

## What's wrong with the Allen Creek project? Where do we begin?

### **BRAZOS RIVER AUTHORITY AND CITY OF HOUSTON TO BUILD ALLENS CREEK RESERVOIR**

Texas Natural Resource Conservation Commission (TNRCC) Executive Director Jeff Saitas today authorized construction of the Allens Creek Reservoir. Allens Creek Reservoir is a joint project of the City of Houston, Brazos River Authority (BRA), and the Texas Water Development Board (TWDB). This new reservoir will be located on Allens Creek, just above its confluence with the Brazos River in Austin County. It will impound over 200,000 acre-feet of water, creating a 7,000-acre lake and providing 99,650 acre-feet of water per year for municipal use.

"I'm pleased to see the permit approved," said Senator "Buster" Brown, chairman of the Senate Natural Resources Committee. "This is an example of regional cooperation as contemplated by Senate Bill 1. My congratulations go to all the parties who helped to build Texas' water future." The Allens Creek Reservoir Project is the first major reservoir to be issued a permit by TNRCC since 1985. The reservoir will provide over 10,000 acre-feet of water annually, satisfying the needs of over 150,000 families. Current plans by the City of Houston and the BRA call for the reservoir's construction by the year 2020 to meet anticipated demand for water and to reduce groundwater pumping that is now causing subsidence in the Houston area.

"The City of Houston has been pleased to participate in this significant and collaborative effort," said Houston Mayor Lee P. Brown. "The Allens Creek Reservoir will help assure the people of this community have a long-term quality source of water for decades to come. My thanks to Senator Brown, the TNRCC, and the other agencies that helped facilitate this project."

Prior to construction of the reservoir, a joint study by the Texas Parks and Wildlife Department, TNRCC, TWDB, BRA, and the City of Houston will determine site specific environmental flow requirements to protect environmental habitats in the Brazos River and Allens Creek. Once construction is complete, the reservoir will be filled by water pumped directly from the Brazos River during high flow periods meeting the needs of both in-stream aquatic communities and downstream water rights.

"The permitting of the Allens Creek Reservoir marks the culmination of more than 15 years of planning efforts," said Phil Ford, general manager/CEO of the BRA. "We're pleased that the Brazos River Authority and the City of Houston will now be able to insure the availability of water to the residents of the region for the next century."

Craig Pedersen, executive administrator of the Texas Water Development Board, noted, "The Board is pleased to participate in this project, identified in past and current state water plans, and by the regional water planning processes to meet the water supply needs of the lower Brazos and Houston areas. This is a very cost-effective project and a rare opportunity to secure a site near a major metropolitan area."

## **QUESTIONS AND ANSWERS FOR PROPOSED ALLENS CREEK RESERVOIR**

April 23, 2002 -- Waco, Texas - At a recent public meeting in Wallis on the proposed Allen's Creek Reservoir, many questions were posed that were difficult to answer or involved information that had yet to be determined. Representatives from the Brazos River Authority took note of these questions and have gathered information and statistics from Brazos River Authority records, initial engineering reports, Reliant Energy and the City of Houston.

The following is the first installment of questions and answers regarding the proposed Allen's Creek Reservoir.

### ***What is Allen's Creek Reservoir?***

Allen's Creek Reservoir is a proposed water storage lake planned for construction on Allen's Creek, a tributary of the Brazos River. The permit to build the lake was originally issued to Houston Lighting and Power (Reliant Energy) in 1974 by the Texas Natural Resource Conservation Commission (TNRCC).

The reservoir was originally permitted as a cooling lake for a nuclear power plant.

When Reliant Energy abandoned plans to construct the nuclear power plant at the Allen's Creek site in the 1980's, the property was purchased by the City of Houston and the Brazos River Authority with the purpose of building a water storage reservoir. The new reservoir would provide water to meet the future needs of the City of Houston and surrounding communities.

### ***What is the current status of the lake?***

The permit issued by the TNRCC to Reliant Energy allowed a reservoir to be constructed as a "cooling lake" for a nuclear power plant. When the Brazos River Authority and the City of Houston acquired the land to build the Allen's Creek reservoir, the TNRCC required that the permit to build the lake reflect the change from a cooling lake to a water supply lake.

