

Fort Smith Regional Water Supply Project Update

Summer 2002

Highlights:

- First construction contract is awarded to Granite/Frontier-Kemper, a joint venture for \$45.5 million.
- Largest single contract in history of Fort Smith.
- Project schedule driven by city's need for additional water by 2005.
- Construction begins on new Shepherd Springs Road.
- Initial construction on new state park facilities started.
- In fast-track project delivery, designs and costs change as new information about the site is obtained.
- Test quarrying finds additional rock stabilization will be required.
- Project element review produces new budget of \$176 million.
- Water plant expansion at Mountainburg rescheduled for 2007.

City Awards First Contract for Construction of New Lake Fort Smith

On June 18, 2002, the City of Fort Smith board of directors awarded the first of two major construction contracts for the expansion of Lake Fort Smith. The contract was awarded to the low bidder, Granite/Frontier-Kemper, a joint venture of Watsonville, California, for \$45.5 million. "This contract is the largest single contract ever awarded by Fort Smith and kicks off the largest municipal public works project in this part of the country," said Ray Gosack, deputy city administrator. "Construction can now shift into high gear so the enlarged reservoir can begin filling and providing additional water by 2005."

The first contract covers site preparation, outlet works, and dam foundation. The second contract will cover the dam embankment and the spillways. Design engineering for the second contract is currently being completed by Burns & McDonnell Engineering Company. The second contract should be awarded in the fall of 2002.

Fast-Track Planning

Planning for the Lake Fort Smith project has included conceptual, preliminary, and final engineering; geotechnical testing; environmental studies; permitting; property acquisition; and financing. Normally, for a project of this size, many of these activities would be accomplished sequentially over a period of eight to ten years. For the new Lake Fort Smith, however, these tasks and

more were completed in four years so that a new water supply would be available in 2005, avoiding a potential water shortfall for the city and the regional service area. As a result, multiple tasks were conducted simultaneously. For example, engineering design had to begin before the subsurface testing was completed. This fast-track approach saved time in project delivery, but required design adjustments as more technical data became available.

New Data Affects Designs and Cost
From 1999 through 2001, 174 borings were drilled and 138 test pits were dug to provide a characterization of the geology of the site. The data from samples indicated the rock at the site is weaker than anticipated and additional features, such as more retaining walls and lining the outlet tunnel with reinforced concrete, will be required.

The closure of Lake Fort Smith State Park in January 2002 cleared the way for a test quarry in the area of the auxiliary spillway. This excavation revealed unstable rock formations that could not have been detected by the prior test borings. This finding will necessitate rock bolts in the primary spillway and additional slope stabilization in the auxiliary spillway. Shannon & Wilson, a geotechnical specialty firm, is conducting the subsurface investigations at the site, laboratory test of the samples, and geotechnical design.



Test quarry overlooking Lake Fort Smith

Tests on scale models of the outlet works and spillway (see the Fall 2001 *Update*) begun in the fall of 2001 were completed in April 2002. These tests resulted in refinements to the outlet works and auxiliary spillway to enhance flow conditions.

Each change in design has impacted the cost of the project. From an original estimate of \$160 million, the cost of the lake has increased to approximately \$176 million. Additional funds for the project will be made available from the city's water and sewer capital improvement budgets and the expansion of the Mountainburg water treatment plant will be delayed until approximately 2007. No additional water rate increases are anticipated; however, if significant additional project costs are incurred, voters will be asked to authorize additional debt issuance to complete the project.

The Lake Fort Smith project involves a massive amount of subsurface excavation. Although every effort has been made to accurately predict final costs, actual conditions and final costs cannot be determined until the work areas are unearthed. This uncertainty exists for any project constructed with an earth and rock-fill dam.

Shepherd Springs Road

The new Lake Fort Smith will inundate the portion of Lake Shepherd Springs Road that parallels the existing Lake Fort Smith and Frog Bayou. The lost roadway will be replaced by a new road that will connect to U.S. Highway 71 about one mile south of Artist Point and meander

11,600 feet in a generally southerly direction down to the existing Shepherd Springs Road. The new roadway will also serve as the access road to the new Lake Fort Smith State Park. To comply with county and state standards, the new road will be paved, which will represent an improvement over the dirt and gravel road being replaced.



Results of a test blast

Construction on the new road began in February. The entire alignment has been cleared and drainage structures on the middle third of the road have been installed. The road is expected to be completed in November 2002.

Lake Fort Smith State Park

Final designs for the new state park are still in preparation but have proceeded far enough for some work to begin. The first facilities built will be two residences for the park manager and assistant manager and a maintenance building. Facilities to follow will include a visitors center, campgrounds, cabins, a group dormitory and dining hall, a swimming beach, and a new trail head for the Ozark Highlands Trail.

Preparations for Construction

To house offices for the construction project, a "construction village" has been established at the corner of U.S. Highway 71 and Lake Fort Smith Road. This area contains contractor's trailers, a gravel parking lot, sanitary disposal system, and a security fence. Stationed at this site will be resident project representatives from Burns & McDonnell, Shannon & Wilson and Mickie Wagner Coleman. This field team

will represent the City of Fort Smith during the construction phase. They will observe the work in progress, field check materials and equipment, maintain job-site records on conditions and activities, and assist Burns & McDonnell office engineers in determining that the project is proceeding according to the contract documents.

the contract documents.



For more information, please contact:

Utility Department
3900 Kelley Highway
Fort Smith, AR 72904
(479) 784-2231

