Rubin & Hays

ATTORNEYS AT LAW

Kentucky Home Trust Building, 450 South Third Street, Louisville, Kentucky 40202-1410
Telephone (502) 569-7525 Telefax (502) 569-7555 www.rubinhays.com

CHARLES S. MUSSON
W. RANDALL JONES
CHRISTIAN L. JUCKETT

October 30, 2008

Ms. Stephanie Stumbo
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, Kentucky 40602

2008-462

Re: Trimble County Water District No. 1 - USDA, Rural Development Project

Dear Ms. Stumbo:

Enclosed please find the original and ten (10) copies of the Application of the Trimble County Water District No. 1 for a Certificate of Public Convenience and Necessity to construct, finance and increase rates pursuant to KRS 278.023.

Also enclosed are eleven (11) copies of the exhibits required pursuant to 807 KAR 5.069, with the **exception of the Preliminary and Final Engineering Reports, of which two copies are enclosed.**

If you need any additional information or documentation, please let us know.

Sincerely,

Rubin & Hays

By W. Randall Jones

WRJ:jkm
Enclosures
cc: Distribution List

DISTRIBUTION LIST

Account No. 412.0000

Re: Trimble County Water District No. 1 Waterworks Revenue Bonds, Series 2009

Mr. Kenneth Slone
State Director
USDA, Rural Development
771 Corporate Drive, Suite 200
Lexington, Kentucky 40503-5477
Telephone: (859) 224-7336
Fax: (859) 224-7340

Mr. Ernest Scruggs
USDA, Rural Development
90 Howard Drive, Suite 3
Shelbyville, Kentucky 40065
Telephone: (502) 633-3294
Fax: (502) 633-0552

Ms. Darra Smith, Manager
Trimble County Water District No. 1
P.O. Box 63
610 Highway 421 North
Bedford, Kentucky 40006
Telephone: (502) 255-7554
Fax: (502) 255-7559

Mr. Joseph F. Sisler
Sisler - Maggard Engineering, PLLC
P.O. Box 23780
Lexington, Kentucky 40523
Telephone: (859) 271-2978
Fax: (859) 271-5670

Ruth H. Baxter, Esq.
Crawford & Baxter, P.S.C.
523 Highland Avenue
P.O. Box 353
Carrollton, Kentucky 41008
Telephone: (502) 732-6688
Fax: (502) 732-6920

W. Randall Jones, Esq.
Rubin & Hays
Kentucky Home Trust Building
450 South Third Street
Louisville, Kentucky 40202
Telephone: (502) 569-7525
Fax: (502) 569-7555

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF TRIMBLE COUNTY	)	
WATER DISTRICT NO. 1 FOR A	)	
CERTIFICATE OF PUBLIC CONVENIENCE	)	
AND NECESSITY TO CONSTRUCT,	)	**Case No. 2008-_____**
FINANCE AND INCREASE RATES	)	
PURSUANT TO KRS 278.023.	)	

APPLICATION

This Application of the Trimble County Water District No. 1 ("Applicant") respectfully shows:

1. That Applicant is a water district created and existing under and by virtue of Chapter 74 of the Kentucky Revised Statutes.

2. That the post office address of Applicant is:

Trimble County Water District No. 1
c/o Wayne Smith, Chairman
P.O. Box 63
Bedford, Kentucky 40006

3. That Applicant, pursuant to the provisions of KRS 278.023, seeks (i) a Certificate of Public Convenience and Necessity, permitting Applicant to construct a waterworks construction project, consisting of extensions, additions, and improvements (the "Project") to the existing water-works system of Applicant; (ii) an Order approving increased rates; and (iii) approval of the proposed plan of financing said Project.

4. The project consists of the construction and installation of (i) approximately 28 miles of water line on 25 rural roadways; (ii) a 100,000 gallon ground water storage tank; (iii) a new booster pumping station; and (iv) upgrades to an existing booster pumping station.

5. That Applicant proposes to finance the construction of the Project through (i) the issuance of $931,000 of its Waterworks Revenue Bonds, (ii) a 2006 State grant in the amount of $300,000; and (iii) a 2008 State grant in the amount of $950,000.. Applicant has a commitment from USDA, Rural Development ("RD") to purchase said $931,000 of bonds maturing over a 40-

year period, at an interest rate of not exceeding 4.25% per annum, as set out in the RD Letter of Conditions, as amended, filed herewith as an Exhibit.

6. That Applicant does not contemplate having the Project constructed with any deviation from minimum construction standards of this Public Service Commission.

7. That Applicant files herewith the following Exhibits pursuant to 807 KAR 5:069 in support of this Application:

A. Copy of RD Letter of Conditions, as amended.

B. Copy of RD Letter of Concurrence in Bid Award.

C. Certified statement from the Chairman of Applicant, based upon statements of the Engineers for Applicant, concerning the following:

(1) The proposed plans and specifications for the Project have been designed to meet the minimum construction and operating requirements set out in 807 KAR 5:066 Section 4(3) and (4); Section 5(1); Sections 6 and 7; Section 8(1) through (3); Section 9(1) and Section 10;

(2) All other state approvals or permits have already been obtained;

(3) The proposed rates of Applicant shall produce the total revenue requirements set out in the engineering reports; and

(4) Setting out the dates when it is anticipated that construction will begin and end.

D. Copies of Preliminary and Final Engineering Reports.

8. That Applicant has arranged for the publication, prior to or at the same time this Application is filed, of a Notice of Proposed Rate Change pursuant to Section 2 of 807 KAR 5:069, in the Trimble Banner, which is the newspaper of general circulation in Applicant's service area. Said Notice sets out the current rates and the proposed rates of Applicant and a short description of the Project. A copy of said Notice is filed herewith as an Exhibit.

9. That the foregoing constitutes the documents necessary to obtain the approval of the Kentucky Public Service Commission in accordance with Section 278.023 of the Kentucky Revised Statutes and in accordance with the "Filing Requirements" specified in 807 KAR 5:069, Section 1.

WHEREFORE, Applicant, the Trimble County Water District No. 1, asks that the Public Service Commission of the Commonwealth of Kentucky grant to Applicant the following:

a. A Certificate of Public Convenience and Necessity permitting Applicant to construct a waterworks project consisting of extensions, additions, and improvements to the existing waterworks system of Applicant.

b. An Order approving the financing arrangements made by Applicant, viz., the issuance of (i) $931,000 of Trimble County Water District No. 1 Waterworks Revenue Bonds at an interest rate of not exceeding 4.25% per annum, (ii) a 2006 State grant in the amount of $300,000; and (iii) a 2008 State grant in the amount of $950,000.

c. An Order approving the proposed increased rates as set out in Section 24 of Amendment No. 1 to the RD Letter of Conditions filed herewith as an Exhibit.

Trimble County Water District No. 1

By: _____
Chairman
Board of Water Commissioners

_____
W. Randall Jones, Esq.
Rubin & Hays
Counsel for Applicant
Kentucky Home Trust Building
450 South Third Street
Louisville, Kentucky 40202
(502) 569-7534

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF TRIMBLE)

The undersigned, Wayne Smith, being duly sworn, deposes and states that he is the Chairman of the Board of Commissioners of the Trimble County Water District No. 1, Applicant, in the above proceedings; that he has read the foregoing Application and has noted the contents thereof; that the same is true of his own knowledge, except as to matters which are therein stated on information or belief, and as to those matters, he believes same to be true.

IN TESTIMONY WHEREOF, witness the signature of the undersigned on this October 16, 2008.

Wayne Smith, Chairman
Trimble County Water District No. 1

Subscribed and sworn to before me by Wayne Smith, Chairman of the Board of Commissioners of the Trimble County Water District No. 1, on this October 16, 2008.

My Commission expires: July 6, 2011.

Angela Wright
Notary Public

United States Department of Agriculture
Rural Development
Kentucky State Office

March 7, 2005

Gary L. Wentworth, Chairman
Trimble County Water District No. 1
P.O. Box 63
Bedford, Kentucky 40006

Dear Mr. Wentworth:

This letter establishes conditions which must be understood and agreed to by you before further consideration may be given to the application. The loan will be administered on behalf of the Rural Utilities Service (RUS) by the State and Area office staff of USDA Rural Development. Any changes in project cost, source of funds, scope of services or any other significant changes in the project or applicant must be reported to and approved by USDA Rural Development, by written amendment to this letter. Any changes not approved by Rural Development shall be cause for discontinuing processing of the application. It should also be understood that Rural Development is under no obligation to provide additional funds to meet an overrun in construction costs.

This letter is not to be considered as loan approval or as a representation as to the availability of funds. The docket may be completed on the basis of a RUS loan not to exceed $1,232,000 and a Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) of $948,000.

If Rural Development makes the loan, the interest rate will be the lower of the rate in effect at the time of loan approval or the rate in effect at the time of loan closing, unless the applicant otherwise chooses. The loan will be considered approved on the date a signed copy of Form RD 1940-1, "Request for Obligation of Funds," is mailed to you.

Please complete and return the attached Form RD 1942-46, "Letter of Intent to Meet Conditions," if you desire that further consideration be given to your application.

The "Letter of Intent to Meet Conditions" must be executed within three weeks from the date of this letter or it becomes invalid unless a time extension is granted by Rural Development.

If the conditions set forth in this letter are not met within 240 days from the date hereof, Rural Development reserves the right to discontinue the processing of the application.

In signing Form RD 1942-46, "Letter of Intent to Meet Conditions," you are agreeing to complete the following as expeditiously as possible:

1. Number of Users and Their Contribution:

There shall be 1,368 existing water users. The Area Director will review and authenticate the number of users prior to advertising for construction bids. No contribution is required from the Water District.

2. Repayment Period:

The loan will be scheduled for repayment over a period not to exceed 40 years from the date of the bond. Principal payment will not be deferred for a period in excess of two years from the date of the bond. Payments will be in accordance with applicable KRS, which requires interest to be paid semi-annually (January 1st and July 1st) and principal will be due on or before the first of July. Rural Development may require the Water District to adopt a supplemental payment agreement providing for monthly payments of principal and interest so long as the bond is held or insured by RUS. Monthly payments will be approximate amortized installments.

3. Recommended Repayment Method:

Payments on this loan can be made using the Preauthorized Debit (PAD) payment method. This procedure eliminates the need for paper checks and ensures timely receipt of RD loan payments. To initiate PAD payments, Form SF 5510, "Authorization Agreement for Preauthorized Payments," should be signed by the District to authorize the electronic withdrawal of funds from your designated bank account on the exact installment payment due date. The Area Director will furnish the necessary forms and further guidance on the PAD procedure.

4. Funded Depreciation Reserve Account:

The Water District will be required to deposit $570.00 per month into a "Funded Depreciation Reserve Account" until the account reaches $68,400. The deposits are to be resumed any time the account falls below the $68,400.

The required monthly deposits to the Reserve Account and required Reserve Account levels are in addition to the requirements of the Water District's prior bond resolutions.

The monthly deposits to the Reserve Account are required to commence with the first month of the first full fiscal year after the facility becomes operational.

5. Security Requirements:

A pledge of gross water revenue will be provided in the Bond Resolution. Bonds shall rank on a parity with existing bonds, if possible. If this is not possible, the bond will be subordinate and junior to the existing bonds, in which case the Water District will be required to abrogate its right to issue additional bonds ranking on a parity with the existing bonds, so long as any unpaid indebtedness remains on this bond issue.

6. Land Rights and Real Property:

The Water District will be required to furnish satisfactory title, easements, etc., necessary to install, maintain and operate the facility to serve the intended users. The pipelines will be on private rights-of-way where feasible. Easements and options are to be secured prior to advertising for construction bids.

7. Organization:

The Water District will be legally organized under applicable KRS which will permit them to perform this service, borrow and repay money.

8. Business Operations:

The Water District will be required to operate the system under a well-established set of resolutions, rules and regulations. A budget must be established annually and adopted by the Water District after review by Rural Development. At no later than loan pre-closing, the Water District will be required to furnish a prior approved management plan to include, as a minimum, provisions for management, maintenance, meter reading, miscellaneous services, billing, collecting, bookkeeping, making and delivering required reports and audits.

9. Accounts, Records and Audits:

The Water District will be required to maintain adequate records and accounts and submit annual budgets and year-end reports (annual audits) in accordance with subsection 1780.47 of RUS Instruction 1780 and RUS Staff Instruction 1780-4, a copy of which is enclosed.

10. Accomplish Audits for Years in Which Federal Financial Assistance is Received:

The Water District will accomplish audits in accordance with OMB Circular A-133, during the years in which federal funds are received. The Water District will provide copies of the audits to the Area Office and the appropriate Federal cognizant agency as designated by OMB Circular A-133.

11. Insurance and Bonding:

The following insurance and bonding will be required:

A. Adequate Liability and Property Damage Insurance including vehicular coverage, if applicable, must be obtained and maintained by the Water District. The Water District should obtain amounts of coverage as recommended by its attorney, consulting engineer and/or insurance provider.

B. Worker's Compensation - The Water District will carry worker's compensation insurance for employees in accordance with applicable state laws.

C. Fidelity Bond - The Water District will provide Fidelity Bond Coverage for all persons who have access to funds. Coverage may be provided either for all individual positions or persons, or through "blanket" coverage providing protection for all appropriate employees and/or officials. The amount of coverage required for all RUS loans is $111,000.

D. Real Property Insurance - The Water District will obtain and maintain adequate fire and extended coverage on all structures including major items of equipment or machinery located in the structures. The amounts of coverage should be based on recommendations obtained by the Water District from its attorney, consulting engineer and/or insurance provider. Subsurface lift stations do not have to be covered except for the value of electrical and pumping equipment therein.

E. Flood Insurance - The Water District will obtain and maintain adequate coverage on any facilities located in a special flood and mudslide prone areas.

12. Planning and Performing Development:

A. The engineer should not be authorized to commence work on final plans and specifications until a determination has been made that the project can be planned and constructed within the estimated cost shown in paragraph "21" of this letter. The engineer may then proceed to develop final plans and specifications to be completed no later than 210 days from this date, and prepare bid documents. The Area Director is prepared to furnish the necessary guide to follow so as to keep the project plans and documents within our guidelines and requirements. The project should not be advertised for construction bids until all easements and enforceable options have been obtained, and total funds are committed or available for the project.

B. The following documents will be submitted to Rural Development for review and must be concurred in by Rural Development prior to advertisement for construction bids:

1. Final plans, specifications and bid documents.
2. Applicant's letter on efforts to encourage small business and minority-owned business participation.
3. Legal Service Agreements.
4. Engineering Agreements.

Revision in these documents will be subject to Rural Development concurrence. Any agreements, contracts, etc. not reviewed and approved by Rural Development will not be eligible for payment from project funds or revenues from facilities financed by this Agency.

Prior to receipt of an authorization to advertise for construction bids, the Water District will obtain advance clearance from Bond Counsel regarding compliance with KRS 424 pertaining to publishing of the advertisement for construction bids in local newspapers and the period of time the notice is required to be published.

13. Compliance with Section 504 of the Rehabilitation Act of 1973:

The Water District will be required to comply with Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), in order to make sure no handicapped individual, solely by reason of their handicap, is excluded from participation in the use of the water system, be denied the benefits of the water system, or be subjected to discrimination.

14. Closing Instructions:

The Office of General Counsel, our Regional Attorney, will be required to write closing instructions in connection with this loan. Conditions listed therein must be met by the Water District.

15. Compliance with Special Laws and Regulations:

The Water District will be required to conform with any and all state and local laws and regulations affecting this type project.

16. Treatment Plant/System Operator:

The Water District is reminded that the treatment plant and/or system operator must have an Operator's Certificate issued by the State.

17. Prior to Pre-Closing the Loan, the Water District Will Be Required to Adopt:

A. Form RUS Bulletin 1780-27, "Loan Resolution (Public Bodies)."

B. Form RD 400-1, "Equal Opportunity Agreement."

C. Form RD 400-4, "Assurance Agreement."

D. Form AD-1047, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transaction."

E. Form RD 1910-11, "Applicant Certification Federal Collection Policies for Consumer or Commercial Debts."

F. RD Instruction 1940-Q, Exhibit A-1, "Certification for Contracts, Grants and Loans."

The Water District must offer the opportunity for all residents in the service area to become users of the facilities regardless of race, creed, color, religion, sex, national origin, marital status, physical or mental handicap or level of income.

18. Refinancing and Graduation Requirements:

The Water District is reminded that if at any time it shall appear to the Government that the Water District is able to refinance the amount of the RUS indebtedness then outstanding, in whole or in part, by obtaining a loan from commercial sources at reasonable rates and terms, upon the request of the Government, the Water District will apply for and accept such loan in sufficient amount to repay the Government.

19. Commercial Interim Financing:

The Water District will be required to use commercial interim financing for the project during construction for the RUS loan portion of the financing, if available at reasonable rates and terms.

Before the loan is closed, the Water District will be required to provide Rural Development with statements from the contractor, engineer and attorneys that they have been paid to date in accordance with their contract or other agreements and, in the case of the contractor, that he has paid his suppliers and sub-contractors.

20. Disbursement of Project Funds:

A construction account for the purpose of disbursement of project funds (RUS) will be established by the Water District prior to start of construction. The position of officials entrusted with the receipt and disbursement of RUS project funds will be covered by a "Fidelity Bond," with USDA Rural Development as Co-Obligee, in the amount of construction funds on hand at any one time during the construction phase.

During construction, the Water District shall disburse project funds in a manner consistent with subsection 1780.76 (e) of RUS Instruction 1780. Form RD 1924-18, "Partial Payment Estimate," or similar form approved by Rural Development, shall be used for the purpose of documenting periodic construction estimates, and shall be submitted to Rural Development for review and acceptance. Prior to disbursement of funds by the Water District, the Board of Directors shall review and approve each payment estimate. All bills and vouchers must be approved by Rural Development prior to payment by the Water District.

Form RD 440-11, "Estimate of Funds Needed for 30-Day Period Commencing _____," will be prepared by the Water District and submitted to Rural Development in order that a periodic advance of federal cash may be requested.

Monthly audits of the Water District's construction account records shall be made by Rural Development.

21. Cost of Facility:

Breakdown of Costs:

Development		$ 1,690,000
Land and Rights		10,000
Legal and Administrative		30,000
Engineering		261,000
Interest		30,000
Contingencies		159,000
	TOTAL	$ 2,180,000

Financing:

RUS Loan		$ 1,232,000
HUD-CDBG		948,000
	TOTAL	$ 2,180,000

22. Debt Collection Improvement Act (DCIA) of 1996:

The Debt Collection Improvement Act (DCIA) of 1996 requires that all federal payments after January 1, 1999, must be made by Electronic Funds Transfer/Automated Clearing House (EFT/ACH). Borrowers receiving payments by EFT will have funds directly deposited to a specified account at a financial institution with funds being available to the recipient on the date of payment. The borrower should complete Form SF-3881, "Electronic Funds Transfer Payment Enrollment Form," for each account where funds will be electronically received. The completed form(s) must be received by Rural Development at least thirty (30) days prior to the first advance of funds.

23. Use of Remaining Project Funds:

After providing for all authorized costs, any remaining project funds will be considered to be RUS loan and HUD-CDBG grant funds and refunded in proportion to participation in the project.

24. Rates and Charges:

Rates and charges for facilities and services rendered by the Water District must be at least adequate to meet cost of maintaining, repairing and operating the water system and meeting required principal and interest payments and the required deposits to debt service and/or depreciation reserve.

Water rates will be at least:

5/8" x 3/4" Meter - Connection Fee $650:

First	1,000	gallons @ $	15.00 - Minimum Bill.
Next	2,000	gallons @ $	5.50 - per 1,000 gallons.
Next	3,000	gallons @ $	4.90 - per 1,000 gallons.
Next	6,000	gallons @ $	4.30 - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60 - per 1,000 gallons.

3/4" Meter - Connection Fee $775:

First	5,000	gallons @ $	35.80 - Minimum Bill.
Next	1,000	gallons @ $	4.90 - per 1,000 gallons.
Next	6,000	gallons @ $	4.30 - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60 - per 1,000 gallons.

1" Meter - Connection Fee $1,050:

First	10,000	gallons @ $	60.30 - Minimum Bill.
Next	2,000	gallons @ $	4.30 - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60 - per 1,000 gallons.

1 1/2" Meter - Connection Fee $1,250:

First	30,000	gallons @ $	133.70 - Minimum Bill.
All Over	30,000	gallons @ $	3.60 - per 1,000 gallons.