The TNRCC recently approved this amended water right permit to reflect the change to a water supply lake. The Chocolate Bayou Water Company (CBWC) is challenging that permit, however, in State District Court.

### ***How will Allen's Creek Reservoir be built?***

The reservoir will be built and operated by the Brazos River Authority and will contain a dam and spillway. The reservoir will cover approximately 9,500 acres of land. The projected amount of usable water from the reservoir will be just under 100,000 acre/feet of water.

### ***How much will it cost to build the lake? Who will pay for the project?***

The estimated cost to build the Allen's Creek Reservoir is \$195 million. The Brazos River Authority

municipal bonds. An estimated \$97 million in loans will be made available through the Texas Water Development Board.

***Will the lake be open for recreation?***

Yes, the primary purpose of the lake is water supply. However, like other water supply reservoirs in the State of Texas, recreation will be allowed on the lake.

***What is a water supply reservoir?***

A water supply reservoir is a man-made lake normally built on a river, stream or creek by installing a dam. The reservoir provides a place to store water to meet the needs of those living in the area.

While natural lakes are plentiful in different areas of the United States, the State of Texas has only one natural lake, Caddo Lake in East Texas. Before reservoirs were built in Texas, residents relied on surface water from rivers, lakes and streams or ground water accessed through wells to meet their water needs. During times of drought, these sources were not always reliable.

A water supply reservoir does not provide flood control to the area surrounding the lake. Lake Somerville, a Corps of Engineers lake, is the closest flood control lake to the proposed Allen's Creek Reservoir. Flooding may still occur with these flood control structures in place.

***Once the reservoir is built, who will receive the water supply from this lake?***

The agreement between the City of Houston and the Brazos River Authority designates that the City of Houston may access 70 percent of the water. The Brazos River Authority will access the remaining 30 percent and make that water available on a contract basis.

***Once the dam is built, how will the reservoir be filled? Will groundwater be pumped into the lake?***

There are no plans to use groundwater to fill the lake. All of the engineering evaluations have considered only excess surface water from Allen's Creek and the Brazos River in the filling of the reservoir.

***Will rainwater be used to fill the lake?***

Yes, water will be collected into the reservoir by rainfall runoff occurring within the Allen's Creek watershed.

***Will Allen's Creek continue to flow into the Brazos River?***

The location for the proposed Allen's Creek Reservoir lies directly above the confluence of Allen's Creek and the Brazos River. A spillway from the reservoir will continue the flow from Allen's Creek into the Brazos River.

Both the Brazos River and Allen's Creek serve as water sources for many water users downstream

water. This is called a Senior Water Right.

When construction of the reservoir is complete, the Brazos River Authority will be allowed to capture water from both Allen's Creek and the Brazos River to begin filling the reservoir. However, the Authority may only divert the flows from both Allen's Creek and the Brazos River that are in excess of the needs of the environment and downstream senior water rights.

***If there is water in the river that can be pumped out, why build the lake? Why not just pump directly from the river?***

The need for water does not always match the unpredictable availability of river water. During drought or times of minimal rainfall, the need for stored water increases. Therefore, the storage of excess water in reservoirs during times of plenty is necessary to deliver water during times of shortage. In this case, water is being pumped from the river when it is available or when the river is flowing in excess of the needs of senior water rights and the environment.

***How tall will the dam be?***

A preliminary engineering report published in April 2000 report by Freese & Nichols and Brown & Root, entitled "Report on Allen's Creek Reservoir Supporting an Application to Amend Permit 2925" indicates:

- The dam will reach a maximum height of 53 feet - about the size of a 4-story building.
- The normal water elevation (top of conservation pool) will be at 121.0 feet above mean sea level.
- The dam will be approximately 23,000 feet in length - about 4.3 miles long.
- The Allen's Creek Reservoir will not be a constant level lake; therefore, the operating elevation for the conservation pool will vary seasonally.

\*These numbers are preliminary and are subject to change during the final engineering and design of the dam structure.

