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

April 21, 2008

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

2008-149

Re: Christian County Water District - KRS 278.023 Application

Dear Ms. Stumbo:

Enclosed please find the original and ten (10) copies of the Application of the Christian County Water District 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:jlm
Enclosures
cc: Distribution List

DISTRIBUTION LIST

Account No. 2397.0000

Re: Christian County Water District Waterworks Revenue Bonds, Series 2008

Mr. Kenneth H. Slone
State Director
Rural Development
771 Corporate Drive, Suite 200
Lexington, Kentucky 40503-5477

Telephone: (859) 224-7336
Fax: (859) 224-7425

Mr. Jerry M. Cloyd
Rural Development
320 B Traylor Avenue
Princeton, Kentucky 42445

Phone: (270) 365-6530

Mr. James R. Owen
Manager
Christian County Water District
P.O. Box 7
Hopkinsville, Kentucky 42241-0007

Phone: (270) 886-3696

Mr. Chris Wilcutt
McGhee Engineering, Inc.
202 Ewing Street
P.O. Box 267
Guthrie, Kentucky 42234-0267

Telephone: (270) 483-9985
Fax: (270) 483-9986

John P. Kirkham, Esq.
Attorney at Law
1404 S. Virginia Street
P.O. Box 585
Hopkinsville, Kentucky 42241

Phone: (270) 885-1121
Fax: (270) 885-1123

W. Randall Jones, Esq.
Rubin & Hays
Kentucky Home Trust Building
450 South Third Street
Louisville, Kentucky 40202

Phone: (502) 569-7534
Fax: (502) 569-7555

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF CHRISTIAN COUNTY WATER DISTRICT FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, FINANCE AND INCREASE RATES PURSUANT TO KRS 278.023.	))))))	**NO. _____**

APPLICATION

This Application of the Christian County Water District ("Applicant") of Christian County, Kentucky, respectfully shows:

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

2. That the post office address of Applicant is:

Christian County Water District
c/o Mr. James R. Owen, General Manager
P.O. Box 7
Hopkinsville, Kentucky 42241-0007

3. That Applicant, pursuant to the provisions of KRS 278.020 and 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 waterworks system of Applicant; (ii) an Order approving increased rates; and (iii) approval of the proposed plan of financing said Project.

4. That the Phase VII project consists of the construction and installation of (i) an upgrade to the telemetry system, (ii) a new booster pumping station, (iii) master meters, (iv) approximately 48 miles of water distribution line and appurtenances, and (v) relocation of an existing booster pumping station.

5. That Applicant proposes to finance the construction of the Project through (i) the issuance of $1,850,000 of its Waterworks Revenue Bonds, (ii) a USDA, Rural Development ("RD") Grant in the amount of $650,000; (iii) a Kentucky State grant in the amount of $1,000,000; and (iv) Applicant connection fees in the amount of $61,600. Applicant has a commitment from RD to

purchase said $1,850,000 of bonds maturing over a 40-year period, at an interest rate of not exceeding 4.375% 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:

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

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

EXHIBIT 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.

Applicant also files herewith two (2) 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 *Kentucky New Era,* which is the newspaper of general circulation in Applicant's service area and in Christian County, Kentucky. 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 **EXHIBIT D**.

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 Christian County Water District 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) $1,850,000 of Christian County Water District Waterworks Revenue Bonds, at an interest rate of not exceeding 4.375% per annum, (ii) an RD Grant in the amount of $650,000; and (iii) a Kentucky State grant in the amount of $1,000,000, and (iv) Applicant connection fees in the amount of $61,600.

c. An Order approving the proposed increased rates as set out in Section 28 of the RD Letter of Conditions, as amended, filed herewith as an Exhibit.

Christian County Water District

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) 569-7525

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF CHRISTIAN)

The undersigned, Ashbel Brunson, III, being duly sworn, deposes and states that he is the Chairman of the Board of Commissioners of the Christian County Water District, 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 April 18, 2008.

Ashbel Brunson, III, Chairman
Christian County Water District

Subscribed and sworn to before me by Ashbel Brunson, III, Chairman of the Board of Commissioners of the Christian County Water District, on this April 18, 2008.

My Commission expires: Oct. 27, 2009

Notary Public, Christian County, Kentucky

United States Department of Agriculture
Rural Development
Kentucky State Office

February 27, 2006

Mr. Ashbell Brunson, III, Chairman
Christian County Water District
P.O. Box 7
Hopkinsville, Kentucky 42241-0007

Dear Mr. Brunson:

This letter establishes conditions which must be understood and agreed to by you before further consideration may be given to the application. The loan and/or grant 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 and/or grant 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 $1,850,000, a RUS grant not to exceed $650,000, and a Kentucky State grant in the amount of $1,000,000.

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 4,941 water users, of which 4,796 are existing users and 145 are new users contributing $61,600 in connection fees toward the cost of the project. The connection fees will be collected prior to advertising for construction bids and will be placed in the construction account at loan pre-closing, unless spent for authorized purposes prior to loan pre-closing. The Area Director will review and authenticate the number of users and amount of connection fees prior to advertising for construction bids.

2. Grant Agreement:

   Attached is a copy of RUS Bulletin 1780-12, "Water and Waste System Grant Agreement," for your review. You will be required to execute a completed form at the time of grant closing.

3. Drug-Free Work Place:

   Prior to grant approval, the District will be required to execute Form AD-1049, "Certification Regarding Drug-Free Workplace Requirements (Grants) Alternative I - For Grantees Other Than Individuals."

4. 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 January. Rural Development may require the 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.

5. 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.

6. Reserve Accounts:

   Reserves must be properly budgeted to maintain the financial viability of any operation. Reserves are important to fund unanticipated emergency maintenance and repairs and assist with debt service should the need arise.

The District will be required to deposit $855 per month into a "Funded Depreciation Reserve Account" until the account reaches $102,600. The deposits are to be resumed any time the account falls below the $102,600.

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

The District also needs to fund an account for short-lived assets by depositing a sum of $4,500 monthly into the account. The funds in the short-lived asset account may be used by the District as needed to replace or add short-lived assets in the District's water system.

7. Security Requirements:

A pledge of gross water revenue will be provided in the Bond Resolution. Bonds shall rank on a parity with existing bonds.

8. Land Rights and Real Property:

The 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.

9. Organization:

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

10. Business Operations:

The 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 District after review by Rural Development. At no later than loan pre-closing, the 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.

11. Accounts, Records and Audits:

The 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.

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

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

13. 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 District. The District should obtain amounts of coverage as recommended by its attorney, consulting engineer and/or insurance provider.

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

C. Fidelity Bond - The 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 $322,500.

D. Real Property Insurance - The 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 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 District will obtain and maintain adequate coverage on any facilities located in a special flood and mudslide prone areas.

14. 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 "24" 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 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.

15. Civil Rights & Equal Opportunity:

You should be aware of and will be required to comply with other federal statute requirements including but not limited to:

A. Section 504 of the Rehabilitation Act of 1973:

Under Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), no handicapped individual in the United States shall, solely by reason of their handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Rural Development financial assistance.

B. Civil Rights Act of 1964:

All borrowers are subject to, and facilities must be operated in accordance with, Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and Subpart E of Part 1901 of this Title, particularly as it relates to conducting and reporting of compliance reviews. Instruments of conveyance for loans and/or grants subject to the Act must contain the covenant required by paragraph 1901.202(e) of this Title.

C. The Americans with Disabilities Act (ADA) of 1990:

This Act (42 U.S.C. 12101 et seq.) prohibits discrimination on the basis of disability in employment, state and local government services, public transportation, public accommodations, facilities, and telecommunications. Title II of the Act applies to facilities operated by state and local public entities that provide services, programs, and activities. Title III of the Act applies to facilities owned, leased, or operated by private entities that accommodate the public.

D. Age Discrimination Act of 1975:

This Act (42 U.S.C. 6101 et seq.) provides that no person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Rural Development financial programs must be extended without regard to race, color, religion, sex, national origin, marital status, age, or physical or mental handicap.

16. 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 District.

17. Compliance with Special Laws and Regulations:

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

18. Treatment Plant/System Operator:

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

19. Prior to Pre-Closing the Loan, the 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."

G. RUS Bulletin 1780-22, “Eligibility Certification.”

20. Refinancing and Graduation Requirements:

The District is reminded that if at any time it shall appear to the Government that the 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 District will apply for and accept such loan in sufficient amount to repay the Government.

21. Commercial Interim Financing:

The 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 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.

22. Disbursement of Project Funds:

A construction account for the purpose of disbursement of project funds (RUS) will be established by the 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 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 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 District.

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

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

23. Disbursement of Grant Funds:

The RUS funds will be advanced as they are needed in the amount(s) necessary to cover the RUS proportionate share of obligations due and payable by the District. Grant funds, upon receipt, must be deposited in an interest bearing account in accordance with 7 CFR part 3016 (as applicable). Interest earned on grant funds in excess of $100 (as applicable) per year will be submitted to RUS at least quarterly.

24. Cost of Facility:

Breakdown of Costs:

Development		$ 2,800,000
Land and Rights		10,000
Legal and Administrative		55,000
Engineering		320,000
Interest		69,000
Contingencies		307,600
	TOTAL	$ 3,561,600

Financing:

RUS Loan		$ 1,850,000
RUS Grant		650,000
Kentucky State Grant		1,000,000
Applicant Connection Fees		61,600
	TOTAL	$ 3,561,600

25. Commitment of Other Project Funds:

This Letter of Conditions is issued contingent upon a firm commitment being in effect prior to advertising for construction bids for the Kentucky State grant in the amount of $1,000,000.

26. Use of Remaining Project Funds:

The applicant connection fees shall be considered as the first funds expended. After providing for all authorized costs, any remaining project funds will be considered to be RUS/Kentucky State 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.

27. Proposed Operating Budget:

You will be required to submit to Rural Development a copy of your proposed annual operating budget that supports the proposed loan repayment prior to this agency giving you written authorization to proceed with the bidding phase. The operating budget should be based on a typical year cash flow, subject to completion of this project in the first full year of operation. Form RD 442-7, "Operating Budget," or similar form may be utilized for this purpose.

28. 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:

First	0 gallons @ $	16.00 - Minimum Bill. (Flat Rate)
All Over	0 gallons @ $	5.25 - per 1,000 gallons.

29. Water Purchase Contract:

The District will submit a Water Purchase Contract for approval by Rural Development before advertising for construction bids. If the contract is not on Form RD 442-30, "Water Purchase Contract," the contract will require approval by our Regional Attorney. The contract must meet the requirements of subsection 1780.62 of RUS Instruction 1780.

30. Compliance with the Bioterrorism Act:

Prior to pre-closing the loan, the 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).

31. Floodplain Construction:

The District will be required to pass and adopt a Resolution or amend its By-Laws whereby the 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 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.

32. Mitigation Measures:

A. The project shall be in compliance with all requirements noted in the Governor's Office for Local Development letter dated January 19, 2006, from Mr. Ronald W. 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 October 5, 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 effect 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.

33. 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

KENNETH SLONE
State Director

Enclosures

cc: Area Director - Princeton, Kentucky
Rural Development Manager - Elkton, Kentucky
Pennyrile ADD - Hopkinsville, Kentucky
John P. Kirkhom - Hopkinsville, Kentucky
Rubin and Hays - Louisville, Kentucky
McGhee Engineering - Guthrie, Kentucky
PSC - ATTN: Bob Amato - Frankfort, Kentucky

United States Department of Agriculture
Rural Development
Kentucky State Office

April 8, 2008

Mr. Ashbel Brunson, III, Chairman
Christian County Water District
P.O. Box 7
Hopkinsville, Kentucky 42441-0007

Re: Letter of Conditions Dated February 27, 2006

Dear Mr. Brunson:

This letter shall serve as Amendment No. 1 to the Letter of Conditions dated February 27, 2006. The purpose of this amendment is to include the complete rate schedule. The original letter of conditions only included rates for the 5/8" meters, whereas this amendment outlines the proposed rates for the 5/8", 1", 1 1/2", 2", and 4" meters.

Paragraph numbered "28" is revised to read as follows:

" 28. 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:

5/8" Meter:

First	0	gallons @ $	16.00 - Minimum Bill.
All Over	0	gallons @ $	5.65 - per 1,000 gallons.

1" Meter:

First	5,000	gallons @ $	44.25 - Minimum Bill.
All Over	5,000	gallons @ $	5.65 - per 1,000 gallons.

1 1/2" Meter:

First	10,000	gallons @ $	72.50 - Minimum Bill.
All Over	10,000	gallons @ $	5.65 - per 1,000 gallons.

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

2" Meter:

First	50,000	gallons @ $	298.50 - Minimum Bill.
All Over	50,000	gallons @ $	5.65 - per 1,000 gallons.

4" Meter:

First	100,000	gallons @ $	581.00 - Minimum Bill.
All Over	100,000	gallons @ $	5.65 - per 1,000 gallons. "

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

Sincerely,

for KENNETH SLONE
State Director

cc: Area Director - Princeton, Kentucky
Pennyrile ADD - Elkton, Kentucky
✓Rubin and Hays - Louisville, Kentucky
John P. Kirkham - Hopkinsville, Kentucky
McGhee Engineering - Guthrie, Kentucky
PSC - ATTN: Bob Amato - Frankfort, Kentucky

United States Department of Agriculture
Rural Development
Kentucky State Office

April 15, 2008

SUBJECT: Christian County Water District
Phase VII water extensions
Contract Award Concurrence

TO: Area Director
Princeton, 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, Bobby Luttrell and Sons, LLC, in the amount of $1,616,861.50.

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

KENNETH SLONE
State Director
Rural Development

cc: McGhee Engineering, Inc.
Guthrie, Kentucky

Rubin and Hays
Louisville, Kentucky

CERTIFICATE OF CHAIRMAN OF CHRISTIAN COUNTY WATER DISTRICT, AS TO STATEMENT REQUIRED BY SECTION 1(5) OF 807 KAR 5:069

I, Ashbel Brunson, III, hereby certify that I am the duly qualified and acting Chairman of the Christian County Water District, 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 McGhee Engineering, Inc., Guthrie, 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 rates proposed by the District in its current Application filed with the Public Service Commission of Kentucky are contemplated to produce total revenue requirements set out in the Engineering Reports prepared by such Engineers and filed with the Public Service Commission.

4. That it is now contemplated that construction of the Project will begin on or about May 15, 2008, and will end on or about February 10, 2009.

IN TESTIMONY WHEREOF, witness my signature this April 18, 2008.

Ashbel Brunson III

Chairman
Christian County Water District

STATE OF KENTUCKY)
) SS
COUNTY OF CHRISTIAN)

Subscribed and sworn to before me by Ashbel Brunson, III, Chairman of the Board of Commissioners of the Christian County Water District, on this April 18, 2008.

James Owen

Notary Public
In and For Said State and County

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 Christian County Water District of a change to the District's rate schedule as set forth herein. The proposed rate change is required by USDA, Rural Development in connection with a loan by RD to the District in the amount of $1,850,000 to be evidenced by the issuance by the District of its Waterworks Revenue Bonds in such amount, which RD has agreed to purchase provided the District meets certain conditions of RD, including revising its water rates as set forth below:

Current Monthly Rates

5/8" Meter:

First 0 gallons	$15.00 minimum bill
All over 0 gallons	5.06 per 1,000 gallons

1" Meter:

First 5,000 gallons	$40.30 minimum bill
All over 5,000 gallons	5.06 per 1,000 gallons

1½" Meter:

First 10,000 gallons	$65.60 minimum bill
All over 10,000 gallons	5.06 per 1,000 gallons

2" Meter:

First 50,000 gallons	$268.00 minimum bill
All over 50,000 gallons	5.06 per 1,000 gallons

4" Meter:

First 100,000 gallons	$521.00 minimum bill
All over 100,000 gallons	5.06 per 1,000 gallons

Proposed Monthly Rates

5/8" Meter:

First 0 gallons	$16.00 minimum bill
All over 0 gallons	5.65 per 1,000 gallons

1" Meter:

First 5,000 gallons	$44.25 minimum bill
All over 5,000 gallons	5.65 per 1,000 gallons

1½" Meter:

First 10,000 gallons	$72.50 minimum bill
All over 10,000 gallons	5.65 per 1,000 gallons

2" Meter:

First 50,000 gallons	$298.50 minimum bill
All over 50,000 gallons	5.65 per 1,000 gallons

4" Meter:

First 100,000 gallons	$581.00 minimum bill
All over 100,000 gallons	5.65 per 1,000 gallons

The RD loan proceeds will be used in conjunction with (i) an RD grant in the amount of $650,000; (ii) a Kentucky State grant in the amount of $1,000,000; and (iii) connection fees in the amount of $61,600 to finance the Phase VII project, consisting of the construction and installation of (i) an upgrade to the telemetry system, (ii) a new booster pumping station, (iii) master meters, (iv) approximately 48 miles of water distribution line and appurtenances, and (v) relocation of an existing booster pumping station. Signed: Ashbel Brunson, III, Chairman, Christian County Water District

FINAL ENGINEERING REPORT
CHRISTIAN COUNTY WATER DISTRICT

PHASE VII SYSTEM EXTENSION PROJECT

Christian County, Kentucky

prepared for the:

Christian County Water District
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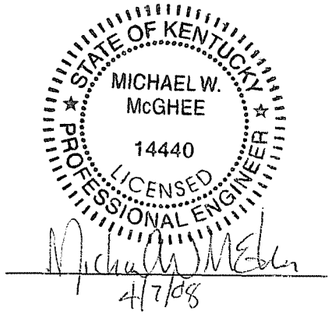


Final Engineering Report
Table of Contents
Christian County Water District Apex Area Water System Extension Project (Phase VI)

Tables

Final Engineering Report
Table of Contents (cont.-)
Christian County Water District Apex Area Water System Extension Project (Phase VI)

Tables (cont.-)

Exhibits

Appendix

1.0 INTRODUCTION

The Christian County Water District (CCWD) was formed by Christian County Fiscal Court order November 13, 1967 to supply potable water to rural residents of Christian County, Kentucky. The District is controlled by a Board of Directors, which consists of a Chairman and four Directors. The District is regulated by the Kentucky Public Service Commission.

The Christian County Water District (CCWD) is comprised of approximately 521 miles of water line, 12 water storage tanks with a combined capacity of 1,850,000 gallons, and 13 booster pumping stations. CCWD serves approximately 5,210 customers, which are almost entirely rural residences. The CCWD purchases all of its treated water from the City of Hopkinsville. Average daily usage is currently just over 1,000,000 gpd.

The CCWD is a large district both in terms of customers and geographic area, covering over 700 square miles. The CCWD is one of only three public water systems in Christian County. The other two are the Hopkinsville Water Environment Authority which serves Hopkinsville, Crofton and Pembroke, and the City of Oak Grove. The CCWD service area includes all of Christian County, excluding the incorporated areas of Hopkinsville, Crofton, Pembroke and Oak Grove, and the property occupied by Ft. Campbell.

It is estimated that over 90% of the 480 miles of public road in the Christian County service area are served by the CCWD. The unserved roads are generally spread out over the entire county, and typically have lower population densities, difficult construction conditions, or both. The largest contiguous unserved area at the present time is in the southeastern quadrant of Christian County near the communities of Pembroke and Oak Grove.

The main problems facing the CCWD are the need to extend service to new customers, the need for hydraulic improvements in certain areas, and the long-term supply of treated water. The water supply issue is being addressed by Hopkinsville's ongoing effort to supplement its raw water sources. The remaining problems will be addressed by the proposed and future projects to extend and upgrade the distribution system.

The proposed project is referred to as the Phase VII expansion, and will involve the construction of approximately 48 miles of distribution line in various parts of the county, the addition of a new booster pumping station, relocation of an existing booster pumping station, the addition of master meters, and telemetry upgrades. The project is estimated to make water service available to approximately 175 potential new customers in Christian County. The total cost of the proposed project is estimated to be $3,561,000.

2.0 PROJECT PLANNING AREA

2.1 *Location*

The Christian County Water District's Phase VII project will serve 33 roads in all parts of the county. The roads to be served are shown in the following table.

Table 1
Project Road List

Map Ref.	Road/Item	Length (Miles)	Number of Houses	Line Size (Inches)
❶	Old Clarksville Pike	2.0	5	4
⓰	Shepard Road	1.0	7	4
⓱	Cerulean-Sinking Fork Road	1.5	4	4
⓲	KY Highway 1026	1.1	1	6
⓳	Rascoe Road	0.9	5	4
⓴	Dr. Hatcher Road	0.9	3	4
㉑	Sugar Creek Road	0.9	5	4
㉔	Old Palestine Road	1.7	4	4
㉕	US Highway 41	1.3	2	6
㉖	Davis Road	0.5	5	4
㉘	Cavanaugh Road	2.1	4	6
㉙	A. Jordan Road	0.6	2	4
㉚	Coal Creek Road West	2.1	4	4
㉛	Coal Creek Road East	5.5	6	3
㉜	Johnson Road	0.7	1	3
㉝	Cary Bridge Road	1.1	3	4
㉞	Tony Grace Road	0.4	1	3
㉟	JJ Road	0.3	2	3
㊲	McKinney Road	0.3	4	4
㊳	Buck Fork Road	1.9	3	4
㊴	Overton Road & KY Highway 800	1.7	7	4
㊶	Melvin West Road	0.7	3	4
㊸	Vaughn's Grove - Fairview Road	2.7	14	4
㊹	Vaughn's Grove - Little River Road	2.2	12	4
㊺	Champion Highway	1.5	5	4
㊻	Beeker Road	2.6	18	5
㊼	Rosetown Road & Hammack Road	5.5	27	6
㊷	KY Highway 117	2.0	5	6
㊸	KY Highway 507	0.5	2	4
㊹	KY Highway 800 Replacement	0.6	*6*	4
㊻	Wallace Park Road	1.7	5	3
	SUBTOTAL - New Line Extensions	48.4	175	

The proposed project is illustrated on Exhibit 1.

The pump station relocation will move an existing, nearly new pump station from its current location, where it is underutilized, to a new location off of the Princeton Road where it

will correct an existing low pressure area. The new pump station will be installed on Wallace Park Road to serve the higher elevations near the Pennyrile Forest State Resort Park. The master meters are being added to enhance systems operation by isolating potential leaks or line breaks faster, and thereby allow needed repairs to be made more quickly and efficiently. The telemetry upgrades will modernize existing stand-alone systems, and allow them to be tied in with the new system-wide SCADA system begun with the recently-completed Phase VI project.

2.2 *Land Use and Environmental Resources Present*

The project consists of a number of roads spread out over all areas of Christian County. The areas are generally rural and most are sparsely populated. The project will affect four main resources during construction: residential, agriculture, grazing and transportation. Some of the project area is on the southern fringe of important coal mining areas, but little if any mining is done in the area at present. The general construction effect to the resources is the disturbances associated with building the facilities. No long-term impact is expected to any environmental resource.

The State Historical Preservation Officer has reviewed the project as part of the State Clearinghouse review process. An archaeological review of the project was originally recommended, however subsequent information provided to the State Historic Preservation Officer resulted in this requirement being rescinded.

2.3 *Growth Areas and Population Trends*

The population history of Christian County is an important element in determining the growth patterns over the last 50 years. Analysis of the population history will assist in forming a reliable estimate of the future water needs of the project area.

According to historical records, Christian County's population was 42,359 in 1950, which represents its lowest census year during the last 50 years. Table 2 provides the population history and projections of Christian County based on data obtained from the U.S. Bureau of the Census.

Table 2
Population History and Projections

YEAR	Historical						Projections		
	1950	1960	1970	1980	1990	2000	2010	2020	2030
Hopkinsville	12,526	19,465	20,415	27,318	30,137	30,089	30,691	31,305	31,931
Oak Grove	n/a	n/a	n/a	1,992	2,843	7,064	7,770	8,547	9,402
Pembroke	532	517	634	732	794	797	805	813	821
Crofton	500	892	631	823	713	838	846	855	863
LaFayette	246	196	158	186	105	193	203	213	223
Rural Areas	28,555	35,834	34,386	35,827	34,349	33,284	34,476	33,671	31,392
Total	42,359	56,904	56,224	66,878	68,941	72,265	74,791	75,404	74,633
% Change		34%	-1%	19%	3%	5%	3%	1%	-1%

Notes to Table 1:
1. Shaded areas have been calculated, or projected by McGhee Engineering.
2. Oak Grove was incorporated in 1974.

Sources to Table 1:
1. Historical data is from cbpa.louisville.edu/ksds/sdc/census1990/copop1900_2000.pdf
2. Projections are from cbpa.louisville.edu/ksdc/kpr/pro/webcotot5.xls

Analyzing Table 2 from 1950 to 2000 shows that Christian County grew rather sporadically through 1980, then at a fairly steady pace to the present. Much of the cities' gains came at the expense of the rural populations in the earlier years. However, there is evidence of that trend slowing in recent years. Census projections show Christian County growing modestly for the next 10-15 years, then declining in population later in the planning period.

The Christian County Water district has experienced strong growth in its number of customers over the past ten years. This is due to an aggressive expansion program, and also to the renewed popularity of rural living. The change in number of customers and water sales for the period from 1990 to 2000 is shown in Table 3.

Table 3
Water Customer and Sales History

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
No. of Meters	2,818	3,137	3,279	3,222	3,269	3,646	4,247	4,355	4,520	4,710
% Change	-	+11%	+5%	-2%	+1%	+12%	+16%	+3%	+4%	+4%
Total Water Sales (MG)	182	190	200	211	215	245	262	274	304	349
% Change	-	+4%	+5%	+6%	+2%	+14%	+7%	+5%	+11%	+15%

Considering the recent trend of rural water system growth outstripping the growth of smaller cities, and the strong growth in customer count experienced by the Christian County Water District over the past few years, the water demand for the CCWD is projected to continue growing at a strong pace. Table 4 shows the expected growth in water customers and sales through 2030. The projections are based on a 5% annual growth in customers and

water sales through 2010. After 2010, the district should be nearing build-out, and the growth is assumed to drop to 2% annually.

Table 4
Water Customer and Sales Projections

	2005	2010	2015	2020	2025	2030
No. of Meters	5,192	6,627	7,317	8,079	8,920	9,848
Total Water Sales (MG)	445	568	628	693	765	845

3.0 EXISTING FACILITIES

3.1 *History and Assets*

The Christian County Water District (CCWD) was formed by Christian County Fiscal Court order in 1967 to supply potable water to residents of rural areas of Christian County. The District is comprised of approximately 521 miles of water line and several water storage tanks and booster pumping stations. The existing distribution system consists of 10", 8", 6", 4", 3" and 2" PVC lines. The general service area is depicted in Exhibit 1, which illustrates the overall layout of the system, and shows proposed Phase VII and future extensions.

The CCWD has ten water storage structures with a combined capacity of 1,850,000 gallons, and thirteen booster pumping stations. The high number of tanks and pump stations is required in part because of the large geographical area and varying terrain. Another factor that creates the need for many tanks and pump stations is the manner in which rural water systems typically develop over time. Each major system extension is usually supported by a tank and pump because the previous extension did not allow sufficient capacity for expansion. This is the case with Christian County, as with most other rural systems. As the systems approach build-out, it is usually beneficial to perform a system-wide hydraulic study to assess the possibility of interconnecting adjacent pressure zones to eliminate tanks and/or pump stations.

3.2 *Existing Financial Charges and Status*

3.2.1 *Current Rate Schedule*

5/8" Meter

First	0	Gallons @	$ 15.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 5.06		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 40.30		Minimum
Over	5,000	Gallons @	$ 5.06		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 65.60		Minimum
Over	10,000	Gallons @	$ 5.06		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 268.00		Minimum
Over	50,000	Gallons @	$ 5.06		per 1,000 Gallons

4" Meter

First	100,000	Gallons @	$ 521.00		Minimum
Over	100,000	Gallons @	$ 5.06		per 1,000 Gallons

The current rate schedule went into effect on June 17, 2006.

3.2.2 *Revenues and Expenses*

Item	FY 2007
Operating Revenues	
Water Sales	$ 2,640,812
Other Revenues	$ 83,228
Total-Operating Revenues	**$ 2,724,040**
Operating Expenses	
Purchased Water	$ 850,707
Depreciation	$ 437,201
Salaries	$ 437,507
Maintenance & Repairs	$ 53,175
Insurance	$ 111,266
Rental Expense	$ 5,742
Electricity	$ 59,447
Professional Services	$ 28,803
Office Supplies & Expense	$ 75,414
Operating Materials & Supplies	$ 52,874
Payroll Taxes & Fringe Benefits	$ 96,262
Transportation Expense	$ 36,790
Total-Operating Expenses	**$ 2,245,188**
Net Operating Revenue	**$ 478,852**
Non-Operating Revenue (Expense)	
Interest Income	$ 39,299
Other	$ (24,117)
RUS Interest	$ (167,016)
RUS Principal	$ (51,000)
Non-RUS Interest	$ (255,806)
Non-RUS Principal	$ (174,480)
Total-Non-Operating Rev/Exp	**$ (633,120)**
Net Income	**$ (154,268)**

3.2.3 *Long Term Debts*

Date of Issue	Bond/Note Holder	Principal Balance	Payment Date	Bond Type	Amount on Deposit in Reserve
1993	KIA	$ 542,500	2021	Water	
1994	RD	$ 1,154,000	2034	Water	
1998	RD	$ 2,037,000	2038	Water	
2004	KRWFC	$ 2,127,000	2029	Water	
2005	KRWFC	$ 3,144,000	2029	Water	
Advance	RD	$ 392,000	2043	Water	
Total		$ 9,396,500			$ 282,305

3.2.4 *Short Term Debts*

Lender or Lessor	Date of Issue (Mo. & Year)	Principal Balance	Purpose	Payment Date	Principal & Interest Payment (P&I)	Date to Be Paid In Full
Flynn	NA	$ 6,689	Waterlines	NA	Variable	~2011

4.0 NEED FOR PROJECT

4.1 *Health and Safety*

The proposed Phase VII project will serve around 48 miles of rural secondary roads that are currently without public water service. As with many districts, the Christian County Water District has extended lines along most of the major highways in the county, and has provided service to the most densely populated areas. The remaining roads are generally less densely populated, or construction conditions made the road difficult to serve. Most residents along these roads rely on wells or cisterns for their water supply. While some have adequate supplies, many live with water shortages and uncertain water quality. The Phase VII project will address this problem by providing a safe and reliable supply of potable water to these residences.

