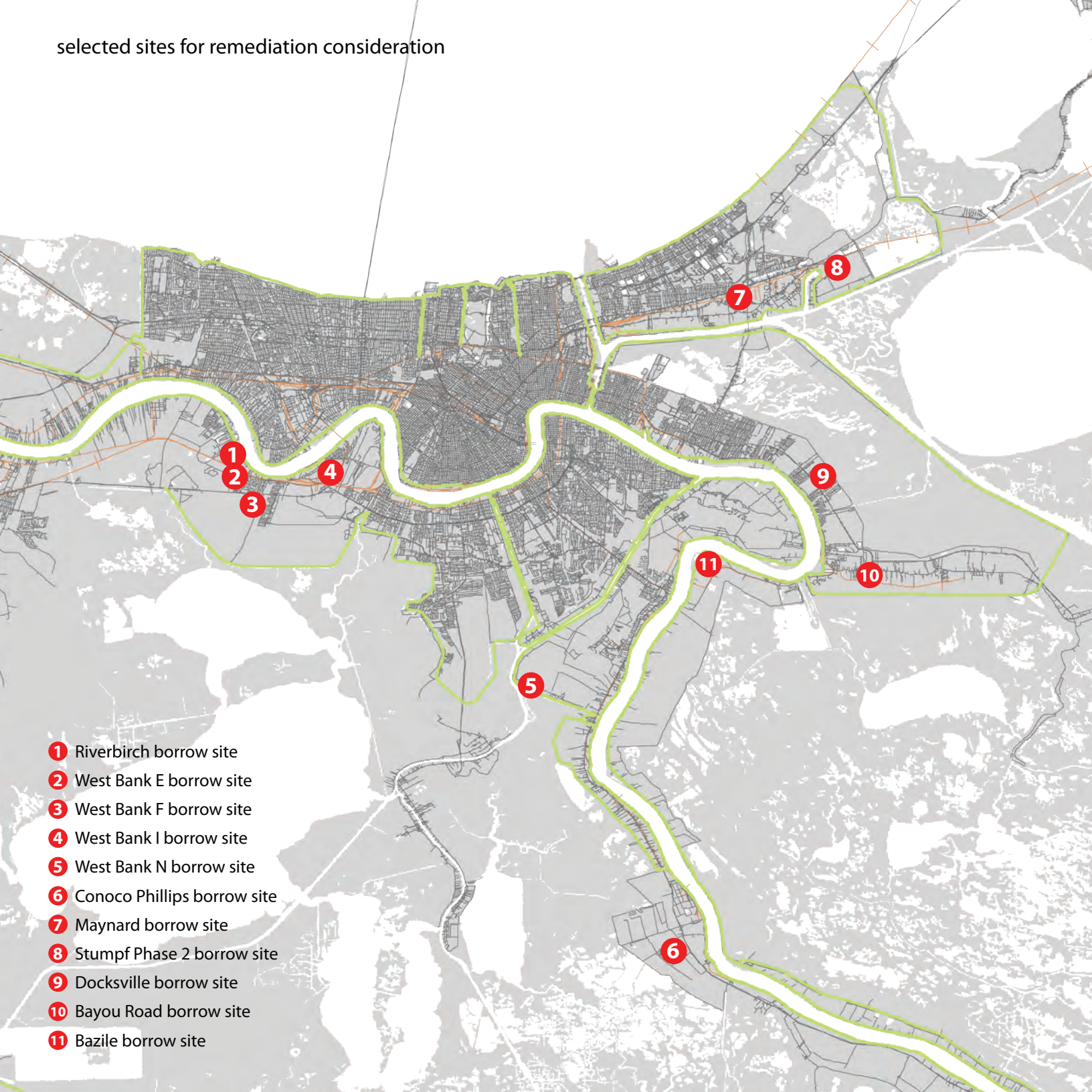
animal and plant distribution by water depth

species compiled by Kyle Jacobson

WATER DEPTH - PLANT SPECIES RELATIONSHIP



selected sites for remediation consideration

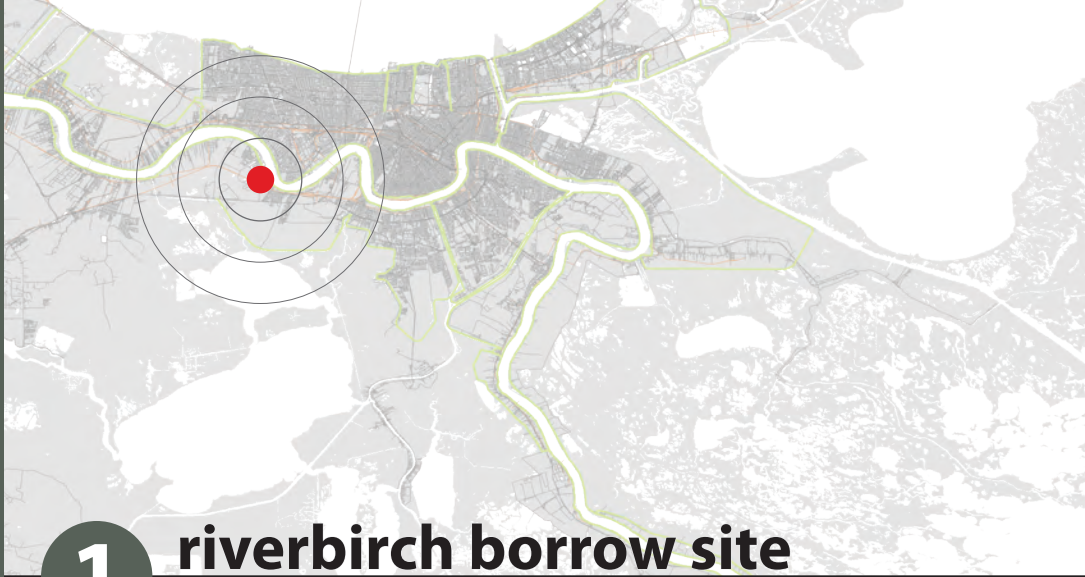


- 1 Riverbirch borrow site
- 2 West Bank E borrow site
- 3 West Bank F borrow site
- 4 West Bank I borrow site
- 5 West Bank N borrow site
- 6 Conoco Phillips borrow site
- 7 Maynard borrow site
- 8 Stumpf Phase 2 borrow site
- 9 Docksville borrow site
- 10 Bayou Road borrow site
- 11 Bazile borrow site

borrow site analysis

2

The analysis portion of this project examines relevant physical and cultural qualities of 11 potential borrow sites in the Southeast Louisiana area surrounding New Orleans. Each site analyzed looks not only within the boundaries of the borrow site but also explores the site context for potential connections and necessary buffers. This analysis seeks to determine an appropriate design application given the overall physical and contextual character of each site.



1

riverbirch borrow site

Located along River Road, the Riverbirch borrow site has direct access to an existing levee trail system that can provide a pedestrian connection to the site from neighboring properties. This site is primarily an open grass field with sporadic clumps of mature trees with mature trees along three sides of the property. There is light residential in close proximity as well as an elementary school and other potential borrow sites.

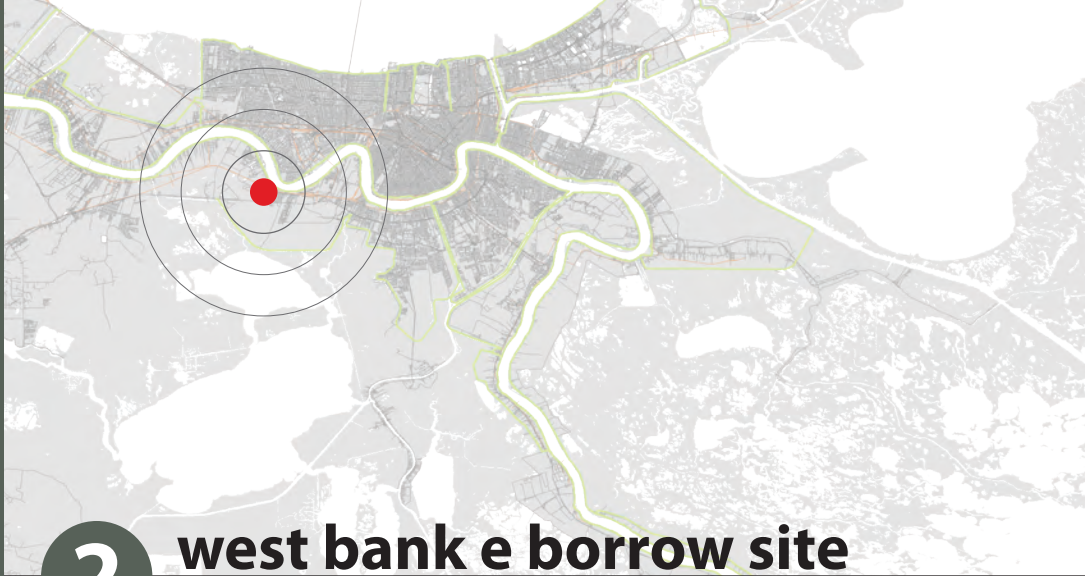


View to site from levee trail system





- 1. Little Bluestem
- 2. Tree masses and native grasses
- 3. Grass species



2

west bank e borrow site

With several access points from adjacent neighborhoods and an elementary school, the West Bank E borrow site has potential for various users to engage with the post-borrow landscape. The site is divided into three parts, with the largest 147 acre unit being the most suitable for programming. Additional planting along the north edge of the site would enhance the existing tree line so as to establish additional wildlife habitat.