2" Meter - Connection Fee $1,500:

First	50,000	gallons @ $	205.70 - Minimum Bill.
All Over	50,000	gallons @ $	3.60 - per 1,000 gallons.

3" Meter - Connection Fee $2,225:

First	100,000	gallons @ $	385.70 - Minimum Bill.
All Over	100,000	gallons @ $	3.60 - per 1,000 gallons.

4" Meter - Actual Cost:

First	200,000	gallons @ $	745.70 - Minimum Bill.
All Over	200,000	gallons @ $	3.60 - per 1,000 gallons.

6" Meter - Actual Cost:

First	500,000	gallons @ $	1,825.70 - Minimum Bill.
All Over	500,000	gallons @ $	3.60 - per 1,000 gallons.

The wholesale rate charged to West Carroll Water District will be in accordance with the existing Water Purchase Contract and any amendments and adjustments thereto.

25. Commitment of HUD-CDBG Grant Funds:

This Letter of Conditions is issued contingent upon a firm commitment being in effect prior to advertising for construction bids for the HUD-CDBG grant in the amount of $948,000.

26. Floodplain Construction:

The Water District will be required to pass and adopt a Resolution or amend its By-Laws whereby the Water District will deny any water service to any future customer wishing to build on or develop property located within a designated floodplain. If a customer or developer requests service for construction in a designated floodplain, the customer or developer must provide evidence and a justification for approval by the Water District and Rural Development officials that there are no other alternatives to construction or development within the designated floodplain. The community must be a participant in the National Flood Insurance Program (NFIP) and the customer or developer must obtain the required permits prior to the tap on restrictions being waived.

27. Water Withdrawal Permit:

The Water District will be required to obtain satisfactory evidence that a revised water withdrawal permit has been secured from the Division of Water. The permit must be obtained prior to the commencement of construction on the water project.

28. Mitigation Measures:

A. The project shall be in compliance with all requirements noted in the Kentucky Department for Local Government letter dated January 20, 2004, from Mr. Ronald A. Cook, Manager.

B. The design and construction shall be in compliance with the requirements of the U.S. Fish and Wildlife Service as requested by letter dated January 31, 2005, and signed by Virgil Lee Andrews, Jr., Field Supervisor.

C. The line design and construction shall be accomplished in a way that will leave flood plains and farmland without affect after construction is complete. The Army Corps of Engineers Nationwide Permit No. 12 applies to all floodplain and wetland utility line construction.

D. The design and construction shall be in compliance with all local, state and federal environmental statutes, regulations and executive orders applicable to the project.

29 Final Approval Conditions:

Final approval of this assistance will depend on your willingness, with the assistance of all your co-workers, to meet the conditions of this letter in an orderly and systematic manner. Then too, final approval will depend on funds being available.

If you desire to proceed with your application, the Area Director will allot a reasonable portion of time to provide guidance in application processing.

Sincerely,

KENNETH SLONE
State Director

Enclosures

cc: Area Director - Shelbyville, Kentucky
Rural Development Manager - New Castle, Kentucky
KIPDA ADD - Louisville, Kentucky
Ruth H. Baxter - Carrollton, Kentucky
Rubin and Hays - Louisville, Kentucky
Sisler-Maggard Engineering - Lexington, Kentucky
PSC - ATTN: Bob Amato - Frankfort, Kentucky

United States Department of Agriculture
Rural Development
Kentucky State Office

October 1, 2008

Wayne Smith, Chairman
Trimble Co. Water District #1
PO Box 63
Bedford , Kentucky 40006

Re: Letter of Conditions Dated March 7, 2005

Dear Mr. ~~Wentworth~~ Smith:

This letter shall serve as Amendment No. 1 to the Letter of Conditions dated 3/7/05. The purpose of this amendment is to revise project costs, funding sources, and proposed rates.

The Second Paragraph on Page 1 is revised to read as follows:

" This letter is not to be considered as loan approval or as a representation as to the availability of funds. The docket may be completed on the basis of a RUS loan not to exceed $931,000, a 2006 State Grant of $300,000, and a 2008 State Grant (HB608) in the amount of $950,000. "

Paragraph numbered "21" is revised to read as follows:

" 21. Cost of Facility:

Breakdown of Costs:

Development		$ 1,821,822
Land and Rights		10,000
Legal and Administrative		30,000
Engineering		171,200
Interest		20,000
Contingencies		127,978
	TOTAL	$ 2,181,000

771 Corporate Drive • Suite 200 • Lexington, KY 40503
Phone: (859) 224-7336 • Fax: (859) 224-7444 • TDD. (859) 224-7422 • Web. http://www rurdev usda gov/ky

Financing:

RUS Loan		$ 931,000
2006 State Grant		300,000
2008 State Grant (HB 608)		950,000
	TOTAL	$ 2,181,000 "

Paragraph numbered "23" is revised to read as follows:

" 23. Use of Remaining Project Funds:

After providing for all authorized costs, any remaining project funds will be considered to be RUS/State 2006/State 2008 grant funds and refunded in proportion to participation in the project. If the amount of unused project funds exceeds the grants, that part would be RUS loan funds. "

Paragraph numbered "24" is revised to read as follows:

" 24. Rates and Charges:

Rates and charges for facilities and services rendered by the District must be at least adequate to meet cost of maintaining, repairing and operating the water system and meeting required principal and interest payments and the required deposits to debt service and/or depreciation reserve.

Water rates will be at least: ¾" X 5/8" Meters

First	1,000	gallons @ $	17.50. - Minimum Bill.
Next	2,000	gallons @ $	6.57. - per 1,000 gallons.
Next	3,000	gallons @ $	5.14. - per 1,000 gallons.
Next	6,000	gallons @ $	3.75. - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60. - per 1,000 gallons.

¾ Inch Meters

First	5,000	gallons @ $	41.50. - Minimum Bill.
Next	1,000	gallons @ $	5.14. - per 1,000 gallons.
Next	6,000	gallons @ $	3.75. - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60. - per 1,000 gallons.

1 Inch Meters

First	10,000	gallons @ $	62.00. - Minimum Bill.
Next	2,000	gallons @ $	3.75. - per 1,000 gallons.
All Over	12,000	gallons @ $	3.60. - per 1,000 gallons.

1 ½ Inch Meters

First	30,000	gallons @ $	133.50. - Minimum Bill.
All Over	30,000	gallons @ $	3.60. - per 1,000 gallons.

2 Inch Meters

First	50,000	gallons @ $	205.50. - Minimum Bill.
All Over	50,000	gallons @ $	3.60. - per 1,000 gallons.

Rates for meter size over 2 inch will be negotiated and approved by the Kentucky Public Service Commission.

Wholesale Rates

First	50,000	gallons @ $	205.50. - Minimum Bill.
All Over	50,000	gallons @ $	3.60. - per 1,000 gallons.

Bulk Rate/Truck Sales:

$5.00 Per 1,000 Gallons

Paragraph numbered "30" is added to read as follows:

" 30. Compliance with the Bioterrorism Act:

Prior to pre-closing the loan, the Water District will provide a certification they have completed a Vulnerability Assessment (VA) and prepared an emergency response plan (ERP) as required by the Safe Drinking Water Act (SDWA). "

All other provisions of the referenced Letter of Conditions remain in full force and unchanged.

Sincerely,

Kenneth Slone

KENNETH SLONE
State Director

cc: Area Director – Shelbyville, Kentucky
KIPDA ADD - Louisville, Kentucky
Ruth H. Baxter - Carrollton, Kentucky
Rubin & Hays - Louisville, Kentucky
Sisler-Maggard Engineering - Lexington, Kentucky
PSC - ATTN: Dennis Jones - Frankfort, Kentucky

United States Department of Agriculture
Rural Development
Kentucky State Office

October 28, 2008

SUBJECT: Trimble County Water District No. 1
Phase II Water Improvements
Contract Award Concurrence

TO: Area Director
Shelbyville, Kentucky

Based on the bids received and the recommendation of the consulting engineer, Rural Development concurs in the award of subject contract to the low bidder on Contract 1, D3 Underground, Inc., in the amount of $1,403,821.80, and the low bidder on Contract 2, Winelco Inc., in the amount of $388,000.00.

If you have any questions, please contact Julie Anderson, State Engineer, at (859) 224-7348.

for KENNETH SLONE
State Director
Rural Development

cc: Sisler-Maggard Engineering
Lexington, Kentucky

Rubin and Hays
Louisville, Kentucky

CERTIFICATE OF CHAIRMAN OF TRIMBLE COUNTY WATER DISTRICT NO. 1 AS TO STATEMENT REQUIRED BY SECTION 1(5) OF 807 KAR 5:069

I, the undersigned, hereby certify that I am the duly qualified and acting Chairman of the Trimble County Water District No. 1, and that said District is in the process of arranging to finance the construction of extensions, additions and improvements to the existing waterworks system of the District (the "Project"), in cooperation with SME Engineers, Inc., Lexington, Kentucky, the Engineers for the District (the "Engineers").

Based on information furnished to me by said Engineers for the District, I hereby certify as follows:

1. That the proposed plans and specifications for the Project have been designed to meet the minimum construction and operating requirements set out in 807 KAR 5:066 Section 4(3) and (4); Section 5(1); Sections 6 and 7; Section 8(1) through (3); Section 9(1) and Section 10.

2. That all other state approvals and/or permits have already been obtained.

3. That the proposed rates of the District shall produce the total revenue requirements set out in the engineering reports.

4. That it is now contemplated that construction of the Project will begin on or about November 13, 2008, and will end on or about June 10, 2009.

IN TESTIMONY WHEREOF, witness my signature this October 16, 2008.

Wayne Smith
Chairman
Trimble County Water District No. 1

STATE OF KENTUCKY)
) SS
COUNTY OF TRIMBLE)

Subscribed and sworn to before me by Wayne Smith, Chairman of the Board of Commissioners of the Trimble County Water District No. 1, on this October 16, 2008.

Angela Wright
Notary Public
In and For Said State and County

(Seal of Notary)

NOTICE OF PROPOSED RATE CHANGE

In accordance with the requirements of the Public Service Commission of the Commonwealth of Kentucky as set out in 807 KAR 5:069, Section 2, notice is hereby given to the customers of the Trimble County Water District No. 1, of a change to the District's rate schedule as set forth herein. The proposed rate change is required by USDA, Rural Development ("RD"), in connection with a loan by RD to the District to be evidenced by the issuance by the District of its Waterworks Revenue Bonds, which RD has agreed to purchase provided the District meets certain conditions of RD, including changing the water rates as set forth below:

Current Monthly Water Rates

First 1,000 gallons	$13.97 minimum bill
Next 2,000 gallons	4.69 per 1,000 gallons
Next 3,000 gallons	4.08 per 1,000 gallons
Next 6,000 gallons	3.47 per 1,000 gallons
All over 12,000 gallons	2.86 per 1,000 gallons

Current Wholesale Rates

$1.74 per 1,000 gallons

Current Bulk Rate/Truck Sales

$5.00 per 1,000 gallons

Proposed Monthly Water Rates

5/8" x 3/4" Meter:

First 1,000 gallons	$17.50 minimum bill
Next 2,000 gallons	6.57 per 1,000 gallons
Next 3,000 gallons	5.14 per 1,000 gallons
Next 6,000 gallons	3.75 per 1,000 gallons
All over 12,000 gallons	3.60 per 1,000 gallons

3/4" Meter:

First 5,000 gallons	$41.50 minimum bill
Next 1,000 gallons	5.14 per 1,000 gallons
Next 6,000 gallons	3.75 per 1,000 gallons
All over 12,000 gallons	3.60 per 1,000 gallons

1" Meter:

First 10,000 gallons	$62.00 minimum bill
Next 2,000 gallons	3.75 per 1,000 gallons
All over 12,000 gallons	3.60 per 1,000 gallons

1-1/2" Meter:

First 30,000 gallons	$133.50 minimum bill
All over 30,000 gallons	3.60 per 1,000 gallons

2" Meter:

First 50,000 gallons	$205.50 minimum bill
All over 50,000 gallons	3.60 per 1,000 gallons

Rates for meter sizes over 2 inch will be negotiated and approved by the Kentucky Public Service Commission

Proposed Wholesale Rates

First 50,000 gallons	$205.50 minimum bill
All over 50,000 gallons	3.60 per 1,000 gallons

Proposed Bulk Rate/Truck Sales

$5.00 per 1,000 gallons

The RD loan proceeds will be used in conjunction with various other monies to finance the cost of extensions, additions and improvements to the waterworks system of the District, consisting of the construction and installation of (i) approximately 28 miles of water line on 25 rural roadways; (ii) a 100,000 gallon ground water storage tank; (iii) a new booster pumping station; and (iv) upgrades to an existing booster pumping station. Signed: Wayne Smith, Chairman, Trimble County Water District No. 1.

FINAL ENGINEERING REPORT

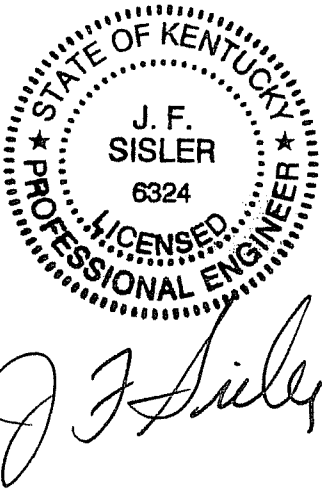
FOR

PHASE II

WATER DISTRIBUTION SYSTEM EXTENSIONS AND IMPROVEMENTS

TRIMBLE COUNTY WATER DISTRICT #1

TRIMBLE COUNTY, KENTUCKY



JULY, 2008
SME: # 02109

SISLER-MAGGARD ENGINEERING, PLLC
220 EAST REYNOLDS ROAD, SUITE A3
LEXINGTON, KY 40517
(859) 271-2978
Fax (859) 271-5670
Email: smeng@alltel.net

TRIMBLE COUNTY WATER DISTRICT #1 MEMBERS

Gary Wentworth	**Commissioner**
Wayne Smith	**Commissioner**
Doug Stark	**Commissioner**
Darra Smith	**Manager**
Jamie Tilley	**Operator**

Final Engineering Report
Trimble County Water District #1

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Trimble County Water District #1

Executive Summary

FINDINGS

The Trimble County Water District No. 1 was created by Order of the County Judge Executive of Trimble County, Kentucky, and adopted by commissioners of the Trimble County Water District No. 1 (TCWD 1), under by-laws dated March 12, 1956. The waterworks system of the District is owned and operated by the District under Chapters 74 and 106 of the Kentucky Revised Statutes.

The District's service area is generally the entire County of Trimble, bounded on the west by the Ohio River, on the east by Carroll County and the West Carroll Water District, on the south by Henry County Water District No. 2 and on the north by the Town of Milton, Kentucky. The District boundary is shown in Appendix B.

TCWD 1 serves primarily residential customers with one bulk sale customer, the West Carroll Water District. The historic growth in residential customers is shown in the following table:

Residential Customers of Trimble County Water District No. 1					
Year:	1984	1999	2000	2001	2002
No. of Customers:	722	1273	1300	1312	1345
Annual Increase:	4.4%	5.1%	2.1%	0.9%	2.5%

TCWD 1 sells approximately 1.5 million gallons of water per month to West Carrol Water District. The average system flow based on a 12 month average for 2002 is 350,000 gallons per day.

The Phase II project will eliminate existing asbestos cement water lines, galvanized water lines, provide additional water storage capacity and rehabilitate the existing water treatment plant. This project will also include a much needed new TCWD 1 office and equipment storage building.

Based upon the information available at this time, it appears that no rate increase will be required within the near future. However, the District should continue its annual audits to assure that the District will experience no unexpected shortfalls.

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Trimble County Water District #1 take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the extensions and improvements outlined in this report.

2. Begin the process of collecting all tap fees to complete the project funding, if necessary.

3. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.

4. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.

5. Upon favorable review and funding commitments of RD, advertise for bids.

6. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

Section 1

General

Phase II
Final Engineering Report
Trimble County Water District #1

Section 1 - General

Purpose

The purpose of this Phase II project is to develop a plan that will evaluate the potential and feasible methods by which potable water supplies can be extended into the outlying areas of Trimble County and rehabilitate existing distribution mains that are deteriorating and add additional water storage to the system. Most of the areas of consideration in this Phase II report were not considered during the original studies, but are now possible after the completion of the recent projects. This project will also add a much needed office and equipment/material storage building.

Scope

The Trimble County Water District No. 1 water distribution system consists of approximately 103 miles of water lines ranging from 1" to 12", 1 master meter, 3 booster stations, and 5 pressure reducing valves. There are 340,000 gallons of usable water storage in the existing system.

Based on the current system mapping, the following pipe-size and lengths are estimated:

1" pipe – 4.2 miles
2" pipe – 9.8 miles
3" pipe – 46.7 miles
4" pipe – 19.4 miles
6" pipe – 21.6 miles
8" pipe – 0.3 miles
12" pipe – 0.7 miles
Total – 102.7 miles

There is only one system master meter, the West Carroll Water District Master Meter, located at State Highway 1226 and Trout Ridge Road in the most northeastern part of the District where shown in Appendix B. This meter is supplied water from the King's Ridge standpipe.

The scope of the Phase II project is to develop a safe and adequate supply of potable drinking water to those other feasible areas of Trimble County that are currently served by individual water supplies and eliminate existing problem areas within the existing distribution areas.

A more detailed description of the Phase II proposed service areas are given in the following sections: "Area to be Served" and "General Project Description".

Section 2

Planning Areas

Phase II

Final Engineering Report

Trimble County Water District #1

Section 2 – Planning Areas

General Information

Location and Background Information

Trimble County is a small rural agricultural county located about 45 miles north of Louisville along the Ohio River. The county comprises 148 square miles (93,500 acres) and ranks 117th in size among Kentucky counties. The county seat is Bedford, with a population of 796. Milton, located along the Ohio River across from Madison, Indiana, has a population of 604. Trimble County is located as shown in Exhibit 1 along with major roads, streams and cities. Trimble County Water District Number 1 (TCWD 1) is also shown in Exhibit 1 along with major roads, streams and cities. Trimble County is served by U.S. Highways 42 and 421 and Kentucky Route 36. The closest railroad service to the county is in Campbellsburg, 7 miles from Bedford to the southeast, in Henry County. The nearest commercial airport is Louisville International, which is 43 miles from Bedford to the south-southwest. The topography of Trimble County is provided in Exhibit 2 and is best described as hilly terrain.

General Characteristics of the Planning Area

Since 1990, the population of Trimble County has increased by 2000 to a level of 8,125. About 1.4 percent of the population is minority. Twenty-nine percent of the population is in the 0 – 19 year old range, 60 percent is 19 – 64 years of age and 11% is 65 and older. Fifty-one percent of the population is female.

There are approximately 3,137 households with an average of 2.59 persons per household. The majority of rental property is privately owned, however public subsidized government housing is available. The demand for private rental property exceeds the supply.

The Trimble County per capita income was $16,355 in 2000 and the 2000 median family income was $36,192. The 2000 labor force was documented at 3,959 with an unemployment rate of 3.3 percent.

Trimble County has little major industry. The largest manufacturing firms in the county with number of employees are:

- A-square Company, Inc., Bedford, 15 employees,

- Bedford Machine, Inc., Bedford, 5 employees
- Trimble Banner, Bedford, 2 employees, and
- Kentuckiana Vault & Art Shop, Milton, 1 employee

Most of the labor force is employed within a 30-minute drive of the county. The largest area employers are Louisville Gas and Electric, Trimble County School System, and Nugent Sand Company. Trimble County has no developed industrial park and is just starting to implement county planning and zoning. There is no organized Chamber of Commerce.

The average size of Trimble County's 603 farms is 118 acres. Total farm acreage is 71,324 acres, of which 15,507 (22%) is harvested cropland. The number of full-time farmers is about 240.

Environmental Resources

1. Soils Information
   The U.S. Department of Agriculture Natural Resource Conservation Service would be contacted to provide information regarding the potential impact of any project on prime farmland in the area.

2. Historical and Archeological Information
   The Kentucky State Historical Preservation Office would be contacted to provide information regarding the potential impact of any project to historical and archeological sites in the area.

3. Endangered Species and Wetland Information
   The Kentucky Natural Resources and Environmental Protection Cabinet would be contacted to determine potential impacts to wetlands or endangered species from this construction project.

4. Flood Elevations
   The Kentucky Division of Water Branch would be contacted concerning the 25 and 100-year flood elevations for any project.

