

**Water and Environmental Programs
Engineering Success Stories**

State: Georgia

Borrower Name: Clayton-Rabun Water and Sewer Authority(CRWSA)

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Congressional Information: Congressional District 9-Nathan Deal

Counties: Rabun

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Water Treatment for the Clayton-Rabun Water and Sewer Authority

Description of Problem/Issue:

The City of Clayton has a 1.0 mgd water treatment plant on Black's Creek that was permitted for that volume primarily because of the city's needs. The 7Q10 for Black's Creek is .56 mgd and the city had made piecemeal changes through the years to the plant to obtain the present capacity. The Drinking Water Program of Georgia Environmental Protection Division of the Department of Natural Resources(EPD) had issued several consent orders through the years to the city for Safe Drinking Water Act violations. Additionally, the city and surrounding area were experiencing rapid growth due to its scenic location and the city had a large volume of unaccounted for water. The city's various engineer had periodically through the years discussed efforts to correct the situation with us but the project never materialized due to political and cost factors. Both administrative and engineering solutions were needed to solve this problem

Solution:

The City of Clayton is located in Rabun County which is the most northeasterly county in Georgia and it has been isolated for many years. It is bisected north to south by U.S. 441 which is major access to the county because it has been improved by several recent DOT projects greatly improving access from the Atlanta and Athens area. The City of Clayton also serves the Cities of Mountain City(location of the existing plant) and the Tiger as well as areas of the county. The first step was to find a unified political entity for developing a long term source for the area and this was accomplished by forming the CRWSA. The authority was to develop the source and sell water to the City of Clayton for distribution to the customers. For planning purposes the major growth area of the county was developed and future water needs projected to develop an adequate supply for the long term. Much of the land in the county is not developable since it is managed by the U.S. Forest Service and Georgia Power

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Rabun County is in the Tugaloo River watershed and the two rivers that form the Tugaloo River with adequate flows to support the Authority's projected needs are the Tallulah and Chattooga Rivers. Since the Chattooga River is a wild and scenic river, that leaves the Tullulah River as the primary alternative as the water source for the authority. In the area where the city has reasonable access to the river, it is a series of Georgia Power hydropower dams. The authority was able to negotiate a withdrawal permit from Georgia Power that was approved by EPD and also acquire the treatment plant property from Georgia Power. The authority constructed a 1.0 mgd package surface water treatment plant just below the dam for Tullulah Lake then constructed a water line with booster station and tank to connect to the City of Clayton's existing system. The plant is rated at 1.0 mgd(they use two 1.0 mgd package units) but is expandable to 4.0 mgd. The pumps and pipeline can handle the increased flow and the plant was designed so another set of treatment units can be added to reach the required capacity as the system grows and the need for increased withdrawal becomes a reality. The city also developed a program to reduce water loss and have corrected several large leaks.

The construction is being completed and the system should be in operation by March 1998.