View from Willswood Lane towards phase 2 open field





1. Phase 1 open area
2. Railroad tracks along north edge of site
3. Drainage and fence-row along Willswood Lane



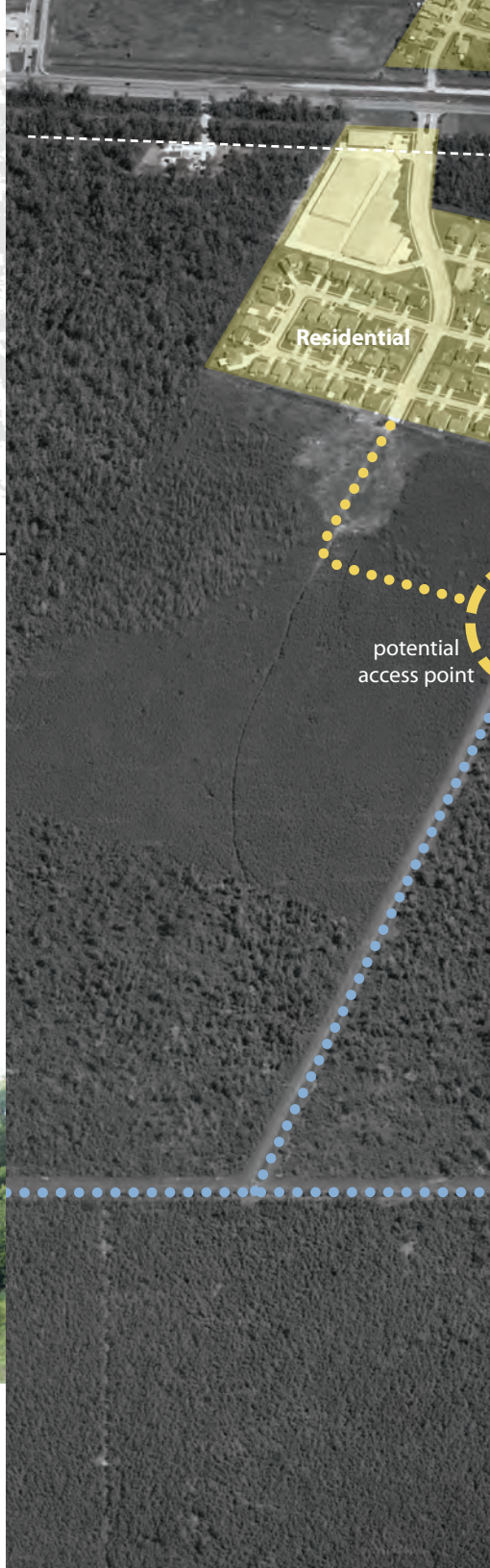
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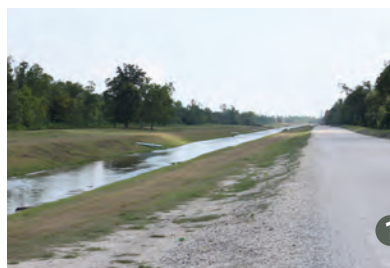
west bank f borrow site

The West Bank F borrow site is a densely wooded parcel of land along Highway 90. Utility easements and drainage canals provide good access corridors with which users could reach the site. The presence of these utilities and a utility station require that both construction and program operate lightly on the land. By preserving as much of the dense tree cover as possible, the post borrow landscape will attract and support diverse wildlife.



View from east edge of site down existing utility easement



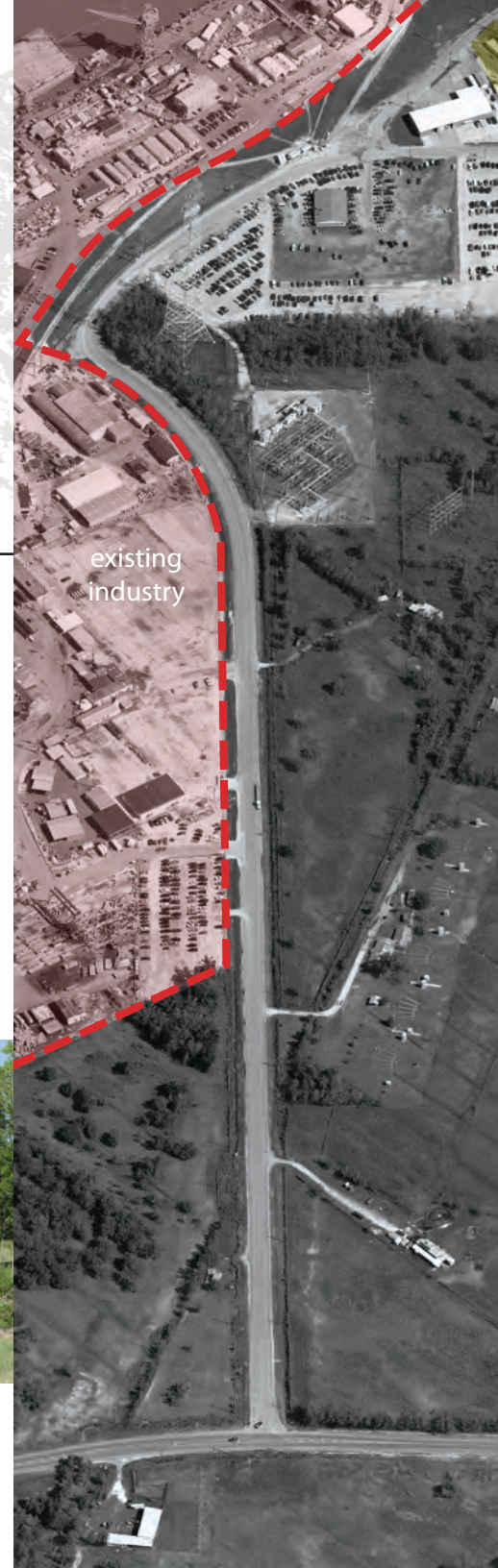


1. Existing drainage canal
2. Utility station
3. Utility easement towards residential



4 west bank i borrow site

The West Bank I borrow site offers a diverse context that would be well suited for a programmed post borrow landscape. It has immediate access to neighborhoods, major roadways, a school and community park, and is close to New Orleans relative to other potential borrow sites examined. Within the site, there is a good mix of mature trees and grass covered open land along with an existing buffer between the site and adjacent industry.



View into open field of borrow site from River Road

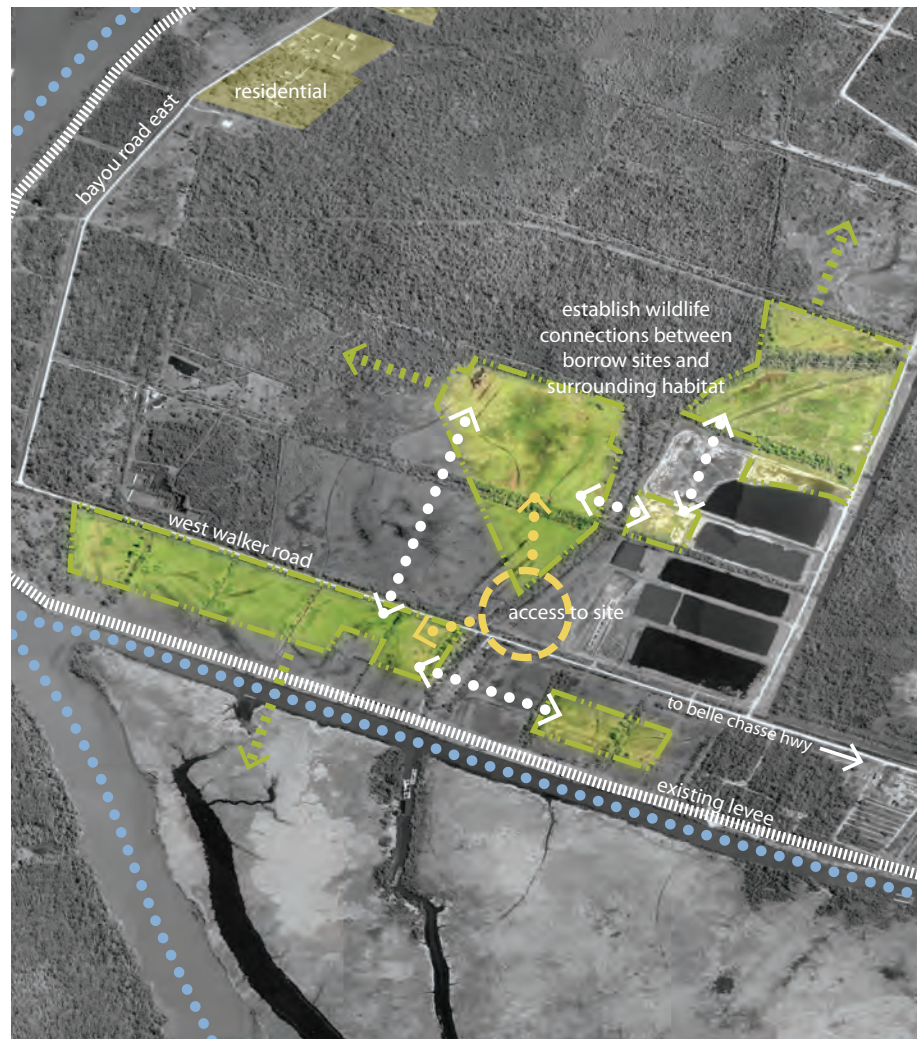


1. Public park north of site
2. Existing mature trees onsite
3. View across site to adjacent industry



5 west bank n borrow site

The West Bank N borrow site is a network of five different borrow sites located on the west bank of the Mississippi River in Plaquemines Parish. While segmented, the post borrow landscape of each site could act as a network for wildlife habitat in the region. The site has good proximity to roads and canals but there is currently very little programmed activity in the area.



