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MASTER PLAN

Lake Houston Wilderness Park is a spectacular ecological resource, a vast swath of undeveloped woodlands boasting lush canopy, gorgeous creeks and striking cypress swamps. Accessible to all of Houston, and in an area projected to experience explosive growth in the next 30 years, the Park offers the City of Houston and its surrounding region unprecedented access to ecological riches close to home.

The Park will be an urban preserve, a treasure trove of healthy ecosystems, well-cared for and largely undisturbed. With minimal, sensitive development for tourism, recreation and education, it will also be a place where future generations of city kids can experience the woods and grow up with an appreciation for the natural wealth they are heirs to and need to protect.

The Draft Master Plan details this vision for the Park, describing the variety of new elements the Park can sustain that will offer lodging, recreation, and education. It also describes the plan for putting these elements in place. This includes the details of the initial recreational improvements slated for completion by 2010 and information about the more extensive improvements envisioned by the Master Plan.

This document presents a toolbox of innovative financial strategies that support the goal to create a Park that is economically self-sustaining, ecologically robust and will continue to grow and prosper in the long term. This includes a number of funding mechanisms that will create revenue for the Park by leveraging its ecological assets, and the development of a special districting strategy that will offer a number of operational and financial advantages.

INTRODUCTION
SWA Team was selected on the 28 November 2007 by the City of Houston / HPARD to assist in creating a master plan for the 4986-acre Park. The following milestones summarize progress and achievements to date.

- **December 6, 2007 – Scoping Meeting for the Lake Park Master Plan**
  The Team received initial instructions and ideas from HPARD for approaching the work on the Park Master Plan. Scope, schedule and related logistics were also reviewed and discussed.

- **April 24, 2008 – Kick-off**
  The Team assembled for the first time to discuss the project scope, schedule, related logistics and protocols. SWA gave all members sub-contract agreements and notices to proceed.

- **May 4, 2008 – Meeting with Stakeholder Group**
  The purpose of this workshop was for the Team to receive the recommendations of the team that had been working for over a year under a National Park Service grant. The Team received the Stakeholder’s report as input to the master plan.

- **May 21, 2008 – Meeting with Agency Group**
  The purpose of this workshop was to introduce the Team to the Agency Group, nominally the “steering committee” for the master plan. The Team reviewed the scope of the master plan, initial ideas, current activities and planning issues as well as solicited thoughts and ideas from the Agency Group representatives.

- **April - August 2008 - Site Reconnaissance**
  Fieldwork, surveying and detailed analysis was completed and all components of reconnaissance performed in this period. SWA prepared a summary document for the City/HPARD and submitted on 20 August 2008.
  The components included:
  1. Archeological: Archeological evidence exists in the Park associated with the riparian edges on two of the Park’s three sides.
  2. Environmental/Regulatory: Waters of the USA are associated with the Park’s natural edges as well as inland stream beds.
  3. Ecological (Forest/Wildlife): This work is associated with developing forest and wildlife management plans for the Park. Generally, the Park lacks diversity in its forest and habitat, which are important characteristics to be addressed in the alternatives and in the master plan.
  4. Transportation Systems: Detailed work has and is being done to understand opportunities to enhance regional and local Park access.
  5. Boundary Survey: A consolidated, complete boundary survey has been prepared for Park property.

- **April - August 2008 - Market Analysis**
  Demand forecasts, opportunities analysis and other recreational-based research have been conducted to determine alternative development scenarios for the alternatives and the master plan. Uses fall into the more traditional park improvements that have ample market support and potential for revenue generation. The results of this work are reflected in the conceptual alternatives, especially in the north half area of the Park.

- **April - August 2008 - Eco-Economic Analysis**
  As a companion to the ecological reconnaissance, research and analysis has been performed to gauge the opportunities for a broad range of improvements on the property that yield revenue benefits while also improving Park habitat and achieving the goal of the Parks as a “preserve”. The results of this work are reflected in the conceptual alternatives, especially in the south half area of the Park.

- **September 10, 2008 - Meeting with Agency Group**
  The SWA Team met with the Agency Group on September 10, 2008 to present conceptual alternatives as a precursor to the draft master plan.

- **November 7, 2008 - Meeting With Agency Group and Stakeholders**
  The SWA Team and HPARD presented the Master Plan conceptual alternatives and the project vision to the public.

- **November 25, 2008 - Draft Master Plan**
  The SWA Team provided the Agency Group with a Draft Master Plan addressing overall layout and design for the park, Phase 1 improvements, and implementation of financial and governance strategies.

**Up-coming Activities:**
- The SWA Team will be presenting the Final Master Plan to the Agency Group in December, 2008 (date to be determined).
- Implementation of initial phase(s) of improvements will begin immediately.
The Master Plan concentrates most structured activities and development in the Park's northern portion. The southern part of the park is largely undisturbed, accessed for recreation and forest management.
Supporting Components

**ACTIVE USE AREAS**

- **ACTIVE USE:**
  - 44,724 acres
  - 84.72%
- **WILDERNESS PRESERVE:**
  - 7,621 acres
  - 15.28%
- **GROUP ACCOMMODATIONS:**
  - 4,986.5 acres

**OVERALL MASTER PLAN**

1. **ACTIVE USE:**
   - Active uses and development are clustered in the northern portion of the site.
   - The southern portion of the Park offers daily access to the Park's beauty but is largely undeveloped.

2. **EDUCATION AND LEARNING ZONE:**
   - Located in the southern portion of the site.

3. **CAR CAMPING AND RV PARK AND RV COMMUNITY CENTER:**
   - Car camping and RV sites are provided.

4. **EQUESTRIAN AREA:**
   - Equestrian activities are supported.

5. **CABINS AND CAMPING:**
   - Czech and Primitive camping sites are available.

6. **ACTIVE USE AREAS:**
   - WilderNESS preserVe

7. **PARK ACREAGE:**
   - 49,86.5 acres

Source: SWA Group
A network of trails winds through the park, leading users to interesting points while limiting access to ecologically sensitive areas. Trails are subdivided based on their intended usage.

**Circulation**

*Source: SWA Group*

- **Highland Loop Road**
  - Inner: 4.6 miles
  - Outer: 4.9 miles
  - Entries: 1.3 miles
  - Canoe Launch Branches: 2.0 miles
  - Users: vehicles, hikers, bikers

- **South Wilderness Loop**
  - 7.7 miles
  - Users: shuttle bus loop, hiking, biking, and maintenance vehicles

- **Secondary Trails**
  - 34 miles
  - Users: hikers

- **Equestrian Trails**
  - 8.2 miles
  - Users: horse and riders, bikers, hikers

- **Additional Trails:**
  - **Tertiary Trails**
    - Estimated 150 miles
    - Narrow, minimally developed footpaths for hiking that offer access to more delicate areas.

**Supporting Components**

- **North Loop Road**
- **Circulation**

The image shows a map of the park with various trails and roads marked, indicating the circulation and access points within the park.
Human use of the Park is clustered in the northern areas at higher elevations. A third of the Park is in the 100 Year Floodplain; these areas have trail access but will be left almost entirely undeveloped otherwise.