4.2 *System O&M*

As with any new construction, some operation and maintenance costs will be increased due to the additional operations and maintenance of the new facilities. These increases will be minimal, however, since the project involves primarily new water lines. Other parts of the project involve addition of a new pump, relocation of an existing pump, addition of master meters, and upgrade of telemetry. All of these improvements are being made to allow the system to operate more efficiently, and to minimize system operating and maintenance costs.

4.3 *Growth*

The number of customers served by the Christian County Water District could approximately double over the next 30 years based upon the strong growth trend in customer counts experienced by the District over the past few years. The proposed project is necessary to insure the safe and reliable delivery of water to new customers as well as the expected future customers.

5.0 ALTERNATIVES CONSIDERED

A resolution to the problems faced by the Christian County Water District is a relatively simple project with two alternatives.

5.1 *Alternative 1*

The first obvious alternative is to do nothing. However, many unserved residences well within the serviceability of the District would continue to rely upon hauling water, underground

reservoirs and other possibly unreliable sources. This alternative contradicts the ongoing State initiative to provide all citizens a reliable and healthy source of drinking water. Therefore, the 'do nothing' alternative is not a reasonable option.

5.2 *Alternative 2*

The second alternative is a straightforward approach to providing water to the residences in the service area. The project involves extension of the existing Christian County Water District lines to serve these customers.

5.2.1 *Description*

The project includes extension of around 48 miles of mostly 4-inch and 6-inch lines along 33 rural roads in various parts of Christian County. It is a classic "fill-in" project as opposed to one that serves a particular part of the county. The project serves secondary roads that were either too sparsely populated, or had too difficult construction conditions to be considered in an earlier phase of expansion. This alternative is illustrated in Exhibit 1.

Along with the lines, the project also includes a new pump station, relocation of an existing pump station, addition of master meters in the distribution system, and upgrade of the telemetry system.

5.2.2 *Environmental Impacts and Land Requirements*

The alternative has little to no impact upon the environment and land resources because the proposed construction would be done within existing easements or adjacent to current District properties or highway right-of-ways. The line extensions are proposed for construction along county/state right-of-way. As mentioned earlier, the project will affect four main land resources during construction: residential, agriculture, grazing and transportation. The general construction effect to the resources is the disturbances associated with building the facilities. No other effect to the resources is expected after construction of the facilities is complete.

5.2.3 *Construction Problems*

The rocky terrain of some of the line routes is the only foreseeable construction problem for the proposed project. The northern areas of Christian County are well known for their rocky soil conditions and rolling terrain. Although this is a costly nuisance for the project, the presence of subsurface rock is unavoidable throughout the entire water system. Proper bedding and backfill of the proposed pipeline will insure that the rocky terrain will not pose a problem for the future operation of the water system. The entire pipeline route is very accessible, and there is no evidence of a high water table.

5.2.4 *Cost Estimates*

The Christian County Water District's Phase VII Expansion project is estimated to have a total cost of $3,500,000. The project cost consists of construction, non-

construction and contingency costs, which are $1,941,862, $319,900 and $1,299,238 respectively. No substantial increase in annual operation and maintenance costs is expected from the project. There would be a small increase in utility costs for power to pump the additional water, and in labor and maintenance costs needed for monitoring the additional footage of distribution system.

6.0 PROPOSED PROJECT

6.1 *Project Design*

6.1.1 *Water Supply*

The District will continue to purchase all of its potable water from the City of Hopkinsville. The Hopkinsville water treatment plant has adequate water available to serve the approximate 175 potential customers. Presently, the City's water supply issue is being addressed by Hopkinsville's ongoing effort to supplement its raw water sources.

6.1.2 *Storage*

The Christian County Water District has twelve existing water storage tanks with 1,850,000 gallons of storage capacity, all of which will continue serving the existing system and new extensions.

6.1.3 *Distribution Layout*

The lines comprising the Phase VII project are dispersed over the entire county. The line portion of the project involves construction of approximately 61,357 LF of new 6-inch waterline, approximately 158,318 LF of new 4-inch waterline, and 26,303 LF of new 3-inch waterline. The proposed line extensions are illustrated in Exhibit 1.

6.1.4 *Regulatory Compliance*

The proposed project has been submitted to the Kentucky State Clearinghouse for their comments. The clearinghouse review of the proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective.

In regards to the requirements of the Kentucky Division of Water, careful consideration was given to insure that adequate working pressure is maintained throughout the planning area. Also, special analysis was utilized to insure that all of the proposed line extensions meet the 2.5 ft/sec flushing rule, and that tank volume turnover is sufficient to avoid stagnant water. Overall, the project was designed in accordance with the Ten States Standards.

6.1.5 *Hydraulic Calculations*

The computer hydraulic model, KYPIPE 2000, was used to determine the hydraulic characteristics of the Christian County Water District's various pressure zones that will serve the proposed improvements. The model includes all of the existing lines from the water supply connection with Hopkinsville, plus the proposed lines, tank and pump stations that comprise the Phase VII project.

The modeling indicated that the lines may be constructed as proposed. Certain areas may require a designation by the Kentucky Division of Water as "underserved" because of pressure constraints or difficulty meeting the flushing velocity requirements. The "underserved" designation limits the ability to extend that particular line in the future. Given that many of the proposed lines complete service a given area, or extend service to the District boundary, this designation should cause no concern.

6.2 *Cost Estimate*

The proposed itemized cost estimate of the Christian County Water District Phase VII System Extension Project is shown in Table 5 and the proposed financing package is illustrated in Table 6.

Table 5

Project Cost Estimate

Construction				
No.	**Item**			**Bid Price**
1	Contract No. 1 - *Bobby Luttrell & Sons, LLC*			$1,616,861.50
	Subtotal - Construction			**$1,616,861.50**
Other System-Wide Construction Improvements				
No.	**Item**			**Estimated Cost**
2	Master Meters			$200,000.00
3	Pump Station Relocation			$25,000.00
4	Telemetry Upgrades			$100,000.00
	Subtotal - System-Wide Improvements			**$325,000.00**
Total Construction Cost				
Total Construction Cost				**$1,941,861.50**
Non-Construction				
1	Legal Costs			$30,000.00
2	Land & Right-of-way			$10,000.00
3	Preliminary Engineering & Environmental			$25,000.00
4	Engineering Design (7.51%) - *Per Contract No. 1*			$97,200.00
5	Construction Phase Engineering - *Per Contract No. 1*			$18,225.00
6	Project Closeout Engineering - *Per Contract No. 1*			$6,075.00
7	Construction Inspection (3.98%) - *Per Contract No. 1*			$64,400.00
8	Interest During Construction			$69,000.00
	Subtotal - Nonconstruction			**$319,900.00**
Total Project Cost				
	Contingency (10% plus)			**$1,299,238.50**
	TOTAL ESTIMATED PROJECT COST			**$3,561,000.00**

Table 6
Proposed Funding Package

Rural Development Grant	$ 1,000,000
Rural Development Loan	$ 1,500,000
Local Contribution (Tap Fees)	$ 61,000
State Budget Appropriation	$ 1,000,000
FUNDING SOURCES TOTAL	**$ 3,561,000**

6.3 *Annual Operating Budget*

The proposed annual operating budget for the Christian County Water District Water Tank Addition and Line Upgrade Project is shown in Table 7.

Table 7
Proposed Operating Budget

	Existing [1]	Extension Only		Future	
Operating Income					
Water Sales	$2,640,812	$90,363	[2]	$3,000,742	[6]
Other Revenues	$83,228	$0		$83,228	
Total Operating Income	$2,724,040	$90,363		$3,083,970	
Operating and Maintenance Expense					
Purchased Water	$850,707	$25,255	[3]	$875,962	
Salaries	$437,507	$5,000	[4]	$442,507	
Maintenance & Repairs	$53,175	$2,000	[4]	$55,175	
Insurance	$111,266	$1,000	[4]	$112,266	
Rental Expense	$5,742	$0		$5,742	
Electricity for Pumping	$59,447	$500	[4]	$59,947	
Professional Services	$28,803	$0		$28,803	
Office Supplies & Expense	$75,414	$500	[4]	$75,914	
Operating Material & Supplies	$52,874	$1,000	[4]	$53,874	
Payroll Taxes & Fringe Benefits	$96,262	$1,000	[4]	$97,262	
Transportation Expense	$36,790	$500	[4]	$37,290	
Total Operating Expenses	$1,807,987	$36,755		$1,844,742	
Net Operating Income	$916,053	$53,608		$1,239,228	
Non-Operating Income (Expense)					
Interest Income	$39,299	$0		$39,299	
Other	($24,117)	$0		($24,117)	
RUS Bond Interest	($167,016)	($80,950)	[5]	($247,966)	
RUS Bond Principal	($51,000)	($17,800)	[5]	($68,800)	
Non-RUS Bond Interest	($255,806)	$0		($255,806)	
Non-RUS Bond Principal	($174,480)	$0		($174,480)	
Total Non-Operating Income	($633,120)	($98,750)		($731,870)	
Net for Coverage & Depreciation	$282,933	($45,142)		$507,358	
10% Debt Service Coverage	($64,830)	($9,875)		($74,705)	
Depreciation	($437,201)	($70,000)	[7]	($507,201)	
Net Income	($219,098)	($125,017)		($74,548)	

Notes:

1. Based on the FY2007 CCWD audit.
2. Based on 175 new customers, 5,539 gallons per month usage & current rates.
3. Based on 175 new customers, 5,539 gallons per month usage X 1.18 water loss & HWEA rate of $1.84/1,000 gal.
4. Nominal increase to cover expense associated with additional line footage.
5. Based on a $1.85M RUS loan @ 4.375% & 40 years.
6. Based on a proposed 9.87% rate increase to new and existing customers.
7. Based on $3.5M project & straight line depreciation over 50 years.

As illustrated in Table 7, the 2007 budget year produced $282,933 in revenues to apply to debt coverage and depreciation, and a net loss of $219,098 when depreciation and 10% debt service coverage are accounted for. The District will need to increase rates to provide adequate funds for system operations. The proposed rate increase averages 9.87% and provides a more manageable net income using the 2007 budget year as a basis and adding in the effect of the Phase VII project. The proposed water rate schedule is illustrated in Exhibit 8.

Exhibit 8
Proposed Rate Schedule

5/8" Meter

First	0	Gallons @	$ 16.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 5.65		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 44.25		Minimum
Over	5,000	Gallons @	$ 5.65		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 72.50		Minimum
Over	10,000	Gallons @	$ 5.65		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 298.50		Minimum
Over	50,000	Gallons @	$ 5.65		per 1,000 Gallons

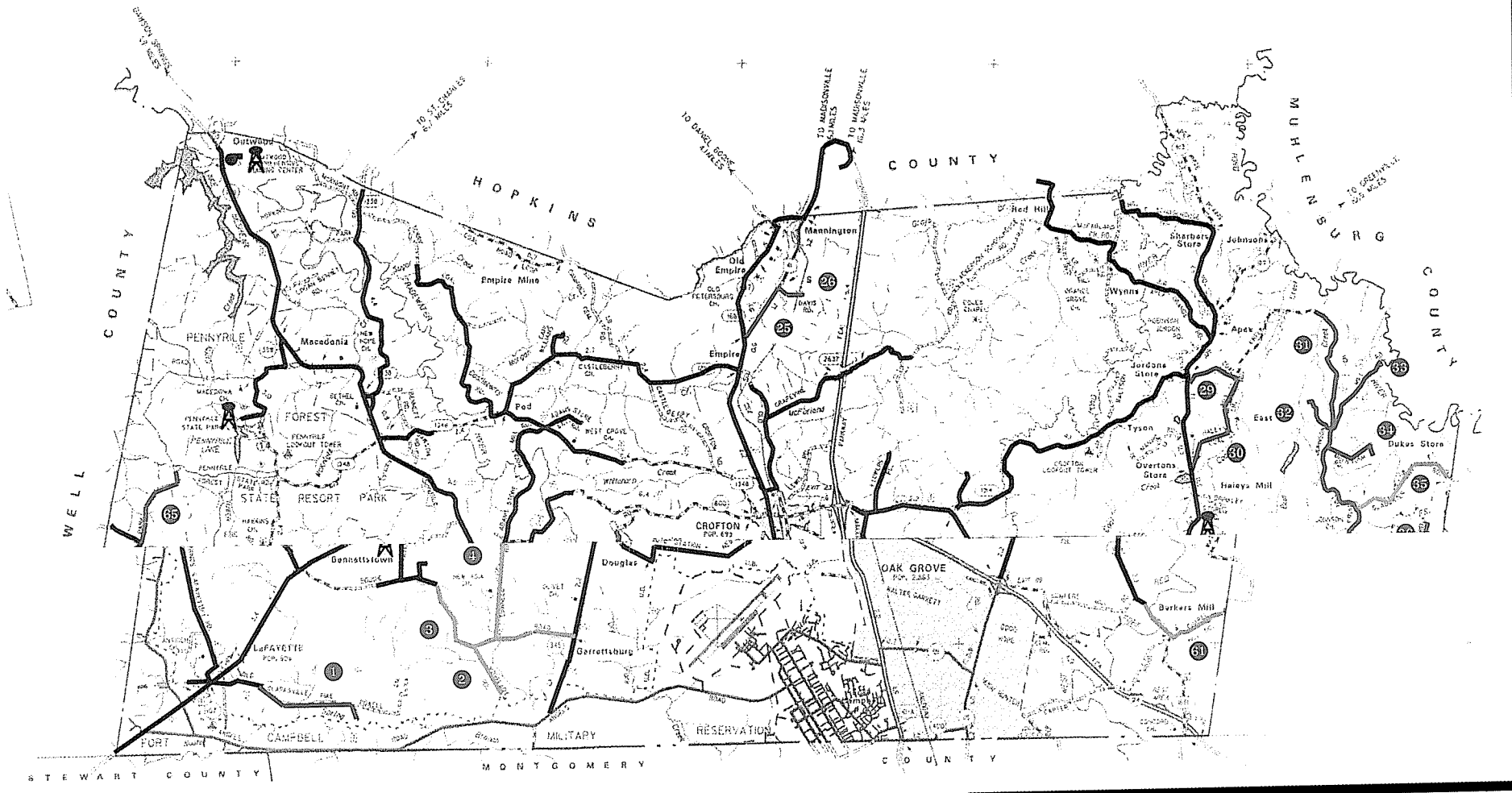
4" Meter

First	100,000	Gallons @	$ 581.00		Minimum
Over	100,000	Gallons @	$ 5.65		per 1,000 Gallons

7.0 RECOMMENDED SOLUTION

In order to address the problems and needs of the water system, the Christian County Water District should do the following:

- Install approximately 48 miles of distribution water lines to serve an estimated 175 new customers.
- Install master meters at selected locations within the existing distribution system.
- Upgrade the older telemetry to be compatible with the telemetry installed in the Phase VI project.
- Add a new booster pump station on Wallace Park Road.
- Relocate the Gracey pump station to the Princeton Road area.
- Initiate discussion among the District's Board of Directors concerning public awareness and implementation of raising water rates.
- Continue pursuing other means of financing through other possible agencies and methods.



N

0 1 2 3 4 5

Scale in Miles

Background Map: KyDOT Christian County General Highway Map—1999

LEGEND

- Existing Water Line
- Proposed Water Line—Phase VII Project
- Proposed Water Line—Future Project Phases
- Line Reference Number
- Existing Water Storage Tank
- Existing Pump Station

McGHEE ENGINEERING, INC.

Guthrie, Kentucky

Christian County Water District

Phase VII & Future Extension Projects

LAYOUT MAP

By:	Scale:	Date:	Page:
McGhee	As Noted	March 2007	E-1

Appendix A

Bid Tabulation – February 22, 2008

No.	BASE BID ITEM	QUANTITY		*Jerry Aigner Construction Boonville, IN* UNIT $		TOTAL	*Burgess Contracting, Inc. Eddyville, KY* UNIT $		TOTAL
01	6-inch Class 200 PVC Waterline	61,077	LF	9.00	$	549,693.00	$ 9.40	$	574,123.80
02	6-inch PVC Yelomine Waterline	280	LF	10.00	$	2,800.00	$ 13.95	$	3,906.00
03	4-inch Class 250 PVC Waterline	25,881	LF	8.00	$	207,048.00	$ 7.90	$	204,459.90
04	4-inch Class 200 PVC Waterline	128,402	LF	7.00	$	898,814.00	$ 7.60	$	975,855.20
05	4-inch PVC Yelomine Waterline	300	LF	9.00	$	2,700.00	$ 10.55	$	3,165.00
06	4-inch Class 350 DIP Waterline	3,735	LF	10.00	$	37,350.00	$ 19.05	$	71,151.75
07	3-inch Class 250 PVC Waterline	2,300	LF	3.50	$	8,050.00	$ 7.55	$	17,365.00
08	3-inch Class 200 PVC Waterline	23,923	LF	3.00	$	71,769.00	$ 7.40	$	177,030.20
09	3-inch PVC Yelomine Waterline	80	LF	5.00	$	400.00	$ 10.70	$	856.00
10	Steel, cased road bore; 10"cs/6"cr	280	LF	100.00	$	28,000.00	$ 90.00	$	25,200.00
11	Steel, cased railroad bore; 10"cs/6"cr	80	LF	300.00	$	24,000.00	$ 155.00	$	12,400.00
12	Steel, cased 4-Ln road bore; 10"cs/6"cr	160	LF	100.00	$	16,000.00	$ 155.00	$	24,800.00
13	Steel, cased road bore; 8"cs/4"cr	745	LF	100.00	$	74,500.00	$ 85.00	$	63,325.00
14	Steel, cased railroad bore; 8"cs/4"cr	110	LF	100.00	$	11,000.00	$ 140.00	$	15,400.00
15	Steel, cased 4-Ln road bore; 8"cs/4"cr	170	LF	100.00	$	17,000.00	$ 140.00	$	23,800.00
16	Steel, cased road bore; 8"cs/3"cr	160	LF	300.00	$	48,000.00	$ 85.00	$	13,600.00
17	Open cut, cased road x-ing; 8"cs/4"cr	30	LF	30.00	$	900.00	$ 45.00	$	1,350.00
18	Uncased Driveway Bore	198	LF	40.00	$	7,920.00	$ 24.00	$	4,752.00
19	Wide Stream Crossing, all line sizes	460	LF	110.00	$	50,600.00	$ 90.00	$	41,400.00
20	Creek Crossing, all line sizes	551	LF	85.00	$	46,835.00	$ 20.00	$	11,020.00
21	4" Flush Hydrant w/ valve	59	EA	1,700.00	$	100,300.00	$ 2,000.00	$	118,000.00
22	Small Post Hydrant w/ valve	9	EA	1,500.00	$	13,500.00	$ 1,060.00	$	9,540.00
23	Reinstall Flush Hydrant	4	EA	850.00	$	3,400.00	$ 550.00	$	2,200.00
24	6"x6" tapping sleeve, valve & box	3	EA	1,400.00	$	4,200.00	$ 1,600.00	$	4,800.00
25	6"x4" tapping sleeve, valve & box	7	EA	1,200.00	$	8,400.00	$ 1,405.00	$	9,835.00
26	6"x3" tapping sleeve, valve & box	1	EA	1,100.00	$	1,100.00	$ 1,325.00	$	1,325.00
27	4"x4" tapping sleeve, valve & box	10	EA	1,100.00	$	11,000.00	$ 1,405.00	$	14,050.00
28	4"x3" tapping sleeve, valve & box	1	EA	1,000.00	$	1,000.00	$ 1,310.15	$	1,310.15
29	3"x3" tapping sleeve, valve & box	2	EA	900.00	$	1,800.00	$ 1,310.00	$	2,620.00
30	Connect to Existing 6-inch Waterline	2	EA	500.00	$	1,000.00	$ 1,035.00	$	2,070.00
31	Connect to Existing 4-inch Waterline	9	EA	400.00	$	3,600.00	$ 925.00	$	8,325.00
32	6" Gate Valve and box	24	EA	525.00	$	12,600.00	$ 575.00	$	13,800.00
33	4" Gate Valve and box	58	EA	450.00	$	26,100.00	$ 485.00	$	28,130.00
34	3" Gate Valve and box	5	EA	400.00	$	2,000.00	$ 440.00	$	2,200.00
35	Air Release Valve	16	EA	600.00	$	9,600.00	$ 840.00	$	13,440.00
36	Meter Service w/PRV; near side	48	EA	400.00	$	19,200.00	$ 700.00	$	33,600.00
37	Meter Service w/PRV, far side	62	EA	650.00	$	40,300.00	$ 1,175.00	$	72,850.00
38	Reconnect Meter Service; near side	6	EA	200.00	$	1,200.00	$ 360.00	$	2,160.00
39	Reconnect Meter Service; far side	10	EA	300.00	$	3,000.00	$ 770.00	$	7,700.00
40	Unclassified Undercut	100	CY	10.00	$	1,000.00	$ 1.00	$	100.00
41	No. 57 Aggregate refill	50	Ton	20.00	$	1,000.00	$ 15.00	$	750.00
42	Class "B" concrete refill	50	CY	80.00	$	4,000.00	$ 90.00	$	4,500.00
	Total Amount of Bid				*$*	*2,372,679.00*		*$*	*2,618,265.00*

Engineer:

McGhee Engineering, Inc.
P. O. Box 267
Guthrie, Kentucky 42234
(270) 483-9985

her Bidders:

ott & Ritter, Inc.	*$ 2,625,103.82*
arles DeWeese Construction, Inc.	*$ 3,000,136.00*

Appendix B

Engineer's Recommendation Letter to the District – February 28, 2008

McGHEE ENGINEERING, INC.

202 Ewing Street, P. O. Box 267
Guthrie, Kentucky 42234

www.mcgheeengineering.com

Phone: (270) 483-9985
Fax: (270) 483-9986

February 28, 2008

Mr. Ash Brunson
Christian County Water District
1960 Dawson Springs Road
Hopkinsville, Kentucky 42241

RE: Phase VII System Extension Project
Waterline Extension Contract
Recommendation of Award

Dear Mr. Brunson:

Bids for the referenced project were received Friday, February 22, 2008 at the office of the Christian County Water District, opened and read aloud. The low bidder for the referenced contract was Bobby Luttrell & Sons, LLC. The bids were tabulated and reviewed, and a copy of the bid tabulation is enclosed. No significant errors or non-conformance was noted in the bids.

Based on our evaluation of the bids along with our past work experience with the contractor, we recommend award of the construction contract to the low bidder as follows:

Waterline Contract:	Bobby Luttrell & Sons, LLC 5276 Cedar Grove Road Olaton, Kentucky 42361 (270) 256-7861	$1,616,861.50

Upon your approval, we will proceed with preparation of contract documents. Please contact our office if you have any questions.

Sincerely,

McGHEE ENGINEERING, INC.

Chris Wilcutt, PE
Design Engineer

Enclosures

cc: Jerry Cloyd – Rural Development

Appendix C

Drinking Water Branch – DOW's Approval of Plans and Specs

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Division of Water
14 Reilly Road
Frankfort, Kentucky 40601-1190
www.kentucky.gov

Teresa J. Hill
Secretary

July 2, 2007

Mr. James Owen, General Manager
Christian County Water District
PO Box 7
Hopkinsville, KY 42241-0007

RE: Christian County Water District, PWS--33857
DW #0240521-07-004
Contract #1-Phase VII Water Line Extensions
Activity ID # APE20070004
Christian County, KY

Dear Mr. Owen:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 26,313 feet of 3-inch PVC, 170,688 feet of 4-inch PVC, 400 feet of 4-inch DI and 34,561 feet of 6-inch PVC water line. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the enclosed waterline extension construction permit and the following stipulations:

- The plans dated May 2007 indicate that there are oil tanks located near Coal Creek Road (sheets 1-P-32 and 1-P-33). If these tanks are active or contain petroleum oil, all water lines within a 200 foot radius of the tanks must be ductile iron.

- Based on the hydraulic analysis/data submitted, the areas served by the following extension(s) are considered to be underserved:
  a) Rascoe Road.
  This designation indicates that without improvements to the existing infrastructure, future extensions may not be able to provide the required minimum pressure of 30 psi on the discharge side of customers' meters. Without improvements to the infrastructure, future extensions may be denied. The underserved designation may be used to help prioritize areas under the Governor's 2020 plan for funding future infrastructure improvements

If you have any questions regarding this decision, please contact Sarah Tucker at 502/564-8158, extension 482.

Sincerely,

for Donna Marlin, Branch Manager
Drinking Water Branch
Division of Water

DSM: SAT

C: McGhee Engineering, Inc.
Christian County H.D.
Public Service Commission
Division of Plumbing

Distribution-Major Construction

Christian Co Water District

Subject Item Inventory

Activity ID No.: APE20070004

Subject Item Inventory:

ID	Designation	Description
AIOO33857		
PORT53	Water Line	26,313 feet of 3-inch PVC, 170,688 feet of 4-inch PVC, 400 feet of 4-inch DI and 34,561 feet of 6-inch PVC

Subject Item Groups:

ID	Description	Components
GACT50	26,313 feet of 3-inch PVC, 170,688 feet of 4-inch PVC, 400 feet of 4-inch DI and 34,561 feet of 6-inch PVC	PORT53 26,313 feet of 3-inch PVC, 170,688 feet of 4-inch PVC, 400 feet of 4-inch DI and 34,561 feet of 6-inch PVC

KEY

ACTV = Activity
AREA = Area
EQPT = Equipment
PERS = Personnel
STOR = Storage
TRMT = Treatment
AIOO = Agency Interest
COMB = Combustion
MNPT = Monitoring Point
PORT = Transport
STRC = Structure

GACT50 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]

Condition No.	Condition
T-2	This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]
T-3	Unless construction of this project is begun within 1 year from the issuance date of this permit, the permit shall expire. If requested prior to the permit expiration, an official extension from the Division of Water may be granted. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]
T-4	During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]

PORT53 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-9	Distance	When water lines and sewers cross, 1) water lines shall be laid such that either a) the the top of the water line is a vertical Distance >= 18 in below the bottom of the sewer line or b) the bottom of the water line is a vertical Distance >= 18 in above the top of the sewer line, 2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and 3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-10	Distance	The open end of an air relief pipe from automatic valves shall be extended a Distance >= 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-11	Pressure	Pipes shall not be installed unless all points of the distribution system remain designed for ground level Pressure >= 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-12	Pressure	Pressure >= 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.
L-13	Residual Disinfection	New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection >= 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform. If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

PORT53 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-2	Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-3	Additional Limitations: Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). PVC and PE piping used must be certified to ANSI/NSF Standard 61. [Recommended Standards for Water Works 8.0.1]
T-4	Additional Limitations: At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]
T-5	Additional Limitations: All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]
T-6	Additional Limitations: For lines that dead end, a fire hydrant or blow-off shall be required at the end of each 6 inch or larger diameter line and a flush hydrant or blow-off shall be required at the end of each line that is less than 6 inches in diameter. [Recommended Standards for Water Works 8.1.6]
T-7	Additional Limitations: For each fire or flush hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]
T-8	Additional Limitations: No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]
T-9	Additional Limitations: If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]

PORT53 (continued):

Narrative Requirements:

Subfluvial Pipe Crossings:

Condition No.	Condition
T-14	Subfluvial Pipe Crossings: For subfluvial pipe crossings greater than 15 feet in width, 1) the pipe shall be of special construction, having flexible, restrained, or welded watertight joints, and 2) valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair. Valves shall a) be easily accessible, b) not be subject to flooding, and c) if closest to the supply source, be in a manhole with permanent taps made on each side of the valve to allow insertion of a small meter to determine leakage and for sampling purposes. [Recommended Standards for Water Works 8.7.2]

401 KAR 4:050. Construction exemptions.

RELATES TO: KRS 151.110, 151.250, 151.310

STATUTORY AUTHORITY: KRS 151.230, 151.250

NECESSITY, FUNCTION, AND CONFORMITY: In the course of regulating construction in or along streams pursuant to KRS 151.250, the Natural Resources and Environmental Protection Cabinet frequently encounters actions or proposed actions which are of such nature or location as to have little potential for damage or such that any damage which would occur is limited in extent to the immediate vicinity of the action. This administrative regulation exempts construction of this type from the provisions of KRS 151.250.