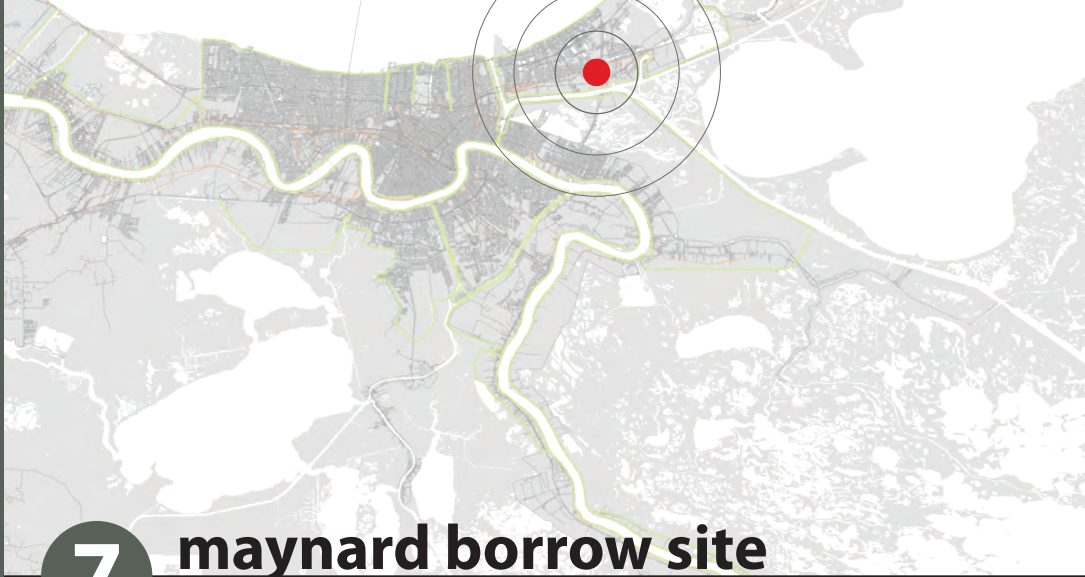


conoco phillips borrow site

6



Situated near the Conoco Phillips facilities along the Mississippi River, this borrow site is very isolated and seldom accessed. Much of the activity in the region is commercial related and there is light residential development in the region. The site currently has very little tree cover but the post borrow landscape could benefit with habitat restoration.



7 maynard borrow site

Of the borrow sites examined, the Maynard site is the only one where the borrow material had already been excavated. The islands and nearshore habitat provided habitat for wildlife when the site was observed and the maintained perimeter buffer shielded visual and audible distractions from the site context. Its proximity to residential neighborhoods and major roads also make it a prime candidate for urban fishing and outdoor education.



View facing north of excavated borrow pit





1

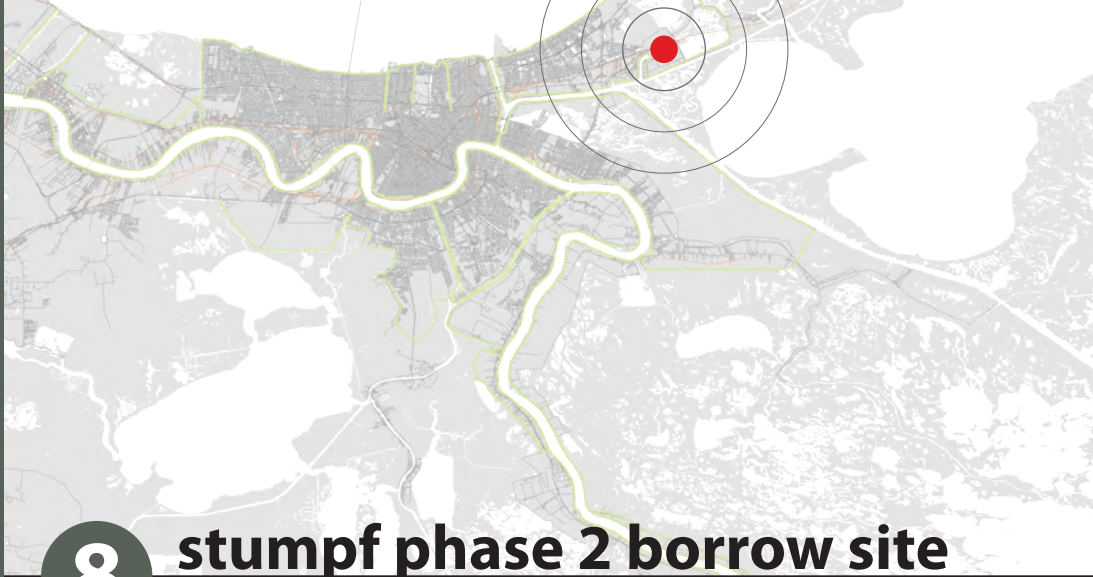


2



3

1. Existing tallow tree onsite
2. Perennial flowers around borrow pit
3. Deciduous grasses



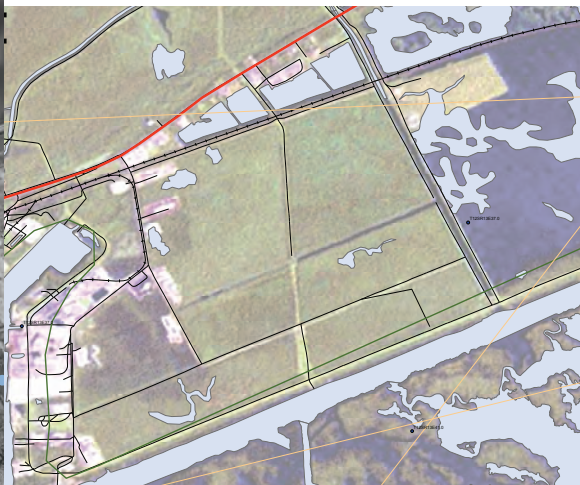
8 stumpf phase 2 borrow site

The Stumpf Phase 2 borrow site is a network of three borrow locations off Highway 90 in Orleans Parish. It is in close proximity to Bayou Sauvage Wildlife Refuge and has potential to provide additional habitat with the existing refuge. The site is characterized by low, typically wet tolerant plant species with open water canals surrounding each site. The context for the borrow area is primarily industry that utilizes the Intracoastal Waterway.



View from construction road intersection south of borrow area





1. Service road to borrow site
2. Low Drainage area within borrow area
3. Cattails in borrow pit area

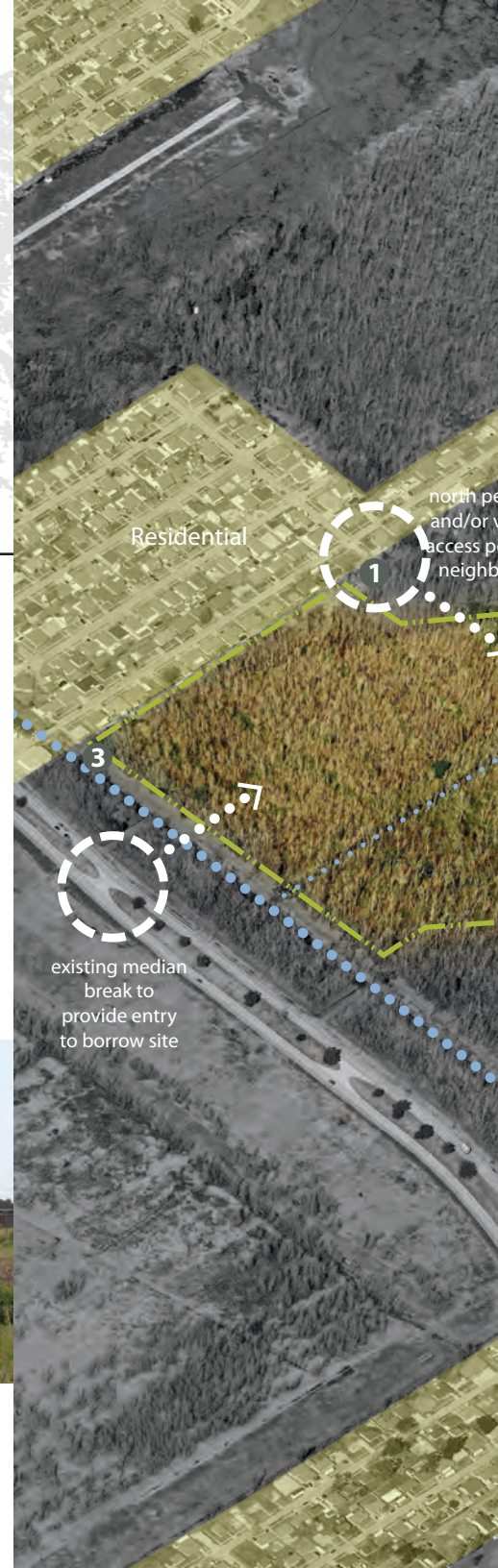


9 dockville borrow site

The Dockville borrow site is an 83 acre site located along Highway 90 in St. Bernard Parish. The site is covered in primarily dense upland plant material and is surrounded by drainage canals on three sides. There are two established neighborhoods on the east and west sides of the site with a major arterial road that provides access to the neighborhoods and site. There is potential to develop this site and introduce more active programming given the site context.