HYDROLOGY
Source: SWA Group

LEGEND
FLOODPLAIN ACRES:
FLOODWAY: 34.0 acres
100 YEAR FLOODPLAIN: 2,278 acres
500 YEAR FLOODPLAIN: 1,583 acres
1,000 YEAR FLOODPLAIN: 1,126 acres
ACTIVE USE ZONES:
FLOODPLAIN ACRES:
FLOODWAY: 34.0 acres
100 YEAR FLOODPLAIN: 2,278 acres
500 YEAR FLOODPLAIN: 1,583 acres
1,000 YEAR FLOODPLAIN: 1,126 acres
HABITAT LANDSCAPES
OVERALL MASTER PLAN
SUPPORTING COMPONENTS
The park contains both open meadow and forest cover spotted with areas of water and wetlands.

**Supporting Components**

- **Forest Cover**: 4,451.7 acres (89.3%)
- **Meadows**: 287.0 acres (5.8%)
- **Open Space/Wetlands**: 183.2 acres (3.7%)
- **Pipeline/Utility**: 64.7 acres (1.3%)

**Park Acreage**: 4,986.6 acres
A MASTER PLAN FOR
LAKE HOUSTON WILDERNESS PARK

OVERALL MASTER PLAN

NORTH-WESTERN LOOP ENLARGEMENT

The enlargement focuses on the initial development areas of the north-western portion of the site. A variety of public accommodations will be available such as cabins, deluxe lodges, tent platforms, RV camp sites, car camping, primitive camping, and dormitories. There will also be a number of new recreational and educational activities.

NORTHEASTERN LOOP ENLARGEMENT

Source: SWA Group

NORTHERN LOOP ENLARGEMENT

CARBON SEQUESTRATION PROJECT
GREAT LAWN
EXHIBIT HALLS/HISTORIC STRUCTURES
CAR CAMPING
PRIMITIVE CAMPING
WILDERNESS DISCOVERY AND LEARNING CENTER
PHASED PARKING
SOUTH WILDERNESS LOOP ROAD
BOAT LAUNCH

CAMP SITES
DELUXE CABINS
POND
PARK KEEPERS LODGES
WOODLAND MASTER’S HOUSE, CAFETERIA AND CLASSROOM DORMITORIES
POND
WOODCRAFT WORKSHOPS
LUMBER STORAGE AND DRYING SAWMILL
FOREST CANOPY EXPERIENCE
MILL POND
LOG STORAGE

GATE ENTRANCE
FM 1485
HIGHLAND LOOP ROAD
LAKE
TOTEM POST/GROUP
ASSEMBLY SMALL STRUCTURE
PEACH CREEK
SANDY BEACH
PAVILION
TENT PLATFORMS
NEW SERVICE BRIDGE

RV SITES
SERVICING STATION
RV PARK ENTRANCE
LAKE
COMMUNITY CENTER
RV SITES
DELUXE CABINS
LODGE/RESTAURANT/SHOPS
POND
PARK KEEPERS LODGES
WOODLAND MASTER’S HOUSE, CAFETERIA AND CLASSROOM DORMITORIES
POND
WOODCRAFT WORKSHOPS
LUMBER STORAGE AND DRYING SAWMILL
FOREST CANOPY EXPERIENCE
MILL POND
LOG STORAGE

NORTHERN LOOP ENLARGEMENT LOCATION

OVERALL MASTER PLAN FOR
LAKE HOUSTON WILDERNESS PARK

NORTH-WESTERN LOOP ENLARGEMENT

Source: SWA Group

NORTHEASTERN LOOP ENLARGEMENT

CARBON SEQUESTRATION PROJECT
GREAT LAWN
EXHIBIT HALLS/HISTORIC STRUCTURES
CAR CAMPING
PRIMITIVE CAMPING
WILDERNESS DISCOVERY AND LEARNING CENTER
PHASED PARKING
SOUTH WILDERNESS LOOP ROAD
BOAT LAUNCH

CAMP SITES
DELUXE CABINS
POND
PARK KEEPERS LODGES
WOODLAND MASTER’S HOUSE, CAFETERIA AND CLASSROOM DORMITORIES
POND
WOODCRAFT WORKSHOPS
LUMBER STORAGE AND DRYING SAWMILL
FOREST CANOPY EXPERIENCE
MILL POND
LOG STORAGE

GATE ENTRANCE
FM 1485
HIGHLAND LOOP ROAD
LAKE
TOTEM POST/GROUP
ASSEMBLY SMALL STRUCTURE
PEACH CREEK
SANDY BEACH
PAVILION
TENT PLATFORMS
NEW SERVICE BRIDGE

RV SITES
SERVICING STATION
RV PARK ENTRANCE
LAKE
COMMUNITY CENTER
RV SITES
DELUXE CABINS
LODGE/RESTAURANT/SHOPS
POND
PARK KEEPERS LODGES
WOODLAND MASTER’S HOUSE, CAFETERIA AND CLASSROOM DORMITORIES
POND
WOODCRAFT WORKSHOPS
LUMBER STORAGE AND DRYING SAWMILL
FOREST CANOPY EXPERIENCE
MILL POND
LOG STORAGE
RECREATIONAL IMPROVEMENTS
The Master Plan for Lake Houston Wilderness Park offers a vision of a public park that offers recreation to a wide range of people interested in a wide variety of activities. The plan improves access to the recreational opportunities the park already provides and expands upon the park’s current offerings with better facilities and accommodations and suggestions for a number of new and expanded recreational and educational programs.

This section examines these improvements in more detail, including the initial improvements that will be implemented in the near-term, and others in longer-term. Some improvements will undoubtedly be made before others, and the sequence and pace cannot be known at this time.
RECREATIONAL IMPROVEMENTS

INITIAL PHASES WILL SEE THE CONSTRUCTION OF AN ENTRANCE GATE, CENTRAL PAVILION, LOOP ROAD AND VISITOR CENTER BEFORE THE END OF 2009. THERE WILL ALSO BE THE FIRST PHASE OF AN RV PARK, 8 NEW CABINS, A NEW BRIDGE, RENOVATED TRAILS AND PARK KEEPERS LODGE (1 OF 2)

NORTHERN LOOP ENLARGEMENT

Source: SWA Group

ENTRANCE DRIVE/MAIN GATE

INITIAL PHASE RV PARK

RV PARK PAVILION/
RESTROOMS/ASSEMBLY AREAS
CABINS, CABIN DONATION
AND ADOPTION PROGRAM

PARK KEEPERS LODGES
VISITOR CENTER
HIGHLAND LOOP ROAD
NATURE CENTER
COMPLEX
NEW PEDESTRIAN
AND SERVICE BRIDGE

CANOE LAUNCH ACCESS DRIVE

GROUP CAMPING AND SERVICE ROAD
Initial Development Phase(s)