5. Recreation and Open Space
   Acquisition of easements for construction of a project may be necessary. These temporary easements will be approximately 20 feet wide and will not provide any opportunity for the development of open spaces and recreational activities.

6. Unavoidable Adverse Impacts
   Noise and air pollution may result from any proposed construction activities. Noise pollution can be mitigated, but not eliminated, by requiring the contractor to adequately maintain noise suppressing devices on the construction equipment. Requiring the contractor to comply with the Clean Air Act can similarly mitigate air pollution. Erosion and stream sedimentation can also result from proposed construction activities. Requiring the contractor to install and maintain erosion control devices during construction are required as part of best management practices can mitigate these issues. These can include as a minimum, silt fences, prompt seeding and mulching, and prompt clean-up and site stabilization.

Growth Areas and Population Trends

As stated in Section 1.2, the 2000 population of Trimble County was 8,125. This is a 33% increase above the 1990 population of 6,090 for an average annual increase of 3%. Population projections for the county published in 2003 from the Kentucky State Data Center are provided below.

2005 Population Projections for Trimble County, Kentucky			
Year:	2005	2010	2020
Population:	9,167	10,284	12,906

Proposed Service Areas. See detailed road by road breakdown in Appendix A.

US 421

Beginning at a point near the Trimble County High School and continuing north on US 421 for approximately 5 miles with a 12" line.

Cutshaw Lane

Connecting to an existing 4" line with a new 6" line on Cutshaw Lane and continuing until it intersects with an existing 4" line on SR 42.

Gatewood Lane

Connecting to an existing 6" line on US 421 and continuing east with a 6" line on Gatewood Lane until its end for approximately 1.06 miles.

Lehue Lane

Connecting to an existing 6" line on US 421 and continuing east on Lehue Lane with a 6" line for approximately 0.85 miles.

US 421 South to Stark Lane

Connecting with an existing 6" line on US 421 and continuing east on US 421 to near its intersection with Stark Lane with 0.66 miles of waterline.

Stone Street

Connecting with an existing 6" line and continuing on Stone Street to its end with a 6" water line for approximately 0.13 miles.

Hughes Drive

Connecting with an existing 6" line and continuing on Hughes Drive to its end for approximately 0.27 miles with a 6" water line.

Meadow Lane

Connecting with an existing 6" line and continuing on Meadow Lane with a 6" waterline to near its end for approximately 0.14 miles.

Stark Hill

Connecting with a 6" line and continuing on Stark Hill Road with a 6" water line to near its end for approximately 0.51 miles.

Bell South Alley

Connecting with a 6" line and continuing Bell South Alley with a 6" water line to near its end for approximately 0.38 miles.

SR 42

Connecting to an existing 8" line on Cutshaw Lane near its intersection with SR 42 and continuing east with an 8" waterline until its intersection with Stark Lane with approximately 1.65 miles.

Fairground Road

Connecting to an existing 6" line on US 421 and continuing on Fairground Road with a 6" line until near its end with 1.38 miles.

Watson Lane

Connecting to an existing 6" line on US 421 and continuing on Watson Lane to near its end with a 4" water line with 0.61 miles.

Wises Landing

Connecting to Wells #3 and #4 and continuing north on county road with a 8" line until near its end with approximately 1.17 miles.

SR 625

Connecting to an existing 12" water line and continuing east on SR 625 with a 12" line until connecting with an existing 12" on US 421with approximately 0.26 miles.

Section 3

EXISTING FACILITIES

Phase II
Final Engineering Report
Trimble County Water District #1

Section – 3 Existing Facilities

Description (with System Map)

Appendix B shows the location and details of the TCWD 1 water system. Information and details provided in this section of the Plan include the source of supply, water treatment system, booster stations, storage, and distribution system.

Source of Supply

The source of raw water supply for TCWD 1 is groundwater wells located in the Ohio River alluvium on the western edge of the service area as shown in Appendix B. There are 4 wells used for raw water production. The 2 older wells (1 & 2) are considered a secondary system and the two newer wells (3 & 4) are considered the primary system. At one time, there were two 4" water supply wells that were originally rated at 250 gallons per minute (gpm) that were drilled in 1957. These were both abandoned in 1998 because they began to produce sand when pumped. There was no significant impact to the system from this abandonment because by 1998 there were 4 additional wells available. The Kentucky Division of Water has designated the source of water for TCWD 1 as groundwater not under the influence of surface water.

Secondary Raw Water Supply (Wells 1 & 2)

Well #1 was drilled in 1974 and is 85 feet deep. It has a 10-inch diameter casing and is rated at 250 gpm. It is located in what is called the old well field and is currently on standby. Standby here means that this well pump is available to be turned on either manually or via a telephone telemetry pressure switch from the TCWD 1 Office as needed. Annual usage of this well only occurs during the higher consumption summer months. Maintenance on this well involves pumping it once a month for approximately 20,000 gallons (into the system) and having a well service contractor conduct a well pump test twice a year.

Well #2 was drilled in 1974 and is 87 feet deep. It has a 10-inch diameter casing and is rated at 250 gpm. It is also located in the old well field and is currently on standby. Standby here means that this well pump is available to be manually turned on at the well head for use as needed.

Maintenance on this well involves having a contractor conduct a pump test on it twice per year.

Additional maintenance on both wells 1 and 2 includes changing the pump oil twice per year and checking the pump head packing. The location of wells 1 and 2 in the TCWD 1 system is shown in Exhibit 3. Wells 1 and 2 pump to the Bray's Booster Station.

Details of the pump equipment in wells 1 and 2 are provided in the following table.

	Well #1	**Well #2**
Pump Type:	Peabody Floway Model No. 8JKL	Peabody Floway Model No. 8JKM
Motor Specifications:	40 hp US motor; 460 volt; 3 phase; 60 cycle, 1760 rpm	40 hp US motor; 460 volt; 3 phase; 60 cycle, 1800 rpm
Size:	250 GPM	250 GPM
Pump Bowls:	6 inch – 19 stage	6 inch – 16 stage
Electrical Control:	Allen Bradley, 3 phase, 5 pole, 135 amp max., size 4 starter	Furnace, 3 phase, 115 max amp, size 3.5 starter

Primary Raw Water Supply (Wells 3 & 4)

Well #3 was drilled in late 1991 and is 128 feet deep. It has a 16-inch diameter casing and is rated at 300 gpm. It is located in what is called the Wise's Landing well field and is currently a main supplier in the system.

Well #4 was drilled in early 1992 and is 125 feet deep. It also has a 16-inch casing and is rated at 300 gpm. It is also located in the Wise's Landing well field and is currently a main supplier in the system.

The location of wells 3 and 4 in the TCWD 1 system is shown in Appendix B. Wells 3 and 4 pump to the LG & E 40,000 gallon standpipe.

Details of the pump equipment in wells 3 and 4 are provided in the following table.

	Well #3	**Well #4**
Pump Type:	Worthington Model No. 10L30	Simmons Model No. SP9L
Motor Specifications:	50 hp US motor; 440 volt; 3 phase; 60 cycle, 1760 rpm	50 hp; 440 volt; 3 phase; 60 cycle, 1760 rpm
Size:	300 GPM	300 GPM
Pump Bowls:	6 inch – 9 stage	6 inch – 9 stage
Electrical Control:	Allen Bradley, 3 phase, 5 pole, 90 amp max., size 3 starter	Allen Bradley, 3 phase, 5 pole, 90 amp max., size 3 starter
Notes:	New control box and new motor installed 1998	New control box installed in 1996. Motor is original.

Water treatment for wells 3 & 4 occurs on the transmission line at Wise's Landing soon after water from wells 3 & 4 are manifolded together. Part of the treatment system consists of a high head Baldor pump (5 hp, 3 phase, 60 Hz) that circulates raw water from the system through the

chlorinator treatment system then injects it back into the transmission system. There is also a fluoride injection system at this treatment unit location. Specific details of the TCWD 1 treatment systems are provided in a later subsection of this plan. Also, flow from wells 3 and 4 at the treatment unit is monitored by Signet electronic flowmeter model #3-5500.

The operation of wells 3 and 4 is controlled by Microcomm radio telemetry system with the following settings: lead pump on when the LG&E Standpipe head is 18.5 feet, lead pump off when the LG&E Standpipe head is 25.5 feet. The lag pump comes on when the LG&E Standpipe head is 17.5 feet and the lag pump turns off then the LG&E Standpipe head is 25.0 feet. The details of the controlling LG&E Standpipe heads are also provided in the following table.

LG&E Standpipe Water Level in Feet	**On**	**Off**
Lead Pump	18.5'	25.5'
Lag Pump	17.5'	25.0'
Note: LG&E Tank Water Level of 25.5 feet corresponds to 740 feet MSL.		

Water Treatment Systems

There are two independent water treatment systems because of the two stand-alone raw water supplies. Treatment of the groundwater source of raw water consists of chlorine disinfection and fluoride addition. This section details the water treatment systems for the primary well system at Wise's Landing for wells 3 & 4, and the secondary well system treatment at Bray's Booster Station for wells 1 & 2.

Wise's Landing Treatment System (Wells 3 & 4)

Treatment of the groundwater source of raw water consists of chlorine disinfection and fluoride addition. The chlorine system is 2 - 150-pound chlorine gas cylinders, feeding at 4 ppm, with an auto switchover between cylinders, on a dedicated dual read scale. Injection is set for 350 gpm water flow average into the system from wells 3 & 4 that is determined from flowmeter data and monthly averages. Consumption is approximately 3 to 4 pounds per day. The system is inspected daily and is in good original condition from 1992. The chlorine injection unit received a factory overhaul in the Spring of 1999 and a spare Regal unit was used on a temporary basis.

The Fluoride system consists of a metering pump that is a 110 volt, auto start, manual adjust unit. This unit is connected to and feeds from a drum of Fluorosilicic Acid that sits on a mechanical scale. The injection pump is set on a low rate of about 1.2 to 1.3 ppm Fluoride into the system. Consumption is about 1 drum per month. The Fluoride system is inspected on a daily basis and is in good original condition from 1992.

Details of the chlorine and fluoride treatment system are provided in the following table.

Wise's Landing Treatment System Components (for wells 3 & 4)	
Master Control:	Wallace & Tiernan, Model V100A w/Rotameter & Injection Unit
Automatic Switchover Unit:	Wallace & Tiernan, Model 200C
Two-Cylinder Scale:	Wallace & Tiernan, Model 50-345
Chlorine Pump:	Webtrol, Model H20B 12-3, 5 HP, 3450 rpm
Chlorine Detector:	Wallace & Tiernan, Model 50-135
Fluoride Feeder:	LMI, Model A341-150FS

There is no contact tank at the Wise's Landing Treatment System to ensure the required 30 minutes of chlorine contact time for disinfection. Disinfection takes place in the 6" PVC transmission main and the 40,000 gallon LG&E standpipe where shown on Exhibit 3. The Wise's Landing distribution system consists of approximately 6,900 feet of 3" PVC pipe connected to the 6" transmission main from the Wise's Landing Treatment System with a pressure regulating valve (PRV).

From field measurements provided by the District, the distance from the Wise's Landing Treatment System to the distribution system PRV is 3,200 feet. The next distance from the PRV to the first customer is 2,300 feet. As noted above, the design capacity of the pumps in Wells 3 and 4 is 300 gpm. The velocity of this pumping rate in 6" pipe is 204.2 feet per minute and it would take 15.7 minutes for the newly treated water to reach the PRV valve of the distribution system. This approximate 16 minute travel time from treatment to the distribution system is insufficient to meet the 30 minute contact time for disinfection.

Bray's Booster Station Treatment System (Wells 1 & 2)

Treatment of the groundwater source of raw water from wells 1 & 2 also consists of chlorine disinfection and fluoride addition. The chlorine system is a single 150 pound chlorine gas cylinder, feeding at 4 ppm, on a dedicated dual read scale. Injection is set for a 250 gpm pump rate into the booster station clearwell. The system is inspected daily and is in new condition from 1999.

The Fluoride system consists of a metering pump that is 110 volt, auto start, manual adjust unit. This unit is connected to and feeds from a drum of Fluorosilicic Acid that sits on a mechanical scale. The injection pump is set on a low rate of about 1.2 to 1.3 ppm Fluoride into the system. The Fluoride system is inspected on a daily basis and is in new condition from 1999. Details of the Bray's Booster Station chlorine and fluoride treatment system are provided in the following table.

Bray's Booster Station Treatment System Components (for wells 1 & 2)	
Master Control:	Wallace & Tiernan, Model V100A w/Rotameter & Injection Unit
Automatic Switchover Unit:	Wallace & Tiernan, Model 200C
Two-Cylinder Scale:	Wallace & Tiernan, Model 50-345
Chlorine Pump:	Webtrol, Model H20B 12-3, 5 HP, 3450 rpm
Chlorine Detector:	Wallace & Tiernan, Model 50-135
Fluoride Feeder:	LMI, Model A341-150FS

Booster Stations

There are three booster stations in the TCWD 1 water system. The LG&E booster station is located in the western end of the district and fed from the LG&E standpipe which is fed from Wise's Landing wells 3 & 4. The Bray's booster station is located in the southwest part of the district on Bray road and fed from a 14,000 gallon clearwell which is fed from the distribution system primarily of water to the West Carroll Water District master meter. The locations of the three booster stations are shown on Appendix B. Details of each booster station are contained in this section.

LG&E Booster Station

The LG&E booster station is fed from the LG&E 40,000 gallon standpipe that is fed from wells 3 and 4. Details and notes on the booster station pumps are provided in the following table.

The LG&E booster station is operated from a telemetry system signal from the 300,000 gallon water tank, called the New Town Tank in Bedford. Pump tests conducted in the Fall of 2000 on the LG&E booster station pumps indicates that pump 1 is capable of 196 GPM at 380' TDH for a relative performance rating of 78% (196gpm/250gpm) of design capacity. Pump 2 performs at 187 GPM at 380' TDH for a relative performance rating of 75% (187gpm/ 250gpm) of design capacity. Shut off TDH for each pump was approximately at original design levels.

Details of the expected booster station operation settings are provided in the following table.

LG&E Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Peabody Floway Model No. 6JKH	Peabody Floway Model No. 6JKH
Motor Specifications:	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM
Size:	250 GPM @ 380' TDH	250 GPM @ 380' TDH
Pump Bowls:	6" – 6 stage	6" – 6 stage
Electrical Control:	Engineering Fluid Inc. (EFI)	Engineering Fluid Inc. (EFI)
Notes:	New motor installed 1995. Pump bowls are original 1992.	Motor is original. Pump bowls are original 1992.
	No service or maintenance has been performed on the pump bowls. The pumps have history of hard use; running dry; and rapid on/off operation. Electronic Flowmeter is inoperative since 1999. TCWD system usually requires running both the LG&E booster station pumps to keep up with consumption.	
New Town Tank Water Level	**On**	**Off**
LG&E Booster Lead Pump	19.5'	29.5'
LG&E Booster Lag Pump	19'	29.0'
Note: New Town Tank Water Level of 30 feet corresponds to 1050 feet MSL.		

Bray's Booster Station

Bray's booster station is fed from wells 1 and 2. The original booster station was constructed in 1956. This booster station received a major overhaul in 1999 with new electric service, new controls, new chlorine and fluoride rooms and systems, new painting, new electric motor #1 (electric motor #2 was new in 1996), new chlorine detector, and a new mercury flow switch. Original pump design details are not available for the Bray's booster station pumps and no work was performed on the pumps in the 1999 overhaul. Pump specifications obtained from a pump supplier are questionable as to the actual pumps that are in the Bray's booster station.

Details and notes on the booster station pumps are provided below.

Bray's Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Peabody Floway Model No. L6 (possible M6)	Peabody Floway Model No. M6
Motor Specifications:	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM
Size:	180 GPM @ 400' TDH	250 GPM @ 420' TDH
Pump Bowls:	6" – 6 stage	6" – 7 stage
Electrical Control:	Furnace	Furnace
Notes:	No service or maintenance has been performed on the pumps. Pumps are 1974 installed equipment.	

The operation of the Bray's booster station is as follows: System pressure at the District office is monitored by a pressure switch. At a kick-on system pressure of 40 psi at the District office, this switch starts the pump at Well #1 via a telephone system, to pump to the Bray's Booster Station 14,000 gallon clearwell. A high level float switch starts a booster pump to pump to the 300,000 gallon New Town Tank. At a full level or 60 psi system pressure, the District office pressure switch turns off well #1 via the telephone system. Bray's booster pumps the level in the clearwell to a low level switch before turning off. The chemical feeds to the station clearwell turn on when the booster pump turns on and turns off when the booster pump turns off. The Bray's booster pumps alternate in service and do not pump together.

Pump tests conducted by others on the Bray's booster pumps in the fall of 2000 indicate that pump 2 is capable of 131 GPM at 420' TDH for a performance rating of 52% (131gpm/250gpm) of design capacity. A performance rating for pump 1 is uncertain because the results of the pump test provide a pump curve that is very similar to the pump curve from pump 2. For comparison, pump 1 performs at 172 gpm at 400' TDH for a performance rating of 96% of design capacity if the pump design is 180 gpm @ 380' TDH. Or, the pump 1 performance rating is 48% if pump 1 is the same model as pump 2 and the pump design is 250 gpm @ 420' TDH. Based on the description of the lack of pump maintenance and the age of the pumps, it is more likely that pump 1 is operating at 48% of design capacity that is close to the performance rating of 52% for pump 2. As will be noted later in this document, additional work is recommended on the Bray booster station pumps.

Observations by others made during the Bray's booster station visit included the following:

1. The station booster pump started at a clearwell level of 97 inches and shut off at a clearwell level of 70 inches for a useable volume of ~ 27 inches of clearwell height.

2. Clearwell dimensions from Jamie Tilley of the Water District are about 12'4" X 14' for a volume of 1,291 gallons per foot depth. Total depth is approximately 10.5 feet for a total volume of 13,562 gallons.

New Hope Booster Station

The New Hope booster station is located at the intersection of Highway 421 and Hope Ridge Road on the northern most part of the water district. This booster station mostly operates to supply the West Carroll Water District Master Meter.

The New Hope booster station is an EFI Booster Pump Station model #82309-B-001, installed in 1988. The details of the station are provided in the following table.

New Hope Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Paco centrifugal Model 1595-5	Paco centrifugal Model 1595-5
Motor Specifications:	5hp Leeson motor; 240 volt	5hp Leeson motor; 240 volt
Pump Size:	1.5" discharge, 110 GPM	1.5" discharge, 110 GPM
Electrical Control:	EFI	EFI
Notes:	New Pump in April 2000	Original Equipment
	Operating time is reported to be about 12 hours per day.	

The New Hope booster station comes on at 50 psi system pressure (95 foot water elevation in the Kings Ridge water tank) and pumps to 55 psi system pressure (107 foot water elevation in Kings Ridge water tank). The pumps are operated by "Global" piston controlled altitude valves.

Storage

There are two standpipes and two elevated water tanks that presently supply the TCWD 1. This section contains the details of each water storage vessel. The conditions of the storage vessels are provided in a later section.

New Town Tank: This is a 300,000 gallon steel elevated water tank located in Bedford behind the District Office with a tank height of 130 feet. The overflow water depth of 30 feet corresponds to an elevation of 1050 feet MSL. Construction on this tank was completed in the Fall of 2000 and the tank was put online over the winter of 2000/2001. There was a transition period during which time the New Town Tank was operated at a full level of 1040 feet to prevent overflowing the Kings Ridge standpipe (overflow 1040') due to flow through the New Hope booster station. Future modifications are required to the water distribution system to facilitate the complete use of the New Town Tank.

LG&E Standpipe: This is a 40,000 gallon steel standpipe located on the west side of the planning area with a tank height of 26 feet. The overflow water depth of 25.5 feet corresponds to an elevation

of 740 feet MSL. This tank supplies the LG&E facility on the Ohio River, customers located at Wise's Landing and the LG&E booster station. This tank does not pressurize the distribution system with the exception of Wise's Landing.

King's Ridge Standpipe: This is a 125,000 gallon steel standpipe in the northern planning area with a tank height of 107 feet. The New Hope Booster Station comes on at 50 psi system pressure (95' tank water) and pumps to 55 psi system pressure (107' tank water) pumping 12 feet of water into the Kings Ridge standpipe. The overflow water depth of 107 feet corresponds to an elevation of 1040 feet MSL. The Kings Ridge standpipe does not pressurize the distribution system that is upstream (south) of the New Hope booster station.

