COPY

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
FLUVANNA COUNTY BOARD OF SUPERVISORS
AND THE
LOUISA COUNTY BOARD OF SUPERVISORS
CONCERNING PROVISION OF PUBLIC WATER SERVICE

WHEREAS, both Counties have authorized, by action of the respective County Boards, for selected members of the Boards and staff to work together on the seven tasks outlined in Section 7.0 Next Step in the "Report of Recommended Water Supply Alternatives" dated October 2, 2002 (attached) and to negotiate toward an agreement between the Counties on joint water supply and service from the James River, and

WHEREAS, the Water Supply Work Group has met on a number of occasions beginning in November 2002, and

WHEREAS, both Counties have acknowledged needs for public water services, which the James River can satisfy, and

WHEREAS, the Counties find the best solution to their respective water needs is to provide service from the James River, and

WHEREAS, under this memorandum of understanding between the Fluvanna County Board of Supervisors and the Louisa County Board of Supervisors, hereinafter referred to as the Counties, the following understandings are acknowledged,

NOW THEREFORE BE IT RESOLVED THAT THE PARTIES INTEND AS FOLLOWS:

1. Each County will own and operate the lines and facilities within its boundaries.

2. The Counties each will have 50% of the capacity in the system, unless otherwise agreed and adjusted by contract at a later date.

3. The Counties each will invest in the system at a rate of 50% of the capital costs to build facilities needed to create the total capacity. This percentage corresponds with the percentage of capacity that will be reserved for each County.

4. It is recognized that the Louisa County Zion Cross Roads water tank is needed for pressure and storage and Fluvanna will credit Louisa County with 50% of the capital cost of the water tank.

5. Louisa County will purchase water at a wholesale rate. This wholesale rate will not include the capital cost of the original construction of the system.

6. Louisa County recognizes that the James River will be the primary source for water supply in the Zion Crossroads Area.

7. Both Counties agree that the water intake permitting process will be undertaken and started immediately in order to permit up to 6,000,000 gallons per day for withdrawal from the James River. The Counties will split the cost of this work equally. It is anticipated that the cost of permitting will be approximately $30,000.

8. Both Counties agree to advertise for engineering services to commence design of the water system including detailed cost estimates. The Counties will split the cost of this work equally, except for those lines that serve only one County.

9. The initial phase of the water project is anticipated to be designed, permitted and constructed during the next 48 months. This phase of the project will include the water intake on the James River, a water treatment plant, and piping to deliver the water to the Fork Union Sanitary District, Zion Crossroads and the Fluvanna Correctional Facility.

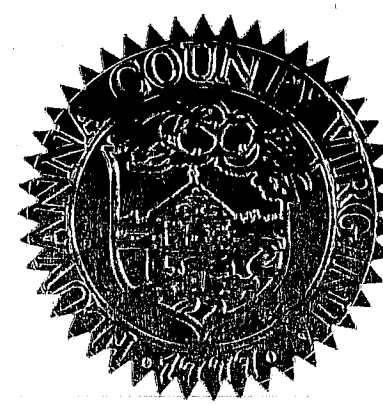
10. It is anticipated that the water plant at the Fluvanna Correctional facility will continue to operate while the water system is being constructed. Louisa's water supply will be used for backup supply of the prison until the water supply from the James River is connected.

11. The joint Water Supply Work Group has drafted a three phase timetable and cost sharing plan for provision of the foregoing service.

12. It is the intent of the parties that the final agreement of the parties for the permanent implementation of the projects outlined hereinabove shall be set out in a formal contract to be negotiated between them. The parties agree to negotiate such agreement in good faith, but it is expressly understood that the parties do not intend to bind themselves with respect to the subject matter of this memorandum of understanding; that there are outstanding unresolved issues; and that there shall be no such final agreement unless and until the governing bodies of the parties shall have both agreed to all the terms and to the form thereof.

Witness the signatures of the respective authorized agents of the parties.