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Unit Price</th>
<th>Number of Units</th>
<th>Total Cost</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Drive</td>
<td>500 lf</td>
<td>300</td>
<td>150,000.00</td>
<td></td>
</tr>
<tr>
<td>Entrance Gate</td>
<td>50,000 ea</td>
<td>1</td>
<td>50,000.00</td>
<td></td>
</tr>
<tr>
<td>Main Vehicular Loop Access Roads²</td>
<td>8,000 lf</td>
<td>60.00</td>
<td>480,000.00</td>
<td>partial loop road</td>
</tr>
<tr>
<td>Secondary Access Roads</td>
<td>4,000 lf</td>
<td>60.00</td>
<td>240,000.00</td>
<td></td>
</tr>
<tr>
<td>Blazed Trails</td>
<td>41,818 lf</td>
<td>15.00</td>
<td>627,270.00</td>
<td></td>
</tr>
<tr>
<td>Vehicular Bridge</td>
<td>500,000 ea</td>
<td>1</td>
<td>500,000.00</td>
<td></td>
</tr>
<tr>
<td>Visitor Center</td>
<td>1,600,000 ea</td>
<td>1</td>
<td>1,600,000.00</td>
<td></td>
</tr>
<tr>
<td>VC Parking</td>
<td>75 spaces</td>
<td>2,500.00</td>
<td>187,500.00</td>
<td>50% of final size</td>
</tr>
<tr>
<td>RV Park</td>
<td>120 stalls</td>
<td>7,500.00</td>
<td>900,000.00</td>
<td>40% of final size</td>
</tr>
<tr>
<td>Central Pavilion</td>
<td>1 ea</td>
<td>750,000.00</td>
<td>750,000.00</td>
<td></td>
</tr>
<tr>
<td>Cabins</td>
<td>8 ea</td>
<td>50,000</td>
<td>400,000.00</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL COSTS</strong></td>
<td></td>
<td></td>
<td><strong>5,884,770</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note:

(1) These values are estimates based on concepts for the master plan and are subject to change.
(2) This estimate does not include the outer loop road or the road leading to the San Jacinto Canoe Launch.
(3) The proposed program is for preliminary phases of improvements only and is subject to change.
<table>
<thead>
<tr>
<th>Park Infrastructure</th>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Drive</td>
<td>500 lf</td>
<td>300.00</td>
<td>150,000.00(^1)</td>
<td></td>
</tr>
<tr>
<td>Main Vehicular Loop Access Roads</td>
<td>8,000 lf</td>
<td>60.00</td>
<td>480,000.00(^1)</td>
<td>partial loop road</td>
</tr>
<tr>
<td>Secondary Access Roads</td>
<td>4,000 lf</td>
<td>60.00</td>
<td>240,000.00</td>
<td></td>
</tr>
<tr>
<td>Blazed Trails</td>
<td>41,818 lf</td>
<td>15.00</td>
<td>627,270.00(^1)</td>
<td></td>
</tr>
<tr>
<td>Visitor Center Parking</td>
<td>75 spaces</td>
<td>2,500.00</td>
<td>187,500.00(^1)</td>
<td>50% of final size</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td></td>
<td></td>
<td><strong>1,684,770.00(^1)</strong></td>
<td></td>
</tr>
</tbody>
</table>

**LOW IMPACT: GRAVEL ROADS AND MINIMAL TRAILS**

The main vehicular loop drive will be a one-way gravel road (below, left). A small nature trail (below, right). Future phases of park development will include more robust trails.

Note:

(1) These values are estimates based on concepts for the master plan and are subject to change.
RECREATIONAL IMPROVEMENTS

ENTRANCE GATE
— The gate will control traffic and collect fees, as well as offering basic information for visitors.

NORTHERN LOOP ENLARGEMENT, PICTURES, FIGURES
Source: SWA Group and ERA

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Gate</td>
<td>1</td>
<td>50,000.00</td>
<td>50,000.00</td>
</tr>
</tbody>
</table>

TOTAL COST
50,000.00 ¹

Note:
(1) These values are estimates based on concepts for the master plan and are subject to change.

NATIONAL PARK ENTRY GATES, US AND CANADA
Banff National Park, Canada, Volcano National Park, Hawaii, Yellowstone National Park, California (left to right).
**RECREATIONAL IMPROVEMENTS**

**VEHICULAR BRIDGE**
- Single-lane vehicular bridge will be built adjacent to existing pedestrian bridge (photo) to accommodate park service vehicles. Use by park visitors will be limited to group campers using facilities west of Peach Creek.

**NORTHERN LOOP ENLARGEMENT, PICTURES, FIGURES**
*Source: SWA Group and ERA*

---

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
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</thead>
<tbody>
<tr>
<td>Vehicular Bridge</td>
<td>1</td>
<td>500,000.00</td>
<td>500,000.00</td>
</tr>
</tbody>
</table>

**TOTAL COST**

500,000.00

---

*Note:*

(1) These values are estimates based on concepts for the master plan and are subject to change.
RECREATIONAL IMPROVEMENTS

VISITOR CENTER

— A new visitor center will welcome Park users. It will include restrooms, educational information and programming, and a small shop.

NORTHERN LOOP ENLARGEMENT, PICTURES, FIGURES

Source: SWA Group and ERA

EXAMPLE: MARY GIBBS MISSISSIPPI HEADWATERS CENTER, ITASCA STATE PARK, MINNESOTA

Visitor center providing general Park information as well as educational materials and programs about the Mississippi Headwaters.

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor Center</td>
<td>1</td>
<td>1,600,000.00</td>
<td>1,600,000.00</td>
</tr>
<tr>
<td>VC Parking</td>
<td>75</td>
<td>2,500</td>
<td>187,500.00</td>
</tr>
</tbody>
</table>

TOTAL COST

Note

(1) These values are estimates based on concepts for the master plan and are subject to change.
RECREATIONAL IMPROVEMENTS

RV PARK PAVILION
— A pavilion will be constructed near the RV Park. It will include restrooms and eventually laundry, meeting spaces, kitchen and other amenities for RVers as well as venue rental space for park visitors.

NORTHERN LOOP ENLARGEMENT, PICTURES, FIGURES
Source: SWA Group

ARCHITECTURAL STYLE
The central pavilion will be airy, flexible and open, a simple, beautiful space providing shelter and basic amenities.

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Pavilion</td>
<td>1</td>
<td>750,000.00</td>
<td>750,000.00</td>
</tr>
</tbody>
</table>

TOTAL COST
750,000.00
50% of final size

Note:
(1) These values are estimates based on concepts for the master plan and are subject to change.
WINTER TEXANS: A POPULAR RV MARKET

Winter Texans, typically retirees from northern North America who come south for the winter, represent approximately 1.7 million annual visitors statewide. While in Texas, many live in an RV or motor home that they own and stay an average of 4.1 months. Despite gas prices, local RV parks report steady and strong business. This is potentially a strong market for Lake Houston Wilderness Park if facilities that catered to this crowd were developed.