***How far from FM 1458 will the dam be?***

The maps included with the preliminary designs indicate that FM1458 will be located approximately 700 feet from the center of the dam alignment - or about two football fields in length. This distance is subject to change with the final design/engineering of the dam structure.

***What will the average depth of the lake be?***

The average depth of the reservoir will be approximately 20 feet as estimated from the United States Geological Survey (USGS) topographic maps for the reservoir. The depth near the dam will be approximately 40 feet.

***Is there a set lake level or elevation for the lake?***

Preliminary designs from the Freese & Nichols/Brown & Root report indicate the top of conservation

will not be a constant level lake - which means that the depth will change seasonally and with reservoir operations.

***How will the Brazos River Authority divert water from the river to fill the lake?***

Water will be pumped from the Brazos River into the reservoir when the flow of the river allows sufficient water for down stream water quality, environmental needs and the needs of downstream senior water rights.

These needs vary during the year so the operating plan for the lake will also vary. The Brazos River Authority may never divert water when the flow of the Brazos is less than 734 cubic feet per second (cfs).

***Will the pipes and equipment to pump water from the river to the lake be above ground or below ground?***

This is an engineering question that will be answered during the final design process. However, the engineering report prepared by Freese & Nichols and Brown & Root presents two preliminary alternatives:

**Alternative #1.**

A river diversion point located approximately 800 feet west of the Brazos River on the river bottomlands. This alternative includes the following facilities:

- An 800-foot channel with a bottom width of 180 feet at elevation 60 feet above mean sea level to the pumping station.
- A 1,100-foot by 275 foot silt basin.
- An earthen canal to the reservoir, with culverts at road and railroad crossings.
- An outlet structure in the reservoir.

**Alternative #2.**

The pumping station will be located immediately east of the dam about 1,600 feet west of the Brazos River. This alternative includes the following facilities:

- A 1,600-foot approach channel with a bottom width of 180 feet at elevation 60 feet above mean sea level.
- A bridge to allow FM 1458 to cross the approach channel.
- 9 discharge pipes through the dam, each pipe is 66 inches in diameter and 230 feet long.
- An outlet structure in the reservoir.

***If you have access to 235,000 acre feet of Carrizo-Wilcox groundwater, why do you need this lake?***

The availability of groundwater in Texas is still being developed. Although it is estimated that there is an enormous supply of groundwater available in the Carrizo-Wilcox aquifer (281,000 acre-feet in Brazos Basin counties alone, depending on how the aquifer is managed), there is currently not an

Estimates of the size of the Carrizo-wilcox aquifer are based on many assumptions. In addition, future rules and regulations regarding use of the water are also unknown at this time.

The State-developed Groundwater Availability Model (GAM) for the aquifer is not complete and local groundwater conservation districts have not finally established their rules and operational plans for use of the water. Therefore, it is difficult to say with absolute certainty how much groundwater is accessible at this time.

The Allen's Creek Reservoir, on the other hand, is recommended in the 2001 Region H Water Plan to meet needs in the lower Brazos basin and Houston area beginning around 2020. Allen's Creek is closer to the areas in need of water, the yield from the reservoir is known (about 100,000 acre-feet), and the requirements for authorization and construction are known.

## **AUTHORITY RELEASES ADDITIONAL INFORMATION ON ALLEN'S CREEK RESERVOIR**

*May 22, 2002 -- Waco, Texas* - At a recent public meeting in Wallis on the proposed Allen's Creek Reservoir, many questions were posed that were difficult to answer or involved information that had yet to be determined. Representatives from the Brazos River Authority took note of these questions and have gathered information and statistics from Brazos River Authority records, initial engineering reports, Reliant Energy and the City of Houston.

The following is the second installment of questions and answers regarding the proposed Allen's Creek Reservoir.

### **Is the Brazos River Authority doing all it can to insure that its customers conserve the water it has now?**

Water supply contracts between the Brazos River Authority and our customers contain a clause requiring water conservation. Therefore, should conservation be indicated by drought conditions, the Authority would contact customers and help them determine the best conservation measures to implement.