North facing view along east drainage canal that borders borrow site



Residential

1

north pe
and/or v
access p
neighb

3

7

existing median
break to
provide entry
to borrow site



1



2



3

1. Potential connection to site
2. Plants in surrounding drainage canal
3. Drainage pipes south of site



10

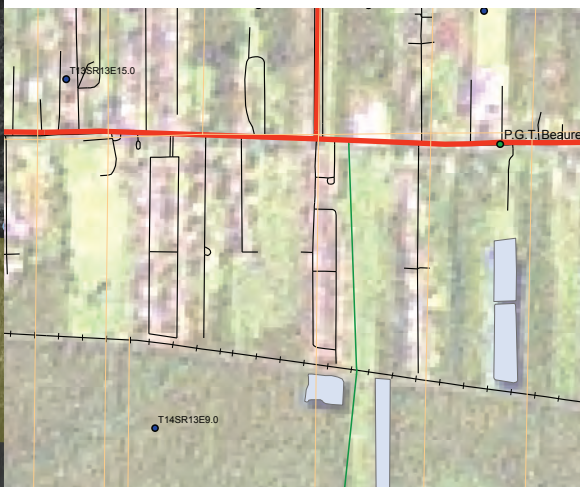
bayou road borrow sites

Located at the end of Highway 39, the Bayou Road borrow site is linear in structure and is covered with a mixture of good tree cover and open grassland. The site has good proximity to residential neighborhoods within a half mile, relative to the other borrow sites examined. There is an existing buffer between the site and adjacent land uses but that buffer needs to be enhanced to create both a wildlife habitat and recreational asset.



View facing south from entrance off of Bayou Road





1. Vegetated buffer
2. View to open field within site
3. Existing Pecan canopy onsite



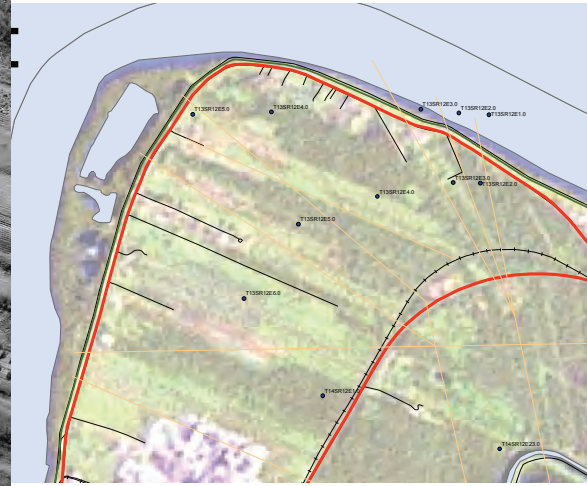
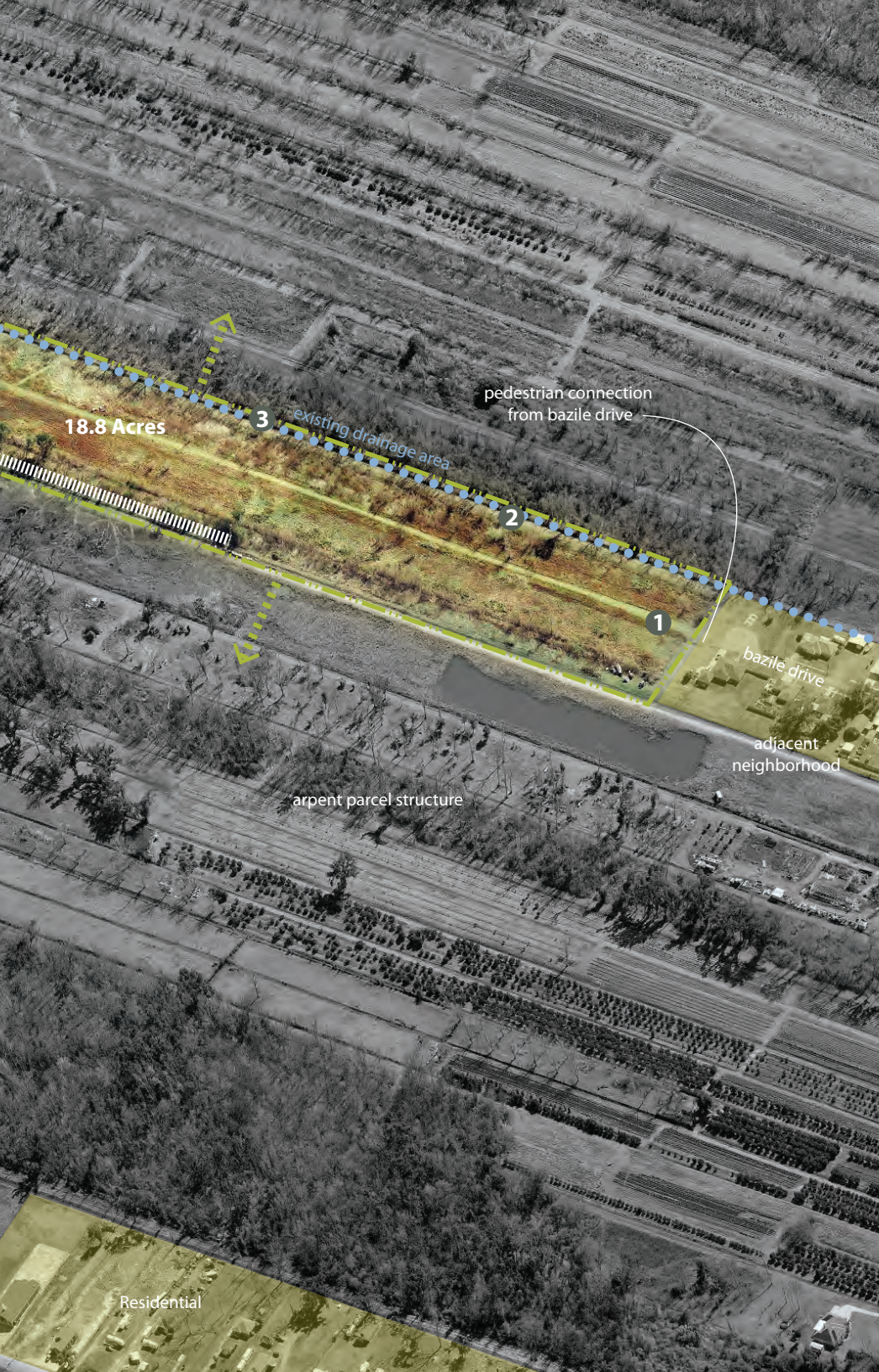
11

bazile borrow site

The Bazile borrow site is an 18 acre site in St. Bernard Parish that is characterized by a linear structure and mature tree cover. The site is directly adjacent to a residential neighborhood, with light residential in the surrounding area. There is little retail and civic activity nearby, with mostly industry that is dependent on the Mississippi River and railroad. The site has good access on two ends with a drainage area on the south boundary



View facing west from railroad tracks down cleared drainage corridor



1. Existing grassed corridor
2. Drainage swale along south edge of site
3. Existing water oak canopy onsite



- 1 Riverbirch borrow site
- 4 West Bank I borrow site
- 7 Maynard borrow site
- 9 Docksville borrow site
- 10 Bayou Road borrow site

borrow site programming and design

3

This section examines five of the selected borrow sites and develops a schematic plan for each site. Plans will explore access points, pedestrian circulation and areas of concentrated activity. Design considerations will also seek to preserve and restore existing wildlife habitat and plan for new habitat that will respond to the borrow pit and any new drainage issues.

1

riverbirch

The conceptual plan for the Riverbirch borrow site introduces two main access points; a vehicular and pedestrian access point from River Road and the levee trail system and also a pedestrian connection from the nearby Elementary School. The shape of the borrow pit allows for additional nearshore habitat for wildlife and a low impact pedestrian path that connects visitors to two fishing piers. Overall, this design proposes a low impact programming for the Riverbirch borrow site.



potential habitat types

Riparian Edge

Riparian edge is a forested area of land adjacent to a body of water such as a river, stream, pond, lake, or reservoir.



Bottomland and Upland Hardwood

This ecosystem is known for its richness in species due to its layered structure: canopy, understory, and groundcover.



Coastal Prairie

Coastal Prairie offers an opportunity for another type of ecosystem, strikingly different from that of a forest, with the ability to attract a wide variety of bird species.



source: mossop michaels, asla



4 west bank i

Given the close proximity to a school, park, neighborhoods and major roads, the West Bank I concept plan proposes more active recreation while providing two major access points and multiple gathering areas. The North entry utilizes the existing road structure in the park and provides access from the neighborhood to a walking trail, fishing piers, camping areas and pavilions within the site. The south entry is off of River Road and provides access to the same infrastructure.



potential habitat types

Pine Savanna

The Longleaf pine, common to this ecosystem, is native to the Southeastern United States. This ecosystem type has the ability to provide a rich biodiversity to the forest by attracting additional native wildlife species.

Riparian Edge

Riparian edge is a forested area of land adjacent to a body of water such as a river, stream, pond, lake, or reservoir.