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RV Park</td>
<td>120 stalls</td>
<td>7,500.00</td>
<td>900,000.00</td>
</tr>
</tbody>
</table>

TOTAL COST

900,000.00\(^1\) 40% of final size

Note:
(1) These values are estimates based on concepts for the master plan and are subject to change.
RECREATIONAL IMPROVEMENTS

CABINS
— Initial phases include cabins for public rental as comfortable overnight accommodations.

NORTHERN LOOP ENLARGEMENT
Source: SWA Group
A MASTER PLAN FOR
LAKE HOUSTON WILDERNESS PARK

<table>
<thead>
<tr>
<th>number of units</th>
<th>unit price</th>
<th>total cost</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabins</td>
<td>8 ea</td>
<td>50,000.00</td>
<td>400,000.00</td>
</tr>
</tbody>
</table>

TOTAL COST

400,000.00

Note:

(1) These values are estimates based on concepts for the master plan and are subject to change.

CABIN AESTHETICS

The cabins will be constructed using wood harvested from the site, resulting in a 21st century update of traditional rustic cabin designs. The cabins will also employ green energy strategies to create a comfortable environment with a low carbon footprint.

ALTERNATIVE CAMPING POSSIBILITIES

New and different camping options are becoming increasingly popular in the United States. Yurts (left), a dwelling type originally from Mongolia, and different types of tent platforms (center and right) are some of the variations to consider.
**EXAMPLE**: POCONOS ENVIRONMENTAL EDUCATION CENTER (PEEC)

PEEC is a private, non-profit organization operating a 38 acre campus in the Delaware Water Gap National Recreation Area. The facility serves approximately 25,000 visitors annually and grosses approximately $1,000,000 annually in fees and program dues.

**RECREATIONAL IMPROVEMENTS**

**NATURE CENTER COMPLEX**

An educational center open to the public, offering educational programs relating to the park and its natural systems. The Center could partner with school systems and after-school programs to allow maximum access for local kids. It could also include a sleepover program for young adults in forest stewardship.

**POTENTIAL FUNDING**: Mitigation funding for public education and access to natural systems; Traditional environmental and educational grants;

**POTENTIAL PARTNERS**: Houston Museum of Natural Sciences; Houston Independent School District; AmeriCorps;

---

**IMPROVEMENTS**

**WOODLAND MASTER’S HOUSE, CAFETERIA AND CLASSROOM**

**DORMITORIES**

**POND**

**EXHIBIT HALLS/HISTORIC STRUCTURES**

**WILDERNESS DISCOVERY AND LEARNING CENTER**

**PHASED PARKING**

**NORTHERN LOOP ILLUSTRATIVE PICTURES**

*Source: SWA Group, PEEC website*
**RECREATIONAL IMPROVEMENTS**

**DEMONSTRATION SAWMILL**
A facility that would mill the lumber culled from the Park’s forests for on-site usage and sale. By milling on-site the mill would create a simple and transparent process of harvesting and utilizing wood. It would also create an educational opportunity for the community, offering insight into the timbering processes that give us lumber, and the environmental advantages of sequestering carbon in long-term wood products.

**POTENTIAL FUNDING:** Mitigation funding for education and access; Grant and foundation money for public environmental education programs; Carbon credits for harvesting and sequestering carbon.

**POTENTIAL PARTNERS:** Local environmental non-profits like the Council for Environmental Education; Texas Parks and Wildlife; The Texas Forestry Association’s continuing education programs.

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**EXAMPLE:** HISTORIC MILL CREEK, MACKINAC STATE PARK, MICHIGAN
Interpretive education center including demonstrations of historical milling techniques used on the creek in the past.
EXAMPLE: YMCA OF THE ROCKIES
The YMCA of the Rockies offers families the chance to donate the cost of a new cabin or to adopt an existing cabin. The donation is tax deductible, and the family then receives reservation priority for 25 years.

RECREATIONAL IMPROVEMENTS
CABIN DONATION AND ADOPTION PROGRAM
A funding program to incentivize the construction of more cabins as the park grows.

POTENTIAL FUNDING: Private family donations.

POTENTIAL PARTNERS: N/A
ECOLOGICAL UPLIFT

An essential element of the master plan strategy for Lake Houston Wilderness Park is to enhance the ecological functions of the Park and in doing so generate revenue. Efforts to capture these revenues, which can be referred to as “enviro-economic” opportunities, fall into four broad categories:

- Mitigation Opportunities
- Ecological Service Opportunities
- Biological Carbon Sequestration and Forest Products Opportunities
- Conservation Funding Opportunities

Two other revenue-generating strategies are also suggested for the park; they complement the enviro-economic strategy and enable the execution of certain of its aspects. These two additional strategies are:

- Land Acquisition
- Special Districting

To take advantage of these enviro-economic opportunities it is necessary to identify specific Park enhancements that could be implemented if outside funding could be secured. Most features of the Master Plan beyond Phase 1 could generate funding from the revenue sources identified here.
ECOLOGICAL UPLIFT

ECOLOGICAL MITIGATION FUNDING

Mitigation is a broad term that refers to the restoration, enhancement, creation or preservation of valuable ecosystems. Mitigation funds can also be used for public education and access to environmental resources. These mitigation activities are performed for the purpose of compensating for environmentally damaging actions that impact similar protected resources. This “offsetting” of environmental harm may be required for impacts that occurred in the past, are happening now, or will happen in the future.

PICTURES

Source: SWA Group

HABITAT RESTORATION
Rehabilitating and replanting degraded habitats.

HABITAT CREATION
Creating new areas of habitat; for example, planting wetland plants in low-lying areas with poor drainage.

HABITAT PRESERVATION
Using mitigation funds to purchase areas of habitat that might otherwise be developed.

PUBLIC EDUCATION AND ACCESS
Funding facilities and programs that increase public environmental education and public access to the environment.
ECOLOGICAL UPLIFT

IN-LIEU FEE PROGRAM

It is possible for permitted mitigation fees compensating for habitat destruction to fund off-site projects sponsored by a third party. An In-Lieu-Fee (ILF) Program operates such that fees are paid to a third party that will agree to use the funds to carry out specified types of projects within a specified area. Monies from a number of permitted paying parties go into a single pool that is then used to fund a variety of approved projects.

An ILF arrangement would offer the best opportunity for the City to generate mitigation funding to implement and execute environmental restoration, enhancement, creation and preservation projects at or adjacent to the Park.

PICTURES
Source: Spring Creek Greenway website

IN-LIEU FUNDING AT WORK: SPRING CREEK GREENWAY

The Spring Creek Greenway, a linear park in northern Harris County and southern Montgomery County, has an ILF Program with an announced goal of creating a 12,000 acre riparian corridor along Spring Creek through the use of mitigation and other sources of funding. Mitigation funds go into the ILF to purchase and therefore preserve 33 linear miles of forest along Spring Creek.