Board of Supervisors of Louisa County	Board of Supervisors of Fluvanna County
By _____ Its Chairman	By _____ Is Chairman
Date: 3/30/04	Date: 3/30/04



Report of Recommended Water Supply Alternative
Water Supply Work Group
October 2, 2002

1.0 Introduction

The Board of Supervisors created the water supply work group at their regular meeting on June 19, 2002 in order to develop a recommendation to provide a more reliable water supply source for the Fork Union Sanitary District (FUSD) and other County needs. The work group was directed to return a recommendation to the Board of Supervisors by October 2, 2002. A copy of the extract and the presentation made at the June 19, 2002 Board of Supervisors' meeting is attached in Appendix A.

The Board of Supervisors selected the work group members at this meeting. The members include: Cecil Cobb, Supervisor of the Fork Union District; Len Gardner, Supervisor of the Rivanna District; Macon Sammons, County Administrator; Pat Groot, Grants Administrator; and John Robins, Director of Public Works.

This group has met seven times in order to review options and make a recommendation for a course of action with which the County can proceed that will provide a more reliable water supply. During the course of investigation of the various options it became clear that one of the better options for water supply would be the James River. While reviewing the costs of the components of a water supply using the James River, it was also very clear that the FUSD could not financially support this without help. Using partners to defray the cost of construction and operations was included in order to make this a financially viable solution.

Many studies have been undertaken presenting possible scenarios to provide water to various parts of Fluvanna County. The data in these studies were used in portions of this report. The data presented in these studies were reviewed and updated or modified to better represent possible future conditions as seen by the Work Group. No new studies were undertaken to complete this report. This new report was developed and assembled solely by the Water Supply Work Group.

This report presents the results of the deliberations, discussions and recommendations of this work group. It briefly touches on some of the background information concerning the difficulties faced by FUSD and other well users in the County; the estimates for needs in the County over the next 25 years; a recommended course of action; the estimated costs associated with this course of action; possible partners to share in the costs for construction and operations; and recommendations on what to do next.

2.0 Background

Within Fluvanna County, there are several public water supply systems. These are supplied by both groundwater and surface water supplies. Some examples include the following:

- The water system at Lake Monticello is supplied using water from the Rivanna River.
- The water system at the Women's Prison is supplied using water from the Mechunk Creek.
- The FUSD system is supplied using water wells and filter plants.
- The systems in Palmyra and Columbia are also using water wells to supply water to their customers.

These systems are undergoing various stresses due to the prolonged and severe drought that the east coast is experiencing at the present.

The degree of stress that each water system is facing is dependent upon primarily the source supply of water. Overall, it appears that the larger the source of water that is supplying the water system the better the system is dealing with the conditions caused by the drought. The small water system in Palmyra and Columbia as well as in FUSD are faced with shortages of supply from their groundwater wells as well as the uncertainty of being able to accurately monitor the level of the water that provides this supply. This makes it difficult to face this severe drought not knowing when the wells may run dry.

The Mechunk Creek, which is a small tributary that runs into the Rivanna River and then eventually into the James River, supplies the women's prison. The women's prison during this drought has been down to only 30 days of stored water on hand. The stored water was their only source of water at that time because the creek did not have any running water in it. They have been able to weather the drought so far not because they use the Mechunk Creek, a relatively small source of water, as a supply source but because they have a 35,000,000-gallon raw water storage pond next to the prison. They have used this pond successfully to store water from the creek during rain events. Even with this storage capability they have been very low on water and are currently reviewing plans to find water from another source.

The Lake Monticello water system is in better shape since the Rivanna River is larger than the Mechunk Creek. However, as can be readily noticed the Rivanna River is also very low and the Lake Monticello water system may also feel the effects of this prolonged drought.

Systems in the area that have dealt better with the drought are those that have a reliable source of water and adequate storage for raw water. One such system is in Louisa County. Adequate storage in the form of a reservoir allows for collection of water when the rivers are running full. The stored water can be used during the dry periods, such as now.