In addition to this contractual agreement, water users are subject to legislation enacted by the Texas Legislature in 1997. Senate Bill 1, requires wholesale and retail public water suppliers and irrigation districts to develop drought contingency plans. The Authority adopted and submitted a general drought contingency plan in 1999. All Texas water providers, including the Authority, must become more active with water conservation in order to meet the water needs of the State in the future.

### **Has there been a geological study of the proposed Allen's Creek Reservoir site? If not, when will such a study be done?**

Preliminary studies were conducted for the initial design of the dam and proposed lake structures. Detailed studies will be performed for the final engineering and design phase of the project.

**Has a study been conducted to see if the flooding/draining problems in Sealy might be corrected and used to fill/maintain the lake?**

Flood studies have not been done at this point. However, studies on the impact of flooding around the proposed site will be conducted during the engineering phase of the project.

**How many wetlands will be impacted by the lake?**

An April, 2000 report entitled "Report on Allen's Creek Reservoir Supporting an Application to Amend Water Right Permit 2925" identified several potential wetlands within the proposed reservoir site. The report, prepared by the engineering firms of Freese and Nichols & Brown and Root, lists approximately 1,428 acres of wetlands that may be inundated by the reservoir. A detailed wetlands assessment and study will be required in order to obtain the appropriate permits from the U.S. Army Corps of Engineers to construct the reservoir.

**Will there be an impact to bays and/or estuaries from the proposed reservoir project? What effect will it have on freshwater inflows?**

Preliminary studies show there should be no impact to the bays and estuaries or freshwater inflows. The criteria for the Allen's Creek reservoir is outlined in Permit No. 2925A issued by the Texas Natural Resource Conservation Commission (TNRCC) granted on January 16, 2002. According to the amended permit, a minimum flow rate is required to protect in-stream users, water quality, and aquatic habitat. At no time will diversions from the river into the reservoir cause flow in the Brazos River to fall below 734 cubic feet per second. Additional studies will be performed to insure that the needs of the environment downstream from the diversion will be met.

**This proposed reservoir will flood both documented and undocumented cemeteries. Do you know how many cemeteries will be effected? What will you do with the cemeteries that will be flooded?**

A detailed inventory of cemeteries will be performed prior to construction of the lake. All known cemeteries that face flooding will be considered according to conditions and potential impacts specific to each cemetery. Some cemeteries may be relocated. Plans and procedures for possible relocation will be mapped out in the future as the project comes closer to the construction phase.

**Are there any archeological sites within the proposed reservoir area?**

Initial archeological studies were performed many years ago and indicate the presence of several archeological sites within the proposed reservoir area. Additional investigations will be required to inventory and plan for documentation and possible removal of the sites. This will occur prior to final engineering design and construction of the reservoir.

**Will there be a water treatment plant on site?**

At this point there are no plans to place a water treatment plant at the lake.

**Will there be a fence around the lake?**

There are currently no plans to place a fence around the lake. However, certain structures may have limited access to the public for security purposes.

**What land does HL&P still own? What are their plans for it?**

HL&P is now Reliant Energy. Reliant retained ownership of the area first planned for construction of their power plant. They also retained ownership of waterfront property on the southeast side of the proposed reservoir site. Reliant's plans for the property are unknown at this time.

**Will lots be available up to the water's edge?**

The City of Houston and the Brazos River Authority have not yet determined use of the property adjacent to the lake. A determination will be made during the final design of the lake.

**What impact will this project have on my tax rate? My property appraisal? Local property values?**

Generally speaking, the value of property located near the lake will increase. At this stage in planning, it is not possible to project tax values around the proposed reservoir.

However, the long-term effect on the tax rate will vary depending on a number of factors including:

1. the total amount of taxable property in the taxing authority;
2. the total amount of revenue needed to fund necessary government functions as determined by the local governmental entity; and
3. the rate at which property values increase over time.

**Will there be more public meetings regarding the proposed Allen's Creek Reservoir?**

Yes, the Brazos River Authority and the City of Houston plan to present additional opportunities for local citizens to ask questions and learn more about the proposed Allen's Creek Reservoir. Please watch your local newspaper for details. Or, you may visit the Brazos River Authority web site at [www.brazos.org](http://www.brazos.org).

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