ECOLOGICAL MITIGATION
ECOLOGICAL UPLIFT
TRANSPORTATION MITIGATION FUNDING
— In its 2035 Regional Transportation Plan the Houston-Galveston Area Council (H-GAC) specifically identifies the Lake Houston area as a high priority for focusing future mitigation revenues to offset the impact of future transportation projects.
— As one of the most significant components of the larger Lake Houston eco-region, a compelling case can be made for prioritizing the Park as a mitigation funding recipient for future transportation projects across the entire 8-county H-GAC planning area.

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**FUTURE TRANSPORTATION PROJECTS**

*Source: SWA, Conservation Capital*

- **WIDENING OF SH 105**
  - Long term plans to widen two two-lane bridges to one ten-lane bridge

- **POSSIBLE ROUTE, I-69 TRANS TEXAS CORRIDOR**
  - Project in initial planning stages

- **GRAND PARKWAY SEGMENT H**
  - Construction scheduled for 2009

- **WIDENING FM 1485**
  - Long-term plans to widen the road from two to six lanes.
ECOLOGICAL UPLIFT

WETLAND MITIGATION

— The most lucrative mitigation funding comes from wetland mitigation, which is overseen by the US Army Corps of Engineers (USACE) as part of the Clean Water Act.

— Wetland mitigation activities regulated by the USACE must demonstrate a connection between the impact to be offset and the location where the mitigating project will take place. Thus, mitigation projects must take place within a “service area” which encompasses both the impacting project and the mitigation site. Mitigation projects within the “primary” service area have higher credit ratios than projects in “secondary” service areas.

— Two potential projects within Lake Houston Wilderness Park’s primary service area that may need to purchase wetland mitigation credits are the EarthQuest Adventure Park and the Luce Bayou Interbasin Transfer Project.
CONSERVATION BANKING

Another potential mitigation opportunity for the park is the possible creation of a Conservation Bank for threatened and endangered species. Conservation Banks are permanently protected privately or publicly owned lands managed for endangered, threatened, and other at-risk species.

Potential funding could be secured for the establishment of prairie grassland openings along existing pipeline corridors to create habitat for Henslow’s Sparrow, a species of concern known to be present in the Park.

Another opportunity could entail restoring longleaf pine habitat in the Park to establish preferred habitat for the endangered Red-Cockaded Woodpecker, which has been sighted south of the Park.

PICTURES

HENSLOW’S SPARROW and the Park grassland that could potentially be rehabilitated to support the sparrow more fully.

RED-COCKADED WOODPECKER and longleaf pine, a species that could be actively nurtured and increased in number to create improved habitat for the woodpecker.
SUPPLEMENTAL ENVIRONMENTAL PROJECTS

Another opportunity to capture mitigation funds is through the establishment of Supplemental Environmental Projects (SEPs). SEPs are specific mitigation projects whose funding is required of developers or land owners who violate environmental laws.

SEPs are designated by the US Environmental Protection Agency, the Texas Commission on Environmental Quality, and the Harris County Attorney’s Office.

The SEP designation is given to projects that prevent pollution, reduce the amount of pollution reaching the environment, enhance the quality of the environment, or contribute to awareness of environmental matters.

PICTURES
Source: Texas Waterways Cleanup Program

TEXAS WATERWAYS CLEANUP PROGRAM is a state-wide program that qualifies as an SEP. Part of “Keep Texas Beautiful”, a larger umbrella program, the Texas Waterways Cleanup Program focuses on removing trash and litter from inland waters of Texas.
ECOLOGICAL UPLIFT

WATER QUALITY SERVICES

— Over the past few years, markets have begun to evolve in ways that can allow landowners to monetize certain ecological functions provided by their land. An ecological services transaction is different from a mitigation transaction in that the financially contributing party is not mitigating or offsetting the impact of its operations. It is paying for a “service”.

— Since the park is already “conserved” under the transfer agreement between the City and Texas Parks and Wildlife (TPWD), the ecological services the Park currently provides to the community have effectively been paid for. However, because of the Park’s location immediately upstream of the City’s most important source of drinking water (Lake Houston), it would seem logical to commit resources to investigate ways that the Park could function to better protect this critical regional resource.
ECOLOGICAL UPLIFT

ON-SITE CONSTRUCTED WETLANDS FOR WATER POLISHING
— A potential Park-related water quality opportunity whose feasibility should be evaluated is the development of a constructed wetland, within the Park proper, to remove bacteria, nutrients, suspended sediment and possibly other contaminants from waters that now flow adjacent to the Park, along Caney and Peach Creeks on the west and along the East Fork of the San Jacinto on the east, ultimately discharging into Lake Houston.

PICTURES
Source: Conservation Capital

BELTWAY 8 WETLAND WATER QUALITY PROJECT The project is built on a 220 acre site that is part of the Greens Bayou Wetland Mitigation Bank. The project includes a train of treatment and habitat units which include a Surge Basin for capturing and pumping stormwater inflows, two Polishing Ponds for flow equalization and initial water quality treatment, four Polishing Marshes for final treatment, and a large area of transitional and deepwater wetland habitat. The project is demonstrating a very high level of water quality enhancement: Operational monitoring indicated pollutant mass removals of 91 – 92%.
ECOLOGICAL UPLIFT
REGIONAL WASTEWATER PLANT ADJACENT TO PARK
— Given the Park’s location immediately upstream of the City’s most important source of drinking water, and given the amount of future development on the boards for the area, it makes sense to investigate ways the Park can serve as a regional water quality resource for the coming density in the area.
— It is recommended that a preliminary evaluation be conducted to assess the feasibility of securing land adjacent to the Park as a site for a future regional wastewater treatment plant. The 225 acre sand mining site along the west bank of Caney Creek, just north of the City of Houston’s Farnsworth Park, might provide a reasonably priced location for such a facility.
ECOLOGICAL UPLIFT

CARBON SEQUESTRATION

– Land-based projects can help to reduce atmospheric green-house gas concentrations in a number of ways. One is to plant a naked plot with carbon-sequestering vegetation. Since Lake Houston Wilderness Park is largely forested, this avenue is not possible for most of the Park, but can be pursued for the open areas in the utility easements.

– A second way to reduce green-house gases is to permanently capture the carbon sequestered in wood by harvesting fallen trees and other debris that would normally decay and send carbon into the atmosphere. These harvested wood materials can be used to create long-life products like buildings or furniture.

PICTURES
Source: SWA Group

LONG-LIFE WOOD PRODUCTS
The wood harvested on-site could be milled in the Park at a small sawmill that would combine park maintenance needs with an educational opportunity. Carbon credits could be obtained for the long-life products created from the milled wood, and the sawmill itself could receive mitigation funding as an educational initiative.
ECOLOGICAL UPLIFT
UTILITY EASEMENT PLANTINGS
— Another carbon opportunity can be found on the electric transmission and gas pipeline corridors that traverse the Park. Such corridors present a range of carbon opportunities, including grassland or prairie restoration, biofuel production using grasses, and carbon sequestration in shrubs or small trees.