Section 1. A construction permit pursuant to KRS 151.250 shall not be required for construction in or along a stream whose watershed is less than one (1) square mile, except for the construction of dams as defined by KRS 151.100 or other water impounding structures or for any construction that does or may endanger life or cause severe damage to residential or commercial property.

Section 2. A construction permit pursuant to KRS 151.250 shall not be required for a subfluvial utility or pipeline crossing provided that the construction of the crossing meets the following criteria:

(1) During the construction of the crossing, no material may be placed in the stream or in the flood plain of the stream to form construction pads, coffer dams, access roads, etc., unless prior approval has been obtained from the cabinet.

(2) The trench shall be backfilled as closely as possible to the original contour. All excess material from construction of the trench shall be disposed of outside of the flood plain unless the applicant has received prior approval from the cabinet to fill within the flood plain.

(3) For subfluvial crossings of erodible channels, there shall be at least thirty (30) inches clear to the top of the pipe or conduit at all points.

(4) For subfluvial crossings of nonerodible channels, there shall be at least six (6) inches of clear cover above the top of the pipe or conduit at all points, and the pipe or conduit shall be encased on all sides by at least six (6) inches of concrete.

(5) The weight of a pipe and its contents during normal operating conditions at all points must exceed that of an equal volume of water, or the applicant must provide the division with sufficient information to show that the pipe and joints have sufficient strength. (7 Ky.R. 365; eff. 11-6-80.)

PRELIMINARY ENGINEERING REPORT
CHRISTIAN COUNTY WATER DISTRICT

PHASE VII SYSTEM EXTENSION PROJECT

Christian County, Kentucky

prepared for the:

Christian County Water District
1960 Dawson Springs Road
Hopkinsville, KY 42240
(270) 886-3696

prepared by:

McGHEE ENGINEERING, INC.
202 Ewing Street
P.O. Box 267
Guthrie, KY 42234
(270) 483-9985

STATE OF KENTUCKY
MICHAEL W.
McGHEE
14440
LICENSED
PROFESSIONAL ENGINEER

February 18, 2005

Preliminary Engineering Report
Table of Contents
Christian County Water District's Phase VII System Extension Project

Tables

Tables (cont.-)

Exhibits

Exhibits (cont.-)

Appendix

1.0 INTRODUCTION

The Christian County Water District (CCWD) was formed by Christian County Fiscal Court order November 13, 1967 to supply potable water to rural residents of Christian County, Kentucky. The District is controlled by a Board of Directors, which consists of a Chairman and four Directors. The District is regulated by the Kentucky Public Service Commission.

The Christian County Water District (CCWD) is comprised of approximately 441 miles of water line, 12 water storage tanks with a combined capacity of 1,850,000 gallons, and 11 booster pumping stations. CCWD serves approximately 4,892 customers, which are almost entirely rural residences. The CCWD purchases all of its treated water from the City of Hopkinsville. Average daily usage is currently just over 1,000,000 gpd.

The CCWD is a large district both in terms of customers and geographic area, covering over 700 square miles. The CCWD is one of only three public water systems in Christian County. The other two are the Hopkinsville Water Environment Authority which serves Hopkinsville, Crofton and Pembroke, and the City of Oak Grove. The CCWD service area includes all of Christian County, excluding the incorporated areas of Hopkinsville, Crofton, Pembroke and Oak Grove, and the property occupied by Ft. Campbell.

It is estimated that over 90% of the 480 miles of public road in the Christian County service area are served by the CCWD. The unserved roads are generally spread out over the entire county, and typically have lower population densities, difficult construction conditions, or both. The largest contiguous unserved area at the present time is in the southeastern quadrant of Christian County near the communities of Pembroke and Oak Grove.

The main problems facing the CCWD are the need to extend service to new customers, the need for hydraulic improvements in certain areas, and the long-term supply of treated water. The water supply issue is being addressed by Hopkinsville's ongoing effort to supplement its raw water sources. The remaining problems will be addressed by proposed, and future projects to extend and upgrade the distribution system.

The proposed project is referred to as the Phase VII expansion, and will involve the construction of approximately 58 miles of distribution line in various parts of the county, along with demoltion of a water storage tank, relocation of a booster pumping station, the addition of master meters, and telemetry upgrades. The project is estimated to make water service available to 238 potential new customers in Christian County, and 9 in Todd County. The total cost of the proposed project is estimated to be $2,500,000.

2.0 PROJECT PLANNING AREA

2.1 *Location*

The Christian County Water District's Phase VII project will serve 33 roads in all parts of the county. The roads to be served are shown in the following table.

Table 1
Project Road List

Map Ref.	Road/Item	Length (Miles)	Number of Houses	Line Size (Inches)
⑪	Anderson Road	2.0	5	4
⑫	Barkers Mill Road	1.5	13	4
⑭	Bells Chapel Road (Todd Co.)	1.0	5	3
⑭	Boddie Road	2.0	6	4
⑮	Brinkley Store Road	0.6	2	4
⑯	Chapel Hill Road	1.3	7	4
⑰	Coal Creek Road	2.5	8	4
⑱	Cox Mill Road	1.5	4	4
⑨	Davis Road & US 41	2.0	11	4
⑩	Ebenezer Road (Gracey)	1.8	3	4
⑪	Fidelio/Bardwell Road	4.4	17	4
⑫	Fuller Road	1.0	5	4
⑬	Guinn/Stokes Road (Todd Co.)	1.0	4	3
⑬	Highway 1027	5.9	29	4
⑮	Highway 1453/Howard Dickerson Road	3.5	17	4
⑯	Highway 41 - Pembroke to Guinn	2.1	11	6
⑰	Highway 624	1.6	6	4
⑱	Lovelady Lane	1.0	5	4
⑲	Melvin West Road	0.7	3	4
⑳	Old Madisonville Road	0.9	3	4
㉑	Old Palestine Road	1.4	4	4
㉒	Overton Road	0.8	7	4
㉓	Pierce Lane	1.3	0	4
㉔	Pruitt Lane	2.0	4	4
㉕	Rascoe Road	0.9	5	4
㉖	Rocky Ridge Road	0.4	2	4
㉗	Rose Town Road	3.5	20	4
㉘	Shepard Road	1.1	0	4
㉙	Simmons Cemetery Road	1.7	11	4
㉚	St. Elmo Road	2.0	13	6
㉛	Swift Ford Road	1.3	3	4
㉜	US 68 to Britmart Road	0.6	0	4
㉝	Vaugns Grove Road	2.4	14	4
	SUBTOTAL - New Line Extensions	57.7	247	

The proposed project is illustrated on Exhibit 1.

The tank demolition will remove an old, undersized tank on Greenville Road that was removed from service as a result of recent hydraulic improvements made to the system. The pump station relocation will move an existing, nearly new pump station from its current location, where it is underutilized, to a new location off of the Princeton Road where it will correct an existing low pressure area. The master meters are being added to enhance systems operation by isolating potential leaks or line breaks faster, and thereby allow needed repairs to be made more quickly and efficiently. The telemetry upgrades will modernize existing stand-alone systems, and allow them to be tied in with the new system-wide SCADA system begun with the recently-completed Phase VI project.

2.2 *Land Use and Environmental Resources Present*

The project consists of a number of roads spread out over all areas of Christian County. The areas are generally rural and most are sparsely populated. The project will affect four main resources during construction: residential, agriculture, grazing and transportation. Some of the project area is on the southern fringe of important coal mining areas, but little if any mining is done in the area at present. The general construction effect to the resources is the disturbances associated with building the facilities. No long-term impact is expected to any environmental resource.

The State Historical Preservation Officer has reviewed the project as part of the State Clearinghouse review process. An archaeological review of the project was originally recommended, however subsequent information provided to the State Historic Preservation Officer resulted in this requirement being rescinded. A letter documenting this is included in Appendix A, along with the Clearinghouse review letter.

The following exhibit indicates the environmental resources present within the project planning area:

- Topographic maps of the project area indicating the areas to be affected, and the surrounding area is attached as Exhibits 2 through 27. The base maps are the USGS 7.5-minute quadrangles for Christian County, Kentucky as noted in the map legends.

2.3 *Growth Areas and Population Trends*

The population history of Christian County is an important element in determining the growth patterns over the last 50 years. Analysis of the population history will assist in forming a reliable estimate of the future water needs of the project area.

According to historical records, Christian County's population was 42,359 in 1950, which represents its lowest census year during the last 50 years. Table 2 provides the population history and projections of Christian County based on data obtained from the U.S. Bureau of the Census.

Table 2
Population History and Projections

	Historical						Projections		
YEAR	1950	1960	1970	1980	1990	2000	2010	2020	2030
Hopkinsville	12,526	19,465	20,415	27,318	30,137	30,089	30,691	31,305	31,931
Oak Grove	n/a	n/a	n/a	1,992	2,843	7,064	7,770	8,547	9,402
Pembroke	532	517	634	732	794	797	805	813	821
Crofton	500	892	631	823	713	838	846	855	863
LaFayette	246	196	158	186	105	193	203	213	223
Rural Areas	28,555	35,834	34,386	35,827	34,349	33,284	34,476	33,671	31,392
Total	42,359	56,904	56,224	66,878	68,941	72,265	74,791	75,404	74,633
% Change		34%	-1%	19%	3%	5%	3%	1%	-1%

Notes to Table 1:
1. Shaded areas have been calculated, or projected by McGhee Engineering.
2. Oak Grove was incorporated in 1974.

Sources to Table 1:
1. Historical data is from cbpa.louisville.edu/ksds/sdc/census1990/copop1900_2000.pdf
2. Projections are from cbpa.louisville.edu/ksdc/kpr/pro/webcotot5.xls

Analyzing Table 2 from 1950 to 2000 shows that Christian County grew rather sporadically through 1980, then at a fairly steady pace to the present. Much of the cities' gains came at the expense of the rural populations in the earlier years. However, there is evidence of that trend slowing in recent years. Census projections show Christian County growing modestly for the next 10-15 years, then declining in population later in the planning period.

The Christian County Water district has experienced strong growth in its number of customers over the past ten years. This is due to an aggressive expansion program, and also to the renewed popularity of rural living. The change in number of customers and water sales for the period from 1990 to 2000 is shown in Table 3.

Table 3
Water Customer and Sales History

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
No. of Meters	2,818	3,137	3,279	3,222	3,269	3,646	4,247	4,355	4,520	4,710
% Change	-	+11%	+5%	-2%	+1%	+12%	+16%	+3%	+4%	+4%
Total Water Sales (MG)	182	190	200	211	215	245	262	274	304	349
% Change	-	+4%	+5%	+6%	+2%	+14%	+7%	+5%	+11%	+15%

Considering the recent trend of rural water system growth outstripping the growth of smaller cities, and the strong growth in customer count experienced by the Christian County Water District over the past few years, the water demand for the CCWD is projected to continue growing at a strong pace. Table 4 shows the expected growth in water customers and sales through 2030. The projections are based on a 5% annual growth in customers and water sales through 2010. After 2010, the district should be nearing build-out, and the growth is assumed to drop to 2% annually.

Table 4
Water Customer and Sales Projections

	2005	2010	2015	2020	2025	2030
No. of Meters	5,192	6,627	7,317	8,079	8,920	9,848
Total Water Sales (MG)	445	568	628	693	765	845

3.0 EXISTING FACILITIES

3.1 *History and Assets*

The Christian County Water District (CCWD) was formed by Christian County Fiscal Court order in 1967 to supply potable water to residents of rural areas of Christian County. The District is comprised of approximately 441 miles of water line and several water storage tanks and booster pumping stations. The existing distribution system consists of 10", 8", 6", 4", 3" and 2" PVC lines. The general service area is depicted in Exhibit 3, which illustrates the overall layout of the system, and shows proposed Phase VII extensions.

The CCWD has twelve water storage structures with a combined capacity of 1,850,000 gallons, and eleven booster pumping stations. The high number of tanks and pump stations is required in part because of the large geographical area and varying terrain. Another factor that creates the need for many tanks and pump stations is the manner in which rural water systems typically develop over time. Each major system extension is usually supported by a tank and pump because the previous extension did not allow sufficient capacity for expansion. This is the case with Christian County, as with most other rural systems. As the systems approach build-out, it is usually beneficial to perform a system-wide hydraulic study to assess the possibility of interconnecting adjacent pressure zones to eliminate tanks and/or pump stations.

The CCWD has been working on consolidation of its system tanks and pump stations over the past few years, and has eliminated one tank as a result of the Phase VI project. The proposed Phase VII project will continue this process by demolishing an existing unused tank, and relocating an existing, underutilized pump station.

3.2 *Existing Financial Charges and Status*

3.2.1 *Current Rate Schedule*

5/8" Meter

First	0	Gallons @	$ 15.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 4.75		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 37.50		Minimum
Over	5,000	Gallons @	$ 4.75		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 60.00		Minimum
Over	10,000	Gallons @	$ 4.75		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 240.00		Minimum
Over	50,000	Gallons @	$ 4.75		per 1,000 Gallons

4" Meter

First	100,000	Gallons @	$ 465.00		Minimum
Over	100,000	Gallons @	$ 4.75		per 1,000 Gallons

The current rate schedule went into effect on February 1, 2004.

3.2.2 *Revenues and Expenses*

Item	FY 2003	FY 2002	FY 2001	FY 2000
Operating Revenues				
Water Sales	$ 1,929,895	$ 1,868,695	$ 1,782,666	$ 1,683,653
Other Revenues	$ 158,336	$ 50,700	$ 49,505	$ 48,470
Total-Operating Revenues	**$ 2,088,231**	**$ 1,919,395**	**$ 1,832,171**	**$ 1,732,123**
Operating Expenses				
Purchased Water	$ 591,080	$ 555,463	$ 531,204	$ 524,046
Depreciation	$ 383,225	$ 375,769	$ 363,315	$ 285,702
Salaries	$ 346,968	$ 333,859	$ 307,869	$ 278,593
Maintenance & Repairs	$ 18,064	$ 20,500	$ 27,866	$ 18,862
Insurance	$ 96,745	$ 81,810	$ 63,989	$ 59,356
Electricity	$ 47,770	$ 43,284	$ 36,833	$ 41,089
Professional Services	$ 31,060	$ 19,612	$ 26,762	$ 14,671
Office Supplies & Expense	$ 53,009	$ 51,500	$ 52,730	$ 42,497
Operating Materials & Supplies	$ 43,342	$ 33,892	$ 14,112	$ 65,803
Payroll Taxes & Fringe Benefits	$ 56,462	$ 49,007	$ 41,456	$ 39,463
Transportation Expense	$ 26,418	$ 27,800	$ 21,131	$ 21,814
Total-Operating Expenses	**$ 1,694,143**	**$ 1,592,496**	**$ 1,487,267**	**$ 1,391,896**
Net Operating Revenue	**$ 394,088**	**$ 326,899**	**$ 344,904**	**$ 340,227**
Non-Operating Revenue (Expense)				
Interest Income	$ 26,011	$ 30,615	$ 61,183	$ 155,307
Other	$ (351)	$ (4,720)	$ 2,000	$ -
RUS Interest	$ (269,473)	$ (236,896)	$ (238,242)	$ (227,715)
RUS Principal	$ (74,000)	$ (109,875)	$ (107,900)	$ (86,875)
Non-RUS Interest	$ (240,441)	$ (231,889)	$ (235,508)	$ (145,524)
Non-RUS Principal	$ (85,184)	$ (89,284)	$ (82,464)	$ (31,706)
Total-Non-Operating Rev/Exp	**$ (643,438)**	**$ (642,049)**	**$ (600,931)**	**$ (336,513)**
Net Income	**$ (249,350)**	**$ (315,150)**	**$ (256,027)**	**$ 3,714**

3.2.3 *Long Term Debts*

Date of Issue	Bond/Note Holder	Principal Balance	Payment Date	Bond Type	Amount on Deposit in Reserve
1993	KIA	$ 817,612	2018	Water	
1989	RD	$ 1,145,000	2029	Water	
1990	RD	$ 738,000	2030	Water	
1991	RD	$ 370,200	2031	Water	
1994	RD	$ 1,229,000	2034	Water	
1998	RD	$ 2,137,000	2038	Water	
1999	Private	$ 3,320,000	2030	Water	
Total		$ 9,756,812			$ 475,441

3.2.4 *Short Term Debts*

Lender or Lessor	Date of Issue (Mo. & Year)	Principal Balance	Purpose	Payment Date	Principal & Interest Payment (P&I)	Date to Be Paid In Full
Flynn	NA	$21,741	Waterlines	NA	Variable	~2011

4.0 NEED FOR PROJECT

4.1 *Health and Safety*

The proposed Phase VII project will serve about 58 miles of rural secondary roads that are currently without public water service. As with many districts, the Christian County Water District has extended lines along most of the major highways in the county, and has provided service to the most densely populated areas. The remaining roads are generally less densely populated, or construction conditions made the road difficult to serve. Most residents along these roads rely on wells or cisterns for their water supply. While some have adequate supplies, many live with water shortages and uncertain water quality.

The Phase VII project will address this problem by providing a safe and reliable supply of potable water to these residences.

4.2 *System O&M*

As with any new construction, some operation and maintenance costs will be increased due to the additional operations and maintenance of the new facilities. These increases will be minimal, however, since the project involves primarily new water lines. Other parts of the project involve demolition of an unneeded water storage tank, addition of master meters, and upgrade of telemetry. All of these improvements are being made to allow the system to operate more efficiently, and to minimize system operating and maintenance costs.

4.3 *Growth*

The number of customers served by the Christian County Water District could approximately double over the next 30 years based upon the strong growth trend in customer counts experienced by the District over the past few years. The proposed project is necessary to insure the safe and reliable delivery of water to new customers as well as the expected future customers.

5.0 ALTERNATIVES CONSIDERED

A resolution to the problems faced by the Christian County Water District is a relatively simple project with two alternatives.

5.1 *Alternative 1*

The first obvious alternative is to do nothing. However, many unserved residences well within the serviceability of the District would continue to rely upon hauling water, underground reservoirs and other possibly unreliable sources. This alternative contradicts the ongoing State initiative to provide all citizens a reliable and healthy source of drinking water. Therefore, the 'do nothing' alternative is not a reasonable option.

5.2 *Alternative 2*

The second alternative is a straightforward approach to providing water to the residences in the service area. The project involves extension of the existing Christian County Water District lines to serve these customers.

5.2.1 *Description*

The project includes extension of about 58 miles of mostly 4-inch line along 33 rural roads in various parts of Christian County. It is a classic "fill-in" project as opposed to one that serves a particular part of the county. The project serves secondary roads that were either too sparsely populated, or had too difficult construction conditions to be considered in an earlier phase of expansion. The alternative is illustrated in Exhibit 1.

Along with the lines, the project also includes demolition of an existing, unneeded elevated water storage tank, addition of master meters in the distribution system, and upgrade of the telemetry system.

5.2.2 *Environmental Impacts and Land Requirements*

The alternative has little to no impact upon the environment and land resources because the proposed construction would be done within existing easements or adjacent to current District properties or highway right-of-ways. The line extensions are proposed for construction along county/state right-of-way. As mentioned earlier, the project will affect four main land resources during construction: residential, agriculture, grazing and transportation. The general construction effect to the resources is the disturbances associated with building the facilities. No other effect to the resources is expected after construction of the facilities is complete.

5.2.3 *Construction Problems*

The rocky terrain of some of the line routes is the only foreseeable construction problem for the proposed project. The northern areas of Christian County are well known for their rocky soil conditions and rolling terrain. Although this is a costly nuisance for the project, the presence of subsurface rock is unavoidable throughout the entire water system. Proper bedding and backfill of the proposed pipeline will insure that the rocky terrain will not pose a problem for the future operation of the water system. The entire pipeline route is very accessible, and there is no evidence of a high water table.

5.2.4 *Cost Estimates*

The Christian County Water District's Phase VII Expansion project is estimated to have a total cost of $2,500,000. The project cost consists of construction, non-construction and contingency costs, which are $2,000,000, $300,000 and $200,000 respectively.

No substantial increase in annual operation and maintenance costs is expected from the project. There would be a small increase in utility costs for power to pump the

additional water, and in labor and maintenance costs needed for monitoring the additional footage of distribution system.

6.0 PROPOSED PROJECT

6.1 *Project Design*

6.1.1 *Water Supply*

The District will continue to purchase all of its potable water from the City of Hopkinsville. The Hopkinsville water treatment plant has adequate water available to serve the 247 potential customers. Presently, the City's water supply issue is being addressed by Hopkinsville's ongoing effort to supplement its raw water sources.

6.1.2 *Storage*

The proposed project involves dismantling the District's existing tank on KY Highway 107 north. This tank is undersized (75,000 gallons) and is in poor condition. The addition of a new tank in the Apex area as part of the Phase VI project allows the Highway 107 tank to be removed from service.

The Christian County Water District has twelve water storage tanks with 1,850,000 gallons of storage capacity. Removing the Highway 107 tank will leave CCWD with well over the required 24-hours of storage capacity.

6.1.3 *Distribution Layout*

The lines comprising the Phase VII project are dispersed over the entire county. Each individual line will require detailed hydraulic analysis to ensure that the Kentucky Division of Water design guidelines are met. The preliminary investigation indicates that each of these lines is hydraulically feasible. The proposed line extensions are illustrated in Exhibit 1.

6.1.4 *Regulatory Compliance*

The proposed project has been submitted to the Kentucky State Clearinghouse for their comments. The clearinghouse comments are included in Appendix A. The clearinghouse review of the proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective.

The Kentucky Heritage Council has requested an archaeological survey of the project area. We are in the process of working with the KHC to determine the scope of this study, and will coordinate with the KHC in its completion.

In regards to the requirements of the Kentucky Division of Water, careful consideration will be given to insure that adequate working pressure is maintained throughout the planning area. Also, special analysis will be utilized to

insure that all of the proposed line extensions meet the 2.5 ft/sec flushing rule, and that tank volume turnover is sufficient to avoid stagnant water. Overall, the project will be designed in accordance with the Ten States Standards.

6.1.5 *Hydraulic Calculations*

The computer hydraulic model, KYPIPE 2000, was used to determine the hydraulic characteristics of the Christian County Water District's various pressure zones that will serve the proposed improvements. The model includes all of the existing lines from the water supply connection with Hopkinsville, plus the proposed lines, tank and pump stations that comprise the Phase VII project.

The preliminary modeling indicates that the lines may be constructed as proposed. Certain areas may require a designation by the Kentucky Division of Water as "underserved" because of pressure constraints or difficulty meeting the flushing velocity requirements. The "underserved" designation limits the ability to extend that particular line in the future. Given that many of the proposed lines complete service a given area, or extend service to the District boundary, this designation should cause no concern.

More detailed modeling will be required during the plan preparation phase to accompany the submittal to the Kentucky Division of Water.

6.2 *Cost Estimate*

The proposed itemized cost estimate of the Christian County Water District Apex Area Water System Extension Project is shown in Table 5 and the proposed financing package is illustrated in Table 6.

Table 5

Project Cost Estimate

Map Ref.	Road/Item	Length (Miles)	Number of Houses	Line Size (Inches)	Estimated Construction Cost
New Line Extensions					
1	Anderson Road	2.0	5	4	$ 55,650
2	Barkers Mill Road	1.5	13	4	$ 41,475
3	Bells Chapel Road (Todd Co.)	1.0	5	3	$ 20,670
4	Boddie Road	2.0	6	4	$ 55,650
5	Brinkley Store Road	0.6	2	4	$ 22,825
6	Chapel Hill Road	1.3	7	4	$ 36,225
7	Coal Creek Road	2.5	8	4	$ 82,775
8	Cox Mill Road	1.5	4	4	$ 41,475
9	Davis Road & US 41	2.0	11	4	$ 55,650
10	Ebenezer Road (Gracey)	1.8	3	4	$ 50,000
11	Fidelio/Bardwell Road	4.4	17	4	$ 121,800
12	Fuller Road	1.0	5	4	$ 27,825
13	Guinn/Stokes Road (Todd Co.)	1.0	4	3	$ 20,670
14	Highway 1027	5.9	29	4	$ 152,250
15	Highway 1453/Howard Dickerson Road	3.5	17	4	$ 97,125
16	Highway 41 - Pembroke to Guinn	2.1	11	6	$ 86,580
17	Highway 624	1.6	6	4	$ 44,100
18	Lovelady Lane	1.0	5	4	$ 27,825
19	Melvin West Road	0.7	3	4	$ 25,000
20	Old Madisonville Road	0.9	3	4	$ 25,200
21	Old Palestine Road	1.4	4	4	$ 40,000
22	Overton Road	0.8	7	4	$ 22,050
23	Pierce Lane	1.3	0	4	$ 24,250
24	Pruitt Lane	2.0	4	4	$ 55,650
25	Rascoe Road	0.9	5	4	$ 25,200
26	Rocky Ridge Road	0.4	2	4	$ 16,800
27	Rose Town Road	3.5	20	4	$ 97,125
28	Shepard Road	1.1	0	4	$ 30,000
29	Simmons Cemetery Road	1.7	11	4	$ 47,250
30	St. Elmo Road	2.0	13	6	$ 82,680
31	Swift Ford Road	1.3	3	4	$ 35,095
32	US 68 to Britmart Road	0.6	0	4	$ 20,900
33	Vaugns Grove Road	2.4	14	4	$ 67,230
	SUBTOTAL - New Line Extensions	57.7	247		$ 1,655,000
System-Wide Improvements					
Master Meters					$ 200,000
Pump Station Relocation					$ 25,000
Tank Demolition					$ 20,000
Telemetry Upgrades					$ 100,000
SUBTOTAL - System-Wide Improvements					$ 345,000
Total Construction Cost					
Total Construction Cost					$ 2,000,000
Non-Construction Costs					
Land & Right-of-Way					$ 10,000
Legal Costs					$ 25,000
Preliminary Engineering & Environmental Services					$ 25,000
Design Engineering					$ 100,100
Construction Phase Engineering Services					$ 42,900
Construction Inspection					$ 72,000
Financing Costs					$ 25,000
Subtotal - Non-Construction					$ 300,000
Total Project Cost					
Contingency (10%)					$ 200,000
Total Estimated Project Cost					$ 2,500,000

Table 6
Proposed Funding Package

Rural Development Grant	$ 1,000,000
Rural Development Loan	$ 1,300,000
State Appropriation	$ 200,000
FUNDING SOURCES TOTAL	**$ 2,500,000**

6.3 *Annual Operating Budget*

The proposed annual operating budget for the Christian County Water District Water Tank Addition and Line Upgrade Project is shown in Table 7.

Table 7
Proposed Operating Budget

	Existing [1]	Extension Only		Future	
Operating Income					
Water Sales	$1,929,895	$74,991	[2]	$2,419,413	[7]
Tap Fees	$86,750	$74,375	[3]	$74,375	
Other Revenues	$71,586	$0		$53,600	
Total Operating Income	$2,088,231	$149,366		$2,547,388	
Operating and Maintenance Expense					
Purchased Water	$591,080	$18,052	[4]	$665,137	
Salaries	$346,968	$0		$461,115	
Maintenance & Repairs	$18,064	$500	[5]	$32,778	
Insurance	$96,745	$0		$72,049	
Electricity	$47,770	$500	[5]	$53,182	
Professional Fees	$31,060	$0		$70,141	
Office Supplies & Expense	$53,009	$0		$78,939	
Operating Materials & Supplies	$43,342	$1,000	[5]	$69,682	
Payroll Taxes & Fringe Benefits	$56,462	$0		$90,570	
Transportation Expense	$26,418	$500	[5]	$46,350	
Total Operating Expenses	$1,310,918	$20,552		$1,639,943	
Net Operating Income	$777,313	$128,814		$907,445	
Non-Operating Income (Expense)					
Interest Income	$26,011	$0		$23,000	
Other	($351)	$0		$0	
RUS Bond Interest	($269,473)	($61,750)	[6]	($338,230)	[8]
RUS Bond Principal	($74,000)	($13,000)	[6]	($104,000)	[8]
Non-RUS Bond Interest	($240,441)	$0		($226,560)	
Non-RUS Bond Principal	($85,184)	$0		($97,171)	
Total Non-Operating Income	($643,438)	($74,750)		($742,961)	
Net for Coverage & Depreciation	$133,875	$54,064		$164,484	

Notes:

1. Based on the 2003 Financial Statements
2. Based on 175 new customers, 4,360 gallons per month usage & current rates.
3. Based on a 175 new customers and $425 tap fee.
4. Based on 175 new customers, 4,360 gallons per month usage X 1.24 water loss & HWEA rate of $1.59/1,000 gal.
5. Nominal increase to cover expense associated with additional line footage.
6. Based on a $1.3M RUS loan @ 4.75% & 40 years.
7. Based on a proposed 9.4% rate increase to new and existing customers.
8. Included Phase VI RD Bonds not yet issued and not reflected in 2003 figures.

As illustrated in Table 7, the 2003 budget year produced $133,875 in revenues to apply to debt coverage and depreciation. Since 2003, CCWD has constructed the Phase VI extension project, and has seen expenses for several budget items increase substantially. Although the Phase VII project produces positive net revenues, the District will still need to increase rates to provide adequate funds for future years. The proposed rate increase averages 9.4% and provides net income as a percentage of revenues similar to the 2003 budget year. The proposed water rate schedule is illustrated in Exhibit 8.

