

# Burn Lake

- ❖ History
- ❖ Water Quality Grant
- ❖ Water Trust Board Grant
- ❖ Proposed projects
- ❖ Current projects



# History

## **Late 1960s**

Burn Construction contracted to provide millions of cubic yards of soil for development of a section of Interstate 10.

Burn Construction purchased land at the lake's current location and began excavating soil. When the hole filled in with water they installed temporary pumps and pumped water into the Mesilla drain. Over 3.25 million cubic yards of dirt were removed from the site.

The water table quickly filled the borrow pit after excavation was finished and Burn Lake was formed as a result.

## Burn Lake

### Capacity

283 acre ft

### Stormwater Inflows

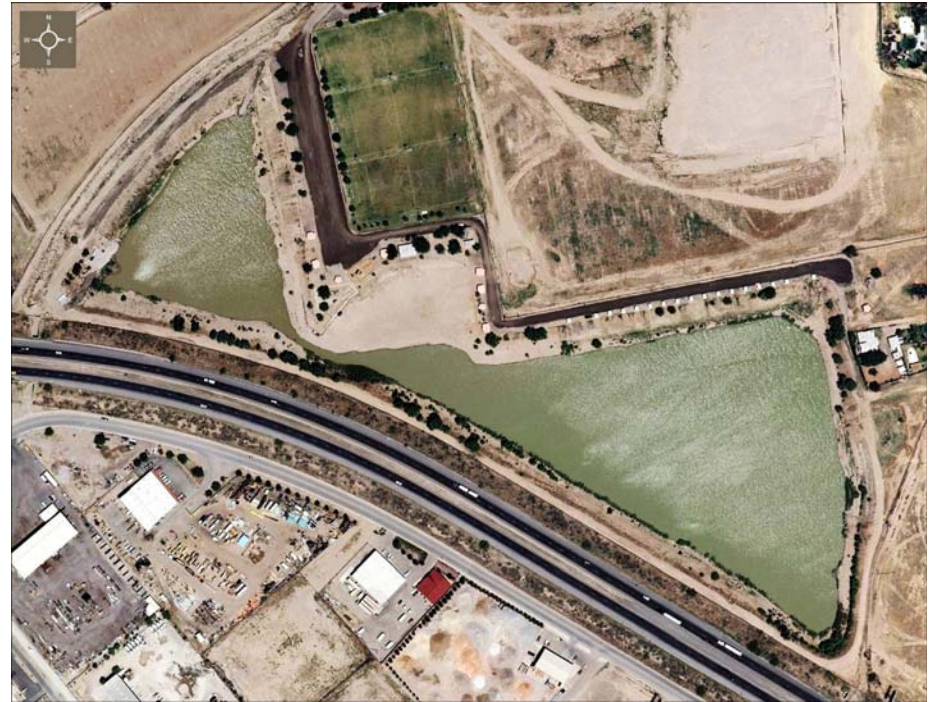
El Molino Drain

Mesilla Drain

Las Cruces Outfall Channel

### Stormwater Outflows

none







## History Continued

### **1971**

The Las Cruces City Commission rezoned the land and permitted the land owners to operate a recreational lake. On August 8 Burn Lake opened to the public. Admission was \$1 and activities included fishing, boat rentals, swimming, water slides, and two crane boom swings that extended over the water.

### **1973**

Burn Lake was sold to the City of Las Cruces for \$125,000 which included 38 acres of land. At the time City leaders thought the lake would one day play a vital role in the El Molino Flood Control Project.

## History Continued

### **1980s**

Soccer fields were developed north of the lake.

### **2004**

14 ducks and geese were found dead at the lake. The city closed the lake for several months. State health officials determined that the waterfowl were killed by botulism as a result of poor water quality.

### **2005**

The city council approved a preliminary conceptual plan that involved the Mesilla Lateral Pipeline Project that would incorporate pumps in order to regulate flows to and from the lake. The city did not secure the funding for this project.

# History Continued

## **2008**

New Mexico Environment Department did a water quality assessment for Burn Lake. An exceedance in aluminum and E.coli was discovered.

The City of Las Cruces and EBID retained a grant from NMED and began their own water quality planning project to verify and monitor their own data for Burn Lake.



# NMED's report prompted the water quality planning project?

- NMED in its 2010 305(b) list to US EPA included Burn Lake as a water of the State that does not meet federal water quality standards
- Burn Lake is Non-supporting for marginal cold-water aquatic life and warm-water aquatic life
- The Reason --- high dissolved aluminum levels
- NMED set for monitoring 2012 --- TMDL's in 2017

# A one-year data collection and planning grant

- An NMED grant of \$8,000 was used to collect water samples from Burn Lake and its sources of recharge
- Data to be used in water quality planning and management of the in-flows into Burn Lake. The goal is to improve and monitor water quality and achieve all designated water uses.
- A proposal was submitted by EBID who acted as fiscal manager of the Project.
- Fiscal Years: 2010-2011, Project to began June 1, 2010 and ends in May 2011.