The current maximum system storage that can be contained in the New Town Tank and the LG&E standpipe is 340,000 gallons. The King's Ridge standpipe is not included in this storage volume because it does not pressurize the distribution system south of the New Hope booster station. There are no fire flow storage requirements by the Bedford fire department in areas with fire hydrants. The district currently has a minimum of one day storage.

Distribution System

The Trimble County Water District No. 1 water distribution system consists of approximately 103 miles of water lines ranging from 1" to 12", 1 master meter, 3 booster stations, and 5 pressure reducing valves.

Based on the current system mapping, the following pipe-size lengths are estimated:

1" pipe – 4.2 miles
2" pipe – 9.8 miles
3" pipe – 46.7 miles
4" pipe – 19.4 miles
6" pipe – 21.6 miles
8" pipe – 0.3 miles
12" pipe – 0.7 miles
Total – 102.7 miles

There is only one system master meter, the West Carroll Water District Master Meter, located at highway 1226 and Trout Ridge Road in the northeastern-most part of the District where shown on Appendix B. This meter is supplied water from the King's Ridge standpipe.

The 5 pressure regulating valves (PRV's) are located at Mount Pleasant Road, Barebone Road, Sulphur Road, Highway 421 South, and at Wise's Landing. The locations of the PRV's are shown on Exhibit 3. The pressure settings of the valves are as shown below.

TCWD 1 Water System Pressure Regulating Valves		
Location	Inlet Pressure (psi)	Outlet Pressure (psi)
Mount Pleasant Road	80	60
Barebone Road	220	40
Sulphur Road	135	42
Highway 421 South	122	55
Wises Landing	150	46

There are 31 – 6" fire hydrants in Bedford and no private fire hydrants. Not all of the 6-inch hydrants are located on 6-inch water lines.

3.2 History

The Trimble County Water District No. 1 was created by Order of the County Judge Executive of Trimble County, Kentucky, and adopted by commissioners of the Trimble County Water District No. 1, under by-laws dated March 12, 1956. The waterworks system of the District is owned and operated by the District under Chapters 74 and 106 of the Kentucky Revised Statutes.

The District's service area is generally the entire County of Trimble, bounded on the west by the Ohio River, on the east by Carroll County and the West Carroll Water District, on the south by Henry County Water District No. 2 and on the north by the Town of Milton, Kentucky. The District boundary is shown on Exhibit 3.

TCWD 1 serves primarily residential customers with one bulk sale customer, the West Carroll Water District. The historic growth in residential customers is shown in the following table:

Residential Customers of Trimble County Water District No. 1				
Year:	1965	1974	1984	1999
No. of Customers:	341	503	722	1273
Annual Increase:		5.3%	4.4%	5.1%

TCWD 1 sells approximately 1 million gallons of water per year. The average system flow based on a 12 month average from 1999 is 280,000 gallons per day.

The bulk sale of water to West Carroll Water District (WCWD) commenced in 1983 and the volume sold has doubled since that time as shown in the following table.

Water sold to West Carroll Water District in gallons.		
Year:	1983	1999
Volume:	7,903,900	17,387,500
Average Annual Increase:		7%

Based on map information received from the WCWD, their system that distributes water purchased from TCWD consists of a 47,000 gallon standpipe and approximately 19.7 miles of PVC pipe as follows:

2" pipe – 0.4 miles
3" pipe – 14.9 miles
4" pipe – 1.9 miles
6" pipe – 2.5 miles
Total – 19.7 miles

3.3 Condition of Facilities.

Water Loss

Pumped water that is not sold, distributed free, or used by the District is considered water loss. In 1998, water loss amounted to 11,000,000 gallons of 124,388,000 gallons of water pumped or 8.8%. In 1999, water loss amounted to 17,460,830 gallons of the 130,319,700 gallons of water pumped or 13.4%. The District has embarked on an effort to install additional system master meters to further refine the distribution network and identify and reduce water loss.

Suitability for Continued Use

The lack of sufficient back-flow preventers is an issue that is presently being addressed by the District.

Adequacy of Water Supply

This section is addressed with respect to volume and quality.

Volume – The District is presently using 2 supply wells (3 & 4) that are rated at 300 gpm each. The District also can use 2 additional supply wells (1 & 2) that are rated at 250 gpm each. This combined pumping rate availability of 1,100 gpm is more than 4 times the average gallons per minute (248 gpm) necessary to meet the pumpage of 127,000,000 gallons per year in 2002.

Quality – All mentioned constituents are within regulatory levels and water quality is considered good.

Treatment

Current treatment capability at wells 3 & 4 is up to 500 gpm. Available treatment capability at wells 1 & 2 is also up to 500 gpm.

Storage

The three oldest storage tanks were inspected in Spring of 1996. The District is addressing the recommendations made during those inspections.

Compliance with Federal (SDWA) and State Requirements

As noted in Section 2.1.1, the Kentucky Division of Water has designated the source of water to TCWD 1 as groundwater not under the influence of surface water. With respect to potential impacts from near future regulations, EPA published a new proposed Groundwater Rule in the Federal Register on May 10, 2000 with comments due by August 8, 2000. From the summary of the proposed rule:

> "EPA is proposing to require a targeted risk-based regulatory strategy for all ground water systems. The proposed requirements provide a meaningful opportunity to reduce public health risk associated with the consumption of waterborne pathogens from fecal contamination for a substantial number of people served by ground water sources.
>
> The proposed strategy addresses risks through a multiple-barrier approach that relies on five major components: periodic sanitary surveys of ground water systems requiring the evaluation of eight elements and the identification of significant deficiencies; hydrogeologic assessments to identify wells sensitive to fecal contamination; source water monitoring for systems drawing from sensitive wells without treatment or with other indications of risk; a requirement for correction of significant deficiencies and fecal contamination (by eliminating the source of contamination, correcting the significant deficiency, providing an alternative source water, or providing a treatment which achieves at least 99.99 percent inactivation or removal of viruses); and compliance monitoring to insure disinfection treatment is reliably operated where it is used."

Further information regarding the details of the proposed Groundwater Rule may be obtained at http://www.epa.gov/fedgstr/EPA-WATER/2000/May/Day-10/w10762.htm. Further information regarding drinking water regulations and guidance may be obtained at http://www.epa.gov/safewater/regs.html.

Section 4

Need for Project

Phase II
Final Engineering Report
Trimble County Water District No. 1

Section 4 – Need for Project

Design Criteria and Approvals

All waterlines will be designed in accordance with Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, USDA, Rural Utilities Service and Kentucky Public Service Commission guidelines.

Design drawings will be submitted for approval to the Division of Water and RD. The Preliminary and Final Engineering Reports will be filed with the application for a Certificate of Convenience and Necessity from the Kentucky Public Service Commission. The minimum pressure at all customer meter connections will be 30 psi. Individual pressure reducing valves will be provided at all meter settings where main line pressure is to exceed 90 psi.

Land and Rights-of-Way

For all lines constructed on private rights-of-way, a construction and permanent easement will be obtained from the private property owner prior to constructing the lines. If lines are to be constructed on Kentucky state or county highways, all necessary encroachment permits will be obtained before proceeding with waterline construction.

Source of Water Supply

The District is presently using 2 supply wells (3 & 4) that are rated at 300 gpm each. The District also can use 2 additional supply wells (1 & 2) that are rated at 250 gpm each. This combined pumping rate availability of 1,100 gpm is more than 4 times the average gallons per minute (248 gpm) necessary to meet the pumpage of 130,319,700 gallons in 1999.

Quality -- All mentioned constituents are within regulatory levels and water quality is considered good.

Treatment

Current treatment capability at wells 3 & 4 is up to 500 gpm. Available treatment capability at wells 1 & 2 is also up to 500 gpm.

Total Water Storage

The current maximum system storage that can be contained in the New Town Tank and the LG&E standpipe is 340,000 gallons. The King's Ridge standpipe is not included in this storage volume because it does not pressurize the distribution system south of the New Hope booster station.

Therefore, the District is meeting the necessary water storage requirements. The minimum storage requirements is one day of storage, but most rural systems are recommended to have 1 ½ to 2 days of storage.

Distribution System Extensions

The proposed distribution system improvements include the installation of approximately 15 miles of rural waterline extensions in the Trimble County Water District No. 1 to help eliminate existing problems due to deteriorating existing distribution lines. A preliminary hydraulic analysis was performed using "Cybernet", an AutoCad add-in program using "KYPIPE" computational algorithms.
The Phase II project is primarily a waterline system improvement project with rehabilitation to existing facilities.

Section 5

Proposals Considered

Phase II
Final Engineering Report
Trimble County Water District #1

Section 5 – Proposals considered

General

Phase II extensions into the outlying areas of Trimble County are being considered due to the same reasons that necessitated the need for this project, including contaminated drinking water sources.

The following are the areas under consideration for a proposed Phase II project:
(See Appendix B for location of lines)

Line 1- Beginning with a new 12" line at US 421 and continuing to approximately the intersection of SR 42 West with 5 miles of waterline.

Line 2- Connecting to an existing 4" line with a new 6" line on Cutshaw Lane and continuing until it intersects with an existing 4" line on SR 42. This line will be approximately 0.80 miles and will also provide a loop with Cutshaw Lane SR 42.

Line 3- Connecting to an existing 6" line on US 421 and continuing east with a 6" line on Gatewood Lane until its end. This line will eliminate an existing 2" line with 1.06 miles of waterline.

Line 4- Connecting to an existing 6" line on US 421 and continuing east on Lehue Lane with a 6" line. This line will eliminate an existing 1 ½" line within 0.85 miles of waterline.

Line 5- Connecting with an existing 6" line on US 421 continuing east on US 421 to near its intersection with Stark Lane with 0.66 miles of 6" waterline.

Line 6- Connecting with an existing 6" line and continuing on Stone Street to its end with a 6" water line for approximately 0.13 miles while eliminating galvanized water line.

Line 7- Connecting with an existing 6" line and continuing on Hughes Drive to its end for approximately 0.27 miles with a 6" water line while eliminating existing galvanized water line.

Line 8- Connecting with an existing 6" line and continuing on Meadow Lane with a 6" waterline to near its end for approximately 0.14 miles while eliminating existing galvanized water line.

Line 9- Connecting with a 6" line and continuing on Stark Hill Road with a 6" water line to near its end for approximately 0.51 miles while eliminating existing galvanized water line.

Line 10- Connecting with a 6" line and continuing on Bell South Alley with a 6" water line to near its end for approximately 0.38 miles while eliminating existing galvanized water line.

Line 11- Connecting to an existing 6" line on US 421 and continuing on Fairground Road with a 6" line until near its end while eliminating an existing 1" water line with 1.38 miles of 6" waterline.

Line 12- Connecting to an existing 6" line on US 421 and continuing on Watson Lane to near its end with a 4" water line with 0.61 miles. This will eliminate existing individual service lines.

Line 13- Connecting to an existing 8" line on Cutshaw Lane near its intersection with SR 42 and continuing east on SR 42 with a 8" line until near its intersection with Stark Lane with approximately 1.65 miles of waterline.

Line 14- Connecting to an existing 8" line near wells #3 and #4 near its intersection with Wises Landing Road and continuing north with a 8" line until near its intersection with SR 754 with approximately 1.17 miles of waterline.

Line 15- Connecting to an existing 12" line on SR 625 near its intersection with US 421 and continuing east with a 12" line until tieing into an existing 12" water line on US 421 with approximately 0.28 miles of waterline.

Connecting waterlines together in any one area is referred to in this report as "looping". Any time that it is feasible to loop lines together it is to the Water District's advantage. Looping provides an additional path of potable water to a particular area that originally had only one direct route. One advantage would be the ability to continue serving customers if a waterline should rupture at one end of the line, another advantage is the increase in flow to a particular area that has been looped together which in retrospect will also somewhat increase the pressure to this area due to the decrease in friction losses.

This project will also include a water treatment plant upgrade. This will include an upgrade to the existing high service pumps at Brays Ridge, a new clearwell and provide 24 hour chlorine monitors at both existing well fields.

This project will also include a 4,920 square foot Water District office with much needed equipment/material storage and required telemetry and computer upgrades for the proposed additional facilities.

CONSTRUCTION PROBLEMS

The proposed project as presented in this report does not anticipate any significant problems. There are several small stream crossings and one large stream crossing where a minimum amount of sedimentation is to be expected to occur temporarily during waterline construction. There will also be a minimal amount of interruptions to existing customers during tie-ins to the existing system.

HYDRAULIC COMPUTATIONS

A hydraulic analysis was performed to determine line sizes and the overall effect this project will have on the system.

Section 6

Conclusions and Recommendations

Phase II
Final Engineering Report
Trimble County Water District #1

Section 6 – Conclusions and recommendations

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Trimble County Water District #1 take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the extensions and improvements outlined in this report.

2. Begin the process of collecting all tap fees to complete the project funding.

4. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.

5. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.

6. Upon favorable review and funding commitments of RD, advertise for bids.

7. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

CONSTRUCTION COST ESTIMATES

AND

TOTAL PROJECT COST ESTIMATES

AS – BID PROJECT COST

TRIMBLE COUNTY WATER DISTRICT #1
PHASE II WATER SYSTEM IMPROVEMENTS

Item	Description	Cost
1	Contract No. 1 – Water Line Extensions	$ 1,403,821.80
	Contract No. 2 – WTP Improvements	$ 388,000
	Telemetry/Computer Upgrades	$ 30,000
2	Acquisition	$ 10,000
3	Engineering RE - Design	$ 15,000
4	Bidding & Negotiating	$ 14,200
5	Construction Engineering	$ 21,300
6	Closeout	$ 7,100
7	Engineering Inspection	$ 77,000
8	Additional Engineering Services a. Permits b. PSC Assistance c. Site Surveys d. Easement Assistance	$ 36,600
9	RD Legal and RD Administration	$ 30,000
10	Interest during Construction	$ 20,000
11	Contingencies	$ 128,178.20
Total Project Cost		**$ 2,181,200**

PROPOSED PROJECT FUNDING

Revised 9/01/08

FINAL PROJECT FUNDING

TRIMBLE COUNTY WATER DISTRICT #1
PHASE II WATER SYSTEM IMPROVEMENTS

RD Loan	$ 931,200
State Grant 2006	$ 300,000
State Grant 2008 (HB 608)	$ 950,000
Total Project Cost	**$2,181,200**

FINANCIAL AND ANNUAL OPERATING BUDGETS

EXISTING RATE SCHEDULE

TRIMBLE COUNTY WATER DISTRICT
Phase II Waterline Extensions

The following table contains the District's rate increase history and the present operating rate schedule.

Rate History of Trimble County Water District No. 1				
Effective Date:	6/13/81	3/25/88	3/6/92	3/5/99
First 1,000 gallons	$5.00	$6.00	$7.00	$13.97
Next 2,000 gallons (per 1,000)	$3.00	$3.40	$4.00	$4.69
Next 3,000 gallons (per 1,000)	$2.00	$2.30	$3.00	$4.08
Next 6,000 gallons (per 1,000)	$1.50	$1.70	$2.00	$3.47
All over 12,000 gallons (per 1,000)	$1.00	$1.25	$1.50	$2.86
West Carroll Water District (per 1,000)	$0.60	$1.25	$1.25	$1.74
Sales to Tank Trucks (per 1,000 gal.)		$3.00	$3.00	$5.00
Connection Fee	$300	$300	$300	$525
Customer Deposit				$42
Disconnect/Reconnect Fee				$35

Annual Operation and Maintenance Cost

The following table contains the TCWD 1 recent O&M cost history.

Annual Operation and Maintenance Costs for Trimble County Water District No. 1	
2001	2002
$485,595	$503,286

Tabulation of Users by Monthly Usage Categories

The following table contains the 2002 distribution of water sales and customer numbers by usage category including the West Carroll Water District (WCWD). The relative distribution of the sales and customers by category has remained fairly consistent since 1995.

	Sales	**Percent of**		**Customers per**	**Percent of**
Usage categories:	In 1,000 gals.	Total Sales		Usage Category	Total Customers
0-1,000 gallons	568	1%		176	14%
1,001 – 2,000	2,854	3%		152	12%
2,001 – 3,000	5,332	5%		174	14%
3,001 – 6,000	22,750	22%		432	34%
6,001 – 12,000	23,776	23%		245	20%
12,001 – above	31,180	30%		75	6%
WCWD	17,840	17%		1	<1%
Totals:	104,299	100%		1255	100%

Revenue

The following table contains the recent revenue history of TCWD 1.

Revenue received by Trimble County Water District No. 1		
	2001	2002
Metered Customer Sales	$546,734	$569,320
Bulk Sales	$3,564	$4,063
Miscellaneous Income	$9,039	$10,112
Total:	$559,337	$583,495

Status of Existing Debts and required Reserve Accounts

This section consists of information on bond and interest sinking and depreciation accounts as well as long term debt and capital leases.

Bond and Interest Sinking and Depreciation Accounts

At issuance of the original 1992 Rural Development bonds, a Depreciation Account was established to provide funds for extraordinary repairs and extensions to the system and/or make up any deficiency in the Bond and Interest Sinking Account. After monthly deposits are made into the Bond and Interest Account, monthly transfers are required to be made to the Depreciation Account. The 1992 Bond Resolution required a monthly transfer of $315 to accumulate to a balance of $37,800. The 1997 Bond Resolution ratifies and confirms the creation of the 1992 Depreciation Fund. Monthly transfers were made in 2002 as required by all bond resolutions.

Long Term Debt and Capital Leases

a. Kentucky Infrastructure Authority (KIA) – At original issue, $369,462 of bonds were outstanding with interest rates that range from 4.60% to 5.75% per annum with maturity dates ranging from 1993-2013. On December 1, 2001, these bonds were refinanced to rates that range from 2.50% to 4.25% per annum through 2013.

b. Revenue Bonds of 1992 – At original issue, $425,000 of RECD bonds were outstanding at the interest rate of 5.625% per annum with maturity dates ranging from 1994-2030. On December 31, 2002, $390,870 of bonds were outstanding on this issue.

c. Revenue Bonds of 1997 – At original issue, $60,000 of RECD bonds were outstanding at the interest rate of 5.00% per annum with maturity dates ranging from

2000 – 2037. On December 31, 2002, $57,700 of bonds were outstanding on this issue.

d. Revenue Bonds of 2000 – At original issue, $550,000 (February 1, 2001) of RECD bonds were outstanding at the interest rate of 5.00% per annum with maturity dates ranging from 2003 – 2040. On December 31, 2002, $550,000 of bonds were outstanding on this issue.

e. Note Payable – Farmers Bank of Milton – During July 1999, the Water District refinanced a note payable to Madison Bank and Trust through the Farmers Bank of Milton. The original balance of the Farmers Bank of Milton note was $177,508. The note is payable in monthly installments of $2,248 (principal and interest) through January 2007. Interest is charged at the rate of 6.50% per annum. The principal balance outstanding at December 31, 2002, was $104,977.

FOR _____
Community, Town or City

P.S.C. KY. NO. _____

_____SHEET NO._____

CANCELLING P.S.C. KY. NO._____

_____SHEET NO._____

_____
(Name of Utility)

CONTENTS

DATE OF ISSUE_____
Month / Date / Year

DATE EFFECTIVE_____
Month / Date / Year

ISSUED BY_____
(Signature of Officer)

TITLE_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION

IN CASE NO. _____DATED _____

FOR _____
Community, Town or City

P.S.C. KY. NO. _____

_____SHEET NO._____

CANCELLING P.S.C. KY. NO._____

_____SHEET NO._____

_____
(Name of Utility)

RULES AND REGULATIONS

A. MONTHLY RATES:

Rates for Meter size of 3/4x5/8 inch meter service

First 1,000 Gallons	17.50	Minimum Bill	
Next 2,000 Gallons	6.57	Per 1,000 Gallons	
Next 3,000 Gallons	5.14	Per 1,000 Gallons	
Next 6,000 Gallons	3.75	Per 1,000 Gallons	
Over 12,000 Gallons	3.60	Per 1,000 Gallons	

Rates for Meter size other than 3/4 x5/8 inch meter service

¾ inch	First	5,000 Gallons	41.50	Minimum Bill
	Next	1,000 Gallons	5.14	Per 1,000 Gallons
	Next	6,000 Gallons	3.75	Per 1,000 Gallons
	Over	12,000 Gallons	3.60	Per 1,000 Gallons
1 inch	First	10,000 Gallons	62.00	Minimum Bill
	Next	2,000 Gallons	3.75	Per 1,000 Gallons
	Over	12,000 Gallons	3.60	Per 1,000 Gallons
1 ½ inch	First	30,000 Gallons	133.50	Minimum Bill
	Over	30,000 Gallons	3.60	Per 1,000 Gallons
2 inch	First	50,000 Gallons	205.50	Minimum Bill
	Over	50,000 Gallons	3.60	Per 1,000 Gallons

Rates for Meter size over 2 inch meter service will be as negotiated and approved by the Kentucky Public Service Commission.

