SAN ANTONIO RIVER IMPROVEMENTS PROJECT

August 6, 2008
History of the SA River Improvements

• 1921 Flood
• Olmos Dam Complete in 1929
• Downtown Flood Relief Projects in 1950’s
  – Dams on the River Channel and on the two connections to the River Loop
  – the dam at Market in 1950’s and later at Nueva
  – Protects the Riverwalk from flooding
• Riverwalk sidewalk and bridge improvements-1960’s to present
• Tunnels on SA River and on San Pedro Creek in 1990’s-complete in 1997-$125 M
• Paid for itself during flood of November, 1998
San Antonio floods in the 1920’s
Channelized River
Flood Tunnel Boring Machine
San Antonio River Improvements Project

TUNNEL PROJECTS
SAN PEDRO CREEK TUNNEL - 100% COMPLETE
SAN ANTONIO RIVER TUNNEL - 100% COMPLETE
SAN ANTONIO RIVER TUNNEL INLET STRUCTURE - 100% COMPLETE
SAN ANTONIO RIVER TUNNEL OUTLET STRUCTURE - 100% COMPLETE
San Antonio River Flood Tunnel
How Does It Work?

- Approx. 35° Elevation Difference
- Downtown San Antonio
- Approx. 150° Deep
- Water Flowing In . . . Forces Water Out
- Approx. 24° Diameter
- Approx. 3 Miles

FLOOD FLOW SCHEMATIC
Project Limits

San Antonio River Improvements Project

- Zoological Park
- Witte Museum
- San Antonio Museum of Art
- Alamo
- River Walk
- Central Section Project
- Eagleland Project
- Mission Concepción
- Mission San José
- Mission San Juan Capistrano
- Mission Espada

Historic Mission Reach
Project Partners

- **City of San Antonio**
  - Provides project funding for project amenities (i.e., Sidewalks, Landscaping, Lighting, etc.) and recreation. San Antonio Water System is providing funding for utility relocation

- **Bexar County**
  - Provides project funding for flood control and river restoration elements of the project

- **San Antonio River Authority (SARA)**
  - Provides project administration and management

- **U.S. Army Corps of Engineers (USACE)**
  - Provides federal funding for river restoration and some recreational components

- **San Antonio River Foundation**
  - Provides private funding to support project

- **San Antonio River Oversight Committee**
  - A 22 person citizens committee established in 1998 with members appointed by the City, County and SARA representing the various neighborhood and business stakeholders along the river.
## Project Budget

Presented in millions of dollars

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<th>San Antonio River Improvements Project</th>
<th>Total</th>
<th>City</th>
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Project Benefits

• **Ecosystem Restoration** – The changes proposed will increase water quality and the quantity and diversity of plant and animal species.

• **Flood Damage Reduction** – Project will maintain or decrease the elevation of the 100 year floodplain.

• **Quality of Life** – Add to San Antonio’s unique charm and make the city more attractive to residents, visitors, and businesses and provide enhanced recreational opportunities along an expanded linear park system.

• **Cultural connections** – Linking people, neighborhoods and cultural resources and celebrating the historical connection of the river to four of the five historic missions in the San Antonio Missions National Historical Park.

• **Economic Development** – Promote business development along and adjacent to the river. Improvements will also enhance tourism.
Museum Reach: Urban Segment
Lexington Ave. to Josephine Street
Museum Reach
Urban Segment

Project Length

+/- 7,000 LF
McCullough looking at Lexington
Lock and Dam at Brooklyn Street

Will lift barges approx. nine feet
Downstream side of Historic Dam
Jones Ave. looking downstream
Roy Smith Street looking downstream
Roy Smith Street
Pedestrian Bridge
Art Enhancement

Original Grotto Design

Enhanced Grotto Design
Grayson downstream toward turning basin
Turning Basin at Grayson Street
Mission Reach: Project Limits
Mission Reach Ecosystem Restoration

Existing River Channel

Existing Riverine System Rating = 1.2*

Proposed River Channel

Proposed Riverine System Rating = 8.2*

* per USACE study; based on scale with 1 as extremely degraded and 10 as pristine; proposed condition rating is at 50 year maturity period
A partial list of trees and vegetation to be planted and of the wildlife that will be supported by the Mission Reach project:

**BIRDS:**
- Song Sparrow
- American Woodcock
- Winter Wren
- Red-eyed Vireo
- Peregrine Falcon
- Reddish Egret
- Yellow-billed Cuckoo
- Red-winged Blackbird
- Belted Kingfisher
- Red-headed Woodpecker

**VEGETATION:**
- Live Oak
- Pecan
- Sycamore
- Cypress
- American Elm
- Anaqua
- Redbud
- Sugar Hackberry
- Condalia

**FISH:**
- Bluegill
- Channel Catfish
- Red Shiner
- Yellow Bullhead
- Largemouth Bass
- Green Sunfish
- Texas Shiner
- Central Stoneroller

- Bluebonnets and other native flowers
Restoring Habitat Features

- 24,000 young trees
- 334 acres of riparian woodland habitat
- 113 acres of aquatic habitat
- 31 riffles
- 13 acres of embayment
- 2 river remnants: San Juan & Espada
Ecological & Cultural Connections

• Throughout the 1700’s development of what is now known as the City of San Antonio, occurred when Spanish Colonial missions were established near the natural river banks for the access to water and food.

• Restoring the river will re-establish the ecological context of the historic Spanish Missions; The project will reconnect the river’s significance to the National Park Service’s San Antonio Missions National Historical Park.
Restoration Project Limits: Mission Reach
Mission Reach
Phase I

- Utility relocation: Completed
- Contract awarded: May 2008
- Project ground breaking: June 2, 2008
- Construction completion: Dec. 2009
- Phase I Construction Budget: $23.4 M
Mission Reach - Phase I

ROOSEVELT PARK LOOKING DOWNSTREAM
APPROXIMATE PGL STATION: 21+00
AUGUST 2006
San Antonio River Confluence
with San Pedro Creek (end Phase I)

Existing

Proposed
Mission Reach
Phase II

- Currently 60% design underway
- 100% design due: est. March 2009
- Bidding start: est. Summer 2009
- Construction award: est. Fall 2009
- Construction start: est. Winter 2009
- Estimated construction budget: $34.2 M
Mission Reach Phase III

- Currently 60% design underway
- Construction Award: est. Summer/Fall 2010
- Estimated construction budget: $13.5 M
Mission Reach
Phase IV

- Currently 30% design underway
- Construction Award est.: Summer/Fall 2011
- Phase IV construction budget: $28,075,000
Passed on May 10
$125 Million Visitors Tax

• Mission Reach: $109.5 Million
  – $70 M: Advance funding to keep Phases 2-4 on schedule
  – $39.5 M: Design and construct additional trails, bridge improvements, educational signage, connections to Missions, overlooks, public art and enhanced ecosystem restoration

• Eagleland Reach: $3 million
  – Design and construct improvements to Alamo Street Bridge, picnic areas, bridge enhancements, overlooks

• Park Segment: $12.5 million
  – $4.7 M: Fund the design and construction of a basic hike and bike trail and designate a birding area along Avenue
  – $7.8 M: Complete the hike and bike trail components, restore wetlands and acequia at Witte Museum
For More SARI P Information

www.sanantonioriver.org

• Information on project status
• Design details
• Project history
• Construction progress photos
• Web-cam at Lock and Dam