Bottomland and Upland Hardwood

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Coastal Prairie

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source: mossop michaels, asla



connection to
school and
neighborhood

north
parking
area

north lawn
gathering
area

fishing piers

gathering area

grasslands

camping
grounds

south parking
area

7

maynard

The Maynard site plan takes the most aggressive programming approach, providing two main access points and a myriad of both active and passive recreation activities. The north overpass entry structure provides a railroad crossing that operates as an observation area for the existing site while the south entry provides direct access to a resource center pavillion for outdoor education programming. Additional infrastructure includes fishing piers, a loop trail, and a network of boardwalks.



potential habitat types

Riparian Edge

Riparian edge is a forested area of land adjacent to a body of water such as a river, stream, pond, lake, or reservoir.

Cypress and Tupelo Swamp

The dominant canopy vegetation in cypress wetlands includes bald cypress and water tupelo trees. Dominant understory vegetation includes Fetterbush, Wax Myrtle, and Buttonbush shrubs.

Bottomland and Upland Hardwood

This ecosystem is known for its richness in species due to its layered structure: canopy, understory, and groundcover.

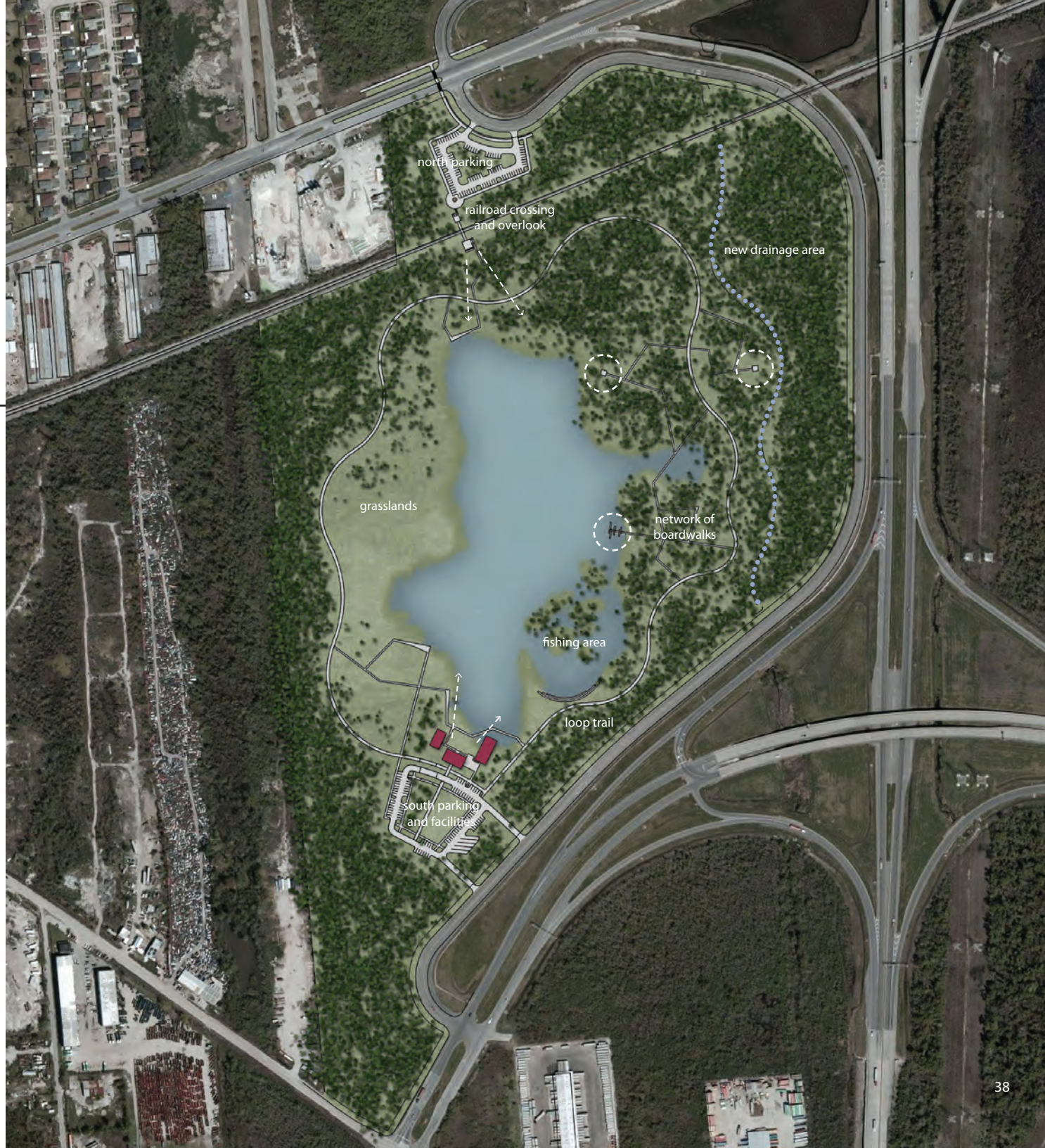
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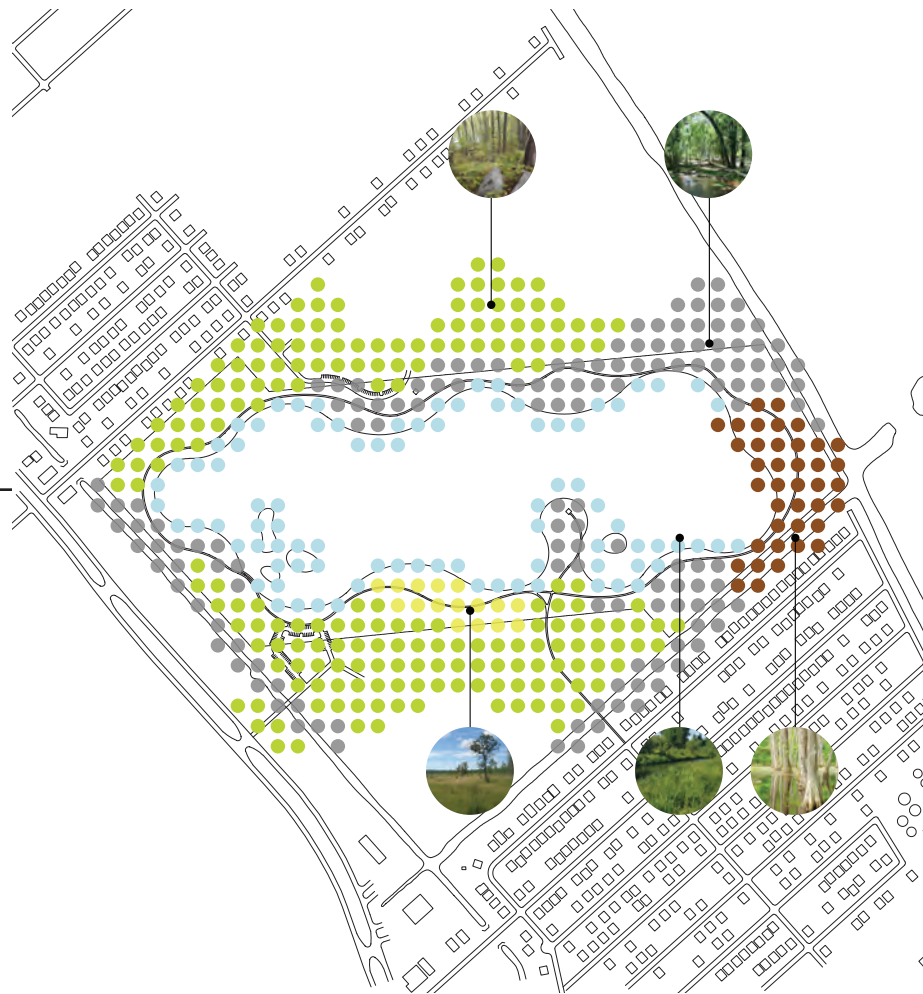
source: mossop michaels, asla



9

docksville

With three main access points, the conceptual plan for the Docksville borrow site intends to connect both immediate neighbors and visitors from areas closer to New Orleans. The proposed program remains low impact with one primary loop trail and three main gathering areas. Islands and a meandering shoreline provide additional near-shore habitat and an opportunity to introduce a native grassland area suitable for passive recreation and outdoor education.



potential habitat types

Riparian Edge

Riparian edge is a forested area of land adjacent to a body of water such as a river, stream, pond, lake, or reservoir.

Cypress and Tupelo Swamp

The dominant canopy vegetation in cypress wetlands includes bald cypress and water tupelo trees. Dominant understory vegetation includes Fetterbush, Wax Myrtle, and Buttonbush shrubs.