3.0 Estimated Demands for Water

There have been several studies concerning water supply, storage, treatment and distribution over the last 25 years. Information in this section was obtained from projections of demand by Timmons in their report entitled "Water and Wastewater, Preliminary Engineering Report and Facility Master Plan" dated November 6, 1998.

The projections were based on the growth areas in the County and the historic growth rate trends. The projected demands shown in this report seemed high to the Work Group and were decreased to reflect what seems more probably in the foreseeable future. These projected demands for water are shown in the following table. The areas that are represented are voting districts and are the ones that could be served readily by the water system that will be discussed later in this report.

Table No. 1 – Projected Water Demands (in gallons/day)

Area	2005	2010	2015	2025	Comments
Fork Union	200,000	250,000	275,000	300,000	
Palmyra	50,000	250,000	500,000	1,000,000	Route 250 Corridor
Columbia	50,000	100,000	200,000	300,000	Route 250 Corridor
Women's Prison	150,000	150,000	150,000	150,000	No projects known at this time
Louisa County	50,000	250,000	750,000	1,200,000	Zion Cross Roads Area and Route 250 Corridor
TOTALS	**500,000**	**1,000,000**	**1,875,000**	**2,950,000**	

4.0 Recommended Project Scope

The Work Group reviewed and discussed options to develop a more reliable water supply. It was decided that the bottom line for almost any feasible option is to use the James River in conjunction with a storage facility or reservoir. In this way the high flow conditions of the James can be used as a resource and not simply watched as it passes by the County on its way to the Atlantic. The recommendation of the Work Group is as follows:

1. The source of the water will be the James River;
2. The water intake will be the existing (although unused) intake for the Fork Union Sanitary District that is located just downstream of the bridge at Bremo Bluff. (In addition, in the future, excess water during high flow conditions can be obtained

from the East Coast Transport Incorporated (ECTI) intake for storage in a possible future County reservoir);

3. The water can be transported using the ECTI pipeline, along with separate new pipelines built by the County primarily in road right-of-ways;
4. Water treatment would be built in the general vicinity of Routes 15 and 649. The water treatment plant would be developed so that it is modular and capable of being expanded. This reduces the cost of the initial phase while still allowing the expansion of the system as demand requires it to be increased in capacity;
5. Water storage in a reservoir can be made anywhere along the pipeline alignment from the James River to the water treatment plant (in the raw water transport leg of the system). The location of such a reservoir would be based on topography, soil and rock conditions, wetlands, historic and endangered species identification and availability of land. A study of the possible locations will need to be made if this course of action is chosen;

The system is made up of many components including the water intake, storage, treatment, conveyance and distribution lines.

5.0 Estimated Cost of Project

The costs of the system as presented in the recommendation above are estimated as follows:

TABLE 2 – Cost Estimate of Total Project

Component	Approximate Cost	Comments
Upgrade of Exiting Water Intake for FUSD to accommodate up to 3,000,000 gal/day	$1,500,000	
Pipeline on Route 649	$600,000	16 inch pipeline
Reservoir	$3,000,000	
Water Treatment Plant	$9,000,000	Treatment Plant to treat up to 3,000,000 gal/day
Pipeline to connect water treatment plant to FUSD	$500,000	16 inch pipeline
Pipeline to connect water treatment plant to Palmyra and Pleasant Grove	$600,000	16 inch pipeline
Pipeline from Palmyra to Zion Cross Roads	$2,500,000	16 inch pipeline
Pipeline from Zion Cross Roads to Women's Prison on Route 250	$600,000	12 inch pipeline
TOTAL Cost of Project	**$18,300,000**	

These are the overall costs for development of the full scale of this project. The system should be approached in phases to match the demands and to reduce both the capital costs and the operations costs. A phased approach costs estimate is as follows:

