

A Reserve Water Supply for the Charleston Region

A proposal for a 16 to 28 day reserve water supply for the WVAWC Charleston Water plant to be located at Coonskin Park



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SUMMARY

The purpose of this proposal is to present an option for providing the Charleston region with a reserve water supply to assure that a future contamination event will not cause a crisis such as occurred with the Freedom Industries spill in January. We propose an 800 million gallon Coonskin Lake to provide the West Virginia American water plant with a 16 to 28 day reserve supply. It will also enhance recreational opportunities at Coonskin with a new 65 acre lake by providing boating and fishing.

Located in a small protected watershed, the large lake will require pump storage from the Elk River to fill and maintain its water level. This mode of operation will be similar to the successful Larck Reservoir which has provided most of Putnam County with a safe and high quality water supply for over 20 years. The Coonskin Lake supply will be connected to the water plant by a 3.75 mile transmission main located along Slack Street and Barlow Drive adjacent to the Elk River. Acquisition of the right of way for an abandoned B&O railroad track following this same route and on through Coonskin Park will facilitate construction of the transmission pipe and provide the opportunity to provide a five mile hiking and biking trail from downtown Charleston to and through Coonskin Park.

Although the Putnam County reservoir was constructed for a current dollar value of five million dollars it is projected that, due to the greater length and size of the transmission main along the Elk River, the proposed Coonskin Reserve Water Supply project will cost between 25 and 35 million dollars. If the project is developed as a Public-Private Partnership project it will be eligible for low interest rate financing and possible grant assistance. It is estimated that the average residential water customer would experience a monthly water cost increase of \$1.35 or about the price of one gallon of bottled water.

It is proposed that the project be developed as a multi-agency project with the West Virginia Water Development Authority and the Kanawha Regional Development Authority being the lead agencies. West Virginia American Water Company will lease and operate the water system components and the Kanawha County Parks and Recreation Commission will oversee the recreational uses associated with the project.

PROJECT DESCRIPTION

The proposed project will include a new 65 acre Lake on Coonskin Creek near the current entrance to the park. Upon completion of the new bridge and park entrance across the Elk River near Elk Hills, the Lake will be located near the rear of the park close to the West Virginia National Guard headquarters. A 150 to 160 foot earthen dam will be built to create the lake with an approximate width of 1000 feet and length of 3100 feet. To meet safety standards and state regulations the dam will be equipped with an emergency spillway to safely handle a maximum probable rainfall event.

To assure the water level maintenance at all times and quick recovery in the event of a water draw down by West Virginia America Water Company to meet a spill or deteriorated water quality in the Elk River, a river intake, pump station and 3500 feet of transmission main from the Elk to the Lake will be built.

To carry the maximum water plant demand from the lake to the water plant, a 3.73 mile long, 42 inch pipeline will be constructed through Coonskin Park and along Barlow Drive and Slack Street to the water plant. Along this route there is an abandoned B&O railroad which has not been used for 30 years and is in very poor condition. Acquisition of this right of way will not only facilitate the construction of the water transmission main but will allow for a much needed upgrade of the narrow and dangerous road currently serving the industries and residents located along it. Currently this roadway does not comply with even minimal standards as it is flood prone and single lane in several areas. (See Map page 9)

Recreational Benefits - Construction of Coonskin Lake will require closing a portion of the park during the estimated one year construction period. Most likely this period will come after the relocation of the new Elk River bridge entrance to the park and will not interfere with access to the park. The areas that will require temporary closure during construction will be the shelters and trails on the hillside above Coonskin Creek. The construction of the dam will also require the relocation of a short section of access road to these shelters but an improved access road will be included in the project plan.

The hiking trails up Coonskin Creek eliminated by the new lake will be replaced with several miles of lake front trails. The proposal includes mitigation of the loss of an estimated 65 to 70 acres of forested land through the purchase of approximately 100 acres of wooded lands adjoining the park.

Acquisition of the B&O railroad right of way will further enhance the park by removing a conflicting use and eyesore thus making additional land available for park use. Also this acquisition will provide the opportunity for the development of a five mile hiker-biker connection from downtown Charleston directly to the park. This trail could be carried on through the park along the railroad right of way to a point near Meadowbrook and a bike trail could cross the new park access bridge and follow along the west bank of the Elk back into Charleston creating more than a ten mile loop.

The proposed Coonskin Lake will be over twenty times the size of the existing lake in the park and will be a substantial enhancement to the park. While it will not be suitable for swimming due to its steep banks and depth, it will be a great addition for non-motorized boating and fishing. While the Lake may experience a drop in its pool level in the event of a future water contamination event on the Elk River, such an event would most likely be of a short term.

Training Benefits - The Coonskin Lake with its location near the West Virginia National Guard facilities will offer an excellent opportunity for the Guard to expand its emergency relief programs and skills by providing a safe and protected water supply for meeting drinking water needs during national and state emergencies. The location of a Guard operated water treatment plant at its nearby facility will allow the guard to assure water service to both its facilities and Yeager airport as well as provided safe water for emergency distribution on a broader basis.

In addition the lake may provide a facility for water related Guard training such as training for divers in a clear deep water facility and water rescue training. Training for divers could also be made available for local emergency services agencies.