10% Penalty applies on the amount of the bill owed on all bills not paid by the due date.

Rates do not include school tax or state sales tax.

DATE OF ISSUE_____
Month / Date / Year

DATE EFFECTIVE_____
Month / Date / Year

ISSUED BY_____
(Signature of Officer)

TITLE_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION

IN CASE NO. _____DATED _____

RULES AND REGULATIONS

F. SPECIAL NON-RECURRING CHARGES:

Late Payment Penalty	10%
Return Check Charge	$25.00
Disconnection/Reconnection Charge	$90.00 / 2 (per trip)
Service Connection	$45.00
Re-reading of Meter Charge	$45.00
Meter relocation Charge	Actual Cost
Meter Testing Charge	$75.00
Pre-site Inspection Charge	$45.00
Service Line Inspection Charge	$65.00
Service Call (during regular business hours)	$45.00 *
Service Call (after regular business hours)	Actual Cost*
Field Collection Charge	$40.00
Payment Extension Request	$22.50
Service Restoration Fee	$150.00

* NOTE – Regular working hours for the Utilities Maintenance Staff is 8:30 a.m. to 4:30 p.m. Monday through Friday, excluding holidays. Upon customer request, and subject to availability of Maintenance Staff, services may be performed outside regular working hours.

DATE OF ISSUE_____
Month / Date / Year

DATE EFFECTIVE_____
Month / Date / Year

ISSUED BY_____
(Signature of Officer)

TITLE_____

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. _____DATED _____

FOR _____
Community, Town or City

P.S.C. KY. NO. _____

_____SHEET NO._____

CANCELLING P.S.C. KY. NO._____

_____SHEET NO._____

_____
(Name of Utility)

RULES AND REGULATIONS

The following are the rules and regulations of the Trimble County Water District No.1. The schedule of rates prescribed herein will be uniformly charged to all customers of the utility. No one will receive or be entitled to free service by the utility. No employee or individual commissioner of the utility is permitted to make an exception to these rates, rules, or regulations. These rules and regulations are subject to change by the utility at any time, subject to the approval of the Public Service Commission.

A. Service Information

1. Upon request the utility will give its customers or prospective customers such information as is reasonably possible in order that they may secure safe, efficient, and continuous service. The utility will inform its customers of any change made or proposed in the character of its service that might affect the efficiency, safety, or continuity of operation.
2. The utility will obtain the approval of the Public Service Commission prior to making any substantial change in the character of the service of the equipment or appliances of any customer. The application will show the nature of the change to be made, the number of customers affected, and the manner in which they will be affected.
3. The utility will inform each applicant for service each type, class and character of service available at his/her location.
4. Upon request the utility will provide the following information to any applicant/customer:
    a. Characteristics of Water. A written description of chemical constituents and bacteriological standards of the treated water as required by the Natural Resources Cabinet.
    b. Rates. A schedule of rates for water service applicable to the service to be rendered to the customer.
    c. Reading Meters. Information about the method of reading meters.
    d. Bill Analysis. A statement of the past readings of a customer's meter for a period of two (2) years.

B. Special Rules or Requirements

1. The utility cannot establish any special rule or requirement without first obtaining the approval of the Public Service Commission.
2. A customer that has complied with Public Service Commission rules and regulations cannot be denied service for failure to comply with the utility's rules that have not been approved by the Public Service Commission.

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writing. The utility will not otherwise be responsible for deliver of any bill or notice nor will the customer be excused from the payment of any bill or any performance required in the notice.

b. Bills for water service by meters will be sent to the customer monthly and the utility may determine the end of such dates.
c. Bills are payable and due on the date of issuance.
d. Payment must be received in the office, not postmarked by the closing of business on or before the due date. The amount owed will be deemed delinquent.
e. The late payment penalty will be assessed on the delinquent amount of the bill, less taxes and any prior penalty amounts. Pursuant to 807 KAR 5:006 Section 8 (3) (h), a penalty may be assessed only once on any bill for rendered services.
f. With the exception of existing connections, the existence of a special contract or unusual circumstances requiring approval of the utility, a single meter can serve no more than one (1) residential or commercial unit on and after the effective date of this tariff.
g. For existing connections, special contracts, or other utility approved situation, where two (2) or more units are being served by one meter, the following rules will apply:
    i. One bill per meter will be sent to the customer that signed the Water Service Contract.
    ii. The bill will consist of a charge in the amount of the utility's minimum bill multiplied by the number of units the meter serves. The amount of water included with a minimum bill will be multiplied by the number of units and deducted from the total amount of consumption. The remaining consumption will be evenly distributed among each unit, added to each unit's minimum bill, with the charges calculated in accordance with the currently approved rate schedule.
    iii. The customer that signed the Water Service Contract will be fully and solely responsible for the charges associated with the connection including payment for all water passing through the meter, regardless which unit is responsible for the water consumption.

D. Deposits

1. Deposits to secure payment. The utility may require a minimum cash deposit or other guaranty to secure payment of bills.
2. Equal Deposits. An equal deposit amount for each class of customer will be established based on the average annual bill of customers in that class. Deposit amounts will not exceed two-twelfths (2/12) of the average annual bill of customers in each class where bills are rendered monthly. Deposit amounts are listed in the Rates and Charges section of this tariff.

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deposit, any principle amounts, and interest earned and owing will be credited to the final bill with any remainder refunded to the customer.

E. Special Non-recurring Charges

1. The utility will collect for special nonrecurring charges to recover customer-specific costs incurred which would otherwise result in monetary loss to the utility or increased rates to other customers to whom no benefit accrued from the service provided or action taken.
2. Special nonrecurring charges will be applied uniformly throughout the area served by the utility.

F. Customer Complaints to the Utility

Upon complaint to the utility by a customer at the utility's office, by telephone, or in writing, the utility will make a prompt and complete investigation and advise the complainant of its findings. The utility's operator/manger will make a decision within ten (10) days, which the complainant will then have ten (10) days to appeal to the utility's board of commissioners. The customer will receive a final decision from the utility no later than thirty (30) days following the date that the complaint was made. If the complainant is not satisfied with the utility's decision, the utility will provide written notice to the complainant of his/her right to appeal the utility's decision by filing a complaint with the Public Service Commission.

The utility will also provide the customer with the address and telephone number of the Public Service Commission. The utility will keep a record of all written complaints. This record will show the name and address of the complainant, the date and nature of the complaint, and the adjustment or disposition of the complaint. Records will be maintained for two (2) years from the date of resolution of the complaint.

G. Bill Adjustments

1. Fast or slow reading meters:
   a. If upon periodic test, requested test, or complaint test, a meter in service is found to be more than two (2) percent fast, additional test will be made to determine the average error of the meter. The test will be made to determine the average error of the meter. The test will be made in accordance with Public Service Commission rules and regulations applicable to the type of meter involved.
   b. If test results on a customer's meter show an average error greater than two (2) percent fast or slow, or if a customer has been incorrectly billed for any other reason, except in an instance

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a. On _____, 20 ____, the meter bearing identification No. ____ installed in your building located at _____ (Street and Number) in ___ (City) was tested at _____ (on premises or elsewhere) and found to register _____ (percent fast or slow). The meter was tested on _____ (Periodic, Request, or Complaint) test. Base upon this we herewith _____ (charge or credit) with the sum of $_____, which amount has been noted on your regular bill. If you desire a cash refund, rather than a credit to your account, of any amount over billed, you must notify this office in writing within seven (7) days of the date of this notice.

6. Leaks. The Utilities Board of Commission will consider a one (1) time per calendar year leak adjustment. Upon written documented proof presented to the Board of Commission that a leak occurred and was repaired in a reasonable amount of time, and no evidence that neglect or negligence on the customer part is found the Board of Commission may approve a leak adjustment. To determine the Board Approved Adjustment amount: Calculate normal usage at the approved rate scale. Remaining usage will be calculated at the Utilities lowest approved tier rate.

H. Status of Customer Accounts during Billing Disputes

With respect to any billing dispute, customer accounts shall be considered to be current while the dispute is pending as long as the customer continues to make undisputed payments and stays current on subsequent bills.

I. Customer's Request for Termination Service

1. Any customer desiring service terminated or changed from one address to another shall give the utility three (3) working days notice in person, in writing, or by telephone, provided such notice does not violate contractual obligations. The customer will provide proper notification and reasonable access to the meter during the notice period. If the customer notifies the utility of his/her request for termination by telephone, the burden of proof is on the customer to prove that service termination was requested if a dispute arises.
2. Upon request that service be reconnected at any premises subsequent to the initial installation or connection to its service line, the utility will charge the applicant a reconnect fee as set out in this tariff and approved by the Public Service Commission.

J. Customer Relations

1. Display of customer rights. The Utility will prominently display in the office in which payments is received a copy of the Customer's Rights. If a customer indicates to any utility personnel that he/she is

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after the customer has been given a written notice of refusal stating the reasons for refusal of service.

b. For dangerous conditions. If a dangerous condition exists which could subject any person to imminent harm or result in substantial damage to the property of the utility or others is found to exist on the customer's premises, then service will be refused. The utility will notify the customer in writing and, if possible, orally for the reasons for refusal of service. Such notice will be recorded by the utility and will include the corrective action to be taken by the customer before service can be provided.

c. For refusal of access. When a customer refuses or neglects to provide reasonable access to the premises for installation, operation, meter reading, maintenance or removal of utility property, the utility may refuse service. The utility will notify the customer in writing and, if possible, orally for the reasons for refusal of service. Such notice will be recorded by the utility and will include the corrective action to be taken by the customer before service can be provided.

d. For outstanding indebtedness.

e. For noncompliance with state, local, or other codes. The utility may refuse service to a customer if the customer does not comply with state, municipal or other codes, rules, and/or administrative regulations applying to such service. The utility will notify the customer in writing and, if possible, orally for the reasons for refusal of service. Such notice will be recorded by the utility and will include the corrective action to be taken by the customer before service can be provided.

2. Utility Initiated Termination of Service

a. The termination notice requirements stated herein will not apply if termination notice requirements to a particular customer or customers are otherwise dictated by the terms of a special contract between the utility and customer which has been approved by the Public Service Commission.

b. When advance termination notice is required, the termination notice shall be mailed or otherwise delivered to the last known address of the customer. The termination notice shall be in writing, distinguishable and separate from any bill. The termination notice shall plainly state the reason for termination, that the termination date will not be affected by receipt of any subsequent bill, and that the customer has the right to dispute the reason for termination.

c. The utility may terminate service to a customer under the following conditions with an advance termination notice:

i. For noncompliance with utility or Public Service Commission rules and regulations. The utility cannot terminate service to any customer for noncompliance without first having made a reasonable effort to obtain customer compliance. After such effort by the utility,

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iii. Unapproved Extension and/or Additions. Any extension or additions to an existing service connection that have not been approved by the utility will be considered theft of service, and will constitute grounds for termination of service. This right of termination is separate from and in addition to any other legal remedies that the utility may pursue for illegal use or theft of service.

iv. Misrepresentation. Any misrepresentation in the application or contract as to the property or fixtures to be supplied or additional use to be made of water will constitute grounds for termination of service, and the customer shall be liable for any damage to any of the utility's facilities or equipment.

v. Failure to report changes. Failure to notify the utility of additions to the property or fixtures to be supplied or additional use to be made of water will constitute grounds for termination of service.

vi. Resale of Water. Under no circumstances will a customer be allowed to resell or give away water except under the terms of a special contract executed by the utility and approved by the Public Service Commission. Failure to comply with this rule will constitute grounds for termination of service.

vii. Waste or Misuse. Waste or misuse of water due to improper or imperfect service pipes and/or failure to keep said pipes in suitable state of repair will constitute grounds for termination of service

viii. Tampering with meter, meter seal, service valves, or other system facilities, or permitting such tampering by other will constitute grounds for termination of service.

ix. Connections, cross-connections, or permitting the same, of any separate water supply to premises that receive water from the utility will constitute grounds for termination of service.

e. The utility will not terminate service to a customer if the following conditions exist:

i. If payment for service is made. Service will not be terminated to a customer that was sent a termination notice if the customer delivers full payment to the utility prior to the actual termination of service.

ii. If a partial payment agreement is in effect service will not be terminated for nonpayment if the customer and the utility have entered into a partial payment plan and the customer is meeting the requirements of the plan.

iii. If a medical certificate is presented. Service will not be terminated for thirty (30) days beyond the termination date if a physician, registered nurse or public health officer certifies in writing that termination of service will aggravate a debilitating illness or

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contain condensed information concerning all tests and adjustments including dates and general results of such adjustments. The records will reflect the date of the last test and indicate the proper date for the next periodic test required by the applicable Public Service Commission rule and/or regulation.

3. Upon completion of adjustment and test of any meter pursuant to Public Service Commission rules and regulations, the utility will affix to the meter a suitable seal in such a manner that adjustments or registration of the meter cannot be altered without breaking the seal.

N. Customer Requested Meter Tests

1. The utility will make a test of any meter upon written request of any customer if the request is not made more frequently than once every twelve (12) months. The customer shall be given the opportunity to be present at the requested test. If the test shows that the meter was not more than two (2) percent fast, the utility will make a reasonable charge for the test, the amount being approved by the Public Service Commission and set out in the utility's tariff.
2. After having first obtained a test from the utility, any customer of the utility may request a meter test by the Public Service Commission upon written application. Such request shall not be made more frequently on one (1) meter than once every twelve (12) months.

O. Access to Property

1. The utility shall at all reasonable hours have access to meters, service connections, and other property owned by it and located on customer's premises for purposes of installation, maintenance, meter reading, operation, replacement or removal of its property at the time service is terminated. Any employee of the utility whose duties require him/her to enter the customer's premises will wear a distinguishing uniform or other insignia identifying him/her as an employee of the utility, or show a badge or other identification which will identify him/her as an employee.
2. Obtaining easements and right-of-ways necessary to extend service will be the responsibility of the utility.
3. All customers must grant, convey, or cause to be granted or conveyed to the utility a perpetual easement and right-of-way across any property owned or controlled by the customer wherever necessary for utility's facilities in order to provide service.
4. The utility cannot require a prospective customer to obtain easements for right-of-way on property not owned by the prospective customer as a condition for providing service. However, the cost of obtaining easements or right-of-way will be included in the total per foot cost of an extension, and will be apportioned among the utility and customer in accordance with the applicable extension administrative regulation.

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semiannually inspect supply wells, their motors and structures, including electric power wiring and controls for proper and safe operation.

b. The utility will annually inspect all structures pertaining to purification for their safety, physical and structural integrity and for leaks, including sedimentation basins, filters, and clear wells; chemical feed equipment; pumping equipment and water storage facilities, including electric power wiring and controls; hydrants, mains and valves.

c. The utility will monthly inspect construction equipment and vehicles for defects, wear, operational hazards, lubrication, and safety features.

S. Reporting of Accidents, Property Damage, or Loss of Service

1. Within two (2) hours following discovery the utility will notify the Public Service Commission by telephone or electronic mail of any utility related accident which results in:
   a. Death; or shock or burn requiring medical treatment at a hospital or similar medical facility, or any accident requiring inpatient overnight hospitalization;
   b. Actual or potential property damage of $25,000 or more; or
   c. Loss of service for four (4) or more hours to ten (10) percent or 500 or more of the utility's customers, whichever is less.

2. A summary written report will be submitted by the utility to the Public Service Commission within seven (7) calendar days of the utility related accident.

T. Continuity of Service

1. Emergency interruptions. The utility will make all reasonable efforts to prevent interruptions of service and when such interruptions occur will endeavor to reestablish service with the shortest possible delay consistent with the safety of its consumers and the general public. If an emergency interruption of service affects service to any public fire protection device, the utility will immediately notify the fire chief or other public official responsible for fire protection.
2. Scheduled interruptions. If the utility finds it necessary to schedule an interruption of its service, it will notify all customers to be affected by the interruption, stating the time and anticipated duration of the interruption. Whenever possible, scheduled interruptions will be made at hours of least inconvenience to customers. If public fire protection is provided by mains affected by the interruptions, the utility will notify the fire chief or other officials responsible for fire protection of the interruption, stating the time and

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roads, the point of service will be located as near the customer's property line as practicable. Prior to installation of the meter the utility will consult with the customer as to the most practical location.

3. Depth of service line. All service lines must be laid at a sufficient depth (a minimum of 24 inches) to prevent freezing during the coldest weather normally experienced except where services are not intended for use during freezing weather and are actually drained during such periods.
4. A service line inspection charge will be made to inspect a service line from the point of delivery at the meter to the point of usage. During the installation of the service line, the utility requires that the applicant/customer leave the trench open and pipe uncovered to allow the utility to inspect the line. A plumbing permit from the Department of Health is required before the utility can set the meter. A photocopy of the permit will be kept on file at the utility office.
5. The applicant/customer must furnish and lay the necessary pipe to make the connection from the point of service to the point of usage and be financially responsible for all costs associated with the installation and maintenance of his/her service line plumbing, including a shut-off valve and one-way check valve, installed on his/her property beginning at the outlet side of the water meter. The service line must be kept in good repair and in accordance with utility and Public Service Commission rules and regulations.
6. The installation and maintenance of the water service line must be in accordance with the rules and regulation of the Kentucky Department of Health.
7. A cross-connection of the utility's system with any other source is strictly prohibited.
8. A well that has or is being used on the premises must be inspected by utility personnel to verify disconnection and separation.
9. All service lines on the customer's side of the meter must consist of copper or PVC pipe with a rating of no less than 200 psi, and should not be less than ¾ inches.
10. Absolutely no galvanized pipe or fittings can be used in the installation.
11. The utility will not set a meter on a customer's service line at a point that does not deliver 30 psig at the meter.
12. If the applicant/customer's point of usage is at a higher elevation than the meter, the customer should consult with a reputable engineering firm to properly size the service line from the meter to the point of usage.
13. Should an applicant/customer desire a higher pressure due to location or other need, provisions must be made by the applicant for an individual pressure booster system. The manner of connection, location cross-connection protection and type is subject to approval by the utility. The utility reserves the right to require discontinuance and disconnection should the private booster system have a detrimental effect on the utility's system.

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Y. Legal Disclaimers

1. The utility shall in no event be held responsible for any claims made against it for reasons of system failure or interruption of service. No person shall be entitled neither to damages nor for any portion of a payment refunded for any system failure or interruption of service, which in the opinion of the utility is deemed necessary.
2. No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure appurtenance or equipment, which is a part of the utility's water system. Any person violating this provision will be subject to immediate arrest and/or discontinuance of water service and shall pay the cost of repairing or replacing the utility's facilities.
3. If any loss or damage to the property of the utility or any accident or other injury to persons or property is caused by or results from the negligence or wrongful action of a customer, members of his/her household, his/her agent or employee, the cost of necessary repairs or replacements shall be paid by the customer of the utility and any liability otherwise resulting shall be that of the customer.
4. For purposes of fire protection, including any customer's fire protection system, the utility cannot guarantee a water supply at any particular flow rate or pressure. The fire flow may vary depending upon other water demands on the system, various water facility limitations, or other circumstances. The customer will indemnify and hold harmless the utility and its employees from and against all claims, damages, losses, and expenses incurred as a result of insufficient water supply or deficient system facilities.

Z. Fire Departments

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 10th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

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2. The water line must be a minimum of 200 psi.
3. A shut-off valve must be installed.
4. A one-way check valve must be installed.
5. A pressure regulator may be required as prescribed by the utility.
6. There shall be absolutely no galvanized pipe or fittings used in the installation.
7. The water line must be visually inspected by the utility.
8. If a well or cistern is being used, it must be disconnected and the utility must inspect to verify separation.
9. A plumbing permit from the Health Department is required before the meter can be set. A photocopy of the permit will be kept on file at the utility's office. A sewage permit from the Health Department is required before the actual meter will be installed.