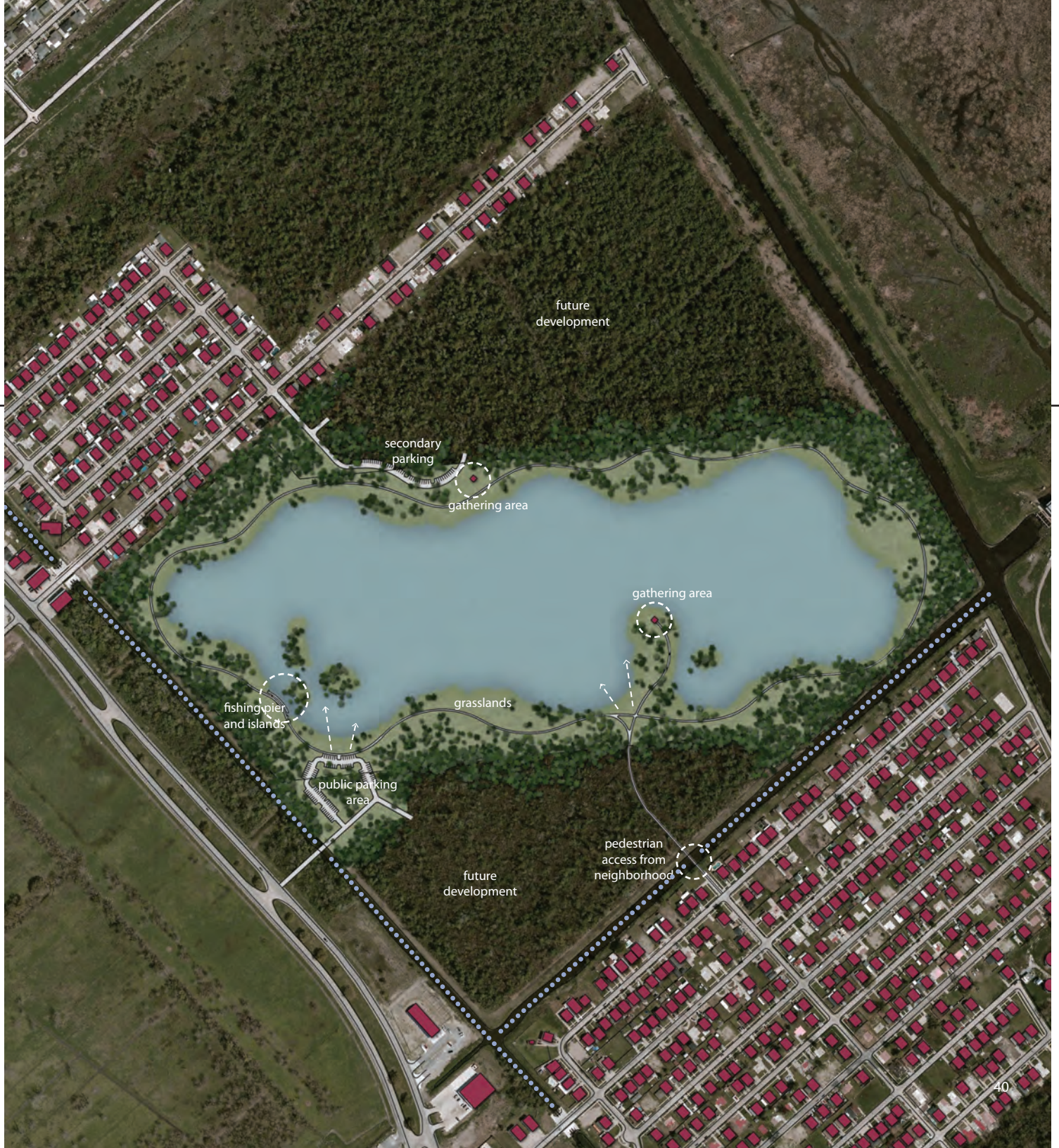
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Coastal Prairie offers an opportunity for another type of ecosystem, strikingly different from that of a forest, with the ability to attract a wide variety of bird species.

source: mossop michaels, asla



10

bayou road

The conceptual design for the Bayou Road borrow site provides one main access point from the north and additional pedestrian connections from the adjacent neighborhoods on the east and west. The site infrastructure is intended to lay lightly on the land so human activity will have minimal impact on the wildlife habitat. Islands of undesirable borrow material is intended to be left to provide additional nearshore habitat that will attract wildlife and support fishing onsite.



potential habitat types

Bottomland and Upland Hardwood

This ecosystem is known for its richness in species due to its layered structure: canopy, understory, and groundcover.



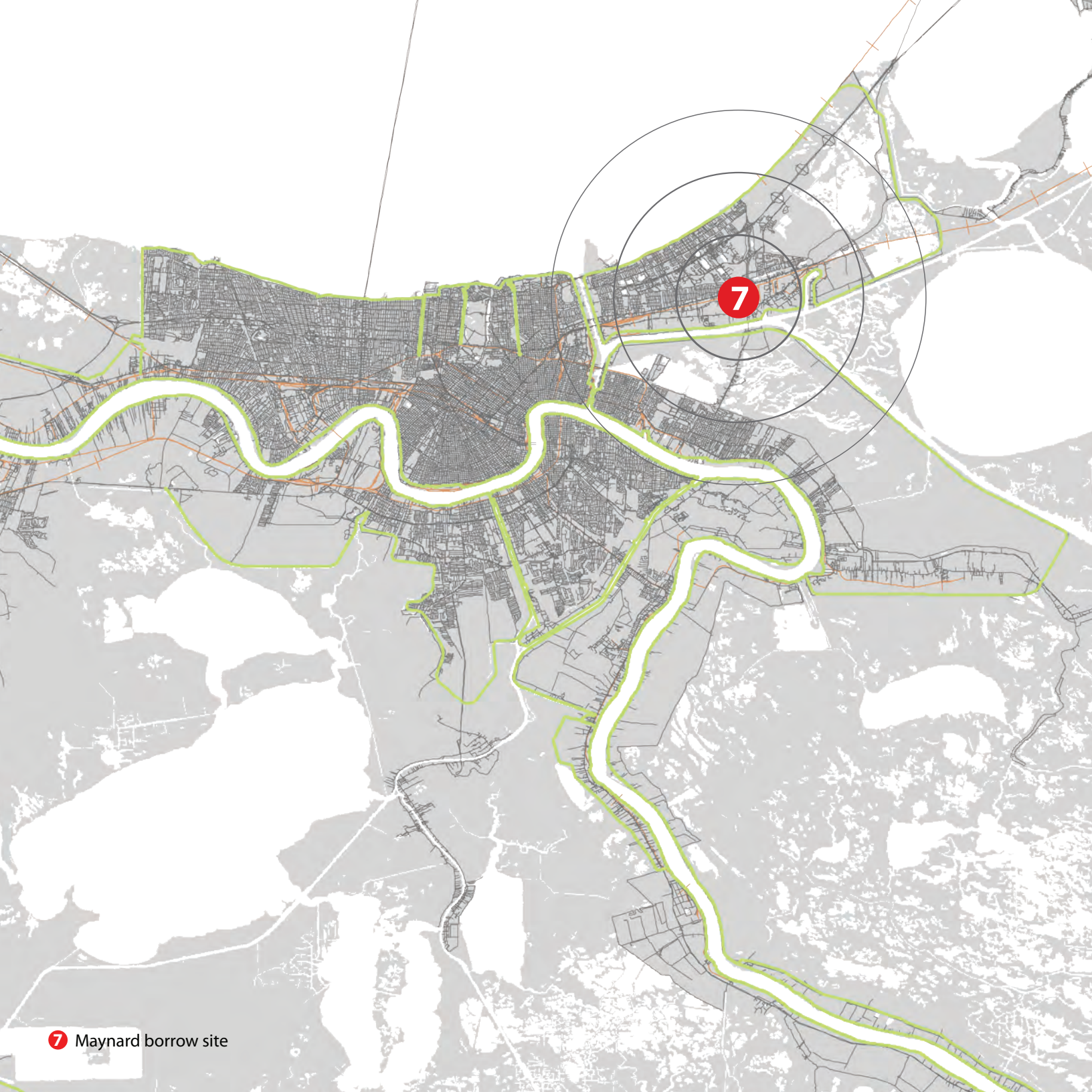
Riparian Edge

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source: mossop michaels, asla





7 Maynard borrow site

maynard site development study 4

This section discusses the Maynard borrow site in more detail to explore the site's potential for educational, recreational, and ecological purposes. While this site is the most programmed of all the borrow sites, the intentions are to have minimal impact on the wildlife habitat while still engaging visitors in designated use areas.



7 maynard site plan

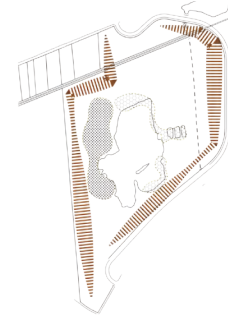
The Maynard site plan takes a more specific look into the circulation paths and programed areas of the site through material studies and conceptual design of specific site amenities. The design proposes minor adjustments to the borrow pit's edge and introduces native grasses as a strategy for removing and preventing the regrowth of invasive tallow trees existing onsite. Boardwalks and piers provide a circulation network that is low impact but allows visitors to engage with the site itself.