## History Continued

### **2010**

Improvements around Burn Lake including new bathroom facilities, playground, landscaping, and road upgrades.

The City applied for the 2011 Water Trust Board Grant/Loan Program in order to regulate and improve the water quality and aesthetic appearance of Burn Lake.

# 2011 Water Trust Board Grant/Loan

A Program Cooperative with the New Mexico Finance Authority (NMFA) for \$1,219,441 with a cash in-kind match minimum of 20% and possible loan up-to 40% from NMFA.



## Council Action and Executive Summary

Item # 17 Ordinance/Resolution# 11-122 Council District: 4

For Meeting of **November 15, 2010**  
(Adoption Date)

**TITLE:** A RESOLUTION AUTHORIZING THE CITY OF LAS CRUCES, ON BEHALF OF THE PROJECT MANAGEMENT/FACILITIES DEPARTMENT, TO APPLY FOR THE 2011 WATER TRUST BOARD GRANT/LOAN PROGRAM COOPERATIVELY WITH THE NEW MEXICO FINANCING AUTHORITY (NMFA) FOR \$1,219,441, WITH A CASH AND IN-KIND MATCH (MINIMUM 20% OF GRANT) AND POSSIBLE LOAN (UP-TO 40% AS DETERMINED BY NMFA), AND RATIFY THE CITY MANAGER'S SIGNATURE TO MEET GRANT DEADLINES.

**PURPOSE(S) OF ACTION:** To authorize a funding application to the Water Trust Board for \$1,219,441 and ratify the City Manager's approval.

<b>Drafter and Staff Contact:</b> Auguie Henry III		<b>Department:</b> GAO		<b>Phone:</b> 541-2281	
<b>Department</b>	<b>Signature</b>	<b>Phone</b>	<b>Department</b>	<b>Signature</b>	<b>Phone</b>
Facilities		541-2651	Budget		541-2107
GAO		541-2281	Assistant City Manager		541-2271
Legal		541-2128	City Manager		541-2076

**BACKGROUND / KEY ISSUES / CONTRIBUTING FACTORS:** The grant application requests \$1,219,441 in funding (1) to allow Burn Lake, which is owned by the City, to be used by Elephant Butte Irrigation District ("EBID") as a regulating reservoir for the mutual benefit of the City and EBID, who is also a qualified applicant for New Mexico Water Trust Board funding; and (2) to develop City owned lands around Burn Lake as a parks and recreation water area. As to No. 1, approximately 28% of the grant funding will be used by the City to purchase pumps which will allow EBID irrigation water to be transferred from Burn Lake into the Mesilla Drain. The water will be brought to Burn Lake via various routes including through the Mesilla Drain or through the Porter Lateral. The pumps will be placed on City property and will be owned by the City. The City and EBID will enter into a Memorandum of Understanding providing that EBID will operate and maintain the pumps and will manage the Lake as regulating reservoir for the benefit of both parties. As to No. 2, EBID using Burn Lake as a regulating reservoir will provide a reliable water source thereby justifying the City in developing the City owned lands around the Lake for park and recreation purposes related to the water. Approximately 72% of the grant funding will be used for this purpose. The additional water in Burn Lake will provide for improved habitat for wildlife including waterfowl and for improved habitat for fish introduced by New Mexico Game and Fish Department for

(Continue on additional sheets as required)