PICTURES
Source: SWA Group

PRAIRIE RESTORATION
Underground natural gas pipelines like those running through the park require corridors free from dense vegetative cover that obscures airplane oversight of pipeline integrity; thus, the pipeline corridor presents an opportunity to restore native prairie grasses (below) like switchgrass and eastern gamma grass.

BIOFUEL PRODUCTION
Switchgrass (above) is known for its potential as a biofuel because of its high cellulose content. These grasses can grow over five feet tall, which provides cover and habitat for birds and small mammals.

UTILITY LINE ARBORETUM
Dr. Bonnie Appleton, a Virginia Tech researcher, has created a Utility Line Arboretum to test and demonstrate suitable trees (above) and shrubs for planting under transmission lines. This list could be used to plant appropriate woody species for carbon sequestration.
ECOLOGICAL UPLIFT

TRADITIONAL CONSERVATION FUNDING

— A financial resource for the Park to draw on is the wide array of grants, loans, campaigns and other funding initiatives available through local, state and federal conservation and recreational organizations and agencies. Conservation Capital has developed a specific Conservation Funding Matrix that identifies key grant and program opportunities particularly relevant for the Park.

— It will also be crucial to build a regional corporate funding campaign to engage the resources of the Houston region’s private business community in support of the Park.

### HOUSTON ENDOWMENT

**Armand Bayou Nature Center, Houston**

**Funds from Houston Endowment, 2008**

Grant towards enhancing the 2,500 acre nature preserve and upgrading the interpretive building.

### BROWN FOUNDATION

**Katy Prairie Conservancy, Houston**

**Funds from Brown Foundation**

Grant money towards the campaign for the Katy Prairie Land Acquisition.

### SPIRIT OF CONSERVATION MIGRATORY BIRD PROGRAM

**Restoring Atwater’s Prairie Chicken Habitat**

**Funds from Spirit of Conservation Migratory Bird Program**

Grant towards restoring 20,000 acres of habitat for the endangered Atwater’s Prairie Chicken in the grasslands of south-east Texas.

### NATURE CONSERVANCY

**Big Thicket National Preserve, Beaumont**

**Funds from the Nature Conservancy**

Grant towards sustaining, enhancing and restoring the longleaf ecosystem in the Big Thicket Sandyland conservation area.

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1. See *Enviro-Economic Opportunities for Lake Houston Park, Conservation Capital.* August 12, 2008.
ECOLOGICAL UPLIFT

REAL ESTATE ACQUISITION

— Properties lying adjacent to the Park on the west banks of Caney and Peach Creeks and on the east bank of the East Fork of the San Jacinto River could be attractive acquisition targets for the City.

— The riparian zone has great ecological value, both as habitat and as a crucial element of natural water management systems. This value can only be preserved if both sides of a waterway are protected.

REAL ESTATE ACQUISITION
Source: SWA Group

FINANCIAL BENEFITS:

RISING LAND VALUES
Such properties could elevate in value, generating an attractive return if later resold to development interests.

RIPARIAN ZONE MITIGATION FUNDING
Properties in the riparian corridors directly adjacent to the creeks would preserve the riparian corridor, an outcome that could generate riparian mitigation funding.

GREEN INFRASTRUCTURE
The US EPA and other federal agencies have, in recent years, expressed interest in funding the use of ecologically valuable lands for purposes such as flood control and water quality, uses sometimes called “green infrastructure.”

REAL ESTATE ACQUISITION

RIPARIAN ACREAGE INSIDE PARK BOUNDARY
RIPARIAN ACREAGE TO BE ACQUIRED
ADDITIONAL ACQUISITION
SPECIAL DISTRICTING

To maximize the ability of the Park to capture and utilize both traditional and innovative revenue streams a unique or at least hybrid governance, management and operational structure may need to be considered.

POTENTIAL POWERS:
- CONTRACT W/ PRIVATE REVENUE GENERATORS
- ACQUIRE AND HOLD REAL ESTATE FOR PROFIT OUTSIDE BOUNDARY OF PARK
- COLLECT AND PLEDGE SALES AND USE TAX
- COLLECT HOTEL OCCUPANCY TAX
- LEASE AND MANAGE FACILITIES
- MANAGE NATURAL RESOURCES
- EMPLOY PUBLIC SAFETY AND SECURITY SERVICES
- IMPOSE IMPACT FEES
- CONSTRUCT INFRASTRUCTURE BOTH INSIDE AND OUTSIDE BOUNDARY OF PARK
- ISSUE BONDS
As detailed in the previous section, this Master Plan includes a strategy of enviro-economic fund-raising techniques that could leverage the nature of the Park land and its adjacencies to infrastructure and development to capture millions of dollars for the future development of the park. The Master Plan also includes more traditional revenue-generating elements like cabin rentals and entry and user fees.

The enviro-economic techniques presented in the previous section have different time-frames and revenue potential. They also each require a different amount of initial investment in personnel and time to set up legal structures, establish political relationships, and market to potential investors. Compiling these techniques into a strategy for Lake Houston Park requires weighing the investment of time and money of each technique against its eventual return.

What follows is a list of these chosen techniques and the steps necessary to begin the revenue-generating process. Also included is a delineation of the steps necessary to begin generating revenue from Park amenities, and a near-term cost/revenue estimate incorporating all revenue streams and cost outlays into a single tally.
IMPLEMENTATION

STEP BY STEP

HABITAT MITIGATION

TASK 1.0: ESTABLISH AN IN LIEU FEE (ILF) PROGRAM

1.1 Conduct exploratory meetings with representatives of the City of Houston and US Army Corps of Engineers regarding approval of an ILF Program for the Park;

1.2 Develop report that summarizes potential Park enhancements that could be funded through an ILF Program, including an analysis of potential wetland construction or enhancement on the site;

1.3 Prepare report on near-term ILF funding opportunities related to regional transportation, residential, commercial and public construction projects;

1.4 Negotiate terms and conditions of ILF Agreements;

1.5 Actively market the Park in order to capture ILF mitigation funds.

TASK 2.0: ESTABLISH A PRE-APPROVED SUPPLEMENTAL ENVIRONMENTAL PROJECTS (SEP) PROGRAM

2.1 Prepare Report on near-term SEP funding opportunities related to regional transportation, residential, commercial and public construction projects;

2.2 Meetings between representatives of the City of Houston and the TCEQ regarding designation of the Park as a “Pre-Approved SEP” site;

2.3 Secure commitment for a specific TCEQ-approved SEP project for the Park;

2.4 Negotiate terms and conditions of Pre-Approved SEP Agreements;

2.5 Actively market the Park in order to capture SEP funds.
Task 3.0: Establish the Park as a Transportation Mitigation Priority

3.1 Conduct meetings with representatives of the City of Houston, Texas Department of Transportation, the Federal Highway Administration, Houston-Galveston Area Council (H-GAC), and Texas Parks and Wildlife (TPWD) regarding designation of the Park as a transportation mitigation priority for the region;