Hydrology Study 1



understanding the existing drainage systems and integrate with proposed infrastructure

Habitat Analysis 2



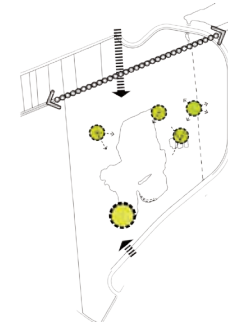
mapping the existing vegetation structure, eradicating invasive species and preserving native habitat

Human Wildlife Interface 3



examining the active and passive space for pedestrians within the reclamation area

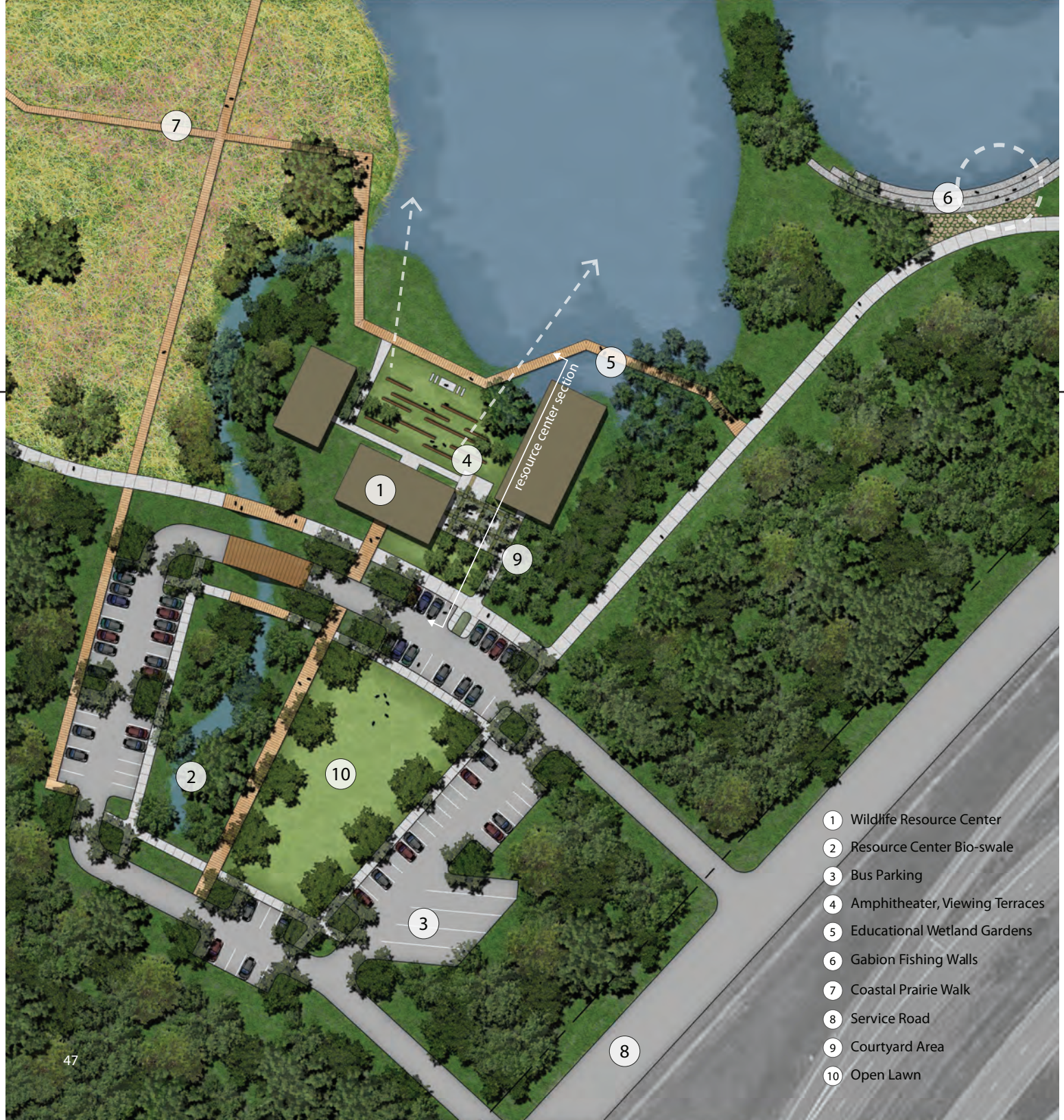
Gateways and Landscape Rooms 4



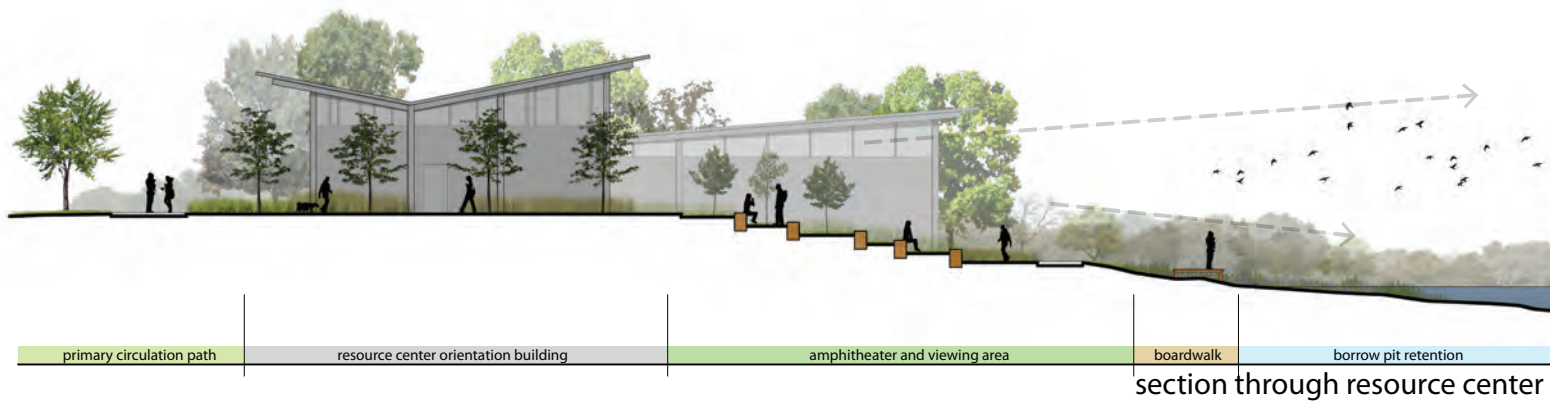
linking to existing infrastructure and neighborhoods and utilizing site opportunities to observe wildlife

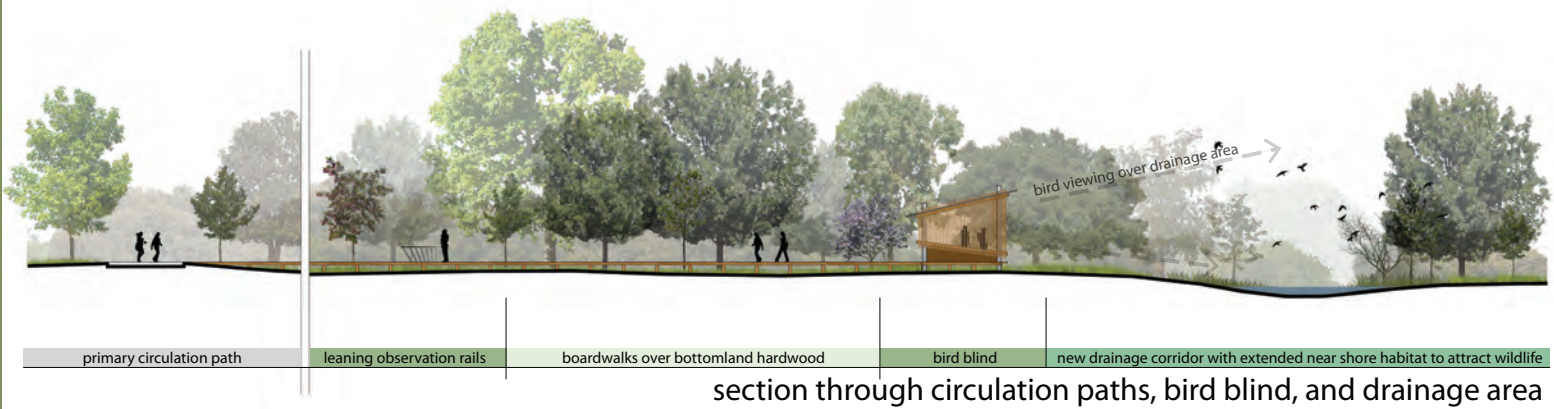
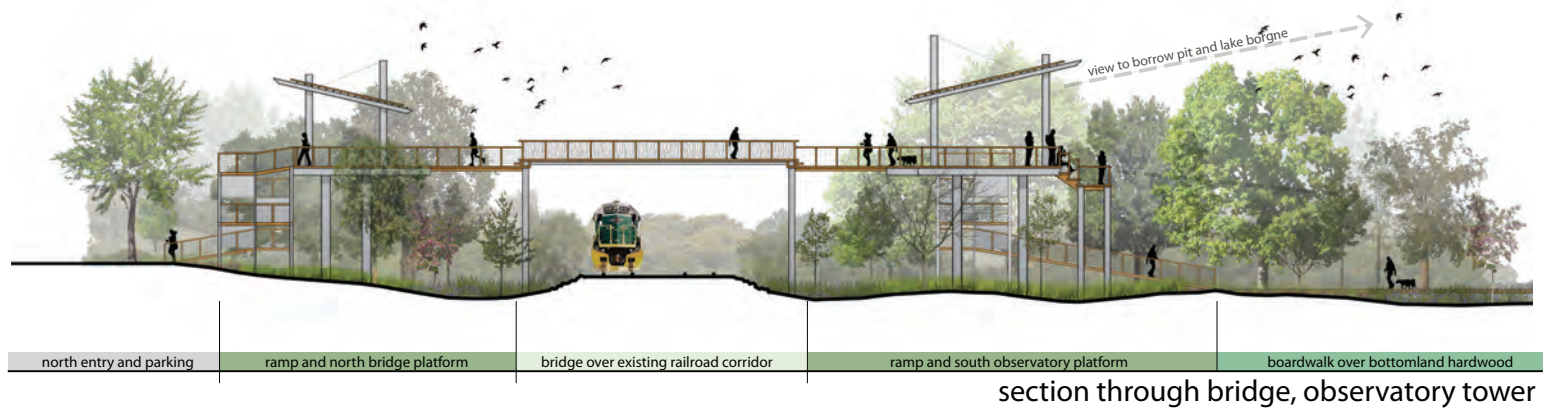