EE. Water Main Extensions

1. Normal extension. An extension of fifty (50) feet or less shall be made by a utility to its existing distribution main without charge for a prospective customer who shall apply for and contract to use service for one (1) year or more.
2. Other extensions.
    a. When an extension of the utility's main to serve an applicant or group of applicants amounts to more than fifty (50) feet per applicant, the utility may require the total cost of the excessive footage over fifty (50) feet per applicant/customer to be deposited with the utility by the applicant or the applicants, based on the average estimated cost per foot of the total extension.
    b. When an extension of the utility's main to serve an applicant or group of applicants amounts to more than (50) feet per applicant, the utility will require the applicant(s) to sign an agreement between the utility and the property owner (applicant/customer) that specifically define the responsibilities of each party with regards to the extension.
    c. Each customer who paid for service under such extension will be reimbursed under the following plan:
        i. For a period of five (5) years after construction of the extension, each additional customer whose service line is directly connected to the extension installed, and not to extension or laterals there from, will be required to contribute to the cost of the extension based on a re-computation of both the utility's portion of the total cost and the amount contributed by the customers. The utility will refund to those customers that have previously contributed to the cost of the extension that amount necessary to reduce their contribution to the currently calculated amount for each customer connected to the extension. All customers directly connected to the extension for a five (5) year period after it is placed in service

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construction, for any damage to any of the District's lines or equipment caused by the additional or changed installation or load demand.

A. DEFINITIONS

1. Applicant – shall mean any developer, builder, or other person, partnership, association, corporation, or governmental agency applying for water service pursuant to these rates, rules, and regulations.
2. Customer – shall mean any developer, builder, or other person, partnership, association, corporation, or governmental agency applying for water service pursuant to these rates, rules, and regulations.
3. Utility – shall mean the utility acting through its officers, manager, or other duly authorized employee or agent.
4. Premises – shall mean as follows:
    a. Real Estate and structure on it
    b. A structure enclosed within exterior walls, built, erected, and framed of component structured parts and designed for inhabitant to reside in or occupy as a residence or business.
5. Multi-Premises – shall mean two or more premises as described above attached to one-meter service, with respect to duplexes, apartment buildings and trailer parks, each separate unit occupied as a residence shall be considered as a separate premises and be billed as set out in the rules and regulations.
6. Customer Service Line – shall mean the portion of the line between connection and the premises.
7. Utility Service Line – shall mean as referred to in these rules and regulations consist of the following:
    a. A shut-off valve, copper setter, double-check valve, and meter when installed in a meter box.
    b. The pipe between the District main and the meter box.

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Trimble County Water District No.1

CONTRACT FOR WATER SERVICE (NEW METER)

Applicant's Name: _____

Service Address: _____

Mailing Address: _____

1. Applicant hereby applies for water service from the Trimble County Water District No.1 upon the terms and conditions set forth in this contract.
2. Applicant will, at the time of signing this contract, pay to the District the following non-refundable tap-on fee: $_____, for 5/8" x3/4" meter. Other, existing service connection only $ _____. Applicant also agrees to pay, at the time of signing this contract, a deposit in the amount of $ _____, which is refundable upon termination of water service and payment of all accounts owed.
3. Applicant agrees to purchase water service under rates, policies, rules and regulations fixed by the District and approved by the Kentucky Public Service Commission. Copies are available for inspection at the District's office in Bedford, Kentucky.
4. Applicant agrees to pay the District's minimum monthly water bill as soon as the District installs the meter and water is made available to the meter, regardless of whether Applicant connects to the meter.
5. The meter will be set on Applicant's property adjacent to the side of the road. If Applicant's property is on the opposite side of the road from the water line, the service will be run under the road. Except for the first 50 feet, Applicant will be required to pay the cost, if any, of extending the District's distribution line.
6. Applicant grants the District a perpetual easement over Applicant's land to install, construct, maintain, repair and remove existing and future water pipelines, appurtenant facilities, and meters, the right to read those meters, and the right of ingress and egress for these purposes over Applicant's property.
7. Applicant will install and maintain at Applicant's expense a service line, which shall begin at the water meter and extend to the dwelling or other point of use on Applicant's premises. The service line shall be constructed of material rated at a minimum of 200 psi water pressure. Applicant will be responsible for all water loss occurring on Applicant's side of the water meter.
8. Applicant assumes responsibility for any damage to the water lines and meter, which occur during Applicant's connection to the meter.
9. Applicant agrees to provide, without cost to the District, any properly signed recordable easements required by the District for the installation and maintenance of the District's water transmission or distribution lines and appurtenant facilities, existing and future; provided such lines and facilities cross Applicant's real estate and are either adjacent and parallel to the right of way for a public road way or are adjacent and parallel to Applicant's property boundary.
10. A separate meter shall be installed for service to each residential or business unit. Applicant will not permit anyone else to connect to the District's water line meter or Applicant's service line.
11. Applicant acknowledges the need to avoid contamination of the District's water system by introduction of foreign water, and therefore Applicant agrees that Applicant's present water supply, if any exist, will be disconnected prior to connecting to The District's water system. Applicant will not connect to any other water supply while connected to the District's water system.
12. Applicant is responsible for the cost of repairing all damage done to meter tops (covers) regardless of who causes the damage (except damage caused by the District). Applicant is cautioned that many meter tops are damaged by power lawn mowers and by being run over by vehicles.
13. If Applicant's account becomes delinquent. Applicant agrees to pay the District's attorney fees and costs incurred in collecting that account.
14. Applicant will be responsible for the lowering or rising of distribution main due to excavation.
15. By signature hereon, Applicant acknowledges that he/she has read the foregoing, received a copy thereof, agrees to be bound by same, and there are no oral agreements between the parties.

WITNESS the hands of the parties this _____ day of _____, _____.

_____
Applicant

_____
Applicant's Social Security Number

_____
Applicant's Phone Number

Trimble Count Water District No.1

_____
District Personnel or Notary

_____
Title

Trimble County Water District

Water Shortage Response Plan

Domestic:

- Personal, in-house water use including kitchen, bathroom and laundry.

Water Hauling:

- Non-domestic, when other sources are not reasonably available elsewhere.

Commercial and Civic Use:

- Commercial car and truck washes
- Laundromats
- Restaurants, clubs and eating- places.
- Schools, churches, motels/hotels and similar commercial establishments.

Outdoor Non-Commercial Watering:

- Minimal watering of vegetable gardens
- Minimal watering of trees where necessary to preserve them.

Outdoor Commercial or Public Watering (using conservation methods and when other sources of water are not available or feasible to use):

- Agricultural irrigation for the production of food and fiber or the maintenance of livestock
- Watering by arboretums and public gardens of national, state, regional or community significance where necessary to preserve specimens
- Watering by commercial nurseries at a minimum level necessary to maintain stock
- Watering at a minimum rate necessary to establish or maintain re-vegetation or landscape plantings required pursuant to law or regulation
- Watering of woody plants where necessary to preserve them
- Minimal watering of golf course greens

Recreational:

- Operation of municipal swimming pools and residential pools that serve more than 25 dwelling units.

Air Conditioning:

- Refilling for startup at the beginning of the cooling season
- Makeup of water during the cooling season
- Refilling specifically approved by health officials where the system has been drained for health protection or repair services

Non-Essential Uses (Class 3):

Any waste of water, as defined herein, is non-essential. The following uses of water, listed by site or user type, are non-essential.

"**Base Entitlement**" shall mean the monthly usage for a customer during the same month of the preceding calendar year or the average per customer usage for each class of service during the same month of the preceding year.

"**Curtailed Entitlement**" shall mean the monthly usage for a customer after any curtailment percentage has been applied.

"**Curtailment**" shall mean the reduction in entitlement by some percentage to meet anticipated water shortages.

WATER SHORTAGE RESPONSE PHASES:

"**Advisory**" shall mean that conditions exist which indicates the potential for serious raw or treated water supply shortages.

"**Alert**" shall mean the raw or treated water supplies are consistently below seasonal averages, and if they continue to decline, may not be adequate to meet normal needs.

"**Emergency**" shall mean that raw or treated water supplies are below the level necessary to meet normal needs and that serious shortages exist in the area.

"**Rationing**" shall mean that procedures must be established to provide for the equitable distribution of critically-limited raw or treated water supplies, in order to balance demand and limited available supplies, and to assure that sufficient water is available to preserve public health and safety.

Section 3. Applicability

The provisions of the Plan shall apply to all retail and wholesale customers of the **Trimble County Water District No.1**. When implemented, this Plan becomes **Trimble County Water District No.1** Water Shortage Response Regulation.

Section 4. Entitlements

Entitlements shall be established for each customer by adjusting the base entitlement to reflect any known change in usage pattern.

Section 5. Determination of Water Shortage

Water supply and usage shall be monitored on a continuous basis. Unrestricted demand shall be projected from past records and adjusted for changes such as new developments and weather conditions on a regular basis. (Note: A sample calculation page is attached as an Appendix A to assist in determining overall water levels. It is important

(e) Curtail entitlements to all customers by the same percentage as the projected shortage.

(f) Begin billing all customer water usage in excess of curtailment at the normal rate plus an excess charge of $3.00 per 1,000 gallons.

EMERGENCY STAGE:

- **Criteria:**
  A Water Emergency shall be declared when the amount of treated water available is projected to be up to 20% below demand, or there are periods of no water in one or more areas of the distribution system due to low water supply or raw water supplies below the level necessary to meet normal needs. (Note: Additional conditions may be added based on local conditions.)
- **Conservation and Curtailment Measures:**
  (a) Declare Water Shortage Emergency
  (b) Provide proper notice to all customers and to all local news media
  (c) Eliminate all water leaks
  (d) Prohibit all Class 3 uses of water
  (e) Prohibit all Class 2 uses of water except Domestic uses for kitchens, bathrooms and laundries
  (f) Curtail all commercial and industrial entitlements (except Health Care Facilities) by 100%
  (g) Curtail Residential entitlements by the same percentage as the projected shortage
  (h) Curtail entitlements to all wholesale customers by the same percentage as the projected shortage.
  (i) Begin billing all customer water usage in excess of curtailed entitlement at the normal rate plus an excess usage charge of $7.00 per 1,000 gallons

RATIONING STAGE:

- **Criteria:**
  Treated water available is greater than 40% below demand or raw water supplies are below the level necessary to meet essential needs, and in the opinion of **Trimble County Water District No.1** mandatory rationing is required to insure adequate water is available to maintain public health and safety.
- **Conservation and Curtailment Measures:**
  (a) Declare Water Shortage Rationing
  (b) Provide proper notice to all customers and to all local news media
  (c) Eliminate all water leaks
  (d) Prohibit all Class 3 and Class 2 uses of water
  (e) Curtail all commercial and industrial entitlement (except Health Care Facilities) by 100%
  (f) Curtail all residential and wholesale entitlements by the same percentage as the projected shortage

Section 10. Sever-ability

If the courts declare any provision of this Plan invalid, the remainder of the Plan and its applicability to other persons and circumstances shall not be affected by that declaration.

Section 11. Effective Date

This Plan shall take effect immediately upon approval by the Public Service Commission.

DISCONNECTION NOTICE

RED CARD

Trimble County Water District No. 1
34 E. Morgan Drive
P.O. BOX 63
Bedford, Kentucky 40006
Phone: (502) 255-7554

ACCOUNT	CUT-OFF DATE
DUE DATE	TOTAL AMOUNT DUE
SERVICE AT	

DISCONNECTION NOTICE

Our records indicate that your account is PAST DUE. Should this be an oversight please accept this as a friendly reminder.

Payment in full must be received before 4:30 p.m. prior to CUT-OFF DATE shown above. If service is terminated, a DISCONNECTION/RECONNECTION fee will be due.

If remittance has been made, please accept our thanks and disregard this notice.

Trimble County Water District No. 1
34 E. Morgan Drive
P.O. BOX 63
Bedford, Kentucky 40006
Phone: (502) 255-7554

PRESORTED
FIRST CLASS MAIL
U.S. Postage Paid
BEDFORD, KY 40006
PERMIT No. 16

PLEASE BRING ENTIRE BILL TO OFFICE OR MAIL THIS STUB WITH PAYMENT

ACCOUNT	CUT-OFF DATE
DUE DATE	TOTAL AMOUNT DUE

RETURN SERVICE REQUESTED

MAIL TO:

Trimble County Water District #1

Rental Property Tenant Verification

I am the Owner of Record, as recorded within the Trimble County Property Evaluation Office, of the following property:

911 Address: _____

I hereby acknowledge that this property is rental property and authorize water service be supplied to this address, for the person(s) named on this document.

Tenant Name(s): (Please Print) _____

_____

I request notification of tenant delinquency billing. Yes__ No__
I understand that I will not be notified for non-delinquent termination of service.

Property Owner Information (Please Print)

Name: _____

Physical Address: _____

Mailing Address: _____

Email Address: _____

Contact #: _____ Cell # _____

_____ _____
Owner Signature Date

Witness: _____
District Representative

Account # _____

Proposed Rate Schedule
(2007 Analysis Year)

Trimble County Water District #1

GALLONAGE BLOCKS		MONTHLY RATE FOR EACH					
5/8 X 3/4 INCH METER							
CONNECTION FEE $1050				% inc.	$ inc.		**AVG.**
First	1,000 gallons	$ 17.50	(Minimum Bill)	25.27%	$ 3.53	}	**4890 gal.**
Next	2,000 gallons	$ 6.57	per 1,000 gallons	40.09%	$ 1.88	}	**$9.20/30.69**
Next	3,000 gallons	$ 5.14	per 1,000 gallons	25.98%	$ 1.06	}	**29.98%**
Next	6,000 gallons	$ 3.75	per 1,000 gallons				**AVG. BILL**
Over	12,000 gallons	$ 3.60	per 1,000 gallons				**RAISE**

Please note the additional changes approved by the Board of Commission:

Tap-On Fee for 3/4" X 5/8" Meter: $1,050.00

Tap-On Fee for other size meters: Actual Cost

Returned Check Fee: $25.00

PRELIMINARY ENGINEERING REPORT

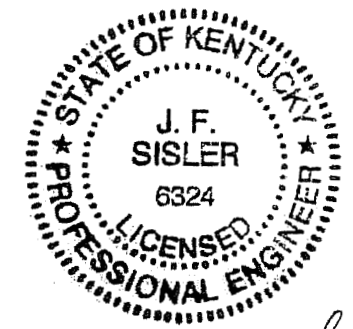
FOR

PHASE II

WATER DISTRIBUTION SYSTEM EXTENSIONS AND IMPROVEMENTS

TRIMBLE COUNTY WATER DISTRICT #1

TRIMBLE COUNTY, KENTUCKY



SEPTEMBER, 2003
SME: # 02109

SISLER-MAGGARD ENGINEERING, PLLC

220 EAST REYNOLDS ROAD, SUITE A3

LEXINGTON, KY 40517
(859) 271-2978
Fax (859) 271-5670
Email: smeng@alltel.net

TRIMBLE COUNTY WATER DISTRICT #1 MEMBERS

Gary Wentworth	**Chairman**
Lisa Graham	**Commissioner/Treasurer**
Rita Tharp	**Commissioner**
Darra Smith	**Manager**
Jamie Tilley	**Operator**

Preliminary Engineering Report

Trimble County Water District #1

Table of Contents

Executive Summary

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Preliminary Engineering Report
Trimble County Water District #1

Executive Summary

FINDINGS

The Trimble County Water District No. 1 was created by Order of the County Judge Executive of Trimble County, Kentucky, and adopted by commissioners of the Trimble County Water District No. 1 (TCWD 1), under by-laws dated March 12, 1956. The waterworks system of the District is owned and operated by the District under Chapters 74 and 106 of the Kentucky Revised Statutes.

The District's service area is generally the entire County of Trimble, bounded on the west by the Ohio River, on the east by Carroll County and the West Carroll Water District, on the south by Henry County Water District No. 2 and on the north by the Town of Milton, Kentucky. The District boundary is shown in Appendix B.

TCWD 1 serves primarily residential customers with one bulk sale customer, the West Carroll Water District. The historic growth in residential customers is shown in the following table:

Residential Customers of Trimble County Water District No. 1					
Year:	1984	1999	2000	2001	2002
No. of Customers:	722	1273	1300	1312	1345
Annual Increase:	4.4%	5.1%	2.1%	0.9%	2.5%

TCWD 1 sells approximately 1.5 million gallons of water per month to West Carrol Water District. The average system flow based on a 12 month average for 2002 is 350,000 gallons per day.

The Phase II project will eliminate existing asbestos cement water lines, galvanized water lines, provide additional water storage capacity and rehabilitate the existing water treatment plant. This project will also include a much needed new TCWD 1 office and equipment storage building.

Based upon the information available at this time, it appears that no rate increase will be required within the near future. However, the District should continue its annual audits to assure that the District will experience no unexpected shortfalls.

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Trimble County Water District #1 take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the extensions and improvements outlined in this report.

2. Begin the process of collecting all tap fees to complete the project funding, if necessary.

3. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.

4. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.

5. Upon favorable review and funding commitments of RD, advertise for bids.

6. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

Section 1

General

Phase II
Preliminary Engineering Report
Trimble County Water District #1

Section 1 - General

Purpose

The purpose of this Phase II project is to develop a plan that will evaluate the potential and feasible methods by which potable water supplies can be extended into the outlying areas of Trimble County and rehabilitate existing distribution mains that are deteriorating and add additional water storage to the system. Most of the areas of consideration in this Phase II report were not considered during the original studies, but are now possible after the completion of the recent projects. This project will also add a much needed office and equipment/material storage building.

Scope

The Trimble County Water District No. 1 water distribution system consists of approximately 103 miles of water lines ranging from 1" to 12", 1 master meter, 3 booster stations, and 5 pressure reducing valves. There are 340,000 gallons of usable water storage in the existing system.

Based on the current system mapping, the following pipe-size and lengths are estimated:

1" pipe – 4.2 miles
2" pipe – 9.8 miles
3" pipe – 46.7 miles
4" pipe – 19.4 miles
6" pipe – 21.6 miles
8" pipe – 0.3 miles
12" pipe – 0.7 miles
Total – 102.7 miles

There is only one system master meter, the West Carroll Water District Master Meter, located at State Highway 1226 and Trout Ridge Road in the most northeastern part of the District where shown in Appendix B. This meter is supplied water from the King's Ridge standpipe.

The scope of the Phase II project is to develop a safe and adequate supply of potable drinking water to those other feasible areas of Trimble County that are currently served by individual water supplies and eliminate existing problem areas within the existing distribution areas.

A more detailed description of the Phase II proposed service areas are given in the following sections: "Area to be Served" and "General Project Description".

Section 2

Planning Areas

Phase II

Preliminary Engineering Report

Trimble County Water District #1

Section 2 – Planning Areas

General Information

Location and Background Information

Trimble County is a small rural agricultural county located about 45 miles north of Louisville along the Ohio River. The county comprises 148 square miles (93,500 acres) and ranks 117th in size among Kentucky counties. The county seat is Bedford, with a population of 796. Milton, located along the Ohio River across from Madison, Indiana, has a population of 604. Trimble County is located as shown in Exhibit 1 along with major roads, streams and cities. Trimble County Water District Number 1 (TCWD 1) is also shown in Exhibit 1 along with major roads, streams and cities. Trimble County is served by U.S. Highways 42 and 421 and Kentucky Route 36. The closest railroad service to the county is in Campbellsburg, 7 miles from Bedford to the southeast, in Henry County. The nearest commercial airport is Louisville International, which is 43 miles from Bedford to the south-southwest. The topography of Trimble County is provided in Exhibit 2 and is best described as hilly terrain.

General Characteristics of the Planning Area

Since 1990, the population of Trimble County has increased by 2000 to a level of 8,125. About 1.4 percent of the population is minority. Twenty-nine percent of the population is in the 0 – 19 year old range, 60 percent is 19 – 64 years of age and 11% is 65 and older. Fifty-one percent of the population is female.

There are approximately 3,137 households with an average of 2.59 persons per household. The majority of rental property is privately owned, however public subsidized government housing is available. The demand for private rental property exceeds the supply.

The Trimble County per capita income was $16,355 in 2000 and the 2000 median family income was $36,192. The 2000 labor force was documented at 3,959 with an unemployment rate of 3.3 percent.

Trimble County has little major industry. The largest manufacturing firms in the county with number of employees are:

- A-square Company, Inc., Bedford, 15 employees,

- Bedford Machine, Inc., Bedford, 5 employees
- Trimble Banner, Bedford, 2 employees, and
- Kentuckiana Vault & Art Shop, Milton, 1 employee

Most of the labor force is employed within a 30-minute drive of the county. The largest area employers are Louisville Gas and Electric, Trimble County School System, and Nugent Sand Company. Trimble County has no developed industrial park and is just starting to implement county planning and zoning. There is no organized Chamber of Commerce.