Exhibit 8
Proposed Rate Schedule

5/8" Meter

First	0	Gallons @	$ 16.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 5.00		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 41.00		Minimum
Over	5,000	Gallons @	$ 5.00		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 66.00		Minimum
Over	10,000	Gallons @	$ 5.00		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 266.00		Minimum
Over	50,000	Gallons @	$ 5.00		per 1,000 Gallons

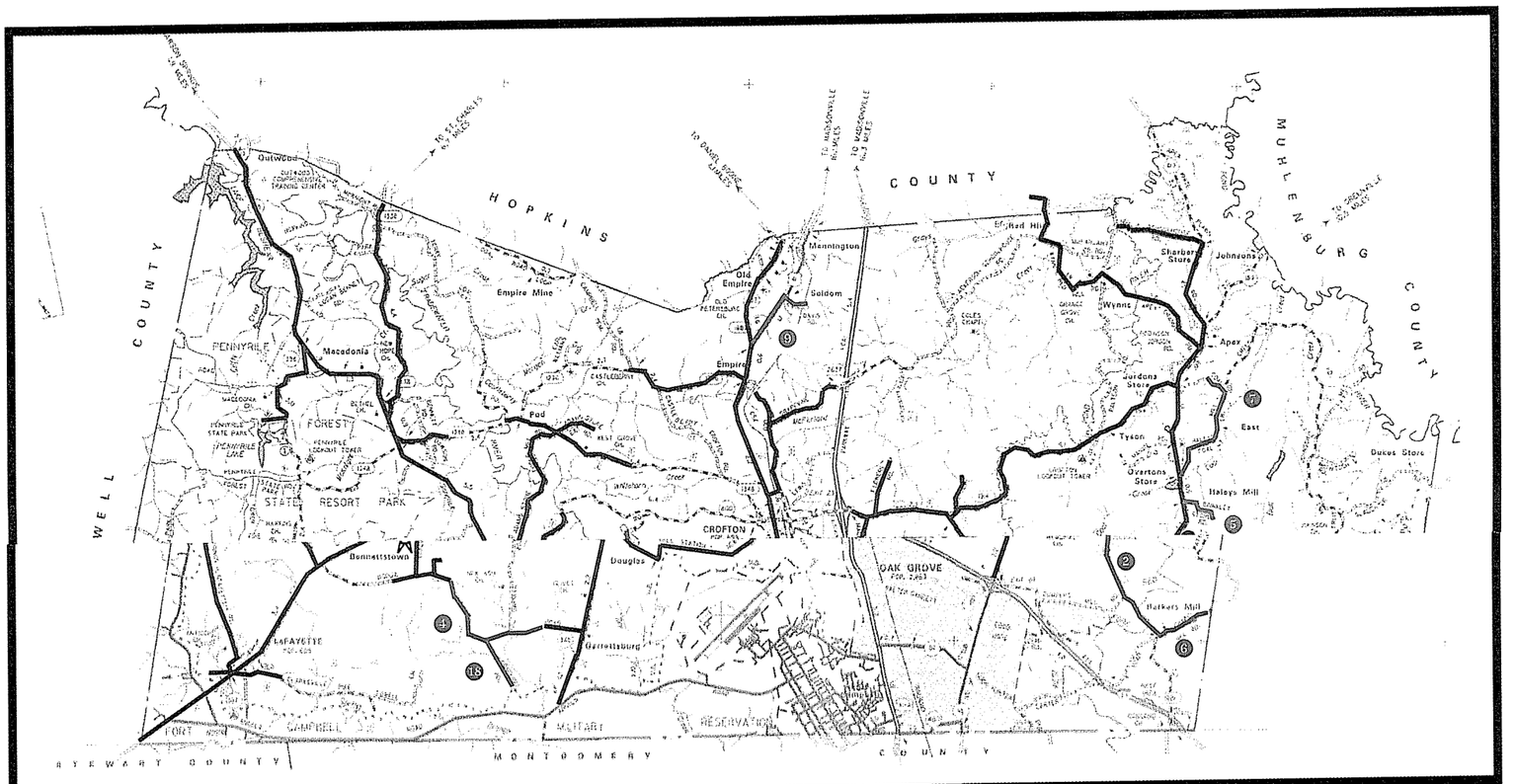
4" Meter

First	100,000	Gallons @	$ 516.00		Minimum
Over	100,000	Gallons @	$ 5.00		per 1,000 Gallons

7.0 RECOMMENDED SOLUTION

In order to address the problems and needs of the water system, the Christian County Water District should do the following:

- Install approximately 58 miles of distribution water lines to serve an estimated 175 new customers.
- Demolish the existing Highway 107 water storage tank.
- Install master meters at selected locations within the existing distribution system.
- Upgrade the older telemetry to be compatible with the telemetry installed in the Phase VI project.
- Continue the application process for $1,000,000 in grant and $1,300,000 in loan from Rural Development, and $200,000 in grant from the State budget.
- Initiate discussion among the District's Board of Directors concerning public awareness and implementation of raising water rates.
- Continue pursuing other means of financing through other possible agencies and methods.



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0 1 2 3 4 5

Scale in Miles

Background Map: KyDOT Christian County General Highway Map—1999

LEGEND

- Existing Water Line
- Proposed Water Line
- Line Reference Number
- Existing Water Storage Tank
- Existing Pump Station

McGHEE ENGINEERING, INC.

Guthrie, Kentucky

Christian County Water District

Phase VII System Extension Project

PROJECT LAYOUT

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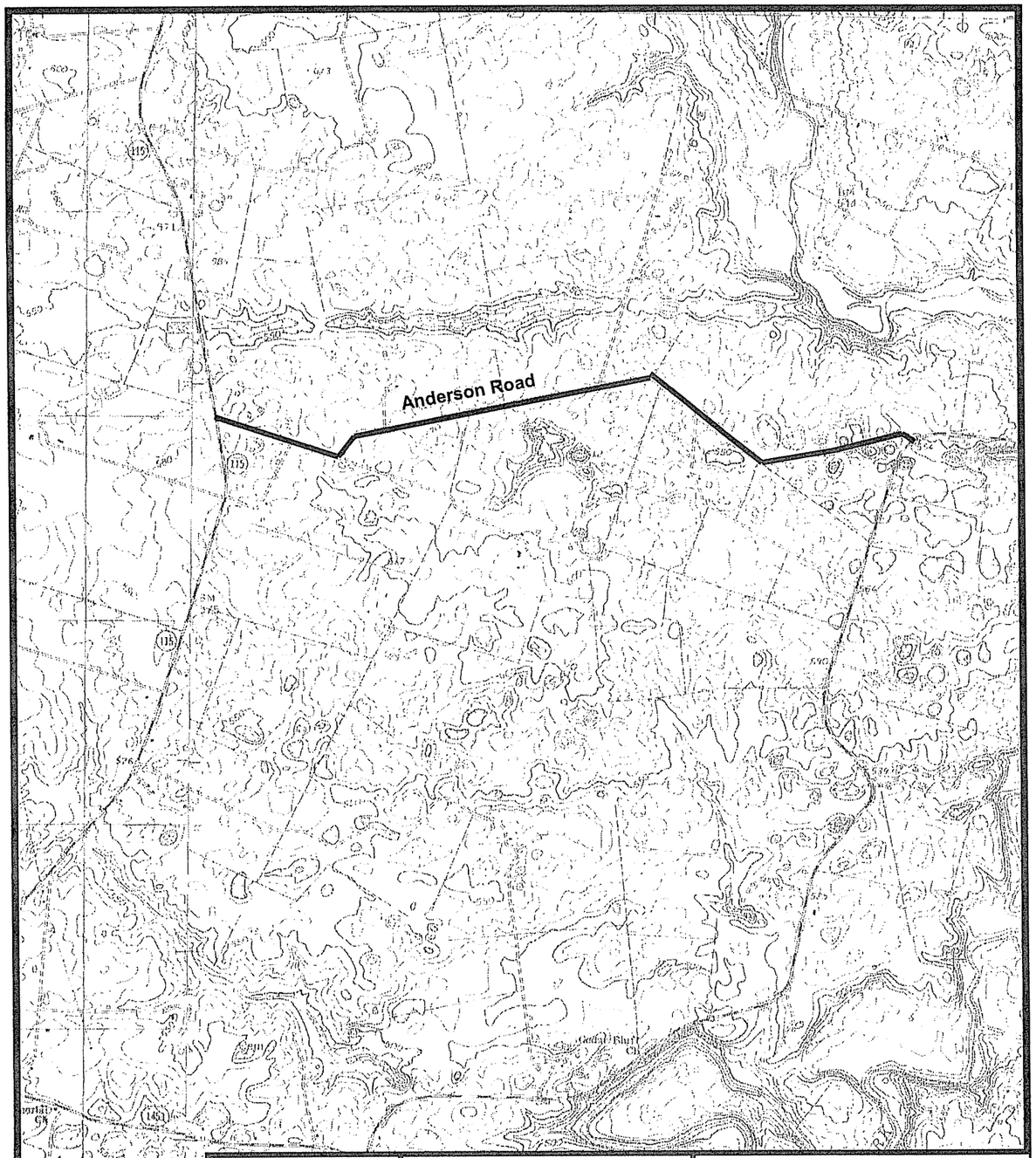
McGhee	As Noted	Nov. 2004	E-1



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LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

Source: USGS "Trenton KY"-1974 7½' Topographic Quadrangle.

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Anderson Road

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

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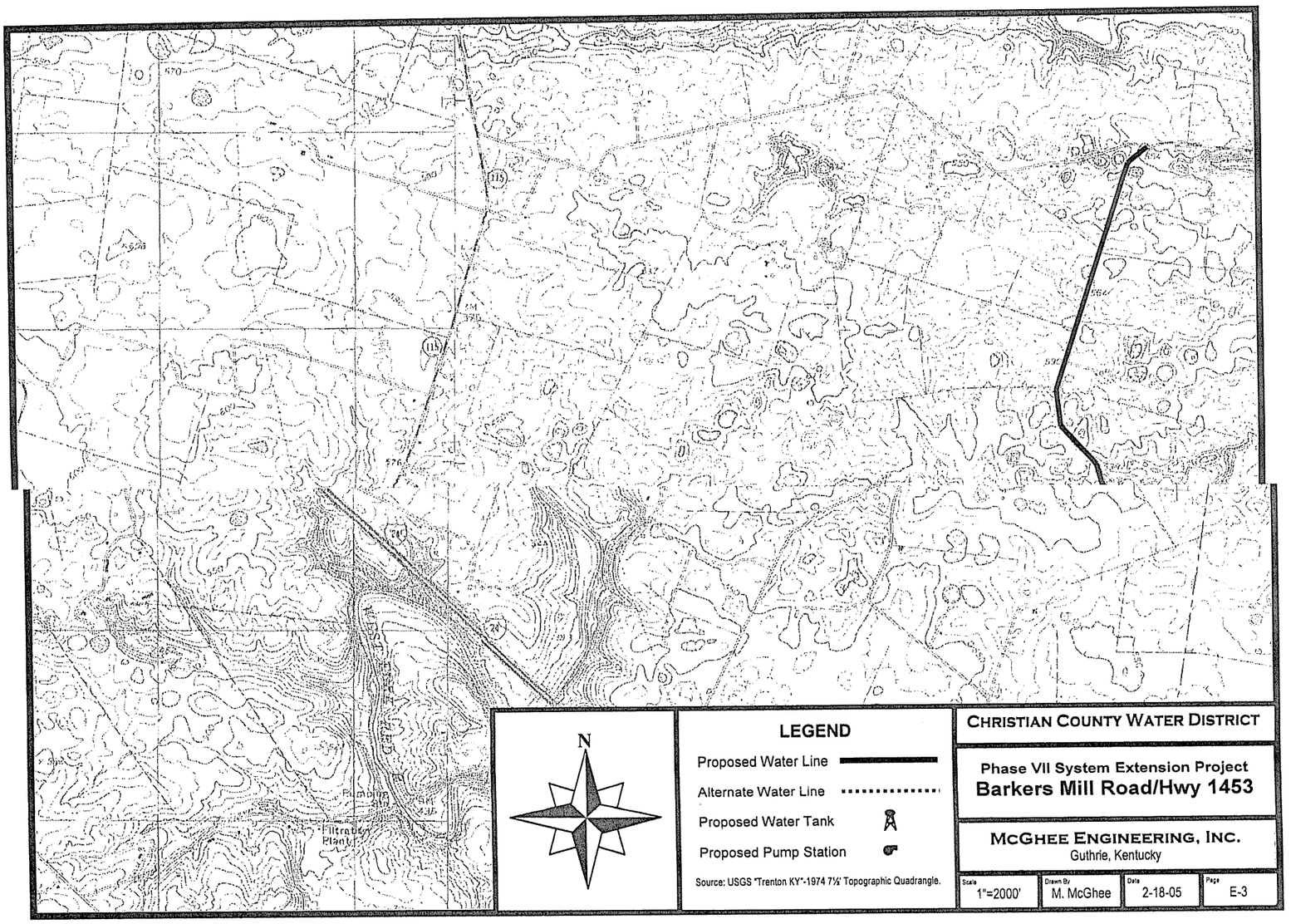
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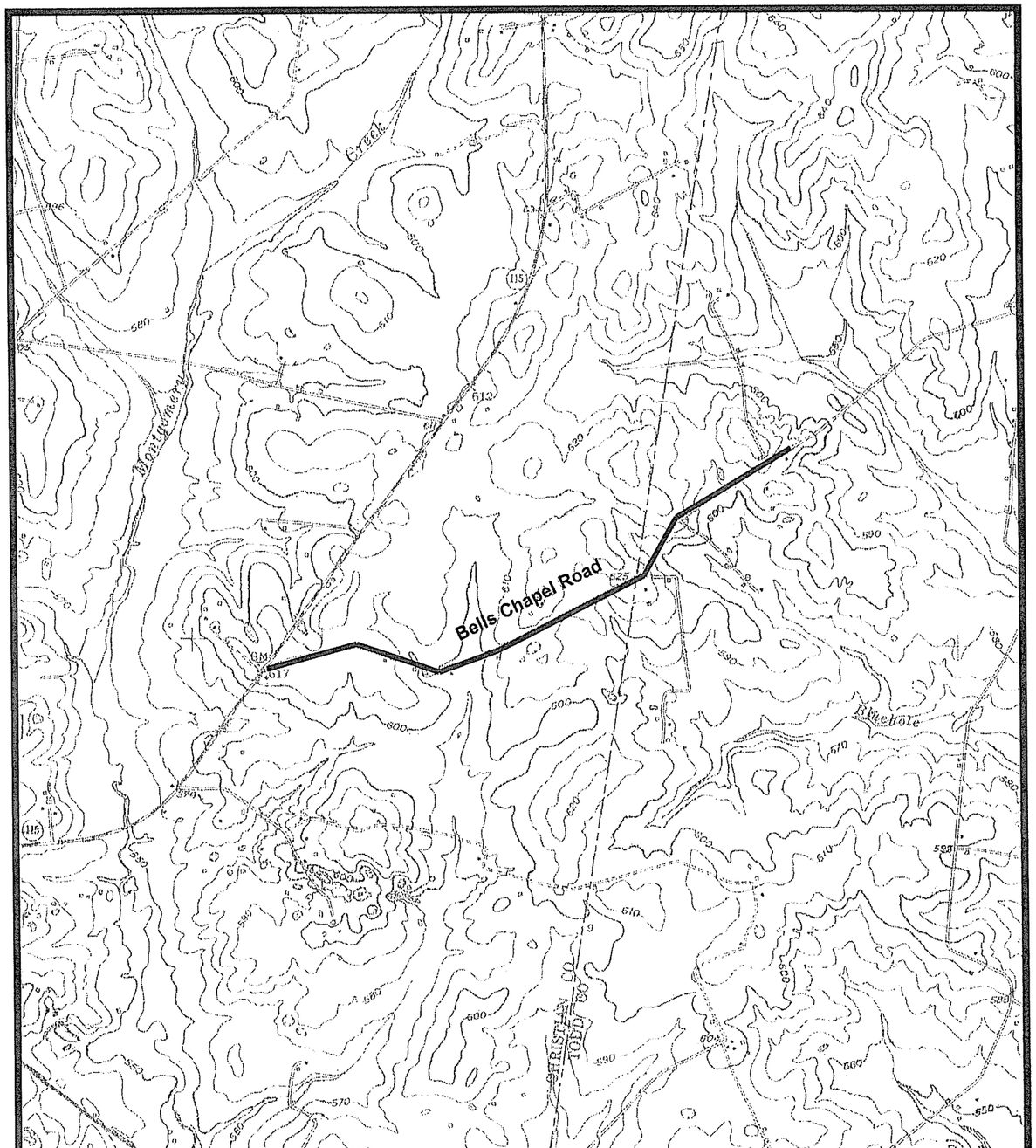
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Trenton KY"-1974 7½' Topographic Quadrangle.
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Barkers Mill Road/Hwy 1453
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-3



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

Source: USGS "Pembroke KY" 1981 7½ Topographic Quadrangle

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Bells Chapel Road

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
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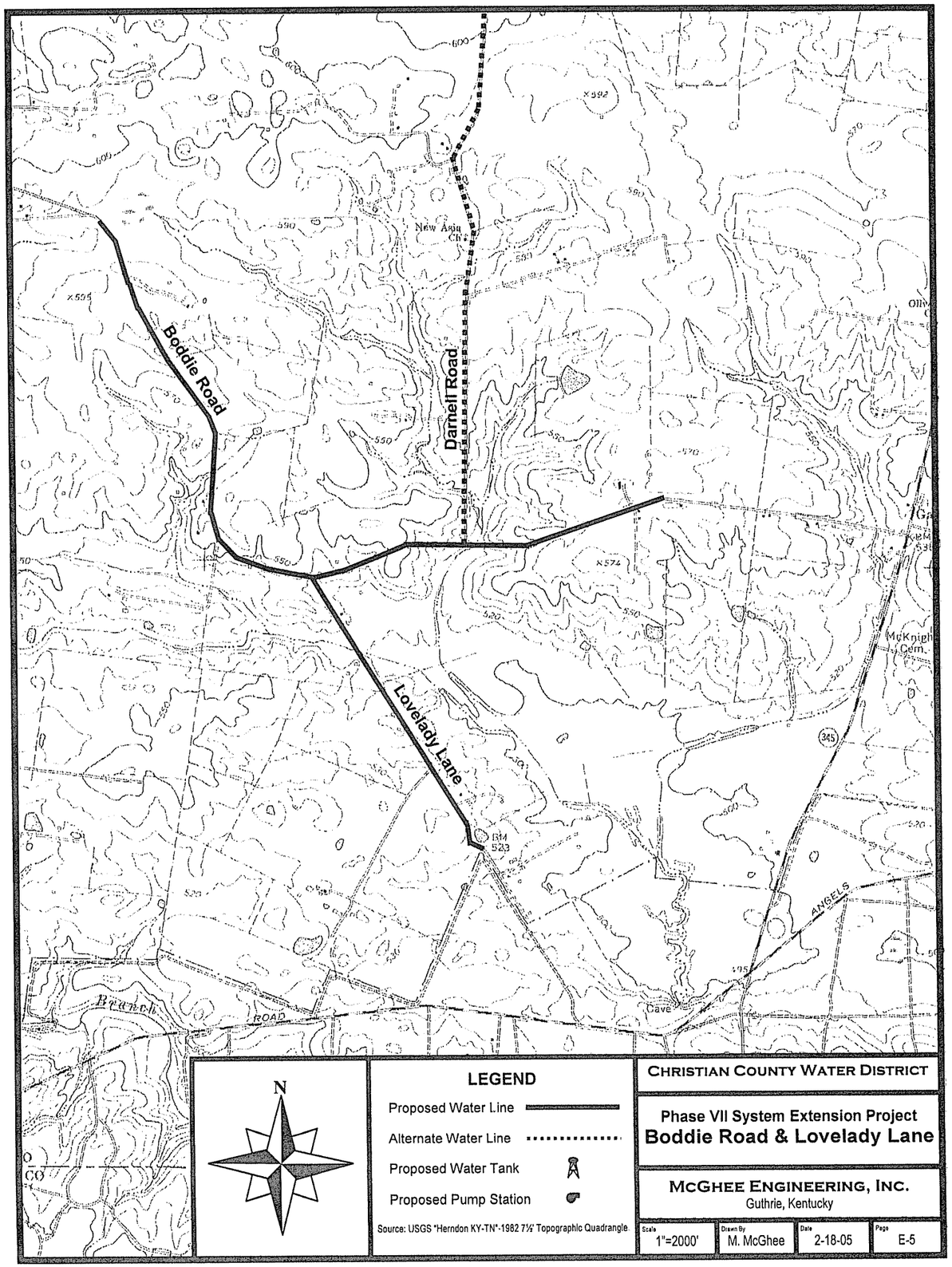
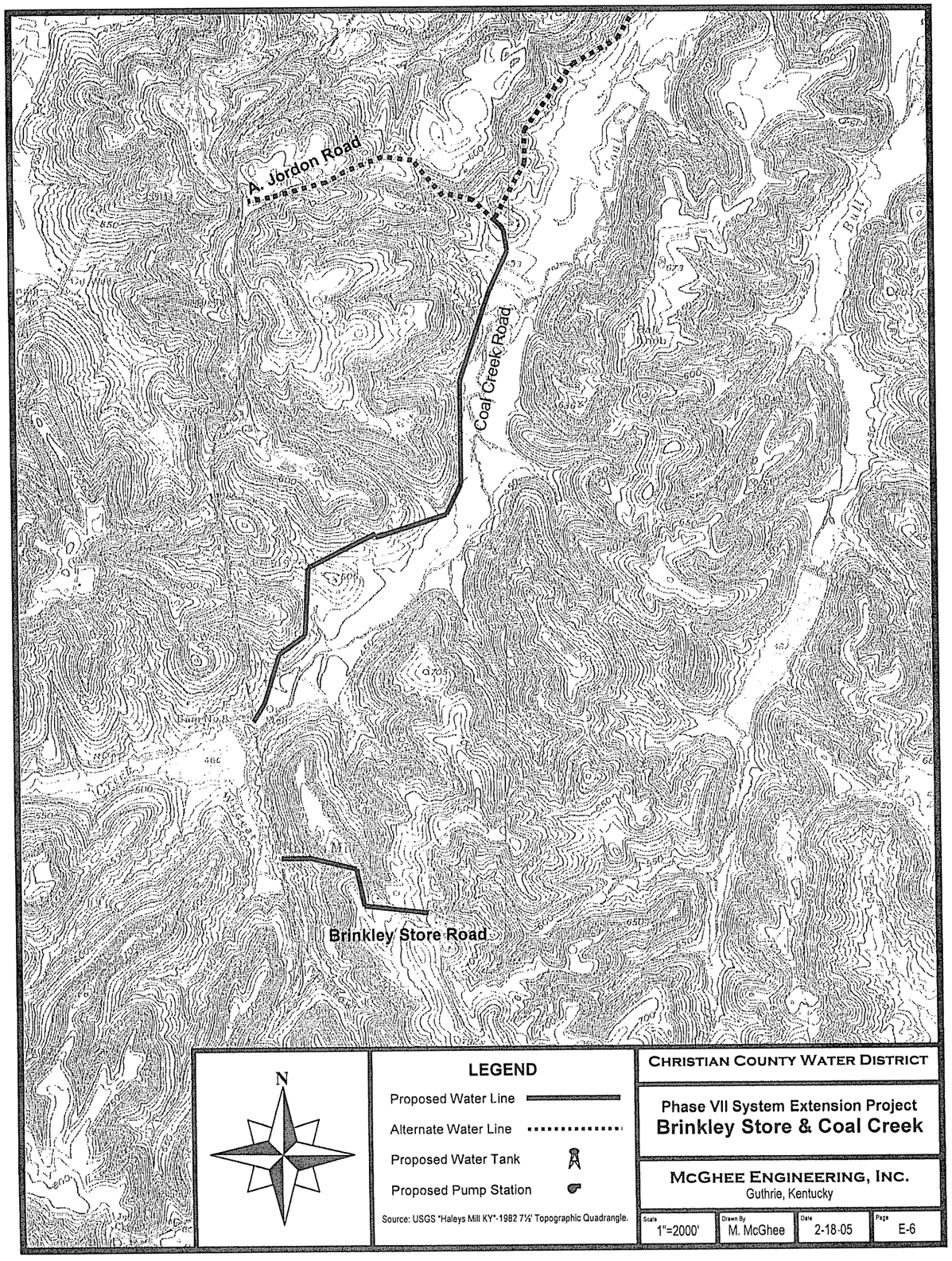
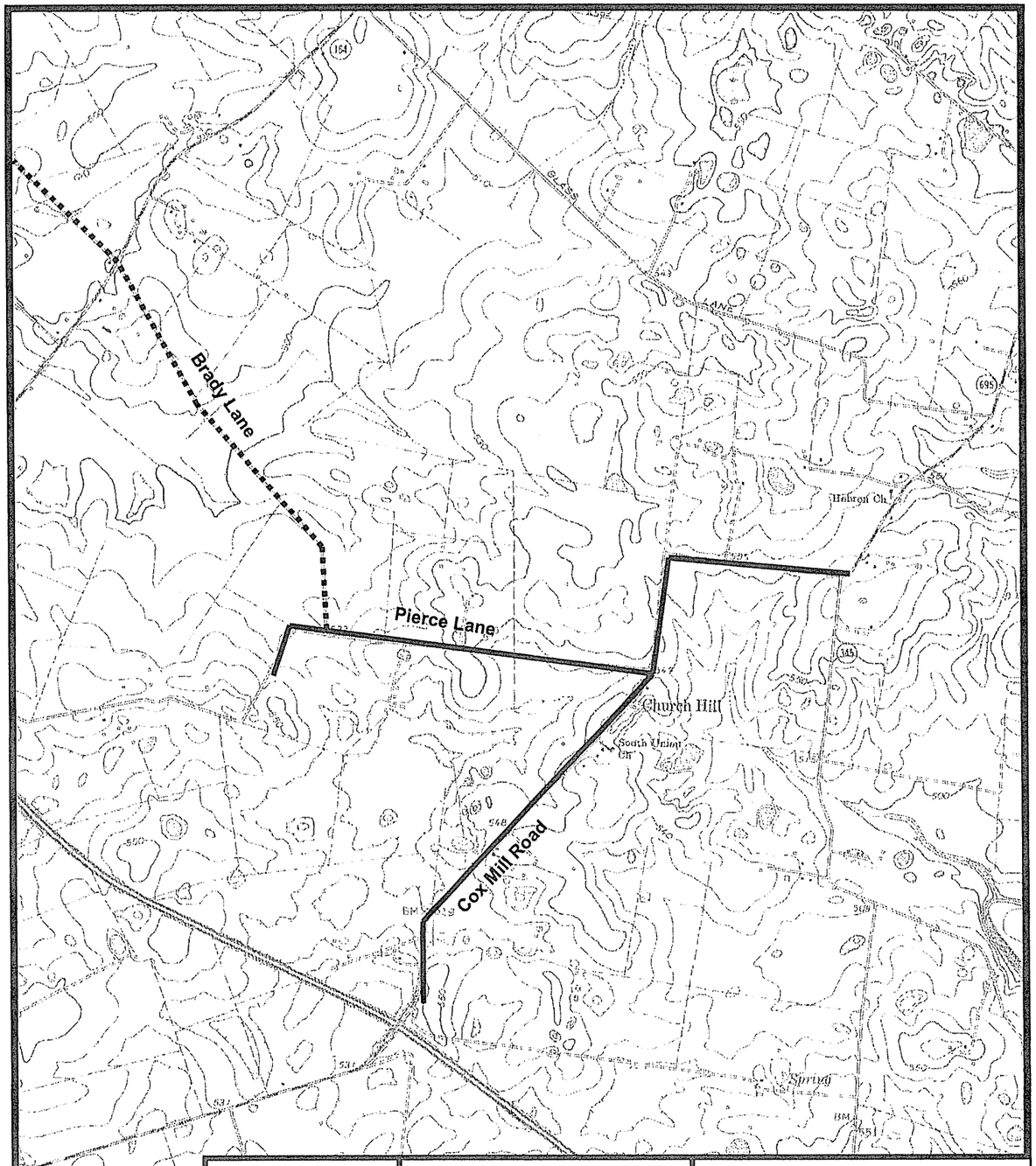

Boddie Road
Darnell Road
Lovelady Lane
New Asia Ch.
BM 523
ANGELS
Branch
ROAD
Cave
McKnight Cem.
345
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Herndon KY-TN"-1982 7½' Topographic Quadrangle.
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Boddie Road & Lovelady Lane
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-5


A. Jordon Road
Coal Creek Road
Brinkley Store Road
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Haleys Mill KY"-1982 7½' Topographic Quadrangle.
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Brinkley Store & Coal Creek
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-6



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

Source: USGS "Church Hill KY"-1981 7½' Topographic Quadrangle.