TABLE 3 – Cost Estimate of Phased Approach

Component	**Phase One Cost (2003-2005)**	**Phase Two Cost (2005-2010)**	**Phase Three Cost (2010-2020)**
Upgrade of Exiting Water Intake for FUSD	$1,500,000 Upgrade intake to withdraw 3,000,000 gal/day		
Pipeline on Route 649	$600,000		
Reservoir			$3,000,000
Water Treatment Plant	$3,000,000 Build Plant to treat 1,000,000 gal/day	$3,000,000 Expand Plant to treat 2,000,000 gal/day	$3,000,000 Expand Plant to treat 3,000,000 gal/day
Pipeline to connect water treatment plant to FUSD	$500,000		
Pipeline to connect water treatment plant to Palmyra and Pleasant Grove		$600,000	
Pipeline from Palmyra to Zion Cross Roads		$2,500,000	
Pipeline from Zion Cross Roads to Women's Prison on Route 250	$1,000,000 Use Water from Louisa to Supply Prison Needs for Short Term		
TOTAL Cost of Project	**$6,600,000**	**$6,100,000**	**$6,000,000**

Note: These estimates use today's dollars and are not adjusted to reflect changes in cost of living or inflation.

This is just one example of a phased approach to this project. Depending on how the project scope is developed and the actual water demands change in the future this phased approach will likely differ.

Funding for this project will likely be through low interest loans. Of course, any grant money that is available would be actively pursued. At this time it is low likelihood that grants will be available for this project. Therefore, the planning for funding this project is based on full funding with no grant money being included.

In preparation of this report, the Work Group has briefly explored the debt service that would be required using various scenarios of the project scope and partnerships. This was done in order to understand the order of magnitude of debt service that this project could require. The attached letter explains the debt services that were reviewed and what the annual cost would be for six different scenarios. The information on Debt Service is attached in Appendix C.

6.0 Possible Partnering to Share Costs

As can be seen from the estimates of cost for this recommendation, the costs are out of reach of Fluvanna County, alone. It is clear that the James River would provided the most reliable source of water for FUSD, but FUSD can not afford the costs to build or operate a surface water treatment plant with only 435 customers. As such the system was extended beyond FUSD to provide other customers and to spread out the costs to build and operate the water system.

In order to further reduce the burden of the capital and operating costs it is recommended that partners be brought into the project. These partners could share both the capital and operating costs. The share of these costs can be split in a number of different ways. One example is to make available a quantity of water to a partner proportional to the level of investment in the project. Some potential partners that were contacted for exploratory discussions during the work group's investigation and deliberations include Louisa County Board of Supervisors, the Department of Corrections, and the Fluvanna County Schools. There was some interest expressed at least unofficially by all parties. If the Board of Supervisors wishes to pursue this concept, it is important that a directive be made that these possible partners be contacted and a proposal presented to them so that the details of a partnership can be discussed and negotiated.

7.0 Next Step

If the Board of Supervisors desires to pursue the recommendations further it is recommended that the following steps be initiated:

1. Reactivate the FUSD intake on the James River. This could require permit application fees on the order of $5000. Again this could be funded from the Capital Improvements Program budget for Water and Sewer development that was authorized for this fiscal year.
2. Direct the work Group to develop a plan and begin negotiations for potential partnerships with Louisa County Board of Supervisors, the Department of Corrections, and the Fluvanna County School Board.
3. Direct the Work Group to prepare a proposal of the management structure (e.g. County Department of Utilities, Sanitary District, multi-jurisdictional Authority, etc.) for the water system that can be returned to the Board of Supervisors for review;

4. Direct the Work Group to identify and recommend methods and policies that can be used to control growth along the pipeline alignments so that the work will be complete in accordance with the Adopted County Comprehensive Plan.
5. A preliminary engineering report be developed to provide design details of the project and a detailed phased approach to building it. This report should have detailed engineering cost estimates. This report could be used in securing financing and applications for grants, if any are available. The estimated cost for this work is nearly $20,000. It can be funded from the Capital Improvements Program budget for Water and Sewer development that was authorized for this fiscal year.
6. Pursue low interest loans, grants and other financing strategies.
7. Revisit the decision process once these steps have been completed. This should be in the spring of 2003.