The average size of Trimble County's 603 farms is 118 acres. Total farm acreage is 71,324 acres, of which 15,507 (22%) is harvested cropland. The number of full-time farmers is about 240.

Environmental Resources

1. Soils Information
   The U.S. Department of Agriculture Natural Resource Conservation Service would be contacted to provide information regarding the potential impact of any project on prime farmland in the area.

2. Historical and Archeological Information
   The Kentucky State Historical Preservation Office would be contacted to provide information regarding the potential impact of any project to historical and archeological sites in the area.

3. Endangered Species and Wetland Information
   The Kentucky Natural Resources and Environmental Protection Cabinet would be contacted to determine potential impacts to wetlands or endangered species from this construction project.

4. Flood Elevations
   The Kentucky Division of Water Branch would be contacted concerning the 25 and 100-year flood elevations for any project.

5. Recreation and Open Space
   Acquisition of easements for construction of a project may be necessary. These temporary easements will be approximately 20 feet wide and will not provide any opportunity for the development of open spaces and recreational activities.

6. Unavoidable Adverse Impacts
   Noise and air pollution may result from any proposed construction activities. Noise pollution can be mitigated, but not eliminated, by requiring the contractor to adequately maintain noise suppressing devices on the construction equipment. Requiring the contractor to comply with the Clean Air Act can similarly mitigate air pollution. Erosion and stream sedimentation can also result from proposed construction activities. Requiring the contractor to install and maintain erosion control devices during construction are required as part of best management practices

can mitigate these issues. These can include as a minimum, silt fences, prompt seeding and mulching, and prompt clean-up and site stabilization.

Growth Areas and Population Trends

As stated in Section 1.2, the 2000 population of Trimble County was 8,125. This is a 33% increase above the 1990 population of 6,090 for an average annual increase of 3%. Population projections for the county published in 2003 from the Kentucky State Data Center are provided below.

2005 Population Projections for Trimble County, Kentucky			
Year:	2005	2010	2020
Population:	9,167	10,284	12,906

Proposed Service Areas. See detailed road by road breakdown in Appendix A.

US 421

Beginning at a point near the Trimble County High School and continuing north on US 421 for approximately 5 miles with a 12" line.

Cutshaw Lane

Connecting to an existing 4" line with a new 6" line on Cutshaw Lane and continuing until it intersects with an existing 4" line on SR 42.

Gatewood Lane

Connecting to an existing 6" line on US 421 and continuing east with a 6" line on Gatewood Lane until its end for approximately 1.06 miles.

Lehue Lane

Connecting to an existing 6" line on US 421 and continuing east on Lehue Lane with a 6" line for approximately 0.85 miles.

US 421 South to Stark Lane

Connecting with an existing 6" line on US 421 and continuing east on US 421 to near its intersection with Stark Lane with 0.66 miles of waterline.

Stone Street

Connecting with an existing 6" line and continuing on Stone Street to its end with a 6" water line for approximately 0.13 miles.

Hughes Drive

Connecting with an existing 6" line and continuing on Hughes Drive to its end for approximately 0.27 miles with a 6" water line.

Meadow Lane

Connecting with an existing 6" line and continuing on Meadow Lane with a 6" waterline to near its end for approximately 0.14 miles.

Stark Hill

Connecting with a 6" line and continuing on Stark Hill Road with a 6" water line to near its end for approximately 0.51 miles.

Bell South Alley

Connecting with a 6" line and continuing Bell South Alley with a 6" water line to near its end for approximately 0.38 miles.

SR 42

Connecting to an existing 8" line on Cutshaw Lane near its intersection with SR 42 and continuing east with an 8" waterline until its intersection with Stark Lane with approximately 1.65 miles.

Fairground Road

Connecting to an existing 6" line on US 421 and continuing on Fairground Road with a 6" line until near its end with 1.38 miles.

Watson Lane

Connecting to an existing 6" line on US 421 and continuing on Watson Lane to near its end with a 4" water line with 0.61 miles.

Wises Landing

Connecting to Wells #3 and #4 and continuing north on county road with a 8" line until near its end with approximately 1.17 miles.

SR 625

Connecting to an existing 12" water line and continuing east on SR 625 with a 12" line until connecting with an existing 12" on US 421with approximately 0.26 miles.

Section 3

EXISTING FACILITIES

Phase II
Preliminary Engineering Report
Trimble County Water District #1

Section – 3 Existing Facilities

Description (with System Map)

Appendix B shows the location and details of the TCWD 1 water system. Information and details provided in this section of the Plan include the source of supply, water treatment system, booster stations, storage, and distribution system.

Source of Supply

The source of raw water supply for TCWD 1 is groundwater wells located in the Ohio River alluvium on the western edge of the service area as shown in Appendix B. There are 4 wells used for raw water production. The 2 older wells (1 & 2) are considered a secondary system and the two newer wells (3 & 4) are considered the primary system. At one time, there were two 4" water supply wells that were originally rated at 250 gallons per minute (gpm) that were drilled in 1957. These were both abandoned in 1998 because they began to produce sand when pumped. There was no significant impact to the system from this abandonment because by 1998 there were 4 additional wells available. The Kentucky Division of Water has designated the source of water for TCWD 1 as groundwater not under the influence of surface water.

Secondary Raw Water Supply (Wells 1 & 2)

Well #1 was drilled in 1974 and is 85 feet deep. It has a 10-inch diameter casing and is rated at 250 gpm. It is located in what is called the old well field and is currently on standby. Standby here means that this well pump is available to be turned on either manually or via a telephone telemetry pressure switch from the TCWD 1 Office as needed. Annual usage of this well only occurs during the higher consumption summer months. Maintenance on this well involves pumping it once a month for approximately 20,000 gallons (into the system) and having a well service contractor conduct a well pump test twice a year.

Well #2 was drilled in 1974 and is 87 feet deep. It has a 10-inch diameter casing and is rated at 250 gpm. It is also located in the old well field and is currently on standby. Standby here means that this well pump is available to be manually turned on at the well head for use as needed.

Maintenance on this well involves having a contractor conduct a pump test on it twice per year.

Additional maintenance on both wells 1 and 2 includes changing the pump oil twice per year and checking the pump head packing. The location of wells 1 and 2 in the TCWD 1 system is shown in Exhibit 3. Wells 1 and 2 pump to the Bray's Booster Station.

Details of the pump equipment in wells 1 and 2 are provided in the following table.

	Well #1	**Well #2**
Pump Type:	Peabody Floway Model No. 8JKL	Peabody Floway Model No. 8JKM
Motor Specifications:	40 hp US motor; 460 volt; 3 phase; 60 cycle, 1760 rpm	40 hp US motor; 460 volt; 3 phase; 60 cycle, 1800 rpm
Size:	250 GPM	250 GPM
Pump Bowls:	6 inch – 19 stage	6 inch – 16 stage
Electrical Control:	Allen Bradley, 3 phase, 5 pole, 135 amp max., size 4 starter	Furnace, 3 phase, 115 max amp, size 3.5 starter

Primary Raw Water Supply (Wells 3 & 4)

Well #3 was drilled in late 1991 and is 128 feet deep. It has a 16-inch diameter casing and is rated at 300 gpm. It is located in what is called the Wise's Landing well field and is currently a main supplier in the system.

Well #4 was drilled in early 1992 and is 125 feet deep. It also has a 16-inch casing and is rated at 300 gpm. It is also located in the Wise's Landing well field and is currently a main supplier in the system.

The location of wells 3 and 4 in the TCWD 1 system is shown in Appendix B. Wells 3 and 4 pump to the LG & E 40,000 gallon standpipe.

Details of the pump equipment in wells 3 and 4 are provided in the following table.

	Well #3	**Well #4**
Pump Type:	Worthington Model No. 10L30	Simmons Model No. SP9L
Motor Specifications:	50 hp US motor; 440 volt; 3 phase; 60 cycle, 1760 rpm	50 hp; 440 volt; 3 phase; 60 cycle, 1760 rpm
Size:	300 GPM	300 GPM
Pump Bowls:	6 inch – 9 stage	6 inch – 9 stage
Electrical Control:	Allen Bradley, 3 phase, 5 pole, 90 amp max., size 3 starter	Allen Bradley, 3 phase, 5 pole, 90 amp max., size 3 starter
Notes:	New control box and new motor installed 1998	New control box installed in 1996. Motor is original.

Water treatment for wells 3 & 4 occurs on the transmission line at Wise's Landing soon after water from wells 3 & 4 are manifolded together. Part of the treatment system consists of a high head Baldor pump (5 hp, 3 phase, 60 Hz) that circulates raw water from the system through the chlorinator

treatment system then injects it back into the transmission system. There is also a fluoride injection system at this treatment unit location. Specific details of the TCWD 1 treatment systems are provided in a later subsection of this plan. Also, flow from wells 3 and 4 at the treatment unit is monitored by Signet electronic flowmeter model #3-5500.

The operation of wells 3 and 4 is controlled by Microcomm radio telemetry system with the following settings: lead pump on when the LG&E Standpipe head is 18.5 feet, lead pump off when the LG&E Standpipe head is 25.5 feet. The lag pump comes on when the LG&E Standpipe head is 17.5 feet and the lag pump turns off then the LG&E Standpipe head is 25.0 feet. The details of the controlling LG&E Standpipe heads are also provided in the following table.

LG&E Standpipe Water Level in Feet	**On**	**Off**
Lead Pump	18.5'	25.5'
Lag Pump	17.5'	25.0'
Note: LG&E Tank Water Level of 25.5 feet corresponds to 740 feet MSL.		

Water Treatment Systems

There are two independent water treatment systems because of the two stand-alone raw water supplies. Treatment of the groundwater source of raw water consists of chlorine disinfection and fluoride addition. This section details the water treatment systems for the primary well system at Wise's Landing for wells 3 & 4, and the secondary well system treatment at Bray's Booster Station for wells 1 & 2.

Wise's Landing Treatment System (Wells 3 & 4)

Treatment of the groundwater source of raw water consists of chlorine disinfection and fluoride addition. The chlorine system is 2 - 150-pound chlorine gas cylinders, feeding at 4 ppm, with an auto switchover between cylinders, on a dedicated dual read scale. Injection is set for 350 gpm water flow average into the system from wells 3 & 4 that is determined from flowmeter data and monthly averages. Consumption is approximately 3 to 4 pounds per day. The system is inspected daily and is in good original condition from 1992. The chlorine injection unit received a factory overhaul in the Spring of 1999 and a spare Regal unit was used on a temporary basis.

The Fluoride system consists of a metering pump that is a 110 volt, auto start, manual adjust unit. This unit is connected to and feeds from a drum of Fluorosilicic Acid that sits on a mechanical scale. The injection pump is set on a low rate of about 1.2 to 1.3 ppm Fluoride into the system. Consumption is about 1 drum per month. The Fluoride system is inspected on a daily basis and is in good original condition from 1992.

Details of the chlorine and fluoride treatment system are provided in the following table.

Wise's Landing Treatment System Components (for wells 3 & 4)	
Master Control:	Wallace & Tiernan, Model V100A w/Rotameter & Injection Unit
Automatic Switchover Unit:	Wallace & Tiernan, Model 200C
Two-Cylinder Scale:	Wallace & Tiernan, Model 50-345
Chlorine Pump:	Webtrol, Model H20B 12-3, 5 HP, 3450 rpm
Chlorine Detector:	Wallace & Tiernan, Model 50-135
Fluoride Feeder:	LMI, Model A341-150FS

There is no contact tank at the Wise's Landing Treatment System to ensure the required 30 minutes of chlorine contact time for disinfection. Disinfection takes place in the 6" PVC transmission main and the 40,000 gallon LG&E standpipe where shown on Exhibit 3. The Wise's Landing distribution system consists of approximately 6,900 feet of 3" PVC pipe connected to the 6" transmission main from the Wise's Landing Treatment System with a pressure regulating valve (PRV).

From field measurements provided by the District, the distance from the Wise's Landing Treatment System to the distribution system PRV is 3,200 feet. The next distance from the PRV to the first customer is 2,300 feet. As noted above, the design capacity of the pumps in Wells 3 and 4 is 300 gpm. The velocity of this pumping rate in 6" pipe is 204.2 feet per minute and it would take 15.7 minutes for the newly treated water to reach the PRV valve of the distribution system. This approximate 16 minute travel time from treatment to the distribution system is insufficient to meet the 30 minute contact time for disinfection.

Bray's Booster Station Treatment System (Wells 1 & 2)

Treatment of the groundwater source of raw water from wells 1 & 2 also consists of chlorine disinfection and fluoride addition. The chlorine system is a single 150 pound chlorine gas cylinder, feeding at 4 ppm, on a dedicated dual read scale. Injection is set for a 250 gpm pump rate into the booster station clearwell. The system is inspected daily and is in new condition from 1999.

The Fluoride system consists of a metering pump that is 110 volt, auto start, manual adjust unit. This unit is connected to and feeds from a drum of Fluorosilicic Acid that sits on a mechanical scale. The injection pump is set on a low rate of about 1.2 to 1.3 ppm Fluoride into the system. The Fluoride system is inspected on a daily basis and is in new condition from 1999. Details of the Bray's Booster Station chlorine and fluoride treatment system are provided in the following table.

Bray's Booster Station Treatment System Components (for wells 1 & 2)	
Master Control:	Wallace & Tiernan, Model V100A w/Rotameter & Injection Unit
Automatic Switchover Unit:	Wallace & Tiernan, Model 200C
Two-Cylinder Scale:	Wallace & Tiernan, Model 50-345
Chlorine Pump:	Webtrol, Model H20B 12-3, 5 HP, 3450 rpm
Chlorine Detector:	Wallace & Tiernan, Model 50-135
Fluoride Feeder:	LMI, Model A341-150FS

Booster Stations

There are three booster stations in the TCWD 1 water system. The LG&E booster station is located in the western end of the district and fed from the LG&E standpipe which is fed from Wise's Landing wells 3 & 4. The Bray's booster station is located in the southwest part of the district on Bray road and fed from a 14,000 gallon clearwell which is fed from the distribution system primarily of water to the West Carroll Water District master meter. The locations of the three booster stations are shown on Appendix B. Details of each booster station are contained in this section.

LG&E Booster Station

The LG&E booster station is fed from the LG&E 40,000 gallon standpipe that is fed from wells 3 and 4. Details and notes on the booster station pumps are provided in the following table.

The LG&E booster station is operated from a telemetry system signal from the 300,000 gallon water tank, called the New Town Tank in Bedford. Pump tests conducted in the Fall of 2000 on the LG&E booster station pumps indicates that pump 1 is capable of 196 GPM at 380' TDH for a relative performance rating of 78% (196gpm/250gpm) of design capacity. Pump 2 performs at 187 GPM at 380' TDH for a relative performance rating of 75% (187gpm/ 250gpm) of design capacity. Shut off TDH for each pump was approximately at original design levels.

Details of the expected booster station operation settings are provided in the following table.

LG&E Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Peabody Floway Model No. 6JKH	Peabody Floway Model No. 6JKH
Motor Specifications:	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM
Size:	250 GPM @ 380' TDH	250 GPM @ 380' TDH
Pump Bowls:	6" – 6 stage	6" – 6 stage
Electrical Control:	Engineering Fluid Inc. (EFI)	Engineering Fluid Inc. (EFI)
Notes:	New motor installed 1995. Pump bowls are original 1992.	Motor is original. Pump bowls are original 1992.
	No service or maintenance has been performed on the pump bowls. The pumps have history of hard use; running dry; and rapid on/off operation. Electronic Flowmeter is inoperative since 1999. TCWD system usually requires running both the LG&E booster station pumps to keep up with consumption.	
New Town Tank Water Level	**On**	**Off**
LG&E Booster Lead Pump	19.5'	29.5'
LG&E Booster Lag Pump	19'	29.0'
Note: New Town Tank Water Level of 30 feet corresponds to 1050 feet MSL.		

Bray's Booster Station

Bray's booster station is fed from wells 1 and 2. The original booster station was constructed in 1956. This booster station received a major overhaul in 1999 with new electric service, new controls, new chlorine and fluoride rooms and systems, new painting, new electric motor #1 (electric motor #2 was new in 1996), new chlorine detector, and a new mercury flow switch. Original pump design details are not available for the Bray's booster station pumps and no work was performed on the pumps in the 1999 overhaul. Pump specifications obtained from a pump supplier are questionable as to the actual pumps that are in the Bray's booster station.

Details and notes on the booster station pumps are provided below.

Bray's Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Peabody Floway Model No. L6 (possible M6)	Peabody Floway Model No. M6
Motor Specifications:	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM	40 hp US motor; 230/460 volt; 3 phase; 60 cycle, 3500 RPM
Size:	180 GPM @ 400' TDH	250 GPM @ 420' TDH
Pump Bowls:	6" – 6 stage	6" – 7 stage
Electrical Control:	Furnace	Furnace
Notes:	No service or maintenance has been performed on the pumps. Pumps are 1974 installed equipment.	

The operation of the Bray's booster station is as follows: System pressure at the District office is monitored by a pressure switch. At a kick-on system pressure of 40 psi at the District office, this switch starts the pump at Well #1 via a telephone system, to pump to the Bray's Booster Station 14,000 gallon clearwell. A high level float switch starts a booster pump to pump to the 300,000 gallon New Town Tank. At a full level or 60 psi system pressure, the District office pressure switch turns off well #1 via the telephone system. Bray's booster pumps the level in the clearwell to a low level switch before turning off. The chemical feeds to the station clearwell turn on when the booster pump turns on and turns off when the booster pump turns off. The Bray's booster pumps alternate in service and do not pump together.

Pump tests conducted by others on the Bray's booster pumps in the fall of 2000 indicate that pump 2 is capable of 131 GPM at 420' TDH for a performance rating of 52% (131gpm/250gpm) of design capacity. A performance rating for pump 1 is uncertain because the results of the pump test provide a pump curve that is very similar to the pump curve from pump 2. For comparison, pump 1 performs at 172 gpm at 400' TDH for a performance rating of 96% of design capacity if the pump design is 180 gpm @ 380' TDH. Or, the pump 1 performance rating is 48% if pump 1 is the same model as pump 2 and the pump design is 250 gpm @ 420' TDH. Based on the description of the lack of pump maintenance and the age of the pumps, it is more likely that pump 1 is operating at 48% of design capacity that is close to the performance rating of 52% for pump 2. As will be noted later in this document, additional work is recommended on the Bray booster station pumps.

Observations by others made during the Bray's booster station visit included the following:

1. The station booster pump started at a clearwell level of 97 inches and shut off at a clearwell level of 70 inches for a useable volume of ~ 27 inches of clearwell height.

2. Clearwell dimensions from Jamie Tilley of the Water District are about 12'4" X 14' for a volume of 1,291 gallons per foot depth. Total depth is approximately 10.5 feet for a total volume of 13,562 gallons.

New Hope Booster Station

The New Hope booster station is located at the intersection of Highway 421 and Hope Ridge Road on the northern most part of the water district. This booster station mostly operates to supply the West Carroll Water District Master Meter.

The New Hope booster station is an EFI Booster Pump Station model #82309-B-001, installed in 1988. The details of the station are provided in the following table.

New Hope Booster Station Pump Details		
	Unit #1	Unit #2
Pump Type:	Paco centrifugal Model 1595-5	Paco centrifugal Model 1595-5
Motor Specifications:	5hp Leeson motor; 240 volt	5hp Leeson motor; 240 volt
Pump Size:	1.5" discharge, 110 GPM	1.5" discharge, 110 GPM
Electrical Control:	EFI	EFI
Notes:	New Pump in April 2000	Original Equipment
	Operating time is reported to be about 12 hours per day.	

The New Hope booster station comes on at 50 psi system pressure (95 foot water elevation in the Kings Ridge water tank) and pumps to 55 psi system pressure (107 foot water elevation in Kings Ridge water tank). The pumps are operated by "Global" piston controlled altitude valves.

Storage

There are two standpipes and two elevated water tanks that presently supply the TCWD 1. This section contains the details of each water storage vessel. The conditions of the storage vessels are provided in a later section.

New Town Tank: This is a 300,000 gallon steel elevated water tank located in Bedford behind the District Office with a tank height of 130 feet. The overflow water depth of 30 feet corresponds to an elevation of 1050 feet MSL. Construction on this tank was completed in the Fall of 2000 and the tank was put online over the winter of 2000/2001. There was a transition period during which time the New Town Tank was operated at a full level of 1040 feet to prevent overflowing the Kings Ridge standpipe (overflow 1040') due to flow through the New Hope booster station. Future modifications are required to the water distribution system to facilitate the complete use of the New Town Tank.