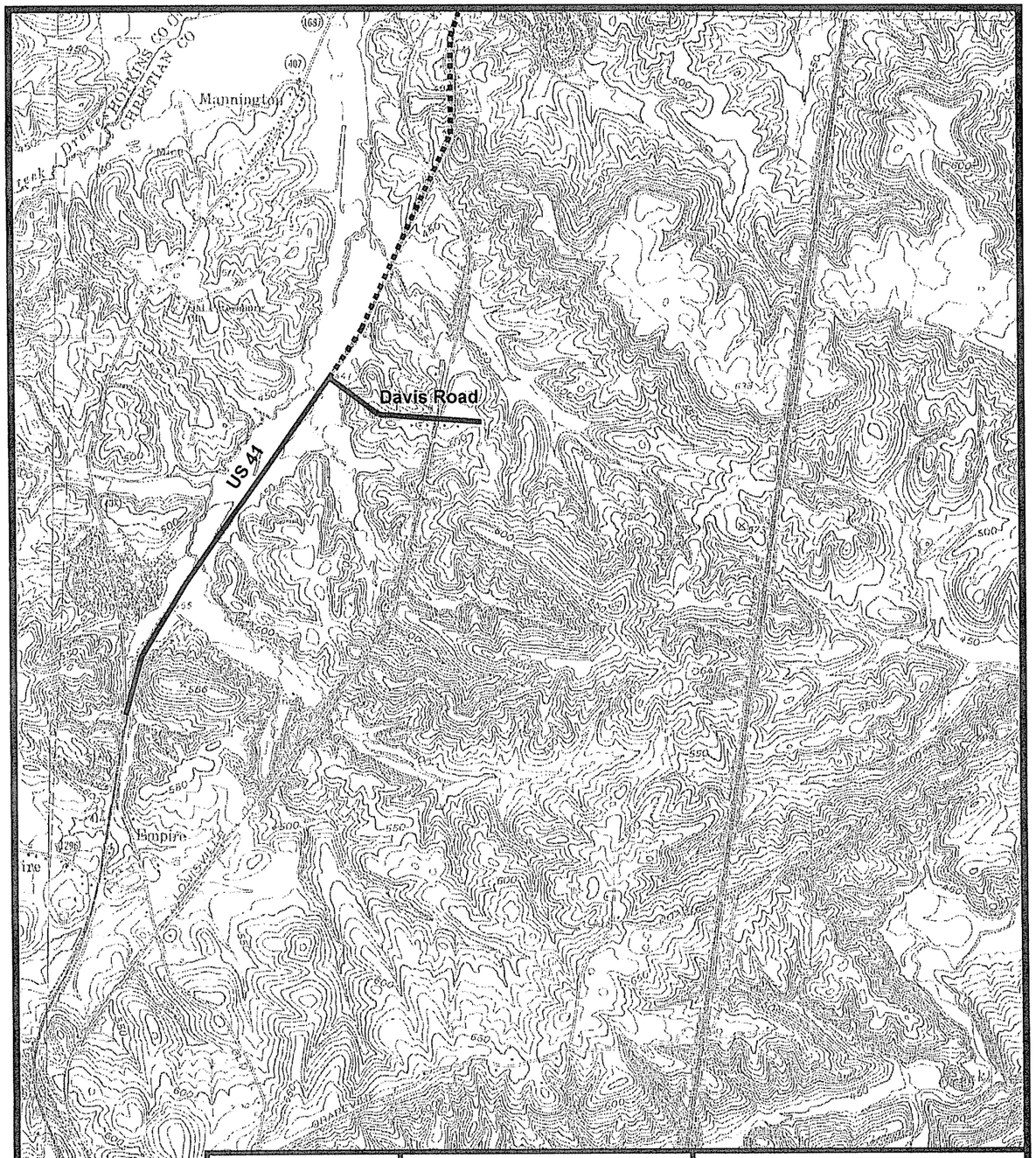
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Cox Mill Rd. & Pierce Lane

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-7



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

Source: USGS "Crofton KY"-1969 7½' Topographic Quadrangle

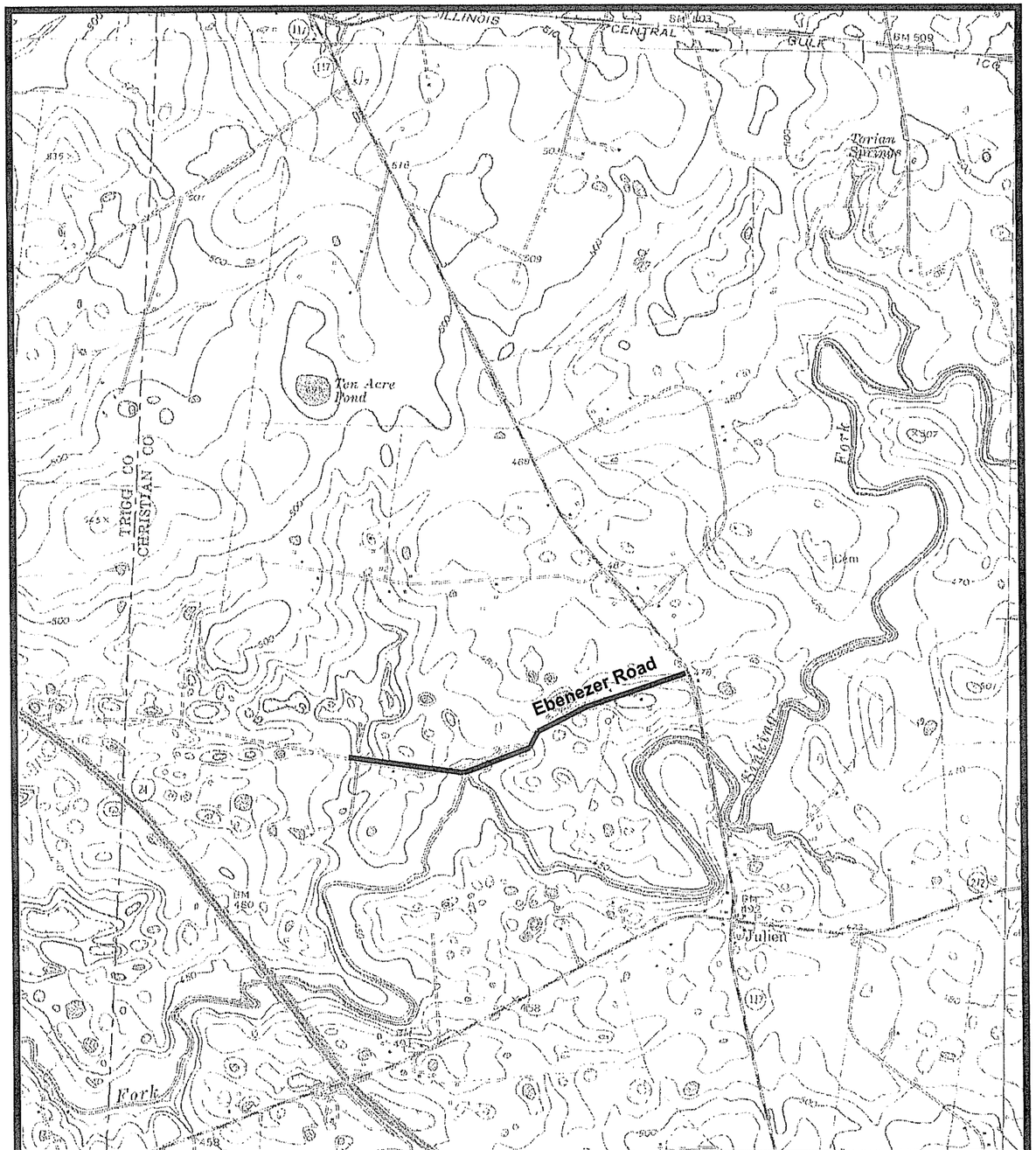
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Davis Road & US 41

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-8



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

Source: USGS "Caledonia KY"- 1981 7½' Topographic Quadrangle.

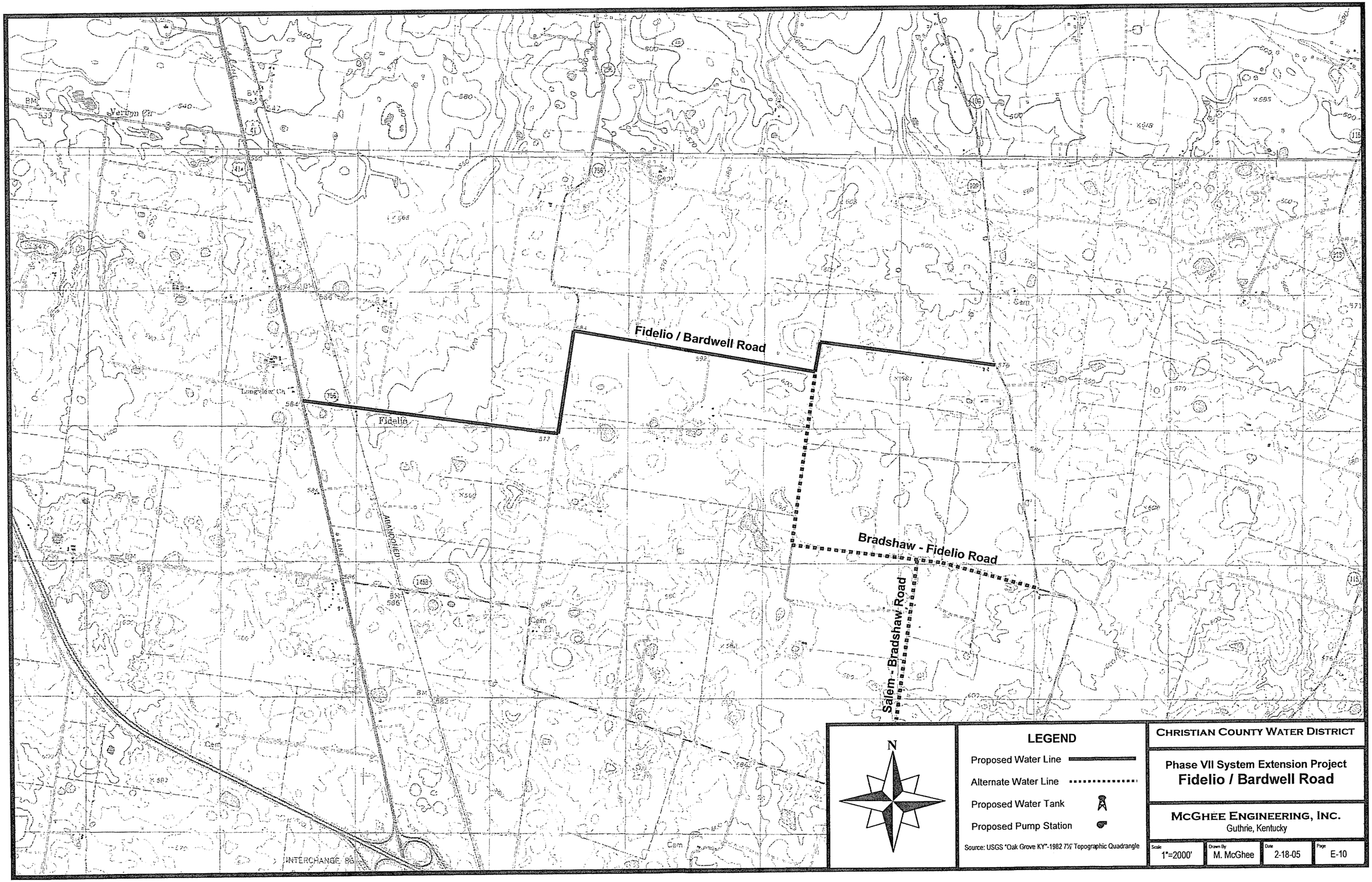
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Ebenezer Road

MCGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-9



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

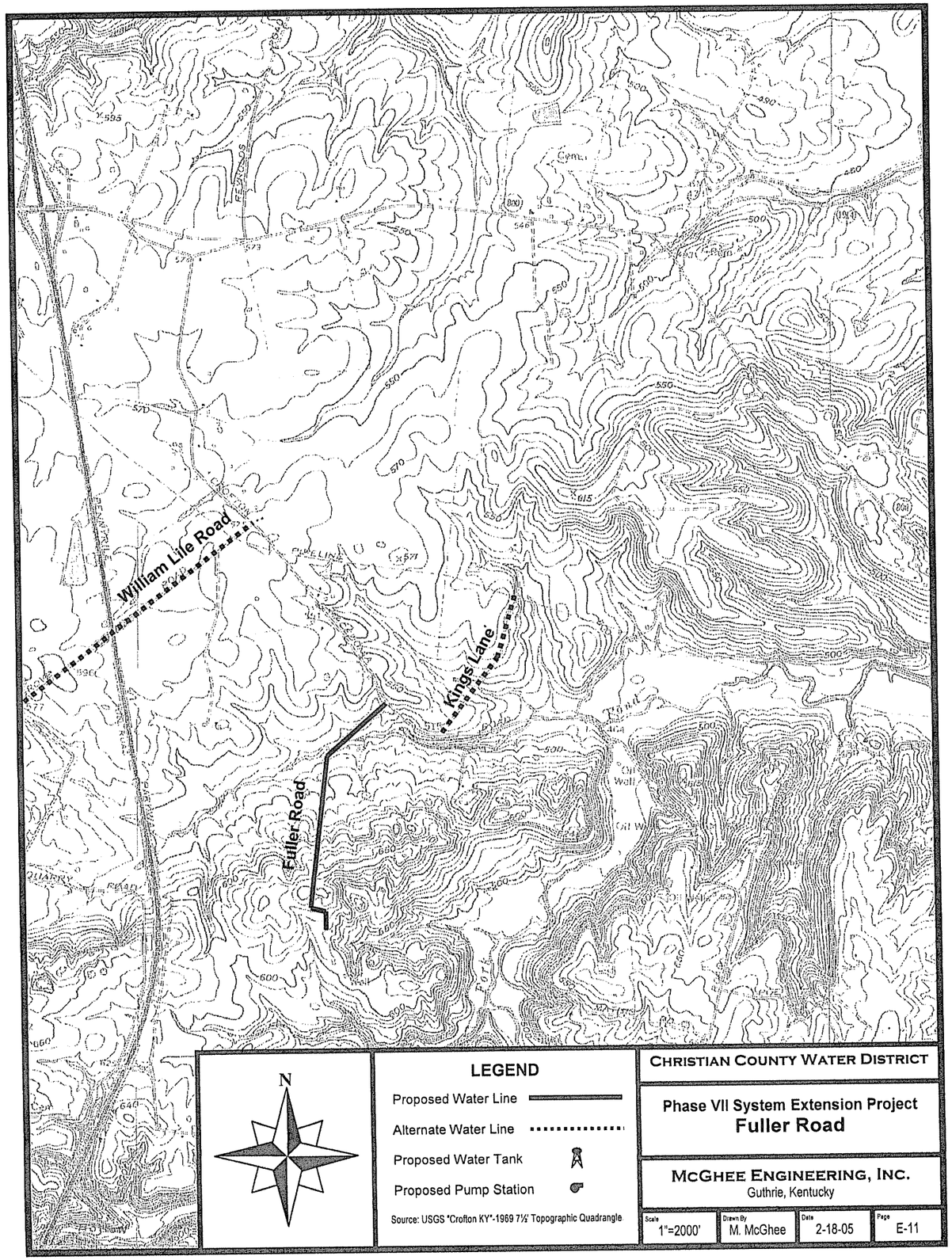
Source: USGS "Oak Grove KY"-1982 7½' Topographic Quadrangle

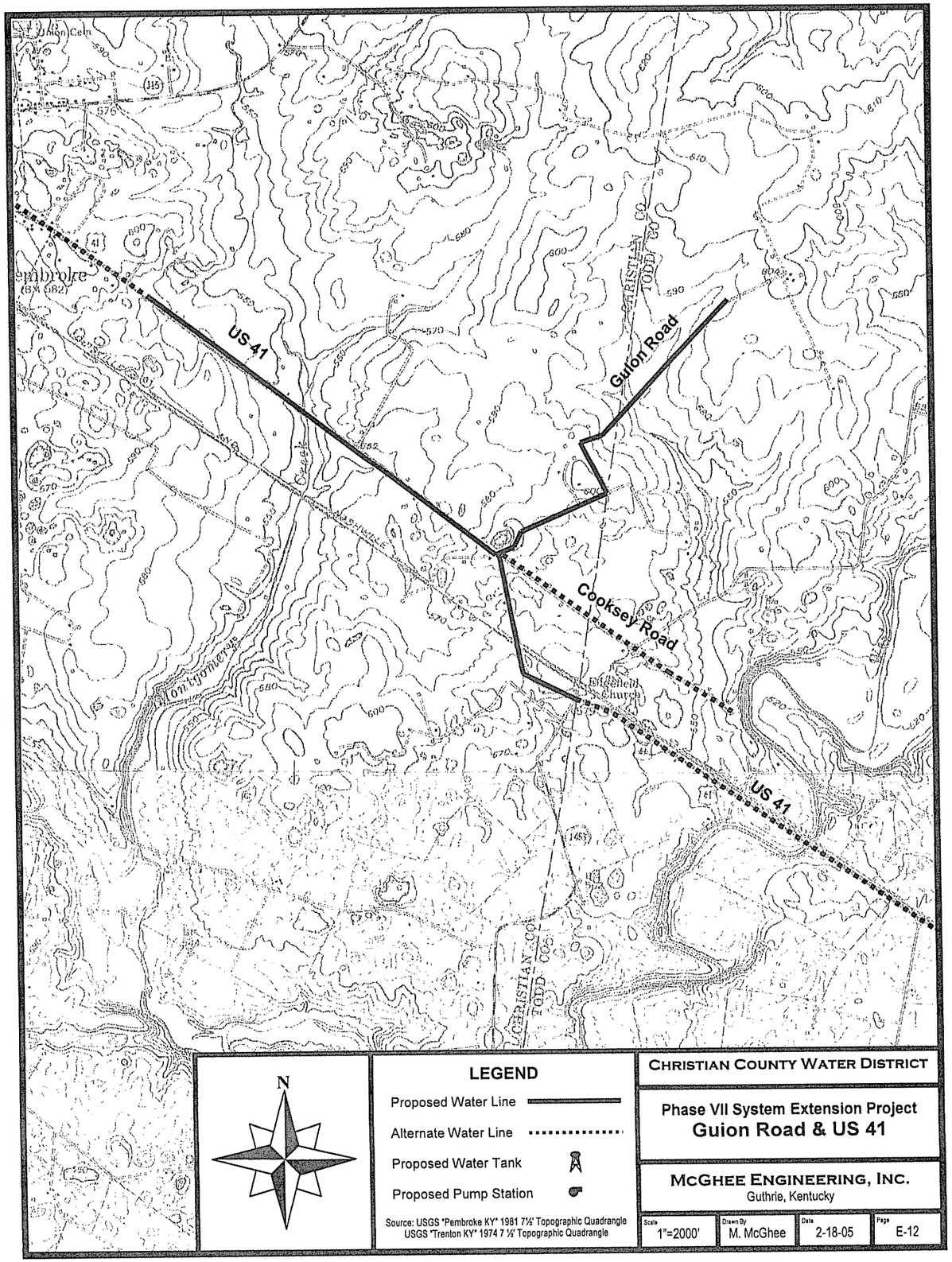
CHRISTIAN COUNTY WATER DISTRICT

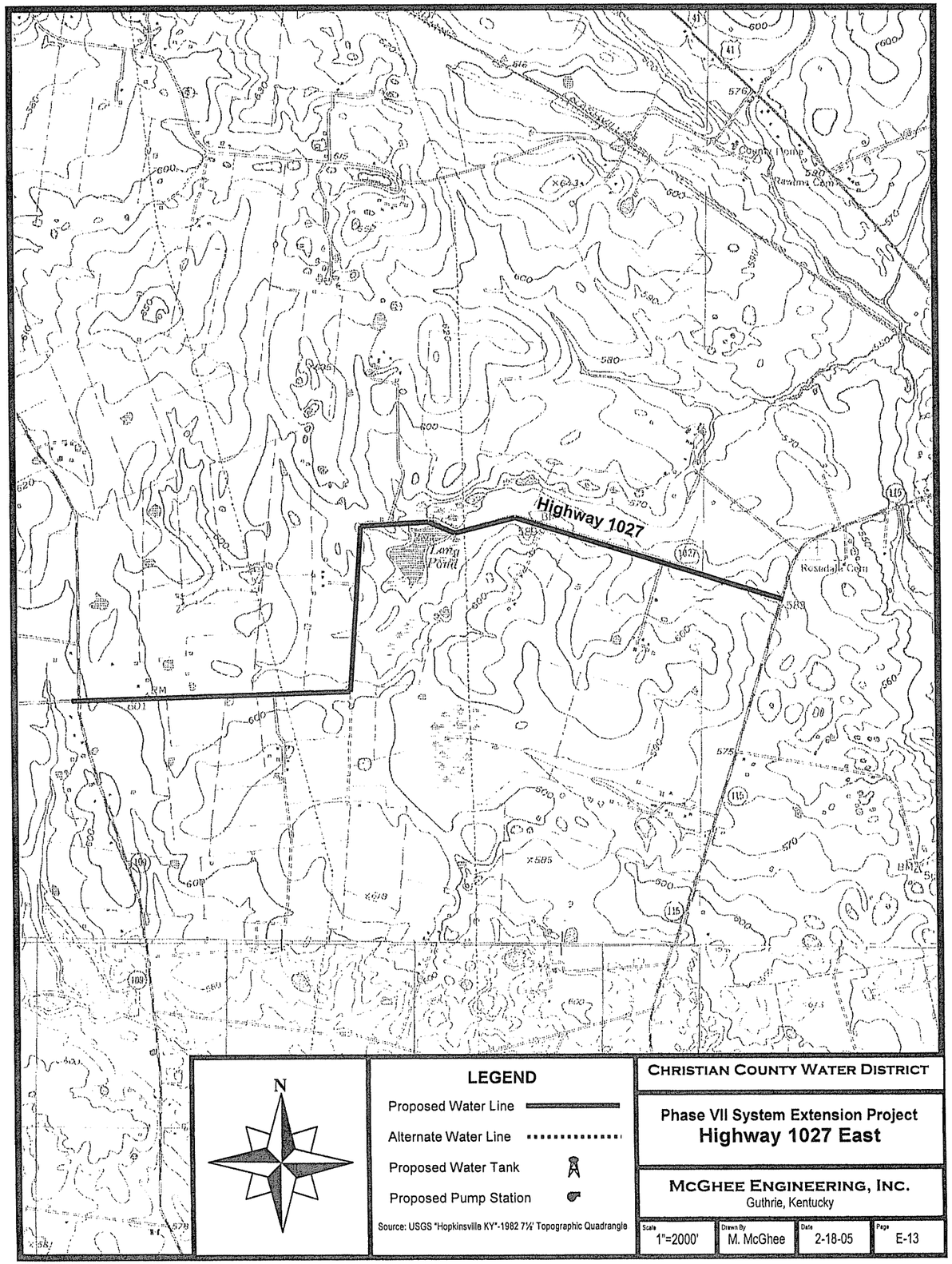
Phase VII System Extension Project
Fidelio / Bardwell Road

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-10


William Lile Road
Kings Lane
Fuller Road
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Crofton KY"-1969 7½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Fuller Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-11


Union Cem
Pembroke
(BM 582)
US-41
Guion Road
Cooksey Road
US 41
Elizabeth Church
Montgomery
CHRISTIAN CO
TODD CO
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Pembroke KY" 1981 7½' Topographic Quadrangle
USGS "Trenton KY" 1974 7 ½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Guion Road & US 41
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-12



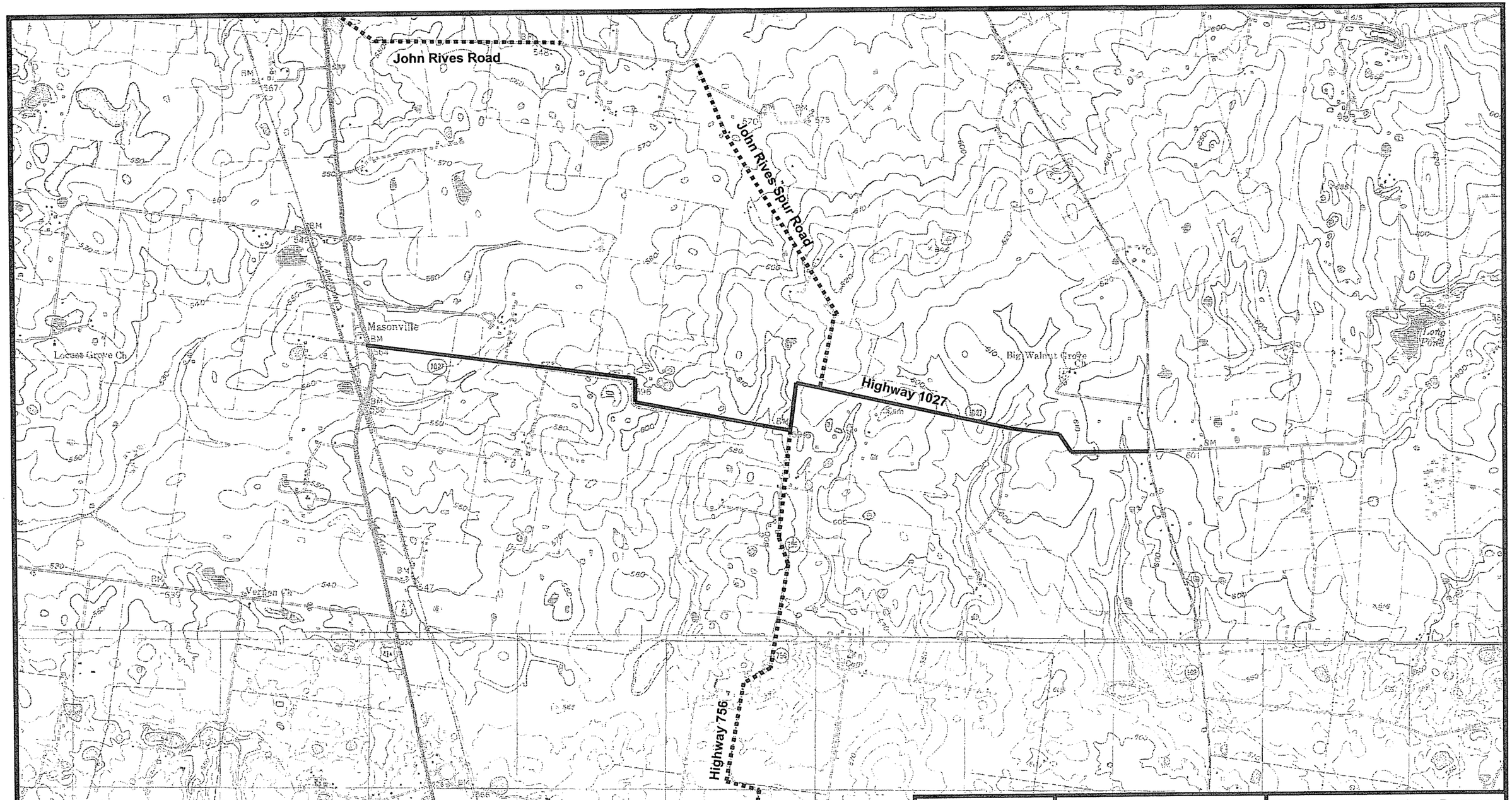
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Highway 1027 East

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-13



LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

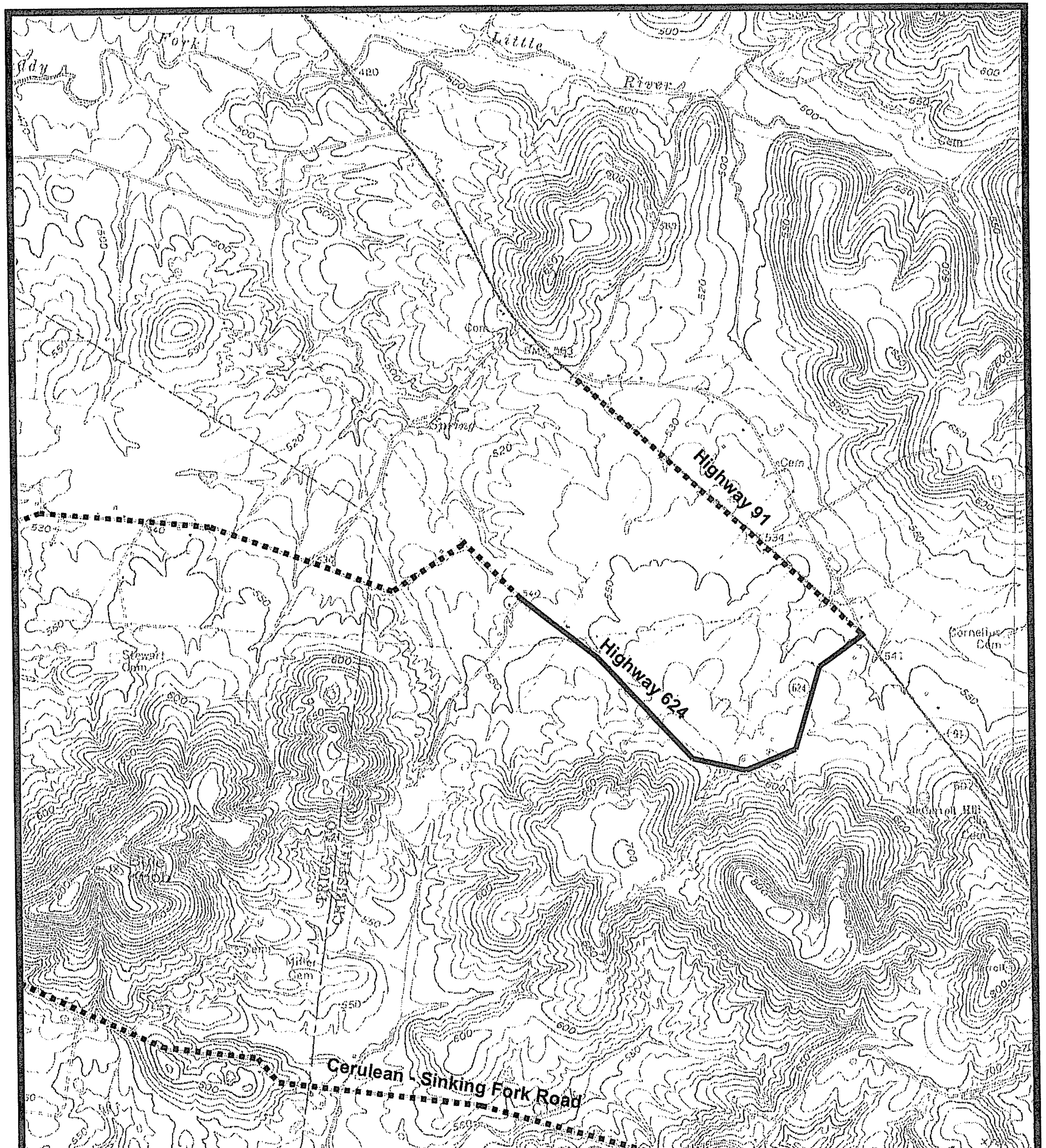
Source: USGS "Hopkinsville KY"-1982 7½' Topographic Quadrangle.