Rev. 09/2010



# 2011 Water Trust Board Grant/Loan

Includes match portion from the city

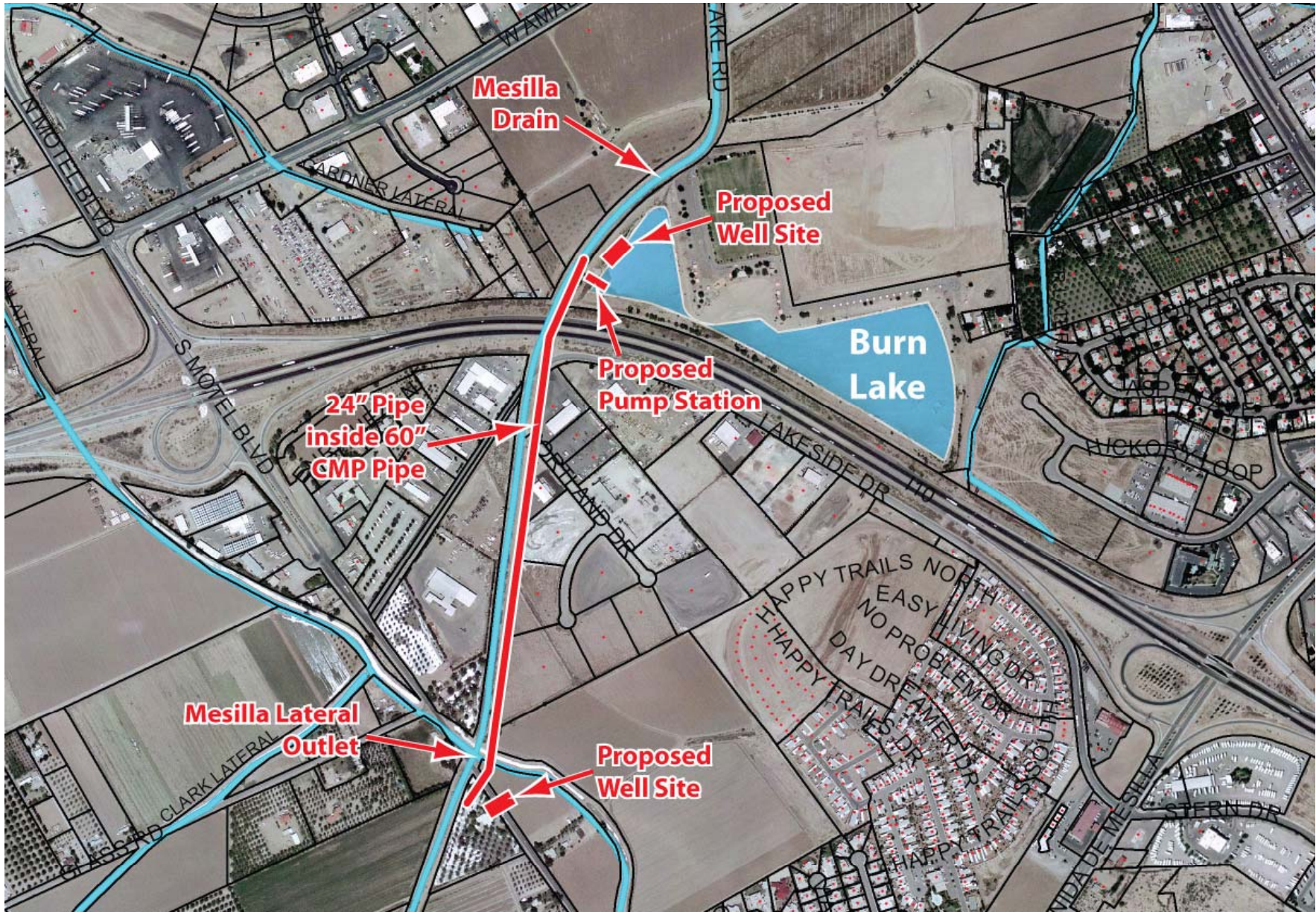
- Construction \$1,535,000
- Inspection of Construction \$184,247
- Engineering Services \$7,681
- Environmental Surveys \$6,000
- Archaeological Surveys \$5,800

**Total Project Cost: \$1,756,888**

# Water Trust Board Grant Projects

If the project is fully funded, it will include:

- **Regulating pumps** to move water in and out of the lake
- **Pole planting** (planting branches of willows and cottonwoods near the water line) for erosion control
- **Bank stabilization**, and water quality improvements
- **landscape improvements** at the top of the bank which should improve the water quality and slow the velocity of water entering the lake.



# Water Trust Board Grant

- The Water Trust bill was passed and signed by the governor.
- City of Las Cruces presented the scope of the project to the New Mexico Finance Authority on April 27, 2011 in Santa Fe.
- The board will tentatively meet again on June 1 to finalize the list of projects that will receive funding.
- The city may only receive partial funding if any, for this project.



# Current Projects

- New bathrooms
- New playground
- Sidewalks/Trails
- Landscaping



# Current Projects

New bathrooms



# Current Projects

New playground



# Current Projects

## Sidewalks/Trails



# Current Projects

## Landscaping



# Considerations for Burn Lake

- To continue use for recreation and fishing, aluminum must be reduced below 0.087 mg/L.
- E. Coli must be maintained at a lower level in the small part of the lake, or this part of the lake should be excluded from public access.
- Water must be added to maintain a depth of 8-9 feet in the deep part of the lake.
- This would require approximately 400 acre feet per year of Rio Grande water.
- EBID's has an interest in using Burn Lake as an operating reservoir by providing river water to supplement storm water runoff and then using the mixed Lake waters for irrigation when appropriate

(Dr. John Hernandez, EBID consultant)

# Questions?