LG&E Standpipe: This is a 40,000 gallon steel standpipe located on the west side of the planning area with a tank height of 26 feet. The overflow water depth of 25.5 feet corresponds to an elevation

of 740 feet MSL. This tank supplies the LG&E facility on the Ohio River, customers located at Wise's Landing and the LG&E booster station. This tank does not pressurize the distribution system with the exception of Wise's Landing.

King's Ridge Standpipe: This is a 125,000 gallon steel standpipe in the northern planning area with a tank height of 107 feet. The New Hope Booster Station comes on at 50 psi system pressure (95' tank water) and pumps to 55 psi system pressure (107' tank water) pumping 12 feet of water into the Kings Ridge standpipe. The overflow water depth of 107 feet corresponds to an elevation of 1040 feet MSL. The Kings Ridge standpipe does not pressurize the distribution system that is upstream (south) of the New Hope booster station.

The current maximum system storage that can be contained in the New Town Tank and the LG&E standpipe is 340,000 gallons. The King's Ridge standpipe is not included in this storage volume because it does not pressurize the distribution system south of the New Hope booster station. There are no fire flow storage requirements by the Bedford fire department in areas with fire hydrants. The district currently has a minimum of one day storage.

Distribution System

The Trimble County Water District No. 1 water distribution system consists of approximately 103 miles of water lines ranging from 1" to 12", 1 master meter, 3 booster stations, and 5 pressure reducing valves.

Based on the current system mapping, the following pipe-size lengths are estimated:

1" pipe – 4.2 miles
2" pipe – 9.8 miles
3" pipe – 46.7 miles
4" pipe – 19.4 miles
6" pipe – 21.6 miles
8" pipe – 0.3 miles
12" pipe – 0.7 miles
Total – 102.7 miles

There is only one system master meter, the West Carroll Water District Master Meter, located at highway 1226 and Trout Ridge Road in the northeastern-most part of the District where shown on Appendix B. This meter is supplied water from the King's Ridge standpipe.

The 5 pressure regulating valves (PRV's) are located at Mount Pleasant Road, Barebone Road, Sulphur Road, Highway 421 South, and at Wise's Landing. The locations of the PRV's are shown on Exhibit 3. The pressure settings of the valves are as shown below.

TCWD 1 Water System Pressure Regulating Valves		
Location	Inlet Pressure (psi)	Outlet Pressure (psi)
Mount Pleasant Road	80	60
Barebone Road	220	40
Sulphur Road	135	42
Highway 421 South	122	55
Wises Landing	150	46

There are 31 – 6" fire hydrants in Bedford and no private fire hydrants. Not all of the 6-inch hydrants are located on 6-inch water lines.

3.2 History

The Trimble County Water District No. 1 was created by Order of the County Judge Executive of Trimble County, Kentucky, and adopted by commissioners of the Trimble County Water District No. 1, under by-laws dated March 12, 1956. The waterworks system of the District is owned and operated by the District under Chapters 74 and 106 of the Kentucky Revised Statutes.

The District's service area is generally the entire County of Trimble, bounded on the west by the Ohio River, on the east by Carroll County and the West Carroll Water District, on the south by Henry County Water District No. 2 and on the north by the Town of Milton, Kentucky. The District boundary is shown on Exhibit 3.

TCWD 1 serves primarily residential customers with one bulk sale customer, the West Carroll Water District. The historic growth in residential customers is shown in the following table:

Residential Customers of Trimble County Water District No. 1				
Year:	1965	1974	1984	1999
No. of Customers:	341	503	722	1273
Annual Increase:		5.3%	4.4%	5.1%

TCWD 1 sells approximately 1 million gallons of water per year. The average system flow based on a 12 month average from 1999 is 280,000 gallons per day.

The bulk sale of water to West Carroll Water District (WCWD) commenced in 1983 and the volume sold has doubled since that time as shown in the following table.

Water sold to West Carroll Water District in gallons.		
Year:	1983	1999
Volume:	7,903,900	17,387,500
Average Annual Increase:		7%

Based on map information received from the WCWD, their system that distributes water purchased from TCWD consists of a 47,000 gallon standpipe and approximately 19.7 miles of PVC pipe as follows:

2" pipe – 0.4 miles
3" pipe – 14.9 miles
4" pipe – 1.9 miles
6" pipe – 2.5 miles
Total – 19.7 miles

3.3 Condition of Facilities.

Water Loss

Pumped water that is not sold, distributed free, or used by the District is considered water loss. In 1998, water loss amounted to 11,000,000 gallons of 124,388,000 gallons of water pumped or 8.8%. In 1999, water loss amounted to 17,460,830 gallons of the 130,319,700 gallons of water pumped or 13.4%. The District has embarked on an effort to install additional system master meters to further refine the distribution network and identify and reduce water loss.

Suitability for Continued Use

The lack of sufficient back-flow preventers is an issue that is presently being addressed by the District.

Adequacy of Water Supply

This section is addressed with respect to volume and quality.

Volume – The District is presently using 2 supply wells (3 & 4) that are rated at 300 gpm each. The District also can use 2 additional supply wells (1 & 2) that are rated at 250 gpm each. This combined pumping rate availability of 1,100 gpm is more than 4 times the average gallons per minute (248 gpm) necessary to meet the pumpage of 127,000,000 gallons per year in 2002.

Quality – All mentioned constituents are within regulatory levels and water quality is considered good.

Treatment

Current treatment capability at wells 3 & 4 is up to 500 gpm. Available treatment capability at wells 1 & 2 is also up to 500 gpm.

Storage

The three oldest storage tanks were inspected in Spring of 1996. The District is addressing the recommendations made during those inspections.

Compliance with Federal (SDWA) and State Requirements

As noted in Section 2.1.1, the Kentucky Division of Water has designated the source of water to TCWD 1 as groundwater not under the influence of surface water. With respect to potential impacts from near future regulations, EPA published a new proposed Groundwater Rule in the Federal Register on May 10, 2000 with comments due by August 8, 2000. From the summary of the proposed rule:

> "EPA is proposing to require a targeted risk-based regulatory strategy for all ground water systems. The proposed requirements provide a meaningful opportunity to reduce public health risk associated with the consumption of waterborne pathogens from fecal contamination for a substantial number of people served by ground water sources.
>
> The proposed strategy addresses risks through a multiple-barrier approach that relies on five major components: periodic sanitary surveys of ground water systems requiring the evaluation of eight elements and the identification of significant deficiencies; hydrogeologic assessments to identify wells sensitive to fecal contamination; source water monitoring for systems drawing from sensitive wells without treatment or with other indications of risk; a requirement for correction of significant deficiencies and fecal contamination (by eliminating the source of contamination, correcting the significant deficiency, providing an alternative source water, or providing a treatment which achieves at least 99.99 percent inactivation or removal of viruses); and compliance monitoring to insure disinfection treatment is reliably operated where it is used."

Further information regarding the details of the proposed Groundwater Rule may be obtained at http://www.epa.gov/fedgstr/EPA-WATER/2000/May/Day-10/w10762.htm. Further information regarding drinking water regulations and guidance may be obtained at http://www.epa.gov/safewater/regs.html.

Section 4

Need for Project

Phase II
Preliminary Engineering Report
Trimble County Water District No. 1

Section 4 – Need for Project

Design Criteria and Approvals

All waterlines will be designed in accordance with Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, USDA, Rural Utilities Service and Kentucky Public Service Commission guidelines.

Design drawings will be submitted for approval to the Division of Water and RD. The Preliminary and Final Engineering Reports will be filed with the application for a Certificate of Convenience and Necessity from the Kentucky Public Service Commission. The minimum pressure at all customer meter connections will be 30 psi. Individual pressure reducing valves will be provided at all meter settings where main line pressure is to exceed 90 psi.

Land and Rights-of-Way

For all lines constructed on private rights-of-way, a construction and permanent easement will be obtained from the private property owner prior to constructing the lines. If lines are to be constructed on Kentucky state or county highways, all necessary encroachment permits will be obtained before proceeding with waterline construction.

There will be requirements for fee simple land acquisition of the water tank site for this project.

The water tank sites proposed for this project will require less than 0.50 acre of fee simple property acquisition for each site. The proposed location of the 100,000 gallon water tank will be located on Stark Lane and the proposed location of the 50,000 gallon water tank will be on US 421 near its intersection with SR 1226.

Source of Water Supply

The District is presently using 2 supply wells (3 & 4) that are rated at 300 gpm each. The District also can use 2 additional supply wells (1 & 2) that are rated at 250 gpm each. This combined pumping rate availability of 1,100 gpm is more than 4 times the average gallons per minute (248 gpm) necessary to meet the pumpage of 130,319,700 gallons in 1999.

Quality – All mentioned constituents are within regulatory levels and water quality is considered good.

Treatment

Current treatment capability at wells 3 & 4 is up to 500 gpm. Available treatment capability at wells 1 & 2 is also up to 500 gpm.

Total Water Storage

The current maximum system storage that can be contained in the New Town Tank and the LG&E standpipe is 340,000 gallons. The King's Ridge standpipe is not included in this storage volume because it does not pressurize the distribution system south of the New Hope booster station.

Therefore, with the addition of the proposed 100,000 – gallon tank on Stark Ridge and the 50,000 – gallon tank off US 421will bring the total amount of available storage 490,000 gallons.

Therefore, the District is meeting the necessary water storage requirements. The minimum storage requirements is one day of storage, but most rural systems are recommended to have 1 ½ to 2 days of storage.

Distribution System Extensions

The proposed distribution system improvements include the installation of approximately 15 miles of rural waterline extensions in the Trimble County Water District No. 1 to help eliminate existing problems due to deteriorating existing distribution lines. A preliminary hydraulic analysis was performed using "Cybernet", an AutoCad add-in program using "KYPIPE" computational algorithms.

The Phase II project is primarily a waterline system improvement project with rehabilitation to existing facilities with the addition of one 100,000 – gallon water storage tank to help eliminate an existing pressure problem area.

Section 5

Proposals Considered

Phase II
Preliminary Engineering Report
Trimble County Water District #1

Section 5 – Proposals considered

General

Phase II extensions into the outlying areas of Trimble County are being considered due to the same reasons that necessitated the need for this project, including contaminated drinking water sources.

The following are the areas under consideration for a proposed Phase II project:
(See Appendix B for location of lines)

Line 1- Beginning with a new 12" line at US 421 and continuing to approximately the intersection of SR 42 West with 5 miles of waterline.

Line 2- Connecting to an existing 4" line with a new 6" line on Cutshaw Lane and continuing until it intersects with an existing 4" line on SR 42. This line will be approximately 0.80 miles and will also provide a loop with Cutshaw Lane SR 42.

Line 3- Connecting to an existing 6" line on US 421 and continuing east with a 6" line on Gatewood Lane until its end. This line will eliminate an existing 2" line with 1.06 miles of waterline.

Line 4- Connecting to an existing 6" line on US 421 and continuing east on Lehue Lane with a 6" line. This line will eliminate an existing 1 ½" line within 0.85 miles of waterline.

Line 5- Connecting with an existing 6" line on US 421 continuing east on US 421 to near its intersection with Stark Lane with 0.66 miles of 6" waterline.

Line 6- Connecting with an existing 6" line and continuing on Stone Street to its end with a 6" water line for approximately 0.13 miles while eliminating galvanized water line.

Line 7- Connecting with an existing 6" line and continuing on Hughes Drive to its end for approximately 0.27 miles with a 6" water line while eliminating existing galvanized water line.

Line 8- Connecting with an existing 6" line and continuing on Meadow Lane with a 6" waterline to near its end for approximately 0.14 miles while eliminating existing galvanized water line.

Line 9- Connecting with a 6" line and continuing on Stark Hill Road with a 6" water line to near its end for approximately 0.51 miles while eliminating existing galvanized water line.

Line 10- Connecting with a 6" line and continuing on Bell South Alley with a 6" water line to near its end for approximately 0.38 miles while eliminating existing galvanized water line.

Line 11- Connecting to an existing 6" line on US 421 and continuing on Fairground Road with a 6" line until near its end while eliminating an existing 1" water line with 1.38 miles of 6" waterline.

Line 12- Connecting to an existing 6" line on US 421 and continuing on Watson Lane to near its end with a 4" water line with 0.61 miles. This will eliminate existing individual service lines.

Line 13- Connecting to an existing 8" line on Cutshaw Lane near its intersection with SR 42 and continuing east on SR 42 with a 8" line until near its intersection with Stark Lane with approximately 1.65 miles of waterline.

Line 14- Connecting to an existing 8" line near wells #3 and #4 near its intersection with Wises Landing Road and continuing north with a 8" line until near its intersection with SR 754 with approximately 1.17 miles of waterline.

Line 15- Connecting to an existing 12" line on SR 625 near its intersection with US 421 and continuing east with a 12" line until tieing into an existing 12" water line on US 421 with approximately 0.28 miles of waterline.

Connecting waterlines together in any one area is referred to in this report as "looping". Any time that it is feasible to loop lines together it is to the Water District's advantage. Looping provides an additional path of potable water to a particular area that originally had only one direct route. One advantage would be the ability to continue serving customers if a waterline should rupture at one end of the line, another advantage is the increase in flow to a particular area that has been looped together which in retrospect will also somewhat increase the pressure to this area due to the decrease in friction losses.

This project will also include a water treatment plant upgrade. This will include an upgrade to the existing high service pumps at Brays Ridge, a new clearwell and provide 24 hour chlorine monitors at both existing well fields.

Also, this project will include a 100,000 gallon water storage tank to provide adequate pressure to the Stark Lane area and a 50,000 gallon water storage tank in the Northern section of the distribution system to provide much need storage in that area.

This project will also include a 4,920 square foot Water District office with much needed equipment/material storage and required telemetry and computer upgrades for the proposed additional facilities.

CONSTRUCTION PROBLEMS

The proposed project as presented in this report does not anticipate any significant problems. There are several small stream crossings and one large stream crossing where a minimum amount of sedimentation is to be expected to occur temporarily during waterline construction. There will also be a minimal amount of interruptions to existing customers during tie-ins to the existing system.

HYDRAULIC COMPUTATIONS

A hydraulic analysis was performed to determine line sizes and the overall effect this project will have on the system.

Section 6

Conclusions and Recommendations

Phase II
Preliminary Engineering Report
Trimble County Water District #1

Section 6 – Conclusions and recommendations

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Trimble County Water District #1 take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the extensions and improvements outlined in this report.

2. Begin the process of collecting all tap fees to complete the project funding.

4. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.

5. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.

6. Upon favorable review and funding commitments of RD, advertise for bids.

7. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

CONSTRUCTION COST ESTIMATES

AND

TOTAL PROJECT COST ESTIMATES

PROJECT COST ESTIMATE

TRIMBLE COUNTY WATER DISTRICT #1
PHASE II WATER SYSTEM IMPROVEMENTS

Item	Description	Cost
1	Estimated Construction Cost	$ 1,690,000
2	Acquisition	$ 10,000
3	Preliminary Engineering Report	$ 5,000
4	Engineering Design	$ 123,000
5	Engineering Inspection	$ 63,000
6	Additional Engineering Services a. Permits b. PSC Assistance c. Site Surveys d. Easement Assistance	$ 30,000
7	RD Legal and RD Administration	$ 30,000
8	Interest during Construction	$ 20,000
9	CDBG Administration	$ 40,000
10	Contingencies	$ 169,000
Total Project Cost		**$ 2,180,000**

PROPOSED PROJECT FUNDING

PROPOSED PROJECT FUNDING

TRIMBLE COUNTY WATER DISTRICT #1
PHASE II WATER SYSTEM IMPROVEMENTS

RD Grant	$ 770,000
RD Loan	$ 660,000
CDBG Grant	$ 750,000
Total Project Cost	**$2,180,000**

FINANCIAL AND ANNUAL OPERATING BUDGETS

EXISTING RATE SCHEDULE

TRIMBLE COUNTY WATER DISTRICT
Phase II Waterline Extensions

The following table contains the District's rate increase history and the present operating rate schedule.

Rate History of Trimble County Water District No. 1				
Effective Date:	6/13/81	3/25/88	3/6/92	3/5/99
First 1,000 gallons	$5.00	$6.00	$7.00	$13.97
Next 2,000 gallons (per 1,000)	$3.00	$3.40	$4.00	$4.69
Next 3,000 gallons (per 1,000)	$2.00	$2.30	$3.00	$4.08
Next 6,000 gallons (per 1,000)	$1.50	$1.70	$2.00	$3.47
All over 12,000 gallons (per 1,000)	$1.00	$1.25	$1.50	$2.86
West Carroll Water District (per 1,000)	$0.60	$1.25	$1.25	$1.74
Sales to Tank Trucks (per 1,000 gal.)		$3.00	$3.00	$5.00
Connection Fee	$300	$300	$300	$525
Customer Deposit				$42
Disconnect/Reconnect Fee				$35

Annual Operation and Maintenance Cost

The following table contains the TCWD 1 recent O&M cost history.

Annual Operation and Maintenance Costs for Trimble County Water District No. 1	
2001	2002
$485,595	$503,286

Tabulation of Users by Monthly Usage Categories

The following table contains the 2002 distribution of water sales and customer numbers by usage category including the West Carroll Water District (WCWD). The relative distribution of the sales and customers by category has remained fairly consistent since 1995.

	Sales	**Percent of**		**Customers per**	**Percent of**
Usage categories:	In 1,000 gals.	Total Sales		Usage Category	Total Customers
0-1,000 gallons	568	1%		176	14%
1,001 – 2,000	2,854	3%		152	12%
2,001 – 3,000	5,332	5%		174	14%
3,001 – 6,000	22,750	22%		432	34%
6,001 – 12,000	23,776	23%		245	20%
12,001 – above	31,180	30%		75	6%
WCWD	17,840	17%		1	<1%
Totals:	104,299	100%		1255	100%

Revenue

The following table contains the recent revenue history of TCWD 1.

Revenue received by Trimble County Water District No. 1		
	2001	2002
Metered Customer Sales	$546,734	$569,320
Bulk Sales	$3,564	$4,063
Miscellaneous Income	$9,039	$10,112
Total:	$559,337	$583,495

Status of Existing Debts and required Reserve Accounts

This section consists of information on bond and interest sinking and depreciation accounts as well as long term debt and capital leases.

Bond and Interest Sinking and Depreciation Accounts

At issuance of the original 1992 Rural Development bonds, a Depreciation Account was established to provide funds for extraordinary repairs and extensions to the system and/or make up any deficiency in the Bond and Interest Sinking Account. After monthly deposits are made into the Bond and Interest Account, monthly transfers are required to be made to the Depreciation Account. The 1992 Bond Resolution required a monthly transfer of $315 to accumulate to a balance of $37,800. The 1997 Bond Resolution ratifies and confirms the creation of the 1992 Depreciation Fund. Monthly transfers were made in 2002 as required by all bond resolutions.

Long Term Debt and Capital Leases

a. Kentucky Infrastructure Authority (KIA) – At original issue, $369,462 of bonds were outstanding with interest rates that range from 4.60% to 5.75% per annum with maturity dates ranging from 1993-2013. On December 1, 2001, these bonds were refinanced to rates that range from 2.50% to 4.25% per annum through 2013.

b. Revenue Bonds of 1992 – At original issue, $425,000 of RECD bonds were outstanding at the interest rate of 5.625% per annum with maturity dates ranging from 1994-2030. On December 31, 2002, $390,870 of bonds were outstanding on this issue.

c. Revenue Bonds of 1997 – At original issue, $60,000 of RECD bonds were outstanding at the interest rate of 5.00% per annum with maturity dates ranging from 2000 – 2037. On December 31, 2002, $57,700 of bonds were outstanding on this issue.

d. Revenue Bonds of 2000 – At original issue, $550,000 (February 1, 2001) of RECD bonds were outstanding at the interest rate of 5.00% per annum with maturity dates ranging from 2003 – 2040. On December 31, 2002, $550,000 of bonds were outstanding on this issue.

e. Note Payable – Farmers Bank of Milton – During July 1999, the Water District refinanced a note payable to Madison Bank and Trust through the Farmers Bank of Milton. The original balance of the Farmers Bank of Milton note was $177,508. The note is payable in monthly installments of $2,248 (principal and interest) through January 2007. Interest is charged at the rate of 6.50% per annum. The principal balance outstanding at December 31, 2002, was $104,977.