3.2 Complete an MOU with TxDOT and TPWD on designation of Park projects as providing compensatory highway mitigation;

3.3 Negotiate mitigation agreement with the Grand Parkway Association relative to Segment H of the Grand Parkway;

3.4 Hold meetings with Houston Airport Systems relative to mitigation needs for Bush Airport.

 Necessary Personnel

Consultant with relevant mitigation and ecological experience; Legal counsel; Government relations consultant

Timeframe

January 2009 — September 2009; Capturing mitigation funds, ongoing

Costs

$115,000 — $180,000; $20,000 — 25,000/year ongoing

Revenues

$14,000/acre x 1,500 Park acres = $21,000,000
WATER QUALITY SERVICES

TASK 4.0: EVALUATE AND, IF FEASIBLE, PURSUE REGIONAL WATER QUALITY PROJECTS AT THE PARK

4.1 Conduct exploratory meetings with key local, state, regional, federal and private water quality stakeholders;

4.2 Develop report summarizing potentially feasible Park-related water quality enhancement/protection projects;

4.3 Select project for pilot initiation in 2009.

NECESSARY PERSONNEL

Water quality consultant; Engineering firm; Expertise in non-point water pollution control and wetland creation; Government relations consultant

TIMEFRAME

January 2009 — January 2010

COSTS

$35,000 — $55,000

REVENUES

TBD
CARBON OFFSETS

TASK 5.0: PURSUE CARBON OFFSET OPPORTUNITIES AT THE PARK

5.1 Develop protocols for Park projects to capture carbon in forest products and through vegetation management on Park pipeline/transmission line corridors;

5.2 Seek validation of protocols from recognized project validators;

5.3 Pursue buyers of carbon offsets for initial Park carbon demonstration projects.

NECESSARY PERSONNEL

Biological carbon offset expertise; Vegetation management consultant; Forest management expertise

TIMEFRAME

January 2009 – August 2009; Credit marketing ongoing

COSTS

$45,000 – $55,000; $20,000/year ongoing

REVENUES

$150,000 – $300,000/year x 60 years = $6,300,000
TRADITIONAL CONSERVATION FUNDING

TASK 6.0: PURSUE TRADITIONAL CONSERVATION FUNDING OPPORTUNITIES

6.1 Conduct exploratory meetings with key funding entities, both local, state and federal sources like endowments and foundations and private sources like private donations;

6.2 Develop report recommending at least three funding opportunities to be pursued in 2009-2010;

6.3 Submit top-ranked funding application;

6.4 Submit two additional funding applications.

NECESSARY PERSONNEL

Consultant with relevant mitigation and ecological experience; Legal counsel; Government relations consultant

TIMEFRAME

January 2009 – September 2010

COSTS

$40,000 – $60,000

REVENUES

$3,000,000 – $6,000,000
REAL ESTATE ACQUISITION

TASK 7.0: PURSUE REAL ESTATE OPPORTUNITIES ADJACENT TO THE PARK

7.1 Prepare summary report describing ownership and preliminary value analysis of property surrounding the Park;

7.2 Coordinate acquisition analysis with opportunities under prior tasks;

7.3 Identify properties offering desirable value-elevation and Park-protection potential and realistic acquisition potential at attractive prices;

7.4 Pursue potential acquisitions and/or easement negotiations.

NECESSARY PERSONNEL

Real Estate firm; Legal counsel; Conservation consultant

TIMEFRAME

January 2009 – September 2009; Acquisition will be ongoing

COSTS

$30,000 – $45,000

REVENUES

Transaction Dependent
RECREATIONAL IMPROVEMENTS

TASK 8.0: IMPLEMENTATION OF IMPROVEMENTS

Refer to Recreational Improvements section for details.

NECESSARY PERSONNEL  Design and Forest Management Team

TIMEFRAME  January 2009 – December 2012

COSTS  $5,884,770

REVENUES  $352,914 in 2009, 5 - 10% increase per year after
RECREATIONAL DEVELOPMENT

TASK 9.0: PURSUE ADDITIONAL RECREATIONAL IMPROVEMENTS

9.1 Assess market penetration of Phase 1 improvements, examining revenue from entry fees, cabins and RV park, and attendance statistics for educational programs.

9.2 Identify and evaluate post-Phase 1 improvement programs

9.3 Prepare financial analysis and related plans for new improvement programs

9.4 Identify concessionaire opportunities

9.5 Prepare supporting staffing plans for new programs

9.6 Evaluate partnerships and other funding strategies/sources

9.7 Launch Phase 2 CIP

NECESSARY PERSONNEL

HPARD in-house; Economic consultant

TIMEFRAME

First quarter of 2011 – Second quarter of 2012

COSTS

TBD

REVENUES

TBD
SPECIAL DISTRICTING

TASK 10.0: PURSUE SPECIAL DISTRICTING OPTIONS FOR THE PARK

10.1 Research special districting participation and related opportunities;
10.2 Meet with the East Montgomery County Improvement District (EMCID);
10.3 Develop follow-up actions, programs and plans.

NECESSARY PERSONNEL
Special Districting consultant; Legal counsel;