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project
Highway 1027 West

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-14



LEGEND	
Proposed Water Line	
Alternate Water Line	
Proposed Water Tank	
Proposed Pump Station	

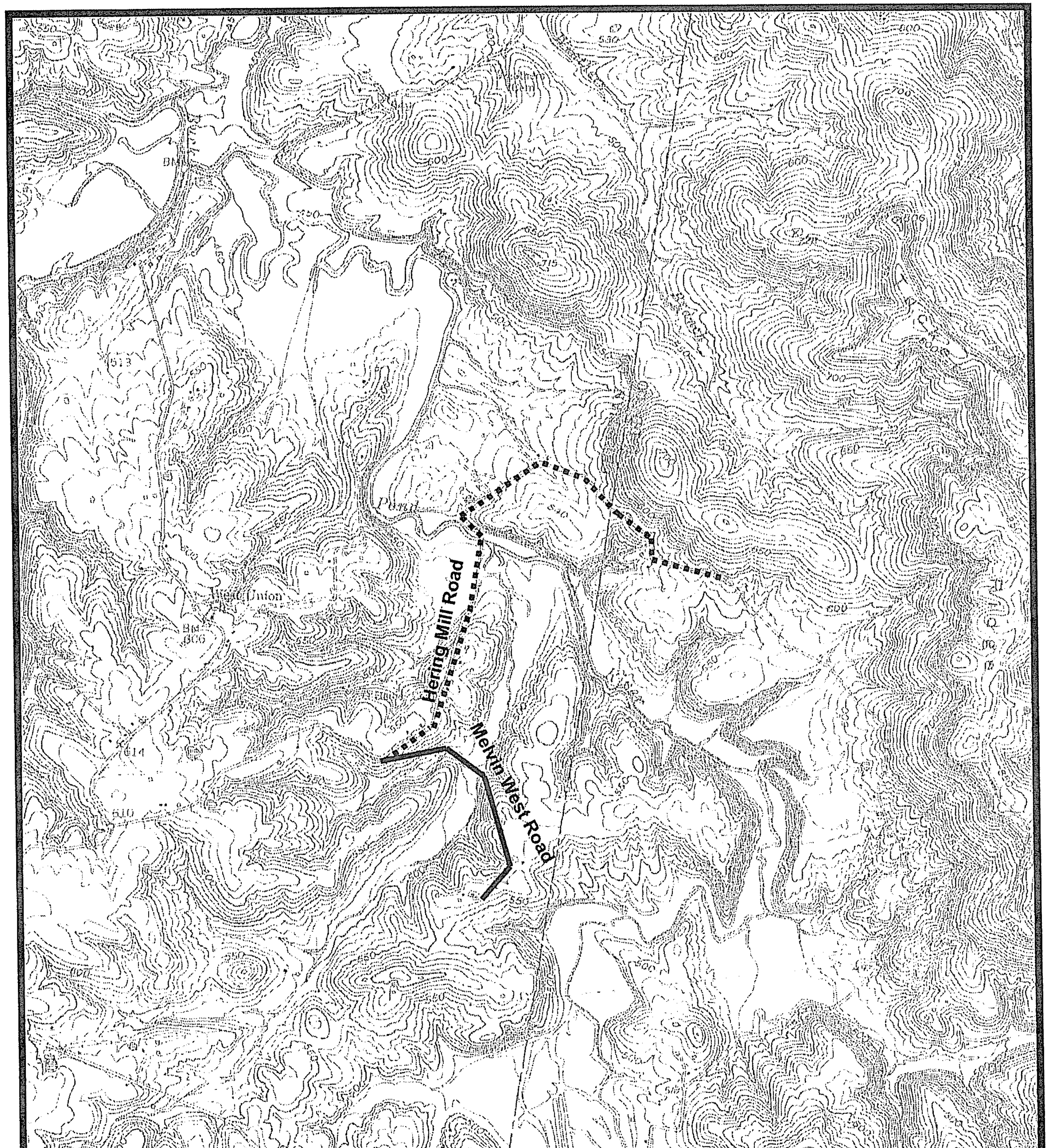
Source: USGS "Gracey KY"-1974 7½' Topographic Quadrangle

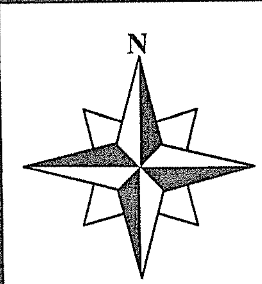
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project
Highway 624

MCGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-15





LEGEND

Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station

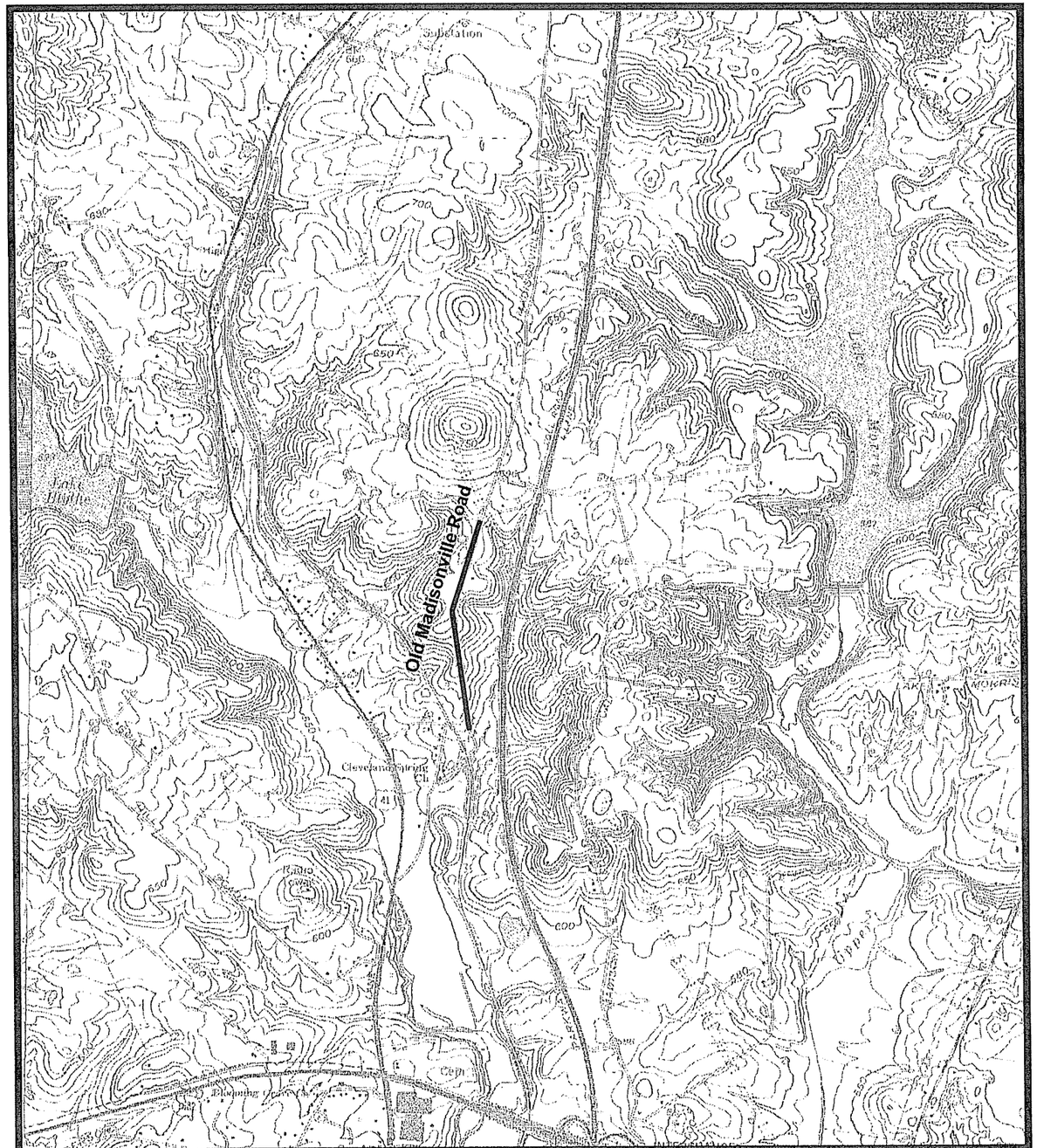
Source: USGS "Honey Grove KY"-1982 7½' Topographic Quadrangle

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project
Melvin West Road

MCGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-16



LEGEND

Proposed Water Line ━━━━━━

Alternate Water Line ┅┅┅┅┅┅

Proposed Water Tank

Proposed Pump Station

Source: USGS "Kelly KY"-1993 7½' Topographic Quadrangle

CHRISTIAN COUNTY WATER DISTRICT

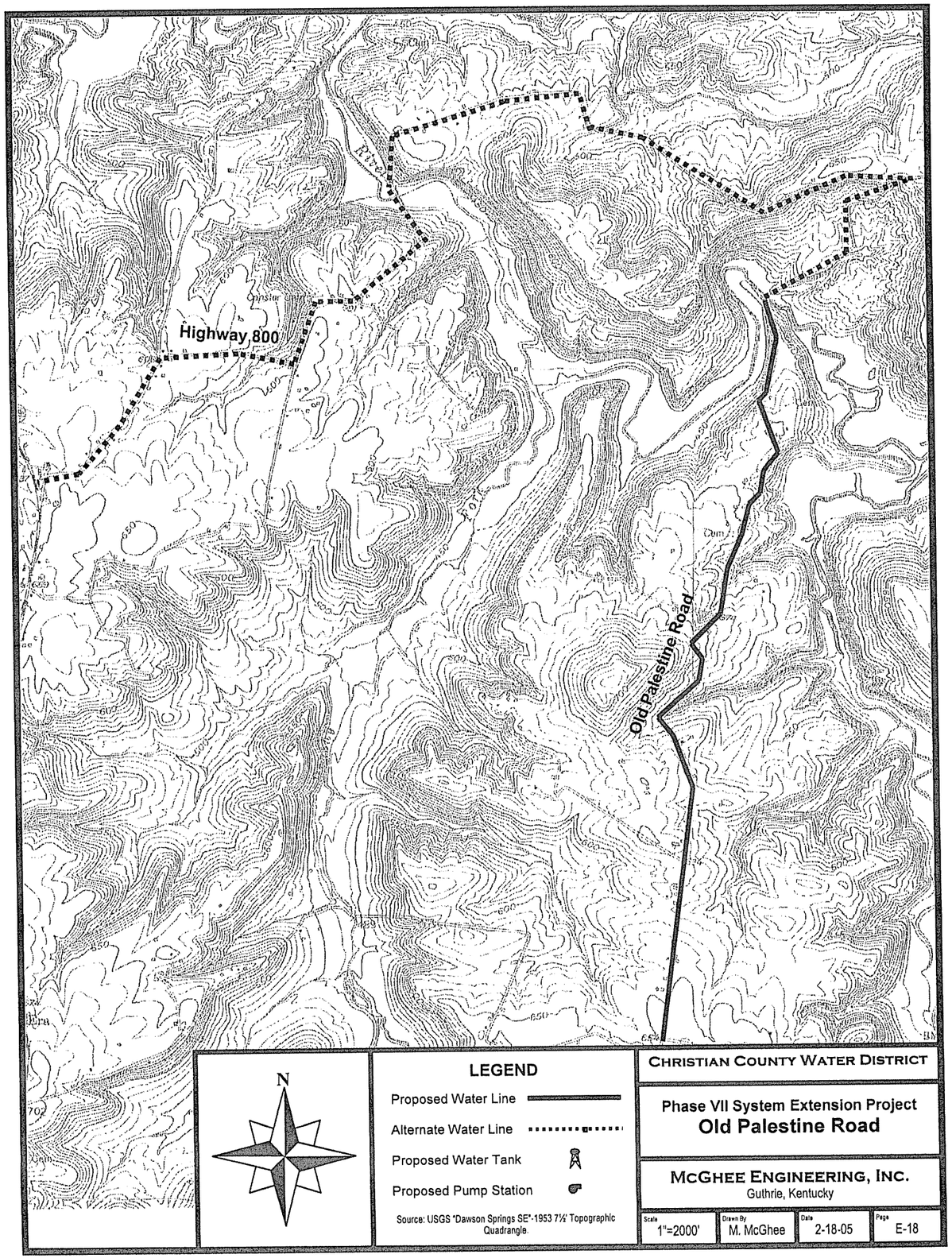
Phase VII System Extension Project

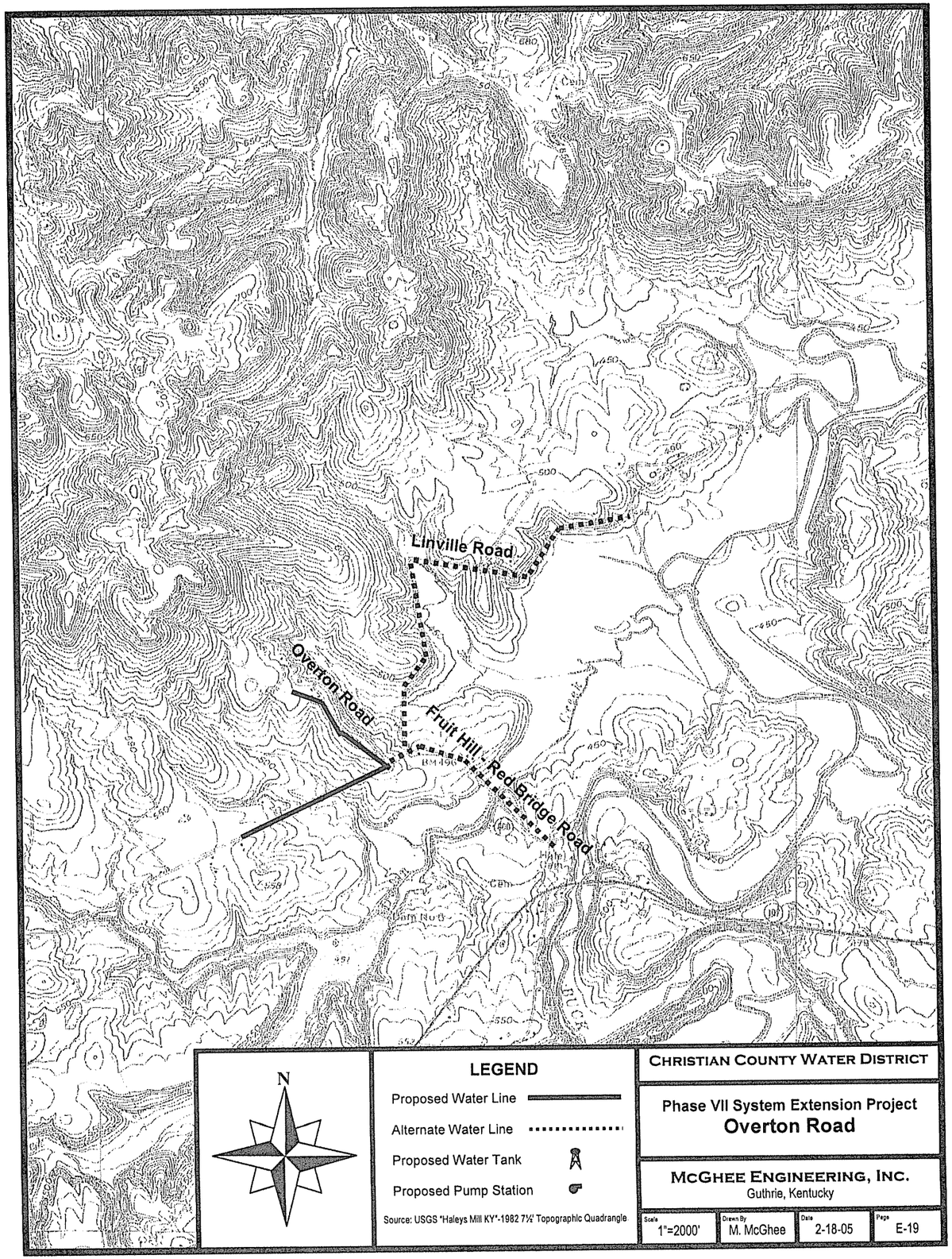
Old Madisonville Road

MCGHEE ENGINEERING, INC.

Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-17


Highway 800
Old Palestine Road
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Dawson Springs SE"-1953 7½' Topographic Quadrangle.
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Old Palestine Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-18



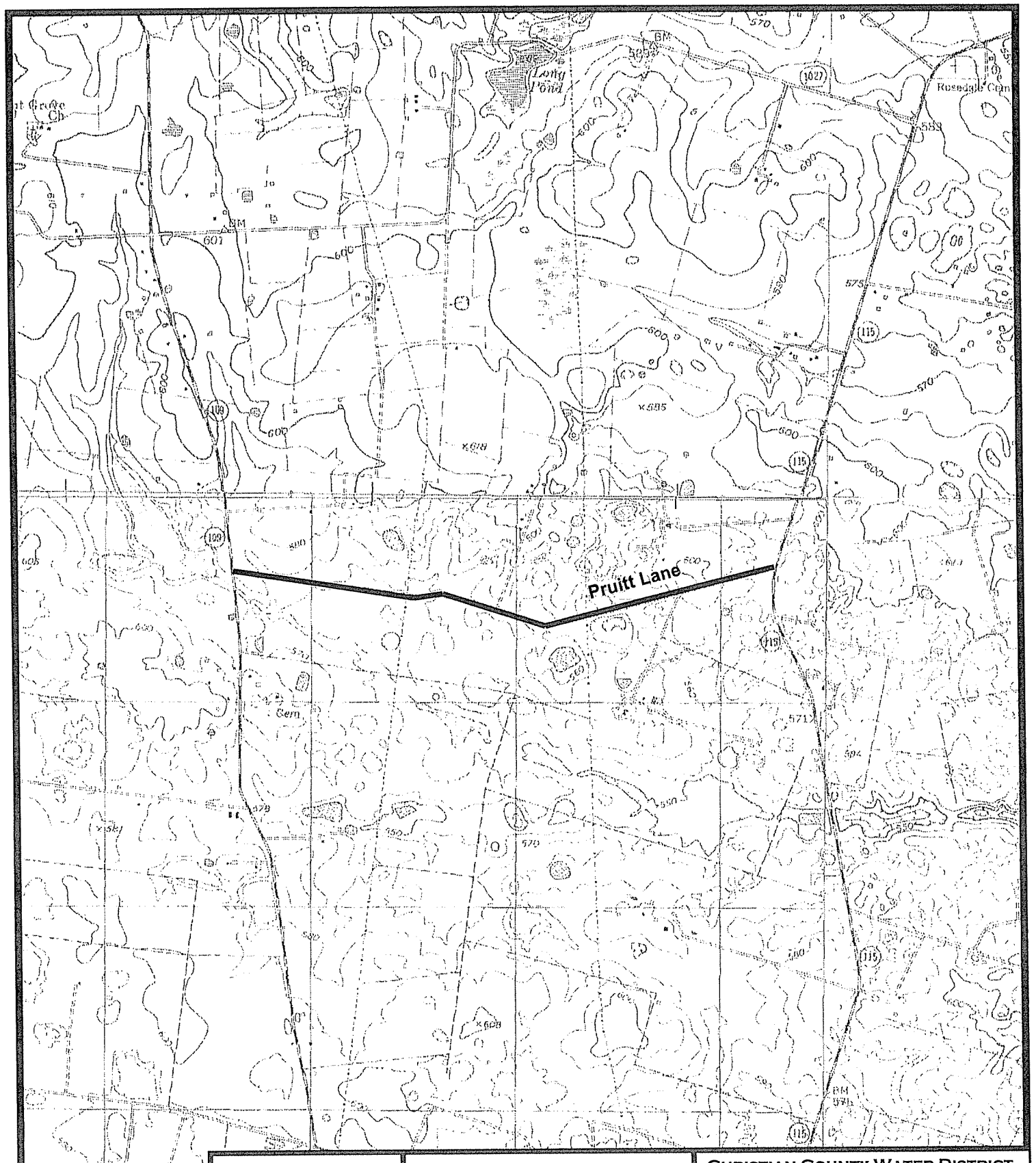
Source: USGS "Haleys Mill KY"-1982 7½' Topographic Quadrangle

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project
Overton Road

MCGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-19



LEGEND

Proposed Water Line

Alternate Water Line

Proposed Water Tank

Proposed Pump Station

Source: USGS "Oak Grove KY"-1982 7½' Topographic Quadrangle.

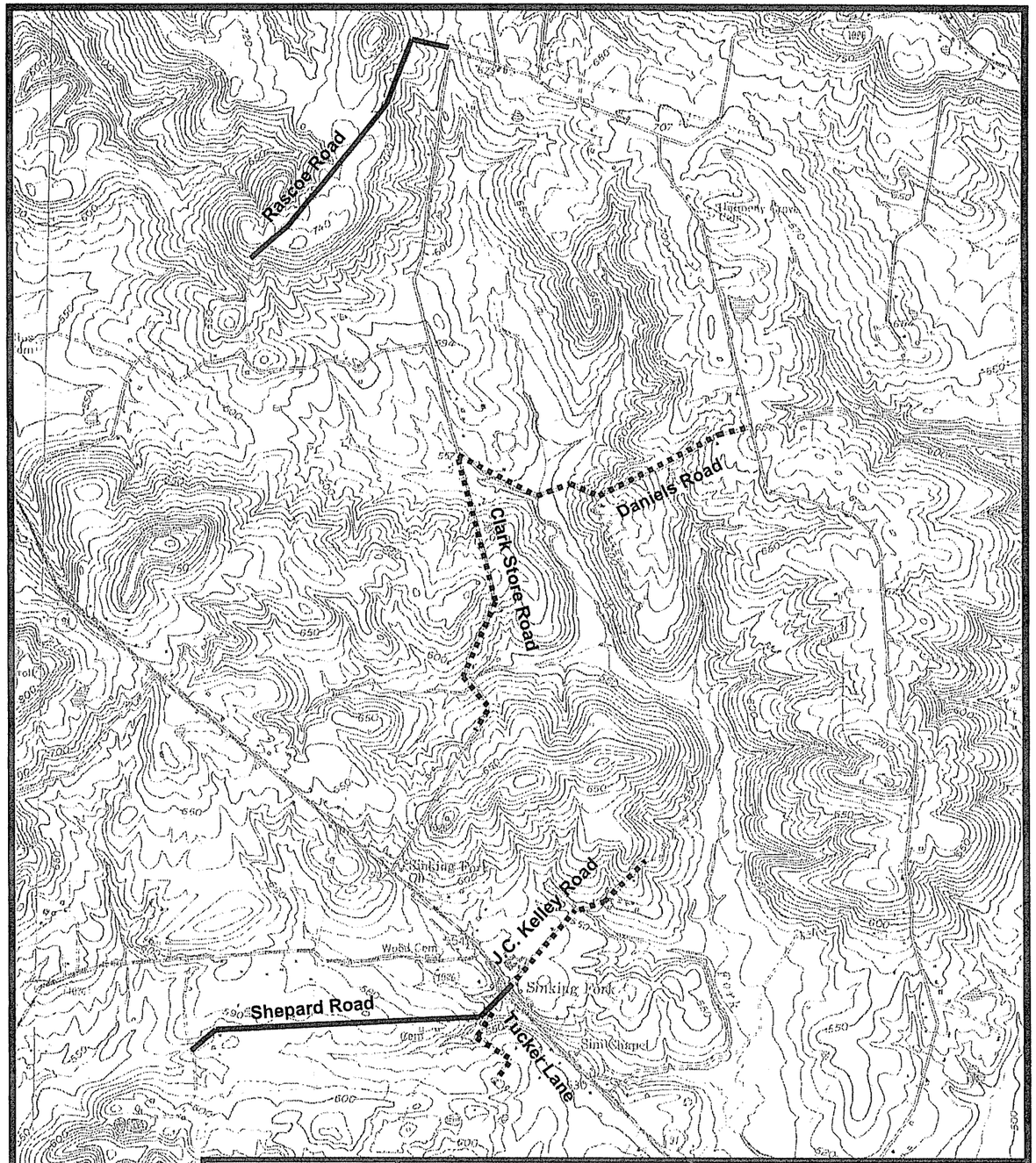
CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project

Pruitt Lane

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-20



LEGEND

Proposed Water Line	━━━━
Alternate Water Line	▪▪▪▪▪▪▪▪
Proposed Water Tank	♜
Proposed Pump Station	●

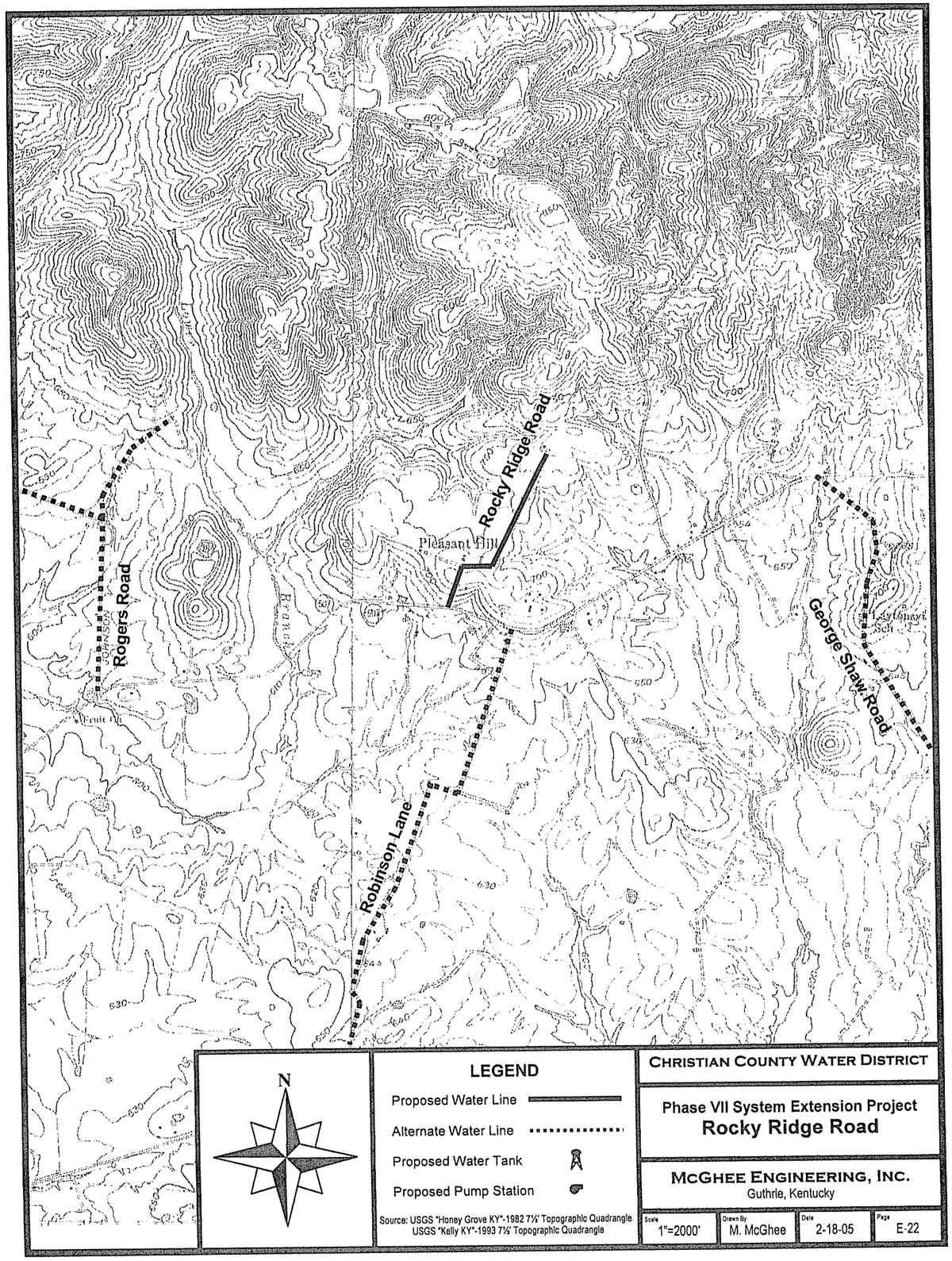
Source: USGS "Pleasant Green Hill KY"-1994 7½' Topographic Quadrangle.