Access Benefits - The improvement of Slack Street and Barlow Drive as part of the construction of the transmission main to the water plant will not only provide better access for the residents and industries located in this area but will also open a route for better access for emergency vehicles to the Bakers Fork road area and provide an alternate emergency route to the base of airport road and Yeager Airport. Currently there are several very difficult and narrow stretches on these roads.

PROJECT COST ESTIMATES

The following cost estimates are preliminary and offered as a guide for those considering the project's feasibility. A preliminary engineering study and a Geo-tech study should be conducted to provide a more accurate cost estimate the estimates included here are based on experience with similar construction projects.

	Cost in Millions
Dam, Lake and Spillway	7.5. to 9.5
Elk River Intake, Pump Station etc.	1.2 to 1.7
Transmission Main to Water Plan	10.1 to 14.7
Park Improvements	1.0 to 1.5
Land, Rights of Way, Permits & Engineering	1.7 to 2.9
Contingency	3.5 to 4.7

TOTAL

25.0 to 35.0

PROJECT IMPLEMENTATION

A number of state and local government agencies can play important roles in implementing the project along with West Virginia American Water Company. All parties should look at this as an opportunity to provide a much needed service to the 300,000 people of the greater Charleston region who had to suffer through the recent water crisis and now have little confidence in their water supply. The implementation of this project will help to restore the public's confidence not only in their water supply but also in the government bodies and the water company. It is time for our government bodies and the water company to step forward to build facilities to assure such an event can never happen again.

Agency's Roles

Governor's Office – Instruct all appropriate agencies of West Virginia state government to cooperate fully in implementing the project. To initiate and encourage the project, Governor Tomblin should provide a grant from his contingency fund to see that the necessary preliminary engineering and Geo-tech studies are completed immediately.

West Virginia Water Development Authority - The authority is the state's principal agency for financing water projects and has not only the authority to issue low interest bonds but also the authority to implement projects and to then turn them over to other agencies for ownership and operations. To expedite the project, the Authority which is chaired by the Governor should move quickly to take the leadership in making this project a reality.

Department of Environmental Protection - As the regulatory agency for dams the DEP through its Dam Safety division should assist the Water Development Authority in assessing the site for the dam to determine its suitability and to provide advice on the type of structure and emergency spillway required to meet state regulations

Department of Highways - Barlow Drive is on the state highway system and in extremely poor condition. The Department should provide assistance to the project by providing design for the river bank stabilization that will be required and give priority to the construction of the necessary upgrade of this road in conjunction with the construction of the transmission pipeline. Also the department should give consideration to assisting in the funding of the bike and hiking trail and the acquisition of the railroad right of way for the joint use of the project.

Kanawha County Commission - As the local government unit with the largest number of persons affected by the January water crisis and with prior experience in carrying out Public-Private Partnership projects with West Virginia American, the Commission should give the implementation of the project a high priority. Also the Commission is the creator of the Kanawha County Parks and Recreation Commission which manages Coonskin Park and can assist in assuring the Park benefits from the construction of the Lake.

Kanawha Regional Development Authority - The Development Authority has done numerous water development projects in cooperation with West Virginia American and should be the owner of these facilities when completed. In turn the authority will lease the facilities to West Virginia American for its operation and use and, under agreement, provide access to the Parks and Recreation Commission for use of the lake for recreational purposes.

City of Charleston - Charleston is responsible for Slack Street and other city streets where the transmission pipe line will be built to reach the water plant. Slack Street is in need of widening and river bank stabilization and the city should cooperate and participate in these phases of project implementation. Also the city can assist with the development of parking for bikers and hikers using the Charleston to Coonskin bike and hiking trail which would be developed as part of the project.

South Central West Virginia Airport Authority - The transmission main will pass either on or close to the Authority's boundary near the Elk river and the Authority should cooperate in both the land stabilization along its property boundary and with providing right of way for the water transmission main where that would improve the construction conditions.

West Virginia National Guard - Due to its proximity to the Lake the Guard should investigate to see if it has the opportunity to benefit from this facility and the capability to assist in the implementation of the project.

West Virginia American Water Company

While the company is moving forward with plans to install a state of the art monitoring system above its plant on the Elk River the company still needs a reserve supply in the event of a contamination event in the future. The company has utilized public-private partnerships in the past to solve complex and costly service issues and this development model can make provide this reserve supply at the least cost to the residents. The company should endorse this concept and make available its fast knowledge and experience to advance the project.

PERSPECTIVE

The Charleston water crisis has been a very negative experience for the area's residents and businesses and decisive improvements are needed in the water system to reassure the people in the region. Improved state regulations on siting and monitoring storage tanks is a good step but the fact remains that West Virginia American's Charleston water plant does not have an alternate water supply to meet the residents' needs in the event of a future contamination event. While such an event may be remote, the Freedom Industries spill was not anticipated and with miles of highway with numerous tanker trucks and a number of industries in the watershed, it is prudent to develop a reserve water supply in the event of a future spill. The Coonskin Lake proposal offers an excellent opportunity to provide such protection while also enhancing the region's recreational opportunities. The projected costs are far less than the 100 million dollar alternative of a second source on the Kanawha and the Kanawha River will most likely not be meet drinking water supply standards for many years.

The Coonskin reservoir will provide a significantly higher water quality and safer supply this project can be designed built and put into use in a relative short period of time. While as with every project there will be obstacles to overcome but if all the participating agencies make a cooperative effort to overcome such obstacles the Charleston Region

can move quickly to have a reliable safe water supply which will meet the needs far into the future.