TIMEFRAME
January 2009 – June 2009; Further tasks ongoing

COSTS
$60,000 — $80,000

REVENUES
TBD
FOREST MANAGEMENT

TASK 11.0: PURSUE FOREST MANAGEMENT-RELATED REVENUE

11.1 Develop harvesting prescription, execute field work;

11.2 Supervise harvest operation;

11.3 Perform vegetation management, education activities, and road and firebreak maintenance;

11.4 Repeat steps each subsequent year.

NECESSARY PERSONNEL

HPARD in-house process management; Forest Management consultant

TIMEFRAME

January 2009 – December 2010; Yearly process ongoing

COSTS

$56,223 annually

REVENUES

$193,830 annually
## Implementation Timeline

- **Source**: SWA Group, Conservation Capital, ERA, Marsh Darby Partners

### A Master Plan for Lake Houston Wilderness Park

#### Implementation Timeline

--- This timeline illustrates the coincident steps for moving forward on each potential revenue stream.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.0</strong></td>
<td>Establish an In Lieu Fee (ILF) Program</td>
</tr>
<tr>
<td>- 1.1</td>
<td>Exploratory meetings w/ COH and US ACE</td>
</tr>
<tr>
<td>- 1.2</td>
<td>Develop Report summarizing potential ILF funded enhancements</td>
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<tr>
<td>- 1.3</td>
<td>Prepare Report on near-term ILF funding opportunities</td>
</tr>
<tr>
<td>- 1.4</td>
<td>Negotiate terms and conditions of ILF Agreements</td>
</tr>
<tr>
<td>- 1.5</td>
<td>Actively market the Park</td>
</tr>
<tr>
<td><strong>2.0</strong></td>
<td>Establish a Pre-Approved SEP Program</td>
</tr>
<tr>
<td>- 2.1</td>
<td>Prepare Report on near-term SEP funding opportunities</td>
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<tr>
<td>- 2.2</td>
<td>Meetings w/ COH and TCEQ</td>
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<tr>
<td>- 2.3</td>
<td>Secure commitment for specific TCEQ-approved SEP project</td>
</tr>
<tr>
<td>- 2.4</td>
<td>Negotiate terms and conditions of Pre-Approved SEP Agreements</td>
</tr>
<tr>
<td>- 2.5</td>
<td>Actively market the Park to capture SEP funds.</td>
</tr>
<tr>
<td><strong>3.0</strong></td>
<td>Establish Park as a Transportation Mitigation Priority</td>
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<tr>
<td>- 3.1</td>
<td>Meetings w/ COH, TXDOT, the FHA, HGAC, and TPWD</td>
</tr>
<tr>
<td><strong>4.0</strong></td>
<td>Evaluate and Pursue Water Quality Projects</td>
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<tr>
<td>- 4.1</td>
<td>Exploratory meetings with key stakeholders</td>
</tr>
<tr>
<td>- 4.2</td>
<td>Develop Report summarizing potential Park-related water quality projects</td>
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<td><strong>5.0</strong></td>
<td>Pursue Carbon Offset Opportunities at the Park</td>
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<td>- 5.1</td>
<td>Develop Protocols for Park projects</td>
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<td>Seek validation of Protocols from recognized project validators</td>
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<td>Pursue buyers of carbon offset for initial demonstration projects</td>
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<td>Pursue Traditional Conservation Funding</td>
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<td>Exploratory meetings with key funding entities</td>
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<td>Develop Report recommending at least three near-term funding opportunities</td>
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<td>- 6.3</td>
<td>Submit top-ranked funding application</td>
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<td>- 6.4</td>
<td>Submit two (2) additional funding applications</td>
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<td><strong>7.0</strong></td>
<td>Pursue Real Estate Opportunities Adjacent to the Park</td>
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<tr>
<td>- 7.1</td>
<td>Develop harvesting prescription; execute field work</td>
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<tr>
<td>- 7.2</td>
<td>Supervise harvest operation</td>
</tr>
<tr>
<td>- 7.3</td>
<td>Perform vegetation management, education activities and maintenance</td>
</tr>
<tr>
<td><strong>8.0</strong></td>
<td>Implement Phase 1 Improvements</td>
</tr>
<tr>
<td><strong>9.0</strong></td>
<td>Pursue Additional Recreational Improvements</td>
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<td>Research special district participation and related opportunities</td>
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<td>- 10.2</td>
<td>Meet with the East Montgomery Improvement District</td>
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<td>- 10.3</td>
<td>Develop follow-up actions, programs and plans</td>
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<td><strong>11.0</strong></td>
<td>Pursue Forest Management-Related Revenue</td>
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<tr>
<td>- 11.4</td>
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</tr>
</tbody>
</table>

Note: Actual calendar times to be determined.

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**Implementation Timeline**

| TASK 1.0 | Establish an In Lieu Fee (ILF) Program |
| TASK 2.0 | Establish a Pre-Approved SEP Program |
| TASK 3.0 | Establish Park as a Transportation Mitigation Priority |
| TASK 4.0 | Evaluate and Pursue Water Quality Projects |
| TASK 5.0 | Pursue Carbon Offset Opportunities at the Park |
| TASK 6.0 | Pursue Traditional Conservation Funding |
| TASK 7.0 | Pursue Real Estate Opportunities Adjacent to the Park |
| TASK 8.0 | Implement Phase 1 Improvements |
| TASK 9.0 | Pursue Additional Recreational Improvements |
| TASK 10.0 | Pursue Special Districting Options for the Park |
| TASK 11.0 | Pursue Forest Management-Related Revenue |

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**Source**: SWA Group, Conservation Capital, ERA, Marsh Darby Partners
IMPLEMENTATION

NEAR-TERM COSTS/REVENUES

This Master Plan includes a strategy for capturing large revenues down the line. To secure these funds it will be necessary to invest a certain amount of money to set up legal structures, establish political relationships, and market to potential investors. This expense will be minimally offset by initial revenues from traditional operations like charging entry fees and renting cabins and RV pads, as well as from the sale of timber from the site. The chart below details these elements, showing total costs and revenues for the Park over the near-term.

<table>
<thead>
<tr>
<th>LAKE HOUSTON PARK</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Working Balance/Carry Forward</td>
<td>0</td>
<td>(257,393)</td>
<td>568,214</td>
<td>1,748,821</td>
</tr>
</tbody>
</table>

**Revenue Streams (Gross revenue)**

<table>
<thead>
<tr>
<th>Revenue Streams</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Fees and Facility Rentals</td>
<td>65,000</td>
<td>110,000</td>
<td>115,000</td>
<td>120,000</td>
</tr>
<tr>
<td>RV Park Revenue</td>
<td>0</td>
<td>284,000</td>
<td>290,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Cabin Rental Revenue</td>
<td>0</td>
<td>24,000</td>
<td>28,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Special Events Revenue</td>
<td>0</td>
<td>15,000</td>
<td>25,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Mitigation/SEP Revenue</td>
<td>100,000</td>
<td>200,000</td>
<td>300,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Water Quality Revenue</td>
<td>150,000</td>
<td>350,000</td>
<td>450,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Traditional Conservation Revenue</td>
<td>193,830</td>
<td>193,830</td>
<td>193,830</td>
<td>249,200</td>
</tr>
<tr>
<td>Carbon Credit Revenue</td>
<td>56,223</td>
<td>56,223</td>
<td>56,223</td>
<td>108,856</td>
</tr>
<tr>
<td>Real Estate Revenue</td>
<td>150,000</td>
<td>250,000</td>
<td>350,000</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL REVENUE</strong></td>
<td>508,830</td>
<td>1,144,437</td>
<td>2,295,044</td>
<td>3,883,021</td>
</tr>
</tbody>
</table>

**Expenses**

<table>
<thead>
<tr>
<th>Expenses</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>235,000</td>
<td>340,000</td>
<td>355,000</td>
<td>370,000</td>
</tr>
<tr>
<td>Mitigation ILF Approval/Administration</td>
<td>180,000</td>
<td>25,000</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Water Quality Evaluation</td>
<td>55,000</td>
<td>45,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Conservation Revenue Efforts</td>
<td>60,000</td>
<td>25,000</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Carbon Credit Entitlement/Marketing</td>
<td>55,000</td>
<td>25,000</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Forest Management Activities</td>
<td>56,223</td>
<td>56,223</td>
<td>56,223</td>
<td>108,856</td>
</tr>
<tr>
<td>Real Estate Transactions</td>
<td>45,000</td>
<td>35,000</td>
<td>35,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Special Districting Strategy Implementaton</td>
<td>80,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td>766,223</td>
<td>576,223</td>
<td>546,223</td>
<td>613,856</td>
</tr>
</tbody>
</table>

**Ending Funding Balance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Working Balance/Carry Forward</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>(257,393)</td>
<td>568,214</td>
<td>1,748,821</td>
<td>3,269,165</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

(1) All values are estimates unless noted otherwise by referenced sources
(2) Economic Research Associates, Lake Houston Park Master Plan Opportunities Analysis, October 2008