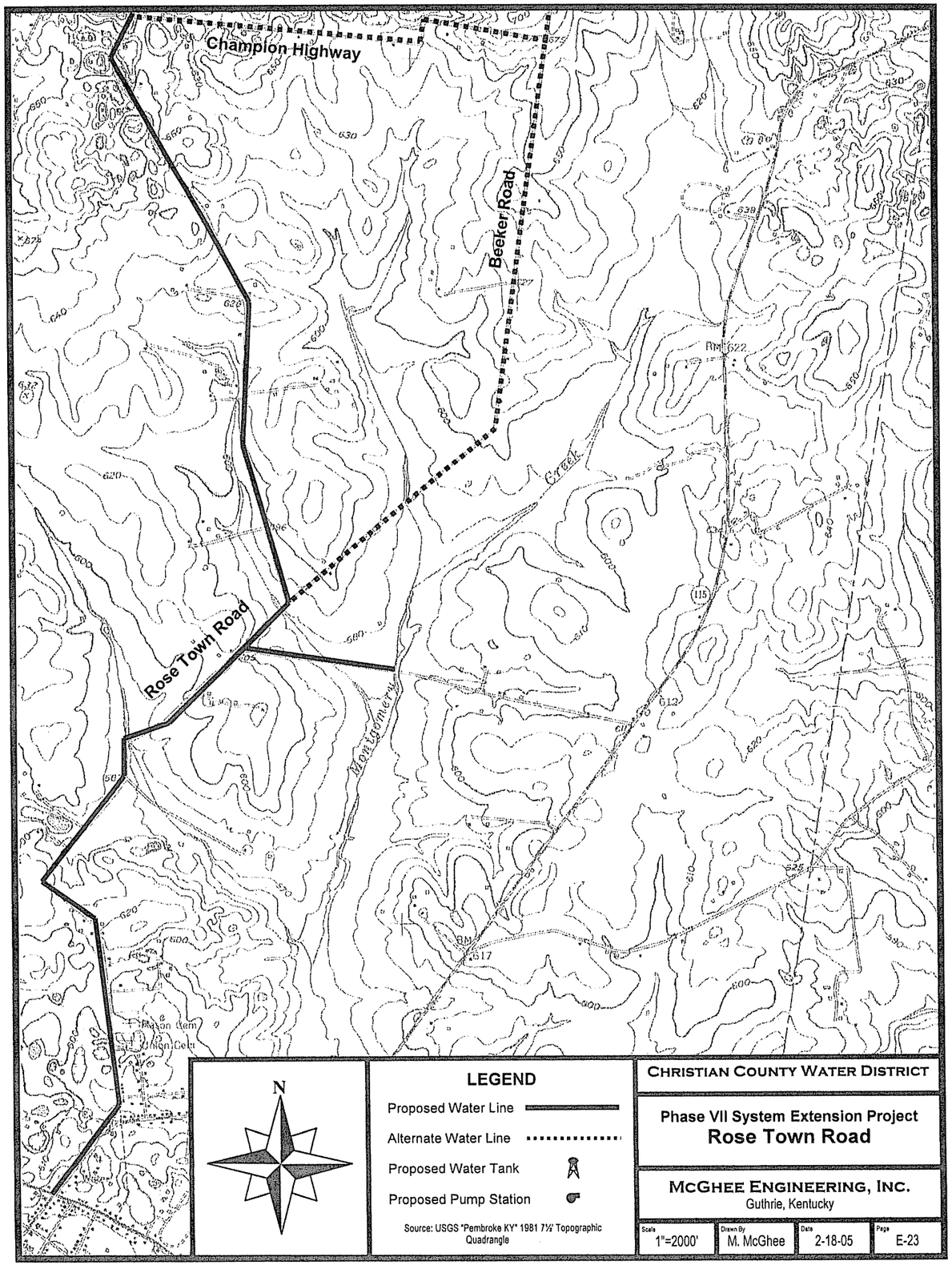
CHRISTIAN COUNTY WATER DISTRICT

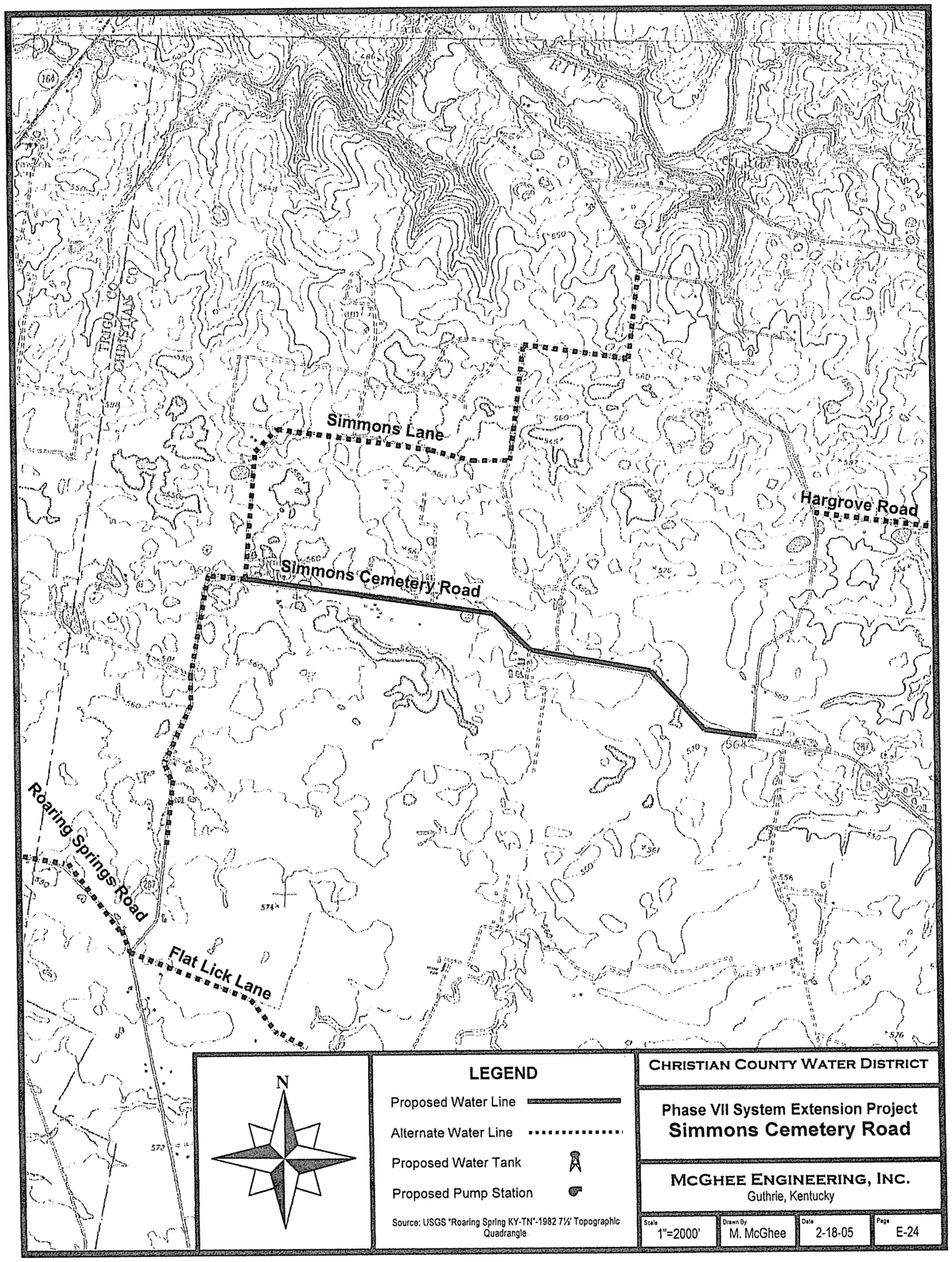
Phase VII System Extension Project
Rascoe Road & Shepard Road

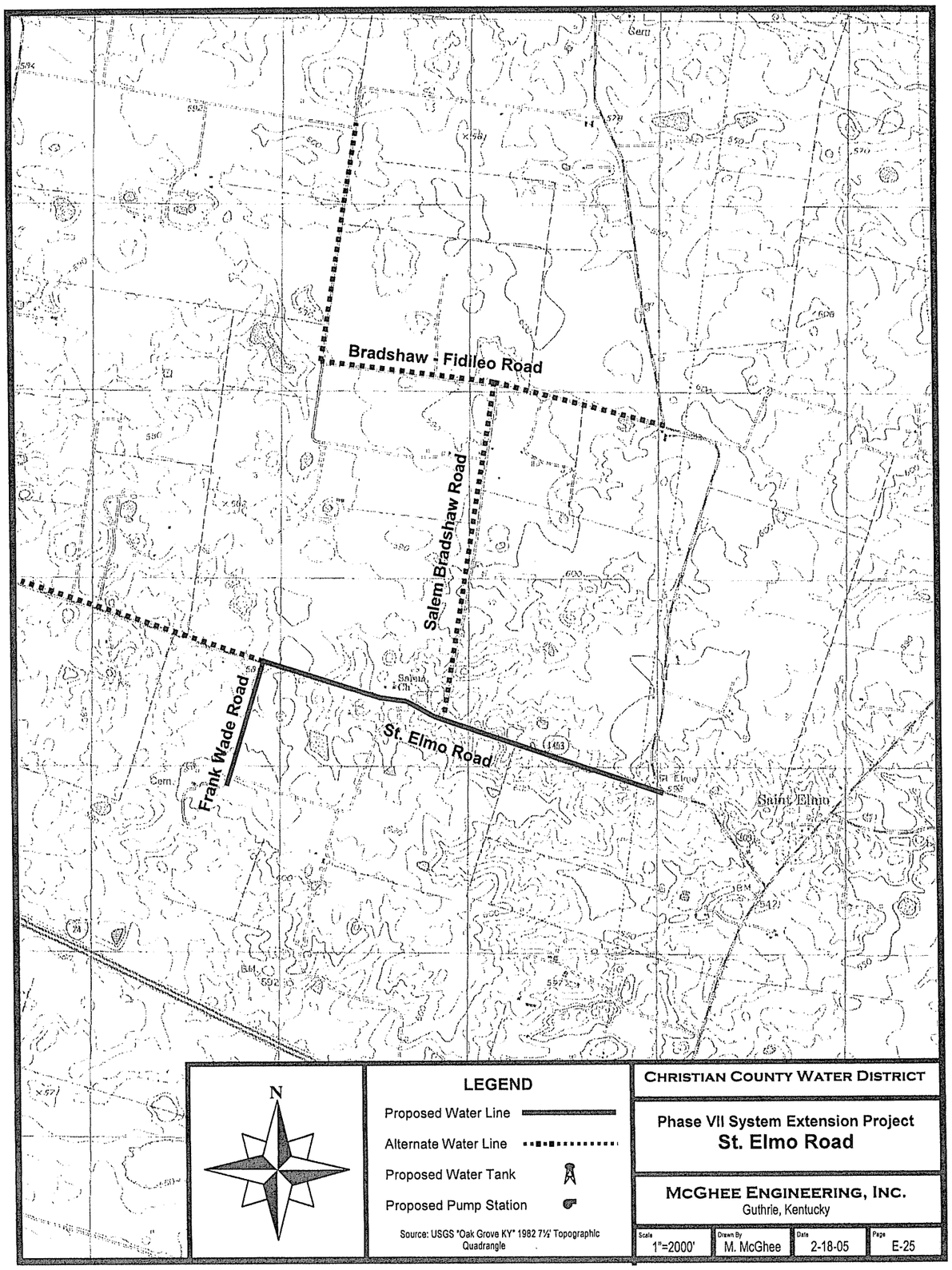
MCGHEE ENGINEERING, INC.
Guthrie, Kentucky

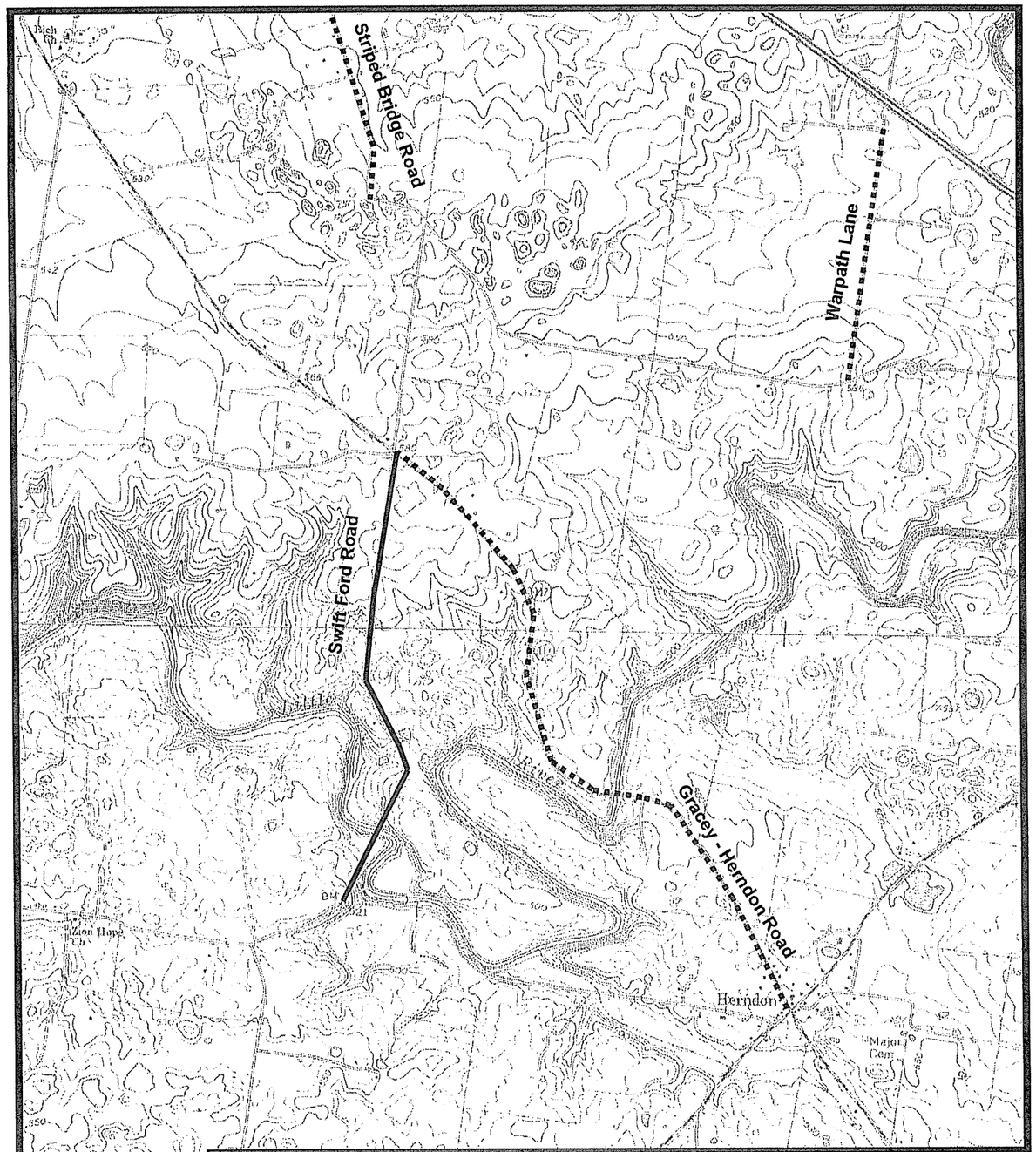
Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-21


Rocky Ridge Road
Rogers Road
Robinson Lane
George Shaw Road
Pleasant Hill
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Honey Grove KY"-1982 7½' Topographic Quadrangle
USGS "Kelly KY"-1993 7½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Rocky Ridge Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-22


Champion Highway
Beeker Road
Rose Town Road
Creek
Montgomery
BM 622
BM 617
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Pembroke KY" 1981 7½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Rose Town Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-23


Simmons Lane
Hargrove Road
Simmons Cemetery Road
Roaring Springs Road
Flat Lick Lane
TRIGG CHRISTIAN CO
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Roaring Spring KY-TN"-1982 7½ Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Simmons Cemetery Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-24


Bradshaw - Fidileo Road
Salem Bradshaw Road
Frank Wade Road
St. Elmo Road
Saint Elmo
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Oak Grove KY" 1982 7½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
St. Elmo Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-25



N

LEGEND

- Proposed Water Line
- Alternate Water Line
- Proposed Water Tank
- Proposed Pump Station

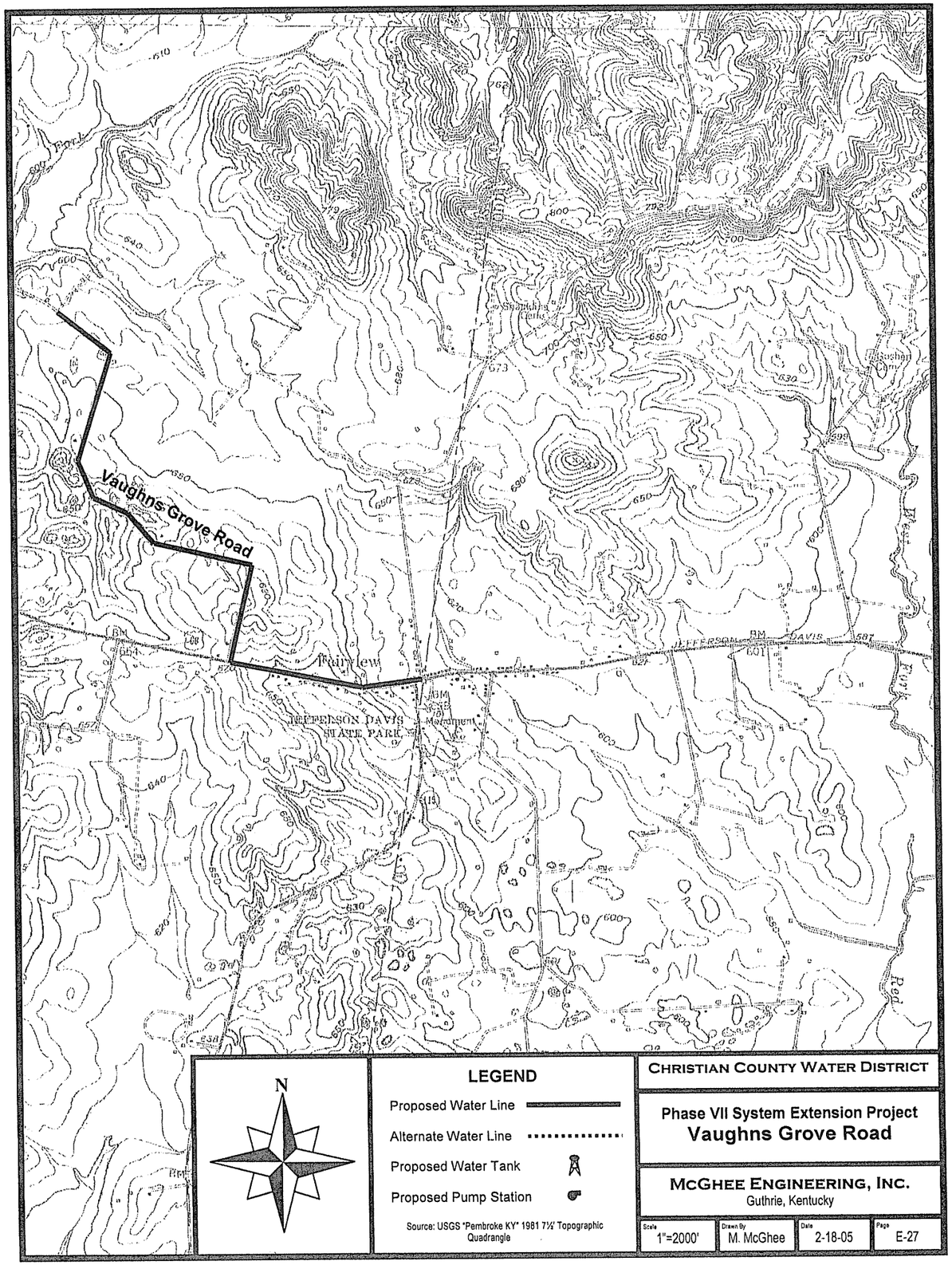
Source: USGS "Herndon KY-TN"-1982 7½' Topographic Quadrangle.
USGS "Church Hill KY"-1978 7½' Topographic Quadrangle

CHRISTIAN COUNTY WATER DISTRICT

Phase VII System Extension Project
Swift Ford Road

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2000'	M. McGhee	2-18-05	E-26


Vaughns Grove Road
Fairview
JEFFERSON DAVIS
STATE PARK
Monument
JEFFERSON
DAVIS
Fork
Red
N
LEGEND
Proposed Water Line
Alternate Water Line
Proposed Water Tank
Proposed Pump Station
Source: USGS "Pembroke KY" 1981 7½' Topographic Quadrangle
CHRISTIAN COUNTY WATER DISTRICT
Phase VII System Extension Project
Vaughns Grove Road
McGHEE ENGINEERING, INC.
Guthrie, Kentucky
Scale 1"=2000'
Drawn By M. McGhee
Date 2-18-05
Page E-27

Appendix A

Kentucky State Clearinghouse Comments

Ernie Fletcher
GOVERNOR

GOVERNOR'S OFFICE FOR LOCAL DEVELOPMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606
www.kentucky.gov

Steve Robertson
COMMISSIONER

December 15, 2006

Mr. Chris Wilcutt
McGhee Engineering, Inc.
202 South Ewing Street
Guthrie, Kentucky 42234

RE: Christian County Water District Phase VII Expansion Project
WX21047012
CFDA: 10.418
SAI#: KY20051215-1235

Dear Mr. Wilcutt:

Pursuant to your request, the State Clearinghouse will update its evaluation of SAI# **KY20051215-1235**. The State Clearinghouse has contacted appropriate state agencies and determined its previous comments regarding this proposal.

Please consider this correspondence as official notification that the State Clearinghouse is reaffirming its previous correspondence. This endorsement remains valid for a period of one (1) year from the date of this letter.

If you have any questions regarding this matter, please feel free to contact the State Clearinghouse at 502-573-2382.

Sincerely,

Lee Nalley
Kentucky State Clearinghouse

Attachments
Cc: Pennyrile ADD
Mr. Vernon Brown
KIA

ERNIE FLETCHER
GOVERNOR

GOVERNOR'S OFFICE FOR LOCAL DEVELOPMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606
www.kentucky.gov

ELLEN WILLIAMS
COMMISSIONER

January 19, 2006

Mr. Chris Wilcutt
McGhee Engineering
202 South Ewing Street
Guthrie, KY 42234

RE: Christian County Water District Phase VII Expansion Project. WX21047012
CFDA# 10.418
SAI# KY20051215-1235

Dear Mr. Wilcutt:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state of federal agency.

The results of this review are valid for one year from the date of this letter. Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

Ronald W. Cook

Ronald W. Cook
Kentucky State Clearinghouse

Attachments
Cc: Pennyrile ADD
Mr. Vernon Brown

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY200512151235

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: water lines and appurtenances. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY200512151235) when submitting plans and specifications.

This project is consistent with the Christian County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW. From the application data, DOW ascertains that the proposed project is not located in a floodplain area. Therefore, a floodplain construction permit is not required for this project.

The proposed project consists of approximately 55 miles of water line extensions along 31 rural roads in Christian and Todd Counties. Completion of this project will provide new water service to approximately 190 households. The Christian County Water District purchases water from the Hopkinsville Water Environmental Authority and the Barkley Lake Water District, in lieu of producing water. There is adequate capacity at either water treatment plant to supply the proposed project demand. However, final plans and specifications are subject to review by the Division of Water, based on sanitary features of the design. If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY200512151235

There does not appear to be any adverse impacts on any planned or on-going highway projects.

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented, other than those stated as conditions or comments.

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY200512151235

The project will have no effect on any property listed in or eligible for listing in the National Register of Historic Places. Further, an archaeological survey will not be necessary. Therefore, we have no objection to the project.

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY200512151235

PW RATES MAY APPLY-CONTACT KY DEPT OF LABOR AT 502-564-3070

Appendix B

Rural Development Summary/Addendum (KY Guide 7)

KENTUCKY GUIDE 7
May 1998

SUMMARY/ADDENDUM

TO

PRELIMINARY ENGINEERING REPORT

Dated February 15, 2005

FOR

Christian County Water District

Phase VII Water System Extension Project
(Name of Water Facility Project)

Applicant Contact Person	Mike McGhee, P.E.
Applicant Phone Number	(270) 483-9985
Applicant Tax ID Number (TIN)	61-0921177

In order to avoid unnecessary delays in application processing the applicant and its consulting engineer should prepare a summary of the preliminary engineering report in accordance with this Guide. Feasibility review and grant determinations may be processed more accurately and more rapidly if the Summary/Addendum is submitted simultaneously with the preliminary engineering report, or as soon thereafter as possible.

I. General

Proposed Project: Provide a brief description of the proposed project. In addition to this summary, the Applicant/engineer should submit a project map of the service area showing the following:

The Christian County Water District (CCWD) is comprised of approximately 441 miles of water line. CCWD serves approximately 4,892 customers, which are almost entirely rural residences. The District purchases all of its treated water from the City of Hopkinsville. Average daily usage is currently just over 1,200,000 gpd. The CCWD is a large district both in terms of customers and geographic area, covering over 700 square miles. It is estimated that over 90% of the 480 miles of public road in the Christian County service area are served by the CCWD. The unserved roads are generally spread out over the entire county, and typically have lower population densities, difficult construction conditions, or both. The largest contiguous unserved area at the present time is the southeastern part of Christian County near Ft. Campbell. The main problems facing the CCWD are the need to extend service to new customers, the need for hydraulic improvements in certain areas, and the long-term supply of treated water. The water supply issue is being addressed by Hopkinsville's ongoing effort to supplement its raw water sources. The remaining problems will be addressed by proposed, and future projects to extend and upgrade the distribution system. The proposed project is referred to as the Phase VII expansion, and will involve the construction of approximately 58 miles of distribution line in various parts of the county. The project will make water available to 238 new customers in Christian County, and 9 in western Todd County. The total estimated project cost is $2,500,000.

II. FACILITY CHARACTERISTICS OF EXISTING WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

The Christian County Water District purchases all of its water from the Hopkinsville Water Environmental Authority (HWEA). HWEA will continue to be the exclusive source of treated water for the entire project. The HWEA plant is rated at 10.0 MGD, and it is currently operating at approximately 75% capacity. Raw Water is obtained from several sources, including the North Quarry #1, South Quarry #2 and the North Fork of Little River plus secondary sources from four watershed lakes. Sufficient treatment capacity exists at the Hopkinsville plant for the proposed improvements.

If the applicant purchases water:

Seller(s):

1. Hopkinsville Water Environmental Authority

Price:

Usage Block	Rate Per 100 Cubic Feet	Equivalent Rate Per 1,000 Gallons
First 3,000 Cubic Feet	$2.30	$3.08
Next 3,000 Cubic Feet	$2.02	$2.70
Next 3,000 Cubic Feet	$1.46	$1.95
All Over 9,000 Cubic Feet	$1.19	$1.59

Present Estimated Market Value of Existing System *: $ 15,291,129
*NOTE = Based on Depreciated Value in the 2004 Financial Statements

B. Water Storage:

Type: Ground Storage Tank _X_. Elevated Tank _X_.
Standpipe ____ Other

Number of Storage Structures 12

Total Storage Volume Capacity 1,850,000 gallons

Date Storage Tank(s) Constructed varies

C. Water Distribution System:

Pipe Material PVC
Lineal Feet of Pipe: 2" Diameter and smaller: 22,600; 3": 159,180;
4": 834,600; 6": 1,149,800; 8" 158,400; 10" 26,400.
Date(s) Water Lines Constructed varies
Number, and Capacity of Pump Station(s): Eleven pump stations at various capacities.

D. Condition of Existing Water System:

Briefly describe the condition and suitability for continued use of facility now owned by the applicant. Include any major renovation that will be needed within five to ten years.

The system is well managed and generally in good repair. Although isolated areas of substandard pipe may be replaced from time to time, no major renovations are anticipated in the near future. Over the past several years, the District has aggressively pursued various extension projects to meet the needs of rural residences using superior materials to insure an adequate working system.