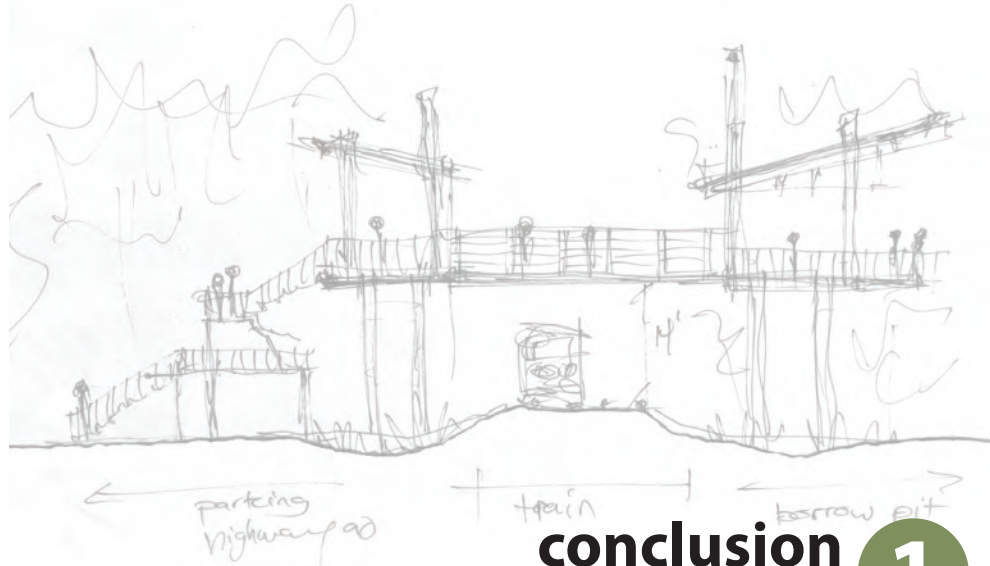
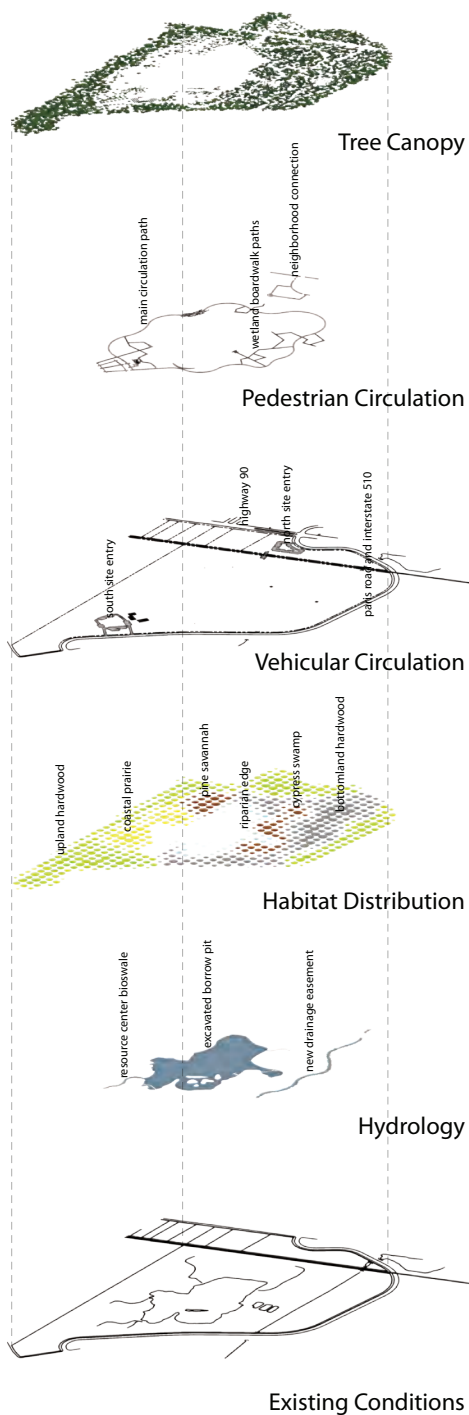
- 1 Wildlife Resource Center
- 2 Resource Center Bio-swale
- 3 Gabion Fishing Walls
- 4 Prairie Walk
- 5 Isolated Wildlife Habitat
- 6 Fishing Pier
- 7 Wetland Walk
- 8 Drainage Area Bird Blind
- 9 Pond Area Bird Blind
- 10 Observation Bridge
- 11 Entrance from Neighborhood
- 12 North Fishing Pier
- 13 Pine Savannah Walls



- 1 Wildlife Resource Center
- 2 Resource Center Bio-swale
- 3 Bus Parking
- 4 Amphitheater, Viewing Terraces
- 5 Educational Wetland Gardens
- 6 Gabion Fishing Walls
- 7 Coastal Prairie Walk
- 8 Service Road
- 9 Courtyard Area
- 10 Open Lawn







conclusion

1

What we are proposing in this report is a process by which idle or depleted borrow sites can be re-invented so as to provide recreation opportunities to surround communities and the State of Louisiana. At the same time, we intend create habitat for wildlife enhancement and management and potentially other environmental benefits on each site and for the region as a whole. The Maynard Site was used to demonstrate the potential of what is proposed in this report. Consider the restoration plan of this site as a prototype illustrating the real potential that this and other existing and future borrow sites could be with considerate and informed planning and design.

acknowledgements

5

we would like to thank all of those who provided their time and wisdom to help make this project possible. in particular, we want to thank the following people and organizations for their efforts and funding to make this project possible.



Louisiana Sea Grant Program
Chuck Wilson, Louisiana Sea Grant Director

Louisiana Department of Wildlife and Fisheries

Louisiana State University
Robert Reich School of Landscape Architecture

for further information, contact Bruce Sharky: bshark2@lsu.edu

Jones New York and Nanette Lepore — all brands sold in T.J. Maxx and Marshalls — did not respond to requests for comment on whether they sell to the stores.

Indeed, there's a fair amount of throat clearing in the world of discounted designer apparel.

Steven Davis, president of the designer flash sale site Rue La La, says he's "never known a brand to deny" doing business with the site. He says brands featured on Rue La La — which include Kate Spade and Cullen — think of it as just another boutique they do business with.

Meyrowitz, who never mentions any of the company's brands by name, says manufacturers like doing business with her company because "we're not fair-weather friends. When we buy it, we own it." TJX is there to help when stores buy too much and return unsold merchandise to manufacturers, but also when manufacturers and designers want to lower their per-item cost by making extra for the company's stores.

"There's a degree of wink, wink," says Nisch, chairman of the retail branding and design company JGA. "Manufacturers need off-price in order to survive, but they can make too much and destroy the value balance between supply and demand."

TJX has 700 buyers around the world that are part of what Meyrowitz calls a "supplying machine." The company works with different factories and agents and maintains offices in countries including Italy, India and China, she says. Buyers work with about 14,000 vendors in "a million different ways," says Meyrowitz, who calls it "opportunistic buying."

T.J. Maxx and Marshalls customers have an average household income of \$40,000 a year,

many consumers, TJX knows quality counts. And the company is working hard to shake any lingering doubts about the stores being filled with what used to be known as "seconds."

"It's all about the quality, and the quality vs. a department and

who count TJX's stores among their favorites say they go for the low prices, not the ambience. But like any talk of irregular merchandise, suggestions that its stores are run down appear to be a sore spot for Meyrowitz.

Legal Notice



NOTICE OF AVAILABILITY

Individual Environmental Report #35 (IER #35), titled, "Draft Individual Environmental Report, Contractor Furnished Borrow Material #8, Jefferson, Terrebonne, and St. John the Baptist Parishes, Louisiana," prepared by the U.S. Army Corps of Engineers, New Orleans District (CEMVN), is available for your review and comment. This notice is being posted per alternative NEPA arrangements implemented on March 12, 2007.

The proposed action consists of potentially excavating suitable borrow material from four proposed contractor-furnished borrow areas for use in construction of the Hurricane and Storm Damage Risk Reduction System. The proposed sites discussed in IER #35 include the Assumption Land Company site in Jefferson Parish; the Houma Excavation site in Terrebonne Parish; and the RBEND II and Robert Brothers Farm sites in St. John the Baptist Parish.

Copies of IER #35 and supporting documents are available at <http://www.nolaenvironmental.gov>, or upon request. Please contact Ms. Patricia Leroux; U.S. Army Corps of Engineers; Regional Planning and Environmental Division, South; Environmental Planning Branch; CEMVN-PDN-CEP; P.O. Box 60267; New Orleans, Louisiana 70160-0267; to request a copy. Requests also can be made by calling (504) 862-1544, e-mailing mvnenvironmental@usace.army.mil, or by fax to (504) 862-2088. The 30-day public review and comment period for Draft IER #35 will begin on Wednesday, October 26, 2011, and end on Monday, November 28, 2011. All comments should be sent to Ms. Leroux.

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