E. Percentage of Water Loss in the Existing System: 24%

III. EXISTING LONG-TERM INDEBTEDNESS

A. List of Bonds and Notes: (Information from 2003 Audit & PSC Report)

Date of Issue	Bond/Note Holder	Principal Balance	Payment Date	Bond Type	Amount on Deposit in Reserve
1993	KIA	$ 817,612	2018	Water	
1989	RD	$ 1,145,000	2029	Water	
1990	RD	$ 738,000	2030	Water	
1991	RD	$ 370,200	2031	Water	
1994	RD	$ 1,229,000	2034	Water	
1998	RD	$ 2,137,000	2038	Water	
1999	Private	$ 3,320,000	2030	Water	
Total		$ 9,756,812			$ 475,441

B. Principal and Interest Payments: (Information from 2003 Audit & PSC Report)

		2004		2005		2006	
Date of Issue	Bond/Note Holder	Principal Payment	Interest Payment	Principal Payment	Interest Payment	Principal Payment	Interest Payment
1993	KIA	$ 37,590	$ 46,356	$ 40,154	$ 44,383	$ 42,171	$ 42,225
1989	RD	$ 23,000	$ 56,100	$ 24,000	$ 54,900	$ 25,000	$ 53,650
1990	RD	$ 9,000	$ 36,450	$ 10,000	$ 35,950	$ 10,000	$ 35,450
1991	RD	$ 6,000	$ 18,210	$ 7,000	$ 17,860	$ 7,000	$ 17,510
1994	RD	$ 18,000	$ 54,495	$ 18,000	$ 53,685	$ 19,000	$ 52,830
1998	RD	$ 23,000	$ 100,415	$ 24,000	$ 99,275	$ 26,000	$ 98,040
1999	Private	$ 50,000	$ 189,780	$ 55,000	$ 187,058	$ 55,000	$ 184,335
Total		$ 166,590	$ 501,806	$ 178,154	$ 493,111	$ 184,171	$ 484,040

IV. EXISTING SHORT-TERM INDEBTEDNESS

A. List of All Short Term Debts: (Information from 2003 Audit & PSC Report)

Lender or Lessor	Date of Issue (Mo. & Year)	Principal Balance	Purpose	Payment Date	Principal & Interest Payment (P&I)	Date to Be Paid In Full
Flynn	NA	$21,741	Waterlines	NA	Variable	~2011

V. LAND AND RIGHTS - EXISTING SYSTEM(S):

Number of Treatment Plant Sites	0
Number of Storage Tank Sites	12
Number of Pump Stations	11
Total Acreage	~17 acre
Purchase Price*	$41,491

*Land & ROW value per 2001 Audit

VI. NUMBER OF EXISTING USERS

A. Water Users: (2004 year end totals)

Residential Size Meters (In Town)*	-
Residential Size Meters/Farmers (Out of Town)*	4,687
Commercial & Other Users (In Town)	-
Commercial & Other Users (Out of Town)	205
Total	4,892
Number of Total potential Users Living in the Service Area	5,000 (est.)

VII. CURRENT WATER AND SEWER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION

Meter Size	Water Connection Fee
5/8"x3/4"	$ 425.00
1"	$ 525.00
>1"	At Cost

VIII. WATER RATES - EXISTING SYSTEM – ALL SIZES

Existing Rate Schedule: Date these rates went into effect: February 1, 2004

5/8" Meter

First	0	Gallons @	$ 15.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 4.75		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 37.50		Minimum
Over	5,000	Gallons @	$ 4.75		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 60.00		Minimum
Over	10,000	Gallons @	$ 4.75		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 240.00		Minimum
Over	50,000	Gallons @	$ 4.75		per 1,000 Gallons

4" Meter

First	100,000	Gallons @	$ 465.00		Minimum
Over	100,000	Gallons @	$ 4.75		per 1,000 Gallons

IX. ANALYSIS OF ACTUAL WATER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD

For Period January-2004 to December-2004.

Meter Size	MONTHLY WATER USAGE	Average	Residential		Non-Residential	
			No. of Users(1000)	Usage	No. of Users	Usage (1000)
	0 - Gal.	0	2,813	-	256	-
	0 - 1,000 Gal.	500	5,467	2,975,260	895	410,112
	1,000 - 2,000 Gal.	1,500	6,895	10,551,517	370	529,866
	2,000 - 3,000 Gal.	2,500	8,532	21,420,943	189	469,000
	3,000 - 4,000 Gal.	3,500	8,629	30,239,292	147	516,503
	4,000 - 5,000 Gal.	4,500	7,059	31,637,569	126	570,526
	5,000 - 6,000 Gal.	5,500	4,731	25,868,064	141	769,206
	6,000 - 7,000 Gal.	6,500	3,224	20,849,601	78	505,439
	7,000 - 8,000 Gal.	7,500	2,081	15,561,606	79	585,027
All Sizes	8,000 - 9,000 Gal.	8,500	1,353	11,478,853	70	603,139
	9,000 - 10,000 Gal.	9,500	884	8,398,083	74	709,074
	10,000 - 11,000 Gal.	10,500	623	6,523,801	38	401,092
	11,000 - 12,000 Gal.	11,500	422	4,860,056	37	426,603
	12,000 - 13,000 Gal.	12,500	306	3,819,485	18	224,250
	13,000 - 14,000 Gal.	13,500	195	2,625,253	27	365,492
	14,000 - 15,000 Gal.	14,500	167	2,425,390	22	320,750
	15,000 - 16,000 Gal.	15,500	130	2,017,776	20	310,358
	16,000 - 17,000 Gal.	16,500	105	1,731,811	18	297,372
	17,000 - 18,000 Gal.	17,500	102	1,785,862	6	106,600
	18,000 - 19,000 Gal.	18,500	66	1,219,997	10	186,790
	19,000 - 20,000 Gal.	19,500	78	1,525,332	11	215,216
	20,000 - 25,000 Gal.	22,500	211	4,702,924	66	1,484,964
	25,000 - 30,000 Gal.	27,500	140	3,819,334	52	1,442,158
	30,000 - 40,000 Gal.	35,000	148	5,094,399	60	2,092,172
	40,000 - 50,000 Gal.	45,000	53	2,372,014	40	1,787,201
	50,000 - 60,000 Gal.	55,000	34	1,860,951	42	2,304,122
	60,000 - 70,000 Gal.	65,000	22	1,426,199	26	1,709,965
	70,000 - 80,000 Gal.	75,000	7	520,308	20	1,516,444
	80,000 - 90,000 Gal.	85,000	13	1,116,418	10	843,560
	90,000 - 100,000 Gal.	95,000	6	568,907	10	931,712
	100,000 - 150,000 Gal.	125,000	12	1,425,336	22	2,594,982
	150,000 - 1,150,000 Gal.		24	7,124,907	49	17,976,796
	over - 1,150,000 Gal.	520,000	-	-	12	47,167,500
		Total	54,532	237,547,248	3,041	90,373,991
	Average Monthly "Meter Setting" Count		4,544		253	
	Average Usage (Gallons)			4,360		29,720

Total Water Purchased (Gallons) 433,998,295

Total Water Sold (Gallons) 327,921,239

X. FACILITY CHARACTERISTICS OF PROPOSED WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

The recommended project provides water to new customers, and assists in resolving other issues facing the District. The project will make water service available to approximately 247 new homes along nearly 58 miles of rural road that are currently unserved. Also included will be the installation of master meters and telemetry to allow the system to be operated more efficiently, and to provide more reliable service to existing and new customers of the District. The project also includes dismantling of an existing unneeded water storage tank and relocation of an unused pump station. The District will continue to purchase all of it's water from the Hopkinsville Water Environmental Authority, which has adequate capacity to serve the new customers resulting from the proposed project.

B. Water Storage:

Type: Ground Storage Tank ____. Elevated Tank _____
Standpipe _____ Other _____
Number of Storage Structures _____
Total Storage Volume Capacity _____

C. Water Distribution System:

Pipe Material PVC
Lineal Feet of Pipe: 8" Diameter _____ 6" 21,600
4" 269,300 3" 10,600
Number, and Capacity of Pump Station(s): 1@100 GPM

XI. LAND AND RIGHTS - PROPOSED WATER SYSTEM(S)

Number of Treatment Plant Sites	_____
Number of Pump Sites	1
Number of Other Sites (Storage Tank)	_____
Total Acreage	.25 Ac.
Purchase Price	~$1,000

XII. NUMBER OF NEW WATER USERS

Water Users:	
Residential Size Meters (In Town)*	-
Residential Size Meters/Farmers (Out of Town)*	175
Larger Users (In Town)	-
Larger Users (Out of Town)	-
Total	175
Number of total potential users living in the service area	257

*Assumes approximately 70% sign-up for water service.

XIII. PROPOSED CONNECTION FEES FOR EACH SIZE

Meter Size	Water Connection Fee
5/8"x3/4"	$ 425.00
1"	$ 525.00
>1"	At Cost

XIV. WATER RATES - PROPOSED

A. Proposed Rate Schedule without RUS Grant:

5/8" Meter

First	0	Gallons @	$ 16.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 5.25		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 42.25		Minimum
Over	5,000	Gallons @	$ 5.25		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 68.50		Minimum
Over	10,000	Gallons @	$ 5.25		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 278.50		Minimum
Over	50,000	Gallons @	$ 5.25		per 1,000 Gallons

4" Meter

First	100,000	Gallons @	$ 41.00		Minimum
Over	100,000	Gallons @	$ 5.25		per 1,000 Gallons

B. Recommended Rate Schedule with RUS Grant:

5/8" Meter

First	0	Gallons @	$ 16.00		Minimum (Flat Rate)
Over	0	Gallons @	$ 5.00		per 1,000 Gallons

1" Meter

First	5,000	Gallons @	$ 41.00		Minimum
Over	5,000	Gallons @	$ 5.00		per 1,000 Gallons

1½" Meter

First	10,000	Gallons @	$ 66.00		Minimum
Over	10,000	Gallons @	$ 5.00		per 1,000 Gallons

2" Meter

First	50,000	Gallons @	$ 266.00		Minimum
Over	50,000	Gallons @	$ 5.00		per 1,000 Gallons

4" Meter

First	100,000	Gallons @	$ 516.00		Minimum
Over	100,000	Gallons @	$ 5.00		per 1,000 Gallons

XV. FORECAST OF WATER USAGE - INCOME - EXISTING SYSTEM - EXISTING USERS – EXISTING RATES

For Period January-2004 to December-2004.

Meter Size	MONTHLY WATER USAGE	Residential/ Farmer					Non-Residential/ Commercial				
		No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	2,813	-	0	$ 15.00	$ 42,195	256	-	0	$ 15.00	$ 3,840
	0 - 1,000	5,467	2,975,260	544	$ 17.59	$ 96,137	895	410,112	458	$ 17.18	$ 15,373
	1,000 - 2,000	6,895	10,551,517	1,530	$ 22.27	$ 153,545	370	529,866	1,432	$ 21.80	$ 8,067
	2,000 - 3,000	8,532	21,420,943	2,511	$ 26.93	$ 229,729	189	469,000	2,481	$ 26.79	$ 5,063
	3,000 - 4,000	8,629	30,239,292	3,504	$ 31.65	$ 273,072	147	516,503	3,514	$ 31.69	$ 4,658
	4,000 - 5,000	7,059	31,637,569	4,482	$ 36.29	$ 256,163	126	570,526	4,528	$ 36.51	$ 4,600
	5,000 - 6,000	4,731	25,868,064	5,468	$ 40.97	$ 193,838	141	769,206	5,455	$ 40.91	$ 5,769
	6,000 - 7,000	3,224	20,849,601	6,467	$ 45.72	$ 147,396	78	505,439	6,480	$ 45.78	$ 3,571
	7,000 - 8,000	2,081	15,561,606	7,478	$ 50.52	$ 105,133	79	585,027	7,405	$ 50.18	$ 3,964
	8,000 - 9,000	1,353	11,478,853	8,484	$ 55.30	$ 74,820	70	603,139	8,616	$ 55.93	$ 3,915
	9,000 - 10,000	884	8,398,083	9,500	$ 60.13	$ 53,151	74	709,074	9,582	$ 60.51	$ 4,478
	10,000 - 11,000	623	6,523,801	10,472	$ 64.74	$ 40,333	38	401,092	10,555	$ 65.14	$ 2,475
	11,000 - 12,000	422	4,860,056	11,517	$ 69.70	$ 29,415	37	426,603	11,530	$ 69.77	$ 2,581
	12,000 - 13,000	306	3,819,485	12,482	$ 74.29	$ 22,733	18	224,250	12,458	$ 74.18	$ 1,335
	13,000 - 14,000	195	2,625,253	13,463	$ 78.95	$ 15,395	27	365,492	13,537	$ 79.30	$ 2,141
	14,000 - 15,000	167	2,425,390	14,523	$ 83.99	$ 14,026	22	320,750	14,580	$ 84.25	$ 1,854
	15,000 - 16,000	130	2,017,776	15,521	$ 88.73	$ 11,534	20	310,358	15,518	$ 88.71	$ 1,774
	16,000 - 17,000	105	1,731,811	16,493	$ 93.34	$ 9,801	18	297,372	16,521	$ 93.47	$ 1,683
	17,000 - 18,000	102	1,785,862	17,508	$ 98.17	$ 10,013	6	106,600	17,767	$ 99.39	$ 596
	18,000 - 19,000	66	1,219,997	18,485	$ 102.80	$ 6,785	10	186,790	18,679	$ 103.73	$ 1,037
	19,000 - 20,000	78	1,525,332	19,556	$ 107.89	$ 8,415	11	215,216	19,565	$ 107.93	$ 1,187
	20,000 - 25,000	211	4,702,924	22,289	$ 120.87	$ 25,504	66	1,484,964	22,499	$ 121.87	$ 8,044
	25,000 - 30,000	140	3,819,334	27,281	$ 144.58	$ 20,242	52	1,442,158	27,734	$ 146.74	$ 7,630
	30,000 - 40,000	148	5,094,399	34,422	$ 178.50	$ 26,418	60	2,092,172	34,870	$ 180.63	$ 10,838
	40,000 - 50,000	53	2,372,014	44,755	$ 227.59	$ 12,062	40	1,787,201	44,680	$ 227.23	$ 9,089
	50,000 - 60,000	34	1,860,951	54,734	$ 274.99	$ 9,350	42	2,304,122	54,860	$ 275.59	$ 11,575
	60,000 - 70,000	22	1,426,199	64,827	$ 322.93	$ 7,104	26	1,709,965	65,768	$ 327.40	$ 8,512
	70,000 - 80,000	7	520,308	74,330	$ 368.07	$ 2,576	20	1,516,444	75,822	$ 375.16	$ 7,503
	80,000 - 90,000	13	1,116,418	85,878	$ 422.92	$ 5,498	10	843,560	84,356	$ 415.69	$ 4,157
	90,000 - 100,000	6	568,907	94,818	$ 465.38	$ 2,792	10	931,712	93,171	$ 457.56	$ 4,576
	100,000 - 150,000	12	1,425,336	118,778	$ 579.20	$ 6,950	22	2,594,982	117,954	$ 575.28	$ 12,656
	150,000 -1,150,000	24	7,124,907	296,871	$ 1,425.14	$ 34,203	49	17,976,796	366,873	$ 1,757.65	$ 86,125
	over - 1,150,000	0	-	-	$ -	$ -	12	47,167,500	3,930,625	(Resale)	$ 15,288
	Total Annual Income	54,532	237,547,248	1,118,971		$ 1,946,329	3,041	90,373,991	5,119,874		$ 265,954

Total Projected Revenue With Current Rates	$ 2,212,283
Actual Water Revenue FY2003	$ 1,929,895

Note: There is a discrepancy between the projected revenues and actual FY 2003 revenues because:

1. There was a rate increase of approximately 7% in February 2004 that is not reflected in the 2003 revenues.
2. Water sales increased from 2003 to 2004 due to the addition of new customers (Phase VI Project) and oveall growth in the system.

XVI. FORECAST OF WATER USAGE - INCOME - NEW USERS - EXTENSION ONLY -- EXISTING RATES

Note: Approximately 175 new residential customers are expected to be served.

Meter Size	MONTHLY WATER USAGE	Average	Average Rate	Residential			Non-Residential		
				No. of Users	Usage (1,000)	Income	No. of Users	Usage (1,000)	Income
	0 - Gal.	-	$ -			$ -			
	0 - 1,000 Gal.	0	$ -			$ -			
	1,000 - 2,000 Gal.	0	$ -			$ -			
	2000 - 3,000 Gal.	0	$ -			$ -			
	3,000 - 4,000 Gal.	0	$ -			$ -			
	4,000 - 5,000 Gal.	4,360	$ 35.71	2,100	9,156,000	$ 74,991.00			
	5,000 - 6,000 Gal.	0	$ -			$ -			
	6,000 - 7,000 Gal.	0	$ -			$ -			
	7,000 - 8,000 Gal.	0	$ -			$ -			
All	8,000 - 9,000 Gal.	0	$ -			$ -			
Sizes	9,000 - 10,000 Gal.	0	$ -			$ -			
	10,000 - 11,000 Gal.	0	$ -			$ -			
	11,000 - 12,000 Gal.	0	$ -			$ -			
	12,000 - 13,000 Gal.	0	$ -			$ -			
	13,000 - 14,000 Gal.	0	$ -			$ -			
	14,000 - 15,000 Gal.	0	$ -			$ -			
	15,000 - 16,000 Gal.	0	$ -			$ -			
	16,000 - 17,000 Gal.	0	$ -			$ -			
	17,000 - 18,000 Gal.	0	$ -			$ -			
	18,000 - 19,000 Gal.	0	$ -			$ -			
	19,000 - 20,000 Gal.	0	$ -			$ -			
	20,000 - 25,000 Gal.	0	$ -			$ -			
	25,000 - 30,000 Gal.	0	$ -			$ -			
	30,000 - 40,000 Gal.	0	$ -			$ -			
	40,000 - 50,000 Gal.	0	$ -			$ -			
	50,000 - 60,000 Gal.	0	$ -			$ -			
	60,000 - 70,000 Gal.	0	$ -			$ -			
	70,000 - 80,000 Gal.	0	$ -			$ -			
	80,000 - 90,000 Gal.	0	$ -			$ -			
	90,000 - 100,000 Gal.	0	$ -			$ -			
	100,000 - 150,000 Gal.	0	$ -			$ -			
	over - 150,000 Gal.	-	$ -			$ -			
	Sub-Total			2,100	9,156,000	$ 74,991.00	-	-	$ -
	Average Monthly Rate					$35.71			
	Avg. Monthly "Meter Setting" Count			175			0		
	Average Monthly Usage				4,360				
	Total Water Sales Generated					$ 74,991.00			

XVII. FORECAST OF WATER USAGE - INCOME - EXISTING & NEW USERS – RECOMMENDED RATES

For Period January-2006 to December-2006.

Meter Size	MONTHLY WATER USAGE	Residential/ Farmer					Non-Residential/ Commercial				
		No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	2,813	-	0	$ 16.00	$ 45,008	256	-	0	$ 16.00	$ 4,096
	0 - 1,000	5,467	2,975,260	544	$ 18.72	$ 102,348	895	410,112	458	$ 18.29	$ 16,371
	1,000 - 2,000	6,895	10,551,517	1,530	$ 23.65	$ 163,078	370	529,866	1,432	$ 23.16	$ 8,569
	2,000 - 3,000	8,532	21,420,943	2,511	$ 28.55	$ 243,617	189	469,000	2,481	$ 28.41	$ 5,369
	3,000 - 4,000	8,629	30,239,292	3,504	$ 33.52	$ 289,260	147	516,503	3,514	$ 33.57	$ 4,935
	4,000 - 5,000	9,159	40,793,569	4,454	$ 38.27	$ 350,512	126	570,526	4,528	$ 38.64	$ 4,869
	5,000 - 6,000	4,731	25,868,064	5,468	$ 43.34	$ 205,036	141	769,206	5,455	$ 43.28	$ 6,102
	6,000 - 7,000	3,224	20,849,601	6,467	$ 48.33	$ 155,832	78	505,439	6,480	$ 48.40	$ 3,775
	7,000 - 8,000	2,081	15,561,606	7,478	$ 53.39	$ 111,104	79	585,027	7,405	$ 53.03	$ 4,189
	8,000 - 9,000	1,353	11,478,853	8,484	$ 58.42	$ 79,042	70	603,139	8,616	$ 59.08	$ 4,136
	9,000 - 10,000	884	8,398,083	9,500	$ 63.50	$ 56,134	74	709,074	9,582	$ 63.91	$ 4,729
	10,000 - 11,000	623	6,523,801	10,472	$ 68.36	$ 42,587	38	401,092	10,555	$ 68.78	$ 2,613
	11,000 - 12,000	422	4,860,056	11,517	$ 73.58	$ 31,052	37	426,603	11,530	$ 73.65	$ 2,725
	12,000 - 13,000	306	3,819,485	12,482	$ 78.41	$ 23,993	18	224,250	12,458	$ 78.29	$ 1,409
	13,000 - 14,000	195	2,625,253	13,463	$ 83.31	$ 16,246	27	365,492	13,537	$ 83.68	$ 2,259
	14,000 - 15,000	167	2,425,390	14,523	$ 88.62	$ 14,799	22	320,750	14,580	$ 88.90	$ 1,956
	15,000 - 16,000	130	2,017,776	15,521	$ 93.61	$ 12,169	20	310,358	15,518	$ 93.59	$ 1,872
	16,000 - 17,000	105	1,731,811	16,493	$ 98.47	$ 10,339	18	297,372	16,521	$ 98.60	$ 1,775
	17,000 - 18,000	102	1,785,862	17,508	$ 103.54	$ 10,561	6	106,600	17,767	$ 104.83	$ 629
	18,000 - 19,000	66	1,219,997	18,485	$ 108.42	$ 7,156	10	186,790	18,679	$ 109.40	$ 1,094
	19,000 - 20,000	78	1,525,332	19,556	$ 113.78	$ 8,875	11	215,216	19,565	$ 113.83	$ 1,252
	20,000 - 25,000	211	4,702,924	22,289	$ 127.44	$ 26,891	66	1,484,964	22,499	$ 128.50	$ 8,481
	25,000 - 30,000	140	3,819,334	27,281	$ 152.40	$ 21,337	52	1,442,158	27,734	$ 154.67	$ 8,043
	30,000 - 40,000	148	5,094,399	34,422	$ 188.11	$ 27,840	60	2,092,172	34,870	$ 190.35	$ 11,421
	40,000 - 50,000	53	2,372,014	44,755	$ 239.77	$ 12,708	40	1,787,201	44,680	$ 239.40	$ 9,576
	50,000 - 60,000	34	1,860,951	54,734	$ 289.67	$ 9,849	42	2,304,122	54,860	$ 290.30	$ 12,193
	60,000 - 70,000	22	1,426,199	64,827	$ 340.14	$ 7,483	26	1,709,965	65,768	$ 344.84	$ 8,966
	70,000 - 80,000	7	520,308	74,330	$ 387.65	$ 2,714	20	1,516,444	75,822	$ 395.11	$ 7,902
	80,000 - 90,000	13	1,116,418	85,878	$ 445.39	$ 5,790	10	843,560	84,356	$ 437.78	$ 4,378
	90,000 - 100,000	6	568,907	94,818	$ 490.09	$ 2,941	10	931,712	93,171	$ 481.86	$ 4,819
	100,000 - 150,000	12	1,425,336	118,778	$ 609.89	$ 7,319	22	2,594,982	117,954	$ 605.77	$ 13,327
	150,000 -1,150,000	24	7,124,907	296,871	$ 1,500.36	$ 36,009	49	17,976,796	366,873	$ 1,850.37	$ 90,668
	over - 1,150,000	0	-	-	$ -	$ -	12	47,167,500	3,930,625	(resale)	$ 15,288
	Total Annual Income	56,632	246,703,248	1,118,943		$ 2,139,628	3,041	90,373,991	5,119,874		$ 279,784

Total Projected Revenue With Proposed Rates	$ 2,419,413
Total Projected Revenue with Existing Rates	$ 2,212,283
Additional Revenue from Rate Increase	$ 207,130

9.4% Average Rate Increase

XVIII. CURRENT OPERATING BUDGET - (FYE December 31, 2003 – Based on 2003 Financial Statements)

	Salaries	$ 346,968
	Maintenance and Repairs	$ 18,064
	Insurance	$ 96,745
	Electricity for Pumping	$ 47,770
	Professional Services	$ 31,060
	Office Supplies and Expense	$ 53,009
	Operating Material and Supplies	$ 43,342
	Payroll Taxes and Fringe Benefits	$ 56,462
	Transportation Expense	$ 26,418
	Total Operating Expenses	$ 1,310,918
	Net Operating Income	$ 777,313
C.	**Non-Operating Income:**	
	Interests on Deposits	$ 26,011
	Other	$ (351)
	Total Non-Operating Income	$ 25,660
D.	**Net Income**	$ 802,973
E.	**Debt Repayment**	
	RUS Interest	$ 269,473
	RUS Principal	$ 74,000
	Non-RUS Interest	$ 240,441
	Non-RUS Principal	$ 85,184
	Total Debt Repayment	$ 669,098
F.	**Balance Available for Coverage and Depreciation**	$ 133,875

XIX. PROPOSED OPERATING BUDGET - EXISTING & NEW USERS – RECOMMENDED WATER RATES

(1st Full Year of Operation) Year Ending 2006 .

A. Operating Income

Water Sales	$ 2,419,413	(1)
Tap Fees	$ 74,375	(2)
Other Revenues	$ 53,600	(3)
Total Operating Income	$ 2,547,388	

B. Operation and Maintenance Expenses:

Purchased Water	$ 665,137	(4)
Salaries	$ 461,115	(3)
Maintenance and Repairs	$ 32,778	(3)
Insurance	$ 72,049	(3)
Electricity for Pumping	$ 53,182	(3)
Professional Services	$ 70,141	(3)
Office Supplies and Expense	$ 78,939	(3)
Operating Material and Supplies	$ 69,682	(3)
Payroll Taxes and Fringe Benefits	$ 90,570	(3)
Transportation Expense	$ 46,350	(3)
Total Operating Expenses	$ 1,639,943	
Net Operating Income	$ 907,445	

C. Non-Operating Income:

Interests on Deposits	$ 23,000	(3)
Other	$ -	
Total Non-Operating Income	$ 23,000	

D. Net Income $ 930,445

E. Debt Repayment

RUS Interest (Bonds before 2003)	$ 257,480
RUS Principal (Bonds before 2003)	$ 87,000
Non-RUS Interest (Bonds before 2003)	$ 226,560
Non-RUS Principal (Bonds before 2003)	$ 97,171
RUS Interest (2004 Bonds - Phase VI)	$ 19,000
RUS Principal (2004 Bonds - Phase VI)	$ 4,000
RUS Interest (2006 Bonds - Phase VII)	$ 61,750
RUS Principal (2006 Bonds - Phase VII)	$ 13,000
Total Debt Repayment	$ 765,961

F. Balance Available for Coverage and Depreciation $ 164,484

Notes.

(1) From Table XVII, based on CY2004 water sales at recommended rates.
(2) 175 new customers at $425 pre connection.
(3) 3% increase over amount budgeted for 2005 from CCWD records.
(4) 3% increase over 2005 budget + allowance for 175 new customers at recently increased HWEA rates.

XX. PROPOSED OPERATING BUDGET - NEW USERS - IMPROVEMENTS ONLY – EXISTING WATER RATES

(1st Full Year of Operation) Year Ending 2006 .

A. *Operating Income*

Water Sales	$ 74,991	(1)
Tap Fees	$ 74,375	(2)
Other Revenues	$ -	
Total Operating Income	$ 149,366	

B. Operation and Maintenance Expenses:

Purchased Water	$ 18,052	(3)
Salaries	$ -	
Maintenance and Repairs	$ 500	(4)
Insurance	$ -	
Electricity for Pumping	$ 500	(4)
Professional Services	$ -	
Office Supplies and Expense	$ -	
Operating Material and Supplies	$ 1,000	(4)
Payroll Taxes and Fringe Benefits	$ -	
Transportation Expense	$ 500	(4)
Total Operating Expenses	$ 20,552	
Net Operating Income	$ 128,814	

C. Non-Operating Income:

Interests on Deposits	$ -	
Other	$ -	
Total Non-Operating Income	$ -	

D. Net Income $ 128,814

E. Debt Repayment

RUS Interest (Bonds before 2003)	$ -
RUS Principal (Bonds before 2003)	$ -
Non-RUS Interest (Bonds before 2003)	$ -
Non-RUS Principal (Bonds before 2003)	$ -
RUS Interest (2004 Bonds - Phase VI)	$ -
RUS Principal (2004 Bonds - Phase VI)	$ -
RUS Interest (2006 Bonds - Phase VII)	$ 61,750
RUS Interest (2006 Bonds - Phase VII)	$ 13,000
Total Debt Repayment	$ 74,750

F. Balance Available for Coverage and Depreciation $ 54,064 (5)

Notes:

(1) Based on 175 new customers, 4,360 gallons per month usage & current rates.
(2) Based on 175 new customers and $425 tap fee.
(3) Based on 175 new customers, 4,360 gallons per month usage X 1.24 water loss & $1.59/1,000 gallons
(4) Nominal increase due to additional distribution lines and facilities.
(5) If tap fee income were not considered, the balance would be -$20,311.

XXI. ESTIMATED PROJECT COST - WATER

Development	$ 2,000,000.00
Land and Rights	$ 10,000.00
Legal	$ 25,000.00
Engineering & Inspection	$ 215,000.00
Interest	$ 25,000.00
Contingencies	$ 200,000.00
Initial Operating and Maintenance	
Other (Prelim. Eng. & Env. Asses.)	$ 25,000.00
TOTAL	$ 2,500,000.00

XXII. PROPOSED PROJECT FUNDING

Applicant - User Connection Fees	$ -
Other Applicant Contribution	$ -
RUS Loan	$ 1,300,000.00
RUS Grant	$ 1,000,000.00
State Appropriation	$ 200,000.00
Federal Appropriation	$ -
Other (Specify)	$ -
Other (Specify)	$ -
TOTAL	$ 2,500,000.00